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*Via Electronic Mail*

October 23, 2023



Mr. Christopher Carthy, Chairman  
And Members of the Planning Board  
Town of North Castle  
17 Bedford Banksville Road  
Armonk, NY 10504

**Re: Additional Horses / Site Plan / Special Permit / Tree Removal / Public Hearing**

263 Bedford Banksville Road  
Town of North Castle, NY  
R-4A One-Family Residence District  
+/-21.62 acres

Dear Chairman Carthy and Members of the Planning Board:

As the Board may recall, we last appeared before the Board on February 27, 2023, at which your Board adopted a Negative Declaration under SEQRA and referred us to the Zoning Board of Appeals ("ZBA") for variances for existing and proposed conditions on this historical horse farm property at 263 Bedford Banksville Road (the "Property"). We are pleased to report that the ZBA granted variances for all of the conditions and, on September 13, 2023, the Town Board issued a special permit for Additional Horses. We now return to your Board for (i) the final phase of the approvals process for the proposed new residential and equestrian buildings, structures and other improvements on the Property, renovation of the existing indoor riding arena, some adjustments to existing paddocks and a small modification of the outdoor riding arena and (ii) a public hearing on the Gasiorowski's applications for site plan and special permit approvals.

On behalf of Chloe & Mikhail Gasiorowski, we submit the following documents and information to address the outstanding comments of the Town Planner, Adam Kaufman, AICP, and the Consulting Town Engineer, John Kellard, P.E., of Kellard Sessions Consulting (now KSCJ Consulting), and in further support of the Gasiorowski's applications:

1. Application for Special Permit for accessory buildings in excess of 800 square feet and over the height of 15 feet, signed by the Applicant.
2. Landscape Plans / Tree Removal Plans by Jay Fain & Associates, LLC, dated 06/13/22
  - CO Cover Sheet, last revised 02/10/23
  - S-1 Special Permit - Site Plan, last revised 02/10/23.
  - L-1 Special Permit - Landscape Plan, last revised 5/3/23.
  - L-2 Special Permit - Landscape Details, last revised 10/18/23.
  - TR-1 Special Permit - Tree Removals, last revised 02/10/23.
  - TR-2 Special Permit - Tree Removals Lists, last revised 02/10/23.
3. Site Development Plans Prepared by, and Signed & Sealed by, DiMarzo & Bereczky, Inc
  - C-0 Zoning Site Plan, dated 06/10/2022, last revised 10/18/2023
  - C-1 Site Development Plan, dated 06/10/2022, last revised 10/18/2023
  - C-2 Gross Land Coverage Plan, dated 06/22/2022, last revised 10/18/2023
  - C-3A Site Plan - 3A, dated 02/10/2023, last revised 10/18/2023
  - C-3B Site Plan - 3B, dated 02/10/2023, last revised 10/18/2023
  - C-4 Erosion & Sediment Control Plan, dated 02/10/2023, last revised 10/18/23
  - C-5 Notes & Details, dated 02/10/2023, last revised 10/18/2023
  - C-6 Details - 1, dated 02/10/2023, last revised 10/18/2023
  - C-7 Details - 2, dated 02/10/2023, last revised 10/18/2023
  - C-8 Turning Templates & Sight Distance Plan, dated 02/10/2023, last revised 10/18/2023
4. Average Grade Calculations Prepared by, and Signed & Sealed by, DiMarzo & Bereczky, Inc, dated 02/10/2023.
  - Primary Structure - Main House
  - Accessory Structures - Pool House, Stable, Indoor Arena, Garage
5. Architectural Plans Prepared by Teo Siguenza, AIA, Signed & Sealed by Teo Siguenza
  - A. Proposed Main House Single Family Residence, dated 5-16-22 and last revised 2-10-23.
    - A100.00 Proposed Basement Plan
    - A101.00 Proposed First Floor Plan
    - A102.00 Proposed Second Floor Plan
    - A103.00 Proposed Roof Plan
    - A200.00 Proposed Exterior Elevations
    - A201.00 Proposed Exterior Elevations
    - A101.10 Floor Area Calculation
    - Proposed Section
  - B. Proposed Pool House, dated 5-16-22 and last revised 2-10-23.
    - P101.00 Proposed Floor Plans & Exterior Elevations



6. Architectural Plans with Floor Area Calculations, Prepared by Old Town Barns, Stamped & Sealed by Nicolangelo Cuoco, P.E.
  - A. Proposed Stable for 263 Bedford Banksville Road, dated 2/10/23, Stamped and Sealed by Nicolangelo Cuoco, P.E.
    - Cover Sheet
    - A-100 Floor Plans
    - A-200 Elevations
    - A-210 Elevations
  - B. Proposed Indoor Arena Renovation for 263 Bedford Banksville Road, dated 3/10/23, Stamped and Sealed by Nicolangelo Cuoco, P.E.
    - Cover Sheet
    - A-100 Floor Plans
    - A-200 Elevations
  - C. Proposed Garage for 263 Bedford Banksville Road, dated 2/10/23, Stamped and Sealed by Nicolangelo Cuoco, P.E.
    - Cover Sheet
    - A-100 Floor Plans
    - A-200 Elevations
7. Exterior Light Fixtures, Architectural Specification Sheets
8. Floor Area Calculations, Stamped & Sealed by Teo Siguenza, AIA, and Old Town Barns, Nicolangelo Cuoco, P.E.
9. Gross Land Coverage Calculations by DiMarzo & Bereczky, Inc, Stamped & Sealed by Karl Weed, P.E, dated 2/10/2023.
10. Stormwater Pollution Prevention Plan (SWPPP) by DiMarzo & Bereczky, dated 2/10/2023, revised 10/18/2023.

The foregoing plans have been revised from the versions previously reviewed by the Board in the following respects:

- In response to comments received during the ZBA process, the application has added additional screening between the Applicant's common property line and 249 Bedford Banksville Road.

Below is a point-by-point response to the outstanding Comments contained in the Town Planner's February 17, 2023, Staff Report and the Consulting Town Engineer's Memorandum updated as of February 24, 2023.

PROCEDURAL COMMENTS:

**Comments 1-3, 5 have been addressed and resolved.**

**4. Comment:** A public hearing regarding the site plan and wetlands permits will need to be scheduled.

**Response:** *By this submission we request a public hearing on the applications for site plan and special permit approval. There is no wetland or wetland buffer disturbance and, therefore, no wetland permit is being sought.*

**6. Comment:** The property is located within a Flood Zone. A Floodplain Development Permit must be filed with the Building Department prior to the issuance of a Building Permit.

**Response:** *So noted. No action is required at this time.*

GENERAL COMMENTS:

**1. Comment:** A significant portion of the property is located in the Mianus River Critical Environmental Area. A Critical Environmental Area (CEA) is a State-, County- or locally designated geographic area with exceptional or unique environmental character that requires a more rigorous review than other areas. The site plan should be revised to depict the CEA boundary. The Applicant should quantify the total amount of disturbance within the CEA as well as the amount of disturbance associated with each individual feature. While construction within the CEA is not prohibited, the Town Board and Planning Board will need to evaluate whether all, or some, of the proposed construction within the CEA should be approved.

**Response:** *The 263 Bedford Road site is adjacent to and contains a portion of a designated Critical Environmental Area (Exhibit 1). The presence of the CEA was identified and acknowledged in the Applicant's original submission to the Planning Board on June 13, 2022. Critical Environmental Areas (CEA) are areas in the state which have been designated by a local or state agency to recognize a specific geographical area with one or more of the following characteristics:*

*A feature that is a benefit or threat to human health:*

*An exceptional or unique natural setting;*

*An exceptional or unique social, historic, archeological, recreational, or educational value;*

*Or*

*An inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any physical disturbance.*

*A CEA designation serves to alert project sponsors to the agency's concern for the resources contained within the CEA. In this particular instance, the CEA encompasses the Mianus River and portions of the adjacent Westmoreland Sanctuary and is designated a CEA because of its exceptional or unique natural setting.*

*The Staff Report recommends that disturbance within the CEA be minimized to the maximum extent practicable.*

*Due to presence of onsite wetlands and the regulated adjacent area, most activities in the CEA will be avoided. The activity proposed within the CEA is mostly limited to paddock establishment in a forested area dominated by invasive species. The approximate limit of the CEA is included on the attached exhibit and the approximate acreage of disturbance within it is 0.9 acres. Construction within the CEA is not prohibited; the purpose of the CEA is to inform the Project Sponsor of the Agency concern. In this instance the CEA is on private property but that portion of the CEA that may be viewed from the adjacent parkland is not being disturbed. This approach ensures that the exceptional or unique character of that portion of the CEA visible to the public will be left largely intact. In addition, the disturbance to the CEA has been limited to proposed paddocks and the existing Indoor Arena and, therefore, minimizes the project's effect on the CEA.*

**2. Comment:** Of the 516 trees located within the area of disturbance, 497 are proposed to be removed. In addition, of the 27 Significant Trees located within the area of disturbance, 24 are proposed to be removed. The Applicant has provided a landscape plan that includes 104 trees, 110 shrubs, grasses and perennials.

**Response:** *Comment noted. As previously discussed, virtually all the trees to be removed are black locusts, a tree species identified by Invasive Plantings of New England, IPANE, as invasive. Tree removal was discussed with the Town Conservation Board, which recognized the invasive nature of the black locust trees, agreed they should be removed, and recommended approval of this project, including the proposed tree removal.*

**3. Comment:** Pursuant to Section 355-40.D(1) of the Town Code, the facility can't have a commercial component.

**Response:** *The Applicant acknowledges this restriction and has gone beyond it by specifically stating that no horse shows including not-for-profit would be allowed under the auspices of the Town Board issued Special Use Permit.*

**4. Comment:** The Applicant should demonstrate to the satisfaction of the Planning Board how horses will be contained to property.

**Response:** *The Applicant and principal of the Owner, Chloe Gasiorowski, is a dedicated and passionate equestrian to whom the health and safety of her animals is of the utmost importance. All paddocks and turnout areas will be adequately fenced to contain and protect the horses. In addition, horses are always attended to by Ms. Gasiorowski, her family members or grooms.*

**5. Comment:** The current main access to the property is in disrepair. In addition, adequate drainage is not provided and is negatively impacting adjacent neighbors and Bedford Banksville Road. The site plan should be revised to address these issues.

**Response:** *Comment acknowledged. The Applicant has provided full engineering plans to upgrade the drainage and drive surface at the project entry. These plans have been and continue to be reviewed by the Town Engineer.*

**6. Comment:** Pursuant to Section 355-40.D(2) of the Town Code, all buildings and grazing and exercising areas shall be set back from adjacent residential property boundaries at least twice the minimum distance required for residential buildings in said district, except that the Town Board may either increase or decrease this setback requirement because of relationships to neighboring properties, topography or the installation of buffer, landscaping and/or fencing. In no case, however, shall the minimum setback from adjacent residential property boundaries be less than 25 feet.

**Response:** *All new paddocks comply with Section 355-40.D(2). This includes the newly proposed paddocks in the western portion of the property in proximity to the Geist residence where a minimum 150-foot setback is maintained.*

*Certain paddocks are pre-existing and pre-date Section 355-40.D(2). Existing paddocks that do not comply with Section 355-40.D(2) because they are located within 150-feet of adjacent resident property boundaries were granted a variance from the ZBA on May 4, 2023.*

**7. Comment:**

The site plan should be revised to depict all existing and proposed lighting. The lighting plan shall be designed to be residential in nature and not create impacts upon adjacent properties.

**Response:** *Comment noted. Proposed lighting will only consist of residential type light fixtures affixed to buildings and will be located or shielded so as to not be visible from off-site locations. The location of these fixtures has been included on the project architectural plans and cut sheets for fixtures of the type are included. For clarity, a Lighting Plan is under production and will be provided for review.*

**8. Comment:** Pursuant to Section 355-40.D(4) of the Town Code, horses must be fenced and shall not be permitted to graze, exercise or in any way intrude into any areas designated as controlled areas under Chapter 340, Wetlands and Watercourse Protection, of the Town Code.

**Response:** *Certain paddocks are pre-existing and pre-date Section 355-40.D(4). Existing paddocks that do not comply with Section 355-40.D(4) because they located within the 100-foot wetland control area were granted a variance from the ZBA on May 4, 2023.*

**9. Comment:** The Applicant should confirm that all existing structures proposed to remain have valid Certificates of Occupancy issued by the Building Department.

**Response:** *The only structure proposed to remain is the existing indoor riding arena. The indoor arena is currently under renovation pursuant to a Town of North Castle Building Permit, for which a Certificate of Occupancy will be obtained from the Building Department when the work has been completed.*

**10. Comment:** The Applicant conducted a Phase 1A Archaeological Assessment and a Phase IB Archaeological Investigation. Based upon the investigation, no archaeological sites were identified on the property.

**Response:** *Comment noted.*

**11. Comment:** The proposed stable is in excess of 800 square feet and the Applicant must secure a Planning Board special permit for this structure. In addition, the Planning Board will need to approve the proposed 18' 11" stable height. The proposed stable is 4,656 square feet and exceeds the maximum permitted accessory building size of 2,274 square feet (25% of the GFA of the principal building).

**Response:** *Included with this submission is an application for the Special Permit(s) for the size (in excess of 800 square feet) and height (18', 11"). A public hearing on such application is required and requested by this submission. On May 4, 2023, the Applicant obtained a variance from Section 355-31 from the ZBA for size of the stable because it exceeds 25% of the GFA of the principal building.*

**12. Comment:** The proposed riding ring will be reduced in size by 590 square feet.

**Response:** *Comment noted. It is also noted that the applicant has been granted a variance from Section 355-31 from the ZBA for the size of the indoor riding arena because it exceeds 25% of the GFA of the principal building.*

**13. Comment:** The grooms quarters/garage elevations should depict the height of the proposed structure. The Planning Board will need to approve the proposed 19' 5 ¾" building height. Since this structure is over 800 square feet in size, the Planning Board will need to issue an accessory building special permit. The proposed Grooms Quarters is 2,578 square feet and exceeds the maximum permitted accessory building size of 2,274 square feet (25% of the GFA of the principal building).

**Response:** *Comment noted. The Applicant's application for the Special Permit(s) included with this submission includes a special permit for the size and height of the garage/grooms quarters. The Applicant has obtained a variance from Section 355-31 from the ZBA for the garage/grooms quarters because the structure is slightly in excess of 25% of the GFA of the principal building.*

**14. Comment:** The Applicant has submitted multiple gross floor area calculations worksheets. The worksheets shall be combined, and one worksheet shall be submitted for the entire property.

**Response:** *Comment noted. The Applicant has sought the services of two architectural firms for this project, one for the residential structures and a separate for the equine structures. We have attached combined FAR calculations, Signed & Sealed by Old Town Barns design professional, Nicolangelo Cuoco, P.E, and Teo Siguenza, AIA.*

**15. Comment:** The Applicant shall submit gross land coverage and gross floor area backup exhibits for review.

**Response:** *Gross Land Coverage & Gross Land Coverage Calculations are provided by DiMarzo & Berezky Engineering. See sheet C-2 titled Gross Land Coverage Plan, and Gross Land Calculations Worksheet.*

*Gross Floor Area Calculations (FAR) are provided by the Project Building Designer, Old Town Barns, and by Teo Siguenza, AIA. FAR backup calculations for Teo Siguenza are on Sheet P101.00. The FAR backup for calculations by Old Town Barns is included on each OTB Plan sheet.*

TOWN ENGINEER– FEBRUARY 24, 2023

GENERAL COMMENTS:

For response to the Kellard Sessions February 24, 2023, Review Memo, please see responses prepared by DiMarzo and Berezky, Professional Engineers, and dated October 18, 2023 (submitted herewith).

Kindly schedule these applications for Site Plan and Special Use Permit Approvals for a public hearing on November 13, 2023.

If you have questions, please do not hesitate to contact me.

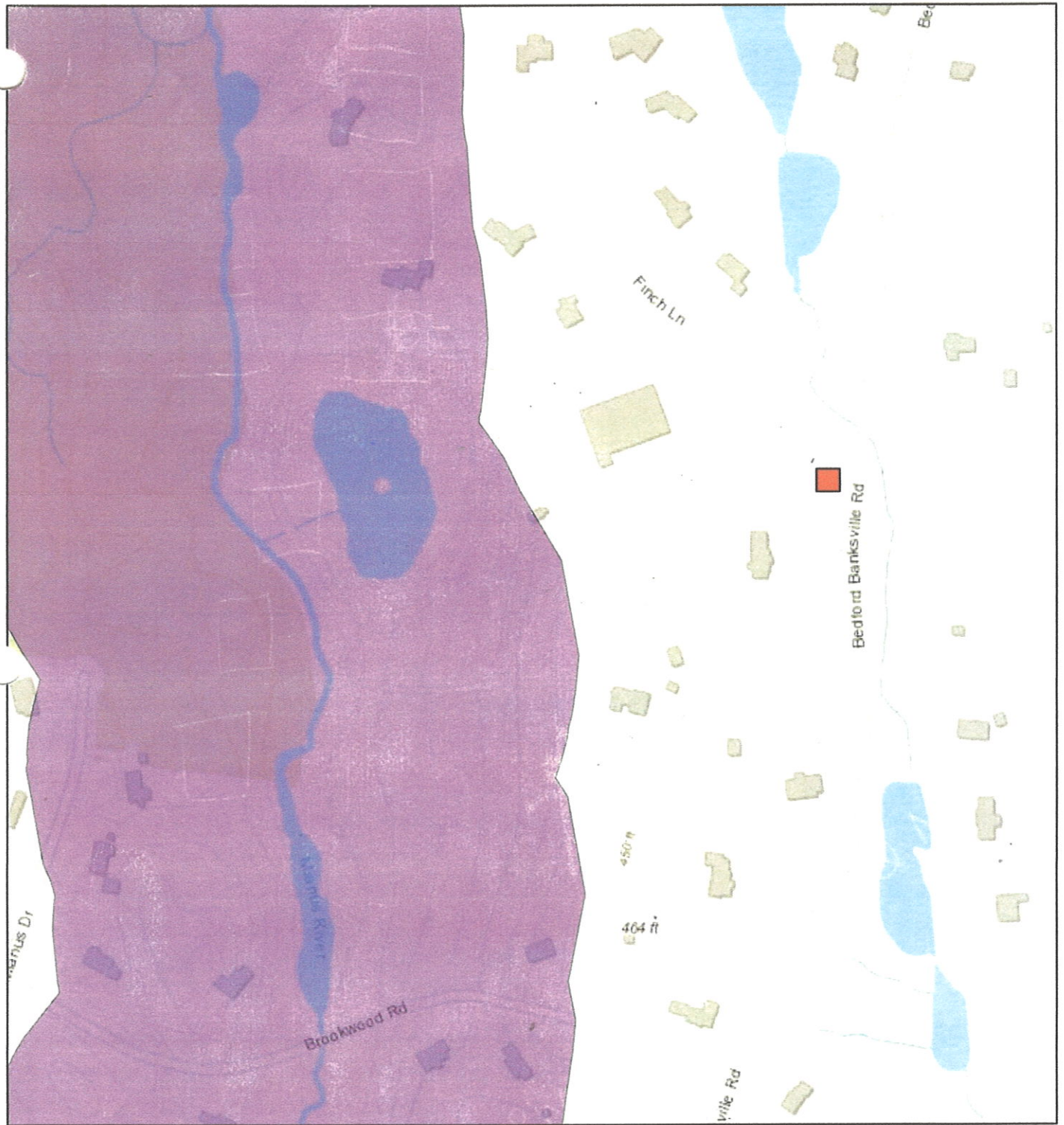
Sincerely,



Jay Fain MS, PSS, CERP, CPESC  
Registered Soil Scientist

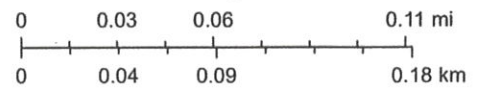
# CEA -263 Bedford Banksville Road

Exhibit 1



June 15, 2021

1:4,514



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





October 18, 2023

Town of North Castle Planning Department  
17 Bedford Rd  
Armonk, NY 10504  
Attn: Adam R. Kaufman, AICP – Director of Planning

**Re: 263 Bedford Banksville Rd, North Castle, NY; Marengo Farms, LLC; SBL: 95.03-2-56  
App. #2022-033 – Site Plan, Special Permit, and Tree Removal Permit Applications  
Response to General Comments of Kellard Sessions Memorandum dated 2/24/2023**

Dear Adam,

This letter serves to submit a revised site plan set of drawings and stormwater pollution prevention plan (SWPPP) report for the above referenced site re-development project at 263 Bedford Banksville Road. The site plan set and report have incorporated responses to the seven (7) comments within the Memorandum dated 2/24/2023 from John Kellard, P.E. and addressed to the North Castle Planning Board. Our responses to those comments are below.

- 1.) Comment: “The project site includes a NYSDEC regulated wetland, which borders the Mianus River within the western portion of the project site. A pond and adjacent locally-regulated wetlands also exists within the western portion of the project site. A locally-regulated watercourse and adjacent wetlands exists within the northeastern portion of the project site.  
The applicant has had the NYSDEC wetland boundary confirmed by Josh Fisher on June 8, 2021. The applicant has provided a copy of the wetland survey and signed validation block by the NYSDEC.  
Our office has field inspected the wetland flagging of the local wetlands and we confirm its accuracy with regard to the Town Wetland Code.  
Proposed improvements and site disturbance illustrated on the proposed site plan are located more than 100 feet from the flagged wetland boundary. No wetland permitting is therefore required based on the proposed site plan.”  
Response: This is understood by the applicant.
- 2.) Comment: “A portion of the project site along the Mianus River and along the unnamed tributary at the property frontage is within a 100-year FEMA Floodplain. The application does not propose any work within the floodplain, however, since the property is within a Flood Zone, a Floodplain Development Permit must be filed with the Building Department prior to a Building Permit.”  
Response: This is understood by the applicant.
- 3.) Comment: " The applicant is proposing to access the project via an existing driveway with an existing curb cut onto Bedford-Banksville Road, a Westchester County Roadway. The

applicant should demonstrate that the existing curb cut can accommodate ingress and egress for the horse trailers and fire apparatus. A review of the curb cut should be provided by Westchester County Department of Public Works.

The applicant has provided a Turning Templates and Sight Distance Plan which depicts turning movements into and out of the existing driveway for a fire engine, garbage truck and pick up truck with trailer attached. The plan also provides sight distances along Bedford-Banksville Road from the existing driveway.

Westchester County Department of Public Works (WC DPW) has jurisdiction over the curb cut and therefore, I would recommend that the applicant submit the documents to WC DPW for their review of the change of use.”

Response: The applicant has submitted plans to Westchester County DPW. Following a review from multiple departments, a WC DPW permit is not required for the proposed re-pavement of the driveway entrance at Bedford Banksville Road. Enclosed is a documented email chain led by Michael Dispenza of WC DPW.

- 4.) Comment: “The applicant is proposing septic systems and wells to service the proposed facilities. Westchester County Department of Health (WCHD) Approval is required for the proposed sanitary and water supply needs of the project. Please submit WCHD subsurface sewage disposal and well approvals when obtained.”

Response: We are currently working on obtaining approvals from the WCHD. We will follow-up and submit approvals from WCHD to the Town Engineer consultant.

- 5.) Comment: “The project will require the removal of 497 Town-regulated trees. The majority of the trees to be removed are Black Locust, a species identified by New York State as an invasive, noxious plant.

The applicant has provided plans, which includes tree removals and a tree removal list plan. A landscape plan has been provided for the project.

The Planning Board should determine whether the proposed tree removal is appropriate for the development proposed and if any tree preservation or replacement be required in addition to the landscaping proposed by the applicant.

Response: This is understood by the applicant.

- 6.) Comment: “The project proposes 1-5 acres of disturbance, which will require the owner to obtain coverage under the NYSDEC General Permit (GP-0-20-001) for Stormwater Discharges from Construction Activities. The applicant will need to prepare a Stormwater Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control Plan. The applicant has submitted a SWPPP for the project. The stormwater plan proposes eight (8) stormwater infiltration practices with a total of 53 Cultec infiltrators. Stormwater computations provide that runoff from the project site will be reduced with the mitigation. We have reviewed the project SWPPP and provide the following comments:”

a.) Comment: “Disturbances over one (1) acre requires conformance with the NYSDEC General Permit GP-0-20-001 for erosion and sediment control, stormwater quality and quantity controls. A Notice of Intent (NOI) and MS4 Acceptance Form will need to be filed with the NYSDEC prior to the start of work. The applicant should submit draft copies of the NOI and MS4 Acceptance Form for review.”

Response: Refer to Appendix K of the enclosed SWPPP report for draft copies of both the electronically filed NOI form and MS4 acceptance form.

b.) Comment: “The applicant is proposing to remove two (2) feet of soil below the proposed infiltrators and replace the soil with an engineered soil mix with a slower percolation rate. This is a design which may be appropriate for a bioretention system, however, I have never seen the practice used for an infiltration system. I also cannot find the practice to be an acceptable design feature for infiltration systems within the NYS Stormwater Management Design Manual. Perhaps the applicant’s professionals can provide clarification on the design.”

Response: Per a meeting with John Kellard, P.E. of Kellard Sessions, the enclosed plans have been revised to remove the previously proposed 2 feet of soil below the proposed infiltrators.

c.) Comment: “The applicant should include within the SWPPP WQy calculations in accordance with Chapter 4 of the NYS Stormwater Management Design Manual, which provide 24-hour extended detention of the post-developed 1-year, 24-hour storm event. It seems CPv can easily be handled by the system if the soil below the infiltrators were not replaced with an engineered soil mix.”

Response: WQy calculations are provided in Appendix D of the enclosed SWPPP report. As mentioned above, the previously proposed 2 feet of soil below the proposed infiltrators has been removed. CPv compliance has been met per the enclosed analysis.

d.) Comment: “The applicant is proposing stormwater infiltration practices that are required to have pre-treatment in conformance with Chapter 6, Section 6.3 of the NYS Stormwater Management Design Manual. Please address pre-treatment at each stormwater practice.”

Response: Pretreatment volume compliance is provided with a proposed Cultec Separator Row for each infiltration system to achieve 80% total suspended solids removal. WQy and pretreatment calculations are provided in Appendix D of the enclosed SWPPP report.

e.) Comment: “Stormwater infiltration practices must maintain a minimum separation of three (3) feet between the practice and groundwater, soil mottled layer or bedrock. It appears that three (3) feet of separation has not been confirmed for infiltration practice E-1, E-4 and W-2.”

Response: The stormwater infiltration practices of E-1, E-4 and W-2 have been raised or modified to provide for three feet (3’) of separation from restrictive layers to the bottom of their systems. The separation distances for E-1, E-4, and W-2 are based on deep test pit data from TP#D-13, TP#D-2, and TP#D-18 respectively.

7.) Comment: “The applicant will need to prepare site engineering plans detailing proposed site grading, erosion and sediment controls, storm drainage improvements and mitigation, site layout, construction details, etc. Upon submission of the required documents, our office will provide a detailed review.

Runoff from the hillside behind the pool house will flow directly towards the pool house. The applicant should examine the grading within this area and consider whether a swale is appropriate between the building and the hillside.”

Response: A swale is proposed on the hillside behind the pool house to divert stormwater runoff away from the structure. Refer to the enclosed C-3A plan sheet.

Revisions on the Site Plan drawings are noted with a revision triangle #1. The revised set of drawings and report are enclosed and listed below:

C-0	ZONING SITE PLAN	10/18/2023
C-1	SITE DEVELOPMENT PLAN	10/18/2023
C-2	GROSS LAND COVERAGE PLAN	10/18/2023
C-3A	SITE PLAN – 3A	10/18/2023
C-3B	SITE PLAN – 3B	10/18/2023
C-4	EROSION & SEDIMENT CONTROL PLAN	10/18/2023
C-5	NOTES & DETAILS	10/18/2023
C-6	DETAILS - 1	10/18/2023
C-7	DETAILS - 2	10/18/2023
C-8	TURNING TEMPLATES PLAN	10/18/2023
SWPPP	STORMWATER POLLUTION PREVENTION PLAN	10/18/2023
EMAIL	WESTCHESTER COUNTY DPW EMAIL CHAIN	8/09/2023

Your review of our responses and enclosed documents is appreciated. Feel free to call me with any questions or concerns.

Truly yours,

Louis DiMarzo, P.E.

Enclosures

- cc: Chloe Gasiorowski – Marengo Farms, LLC (w/ enclosures)
- Geraldine N. Tortorella, Esq. – Hocherman Tortorella & Wekstein, LLP (w/ enclosures)
- Jay Fain – Jay Fain & Associates, LLC (w/ enclosures)

## Lou DiMarzo

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**From:** Dispenza, Michael <mrd1@westchestercountyny.gov>  
**Sent:** Wednesday, August 09, 2023 10:39 AM  
**To:** Lou DiMarzo  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY \*\*FYI\*\*

You are correct sir!

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**From:** Lou DiMarzo <louis@dimarzubereczky.com>  
**Sent:** Wednesday, August 9, 2023 10:37 AM  
**To:** Dispenza, Michael <mrd1@westchestercountyny.gov>  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY \*\*FYI\*\*

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the Help Desk.

Hi Mike.

Call me "captain obvious", but does this mean the 263 Bedford Banksville Rd project does not need to pull a WC DPW permit to repave the driveway entrance?

Thanks,

Lou DiMarzo, P.E.

[DiMarzo and Bereczky](#) | Civil Engineers & Land Surveyors  
203-857-4110 ext.1 | 203-767-8934 mobile

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**From:** Dispenza, Michael <mrd1@westchestercountyny.gov>  
**Sent:** Tuesday, August 08, 2023 1:28 PM  
**To:** Palmiotto, Joseph <jqp2@westchestercountyny.gov>; Dispenza, Michael <mrd1@westchestercountyny.gov>; Dean, Jeffrey A. <jadc@westchestercountyny.gov>; Ventarola, Anthony <avv3@westchestercountyny.gov>; Griffith, Roger <rgg8@westchestercountyny.gov>  
**Cc:** Ireland, George <gai2@westchestercountyny.gov>; Lou DiMarzo <louis@dimarzubereczky.com>  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY \*\*FYI\*\*

Thank you all!!

Mike D.

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**From:** "Palmiotto, Joseph" <jqp2@westchestercountyny.gov>  
**Sent:** Tuesday, August 8, 2023 12:38 PM  
**To:** "Dispenza, Michael" <mrd1@westchestercountyny.gov>,"Dean, Jeffrey A." <jadc@westchestercountyny.gov>,"Ventarola, Anthony" <avv3@westchestercountyny.gov>,"Griffith, Roger" <rgg8@westchestercountyny.gov>  
**CC:** "Ireland, George" <gai2@westchestercountyny.gov>,Lou DiMarzo <louis@dimarzubereczky.com>  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY \*\*FYI\*\*

No permit required sorry

Joseph Palmiotto  
Assistant Superintendent  
Westchester County Dept. of Public Works and Transportation  
Road Maintenance Division  
198 Lake Street White Plains, N.Y. 10604  
Phone (914-995-4951) Fax (914-995-6233)  
[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)

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**From:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>  
**Sent:** Tuesday, August 8, 2023 12:18 PM  
**To:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>; Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>; Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>  
**Cc:** Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

Joe/George- is a County Road permit required?

---

**From:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>  
**Sent:** Tuesday, August 8, 2023 12:16 PM  
**To:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>; Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>; Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>  
**Cc:** Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

No comments on my end not effecting Bedford Banksville Road.

Joseph Palmiotto  
Assistant Superintendent  
Westchester County Dept. of Public Works and Transportation  
Road Maintenance Division  
198 Lake Street White Plains, N.Y. 10604  
Phone (914-995-4951) Fax (914-995-6233)  
[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)

---

**From:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>  
**Sent:** Tuesday, August 8, 2023 11:13 AM  
**To:** Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>; Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>  
**Cc:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>; Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>  
**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*  
**Importance:** High

Ok thanks.

George/Joe- please advise- thanks.

---

**From:** Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>

**Sent:** Tuesday, August 8, 2023 11:11 AM

**To:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>; Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>

**Cc:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>; Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>

**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

No comments from me as the work being done will be beneficial to Bedford Banksville from a drainage standpoint.

---

**From:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>

**Sent:** Tuesday, August 8, 2023 11:07 AM

**To:** Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>; Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>

**Cc:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>; Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>

**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

Thanks guys- Jeff- any comments on your end?

---

**From:** Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>

**Sent:** Tuesday, August 8, 2023 10:54 AM

**To:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>; Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>

**Cc:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>; Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>

**Subject:** RE: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

I do not either. The project's effect on Bedford-Banksville Road is minimal  
AV

**Anthony J. Ventarola, P.E.**

**Associate Engineer**

**Westchester County Department of Public Works**

**148 Martine Ave**

**White Plains, NY 10601**

**(914) 995-2565**

**Attention! My new email is: [avv3@WestchesterCountyNY.gov](mailto:avv3@WestchesterCountyNY.gov)**

---

**From:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>

**Sent:** Monday, August 7, 2023 2:19 PM

**To:** Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>; Dean, Jeffrey A. <[jadc@westchestercountyny.gov](mailto:jadc@westchestercountyny.gov)>; Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>

**Cc:** Palmiotto, Joseph <[jqp2@westchestercountyny.gov](mailto:jqp2@westchestercountyny.gov)>; Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>



**Subject:** FW: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

**Importance:** High

<<263 Bed Banks (8 sheets) signed SITE PLAN SET reduce size 2023-03-09.pdf>>

FYI- Road Maintenance asked that if you could please review the attached per below and advise if there are any impacts you can see on the County Road (drainage, etc.), before they comment- thank you!

Mike D.

---

**From:** Dispenza, Michael

**Sent:** Monday, August 7, 2023 10:22 AM

**To:** Palmiotto, Joseph <[jpg2@westchestercountyny.gov](mailto:jpg2@westchestercountyny.gov)>; Ireland, George <[gai2@westchestercountyny.gov](mailto:gai2@westchestercountyny.gov)>; Griffith, Roger <[rgg8@westchestercountyny.gov](mailto:rgg8@westchestercountyny.gov)>

**Cc:** Ventarola, Anthony <[avv3@westchestercountyny.gov](mailto:avv3@westchestercountyny.gov)>; Utchel, Kathleen <[kau1@westchestercountyny.gov](mailto:kau1@westchestercountyny.gov)>; 'Lou DiMarzo' <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>

**Subject:** FW: Proposed Driveway Entrance Re-Paving - CR#12, 263 Bedford Banksville Rd., Town of North Castle, NY  
\*\*FYI\*\*

Good AM- please review attached per below and advise if a County Road Permit is required- thank you.

Mike D.

**Michael R. Dispenza**

Contract Administrator/Permit Agent  
Westchester County Department of Public Works &  
Transportation/Information Technology  
148 Martine Avenue, Room 522  
White Plains, New York 10601

914-995-2594 (W); 914-995-6409 (F);

E-mail: [mrd1@WestchesterCountyNY.gov](mailto:mrd1@WestchesterCountyNY.gov)

---

**From:** Lou DiMarzo <[louis@dimarzobereczky.com](mailto:louis@dimarzobereczky.com)>

**Sent:** Monday, August 7, 2023 10:05 AM

**To:** Dispenza, Michael <[mrd1@westchestercountyny.gov](mailto:mrd1@westchestercountyny.gov)>

**Subject:** Driveway entrance re-pave - 263 Bedford Banksville Rd, North Castle, NY

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the Help Desk.

Hi Mike.

I'm reaching out per our call this morning and regarding a possible WC DPW permit for repaving an existing entrance drive with access to Bedford Banksville Road in North Castle. At the request of John Kellard, P.E. (Town Engineer Consultant – North Castle), he states *“WC DPW has jurisdiction over the curb cut and therefore, I would recommend that the applicant submit the documents to WC DPW for their review of the change of use.”*

I've attached the site plan for the above referenced re-development residential project at 263 Bedford Banksville Road. We do not propose widening or expanding the existing driveway entrance. We propose to re-pave it to existing limits. Technically, there is no change in use. This is not a commercial property. It is a residential property similar to it's previous use.

Please refer to sheet C-3A (page 3 of 8) for layout and sheet C-8 (page 8 of 8) for turning templates. Would this project be required for a WC DPW permit to repave the driveway entrance?



Please contact me with any questions or clarifications. Thank you,

Lou DiMarzo, P.E.

[DiMarzo and Berezky](#) | Civil Engineers & Land Surveyors

203-857-4110 ext.1 | 203-767-8934 mobile

Application  
for  
Special Use Permit



**TOWN OF NORTH CASTLE**  
**WESTCHESTER COUNTY**  
17 Bedford Road  
Armonk, New York 10504-1898

**PLANNING DEPARTMENT**  
**Adam R. Kaufman, AICP**  
**Director of Planning**

**Telephone: (914) 273-3542**  
**Fax: (914) 273-3554**  
[www.northcastleny.com](http://www.northcastleny.com)

## Application for Special Use Permit Approval

### Application Name

Chloe and Mikhail Gasiorowski, 263 Bedford Banksville Road

Special Permit for Accessory Buildings in Excess of 800 Square Feet (Existing Indoor Riding Arena (no change) and Proposed Stable and Garage/Grooms Quarters) and Over 15 Feet in Height (Existing Indoor Riding Arena (no change), Stable and Garage/Grooms Quarters)



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### Important General Information

- Prior to submitting an application, the "Notice to Applicants" should be reviewed.
- To appear before the Planning Board, all required application materials shall be submitted not later than **12:00 P.M., Monday, fourteen (14) days** prior to the date of the Planning Board meeting at which the application is scheduled to be heard or as otherwise noted by the Planning Board Secretary. Continuing Business can be submitted 12 days prior to the Next Planning Board meeting by the close of business. Except where noted.  
If all required application materials, including the pertinent application fee and escrow monies are not submitted by that deadline, the application shall be automatically removed from the agenda.  
At the discretion of the Planning Board Chairman, the application may be rescheduled, if appropriate, for the next available Planning Board meeting or the application may be removed from future agendas altogether. Without prior authorization from the Planning Board, application submissions shall not be accepted at Planning Board meetings.
- At the time of submission, all required application materials shall be submitted. **Piecemeal** submissions **shall not** be accepted. Substitution of previously submitted materials shall not be permitted.
- All submissions shall be dated, with revision dates identified on new submissions.
- All submissions shall be accompanied by a cover letter describing the project and/or any changes as compared to previous submissions.
- To be considered complete for Planning Board hearing purposes, an application package shall contain the information identified in Parts IV and V of this application form.



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**AT THE TIME OF SUBMISSION TO THE PLANNING DEPARTMENT  
PLEASE MAKE SURE THE FOLLOWING IS PROVIDED**

- ✓ SUBMISSION OF A SINGLE PDF FILE (PLANS, APPLICATION FORM, OTHER PAPERWORK) ON A DISK, THUMBDRIVE OR EMAIL
  
- ✓ COVER LETTER DESCRIBING THE PROJECT OR CHANGES TO THE PROJECT
  
- ✓ ALL PLANS ARE SIGNED AND SEALED BY A LICENSED NYS PROFESSIONAL



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## **NOTICE TO APPLICANTS**

In the Town of North Castle, the Planning Board is responsible for the review and approval of all applications concerning site plans, subdivisions and lot line changes; some applications concerning special use permits, wetlands permits and tree removal permits; and the environmental review of those applications over which it has jurisdiction. The Planning Board may also have an advisory role in connection with some applications before the Town Board, such as those involving other categories of special use permits and zoning amendments.

The Planning Board is composed of five volunteer members – all residents of North Castle – who are appointed by the Town Board for five-year terms. As part of the review of some applications, the Planning Board is assisted on an as-needed basis by other lay boards of the Town, such as the Conservation Board (CB), the Zoning Board of Appeals (ZBA), the Open Space Committee and the Architectural Review Board (ARB). As part of the review of most applications, the Planning Board is also assisted by the Director of Planning, the Town Engineer, the Town Attorney and other special consultants when required.

### **FEES:**

If you submit an application for Planning Board review, you will be required to reimburse the Town for the cost of professional review services, including legal and engineering services, incurred in connection with the review of your application. The charges for professional planning review services have been \$120/hour. If other types of professional consultant review services are required, those charges will be in accord with fees usually charged for such services and pursuant to a contractual agreement between the Town and such professional.

At the time of submission of an application, the Planning Board will require the establishment of an escrow account from which withdrawals shall be made to reimburse the Town for the cost of consultant fees and professional staff services.

### **ESCROW ACCOUNT:**

Escrow Accounts are established for each application. Monies will be deducted from the account for professional review services rendered. Monthly escrow disbursement summaries will be mailed for your reference regarding your project. When the balance in such escrow account is reduced to one-third (1/3) of its initial amount, a letter will be mailed to the applicant and the applicant shall deposit additional funds into such account to restore its balance to the amount of the initial deposit. Additional information on these requirements is provided in the North Castle Town Code (see Sections 355-79B and 275-36.C).



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**PROCEDURE:**

Prior to submitting an application to the Planning Board for review and approval, prospective applicants should schedule an appointment with the Planning Board Secretary at (914) 273-3542 for a consultation with the Town Planner and the Town Engineer. When the appointment is made, a verbal description of the proposal should be provided to the Planning Board Secretary. The Town of North Castle is providing the services of the Director of Planning and the Town Engineer for *initial* consultation at no cost to the applicant so that it is possible to conduct the application review as efficiently as possible for the benefit of the applicant as well as the Planning Board.

After meeting with the Town Planner and Town Engineer, prospective applicants should prepare one complete set of application documents and plans. This set will be reviewed for completeness by the Town Planner. If determined to be incomplete, the Planning Department will submit a checklist indicating which items have not been adequately addressed. If determined to be complete, the checklist will be initialed and the Applicant should submit the remainder of the required application packages.

Once the checklist has been initialed and all application packages have been submitted, the Planning Board Secretary will schedule the application for the first available opening on the Planning Board's meeting agenda. However, if the required application material packages, including the pertinent application fee are not received at the Planning Board office by 12:00 PM, Monday, 14 days prior to the date of the Planning Board meeting at which you are scheduled to appear (or otherwise scheduled by the Planning Board Secretary), your application will be automatically removed from the agenda. At the discretion of the Planning Board Chairman, your application may be rescheduled, if appropriate, for the next available Planning Board meeting or the application may be removed from future agendas altogether. Additional requirements pertinent to each type of application are provided on the individual application forms, which you should carefully review prior to submitting your application.

When an application is deemed complete and submitted for review, it will be forwarded to the Planning Board Members and its professional advisors in advance of the meeting to allow adequate time for review, preparation of written reports and site inspections as necessary. Your application may also be forwarded to other boards and staff of the Town as well as to agencies outside of the Town, if required. Compliance with State Environmental Quality Review (SEQR) procedures is also required as part of the processing of all applications.

At your first appearance before the Planning Board, the Applicant will describe the project and the Planning Board will discuss any preliminary issues. The Planning Board discussion may be continued at future meetings, or if the Planning Board review has progressed sufficiently, the Application may be scheduled for a public hearing (if one is required) The public hearing may occur at a single Planning Board meeting, or it may be adjourned and continued at another Planning Board meeting. Because the nature and complexity of each application varies



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considerably, it is not possible to predict in advance the length of time needed to secure Planning Board approval. There are certain steps that you can take, however, to expedite the review process. These include, but are not limited to, the following:

- Be thoroughly familiar with the requirements pertinent to your application. Carefully review relevant provisions of the North Castle Town Code and the application form for your particular type of application. Be sure to check on what other types of approvals may be required in addition to that of the Planning Board. Approvals by other Town boards or departments as well as agencies outside of the Town may be required before you will be allowed to proceed with your project.
- Make sure that your application materials are accurately prepared and contain all required information. The information that we initially request is required, so make sure that your submission is complete. If supplementary information is requested as the review process continues, make sure that it is submitted in a timely fashion so the Planning Board can continue to move your application along.
- Follow up to make sure that your application materials are being submitted on time, or deliver them to the Planning office yourself.
- Attend the Planning Board meeting at which your application will be discussed and be on time for the meeting. If you cannot appear personally, make sure that your representative will be there and is thoroughly familiar with your application.

If the Application is approved by the Planning Board, a resolution of approval will be adopted by the Planning Board. It is the Applicant's responsibility to address any and all conditions of approval. Permits from the Building Department cannot be issued until all conditions have been addressed and the plans have been signed by the Planning Board Chair and the Town Engineer.

**ON LINE AGENDAS & PLANNING DEPARTMENT MEMORANDA CAN BE  
REVIEWED AT**

**[WWW.NORTHCASTLENY.COM](http://WWW.NORTHCASTLENY.COM)**





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### INFORMATION REGARDING PUBLIC HEARINGS

1. The North Castle Assessor's Office shall prepare a list of neighbors to be notified for the neighbor notifications and public hearings - **A minimum of one week's notice is required**. The fee is \$50.00 which includes the list of neighbors and two sets of labels for mailing. The Assessor's Office may be reached Monday – Friday from 8:30 a.m.– 4:30 p.m. at 273-3324. You may also e-mail your request to [assessor@northcastleny.com](mailto:assessor@northcastleny.com)

When requesting your list please reference the list of application types below so that you can tell the Assessor's office how many feet on all sides of the property to create the list for.

**Subdivisions** - All lots zoned R-10, R-5 and R-2F shall notice all neighbors within 200 feet from all sides of their property. All other zoning districts shall notice neighbors within 500 feet from all sides of their property. Public hearing notice must be published in the newspaper.

**Special Use Permit for Structures over 800 sq ft. & Accessory Apartment** - All Zoning Districts shall notice all neighbors within 250 feet from all sides of their property. Public hearing notice must be published in the newspaper.

**Site Plan, Non Residential** - All Zoning Districts shall notice all neighbors within 250 feet from all sides of their property. Public hearing notice must be published in the newspaper.

**Site Plan, Residential/ Neighbor Notification** – All zoning districts R-3/4A or smaller shall notice all neighbors within 250' from all sides of their property. All zoning districts zoned R-1A or larger shall notice all neighbors within 500' from all sides of the property. No public hearing required, no publication in the newspaper required.

**Wetlands Permit** - All Zoning Districts shall notice all abutting property owners. Public hearing notice must be published in the newspaper.

2. The Director of Planning will prepare a Public Notice. The applicant and or professional will review, sign, date and return to the Planning Department Secretary. If there are any changes necessary, please edit and return for corrections. The corrections will be made and emailed back to the applicant who will forward it to the Journal Newspaper, when applicable.

**If notification to the newspaper is not required, please continue to #3.**



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You may email your public notice to [legals@lohud.com](mailto:legals@lohud.com). Please request an affidavit of publication which must be submitted to the Planning Board secretary prior to the public hearing. The Journal News requires three days prior notice before 12 noon, not counting weekends and holidays, for ad placement. Make sure the notice placement of the ad in the Greater Westchester Area. This notice cannot be published any sooner than 20 days prior to the meeting and must be published no less than 10 days prior to the meeting.

If you have any questions regarding your publication you may call 888-516-9220:  
Email Address: [legals@lohud.com](mailto:legals@lohud.com)

It is suggested that you purchase the newspaper for your records the day the notice is published.

3. Send out the Public Hearing Notice/ Neighbor Notification by First Class Mail. Notice shall be mailed by the applicant in official envelopes provided by the North Castle Planning Department; the list of noticed neighbors will be prepared by the Assessor's Office. This must be sent out no less than 10 days prior to the meeting and no more than 20 days prior to the meeting date. A Certificate of Mailing (PS Form 3817 or 3877) shall be filled out and post marked by the Post Office on the day of mailing. Neighbor Notifications – no publication in the newspaper required.
4. The Friday before the meeting or no later than 12:00 p.m. the day of the meeting the following **must** be submitted.
  - List of Neighbors prepared by the Assessor's Office
  - Certificate of Mailing – PS form 3817 or 3877 post marked by the US Post Office
  - Affidavit of publication from the Newspaper (only if published in the newspaper)



Name and Address of Sender		Check type of mail or service <input type="checkbox"/> Adult Signature Required <input type="checkbox"/> Priority Mail Express <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail <input type="checkbox"/> Certified Mail <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Collect on Delivery (COD) <input type="checkbox"/> Signature Confirmation Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Priority Mail		<b>Affix Stamp Here</b> <i>(if issued as an international certificate of mailing or for additional copies of this receipt).</i> <b>Postmark with Date of Receipt.</b>												
USPS Tracking/Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee		
1.				Handling Charge - if Registered and over \$50,000 in value												
2.																
3.																
4.									Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling	
5.																
6.																
7.																
8.																
Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per (Name of receiving employee)														



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Fax: (914) 273-3554  
[www.northcastleny.com](http://www.northcastleny.com)

**APPLICATIONS REQUIRING PLANNING BOARD APPROVAL**  
**SCHEDULE OF APPLICATION FEES**

<b><u>Type of Application</u></b>	<b><u>Application Fee</u></b>
Site Development Plan	\$200.00
Each proposed Parking Space	\$10
Special Use Permit (each)	\$200 (each)
Preliminary Subdivision Plat	\$300 1 <sup>st</sup> Lot \$200 (each additional lot)
Final Subdivision Plat	\$250 1 <sup>st</sup> Lot \$100 (each additional lot)
Tree Removal Permit	\$75
Wetlands Permit	\$50 (each)
Short Environmental Assessment Form	\$50
Long Environmental Assessment Form	\$100
Recreation Fee	\$10,000 Each Additional Lot
Discussion Fee	\$200.00
Prior to submission of a sketch or preliminary subdivision Plat, an applicant or an applicant's representative wishes to discuss a subdivision proposal to the Planning Board, a discussion fee of \$200.00 shall be submitted for each informal appearance before the board.	

\*Any amendment to previously approved applications requires new application forms and Fes\*



**TOWN OF NORTH CASTLE**  
**WESTCHESTER COUNTY**  
 17 Bedford Road  
 Armonk, New York 10504-1898


**PLANNING DEPARTMENT**  
 Adam R. Kaufman, AICP  
 Director of Planning

Telephone: (914) 273-3542  
 Fax: (914) 273-3554  
[www.northcastlennyc.com](http://www.northcastlennyc.com)

**PLANNING BOARD SCHEDULE OF ESCROW ACCOUNT DEPOSITS**

<b><u>Type of Application Deposit*</u></b>	<b><u>Amount of Initial Escrow Account</u></b>
Concept Study	\$500.00
Site Plan Waiver for Change of Use	\$500.00
Site Development Plan for:	
Multifamily Developments	\$3,000.00 plus \$100.00 per proposed dwelling unit
Commercial Developments	\$3,000.00 plus \$50.00 for each required parking space
1 or 2 Family Projects	\$2,000.00
Special Use Permit	\$2,000.00 plus \$50.00 for each required parking space
Subdivision:	
Lot Line Change resulting in no new lots	\$1,500.00
All Others	\$3,000.00 plus \$200.00 per proposed new lot in excess of two (2)
Preparation or Review of Environmental Impact Statement	\$15,000.00

\* If a proposed action involves multiple approvals, a single escrow account will be established. The total amount of the initial deposit shall be the sum of the individual amounts indicated. When the balance in such escrow account is reduced to one-third (1/3) of its initial amount, the applicant shall deposit additional funds into such account to restore its balance to the amount of the initial deposit.

  
 Applicant Signature Chloe Gasiorowski

October 21, 2023  
 Date:

**I. IDENTIFICATION OF PROPERTY OWNER, APPLICANT AND PROFESSIONAL REPRESENTATIVES**

Name of Property Owner: Marengo Farms, LLC c/o Chloe Gasiorowski  
Mailing Address: 48 Davids Way, Bedford Hills, NY 10507  
Telephone: 347-853-6073 Fax: \_\_\_\_\_ e-mail cnicol@algonadvisors.com

Name of Applicant (if different): Chloe & Mikhail Gasiorowski  
Address of Applicant: 48 Davids Way, Bedford Hills, NY 10507  
Telephone: 347-853-6073 Fax: \_\_\_\_\_ e-mail cnicol@algonadvisors.com  
Interest of Applicant, if other than Property Owner:  
\_\_\_\_\_

Is the Applicant (if different from the property owner) a Contract Vendee?

Yes  No

If yes, please submit affidavit stating such. If no, application cannot be reviewed by Planning Board

Name of Professional Preparing Site Plan:  
See attached list  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ e-mail \_\_\_\_\_

Name of Other Professional: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ e-mail \_\_\_\_\_

**Hocherman Tortorella & Wekstein, LLP**  
Name of Attorney (if any): (Geraldine N. Tortorella, Esq.)  
Address: One North Broadway, Suite 400, White Plains, NY 10601  
Telephone: (914) 421-1800, Ext. 1 Fax: (914) 421-1856 e-mail g.tortorella@htwlegal.com

**I. IDENTIFICATION OF PROPERTY OWNER, APPLICANT AND PROFESSIONAL REPRESENTATIVES**

**263 BEDFORD BANKSVILLE RD, NORTH CASTLE, NY**

Name of Professional Preparing Site Plan:

**Civil Engineer**

DiMarzo & Bereczky  
10 High Circle Lane, Fairfield, CT 06824  
Contact: Lou DiMarzo, CT PE 26847  
203-857-4110  
Louis@dimarzobereczky.com

**Landscape Architect, Soil Scientist**

**Site Planning/Environmental**

Victoria Landau & Jay Fain  
Jay Fain & Associates, LLC  
2000 Post Rd, Ste. 201, Fairfield, CT 06824  
Contact: Jay Fain  
203-581-5902  
elmst@optonline.net

**Surveyor**

Dan Merritt LLS No 050604  
394 Bedford Rd, Pleasantville, NY 10507  
Contact: Brendan Cecollini  
914-769-8002, fax 914-769-1419  
survey@tcmerritts.com

**Designer, Builder - Barn, Stable**

Old Town Barns  
PO Box 36  
Pawling, NY 12564  
Contact: Dave Zublin  
845-855-1450  
Dave@oldtownbarns.com

**Architect - House, Pool House**

Teo Siguenza Architect  
460 Old Post Rd, Ste 2A  
Bedford, NY 10506

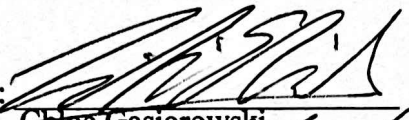


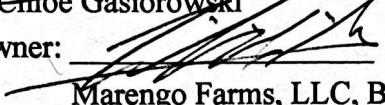
**Applicant Acknowledgement**

By making this application, the undersigned Applicant agrees to permit Town officials and their designated representatives to conduct on-site inspections in connection with the review of this application.

The Applicant also agrees to pay all expenses of publication and the giving of public notice as required, and further acknowledges that he/she shall be responsible for reimbursing the Town for the cost of professional review services required for this application.

It is further acknowledged by the Applicant that all bills for the expenses of publication and the giving of public notice as well as professional consultant review services shall be mailed to the Applicant, unless the Town is notified in writing by the Applicant at the time of initial submission of the application that such mailings should be sent to a designated representative instead.

Signature of Applicant:  Date: October 21, 23  
Chloe Gasiorowski

Signature of Property Owner:  Date: October 21, 23  
Marengo Farms, LLC, By Chloe Gasiorowski

**MUST HAVE BOTH SIGNATURES**





### III. DESCRIPTION OF PROPOSED DEVELOPMENT

Type of Special Use Permit:

Accessory Apartment \_\_\_\_\_

Accessory Structure over 800 square feet   X   Existing Indoor Arena (16,640 SF, 15.1'), Stable (4,686 SF, & Accessory Structure over 15 ft. in height 18' 11" ) & Garage/Grooms Quarters (2,221 SF, 19', 5 3/4")  
Gross Floor Area: Existing \_\_\_\_\_S.F. Proposed \_\_\_\_\_S.F.

Number of Parking Spaces: Existing \_\_\_\_\_ Proposed \_\_\_\_\_

Earthwork Balance: Cut \_\_\_\_\_ C.Y. Fill \_\_\_\_\_ C.Y. \_\_\_\_\_

Will Development on the subject property involve any of the following:

Areas of special flood hazard? No   X   Yes \_\_\_\_\_

(If yes, application for a Development Permit pursuant to Chapter 177 of the North Castle Town Code may also be required) Portion of the property is in the flood plain but no activity is proposed in the flood zone. Flood Development Permit will be applied for.

Trees with a diameter at breast height (DBH) of 8" or greater?

No \_\_\_\_\_ Yes   X  

(If yes, application for a Tree Removal Permit pursuant to Chapter 308 of the North Castle Town Code may also be required.) Tree Permit Application was previously submitted

Town-regulated wetlands? No   X   Yes \_\_\_\_\_

(If yes, application for a Town Wetlands Permit pursuant to Chapter 340 of the North Castle Town Code may also be required.) There are wetlands on the property, but no new activity is proposed in regulated wetland and wetland buffer areas.

State-regulated wetlands? No   X   Yes \_\_\_\_\_

(If yes, application for a State Wetlands Permit may also be required.) There are State wetlands on the property, but no new activity is proposed in the State-regulated Wetland and Wetland buffer areas.

#### **IV. SUBMISSION REQUIREMENTS**

The special use permit application package shall include all materials submitted in support of the application, including but not limited to the application form, plans, reports, letters and SEQR Environmental Assessment Form. **Submission of the following shall be required:**

- One (1) PDF set of the special use permit application package in a single PDF file.
- A check for the required application fee and a check for the required Escrow Account, both made payable to "Town of North Castle" in the amount specified on the "Schedule of Application Fees."

(continued next page)

## V. INFORMATION TO BE INCLUDED ON SPECIAL USE PERMIT SITE PLAN

The following checklist is provided to enable the Applicant to determine if he/she has provided enough information on the special use permit plan for the Planning Board to review his/her proposal. Applicants are advised to review Chapter 355 Article VII of the North Castle Town Code for a complete enumeration of pertinent requirements and standards prior to making application for special use permit approval.

The application for special use permit approval will not be accepted for Planning Board review unless all items identified below are supplied and **so indicated with a check mark in the blank line provided**. If a particular item is not relevant to the subject property or the development proposal, **the letters "NA" should be entered instead**.

The information to be included on a site development plan shall include: **Some of the following information is included on the Landscape Plan and in other materials provided with the submission.**

### Legal Data:

- Name of the application or other identifying title.
- Name and address of the Property Owner and the Applicant, (if different).
- Name, address and telephone number of the architect, engineer or other legally qualified professional who prepared the plan.
- Names and locations of all owners of record of properties abutting and directly across any and all adjoining streets from the subject property, including the tax map designation of the subject property and abutting and adjoining properties, as shown on the latest tax records.
- Existing zoning, fire, school, special district and municipal boundaries.
- Size of the property to be developed, as well as property boundaries showing dimensions and bearings as determined by a current survey; dimensions of yards along all property lines; name and width of existing streets; and lines of existing lots, reservations, easements and areas dedicated to public use.
- Reference to the location and conditions of any covenants, easements or deed restrictions that cover all or any part of the property, as well as identification of the document where such covenants, easements or deed restrictions are legally established.
- Schedule of minimum zoning requirements, as well as the plan's proposed compliance with those requirements, including lot area, frontage, lot width, lot depth, lot coverage, yards, off-street parking, off-street loading and other pertinent requirements.
- Locator map, at a convenient scale, showing the Applicant's entire property in relation to surrounding properties, streets, etc., within five hundred (500) feet of the site.
- North arrow, written and graphic scales, and the date of the original plan and all revisions, with notation identifying the revisions.
- A signature block for Planning Board endorsement of approval.

**Existing Conditions Data:**

- Location use and design of existing buildings, ~~MANUFACTURING, STORAGE, AND OFFICE BUILDINGS~~, and other structures.
- Location of existing facilities for water supply, sanitary sewage disposal, storm water drainage, and gas and electric service, with pipe sizes, grades, rim and inverts, direction of flow, etc. indicated.
- Location of all other existing site improvements, including pavement, walks, curbing, retaining walls and fences.
- Location, type, direction, power and time of use of existing outdoor lighting.
- Existing topographical contours with a vertical interval of two (2) feet or less.
- Location of existing floodplains, wetlands, slopes of 15% or greater, wooded areas, landscaped areas, single trees with a DBH of 8" or greater, rock outcrops, stone walls and any other significant existing natural or cultural features.

**Proposed Development Data:**

- Proposed location of lots, streets, and public areas, and property to be affected by proposed easements, deed restrictions and covenants.
- Proposed location, use and architectural design of all buildings, including proposed floor plans and elevations.
- Proposed means of vehicular and pedestrian access to and egress from the site onto adjacent streets.
- Proposed sight distance at all points of vehicular access.
- Proposed streets, with profiles indicating grading and cross-sections showing the width of the roadway; the location and width of sidewalks; and the location and size of utility lines.
- Proposed location and design of any pedestrian circulation on the site and off-street parking and loading areas, including handicapped parking and ramps, and including details of construction, surface materials, pavement markings and directional signage.
- Proposed location and design of facilities for water supply, sanitary sewage disposal, storm water drainage, and gas and electric service, with pipe sizes, grades, rim and inverts, direction of flow, etc. indicated.
- Proposed location of all structures and other uses of land, such as walks, retaining walls, fences, designated open space and/or recreation areas and including details of design and construction.
- Location, type, direction, power and time of use of proposed outdoor lighting.

- X Location of proposed landscaping and buffer screening areas, including the type (scientific and common names), size and amount of plantings.
- X The proposed location, size, design and use of all temporary structures and storage areas to be used during the course of construction.
- X Proposed grade elevations, clearly indicating how such grades will meet existing grades of adjacent properties or the street.
- X Proposed soil erosion and sedimentation control measures.
- N/A For all proposed plans containing land within an area of special flood hazard, the data required to ensure compliance with Chapter 177 of the North Castle Town Code.
- X For all proposed plans involving clearing or removal of trees with a DBH of 8" or greater, the data required to ensure compliance with Chapter 308 of the North Castle Town Code.
- N/A For all proposed plans involving disturbance to Town-regulated wetlands, the data required to ensure compliance with Chapter 340 of the North Castle Town Code.

The special use permit application package shall also include a narrative document that demonstrates compliance with the following:

**Previously**

**Addressed** The location and size of the use, the nature and intensity of the operations involved in it or conducted in connection with it, the size of the site in relation to it and the location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the district in which it is located and that it complies with all special requirements for such use.

**Previously**

**Addressed** The location, nature and height of buildings, walls, fences and the nature and extent of existing or proposed plantings on the site are such that the use will not hinder or discourage the appropriate development and use of adjacent land and buildings.

**Previously**

**Addressed** Operations in connection with any special use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or other characteristics than would be the operations of any permitted uses not requiring a special permit.

**Previously**

**Addressed** Parking areas will be of adequate size for the particular use, properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve maximum convenience and safety.

- X Where required, The provisions of the Town Flood Hazard Ordinance shall be met.
- X The proposed special permit use will not have a significant adverse effect on the environment.

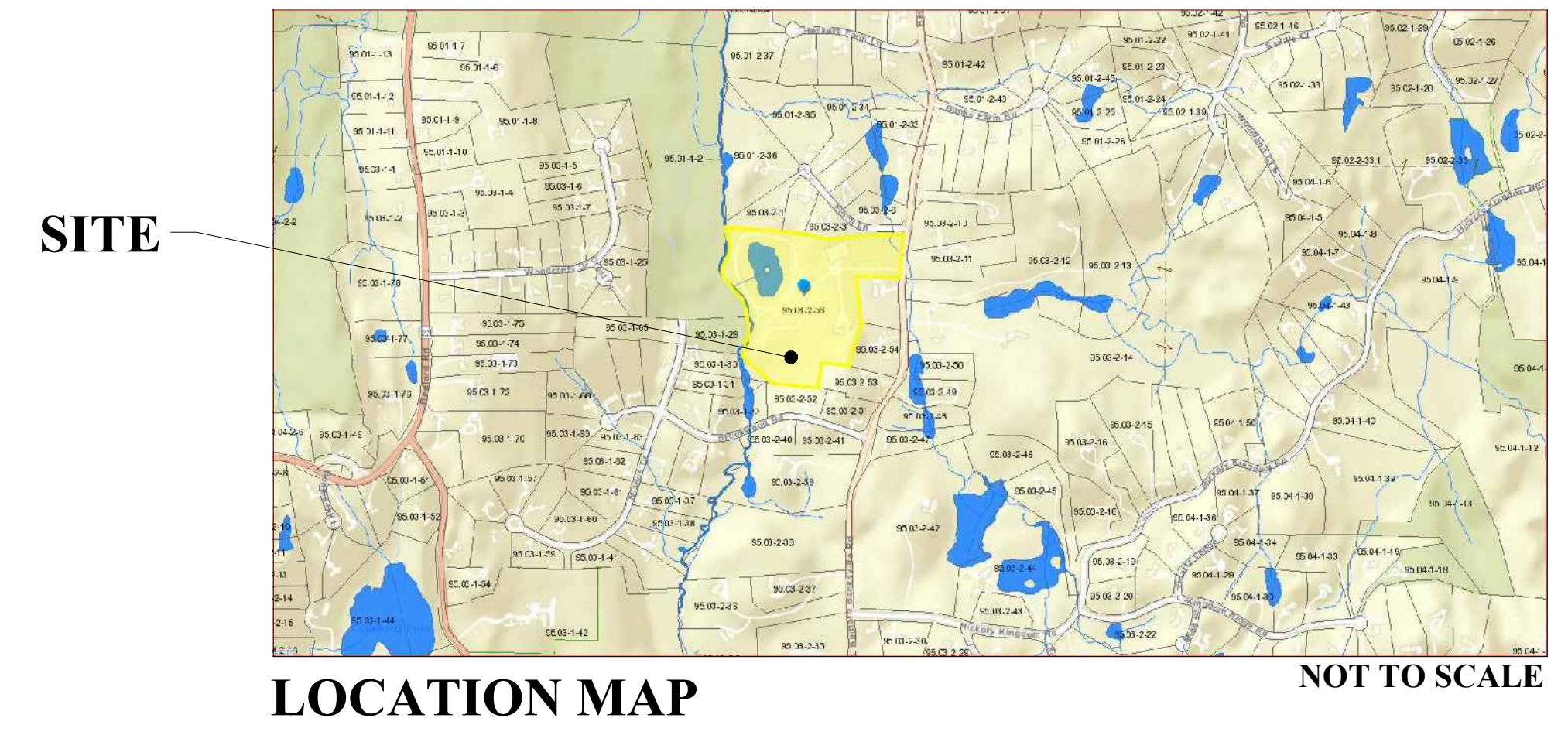
Survey/Site Plan,  
Landscape Plan,  
&  
Tree Removal Plans

by: DiMarzo & Bereczky, Inc.

by: T.C. Merritts Land Surveyors

by: Jay Fain & Associates, LLC





DRAWINGS PREPARED FOR:

# CHLOE & MIKHAIL GASIOROWSKI FAMILY FARM

**263 BEDFORD BANKSVILLE RD.  
NORTH CASTLE, NY**

## List of Sheets:

- CO** COVER SHEET
- S.1** SPECIAL PERMIT - SITE PLAN
- L.1** SPECIAL PERMIT - LANDSCAPE PLAN
- L.2** SPECIAL PERMIT - LANDSCAPE DETAILS
- TR.1** SPECIAL PERMIT - TREE REMOVALS
- TR.2** SPECIAL PERMIT - TREE REMOVALS LIST



DATE	SHEET	REVISION NOTES
02/10/23	CO	SUBMISSION TO PLANNING BOARD

<b>COVER SHEET</b>	
<b>263 BEDFORD BANKSVILLE RD.</b> North Castle, NY	
<b>JAY FAIN &amp; ASSOCIATES</b> <i>Environmental Consulting Services</i> <b>LLC</b> <small>2000 Post Rd., Ste. 201, Fairfield, CT 06424          Phone: 203-254-3156 • Email: jfassociates@optonline.net</small>	Date: <b>06/13/22</b> Sheet No.: <b>CO</b>









- PLANT NOTES**
- SEE SHEET L2 FOR PLANT LIST AND DETAILS
  - VERIFY THE LOCATION OF ALL UTILITY LINES PRIOR TO ANY PLANTING PIT EXCAVATION. CONTACT "CALL BEFORE YOU DIG" 72-HOURS PRIOR TO THE COMMENCEMENT OF ANY DIGGING OPERATIONS. COORDINATE WITH PROPERTY MANAGER REGARDING OTHER UNDERGROUND SYSTEMS.
  - NOTIFY THE LANDSCAPE ARCHITECT AT LEAST FIVE (5) DAYS IN ADVANCE OF PLANT MATERIAL DELIVERY TO THE SITE.
  - LAYOUT ALL PLANT MATERIAL WITH THE LANDSCAPE ARCHITECT PRIOR TO PLANT PIT EXCAVATION. SET UP OF ALL MATERIAL IN BEDS REQUIRED FOR OWNERS AND LANDSCAPE ARCHITECTS APPROVAL PRIOR TO PLANTING. SEE PLAN FOR PLANT LAYOUT. IF ANY DISCREPANCY OCCURS BETWEEN THE QUANTITIES CALLED FOR ON THE PLAN, NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO BID.
  - ALL PLANT MATERIAL IS TO CONFORM TO THE REQUIREMENTS OF THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN FOR EXTRA HEAVY GRADE UNLESS OTHERWISE SPECIFIED. TRUE TO NAME AND SIZE. INVESTIGATE SOURCES OF SUPPLY AND BE CERTAIN IT WILL BE POSSIBLE TO PROVIDE ALL PLANT MATERIALS SPECIFIED IN THE QUALITY AND QUANTITY REQUIRED PRIOR TO BIDDING.
  - ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD, DYING, NOT TRUE TO NAME OR SIZE AS SPECIFIED, OR NOT IN SATISFACTORY GROWTH OR HAVING BRANCHED OR DEFORMED STRUCTURE DUE TO LOSS OF LIMBS OR BRANCHED AS DETERMINED BY THE LANDSCAPE ARCHITECT, THAT PLANT MUST BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH AN APPROVED PLANT OF EQUAL SIZE AND SPECIES. PLANT VARIETY AND SIZE SUBSTITUTIONS WILL NOT BE PERMITTED UNLESS PROVED THAT THE SPECIFIED PLANT MATERIAL IS UNATTAINABLE OR CANNOT MEET SPECIFICATION REQUIREMENTS, THEN THE USE OF THE NEAREST EQUIVALENT SIZE OR VARIETY WILL BE CONSIDERED. PLANT MATERIAL LARGER THAN SPECIFIED MAY BE USED AT NO INCREASE IN COST. PROPOSED SUBSTITUTIONS MUST RECEIVE THE LANDSCAPE ARCHITECT'S AUTHORIZATION PRIOR TO BID AND PRIOR TO PURCHASE.
  - STAKE TREES ONLY AS NECESSARY TO ENSURE STABILITY.
  - ALL PLANT MATERIALS ARE TO BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AS DETERMINED BY THE LANDSCAPE ARCHITECT OR PROJECT MANAGER.
  - RESTORE ALL DISTURBED OR DAMAGED AREAS RESULTING FROM PLANTING OPERATIONS TO ORIGINAL CONDITIONS.
  - SEE PLAN FOR TREE LOCATIONS, SET UP TREES FOR APPROVAL FROM OWNER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. RESEED ANY DISTURBED TURF AREAS WITH APPROVED MIX. MULCH WITH CHOPPED STRAW. INSTALL SEEDING IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION.



SCALE: 1" = 40'-0"±

**SPECIAL PERMIT - LANDSCAPE PLAN**  
**263 BEDFORD-BANKSVILLE ROAD**  
**NORTH CASTLE, NY**

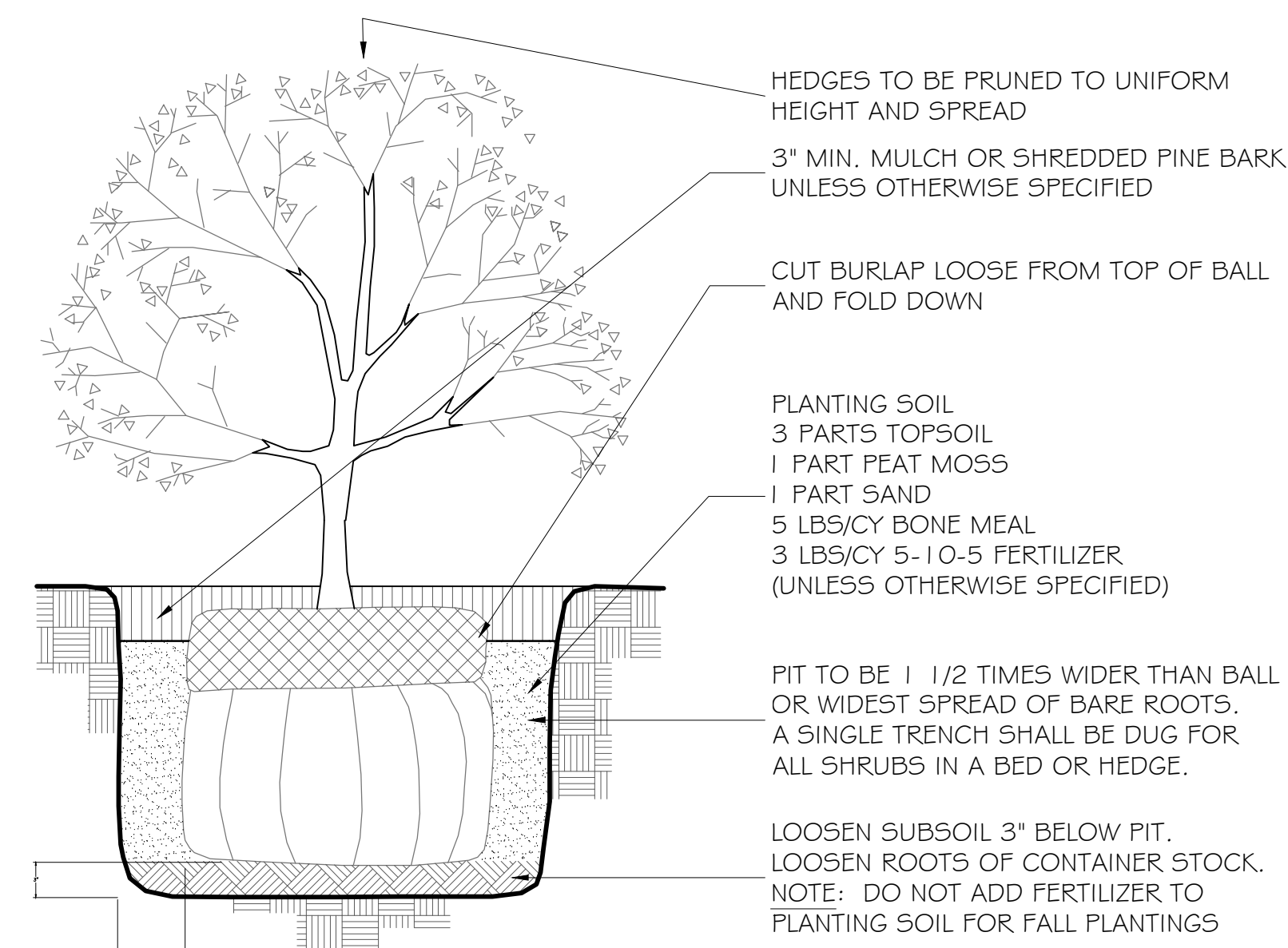
DATE	SHEET	REVISION NOTES
12-11-22		REVISED SMALL HOUSE SITE, RESOURCES
1-11-23		REVISED SUMMARY QUANTITIES / LEAD SHEET
2-10-23	L-1	SUBMISSION TO PLANNING BOARD
5-9-23		ADD SEARCHING FOR NURSERY

**JAY FAIN & ASSOCIATES, LLC**  
 Environmental Consulting Services  
 134 Round Hill Road, Fairfield, CT 06424  
 203-254-3156 • fax: 203-254-3167

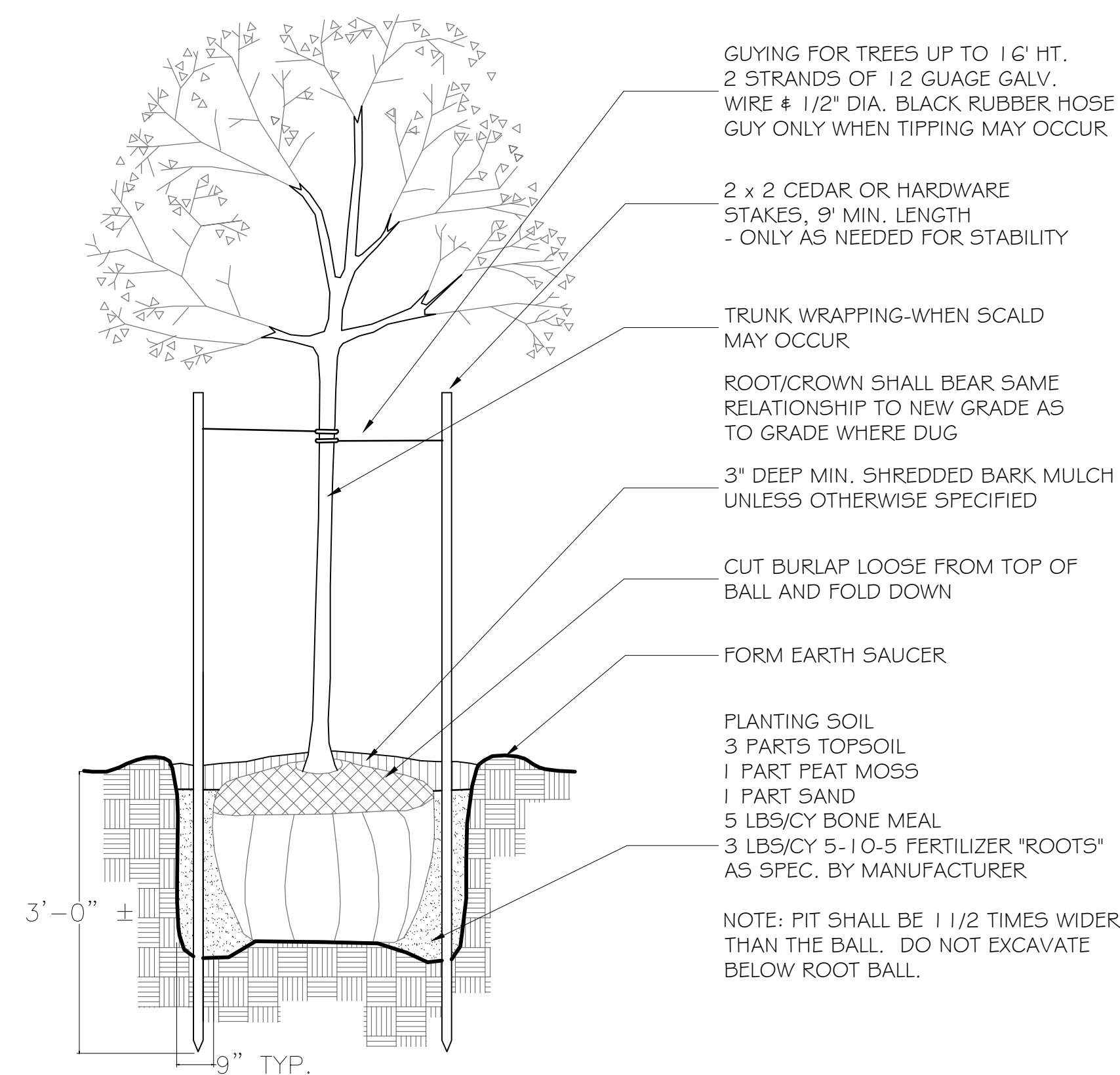
Date: 06/2023  
 Sheet No.: **L.1**

PERC 10

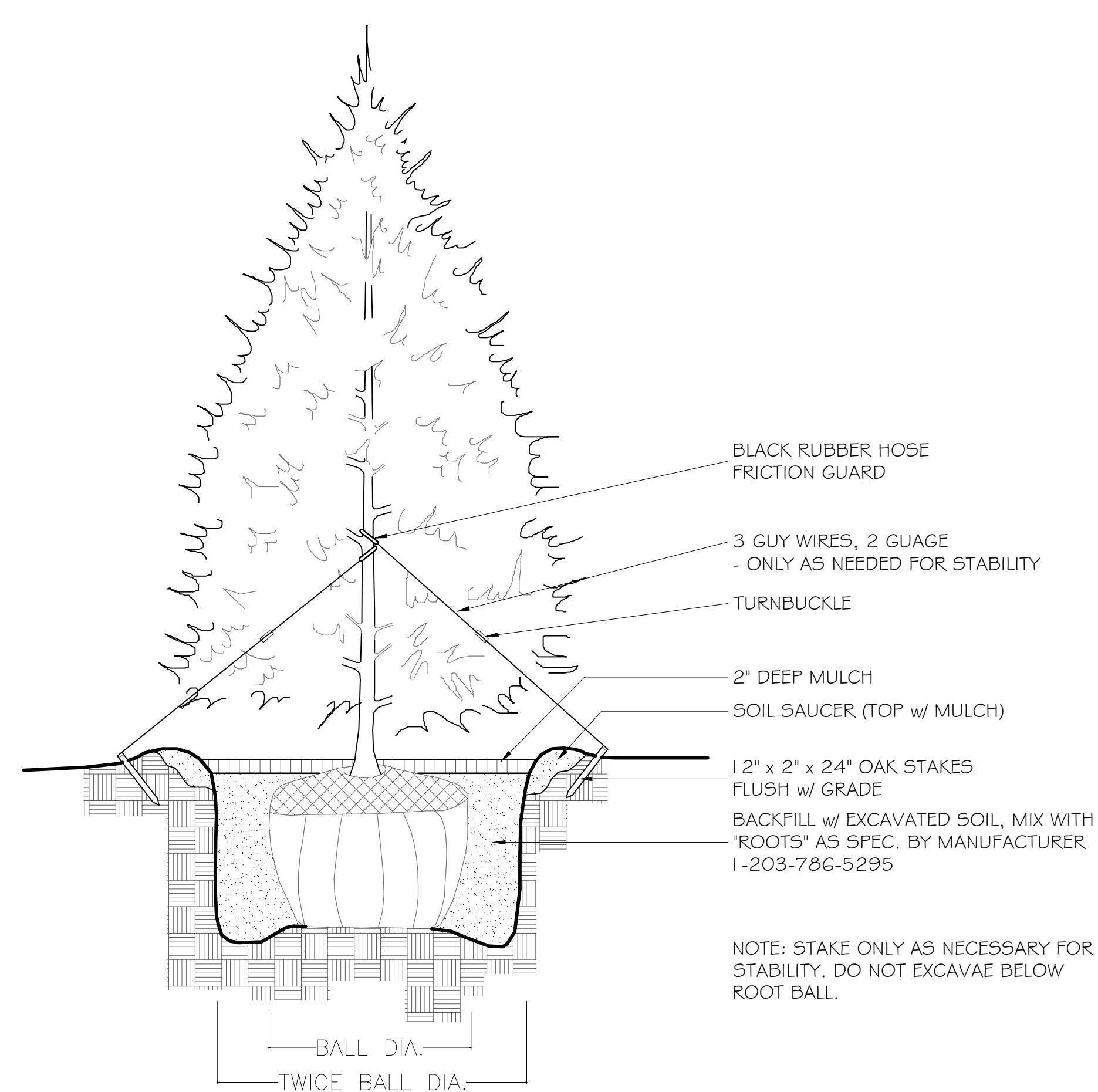




1 SHRUB PLANTING SECTION - NTS



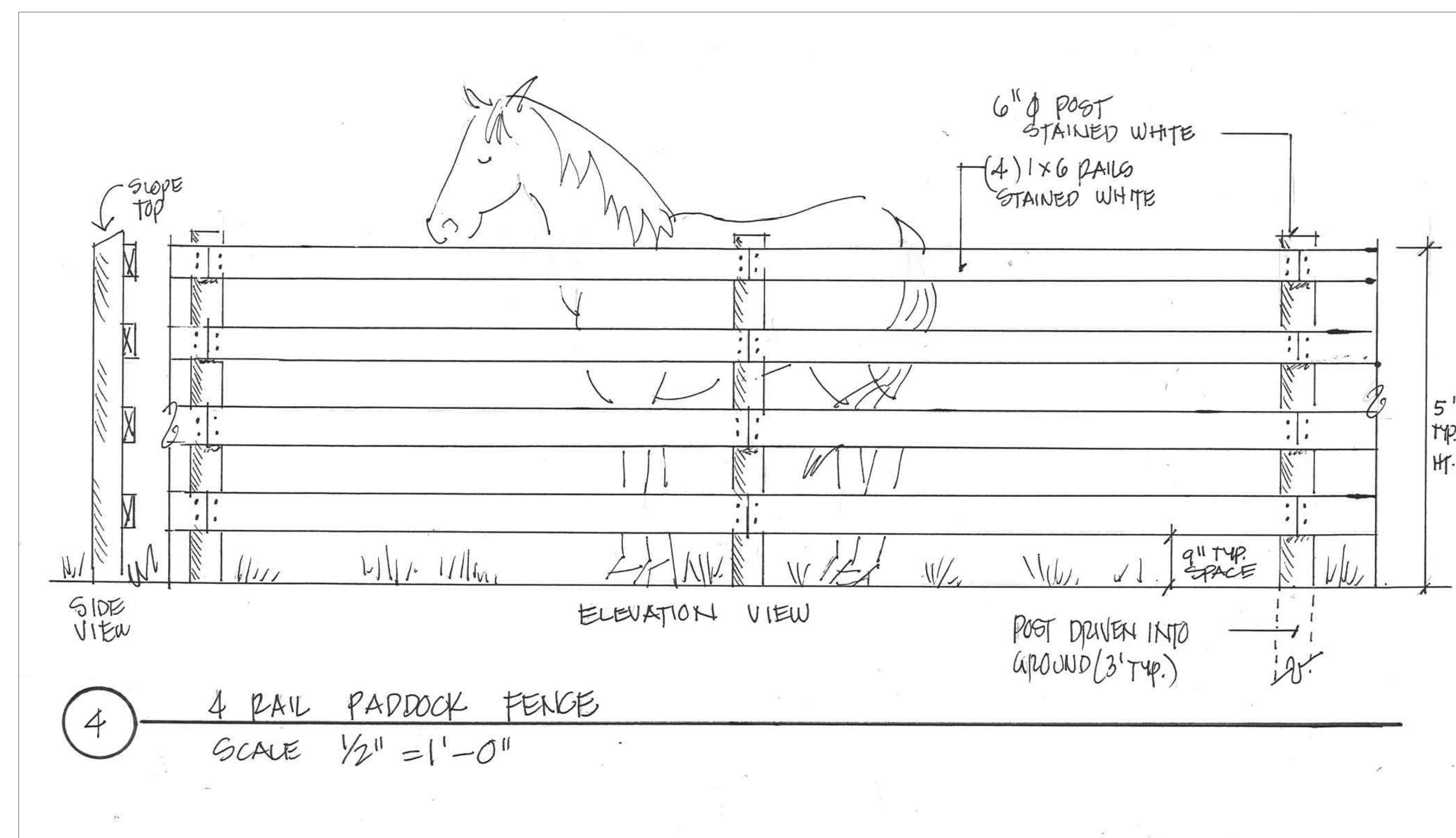
2 TREE PLANTING SECTION - NTS



3 EVERGREEN TREE PLANTING SECTION - NTS

PLANT LIST - - Deer resistant species, 90 % native

Quan.	Sym.	Botanical/ Common Name	Size/ Root	Remark
<b>TREES</b>				
13	AS	Acer saccharum 'Green Mountain'	2 1/2-3" cal./BB	Drive alle
8	QP	Quercus palustris / Pin Oak	2 1/2-3" cal. / BB	Drive alle
4	NS	Nyssa sylvatica / Black Gum	2 1/2-3" cal. / BB	At stable
6	UA	Ulmus americana 'Princeton'	2 1/2-3" cal. / BB	Arena access
14	SP	Picea abies/ Norway Spruce	8-10' Ht / BB	screening
62	GG	Thuja plicata 'Green Giant' / Green Giant Arborvitae	8-10' Ht. / BB	screening
6	CF	Cornus florida / Flowering Dogwood	2-2 1/2" cal./ BB	flowering
3	BN	Betula nigra 'Heritage' / River Birch	10-12' ht/clump BB	courtyard
3	AC	Amelanchier canadensis/ Shadblow	7-8' clump/BB	flowering
<b>SHRUBS</b>				
6	CA	Clethra alnifolia/ Summerweet	5 gal	pool
2	HQ	Hydrangea quercifolia/ Oakleaf Hydrangea	4 ft /BB	pool
6	LA	Leucothoe axillaris/ Coastal Leucothoe	5 gal	house
5	PLS	Prunus l. schipkanensis/ Schip Laurel	4-5' / BB	dumpster
48	IG	Ilex glabra 'Shamrock' / Inkberry	7 gal cont.	hedges
2	IDL	Ilex x 'Dragon Lady' /Holly	6-7' Ht/ BB	house
16	ITV	Itea virginica ' Henry's Garnet' / Virginia Sweetspire	5 gal cont.	Indoor and house
16	PJM	Rhododendron PJM	5 gal	courtyard
9	SO	Spirea l. 'Ogon'	5 gal	house
<b>GRASSES</b>				
12	Pv	Panicum virgatum 'Heavy Metal' / Switchgrass	3 gal. cont.	Accents, groups by barn
12	Pv2	Panicum v. ' Ruby Ribbons' / Switchgrass	3 gal. cont.	House and indoor
<b>PERENNIALS/FERNS</b>				
20	P	Penstemon digitalis/ Smooth Penstemon	1 gal	House
20	P	Chelone glabra/ Turtle head	1 gal	house
20	F	Polystichum acrostichoides / Christmas Fern	1 gal.	house



DATE	SHEET	REVISION NOTES
02/10/23	L2	ADDED 4-RAIL Paddock FENCE
02/10/23	L2	SUBMISSION TO PLANNING BOARD
10/18/23	L2	ADD SCREENING FOR NEIGHBORS, 12 GG

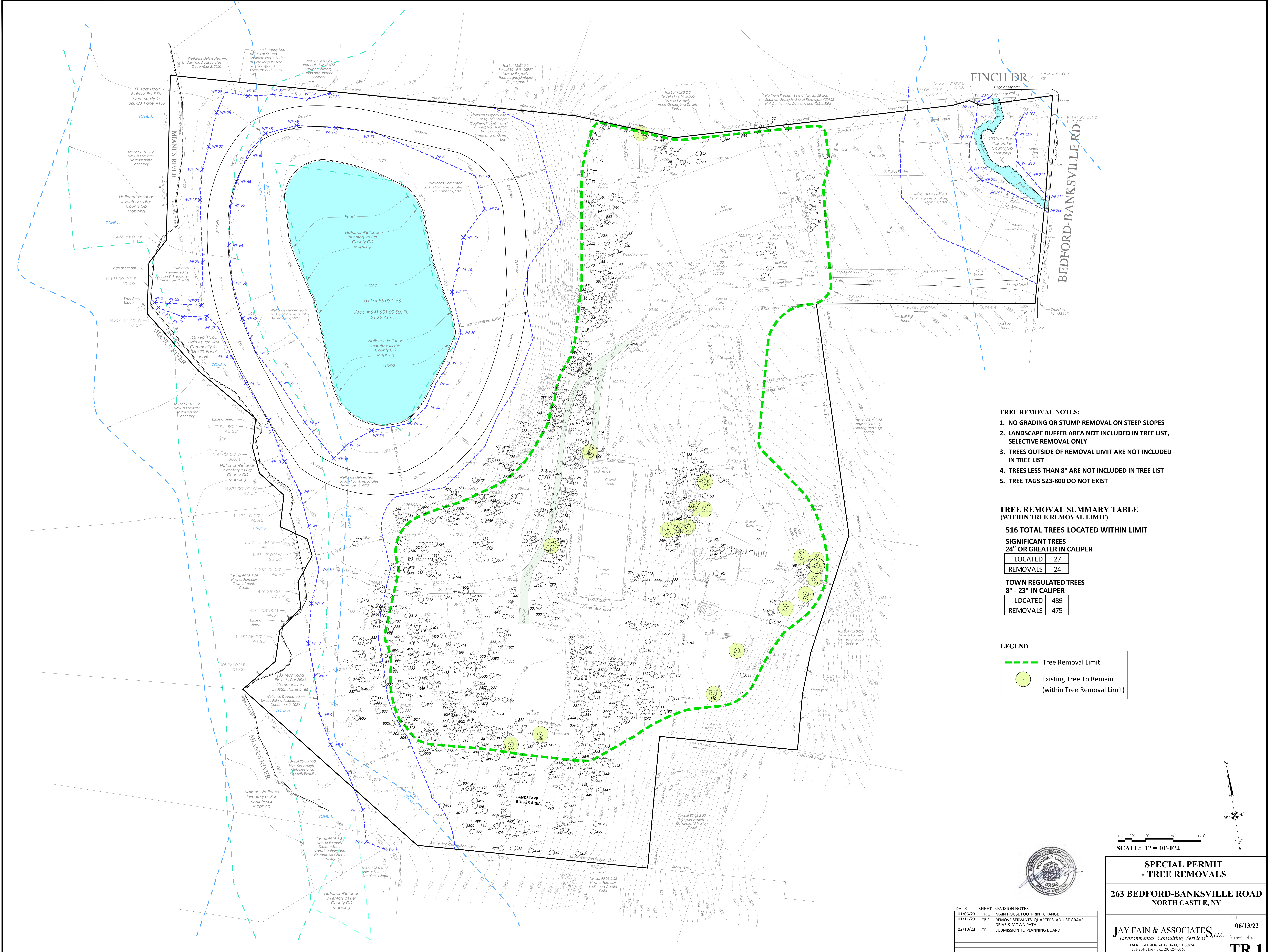
**SPECIAL PERMIT  
- LANDSCAPE DETAILS**

**263 BEDFORD BANKSVILLE RD.  
North Castle, NY**

Date: **06/13/22**  
Sheet No.: **L.2**

**JAY FAIN & ASSOCIATES, LLC**  
Environmental Consulting Services  
2000 Post Rd., Ste. 201, Fairfield, CT 06424  
Phone: 203-254-3156 • Email: jfassociates@optonline.net





- TREE REMOVAL NOTES:**
1. NO GRADING OR STUMP REMOVAL ON STEEP SLOPES
  2. LANDSCAPE BUFFER AREA NOT INCLUDED IN TREE LIST, SELECTIVE REMOVAL ONLY
  3. TREES OUTSIDE OF REMOVAL LIMIT ARE NOT INCLUDED IN TREE LIST
  4. TREES LESS THAN 8" ARE NOT INCLUDED IN TREE LIST
  5. TREE TAGS 523-800 DO NOT EXIST

**TREE REMOVAL SUMMARY TABLE (WITHIN TREE REMOVAL LIMIT)**

516 TOTAL TREES LOCATED WITHIN LIMIT

SIGNIFICANT TREES  
24" OR GREATER IN CALIPER

LOCATED	27
REMOVALS	24

TOWN REGULATED TREES  
8" - 23" IN CALIPER

LOCATED	489
REMOVALS	475

**LEGEND**

- Tree Removal Limit
- Existing Tree To Remain (within Tree Removal Limit)

SCALE: 1" = 40'-0"±



**SPECIAL PERMIT - TREE REMOVALS**  
263 BEDFORD-BANKSVILLE ROAD  
NORTH CASTLE, NY

DATE	SHEET	REVISION NOTES
01/06/23	TR.1	MAIN HOUSE FOOTPRINT CHANGE
01/11/23	TR.1	REMOVE SERVANTS' QUARTERS, ADJUST GRAVEL DRIVE & MOWN PATH
02/10/23	TR.1	SUBMISSION TO PLANNING BOARD

Date: 06/13/22  
Sheet No.: TR.1  
JAY FAIN & ASSOCIATES, LLC  
Environmental Consulting Services  
134 Round Hill Road Fairfield, CT 06424  
203-254-3156 - fax: 203-254-3167







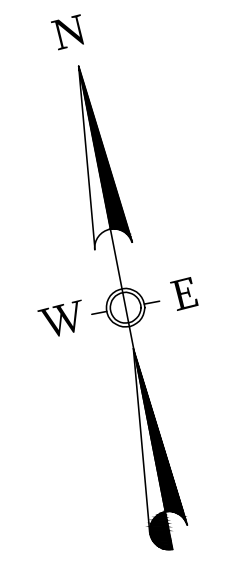
# Site Development Plans

by: DiMarzo & Bereczky, Inc.









REV. NO.	DATE	REVISION DESCRIPTION:
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
2	2/10/2023	REMOVE GUEST HOUSE
0	6/10/2022	INITIAL SUBMISSION

**SITE DEVELOPMENT PLAN**  
 DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
 BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
 PREPARED FOR  
**MARENGO FARMS LLC**

DATE:	10/18/2023	SCALE: 0	50	100
JOB NO.	179	1" = 50'		

To my knowledge and belief this map is substantially correct as noted herein.

**DIMARZO & BERECZKY**  
 LAND SURVEYING  
 191 LLOYD DRIVE  
 FAIRFIELD, CT 06425  
 203.857.4110  
 PERMITTING

UNAUTHORIZED ALTERATION OR ADDITION TO A DOCUMENT BEARING THE SEAL OF AN ENGINEER IS A VIOLATION OF SECTION 2309-B SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW ARTICLE 145.

NORTH CASTLE TAX ID: 95.03-2-56  
 ZONE: R-4A AREA: 941,901 SF

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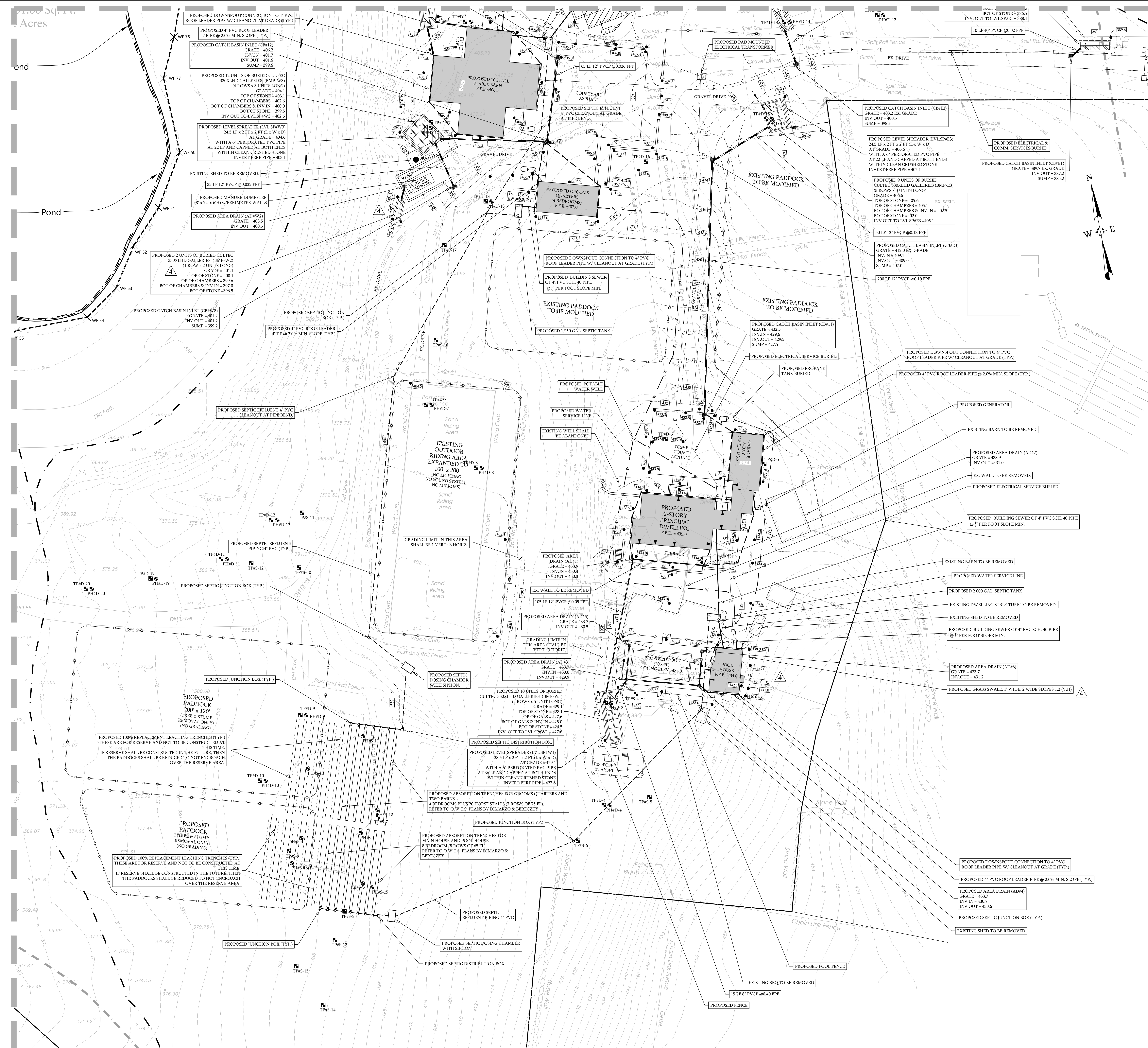
C-1







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**LEGEND**

- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- TC - TOP OF CURB ELEVATION
- RC - BOTTOM OF CURB ELEVATION
- TW - TOP OF WALL ELEVATION
- BW - BOTTOM OF WALL ELEVATION
- PROPOSED DOOR LOCATIONS
- TEST PIT, SOILS
- PERC. & INFILL TEST, SOILS
- STORM SEWER
- GRAVITY
- SANITARY SEWER, GRAVITY
- SANITARY EFFLUENT PIPE
- PROPOSED LEACHING TRENCH
- RESERVE LEACHING TRENCH
- PROPOSED JUNCTION BOX
- DOMESTIC WATER SERVICE
- ELECTRIC SERVICE CONDUITS
- GAS SERVICE
- SILT FENCE
- LIMIT OF DISTURBANCE
- TEMP. CONSTRUCTION FENCE
- HAYBALES (SEDIMENT FILTER)
- ANTI-TRACKING PAD
- TREE PROTECTION
- STOCKPILE (TEMPORARY)

REV. NO.	DATE	REVISION DESCRIPTION
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
0	2/10/2023	INITIAL SUBMISSION

**SITE PLAN - 3A**  
 DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
 BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
 PREPARED FOR  
**MARENGO FARMS LLC**

DATE: 10/18/2023	SCALE: 0 30 60
JOB NO. 179	1" = 30'

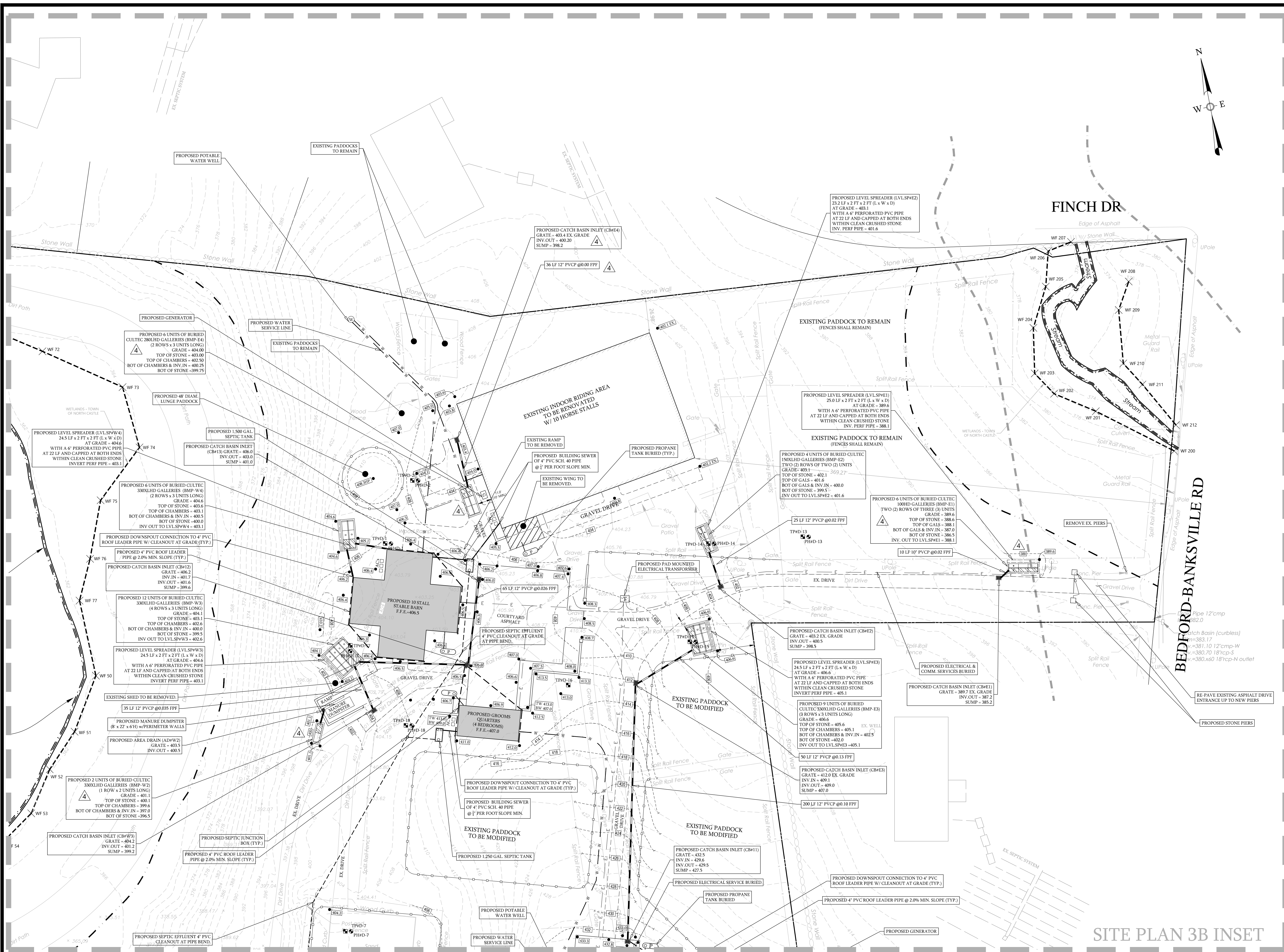
To my knowledge and belief this map is substantially correct as noted herein.

**DIMARZO & BERECZKY**  
 LAND SURVEYING  
 191 LLOYD DRIVE  
 FAIRFIELD, CT 06425  
 203.857.4110  
 PERMITTING

**C-3A**

SITE PLAN 3A INSET





**LEGEND**

- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
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- SANITARY EFFLUENT PIPE
- PROPOSED LEACHING TRENCH
- RESERVE LEACHING TRENCH
- PROPOSED FUNCTION BOX
- DOMESTIC WATER SERVICE
- ELECTRIC SERVICE CONDUITS
- GAS SERVICE
- SILT FENCE
- LIMIT OF DISTURBANCE
- TEMP. CONSTRUCTION FENCE
- HAYBALES (SEDIMENT FILTER)
- ANTI-TRACKING PAD
- TREE PROTECTION
- STOCKPILE (TEMPORARY)

REV. NO.	DATE	REVISION DESCRIPTION
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
0	2/10/2023	INITIAL SUBMISSION

**SITE PLAN - 3B**  
 DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
 BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
 PREPARED FOR  
**MARENGO FARMS LLC**

DATE: 10/18/2023  
 JOB NO. 179  
 SCALE: 0 30 60  
 1" = 30'

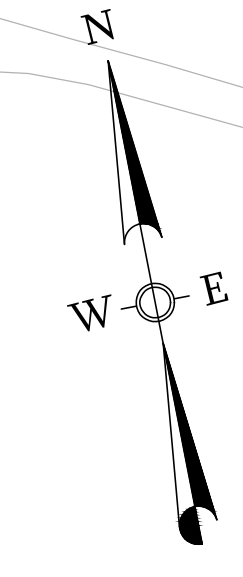
To my knowledge and belief this map is substantially correct as noted hereon

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**C-3B**





LEGEND	
PROPOSED CONTOUR	
SILT FENCE	
LIMIT OF DISTURBANCE	
TEMP. CONSTRUCTION FENCE	
HAYBALES (SEDIMENT FILTER)	
ANTI-TRACKING PAD	
TREE PROTECTION	
STOCKPILE (TEMPORARY)	

REV. NO.	DATE	REVISION DESCRIPTION
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
0	2/10/2023	INITIAL SUBMISSION

**EROSION & SEDIMENT CONTROL PLAN**  
 DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
 BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
 PREPARED FOR  
**MARENKO FARMS LLC**

DATE:	10/18/2023	SCALE: 0 50 100
JOB NO.	179	1" = 50'

To my knowledge and belief this map is substantially correct as noted herein.

DATE \_\_\_\_\_

**DIMARZO & BEREZKY**  
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**C-4**



**EARTHWORK & GRADING:**

- GRADE AWAY FROM BUILDING WALLS AT 2% MINIMUM (TYPICAL)
- EARTH SLOPES SHALL BE NO STEEPER THAN 3:1 (H:V:VERT)
- NO WORK SHALL COMMENCE UNTIL EROSION CONTROLS HAVE BEEN INSPECTED AND APPROVED BY THE PROJECT ENGINEER OR THEIR DESIGNER(S)
- GENERAL FILL BEYOND PAVED AREAS SHALL BE FREE OF BRUSH/RUBBISH, STUMPS AND STONES LARGER THAN 6". FILL SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 6" IN THICKNESS. THE DRY DENSITY AFTER COMPACTION SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR TEST AND DONE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D998. AFTER COMPACTION, THE FILL SHALL BE 4" BELOW THE REQUIRED GRADE AS SHOWN ON THE PLAN.
- GENERAL FILL UNDER PAVED AREAS SHALL BE TILL, LOAM, SAND OR GRAVEL MIXTURE CLASSIFIED AS SP, SM, SW, GP, GM, OR PER THE UNITED SOIL CLASSIFICATION SYSTEM. IT SHALL HAVE NOT MORE THAN 40% FINES PASSING THE #100 SIEVE, NOT MORE THAN 8% PASSING THE #200 SIEVE, AND NO STONES LARGER THAN 8".
- SUBGRADE AND FILL SHALL BE UNIFORMLY COMPACTED BY THE USE OF EQUIPMENT MANUFACTURED FOR THAT PURPOSE.
- FILL OR TOPSOIL SHALL NOT BE PLACED NOR COMPACTED WHILE IN A FROZEN OR MUDDY CONDITION OR WHILE SUBGRADE IS FROZEN.
- AFTER THE AREAS TO BE TOPSOIL HAVE BEEN BROUGHT TO GRADE, THE SUBGRADE SHALL BE LOOSENEED BY SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
- TOPSOIL SHALL BE FRABLE AND LOAMY WITH HIGH ORGANIC CONTENT. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN 2" AND ROOTS.
- CRUSHED STONE UNDERNEATH DRAINAGE AND SEPTIC STRUCTURES SHALL BE GRADATION NO. 4 AS PER NYSD DOT STANDARD SPECIFICATION SECTION 703. STONE SHALL CONSIST OF SOUND, TOUGH, DURABLE MATERIALS.

**RETAINING WALLS:**

- ANY RETAINING WALLS HIGHER THAN 4 FEET SHALL BE DESIGNED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER, AND AN APPLICATION SHALL BE SUBMITTED FOR BUILDING PERMIT TO THE TOWN OF NORTH CASTLE.
- RETAINING WALLS (IF APPLICABLE) WITH A GRADE DIFFERENCE EQUAL TO OR GREATER THAN 2.5 FEET MAY REQUIRE A SAFETY BARRIER ON THE TOP OF THE WALL. RETAINING WALLS AND BARRIERS ARE TO BE DESIGNED BY OTHERS.

**STORM AND SANITARY SEWER SYSTEMS:**

- ALL PIPE SHALL BE INSTALLED STRAIGHT AND AT THE VERTICAL AND HORIZONTAL ALIGNMENT SHOWN. PIPES SHALL HAVE A UNIFORM SLOPE AS SPECIFIED.
- MINIMUM COVER ON ALL PIPES SHALL BE TWO FEET (2') UNLESS OTHERWISE NOTED.
- ALL STORM PIPE SPECIFIED AS POLY VINYL CHLORIDE PIPE (PVC) SHALL BE SDR 35 WITH RUBBER GASKETED JOINTS AND MEET THE REQUIREMENTS OF ASTM D208 AND D3512.
- WHEN CONNECTING NEW PIPES TO EXISTING STRUCTURES SUCH AS MANHOLES AND CATCH BASINS, THE STRUCTURE SHALL BE COMPLETELY CLEANED OUT. THE HOLE MADE IN THE STRUCTURE SHALL BE MADE AS SMALL AS POSSIBLE. THE STRUCTURE SHALL BE REPAIRED TO MATCH ITS ORIGINAL TYPE OF CONSTRUCTION. THE JOINT BETWEEN THE PIPE AND THE STRUCTURE SHALL BE MADE WATERPROOF BY FILLING THE JOINT WITH MORTAR.
- FLOW IN EXISTING SEWER SYSTEM MUST NOT BE INTERRUPTED. ANY TEMPORARY ROUTING OF THIS SEWER FLOW MUST BE DONE IN CONFORMANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
- UNDER NO CIRCUMSTANCES SHALL TRENCH WATER BE ALLOWED TO DRAIN OFF THROUGH HOUSE SEWERS OR EFFLUENT LINES.
- ALL STORMWATER INFILTRATION SYSTEMS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
- AT THE END OF CONSTRUCTION, AFTER THE SITE HAS BEEN FULLY STABILIZED, ALL NEW AND PREVIOUSLY EXISTING STORM SEWER FACILITIES INCLUDING, BUT NOT LIMITED TO, CATCH BASINS, AREA DRAINS, MANHOLES, JUNCTION BOXES, FLOW CONTROL STRUCTURES, PIPES, OIL GRIT SEPARATORS, PERMEABLE PAVERS AND POROUS PAVEMENT SHALL BE FULLY CLEANED WITH EQUIPMENT DESIGNED FOR THAT PURPOSE TO THE SATISFACTION OF THE INSPECTING ENGINEER.

**UTILITIES:**

- PROPOSED ELECTRIC, TELEPHONE, CABLE, GAS AND WATER SERVICES ARE SHOWN FOR SCHEMATIC PURPOSES ONLY AND ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL VERIFY THESE UTILITIES SHALL BE DESIGNED BY OTHERS AND INSTALLED IN CONFORMANCE TO THE REQUIREMENTS OF THE GOVERNING UTILITY COMPANIES.
- UTILITY SERVICES SHALL BE INSTALLED IN CONFORMANCE TO THE REQUIREMENTS OF THE RESPECTIVE GOVERNING UTILITY COMPANY.
- EASEMENTS MAY BE REQUIRED IN FAVOR OF THE VARIOUS UTILITY COMPANIES.
- UTILITY CONNECTIONS AT BUILDING FACE SHALL BE COORDINATED WITH THE BUILDING CONTRACTORS.
- ANY AND ALL UTILITIES ABANDONED SHALL BE CAPPED OR REMOVED IN ACCORDANCE WITH UTILITY COMPANIES' REQUIREMENTS.
- DETECTABLE TAPE SHALL BE USED TO MARK PIPING LISTED BELOW. THE IDENTIFICATION TAPE SHALL BE BURIED AT LEAST 6-INCHES TO 10-INCHES BELOW FINAL GRADE BUT NO CLOSER THAN 12-INCHES TO THE BURIED UTILITY PIPING OR SERVICE.
 

HIGH VOLTAGE	RED	CAUTION ELECTRIC LINE BURIED BELOW 500 VOLTS & ABOVE
LOW VOLTAGE	RED	CAUTION ELECTRIC LINE BURIED BELOW 500 VOLTS & BELOW
TELEPHONE & CONTROL	ORANGE	CAUTION TELEPHONE LINE BURIED BELOW NATURAL GAS
NATURAL GAS	YELLOW	CAUTION GAS LINE BURIED BELOW
WATER SYSTEMS	BLUE	CAUTION WATER LINE BURIED BELOW
FIRE PROTECTION SYSTEMS	BLUE	CAUTION FIRE LINE BURIED BELOW
SPRINKLER MAINS	BLUE	CAUTION SPRINKLER LINE BURIED BELOW
SEWER SYSTEM	GREEN	CAUTION SEWER LINE BURIED BELOW
COMMUNICATION CABLE	ORANGE	CAUTION COMM. LINE BURIED BELOW
- UNDERGROUND-TYPE PLASTIC LINE MARKER, MANUFACTURERS' STANDARD PERMANENT, BRIGHT-COLORED DETECTABLE TAPE, CONTINUOUS-PRINTED PLASTIC TAPE, INTENDED FOR DIRECT-BURIAL SERVICE, NOT LESS THAN 6" WIDE X 4 MILS THICK.

**PAVEMENT:**

- AREAS OF NEW ASPHALT SHALL FOLLOW THE ASPHALT PAVEMENT DETAIL HEREIN.
- AREAS OF ASPHALT PAVEMENT THAT ARE DISTURBED BY THE CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED IN ACCORDANCE WITH THE ASPHALT PAVEMENT REPAIR DETAIL. THE FINISHED GRADE OF ASPHALT PAVING SHALL BLEND TO EXISTING GRADE AND THE EDGE OF THE CONCRETE PAVEMENT SMOOTHLY WITH NO SLOPES EXCEEDING 4% UNLESS OTHERWISE NOTED.
- CONTRACTOR IS RESPONSIBLE TO PLACE THE HOT-MIX ASPHALT MIX AS REQUIRED IN THE DRAWINGS AND DETAILS.
- FINISHED PAVING SHALL BE FREE OF "BIRD BATHS" AND BE SMOOTH AT THE SLOPES SPECIFIED ON THE PLANS.
- FINISHED GRADE SHALL BE WITHIN 0.1 FEET OF THAT NOTED ON THE DRAWINGS.
- THE PAVEMENT SHALL BE PROTECTED FROM VEHICULAR TRAFFIC OF ANY KIND WITH THE USE OF BARRICADES, ETC. FOR A MINIMUM PERIOD OF 24 HOURS AFTER FINAL ROLLING. MAINTAIN AND PROTECT ASPHALT SURFACES FROM SCRAPES, SCARS, SPILLS, HYDRAULIC LEAKS, AND ANY OTHER CONSTRUCTION DAMAGE FOR THE REMAINDER OF CONSTRUCTION UNTIL OWNER'S REPRESENTATIVE ACCEPTANCE. CONTRACTOR IS RESPONSIBLE FOR CLEARING, REPAIRING, SEAL COATING, PATCHING, AND RE-STRIPING AS NECESSARY TO OBTAIN OWNER'S REPRESENTATIVE'S FINAL APPROVAL/ACCEPTANCE.
- THICKNESSES OF ALL LAYERS SHOWN ARE AFTER COMPACTION. COMPACT ALL LAYERS TO 95% PER ASTM D 1557 (MODIFIED PROCTOR METHOD).

**SEDIMENT AND EROSION CONTROL NARRATIVE:**

THE PURPOSE OF THE SEDIMENT AND EROSION CONTROL PLAN, DETAILS, AND NOTES IS TO OUTLINE A PROGRAM THAT MINIMIZES SOIL EROSION DURING CONSTRUCTION. THE PRIMARY POLICIES OF THIS PROGRAM ARE:

- TRAPPING PARTICLES AT SOURCE BY PROMPTLY STABILIZING DISTURBED AREAS;
- AVOID CONCENTRATION OF WATER;
- AVOID CONTAMINATION OF EXISTING STORM DRAINS;
- MAINTENANCE (WEEKLY MAINTENANCE AND AFTER STORM EVENTS) OF CONTROLS TO ENSURE THEY ARE FUNCTIONING PROPERLY.

**SEDIMENT AND EROSION CONTROL NOTES:**

- BEFORE COMMENCING CONSTRUCTION ACTIVITY, THE CONTRACTOR MUST OBTAIN COVERAGE UNDER THE NEW YORK STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (S.D.P.E.S.) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY. (GP-02-001). A NOTICE OF INTENT (NOI) FORM IS REQUIRED TO BE SUBMITTED BY THE CONTRACTOR. ADDITIONALLY, A MSD S.W.P.P. ACCEPTANCE FORM MUST BE SUBMITTED. PLEASE CONTACT THE ENGINEER OF RECORD PRIOR TO SUBMITTING THESE FORMS.
- SHEET C-4 IS INTENDED TO DESCRIBE THE SOIL SEDIMENT AND EROSION CONTROL TREATMENT TO BE USED ONLY, FOR OTHER DETAILS WITH RESPECT TO CONSTRUCTION, SEE APPROPRIATE DRAWINGS.
- THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLAN MUST BE SURVEY-LOCATED AND STAKED IN THE FIELD PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ALL SEDIMENT AND EROSION CONTROLS SHALL BE DONE IN CONFORMANCE WITH THE "NY STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" PREPARED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
- THE CONTRACTOR MUST PROVIDE "TRAINED CONTRACTORS" AS DEFINED BY THE NYSDCE GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (GP-02-001).
- THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THIS SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE LOCATION AND OBJECTIVES OF THE PLAN, NOTIFYING THE TOWN OF NORTH CASTLE OF ANY TRANSFER OF THIS RESPONSIBILITY, AND WHEN CONSTRUCTION IS TO BEGIN THREE (3) DAYS PRIOR TO COMMENCING WORK.
- TEMPORARY SEDIMENT CONTROL MEASURES MUST BE INSTALLED IN ACCORDANCE WITH DRAWINGS AND MANUFACTURER RECOMMENDATIONS PRIOR TO WORK IN ANY UPLAND AREAS.
- NO CONSTRUCTION OR CONSTRUCTION EQUIPMENT OR STORAGE OF MATERIALS WILL BE ALLOWED ON THE DOWNHILL SIDE OF THE SILT FENCE OR WITHIN FENCED OFF AREAS, EXCEPT DURING CONSTRUCTION OF THE PROPOSED FACILITIES SHOWN BEYOND THE FENCES.
- WHERE EXISTING TREES ARE TO BE SAVED, TREE LIMBS SHALL BE TRIMMED AS NEEDED TO PROTECT TREES FROM DAMAGE BY CONSTRUCTION OPERATIONS. SUCH TRIMMING SHALL BE MINIMIZED. REMOVING AND ANY LIMB TRIMMING SHOULD BE DONE BEFORE CONSTRUCTION BEGINS. TREE PROTECTION SHOULD BE MAINTAINED DURING CONSTRUCTION. EQUIPMENT TRAFFICKING AND MATERIALS STORAGE OVER THE TREE ROOTS SHALL BE AVOIDED.
- THE LOCATION OF EACH STOCKPILE WILL VARY THROUGHOUT THE CONSTRUCTION PERIOD. EXCAVATED SILT AND EARTH STOCKPILES SHALL BE STORED ON-SITE. SILT FENCE SHALL BE PLACED AT THE BASE OF THE STOCKPILE TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- SILT FENCE SHALL BE MIRIAM ENVIRONMENT, AMOCO SILTSTOP OR EQUIVALENT APPROVED BY SITE ENGINEER. FILTER FABRIC SHALL BE MIRIAM 1000 OR EQUIVALENT. INSTALL SILT FENCE ACCORDING TO MANUFACTURER'S INSTRUCTION, PARTICULARLY, BURY LOWER EDGE OF FABRIC INTO GROUND.
- ALL ROOF LEADER DOWNSPOUTS SHALL TEMPORARILY DISCHARGE ONTO SPLASH PADS MEASURING AT LEAST 8' WIDE BY 18' LONG, OR APPROVED EQUAL.
- LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. ALL DISTURBED AREA SHALL BE PLANTED IN WHERE PERMANENT PLANTINGS ARE CALLED FOR AS SOON AS PRACTICABLE. SEEDS AND MULCH DISTURBED AREAS WITH GRASS SEED WHERE PERMANENT PLANTINGS ARE NOT CALLED FOR, AS SOON AS PRACTICABLE. PREPARE SEEDBED OF THICK MINIMUM WITH TOPSOIL, SEED, MAKE ROLL WATER AND MULCH AREAS ACCORDING TO MILES BELOW. WATER AS OFTEN AS NECESSARY (UP TO 3 TIMES PER DAY) TO ESTABLISH COVER. MULCH SEEDED AREAS AT 1 TO 2 TONS/ACRE WITH SALT HAY. MAINTAIN MULCH AND WATERING UNTIL GRASS IS 3" HIGH WITH 85% COVER. RESEED OR OVERSEED IF NECESSARY.

- TEMPORARY SEED MIX:
 

PERENNIAL RYEGRASS	40 LBS./AC. (1 LB/1000 SF.)
PERMANENT LAWNS:	
KENTUCKY BLUEGRASS	20 LBS./AC.
CREeping RED FESCUE	20 LBS./AC.
PERENNIAL RYEGRASS	5 LBS./AC.
	45 LBS./AC. (1 LB/1000 SF.)
- OPTIMUM SEEDING DATES:
 

APRIL 15 THROUGH JUNE 15 - AND - AUGUST 15 THROUGH OCTOBER 1
--
- ANY DISTURBED AREA NOT INTENDED FOR PROPOSED CUT/FILL EARTHWORK SHALL BE RESTORED TO THE PRECONSTRUCTION CONDITION.
- IF DISTURBED AREAS CAN NOT BE SEED IMMEDIATELY DUE TO THE TIME OF YEAR, MULCH AREA UNTIL SEEDING CAN OCCUR. REMOVE MULCH AND SEED AND RE-MULCH WHEN SEASON PERMITS.
- UPON INSTALLATION OF EACH AREA DRAIN, IMMEDIATELY SURROUND IT WITH HAYBALES AS PER SEDIMENT FILTER DETAIL. HAYBALES SHALL BE NEW AND ARE TO BE REPLACED WHENEVER THEIR CONDITION DETERIORATES BEYOND REASONABLE USABILITY.
- PAVEMENT SHOULD BE PLACED AS SOON AS POSSIBLE AFTER DRAINAGE IS INSTALLED.
- LOADED TRUCKS SHALL BE COVERED AS REQUIRED TO KEEP DOWN DUST.
- AFFECTED PORTIONS OF OFF SITE ROADS AND SIDEWALKS MUST BE SWEEP CLEAN WHEN REQUIRED TO KEEP DUST DOWN AND PREVENT SAFETY HAZARDS OR AT LEAST ONE A WEEK DURING CONSTRUCTION AND AS DIRECTED BY SITE ENGINEER.
- DUST CONTROL TO BE ACHIEVED WITH WATERING DOWN DISTURBED AREAS AS REQUIRED.
- AFTER EACH STORM EVENT OR ONCE BI-WEEKLY, ALL SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED. ANY CORRECTIVE ACTIONS TO MITIGATE ENVIRONMENTAL CONCERNS WILL BE ORDERED BY THE SITE ENGINEER OR ENVIRONMENTAL ENGINEER. IT IS THE OWNER'S RESPONSIBILITY TO RETAIN SUCH CONSULTANT.
- ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE INSPECTING ENGINEER OR ANY GOVERNING AGENCY.
- ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD UNTIL UPLAND DISTURBED AREAS ARE THOROUGHLY STABILIZED. UPON COMPLETION OF WORK AND STABILIZATION OF ALL UPLAND AREAS, ALL TEMPORARY SEDIMENT CONTROL DEVICES AND TREE PROTECTION SHOULD BE REMOVED FROM THE SITE AND ANY SILT DISPOSED OF LEGALLY.
- PERIODICALLY AND UPON COMPLETION OF THE JOB, CLEAN SILT FROM ANY EFFECTED STORM SEWER SYSTEMS INCLUDING PIPES AND INLETS. USE SILT DURING FINAL LANDSCAPING OR DISPOSE OFF-SITE LEGALLY.

- CONSTRUCTION PHASING:
 

The following description of construction phasing is intended to demonstrate a feasible sequence of construction. The actual sequence may vary due to field conditions if approved by the inspecting engineer.

**PHASE 1: PREPARATION (1 WEEK)**

  - AN ON-SITE PRE-CONSTRUCTION MEETING SHALL BE ATTENDED BY THE TOWN ENGINEER, TOWN BUILDING INSPECTOR, THE INSPECTING ENGINEER OF RECORD, CONTRACTOR, AND OWNER TO REVIEW THE EROSION AND SEDIMENT CONTROL PLANS AND DISCUSS ANY MODIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE PRE-CONSTRUCTION MEETING.
  - INSTALL SILT FENCES AND TRACKING PAD FOR CONSTRUCTION.
  - INSTALL TREE PROTECTION AND TRIM LIMBS THAT MAY BE DAMAGED BY CONSTRUCTION.
  - INSTALL INLET PROTECTION ON EXISTING CATCH BASINS AS DEPICTED ON THE PLAN.
  - INSTALL A PROTECTION FENCE AROUND THE PROPOSED SEPTIC LEACHING AREA AND THE PROPOSED STORMWATER INFILTRATION GALLERIES.
  - CUT TREES TO BE REMOVED.

**PHASE 2: DEMOLITION (2 WEEKS)**

  - CAP-OFF AND REMOVE EXISTING UTILITIES TO THE EXISTING HOUSE.
  - DEMOLISH AND REMOVE EXISTING HOUSE, SHEDS, STALL BARN, AND SOUTHWEST WING TO THE EXISTING INDOOR FRING BUILDING.

**PHASE 3: CONSTRUCTION OF HOUSE AND DRIVE (4.5 WEEKS)**

  - EXCAVATE AND CONSTRUCT FOUNDATION FOR HOUSE AND POOL HOUSE
  - EXCAVATE AND CONSTRUCT 10 STALL STABLE BARN AND GROOMING QUARTERS
  - ROUGH GRADE THE PROPOSED GARAGE DRIVEWAYS AND THE ASPHALT DRIVE COURT
  - CONSTRUCT THE HOUSE, POOL HOUSE, BARN AND GROOMING QUARTERS. BACKFILL FOUNDATIONS AS SOON AS POSSIBLE.
  - INSTALL SEPTIC LEACHING TRENCHES, TANKS, BOXES, AND ASSOCIATED PIPING.
  - INSTALL STORMWATER INFILTRATION GALLERIES.
  - INSTALL WATER, ELECTRIC AND COMMUNICATION UTILITIES.
  - GRADE PROPOSED PADDOCK AREAS.
  - FINAL PAVING FOR THE DRIVES AND DRIVEWAY.
  - MAINTAIN ALL SEDIMENT AND EROSION CONTROLS IN AN EFFECTIVE CONDITION DURING THE CONSTRUCTION PERIOD

**PHASE 4: LANDSCAPING (3 WEEKS)**

  - FULLY STABILIZE ALL DISTURBED AREAS
  - INSTALL SEED AND MULCH

**PHASE 5: CLEAN UP AFTER ALL AREAS ARE STABILIZED**

  - CLEAN EFFECTED PORTION OF OFF-SITE ROADS AND DRIVEWAYS.
  - REMOVE ACCUMULATED SILT AND DEBRIS.
  - REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL.
  - MAKE ANY NECESSARY REPAIRS TO PERMANENT SEDIMENT AND EROSION CONTROLS.

PHRD-1 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-1	1	11:32	11:33	1	20"	23"	3"	
		2	11:34	11:36	2	20"	23"	3"	
		3	11:38	11:40	2	20"	23"	3"	90" per Hr

PHRD-2 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-2	1	11:31	11:32	1	20"	23"	3"	
		2	11:32	11:33	1	20"	23"	3"	
		3	11:34	11:35	1	20"	23"	3"	180" per Hr

PHRD-3 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-3	1	11:56	12:03	7	20"	23"	3"	
		2	12:03	12:12	9	20"	23"	3"	
		3	12:14	12:23	9	20"	23"	3"	20" per Hr

PHRD-4 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-4	1	11:55	12:03	8	20"	23"	3"	
		2	12:03	12:11	8	20"	23"	3"	
		3	12:12	12:20	8	20"	23"	3"	22.5" per Hr

PHRD-7 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-7	1	11:23	11:24	1	20"	23"	3"	
		2	11:24	11:25	1	20"	23"	3"	
		3	11:26	11:27	1	20"	23"	3"	180" per Hr

PHRD-8 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-8	1	11:22	11:23	1	20"	23"	3"	
		2	11:23	11:24	1	20"	23"	3"	
		3	11:24	11:25	1	20"	23"	3"	180" per Hr

PHRD-9 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-9	1	11:08	11:09	1	20"	23"	3"	
		2	11:10	11:11	1	20"	23"	3"	
		3	11:11	11:12	1	20"	23"	3"	180" per Hr

PHRD-10 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-10	1	11:09	11:10	1	20"	23"	3"	
		2	11:10	11:11	1	20"	23"	3"	
		3	11:11	11:12	1	20"	23"	3"	180" per Hr

PHRD-11 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-11	1	10:49	10:53	1	20"	23"	3"	
		2	10:54	10:59	1	20"	23"	3"	
		3	11:00	11:06	1	20"	23"	3"	180" per Hr

PHRD-12 - INFILTRATION TEST

Date: 7/14/2021 - Inspector: Lou DiMarzo, P.E. - Town: Virny Federici

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
7/13/2021					Start Inches	Stop Inches			
	D-12	1	10:51	10:52	1	20"	23"	3"	
		2	10:56	10:58	2	20"	23"	3"	
		3	10:58	11:00	2	20"	23"	3"	90" per Hr

PHRD-13 - INFILTRATION TEST

Date: 10/18/2022 - Inspector: Lou DiMarzo, P.E. - Town: Steven Scigrano

Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
10/17/2022					Start Inches	Stop Inches			
	D-13	1	9:42	10:09	27	20"	23"	3"	
		2	10:09	10:35	26	20"	23"	3"	
		3	10:36	11:05	29	20"	23"	3"	6.2" per Hr

PHRD-14 - INFILTRATION TEST

Date: 10/18/2022 - Inspector: Lou DiMarzo, P.E. - Town: Steven Scigrano

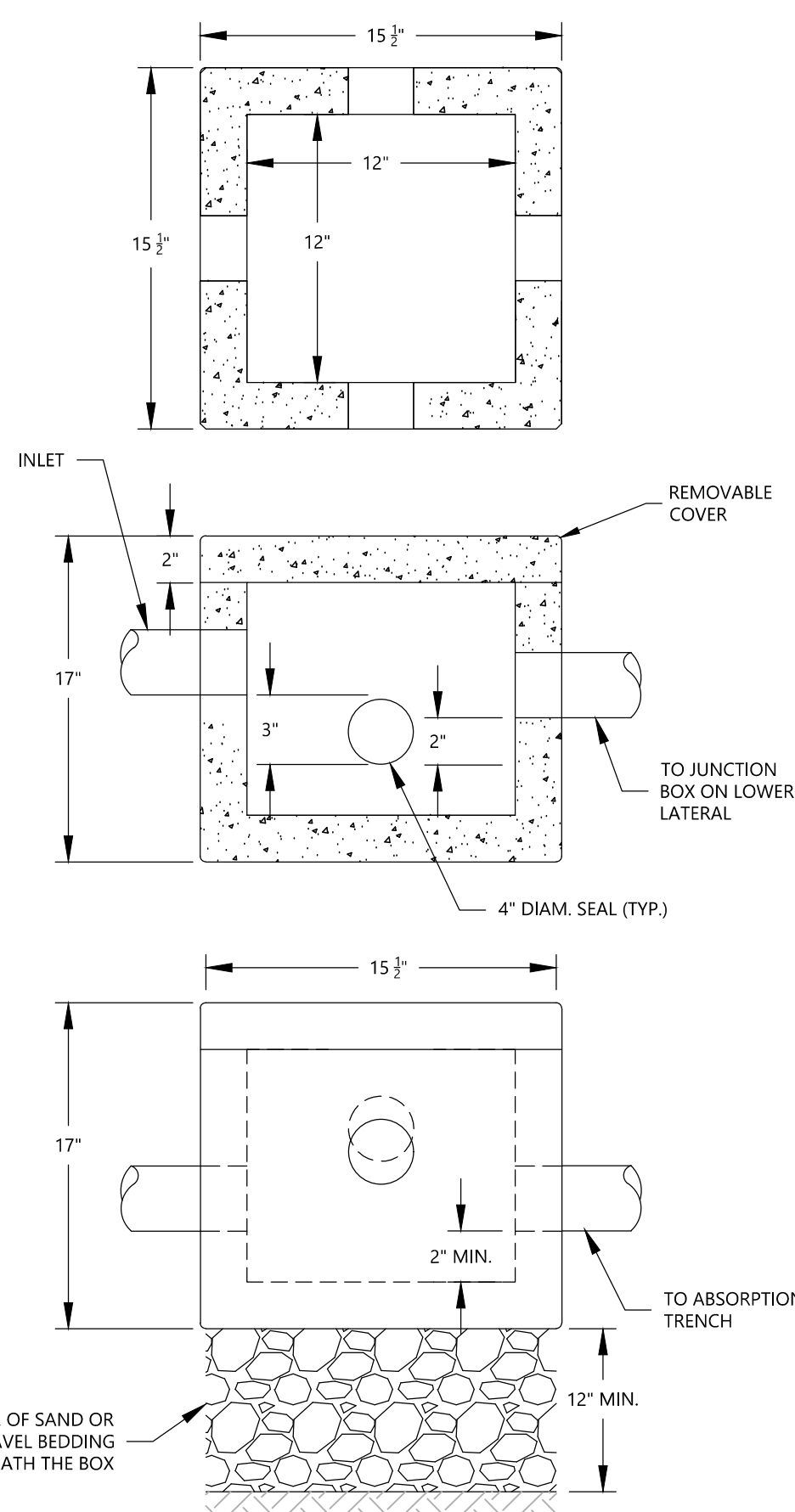
Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour		
10/17/2022					Start Inches	Stop Inches			
	D-14	1	9:44	9:46	2	20"	23"	3"	
		2	9:48	9:51	3	20"	23"	3"	
		3	9:53	9:57	4	20"	23"	3"	
		4	9:58	10:02	4	20"	23"	3"	45" per Hr

PHRD-15 - INFILTRATION TEST

Date: 10/18/2022 - Inspector: Lou DiMarzo, P.E. - Town: Steven Scigrano

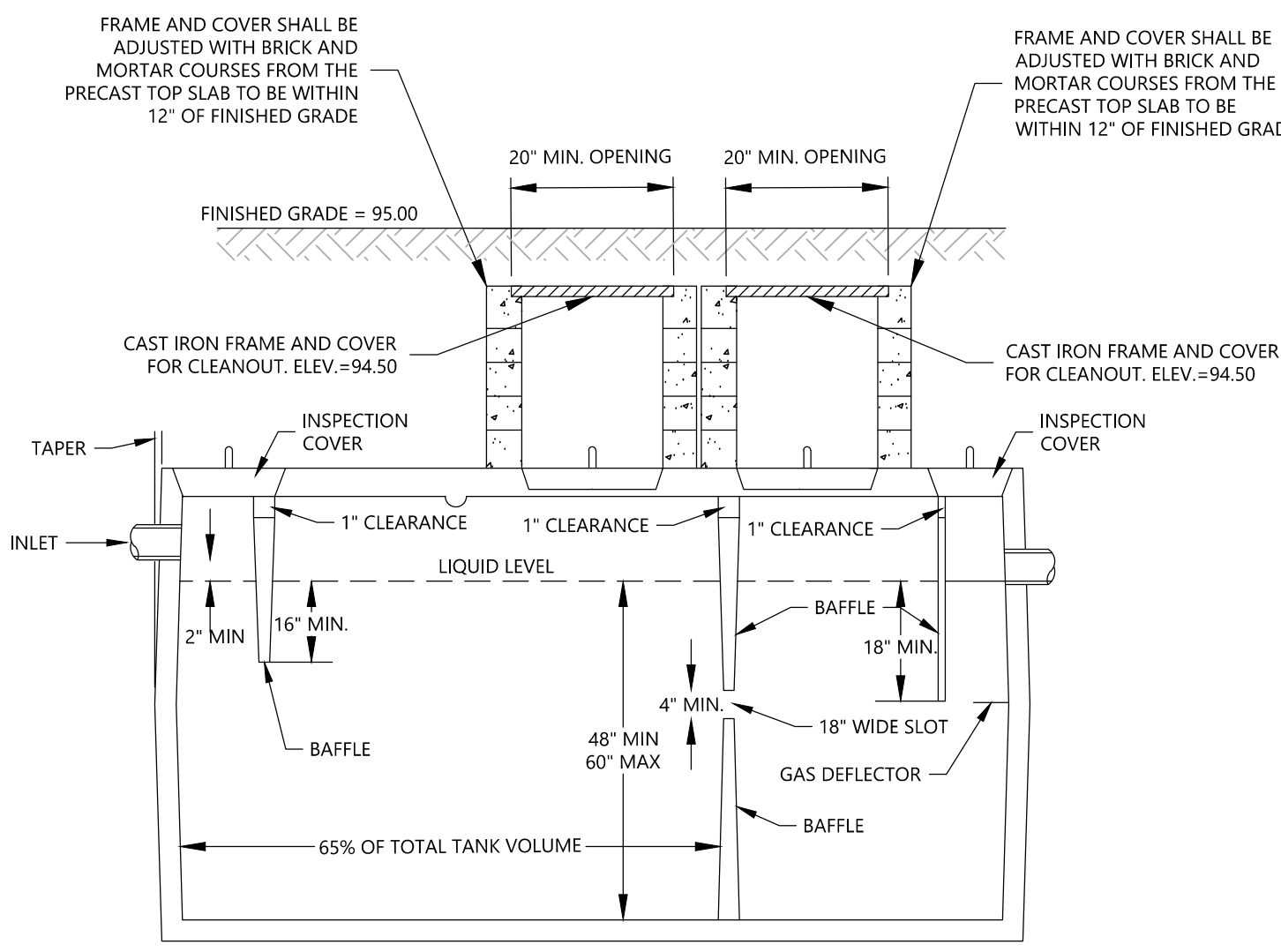
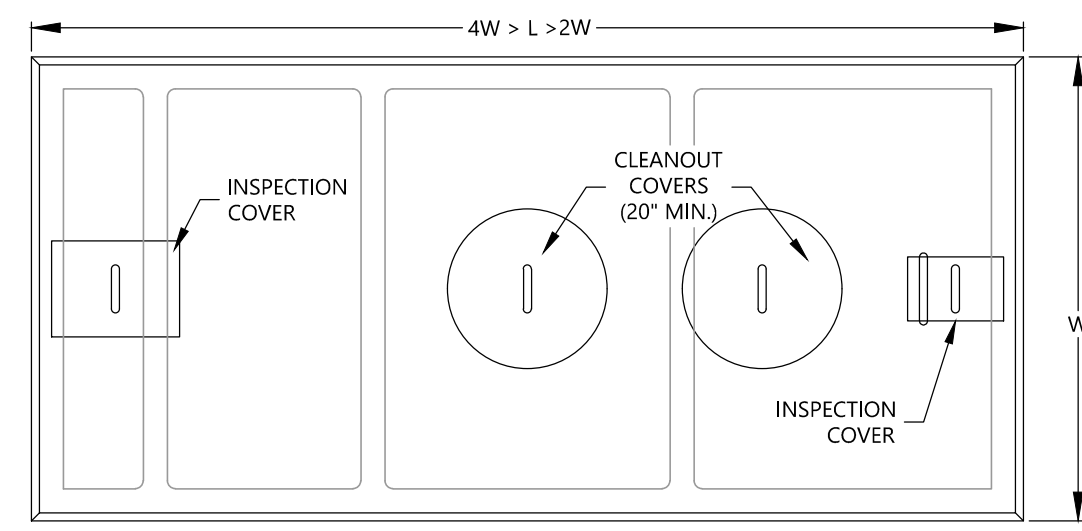
Pre-Soak Date:	Run No.	Start	Stop	Blaspe Time Min.	Depth to Water from Bench Surface	Water Level Drop in Inches	Infiltration Rate inches/hour	
10/17/2022					Start Inches	Stop Inches		
	D-15	1	10:06	10:08	2	20"	23"	3"
		2	10:09	10:14	5	20"	23"	3"





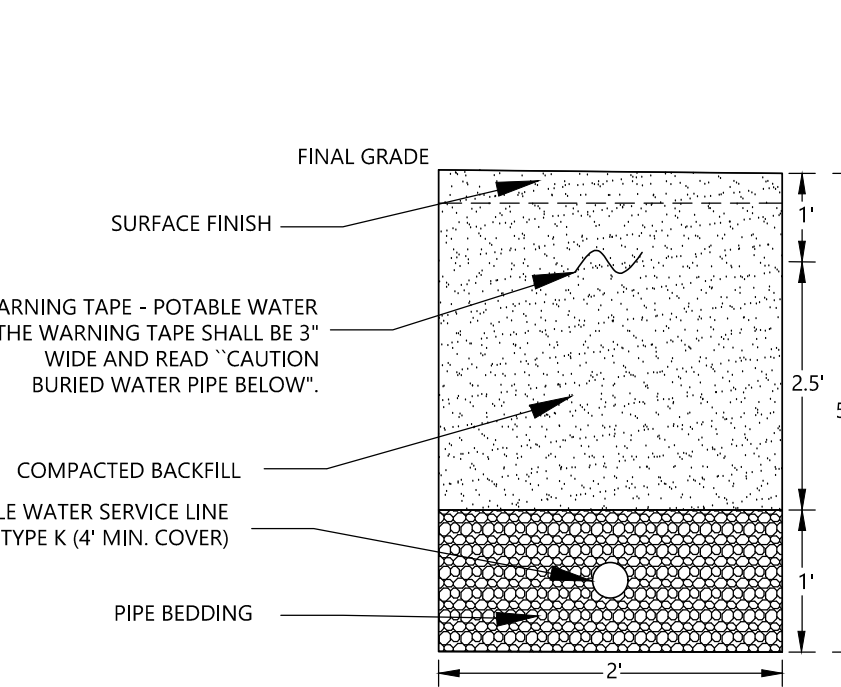
- NOTES:**
- BOTTOM OF BOX MUST BE LEVEL AND FIRMLY SUPPORTED TO BELOW FROST LINE. FOOTING TO EXTEND TO 36\"/>

**JUNCTION BOX**  
N.T.S.



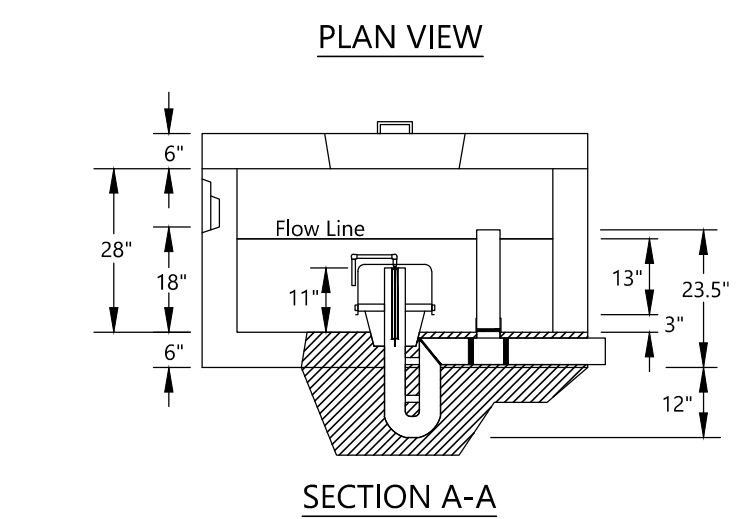
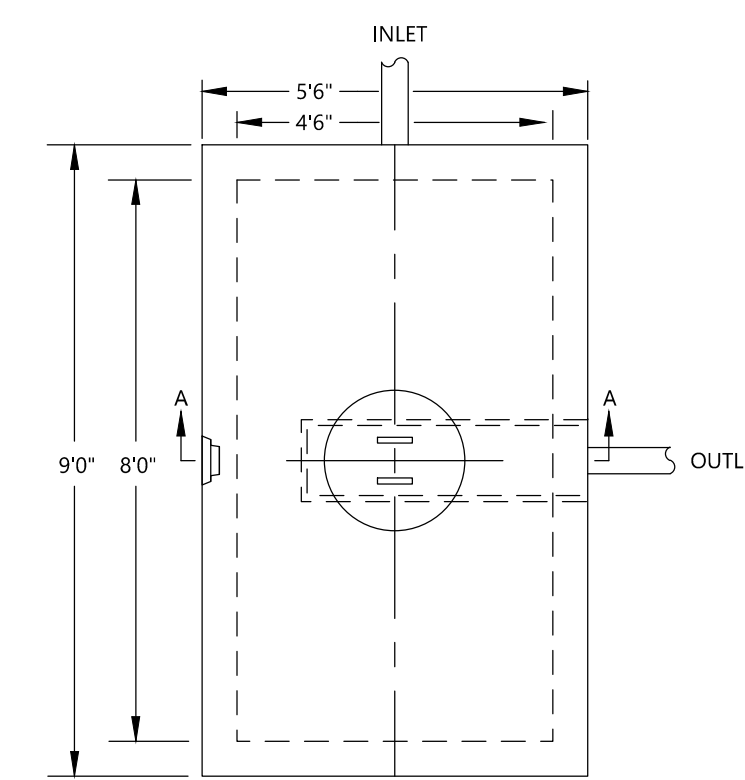
- NOTES:**
- THE MINIMUM FILL COVER OVER THE TOP OF THE TANK IS SIX (6\")/>

**SEPTIC TANK DETAIL**  
N.T.S.



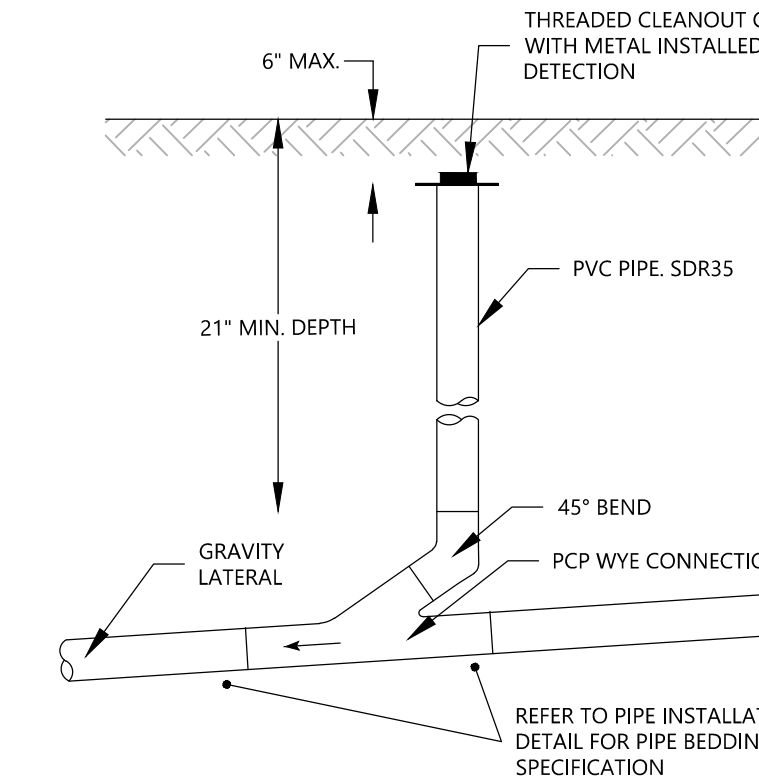
**POTABLE WATER SERVICE DETAIL**  
N.T.S.

- NOTES:**
- THE PIPE BEDDING SHALL BE ASTM CLASS III SAND AND SHALL NOT CONTAIN ANY COBBLES OR GRAVEL AND SHALL BE CLEAN AND FREE OF UNDESIRABLE MATERIAL.
  - POTABLE WATER PIPES SHALL BE LAID AT LEAST 10\"/>

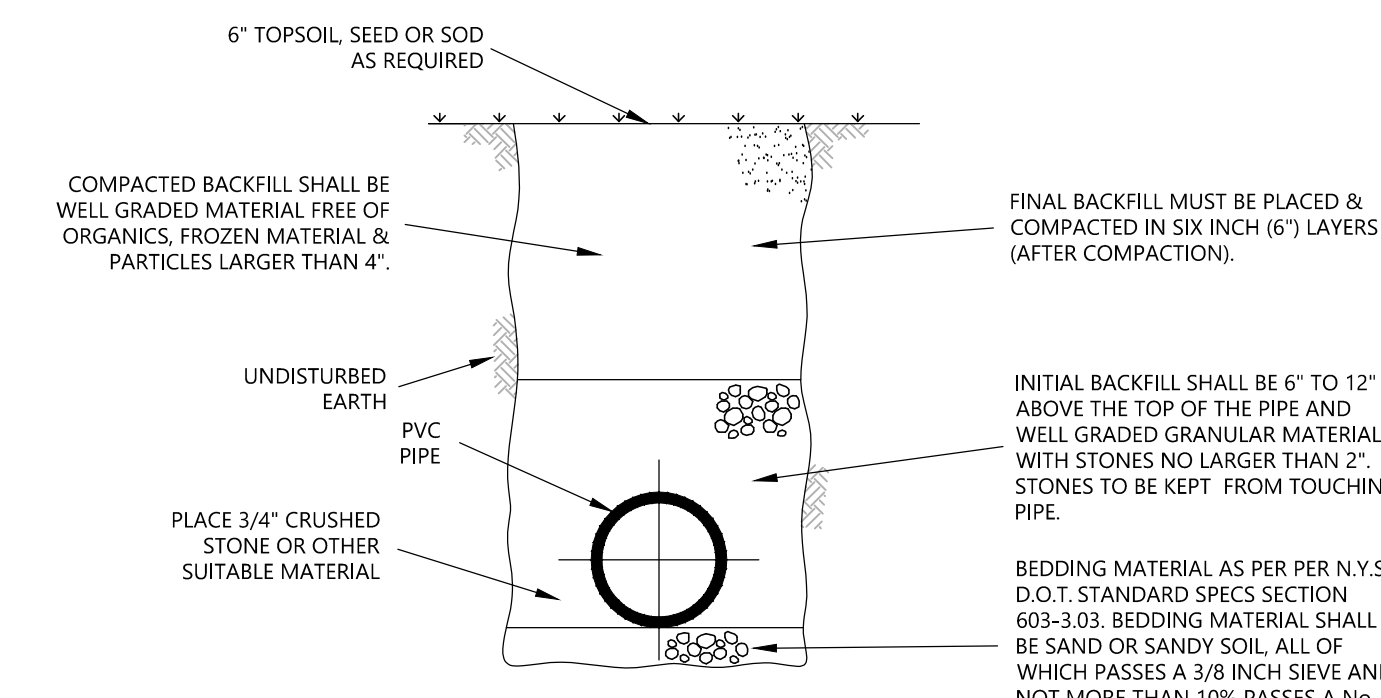


- NOTES:**
- MAIN HOUSE DOSE VOLUME REQUIRED = 260 GALLONS (0.5 GALLONS PER LINEAR FOOT OF ABSORPTION TRENCH PER DOSE). 520 LF PER DOSE x 0.5 GALLONS = 260 GALLONS PER DOSE.
  - GROOMS QUARTERS DOSE VOLUME REQUIRED = 263 GALLONS (0.5 GALLONS PER LINEAR FOOT OF ABSORPTION TRENCH PER DOSE). 525 LF PER DOSE x 0.5 GALLONS = 263 GALLONS PER DOSE.

**SINGLE DOSING CHAMBER WITH SIPHON**  
N.T.S.

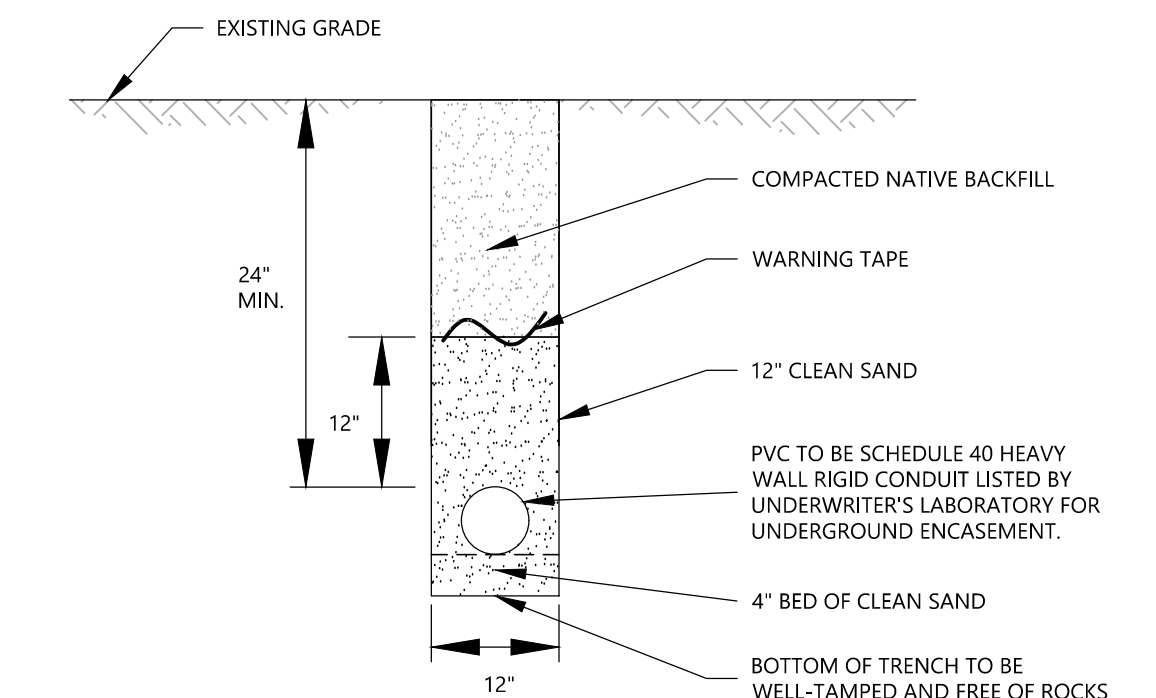


**CLEANOUT**  
N.T.S.



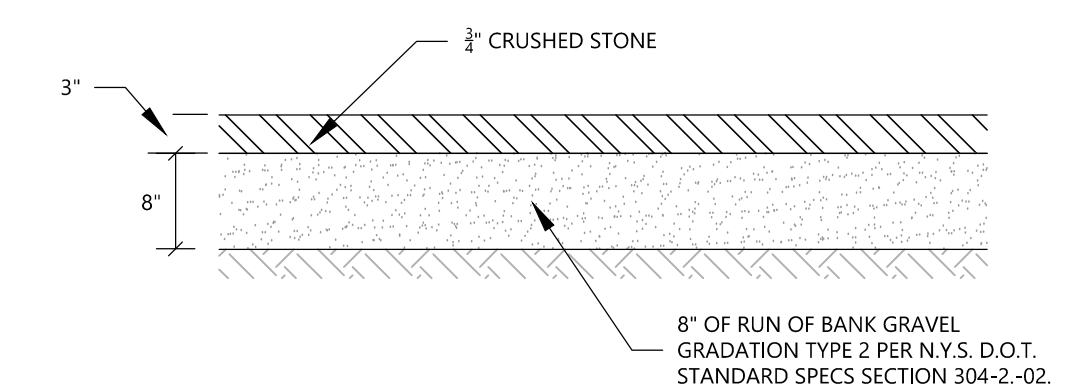
- NOTES:**
- ALL MATERIAL TO BE COMPACTED TO 95% OF THE MAX. DRY DENSITY AS DETERMINED BY ASTM D1557, EXCEPT COMPACTED BACKFILL NOT UNDER PAVEMENT WHICH SHALL BE COMPACTED TO A DENSITY AT LEAST EQUAL TO THAT OF THE ADJACENT UNDISTURBED MATERIAL.
  - ALL FOUNDATION, INITIAL BACKFILL & BACKFILL MATERIAL TO BE APPROVED BY THE INSPECTING ENGINEER.

**STORM/SAN PIPE INSTALLATION**  
(48\"/>



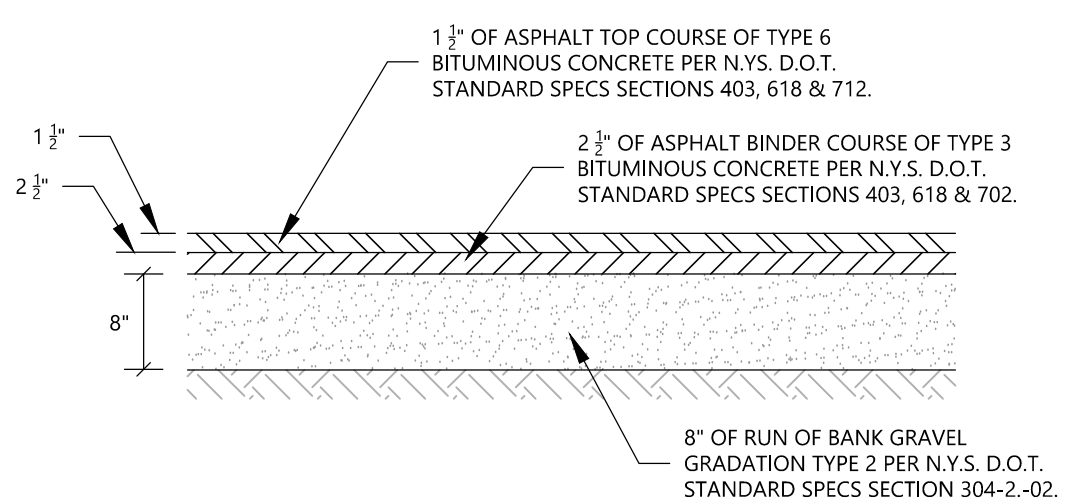
- NOTES:**
- IF 24\"/>

**CONDUIT TRENCH (SAND BEDDING)**  
N.T.S.



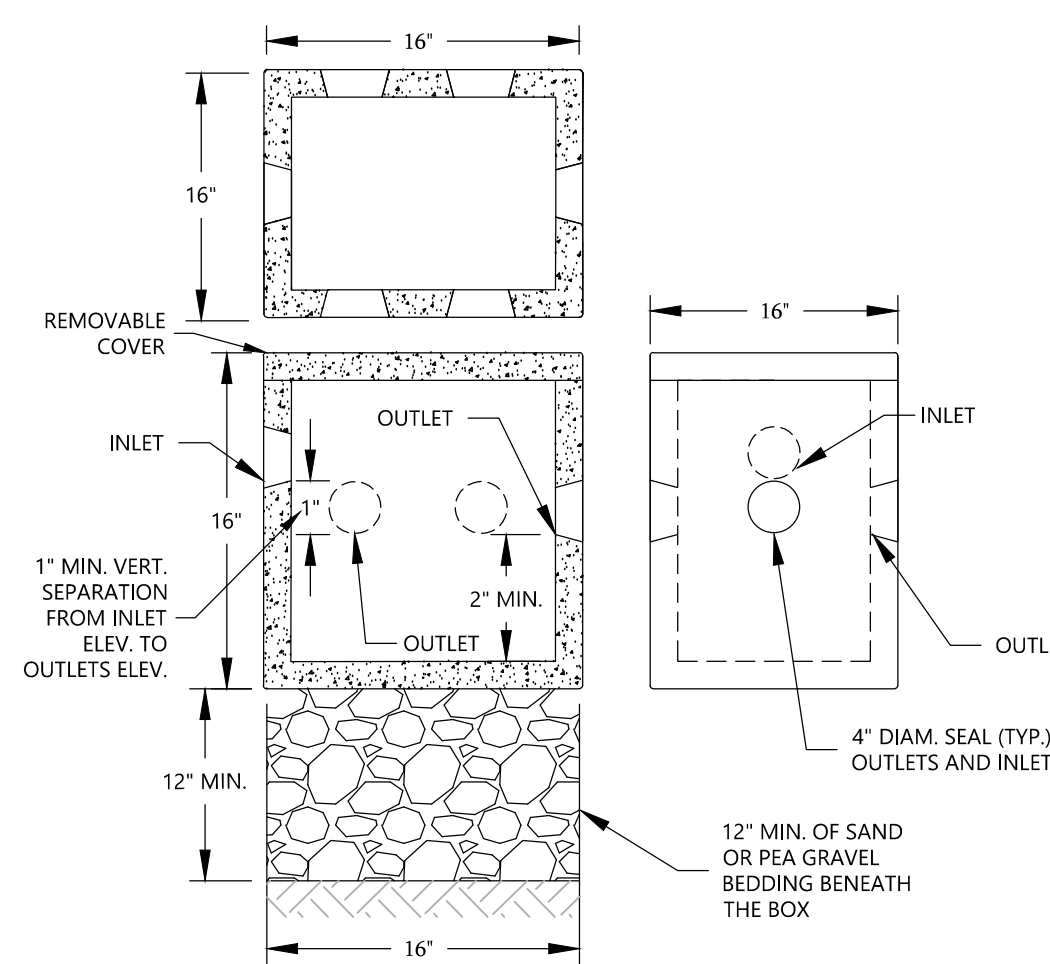
- NOTES:**
- THICKNESS OF ALL LAYERS ARE SHOWN AFTER PLACEMENT AND COMPACTION.

**GRAVEL PAVEMENT DETAIL**  
N.T.S.



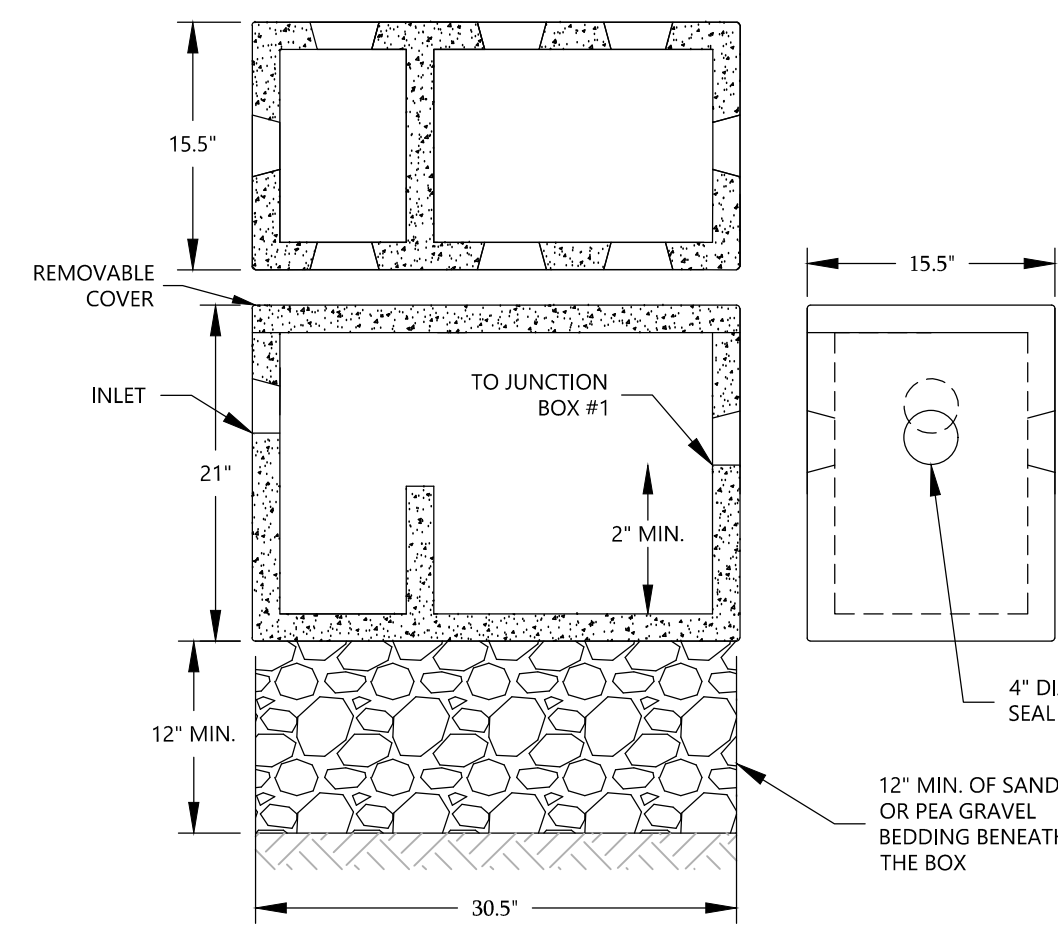
- NOTES:**
- THICKNESS OF ALL LAYERS ARE SHOWN AFTER PLACEMENT AND COMPACTION.

**ASPHALT PAVEMENT DETAIL**  
N.T.S.



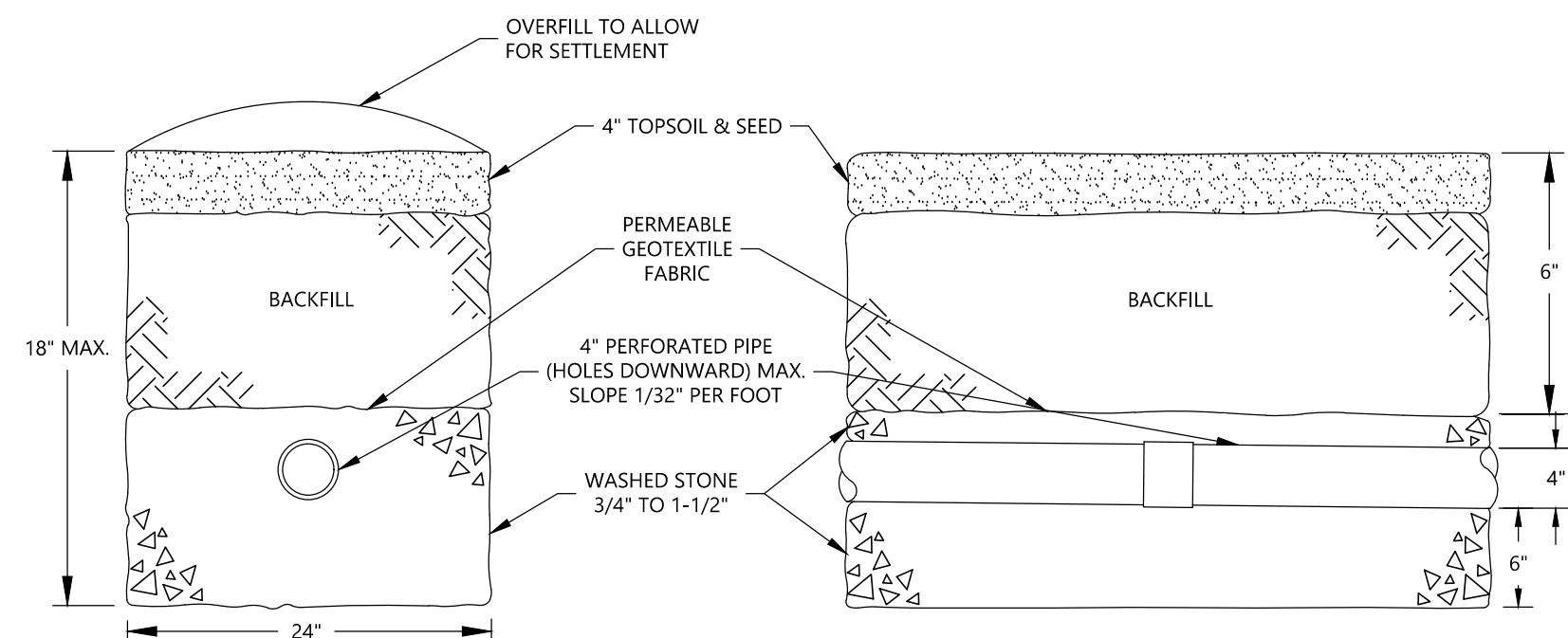
- NOTES:**
- BOTTOM OF BOX MUST BE LEVEL AND FIRMLY SUPPORTED TO BELOW FROST LINE. FOOTING TO EXTEND TO 36\"/>

**DISTRIBUTION BOX**  
N.T.S.



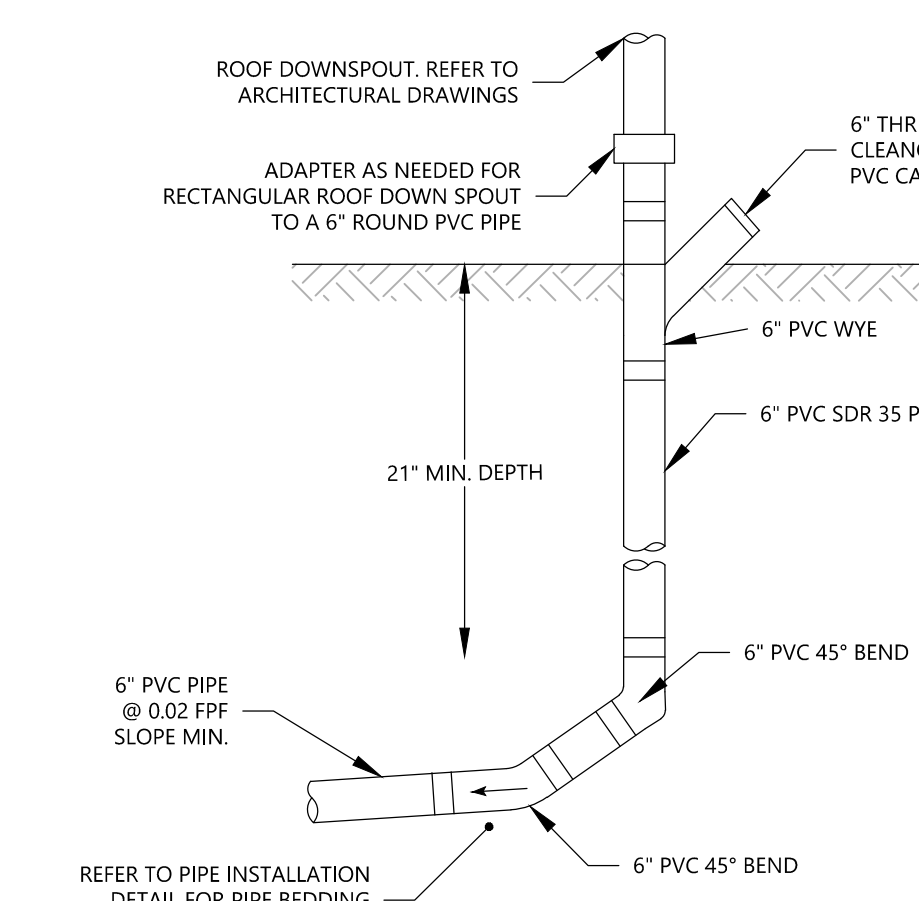
- NOTES:**
- BOTTOM OF BOX MUST BE LEVEL AND FIRMLY SUPPORTED TO BELOW FROST LINE. FOOTING TO EXTEND TO 36\"/>

**BAFFLED JUNCTION BOX**  
N.T.S.



- NOTES:**
- THE MINIMUM REQUIRED SEPARATION DISTANCE BETWEEN THE BOTTOM OF THE ABSORPTION TRENCH AND THE PRESENCE OF LEDGE ROCK AND/OR GROUND WATER IS FIVE FOOT (5').
  - THE MAXIMUM DEPTH OF THE ABSORPTION TRENCH IS 18\"/>

**ABSORPTION TRENCH**  
N.T.S.



**CLEANOUT AT ROOF LEADER**  
N.T.S.

REV. NO.	DATE	REVISION DESCRIPTION
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
0	2/10/2023	INITIAL SUBMISSION

**DETAILS - 1**  
DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
PREPARED FOR  
**MARENGO FARMS LLC**

DATE: 10/18/2023	SCALE: AS NOTED
JOB NO. 179	

To my knowledge and belief this map is substantially correct as noted herein.

**DIMARZO & BERECZKY**  
191 LLOYD DRIVE  
FAIRFIELD, CT 06425  
203.857.4110

LAND SURVEYING  
CIVIL ENGINEERING  
PERMITTING

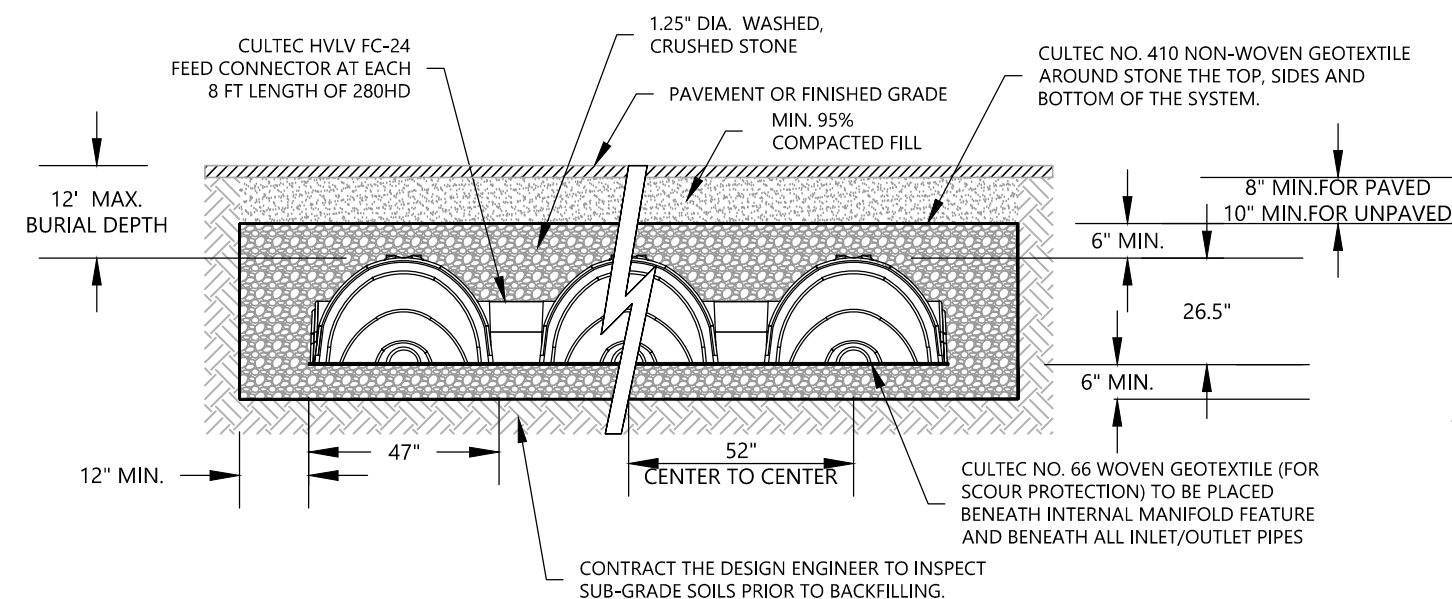
This document is valid only if it bears the signature and seal of the designated licensed professional. Unauthorized alteration or addition to this document shall make the contents null and void.

DATE \_\_\_\_\_

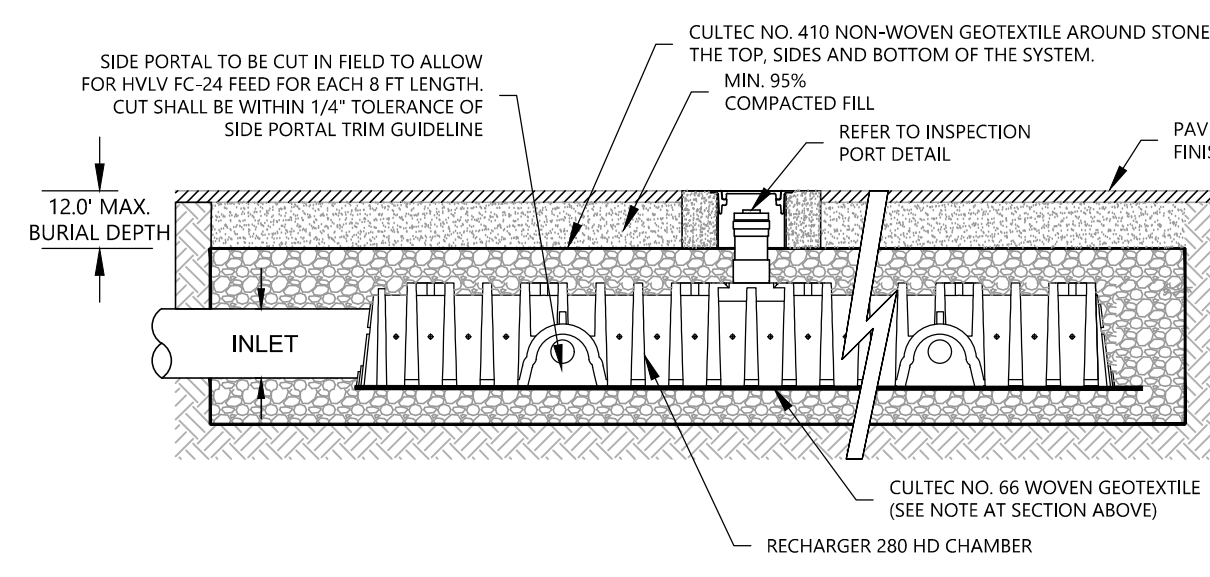
**C-6**

UNAUTHORIZED ALTERATION OR ADDITION TO A DOCUMENT BEARING THE SEAL OF AN ENGINEER IS A VIOLATION OF SECTION 2309 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW ARTICLE 145.

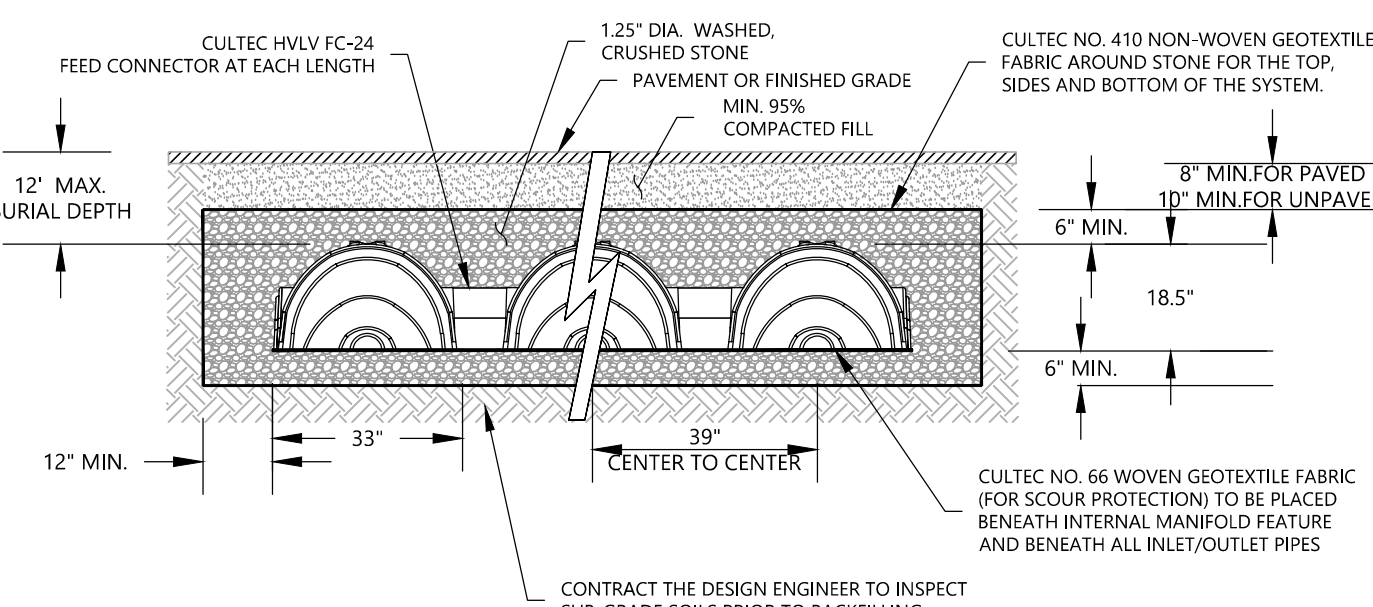




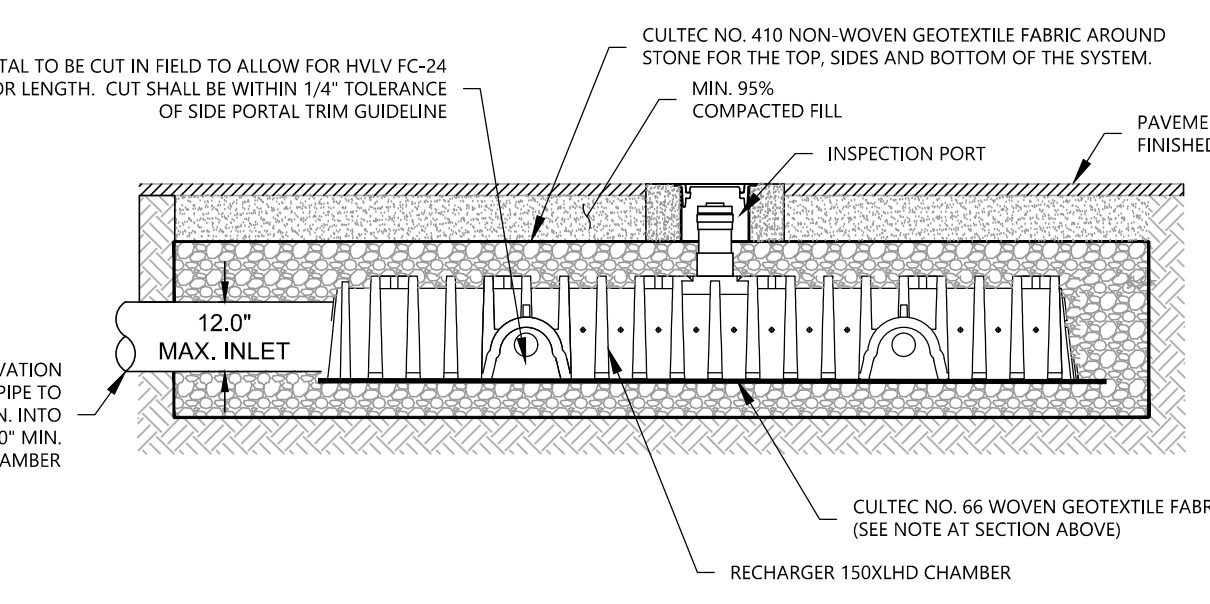
**CULTEC-280HD INFILTRATOR (BMP-E4)**  
(INFILTRATION SYSTEM)  
N.T.S.



**CULTEC-150XLHD INFILTRATOR (BMP-E2)**  
(INFILTRATION SYSTEM)  
N.T.S.



**CULTEC-100HD INFILTRATOR (BMP-E1)**  
N.T.S.

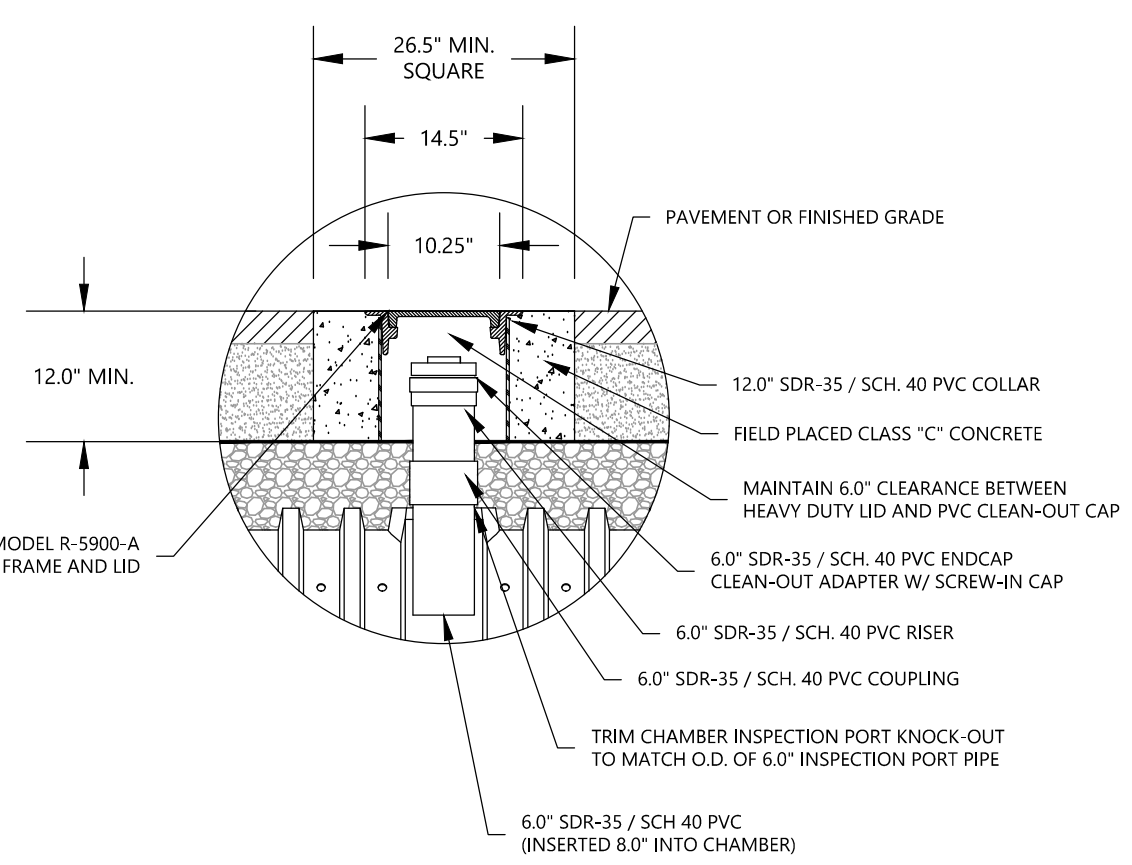


**CULTEC-330XLHD INFILTRATOR (BMP-E3, W1, W2, W3, W4)**  
(INFILTRATION SYSTEM)  
N.T.S.

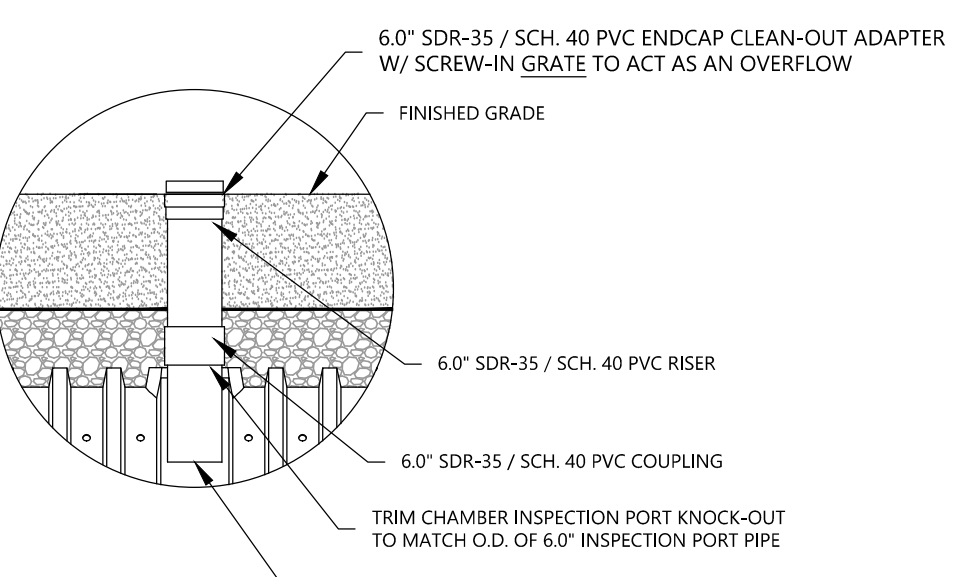
- CULTEC SYSTEM NOTES:**
- CONTRACTOR 150XLHD BY CULTEC, INC. OF BROOKFIELD, CT.
  - REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
  - MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12" (3.65m).
  - ALL GALLERIES TO HANDLE H-20 LOADINGS AND SHALL COMPLY WITH THE DETAIL. INTERIOR SECTIONS TO HAVE NO END WALLS. END SECTIONS TO HAVE ONE END WALL.
  - THERE SHALL BE A 6" LAYER OF 1 1/2" CRUSHED STONE BELOW ALL UNITS.
  - REMOVE ANY TOPSOIL PRIOR TO INSTALLATION OF GALLERY.
  - CONTACT THE DESIGN ENGINEER THREE DAYS PRIOR TO EXCAVATION FOR THE GALLERIES. DURING THE EXCAVATION, THE DESIGN ENGINEER MAY REVERSE THE ELEVATIONS OF THE GALLERIES IF FIELD CONDITIONS DICTATE.
  - CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - SOIL BENEATH THE INFILTRATION SYSTEM SHALL BE SCARIFIED OR TILLED TO IMPROVE INFILTRATION.

- CULTEC SYSTEM NOTES:**
- CONTRACTOR 150XLHD BY CULTEC, INC. OF BROOKFIELD, CT.
  - REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
  - MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12" (3.65m).
  - ALL GALLERIES TO HANDLE H-20 LOADINGS AND SHALL COMPLY WITH THE DETAIL. INTERIOR SECTIONS TO HAVE NO END WALLS. END SECTIONS TO HAVE ONE END WALL.
  - THERE SHALL BE A 6" LAYER OF 1 1/2" CRUSHED STONE BELOW ALL UNITS.
  - REMOVE ANY TOPSOIL PRIOR TO INSTALLATION OF GALLERY.
  - CONTACT THE DESIGN ENGINEER THREE DAYS PRIOR TO EXCAVATION FOR THE GALLERIES. DURING THE EXCAVATION, THE DESIGN ENGINEER MAY REVERSE THE ELEVATIONS OF THE GALLERIES IF FIELD CONDITIONS DICTATE.
  - CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - SOIL BENEATH THE INFILTRATION SYSTEM SHALL BE SCARIFIED OR TILLED TO IMPROVE INFILTRATION.

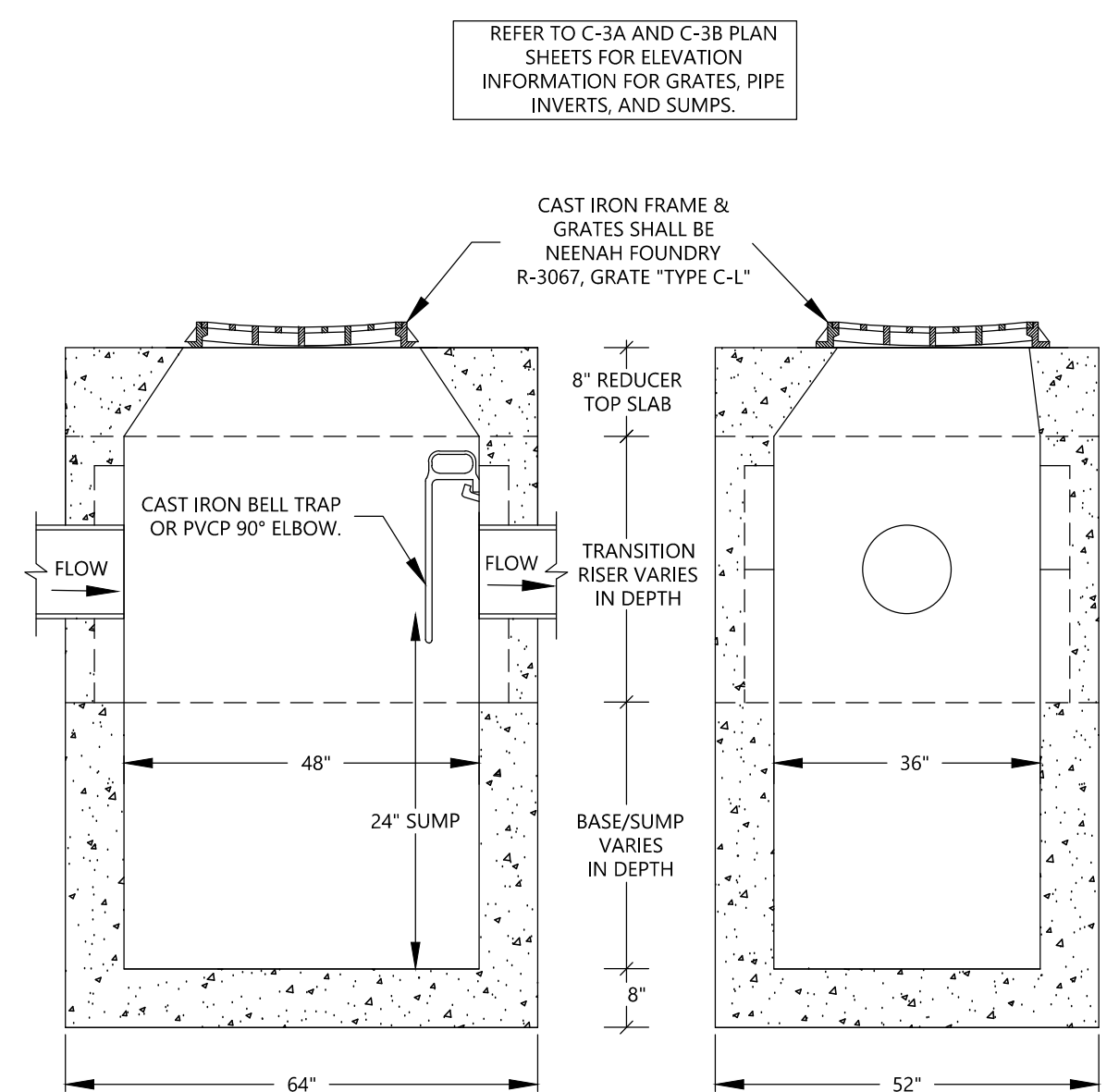
- CULTEC SYSTEM NOTES:**
- CONTRACTOR 100HD BY CULTEC, INC. OF BROOKFIELD, CT.
  - REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
  - MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12" (3.65m).
  - ALL GALLERIES TO HANDLE H-20 LOADINGS AND SHALL COMPLY WITH THE DETAIL. INTERIOR SECTIONS TO HAVE NO END WALLS. END SECTIONS TO HAVE ONE END WALL.
  - THERE SHALL BE A 6" LAYER OF 1 1/2" CRUSHED STONE BELOW AND ABOVE ALL UNITS.
  - REMOVE ANY TOPSOIL PRIOR TO INSTALLATION OF GALLERY.
  - CONTACT THE DESIGN ENGINEER THREE DAYS PRIOR TO EXCAVATION FOR THE GALLERIES. DURING THE EXCAVATION, THE DESIGN ENGINEER MAY REVERSE THE ELEVATIONS OF THE GALLERIES IF FIELD CONDITIONS DICTATE.
  - CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - SOIL BENEATH THE INFILTRATION SYSTEM SHALL BE SCARIFIED OR TILLED TO IMPROVE INFILTRATION.



**CULTECH INSPECTION PORT DETAIL BMP-E4 (TRAFFIC AREA)**  
N.T.S.

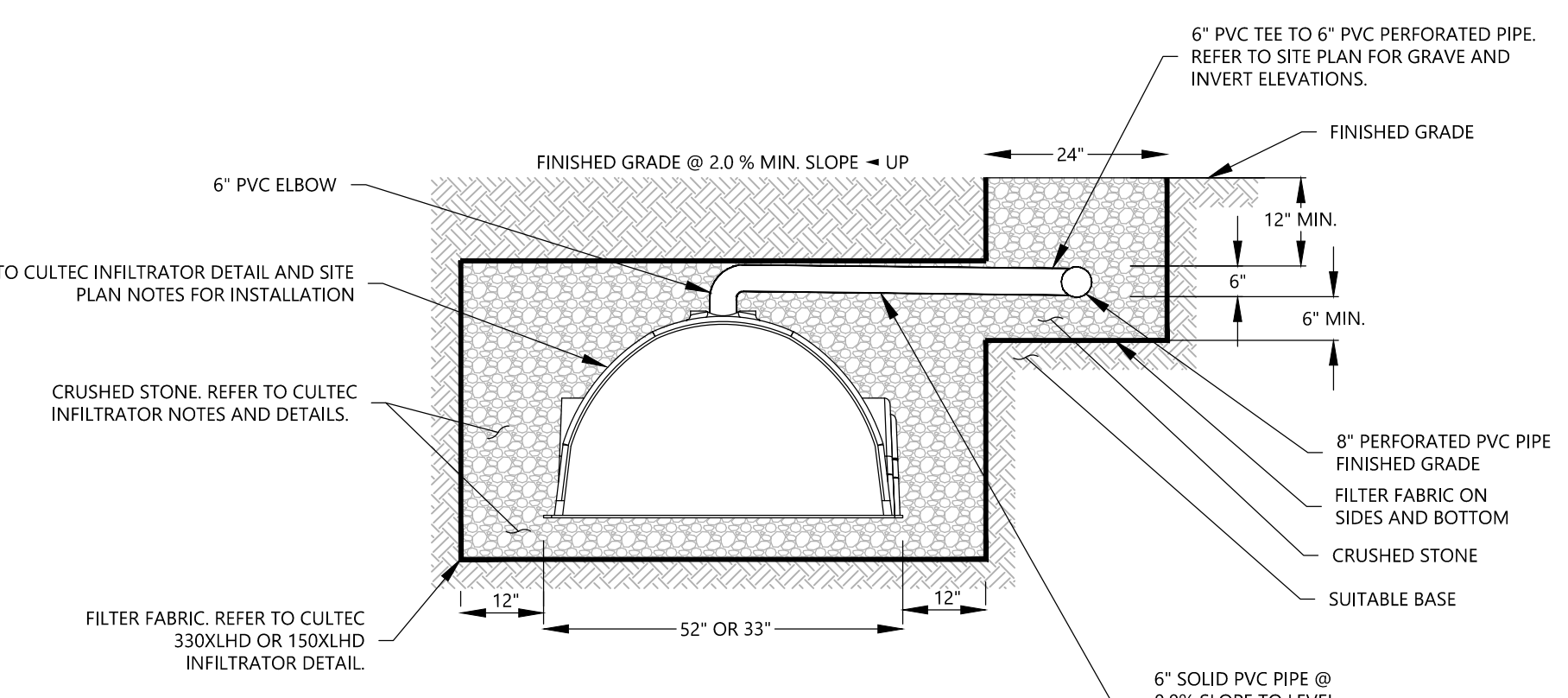


**CULTECH INSPECTION PORT DETAIL (NON-TRAFFIC AREA)**  
N.T.S.



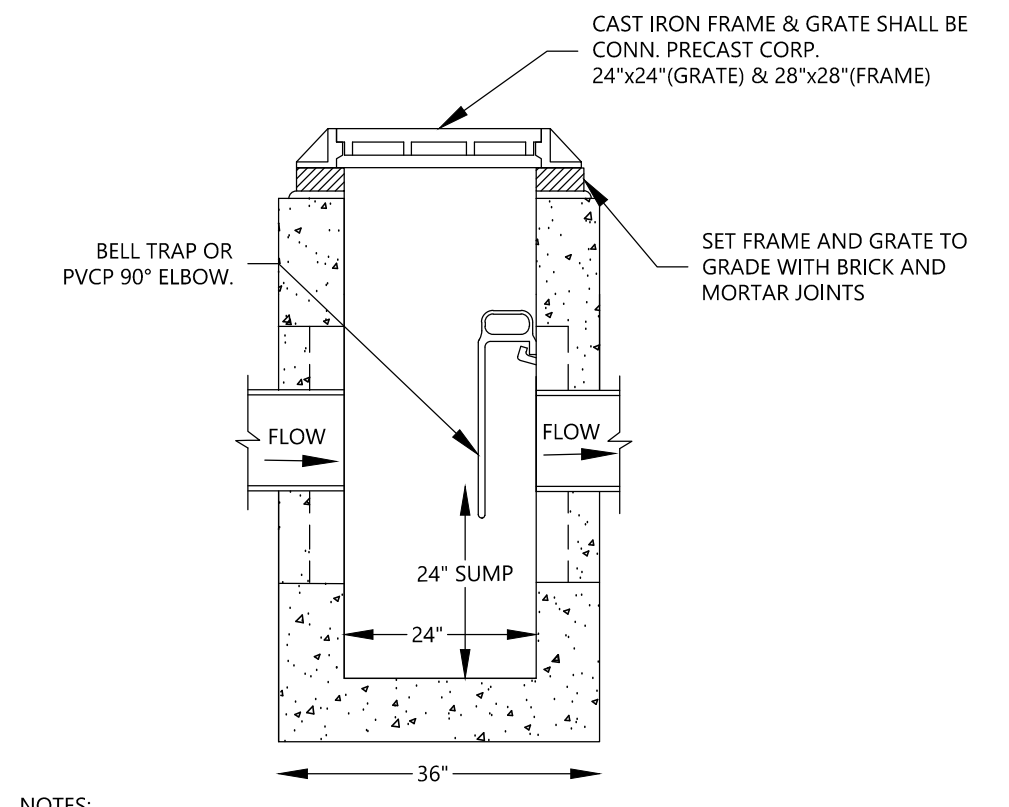
**CATCH BASIN DETAIL**  
N.T.S.

- NOTES:**
- CATCH BASIN BASE/SUMP STRUCTURE SHALL BE PLACED ON A 6" MIN. LAYER OF CRUSHED STONE. CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - ANY FILL MATERIAL PLACED UNDER THE CATCH BASIN STRUCTURE SHALL BE COMPACTED TO 95% OF THE MAX. DRY DENSITY AS DETERMINED BY ASTM D1557.
  - DESIGN AND REINFORCEMENT OF PRECAST CONCRETE SHALL COMPLY WITH ASTM C 478.
  - CATCH BASIN STRUCTURE SHALL COMPLY WITH AASHTO HS-20 LOADING.
  - THIN WALL KNOCKOUT SPACE ALONG THE PRECAST WALL SHALL BE FILLED WITH BRICK AND MORTAR SO TO MAKE ALL WALL THICKNESS 8" MIN. EXCLUDING THE PIPE PENETRATION.
  - ALL JOINTS AND PENETRATIONS SHALL BE MORTARED SMOOTH WITH THE FACE OF THE ADJACENT PRECAST CONCRETE SURFACE.
  - REFER TO CONNECTICUT PRECAST CORP. CATCH BASIN PRODUCT 36"x48" STANDARD PRECAST CTDOT DROP INLET - B" WALL TYPE-C FOR PRODUCT SPECIFICATION.



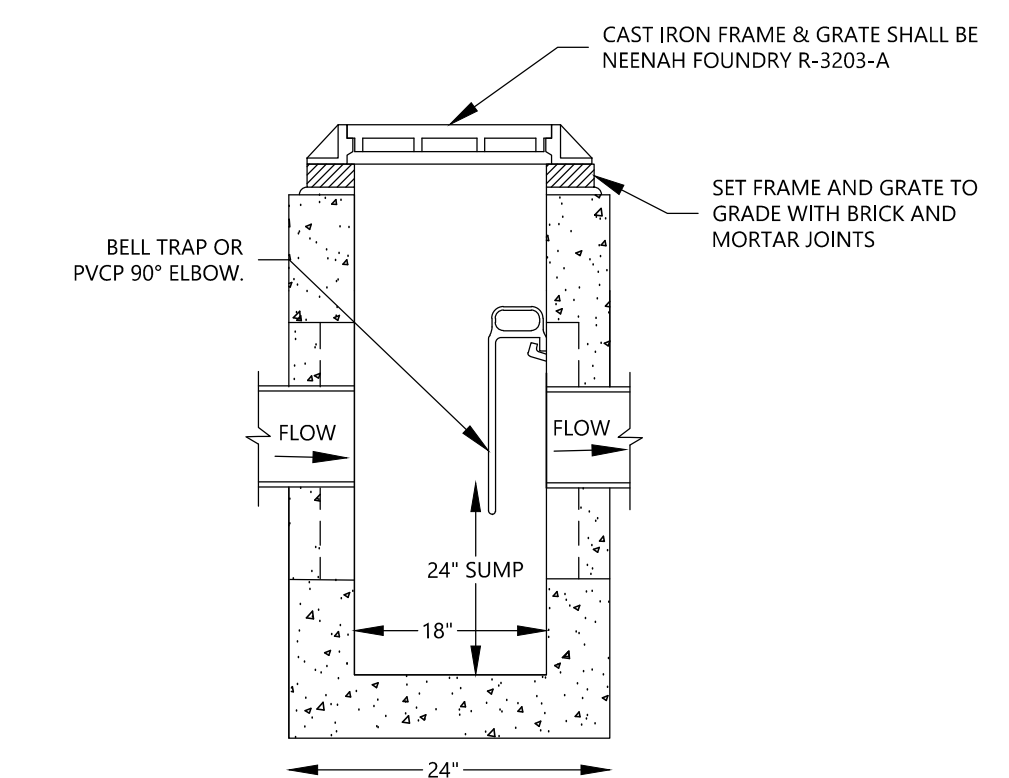
**CRUSHED STONE LEVEL SPREADER**  
N.T.S.

- NOTES:**
- CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - 6" PVC PIPE SHALL HAVE PERFORATIONS ON THE BOTTOM OF THE PIPE.
  - REFER TO SITE SHEETS C-3A AND C-3B FOR ELEVATION INFORMATION ABOUT PIPES, CHAMBERS, CRUSHED STONE, AND FINISHED GRADE.



**AREA DRAIN (24"x24") DETAIL**  
N.T.S.

- NOTES:**
- AREA DRAIN STRUCTURE SHALL BE PLACED ON A 6" MIN. LAYER OF CRUSHED STONE. CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - ANY FILL MATERIAL PLACED UNDER THE CATCH BASIN STRUCTURE SHALL BE COMPACTED TO 95% OF THE MAX. DRY DENSITY AS DETERMINED BY ASTM D1557.
  - DESIGN AND REINFORCEMENT OF PRECAST CONCRETE SHALL COMPLY WITH ASTM C 478.
  - CATCH BASIN STRUCTURE SHALL COMPLY WITH AASHTO HS-20 LOADING.
  - THIN WALL KNOCKOUT SPACE ALONG THE PRECAST WALL SHALL BE FILLED WITH BRICK AND MORTAR SO TO MAKE ALL WALL THICKNESS 6" MIN. EXCLUDING THE PIPE PENETRATION.
  - ALL JOINTS AND PENETRATIONS SHALL BE MORTARED SMOOTH WITH THE FACE OF THE ADJACENT PRECAST CONCRETE SURFACE.
  - REFER TO CONNECTICUT PRECAST CORP. CATCH BASIN PRODUCT 2'x2' AREA DRAIN FOR PRODUCT SPECIFICATION.



**AREA DRAIN (18"x18") DETAIL**  
N.T.S.

- NOTES:**
- AREA DRAIN STRUCTURE SHALL BE PLACED ON A 6" MIN. LAYER OF CRUSHED STONE. CRUSHED STONE SHALL BE GRADATION NO. 3A AS PER N.Y.S. D.O.T. STANDARD SPEC SECTION 703.
  - ANY FILL MATERIAL PLACED UNDER THE CATCH BASIN STRUCTURE SHALL BE COMPACTED TO 95% OF THE MAX. DRY DENSITY AS DETERMINED BY ASTM D1557.
  - DESIGN AND REINFORCEMENT OF PRECAST CONCRETE SHALL COMPLY WITH ASTM C 478.
  - CATCH BASIN STRUCTURE SHALL COMPLY WITH AASHTO HS-20 LOADING.
  - THIN WALL KNOCKOUT SPACE ALONG THE PRECAST WALL SHALL BE FILLED WITH BRICK AND MORTAR SO TO MAKE ALL WALL THICKNESS 6" MIN. EXCLUDING THE PIPE PENETRATION.
  - ALL JOINTS AND PENETRATIONS SHALL BE MORTARED SMOOTH WITH THE FACE OF THE ADJACENT PRECAST CONCRETE SURFACE.
  - REFER TO CONNECTICUT PRECAST CORP. CATCH BASIN PRODUCT "RESIDENTIAL DRAIN" FOR PRODUCT SPECIFICATION.

REV. NO.	DATE	REVISION DESCRIPTION
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
0	2/10/2023	INITIAL SUBMISSION

**DETAILS - 2**  
DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
PREPARED FOR  
**MARENGO FARMS LLC**

DATE: 10/18/2023	SCALE: AS NOTED
JOB NO. 179	

To my knowledge and belief this map is substantially correct as noted herein.

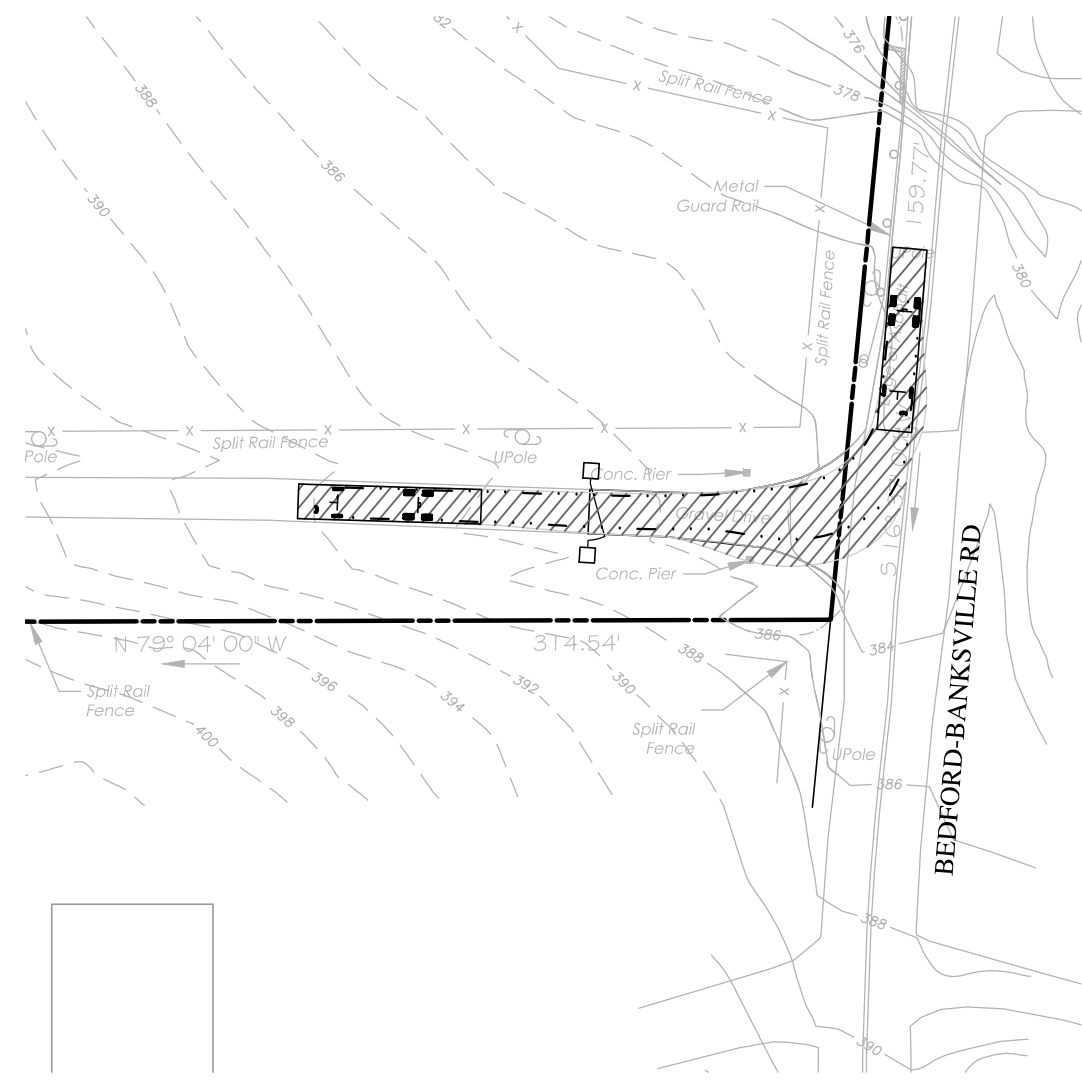
**DIMARZO & BERECZKO**  
191 LLOYD DRIVE  
FAIRFIELD, CT 06425  
203.857.4110  
LAND SURVEYING  
CIVIL ENGINEERING  
PERMITTING

DATE

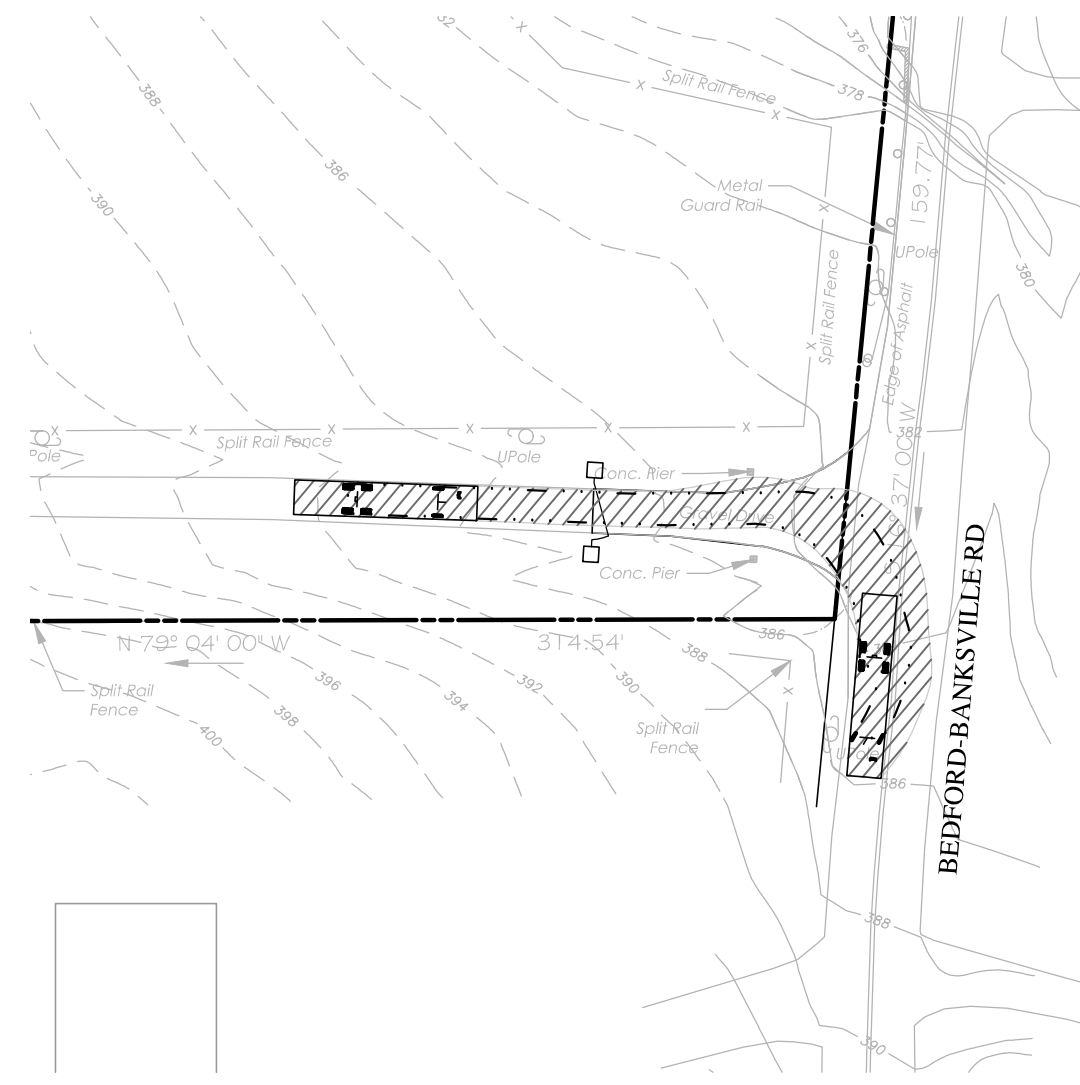
C-7

UNAUTHORIZED ALTERATION OR ADDITION TO A DOCUMENT BEARING THE SEAL OF AN ENGINEER IS A VIOLATION OF SECTION 2209 SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW ARTICLE 145.

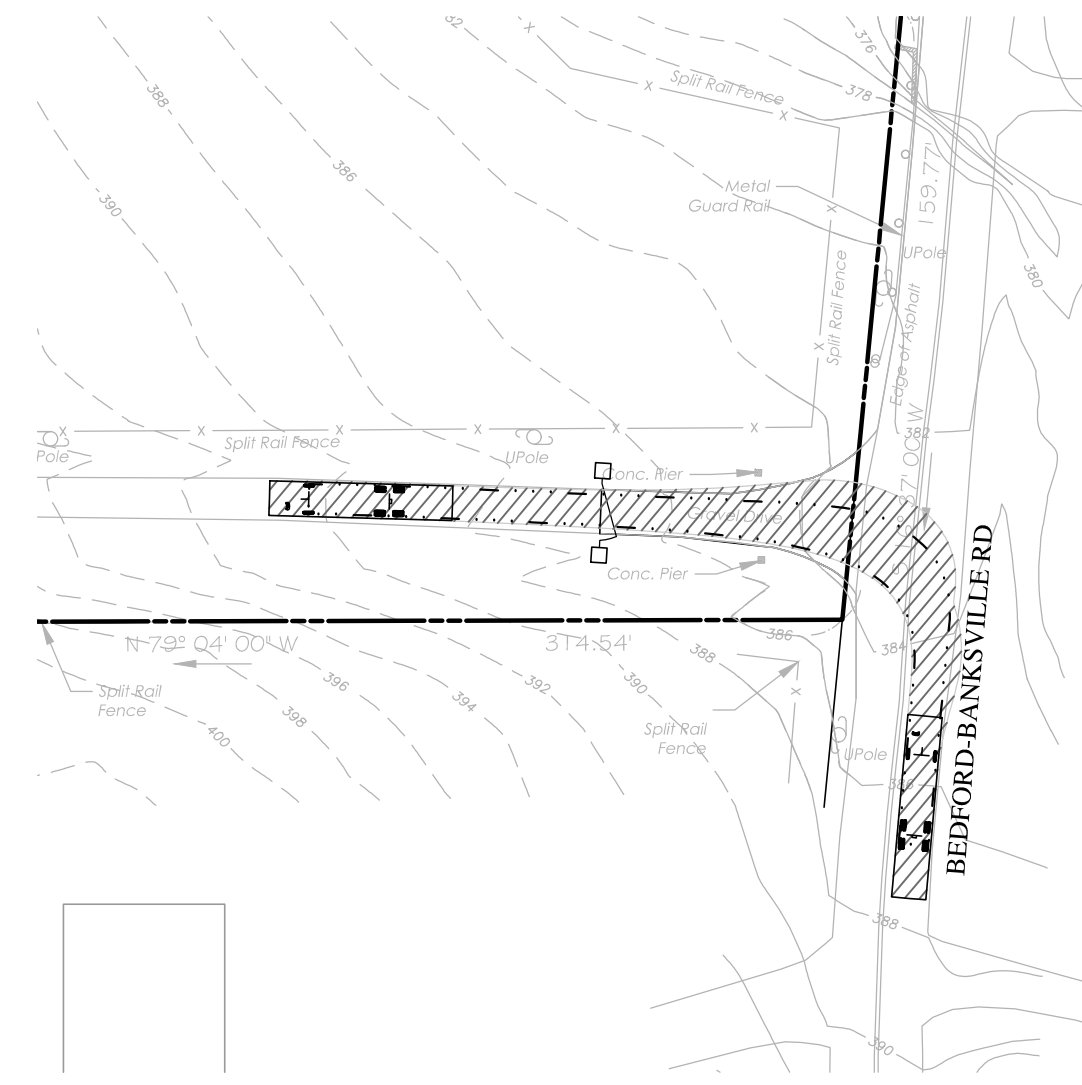




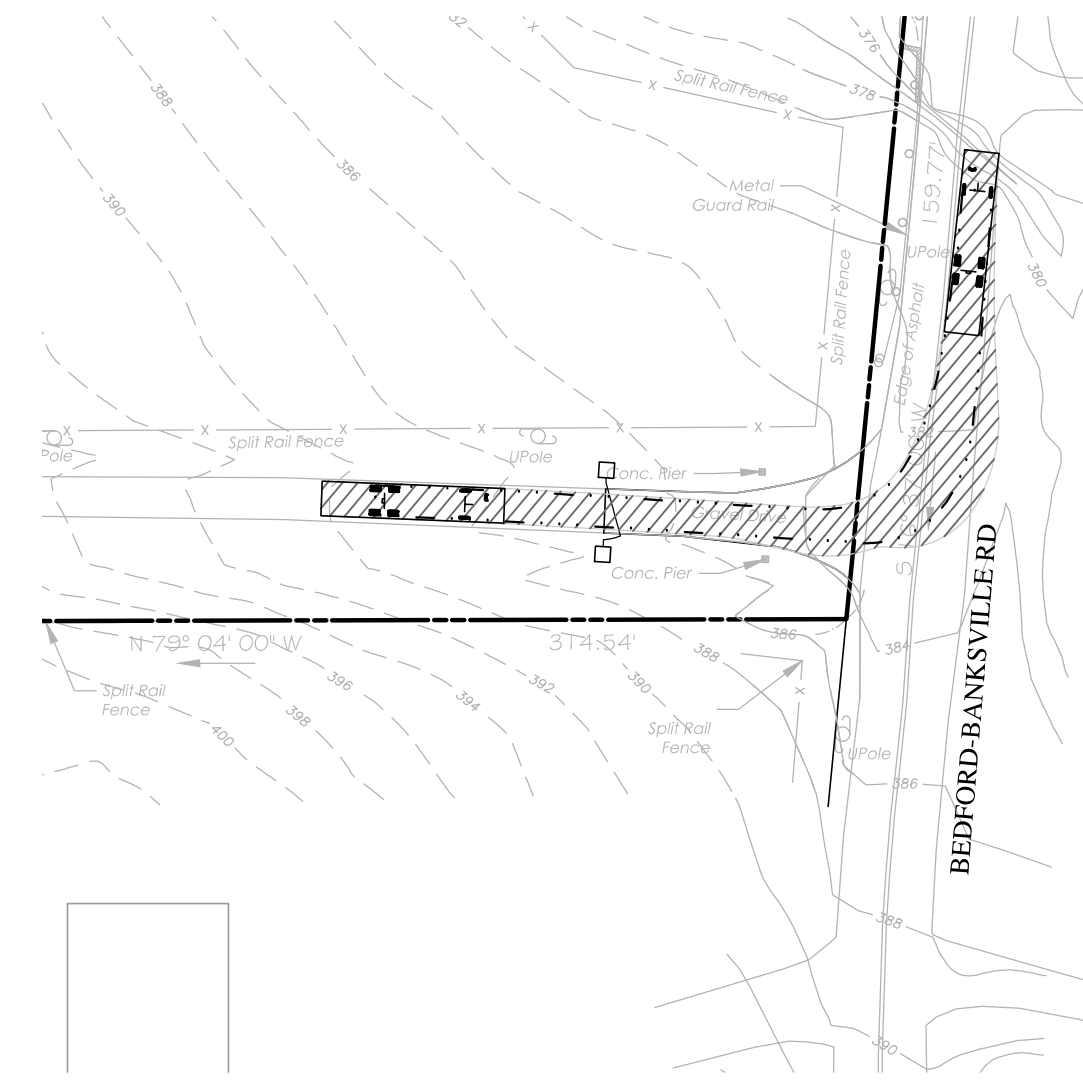
LADDER FIRE TRUCK - ENTER FROM SOUTHBOUND



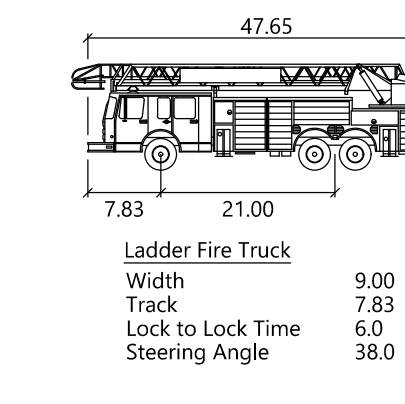
LADDER FIRE TRUCK - EXIT TO SOUTHBOUND



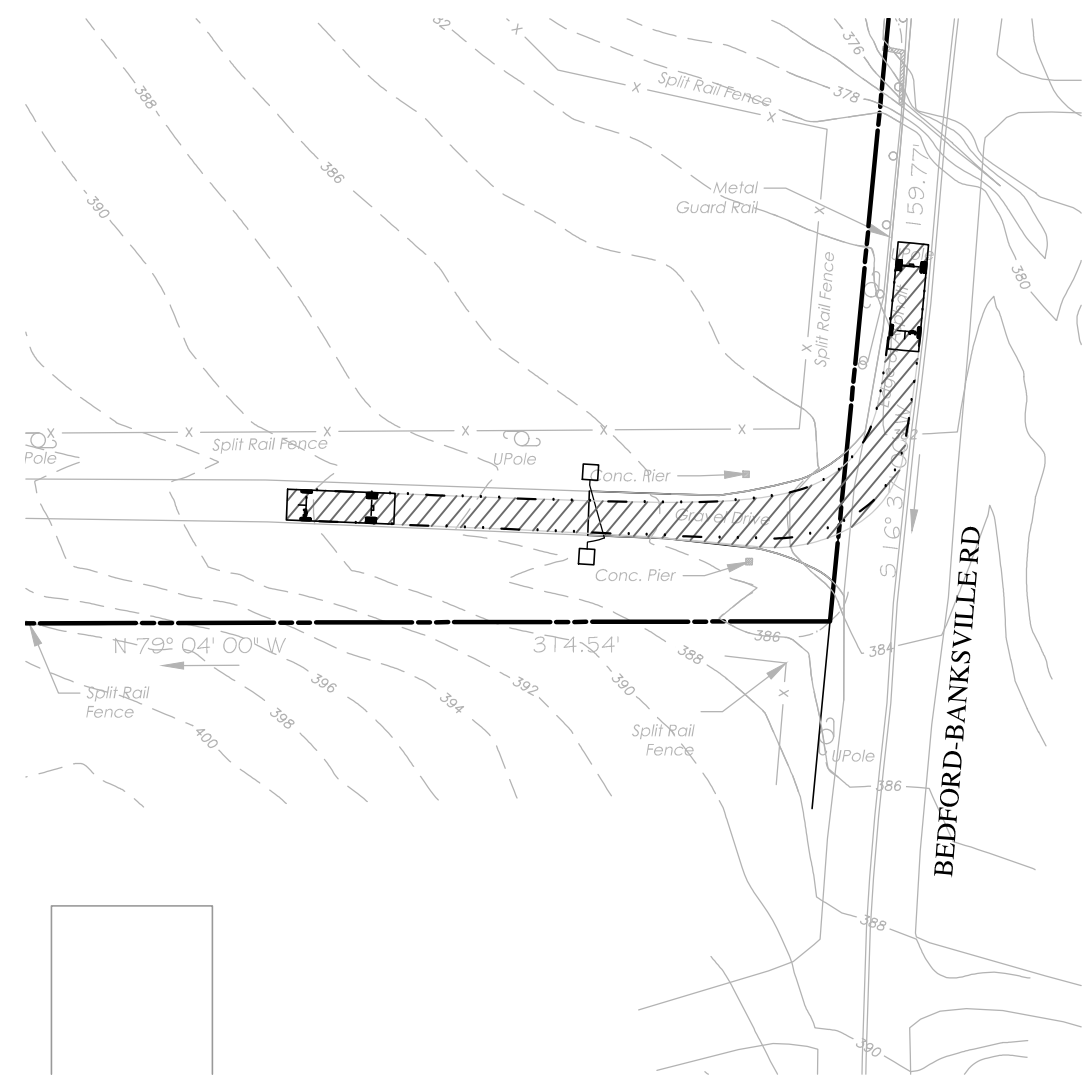
LADDER FIRE TRUCK - ENTER FROM NORTHBOUND



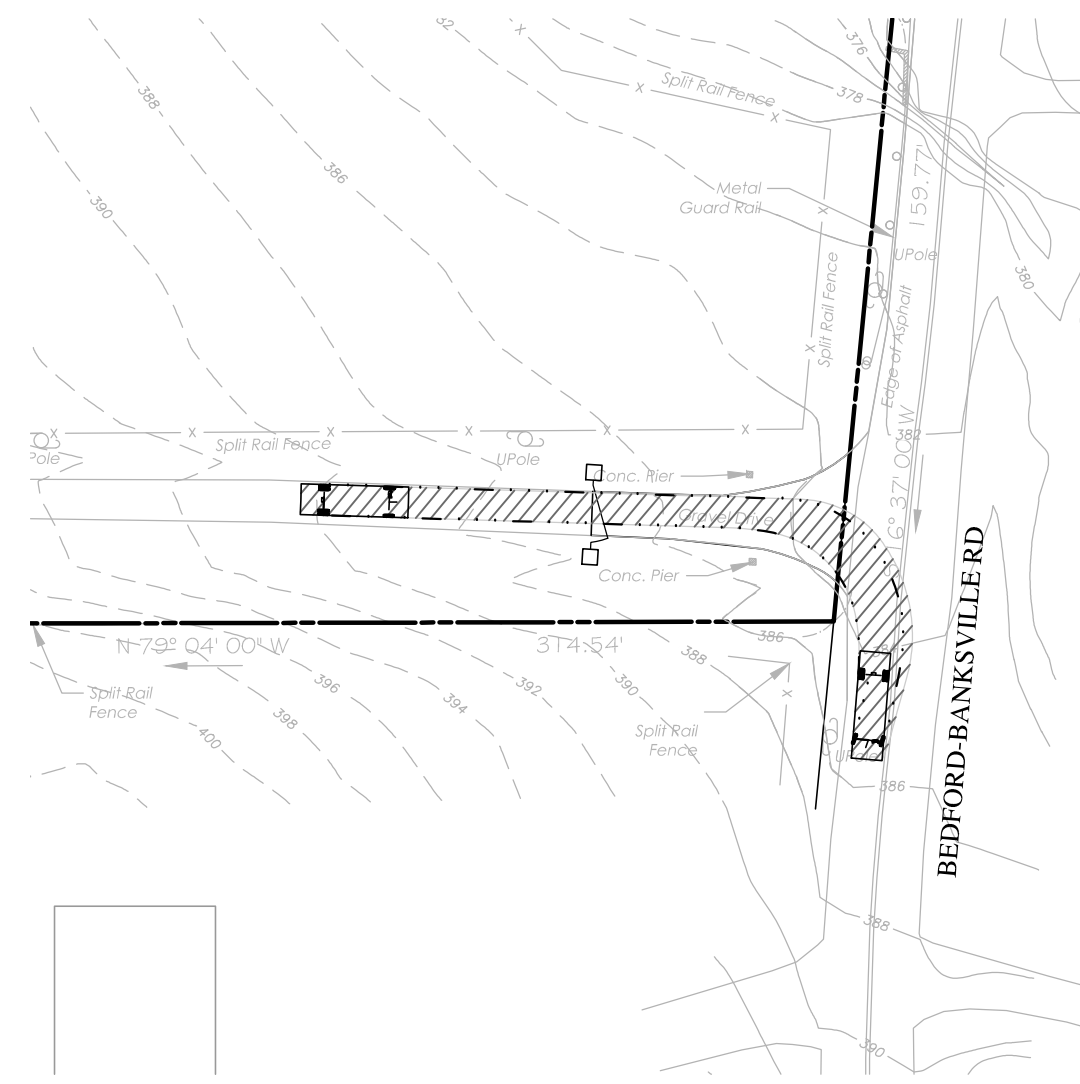
LADDER FIRE TRUCK - EXIT TO NORTHBOUND



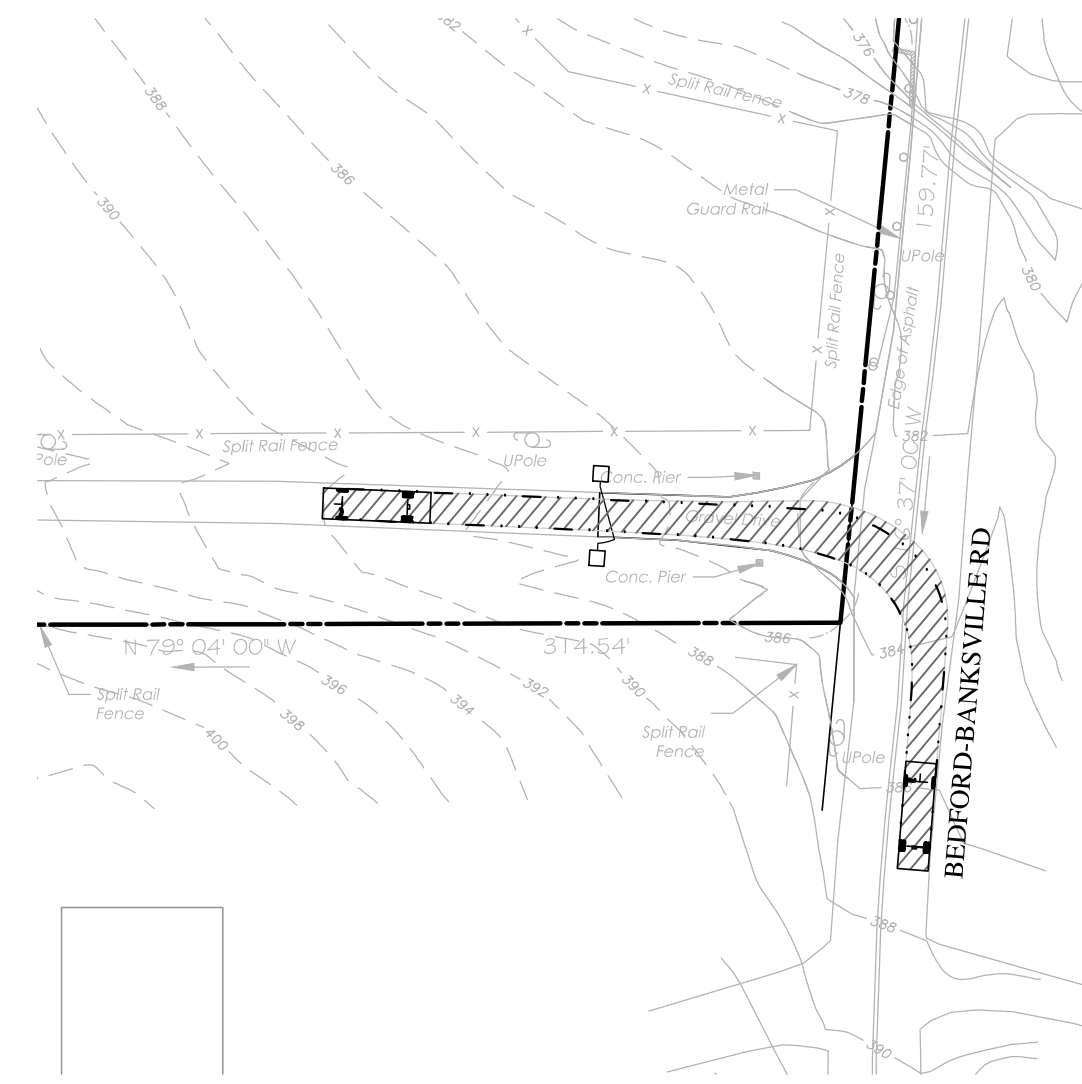
Ladder Fire Truck  
 Width 9.00  
 Track 7.83  
 Lock to Lock Time 6.0  
 Steering Angle 38.0



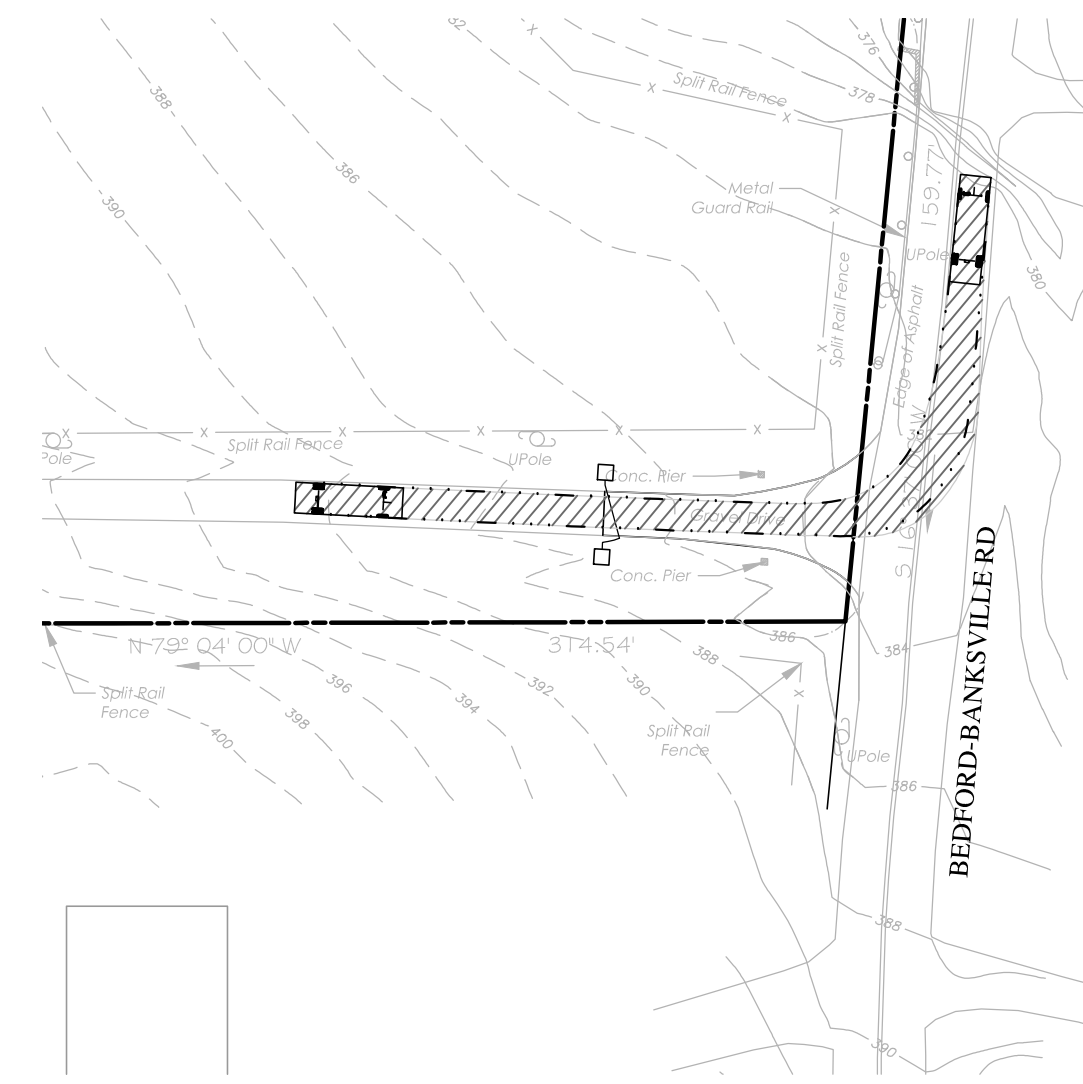
FIRE FIRST RESPONDER - ENTER FROM SOUTHBOUND



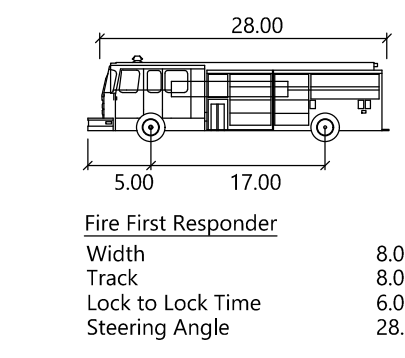
FIRE FIRST RESPONDER - - EXIT TO SOUTHBOUND



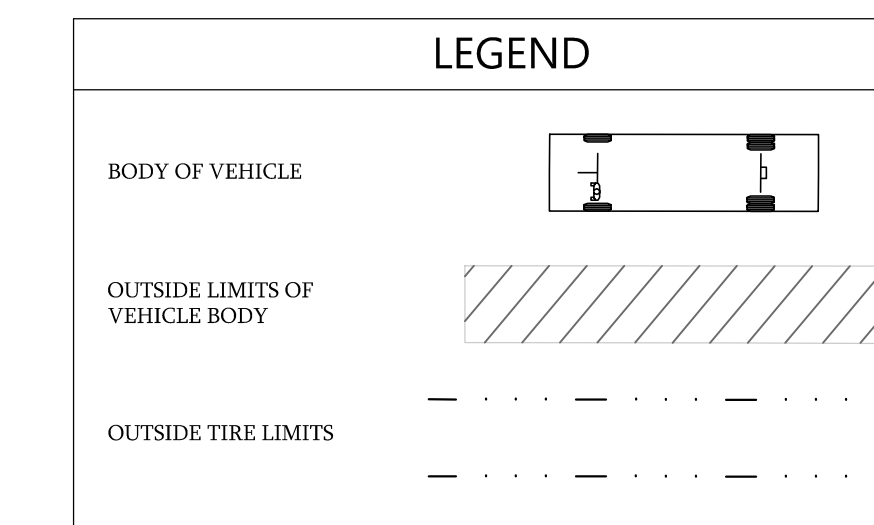
FIRE FIRST RESPONDER - ENTER FROM NORTHBOUND



FIRE FIRST RESPONDER - EXIT TO NORTHBOUND

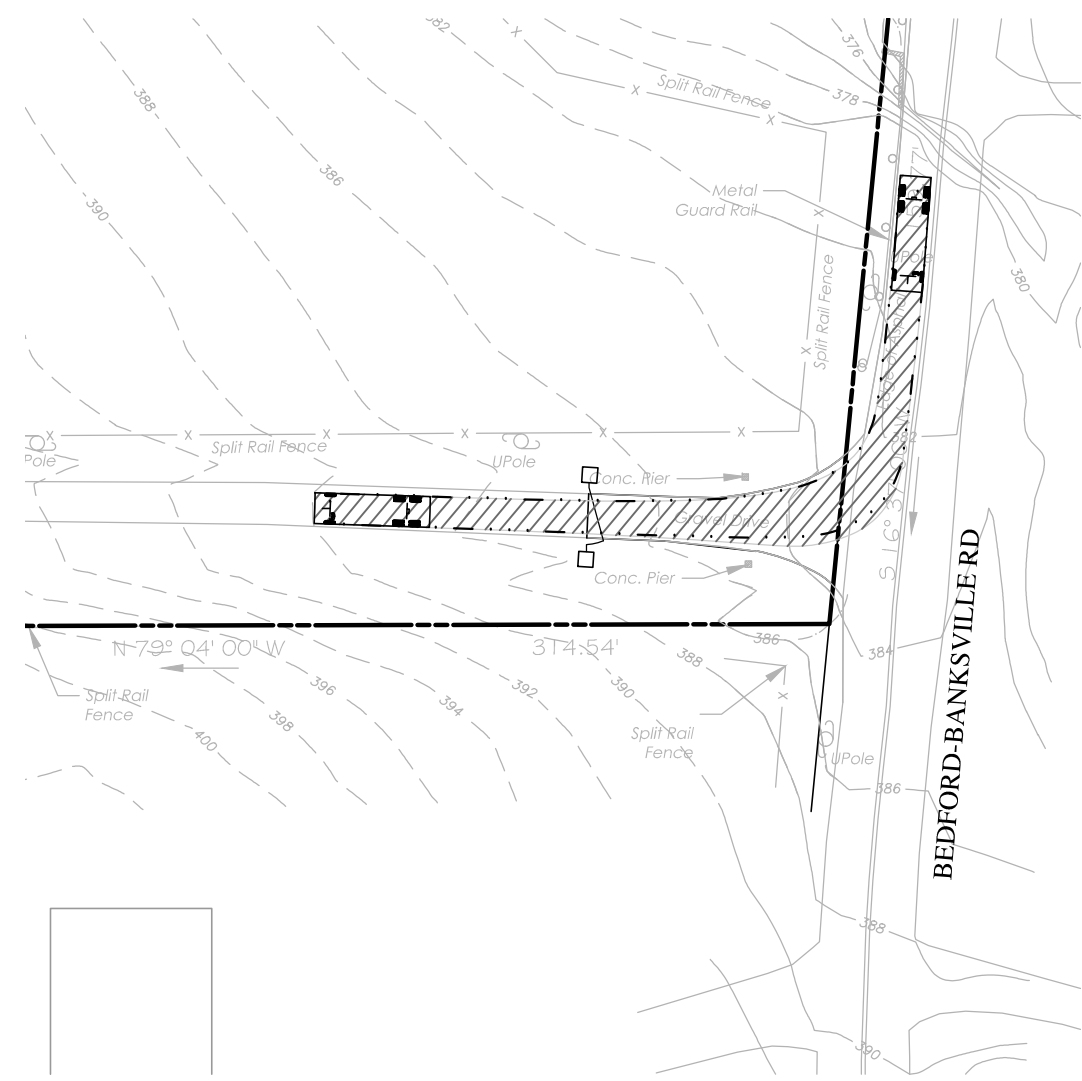


Fire First Responder  
 Width 8.00  
 Track 8.00  
 Lock to Lock Time 6.0  
 Steering Angle 28.5

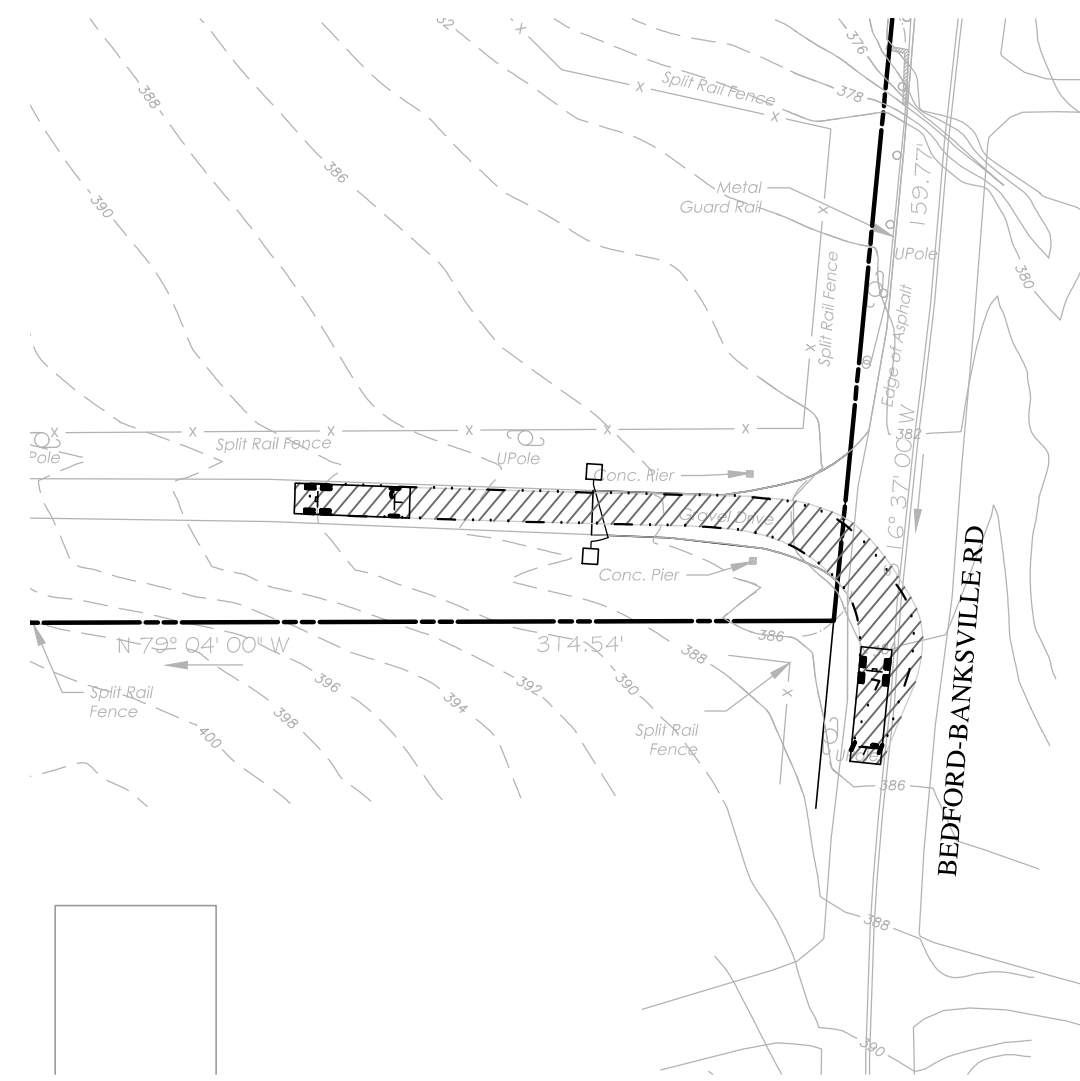


LEGEND

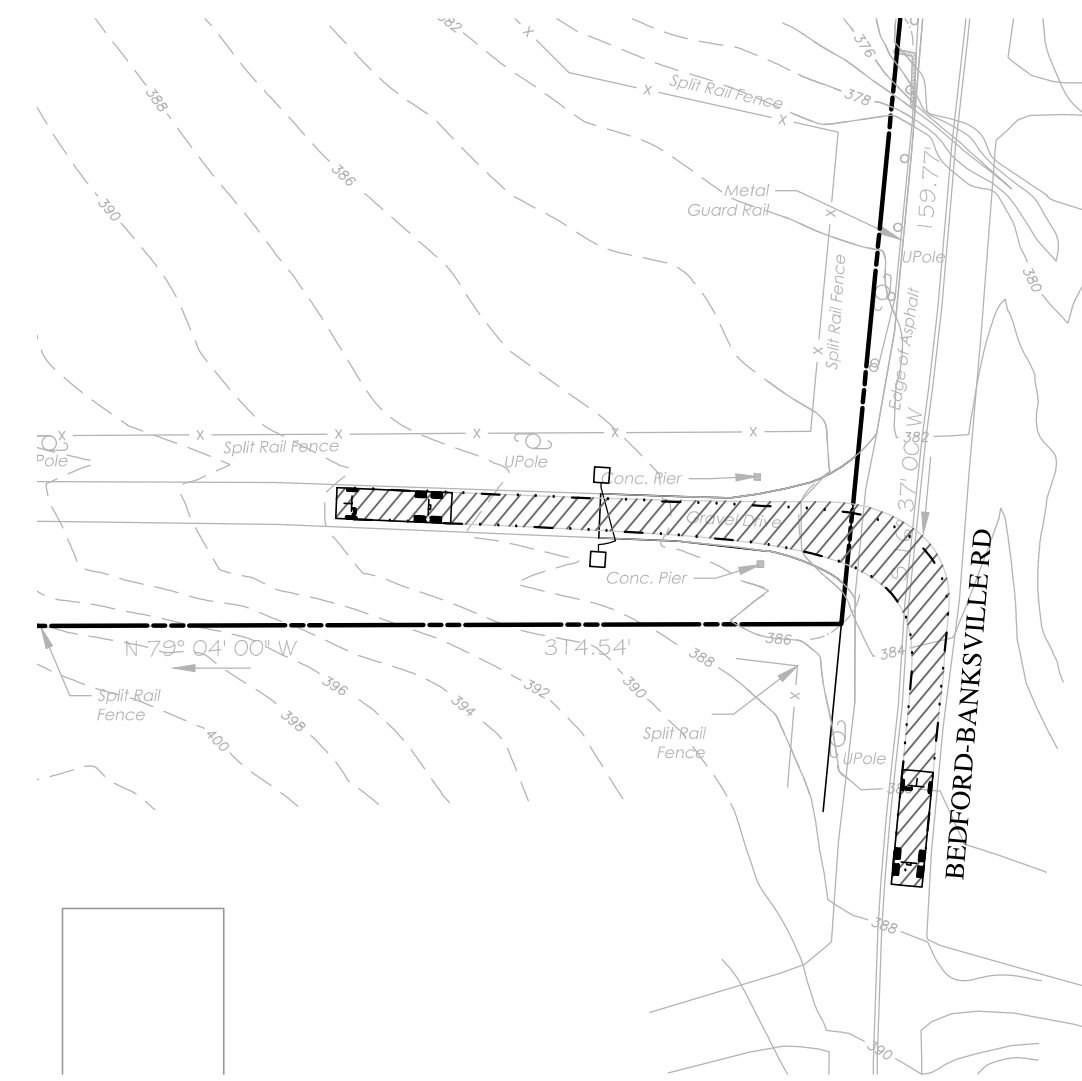
BODY OF VEHICLE  
 OUTSIDE LIMITS OF VEHICLE BODY  
 OUTSIDE TIRE LIMITS



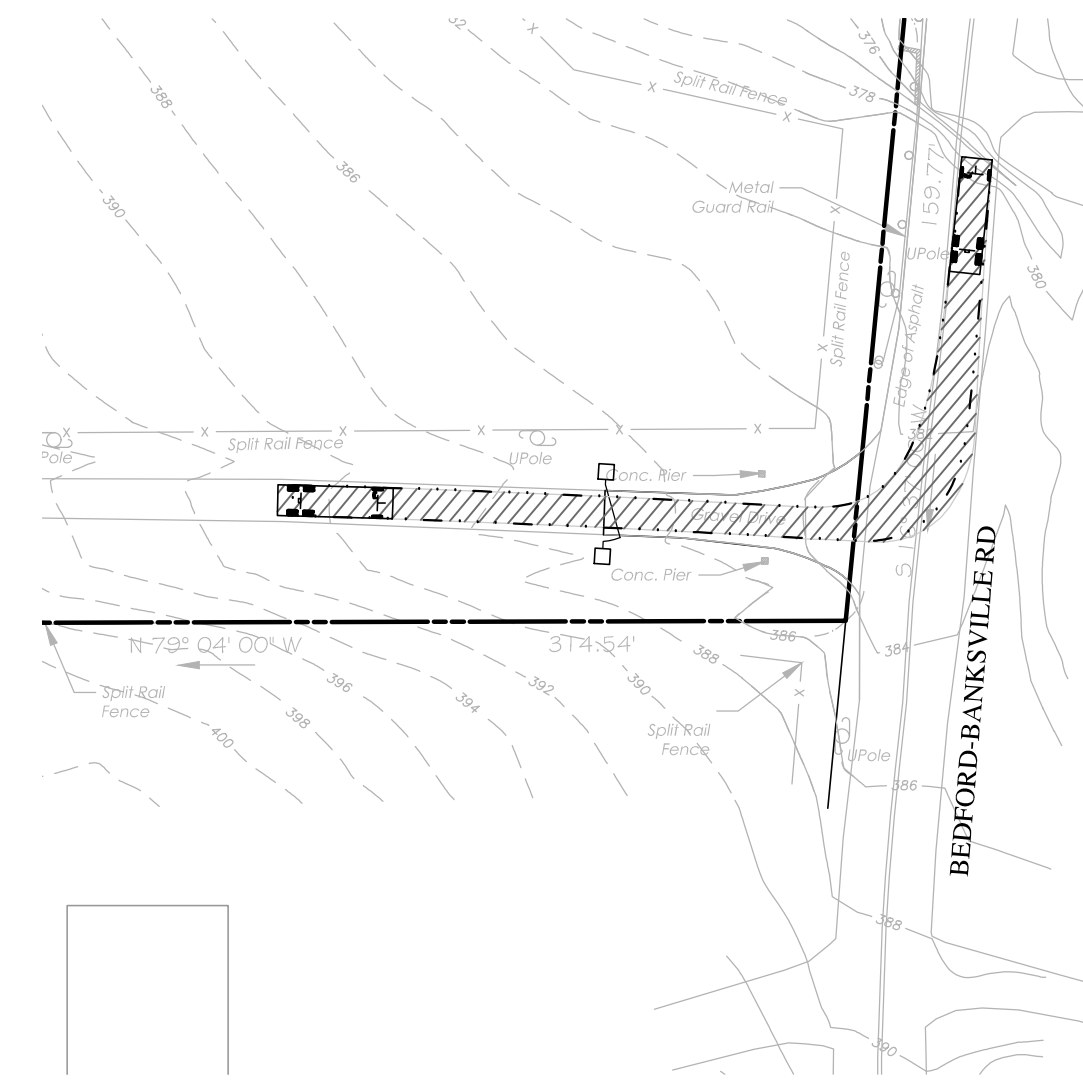
GARBAGE TRUCK - ENTER FROM SOUTHBOUND



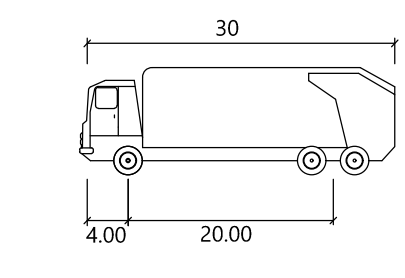
GARBAGE TRUCK - EXIT TO SOUTHBOUND



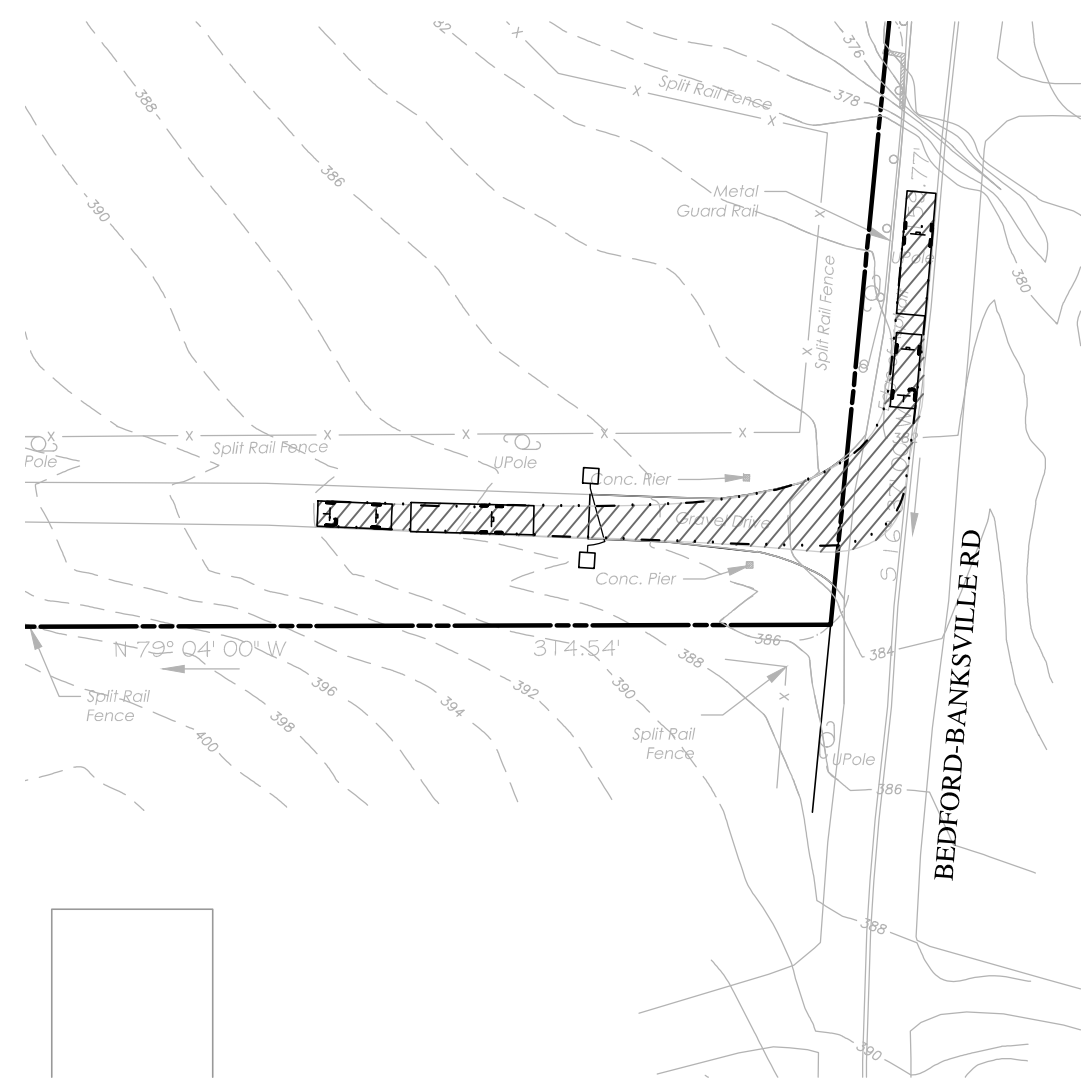
GARBAGE TRUCK - ENTER FROM NORTHBOUND



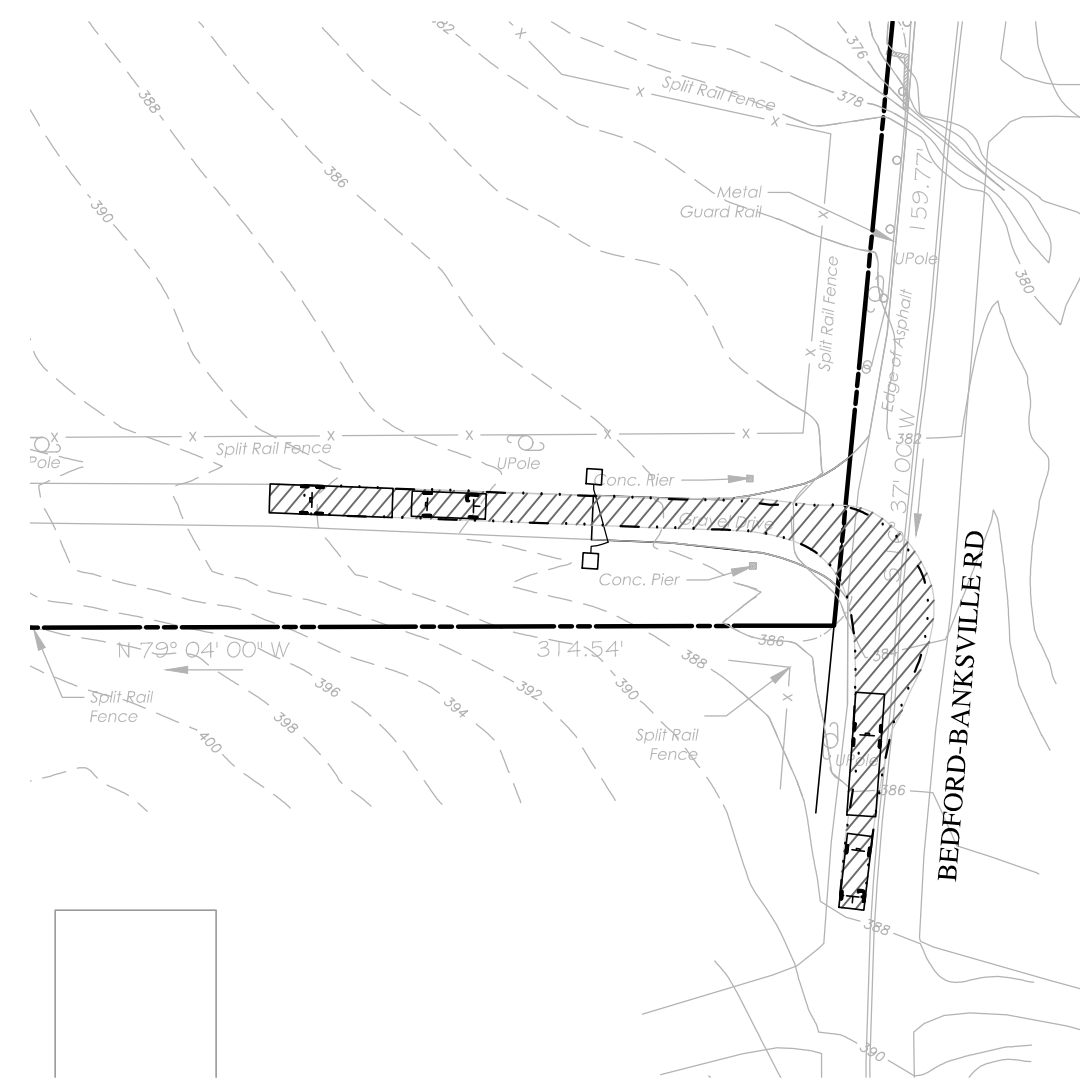
GARBAGE TRUCK - EXIT TO NORTHBOUND



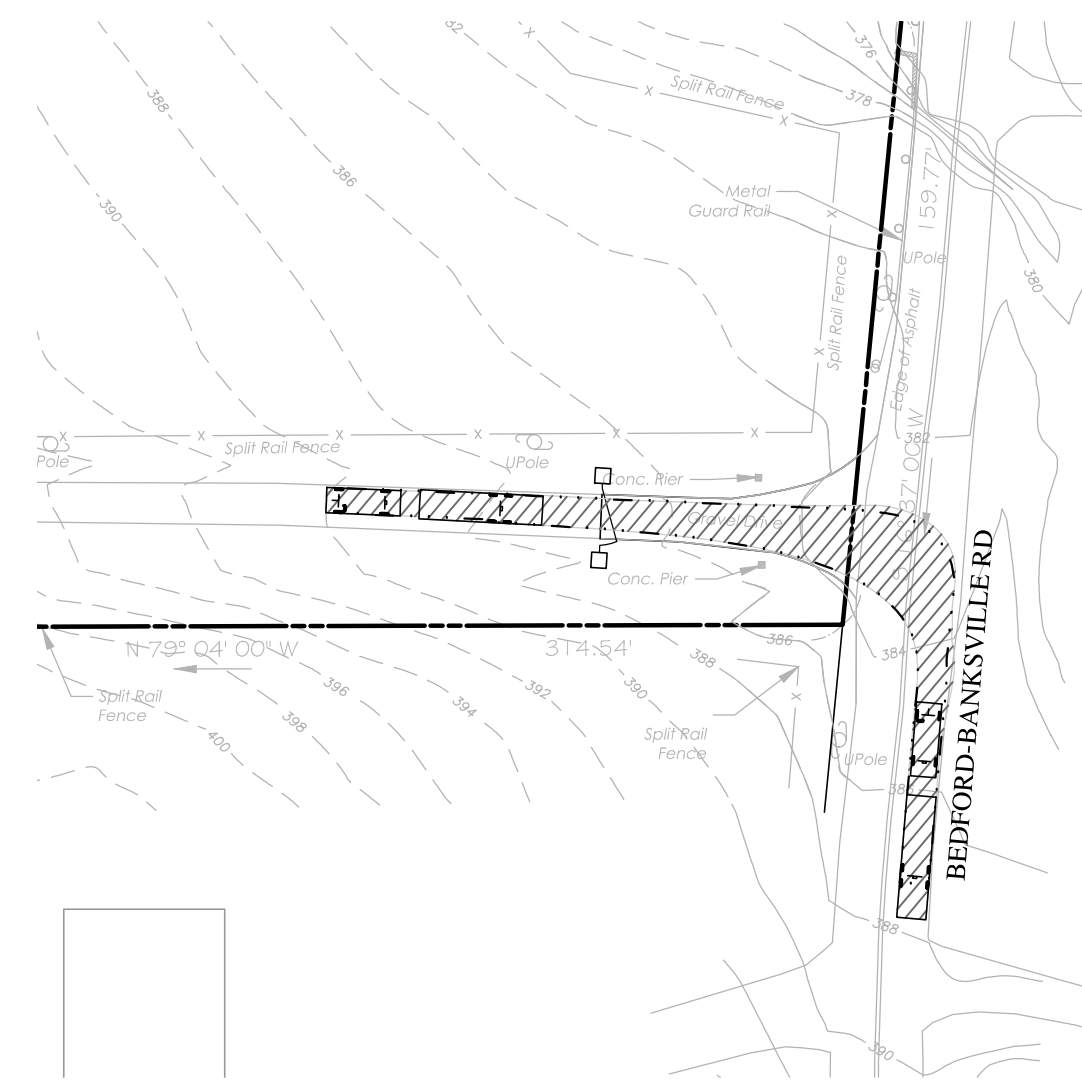
Garbage Truck  
 Width 8.00  
 Track 8.00  
 Lock to Lock Time 6.0  
 Steering Angle 38.5



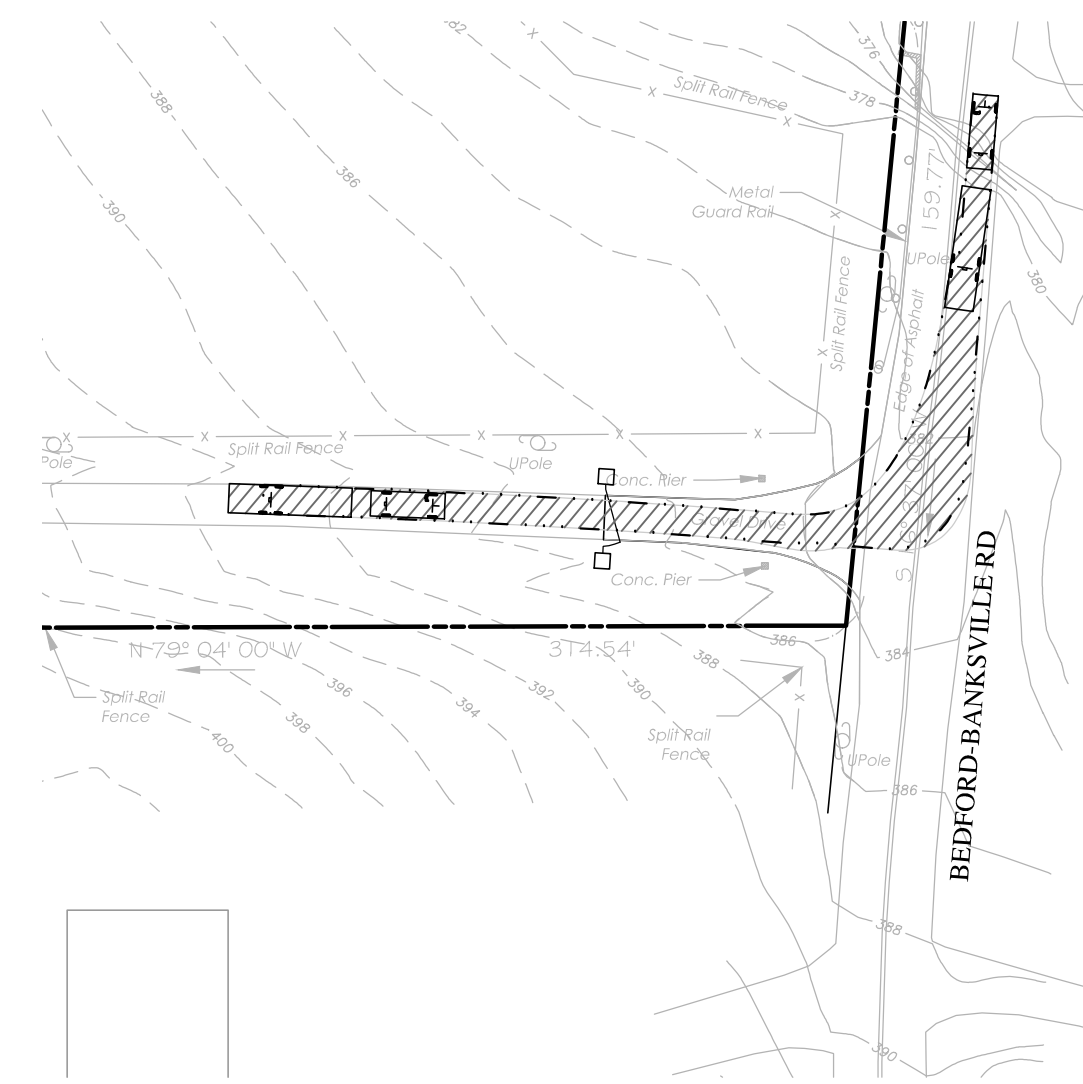
PICKUP TRUCK AND TRAILER - ENTER FROM SOUTHBOUND



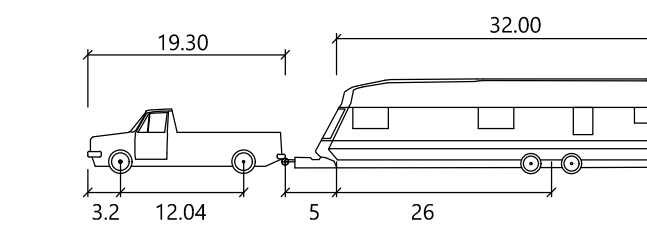
PICKUP TRUCK AND TRAILER - EXIT TO SOUTHBOUND



PICKUP TRUCK AND TRAILER - ENTER FROM NORTHBOUND



PICKUP TRUCK AND TRAILER - EXIT TO NORTHBOUND



Pickup Truck and Trailer  
 Length 56.30  
 Width 7.25  
 Track Width 7.25  
 Lock-to-lock time 4.0  
 Curb to Curb Turning Radius 23.5

REV. NO.	DATE	REVISION DESCRIPTION
4	10/18/2023	REVISE PER TOWN ENG. COMMENTS ON 2/24/23
0	2/10/2023	INITIAL SUBMISSION

**TURNING TEMPLATES & SIGHT DISTANCE PLAN**  
 DEPICTING  
**263 BEDFORD BANKSVILLE ROAD**  
 BEDFORD, NY (NORTH CASTLE MUNICIPALITY)  
 PREPARED FOR  
**MARENGO FARMS LLC**

DATE: 10/18/2023  
 JOB NO. 179  
 SCALE: 0 50 100  
 1" = 50'

To my knowledge and belief this map is substantially correct as noted hereon

DATE

**DIMARZO & BEREZKY**  
 191 LLOYD DRIVE  
 FAIRFIELD, CT 06425  
 203.857.4110  
 LAND SURVEYING  
 CIVIL ENGINEERING  
 PERMITTING

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# Average Grade Calculations with Exhibits

## Primary Structure

- **Main House**

## Accessory Structures

- **Pool House**
- **Stable**
- **Addition to Exist. Stable**
- **Garage**

by: DiMarzo & Bereczky, Inc.

**Average Finished Grade Analysis - MAIN HOUSE**  
 263 Bedford Banksville Rd, Bedford (North Castle), NY

Wall Segment	Elevation (lowest within 6ft of building)	Length (ft)	Length x Elevation
A	433.9	34.8	15099.7
B	434.6	13.4	5823.6
C	433.9	22.4	9719.4
D	433.9	12.9	5597.3
E	433.4	38.0	16469.2
F	431.0	34.0	14654.0
G	432.0	53.8	23241.6
H	433.5	30.5	13221.8
I	434.3	20.4	8859.7
J	434.5	35.0	15207.5
K	434.5	62.2	27025.9
L	432.0	12.9	5572.8
M	428.5	17.4	7455.9
N	428.5	20.8	8912.8
Totals		408.5	176861.2
<b>AVERAGE FINISHED GRADE ELEVATION</b>			<b>433.0</b>

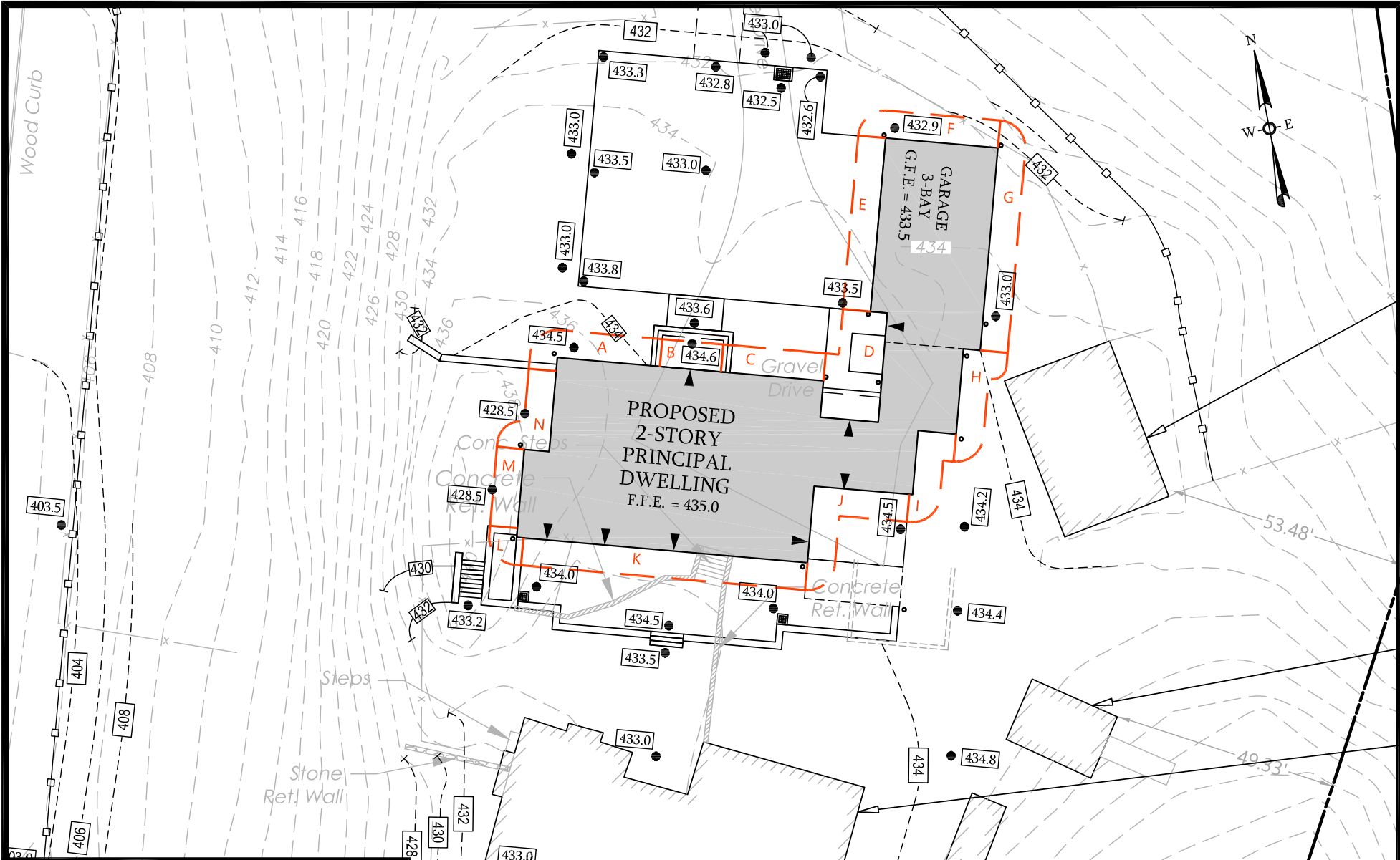
Note: Average Finished Grade Analysis is based on proposed topography as depicted on a plan titled "Average Finished Grade Exhibit depicting Main House at 263 Bedford Banksville Rd, Bedford (North Castle), NY" dated 2/10/2023.

By: *Karl H. Weed*  
 Karl H. Weed, NY P.E. #075695

02/10/2023

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LAND SURVEYING  
CIVIL ENGINEERING  
PERMITTING

**AVERAGE FINISHED GRADE EXHIBIT**

DEPICTING

**MAIN HOUSE at 263 BEDFORD BANKSVILLE RD  
BEDFORD (NORTH CASTLE), NY**



DATE: 2/10/2023

**Average Finished Grade Analysis - POOL HOUSE**  
 263 Bedford Banksville Rd, Bedford (North Castle), NY

Wall Segment	Elevation (lowest within 6ft of building)	Length (ft)	Length x Elevation
A	433.8	35.6	15443.3
B	433.5	23.4	10143.9
C	434.0	17.3	7508.2
D	436.5	34.5	15059.3
E	434.0	20.6	8940.4
F	433.5	22.3	9667.1
Totals		153.7	66762.1
<b>AVERAGE FINISHED GRADE ELEVATION</b>			<b>434.4</b>

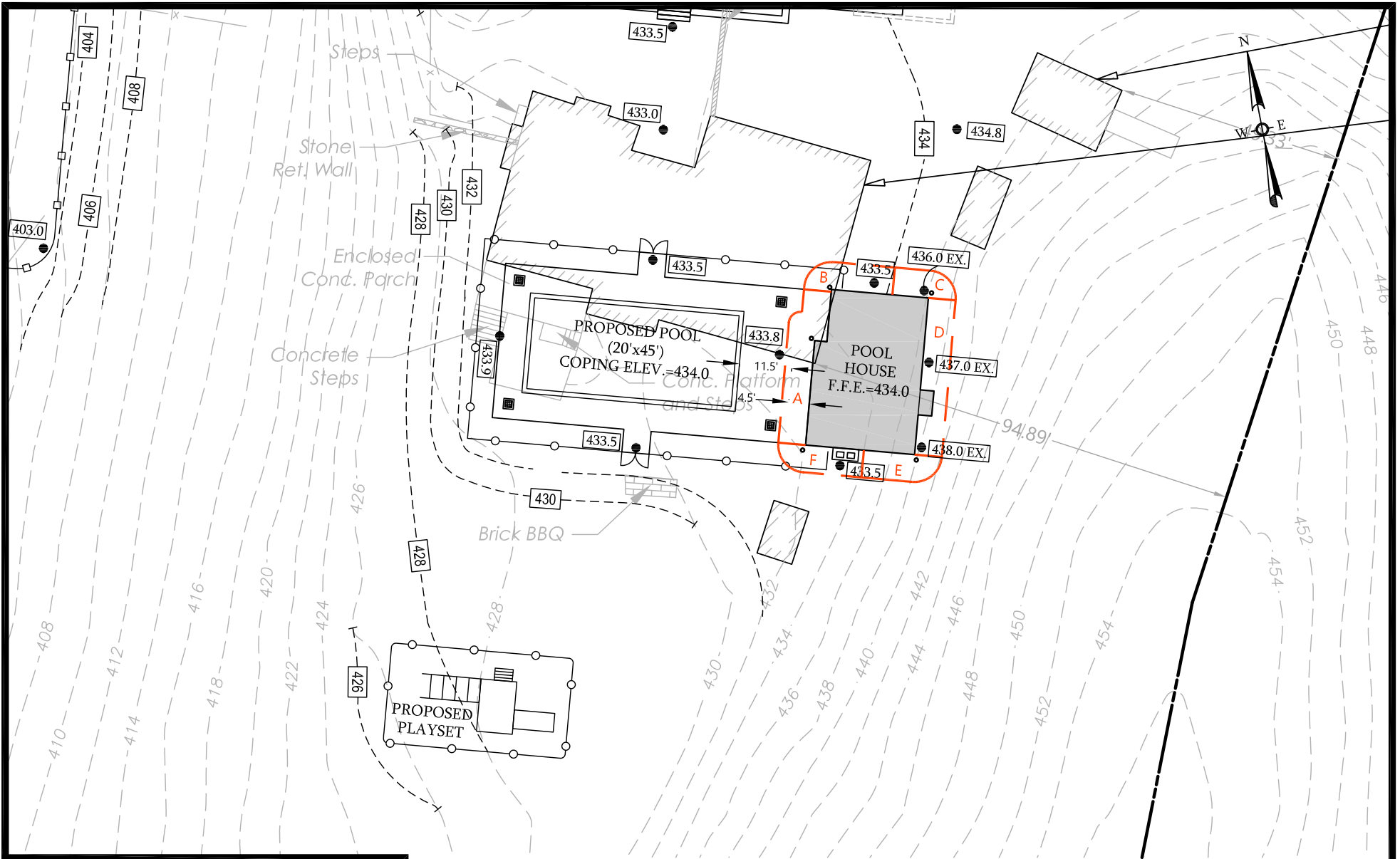
Note: Average Finished Grade Analysis is based on proposed topography as depicted on a plan titled "Average Finished Grade Exhibit depicting Main House at 263 Bedford Banksville Rd, Bedford (North Castle), NY" dated 2/10/2023.

By: *Karl H. Weed*  
 Karl H. Weed, NY P.E. #075695

Date: 2/10/2023

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**AVERAGE FINISHED GRADE EXHIBIT**

DEPICTING

**POOL HOUSE at 263 BEDFORD BANKSVILLE RD  
BEDFORD (NORTH CASTLE), NY**

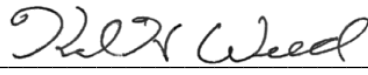


DATE: 2/10/2023

**Average Finished Grade Analysis - BARN of STALLS**  
 263 Bedford Banksville Rd, Bedford (North Castle), NY

Wall Segment	Elevation (lowest within 6ft of building)	Length (ft)	Length x Elevation
A	406.4	36.0	14630.4
B	406.2	27.4	11129.9
C	406.2	18.0	7311.6
D	406.2	54.8	22259.8
E	406.4	18.0	7315.2
F	406.4	18.0	7315.2
G	406.2	54.8	22259.8
H	406.2	18.0	7311.6
I	406.3	18.0	7313.4
J	406.2	54.8	22259.8
K	406.3	18.0	7313.4
L	406.0	27.4	11124.4
Totals		363.2	147544.4
<b>AVERAGE FINISHED GRADE ELEVATION</b>			<b>406.2</b>

Note: Average Finished Grade Analysis is based on proposed topography as depicted on a plan titled "Average Finished Grade Exhibit depicting Main House at 263 Bedford Banksville Rd, Bedford (North Castle), NY" dated 2/10/2023.

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 Karl H. Weed, NY P.E. #075695

Date: 2/10/2023

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**Average Finished Grade Analysis - INDOOR RIDING**  
 263 Bedford Banksville Rd, Bedford (North Castle), NY

Wall Segment	Elevation (lowest within 6ft of building)	Length (ft)	Length x Elevation
A	402.1	169.8	68276.6
B	402.1	80.8	32489.7
C	402.2	32.4	13031.3
D	402.2	128.6	51722.9
E	403.8	31.5	12719.7
F	403.2	88.9	35844.5
G	403.2	33.9	13668.5
Totals		565.9	227753.1
<b>AVERAGE FINISHED GRADE ELEVATION</b>			<b>402.5</b>

Note: Average Finished Grade Analysis is based on proposed topography as depicted on a plan titled "Average Finished Grade Exhibit depicting Main House at 263 Bedford Banksville Rd, Bedford (North Castle), NY" dated 2/10/2023.

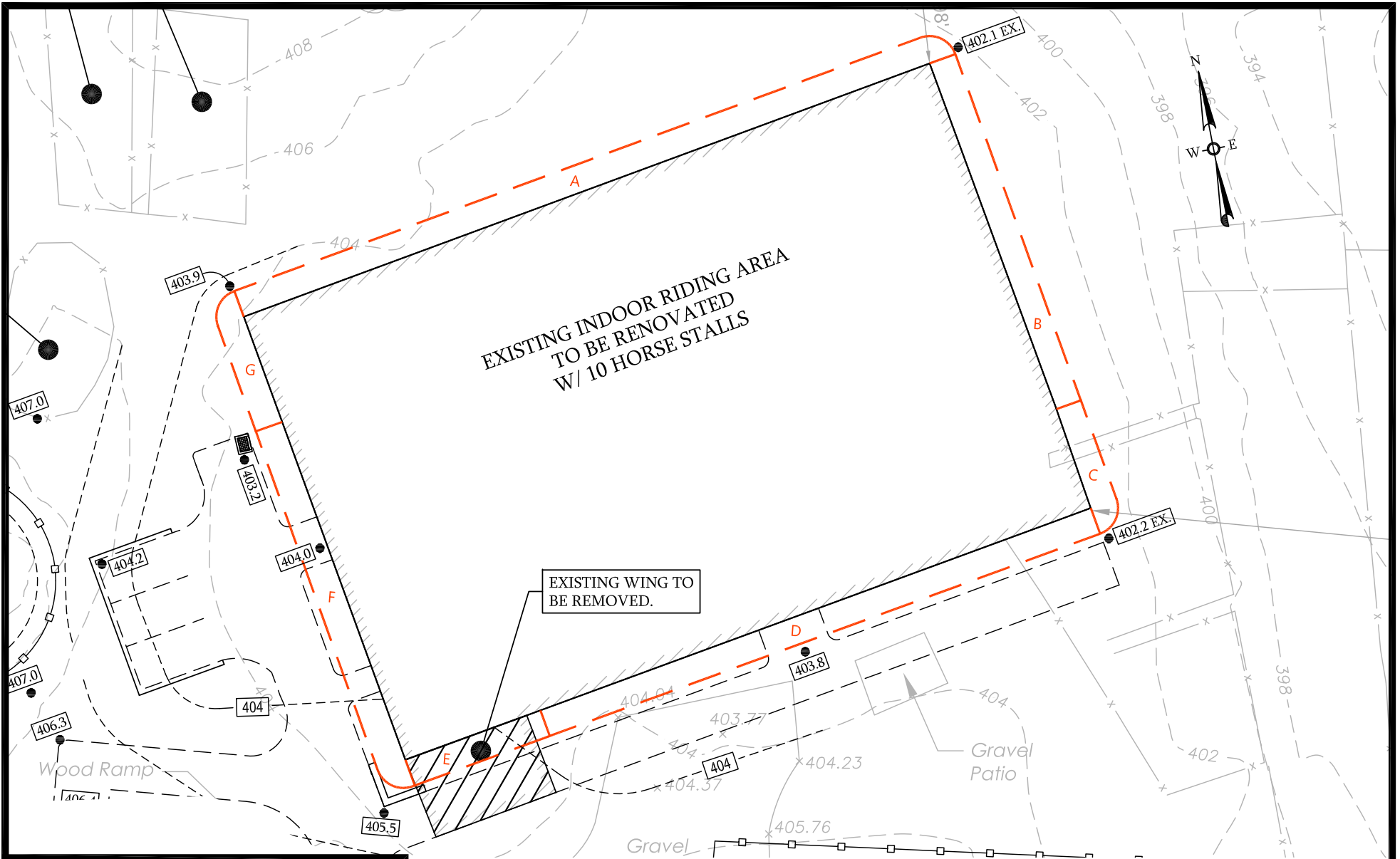
By:   
 Karl H. Weed, NY P.E. #075695

Date: 2/10/2023

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BERECKKY**

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203.857.4110

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PERMITTING

**AVERAGE FINISHED GRADE EXHIBIT**

DEPICTING

**INDOOR RIDING AREA at 263 BEDFORD BANKSVILLE RD  
BEDFORD (NORTH CASTLE), NY**




DATE: 2/10/2023

**Average Finished Grade Analysis - GROOMS QUARTERS**  
 263 Bedford Banksville Rd, Bedford (North Castle), NY

Wall Segment	Elevation (lowest within 6ft of building)	Length (ft)	Length x Elevation
A	406.8	41.4	16841.5
B	406.9	10.9	4435.2
C	412.5	33.4	13777.5
D	411.0	48.0	19728.0
E	409.0	25.1	10265.9
F	406.7	22.8	9272.8
Totals		181.6	74320.9
<b>AVERAGE FINISHED GRADE ELEVATION</b>			<b>409.3</b>

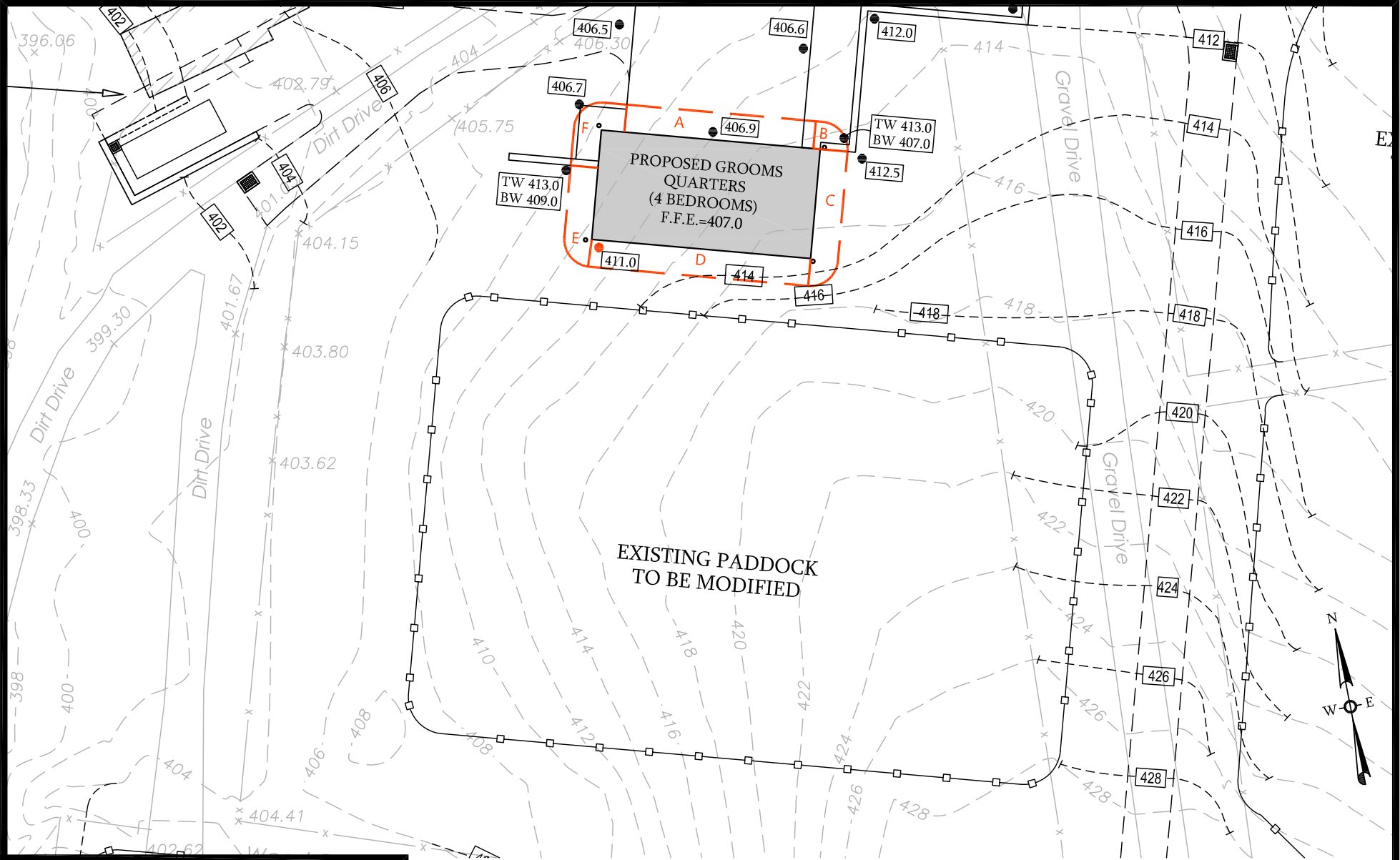
Note: Average Finished Grade Analysis is based on proposed topography as depicted on a plan titled "Average Finished Grade Exhibit depicting Main House at 263 Bedford Banksville Rd, Bedford (North Castle), NY" dated 2/10/2023.

By:   
 Karl H. Weed, NY P.E. #075695

Date: 2/10/2023

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**AVERAGE FINISHED GRADE EXHIBIT**

DEPICTING

**GROOMS QUARTERS at 263 BEDFORD BANKSVILLE RD  
BEDFORD (NORTH CASTLE), NY**



DATE: 2/10/2023

# Architectural Plans

Primary Structure

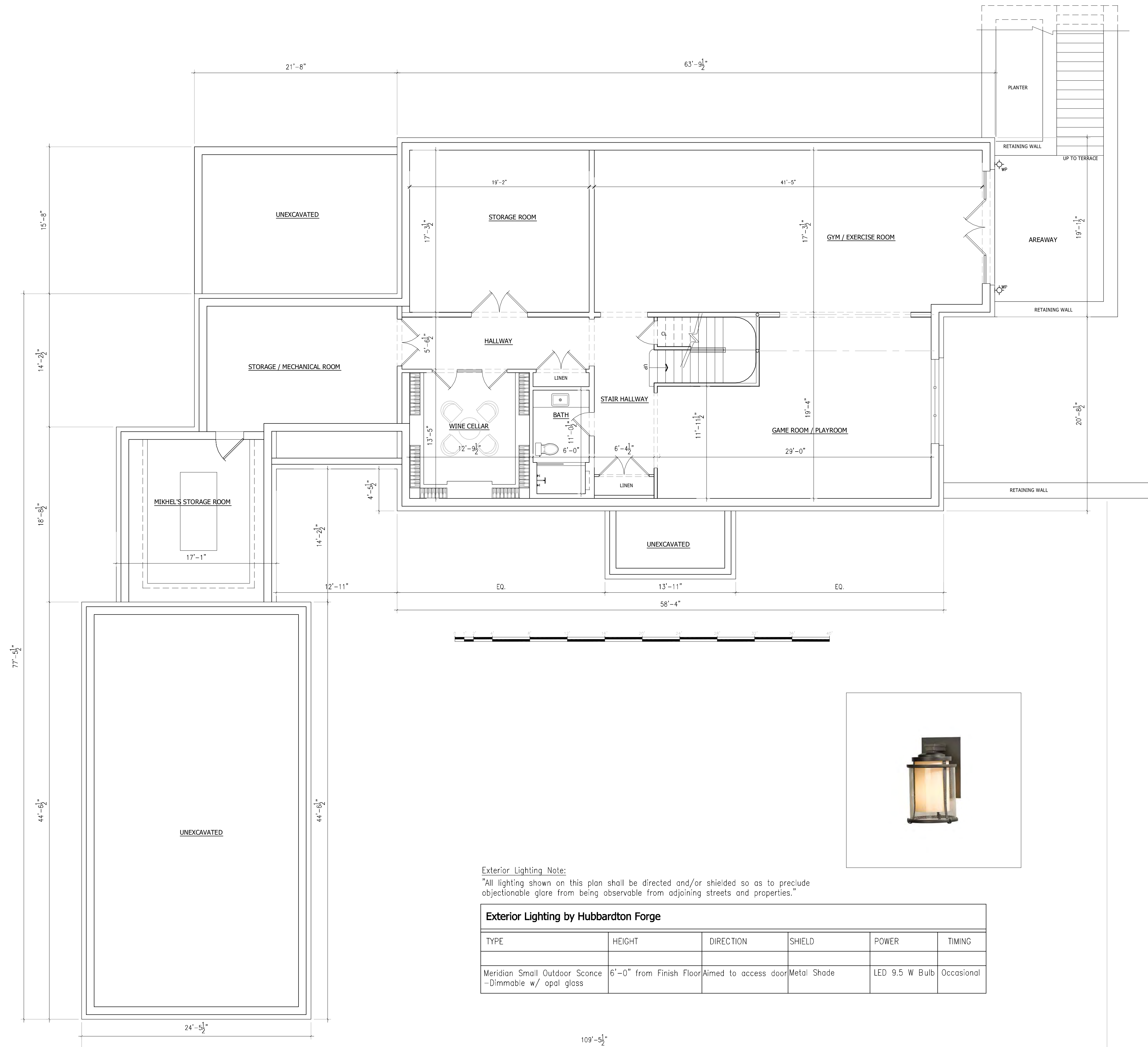
- **Main House**

Accessory Structure

- **Pool House**

by: Teo Següenza, Architect

GENERAL NOTES:  
1. DO NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES  
2. ALL DIMENSIONS TO BE CHECKED  
3. CONTRACTOR IS OBLIGED TO REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT



Exterior Lighting Note:  
"All lighting shown on this plan shall be directed and/or shielded so as to preclude objectionable glare from being observable from adjoining streets and properties."

Exterior Lighting by Hubbardton Forge					
TYPE	HEIGHT	DIRECTION	SHIELD	POWER	TIMING
Meridian Small Outdoor Sconce -Dimmable w/ opal glass	6'-0" from Finish Floor	Aimed to access door	Metal Shade	LED 9.5 W Bulb	Occasional

DATE	REVISION

PROJECT  
SINGLE FAMILY RESIDENCE  
AT BEDFORD-BANKSVILLE RD

263 BEDFORD-BANKSVILLE RD  
ARMONK, NY

DRAWING TITLE  
PROPOSED BASEMENT PLAN



DATE  
2-10-23

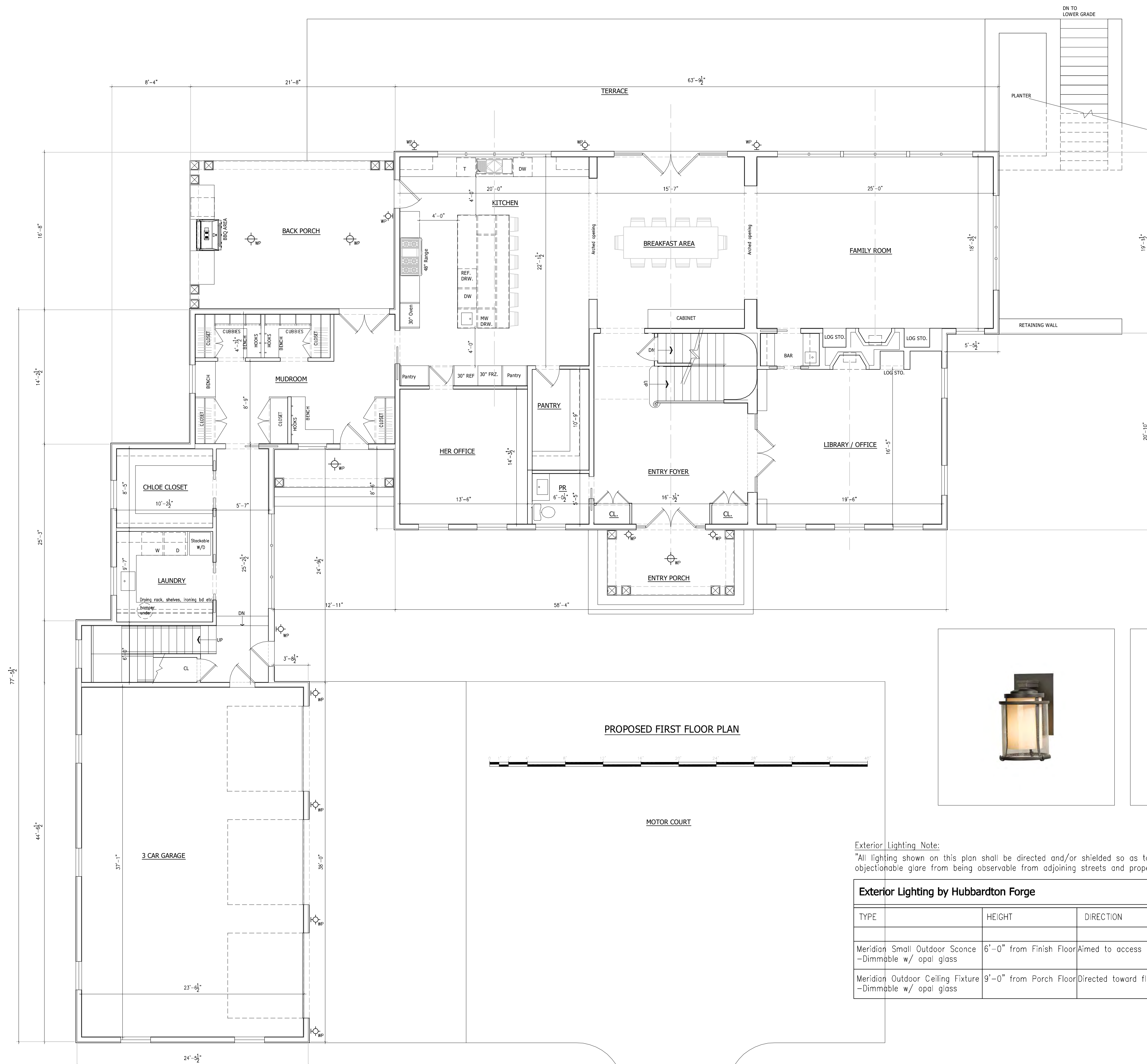
SCALE  
3/16" = 1'-0"

DRAWING NO.

**A100.00**

PAGE NO.

GENERAL NOTES:  
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Exterior Lighting Note:  
"All lighting shown on this plan shall be directed and/or shielded so as to preclude objectionable glare from being observable from adjoining streets and properties."

Exterior Lighting by Hubbardton Forge					
TYPE	HEIGHT	DIRECTION	SHIELD	POWER	TIMING
Meridian Small Outdoor Sconce -Dimmable w/ opal glass	6'-0" from Finish Floor	Aimed to access door	Metal Shade	LED 9.5 W Bulb	Occasional
Meridian Outdoor Ceiling Fixture -Dimmable w/ opal glass	9'-0" from Porch Floor	Directed toward floor	Porch Roof Overhang	LED 9.5 W Bulb	Occasional

DATE:	REVISION

PROJECT  
SINGLE FAMILY RESIDENCE  
AT BEDFORD-BANKSVILLE RD

263 BEDFORD-BANKSVILLE RD  
ARMONK, NY

DRAWING TITLE  
PROPOSED FIRST FLOOR PLAN

SEAL



DATE  
2-10-23

SCALE  
3/16" = 1'-0"

DRAWING NO.

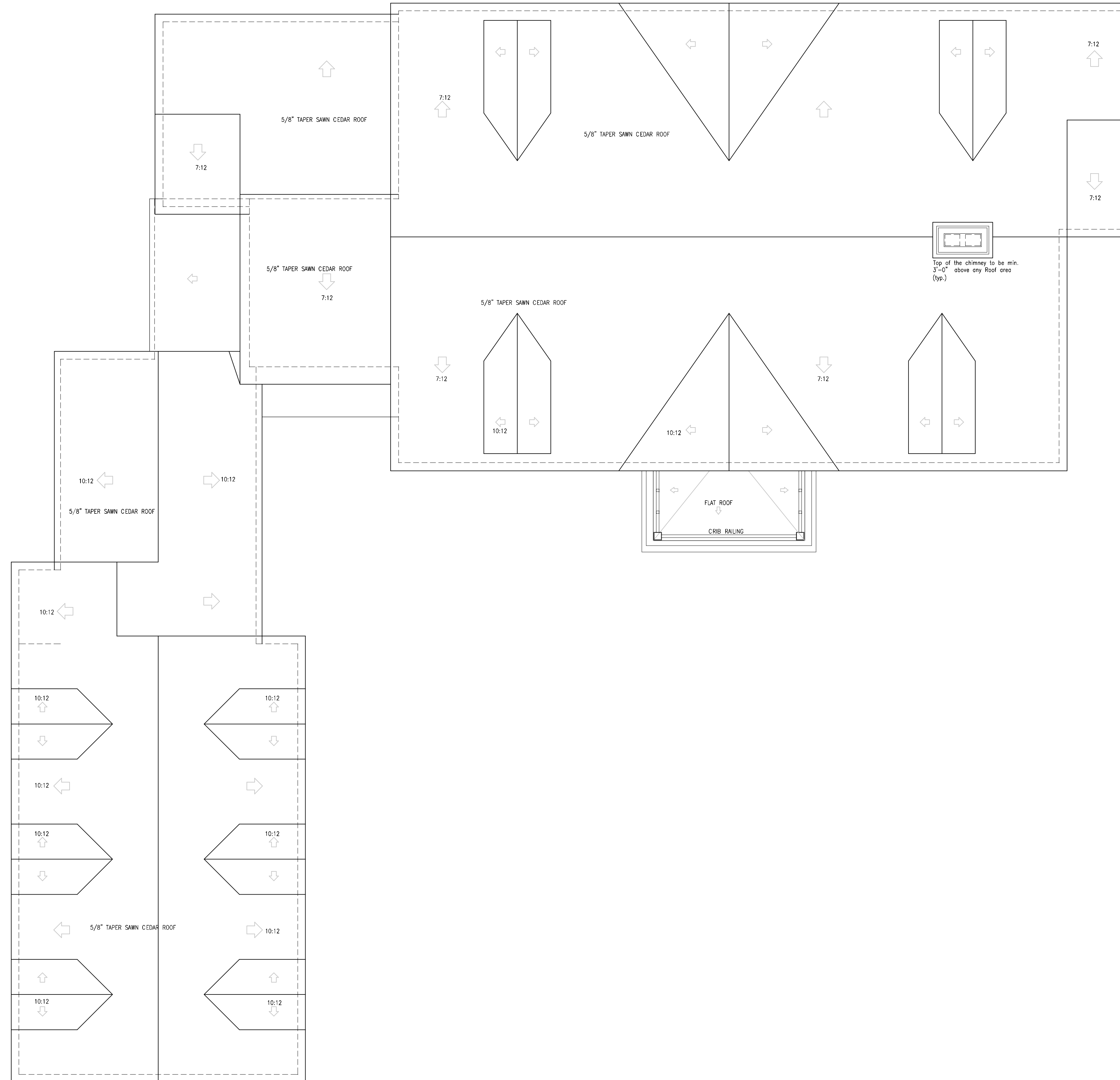
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PAGE NO.





GENERAL NOTES:  
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DATE:	REVISION

PROJECT  
**SINGLE FAMILY RESIDENCE  
 AT BEDFORD-BANKSVILLE RD**

263 BEDFORD-BANKSVILLE RD  
 ARMONK, NY

DRAWING TITLE  
**PROPOSED ROOF PLAN**



DATE  
**2-10-23**

SCALE  
**3/16" = 1'-0"**

DRAWING NO.  
**A103.00**

PAGE NO.



GENERAL NOTES:  
1. DO NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES  
2. ALL DIMENSIONS TO BE CHECKED  
3. CONTRACTOR IS OBLIGED TO REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT



1 PROPOSED FRONT ELEVATION  
Scale: 3/16" = 1'-0"



2 PROPOSED RIGHT SIDE ELEVATION  
Scale: 3/16" = 1'-0"

Material Schedule for Proposed Residence		
MATERIAL	TYPE	COLOR
Siding	Painted Cedar	White
Exterior Doors & Windows	Painted Wood	White
Trim, moulding etc.	Painted Mahogany (alternate composite material)	White
Roofing	5/8" Taper Sawn Shingle Roof and copper	Natural to patina over time
Stone	Fieldstone Veneer	Warm gray
Bracket	Painted mahogany	White
Gutters & Leaders	Copper	
Lightning Protection	Copper	
Chimney Flues	Terracotta Flue Tiles	
Exterior Railing	Painted mahogany	White

DATE	REVISION

PROJECT  
SINGLE FAMILY RESIDENCE  
AT BEDFORD-BANKSVILLE RD

263 BEDFORD-BANKSVILLE RD  
ARMONK, NY

DRAWING TITLE  
PROPOSED EXTERIOR ELEVATIONS

SEAL



DATE  
2-10-23

SCALE  
3/16" = 1'-0"

DRAWING NO.

A200.00

PAGE NO.

GENERAL NOTES:  
1. DO NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES  
2. ALL DIMENSIONS TO BE CHECKED  
3. CONTRACTOR IS OBLIGED TO REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT



1 PROPOSED REAR ELEVATION  
Scale: 3/16" = 1'-0"



2 PROPOSED LEFT SIDE ELEVATION  
Scale: 3/16" = 1'-0"

Material Schedule for Proposed Residence		
MATERIAL	TYPE	COLOR
Siding	Painted Cedar	White
Exterior Doors & Windows	Painted Wood	White
Trim, moulding etc.	Painted Mahogany (alternate composite material)	White
Roofing	5/8" Taper Sawn Shingle Roof and copper	Natural to patina over time
Stone	Fieldstone Veneer	Warm gray
Bracket	Painted mahogany	White
Gutters & Leaders	Copper	
Lightning Protection	Copper	
Chimney Flues	Terracotta Flue Tiles	
Exterior Railing	Painted mahogany	White

DATE:	REVISION

PROJECT  
SINGLE FAMILY RESIDENCE  
AT BEDFORD-BANKSVILLE RD

263 BEDFORD-BANKSVILLE RD  
ARMONK, NY

DRAWING TITLE  
PROPOSED EXTERIOR ELEVATIONS

SEAL



DATE  
2-10-23

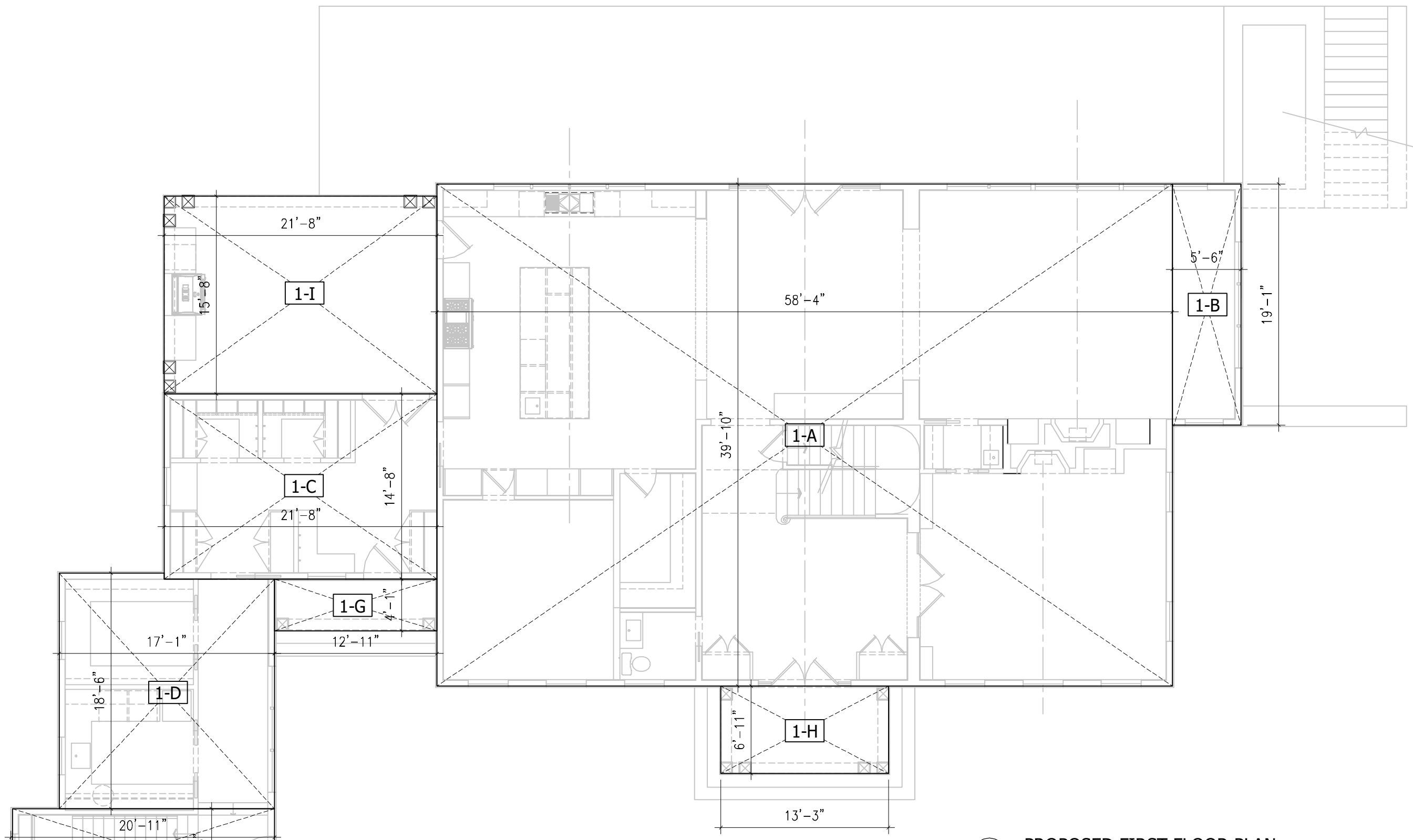
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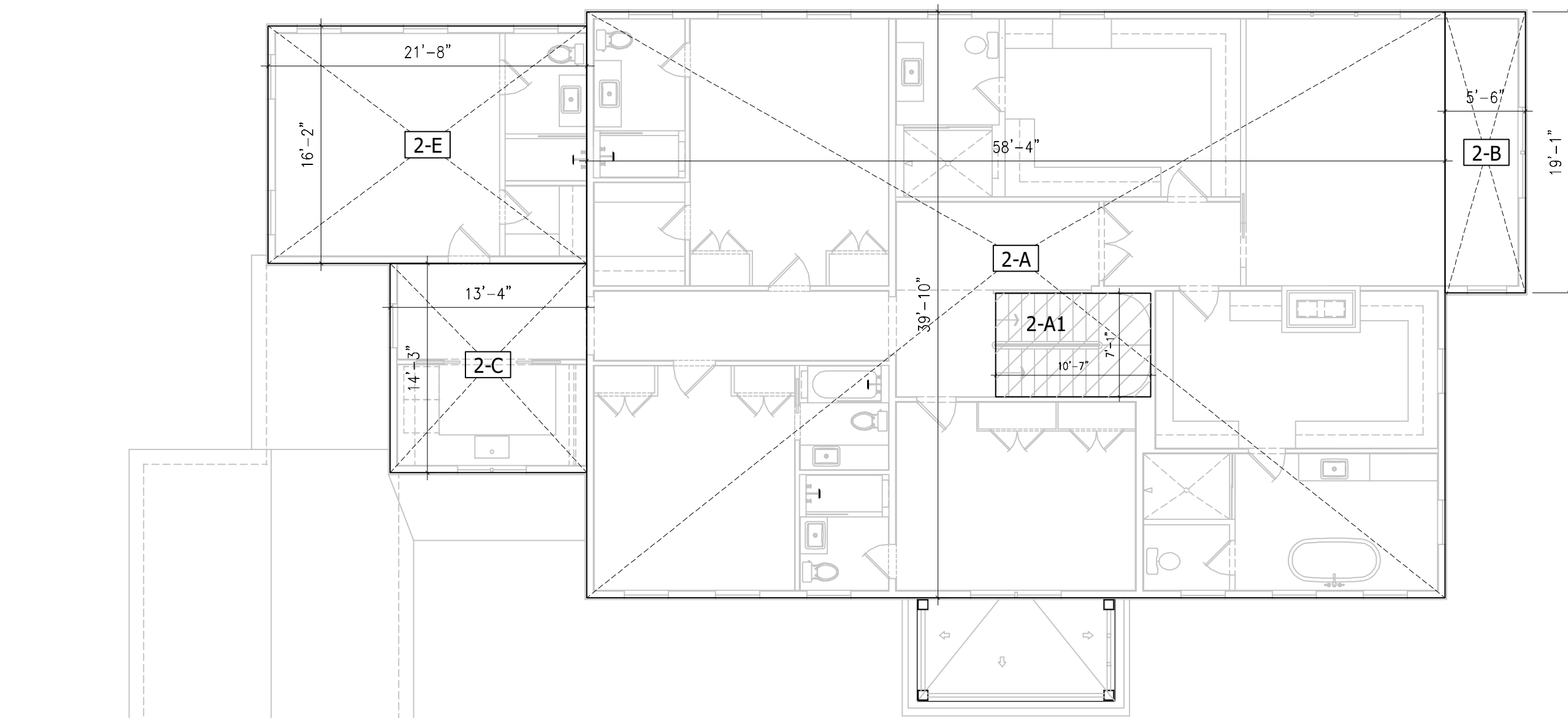
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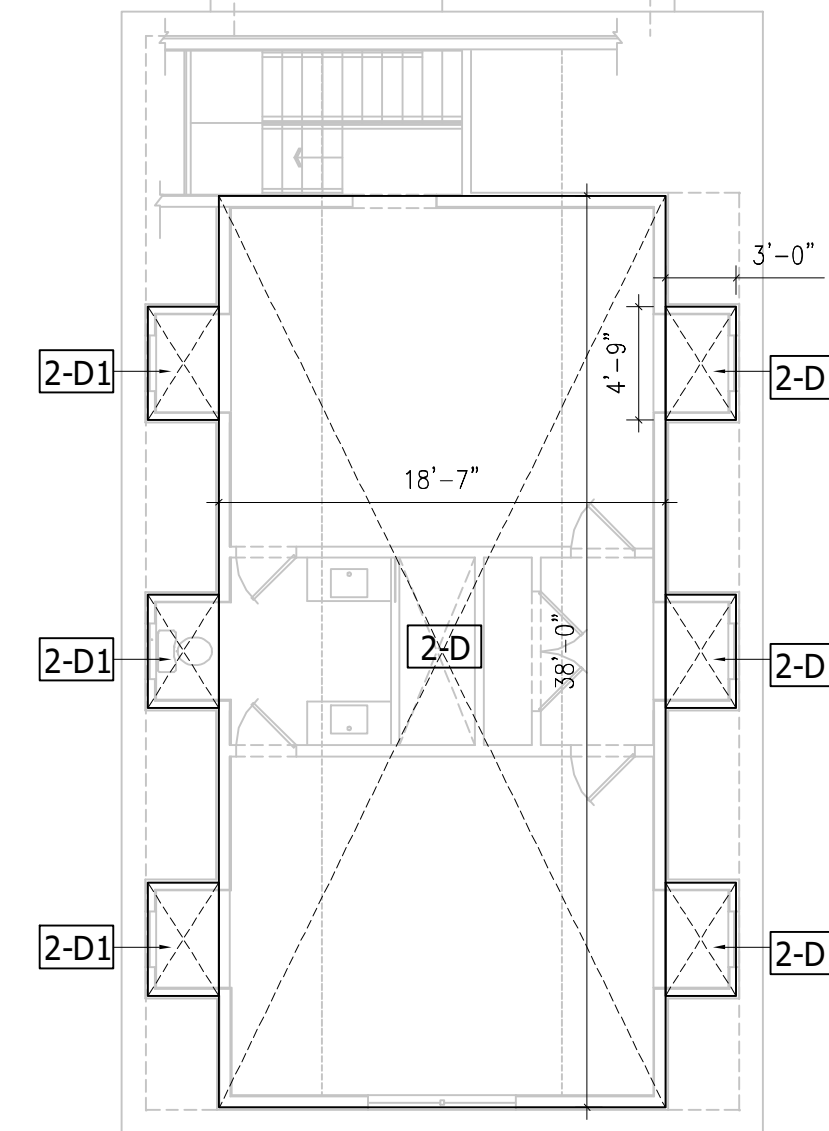


1 PROPOSED FIRST FLOOR PLAN  
Scale: 1/8" = 1'-0"

MAIN HOUSE - 1F		
1-A	58'-4"X39'-10"	2324.0 SF
1-B	5'-6"X19'-1"	105.0 SF
1-C	21'-8"X14'-8"	318.0 SF
1-D	17'-1"X18'-6"	316.0 SF
1-E	20'-11"X6'-6"	136.0 SF
TOTAL OF FIRST FLOOR		3,199 SF
1-F	24'-6"X38'-0"	931.0 SF
TOTAL OF GARAGE		931.0 SF
1-G	12'-11"X4'-1"	53.0 SF
1-H	13'-3"X6'-11"	92.0 SF
1-I	21'-8"X15'-8"	339.0 SF
TOTAL OF PORCHES		484.0 SF



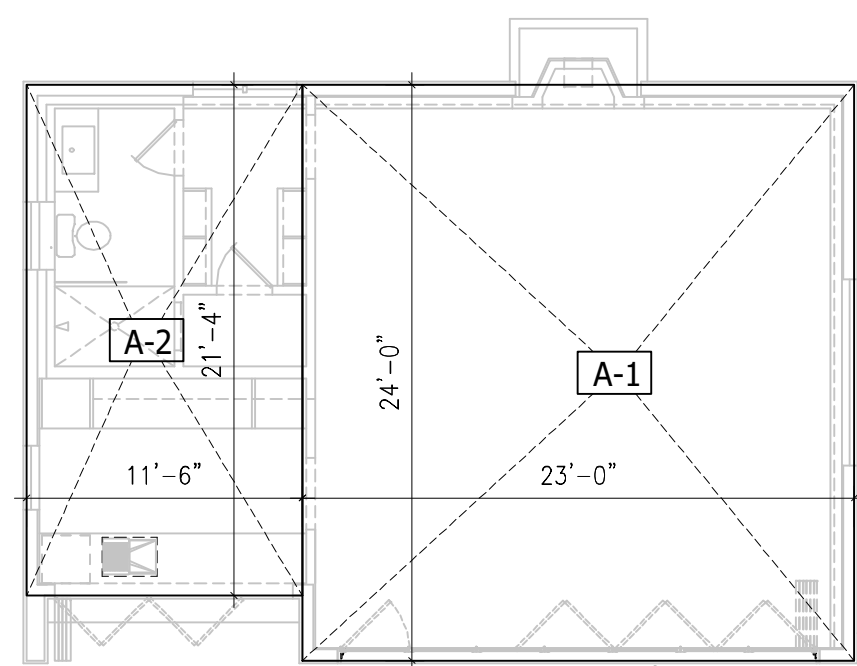
2 PROPOSED SECOND FLOOR PLAN  
Scale: 1/8" = 1'-0"



MAIN HOUSE - 2F		
2-A	58'-4"X39'-10"	2324.0 SF
2-A1 (Stairs)	10'-7"X7'-1"	-75.0 SF
2-B	5'-6"X19'-1"	105.0 SF
2-C	13'-4"X14'-3"	190.0 SF
2-D	18'-7"X38'-0"	706.0 SF
2-D1 (6)	3'-0"X4'-9"	84.0 SF
2-E	21'-8"X16'-2"	350.0 SF
TOTAL OF FIRST FLOOR		3,684.0 SF

TOTAL FLOOR AREA CALCULATION

MAIN HOUSE 1F	3,199.0 SF
MAIN HOUSE 2F	3,684.0 SF
GARAGE	931.0 SF
PORCHES	484.0 SF
POOL HOUSE	797.0 SF
TOTAL	9,095.0 SF



3 PROPOSED POOL HOUSE PLAN  
Scale: 1/8" = 1'-0"

POOL HOUSE		
A-1	23'-0"X24'-0"	552.0 SF
A-2	11'-6"X21'-4"	245.0 SF
TOTAL OF POOL HOUSE		797.0 SF

DATE:	REVISION

PROJECT  
SINGLE FAMILY RESIDENCE  
AT BEDFORD-BANKSVILLE RD

263 BEDFORD-BANKSVILLE RD  
ARMONK, NY

DRAWING TITLE  
FLOOR AREA CALCULATION

SEAL



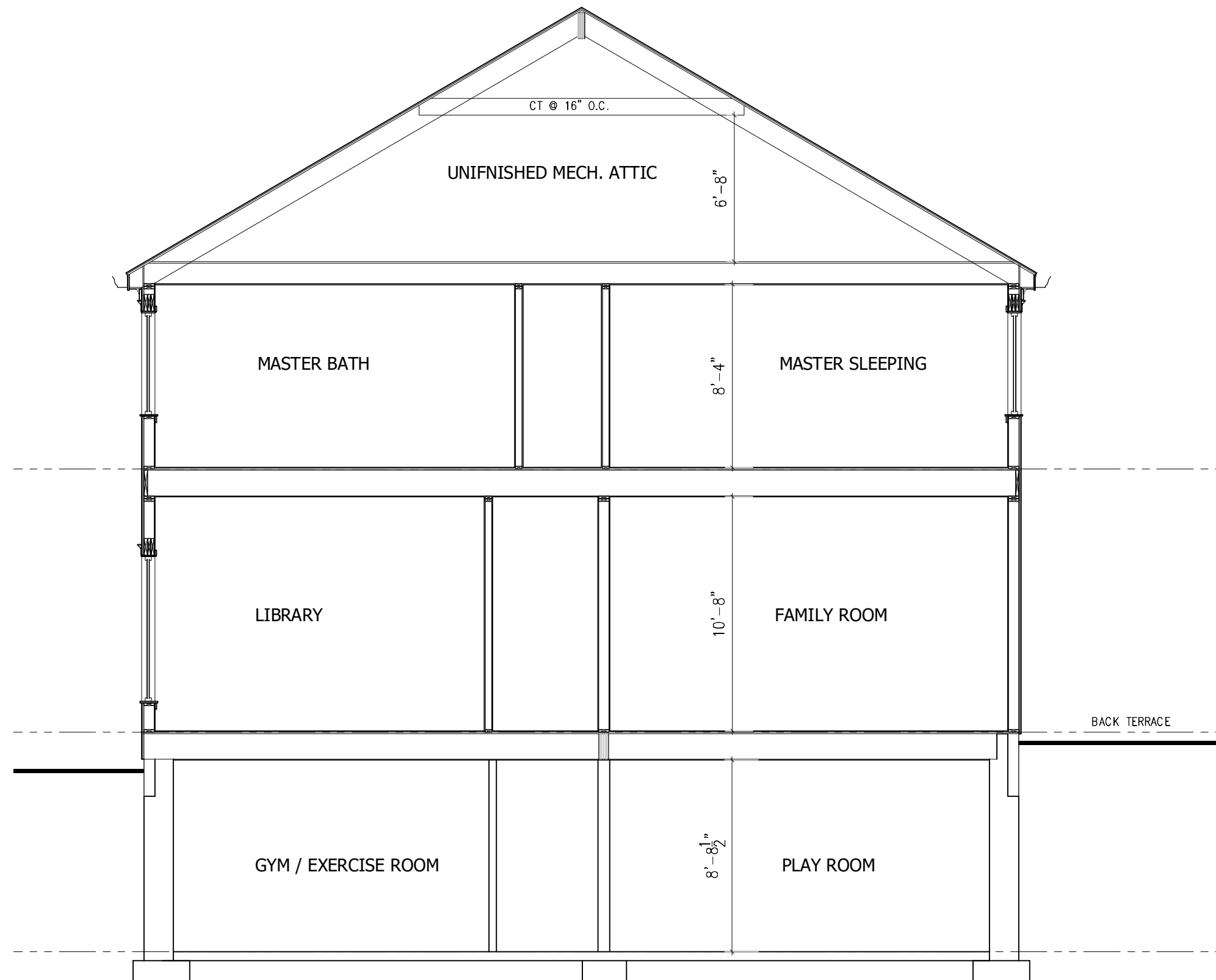
DATE  
2-10-23

SCALE  
1/8" = 1'-0"

DRAWING NO.

A101.10

PAGE NO.



PROPOSED SECTION  
3/16" = 1'-0"



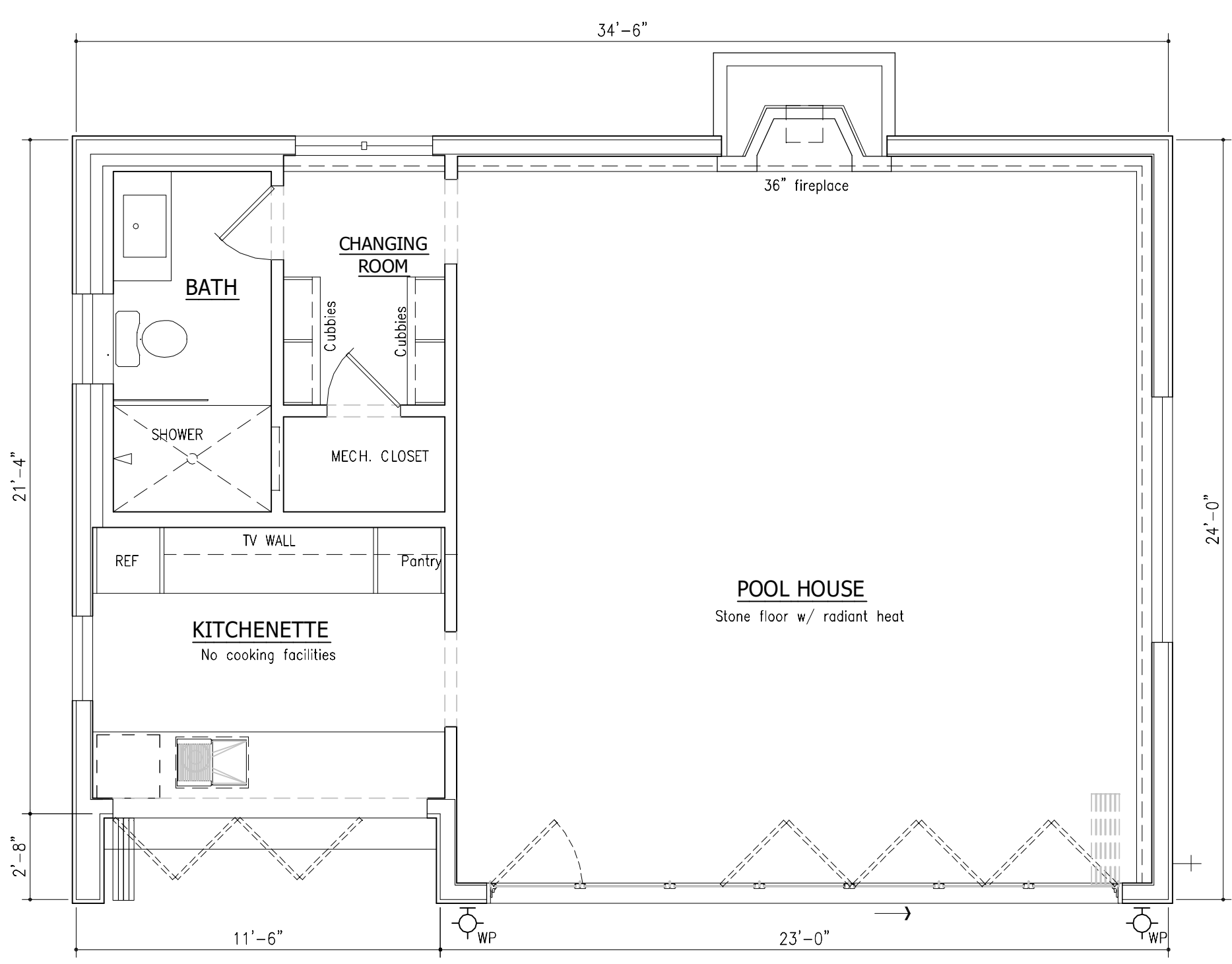
263 BEDFORD BANKSVILLE ROAD  
SINGLE FAMILY RESIDENCE  
ARMONK, NY

TEO SIGÜENZA  
ARCHITECT  
460 OLD POST ROAD 2A BEDFORD, N. Y. 10506  
TEL: 914.234.6289 FAX: 914.234.0619  
www.teosiguenza.com



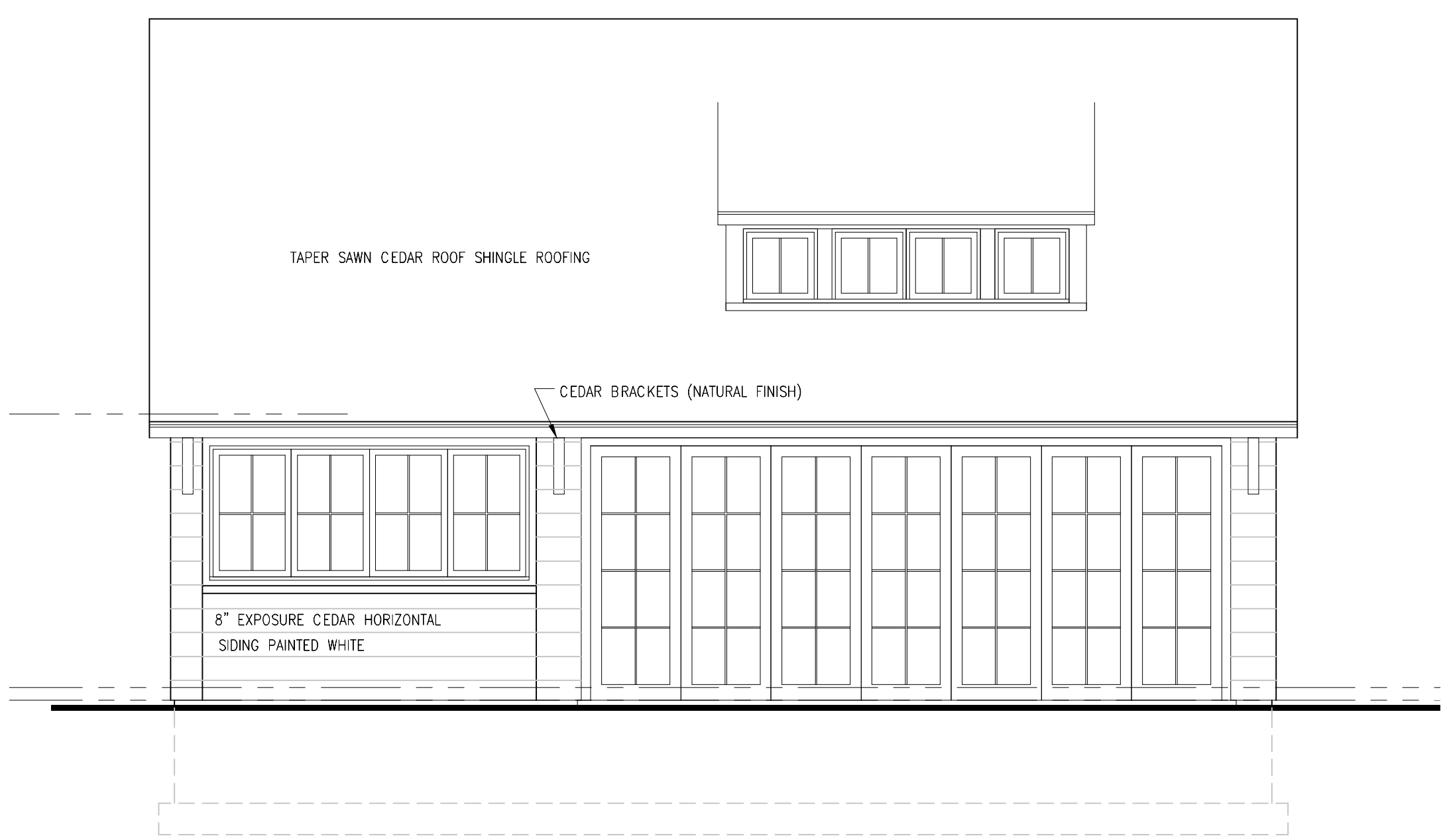
GENERAL NOTES:  
1. DO NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES  
2. ALL DIMENSIONS TO BE CHECKED  
3. CONTRACTOR IS OBLIGED TO REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT

Material Schedule for Proposed Residence		
MATERIAL	TYPE	COLOR
Siding	Painted Cedar	White
Exterior Doors & Windows	Painted Wood	White
Trim, moulding etc.	Painted cedar (alternate composite material)	White
Roofing	5/8" Taper Sawn Shingle Roof and copper	Natural to patina over time
Bracket	Cedar	Natural
Gutters & Leaders	Copper	
Chimney Flues	Terracotta Flue Tiles	



**1 PROPOSED FIRST FLOOR PLAN**  
Scale: 1/4" = 1'-0"

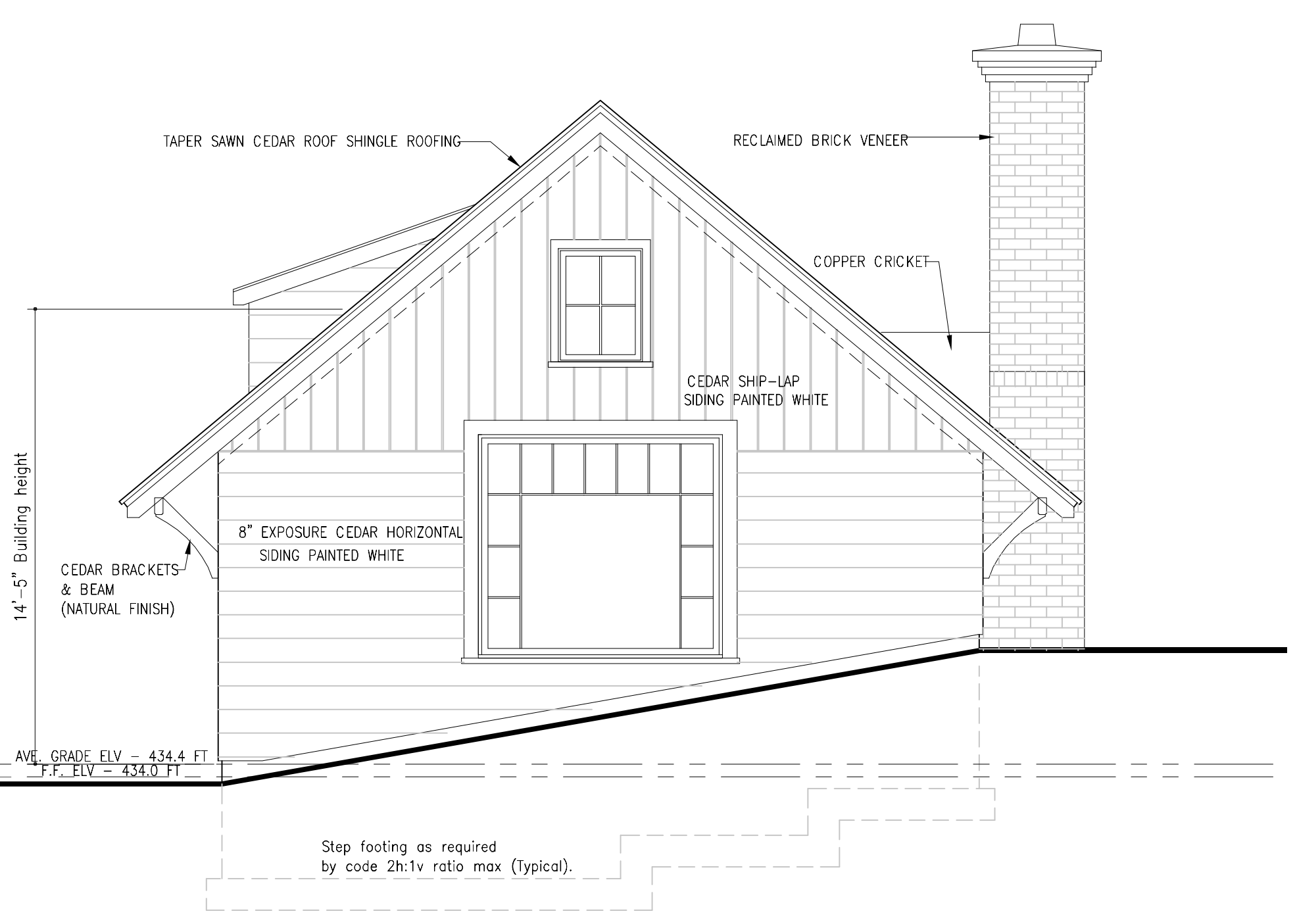
MAIN HOUSE 1F	3,199.0 SF
MAIN HOUSE 2F	3,684.0 SF
TOTAL GROSS FLOOR AREA OF MAIN HOUSE	6,883.0 SF
25% OF GFA	1720.75 SF
POOL HOUSE GFA	797 SF < 1720.75 SF



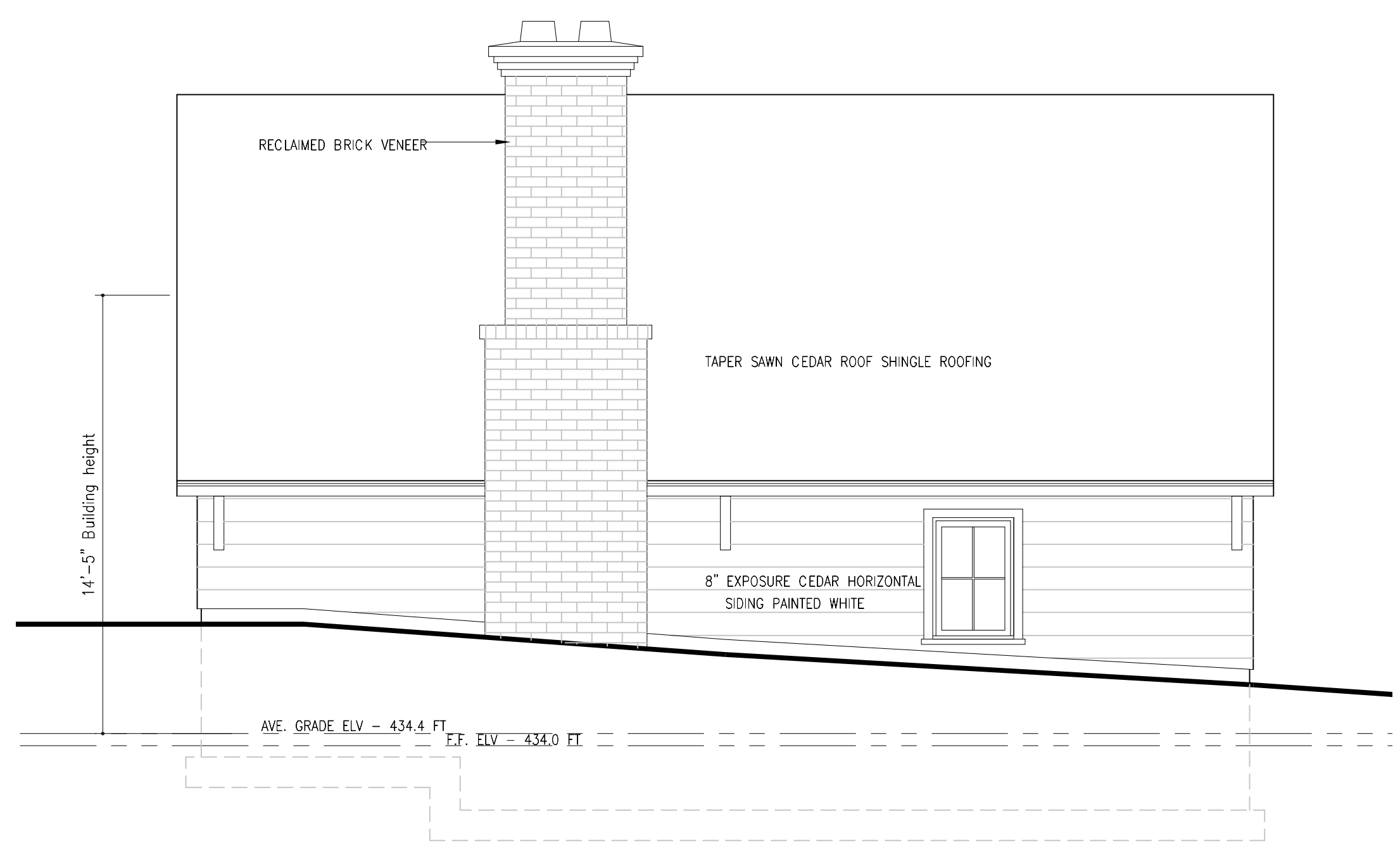
**2 PROPOSED FRONT ELEVATION**  
Scale: 1/4" = 1'-0"

Exterior Lighting Note:  
"All lighting shown on this plan shall be directed and/or shielded so as to preclude objectionable glare from being observable from adjoining streets and properties."

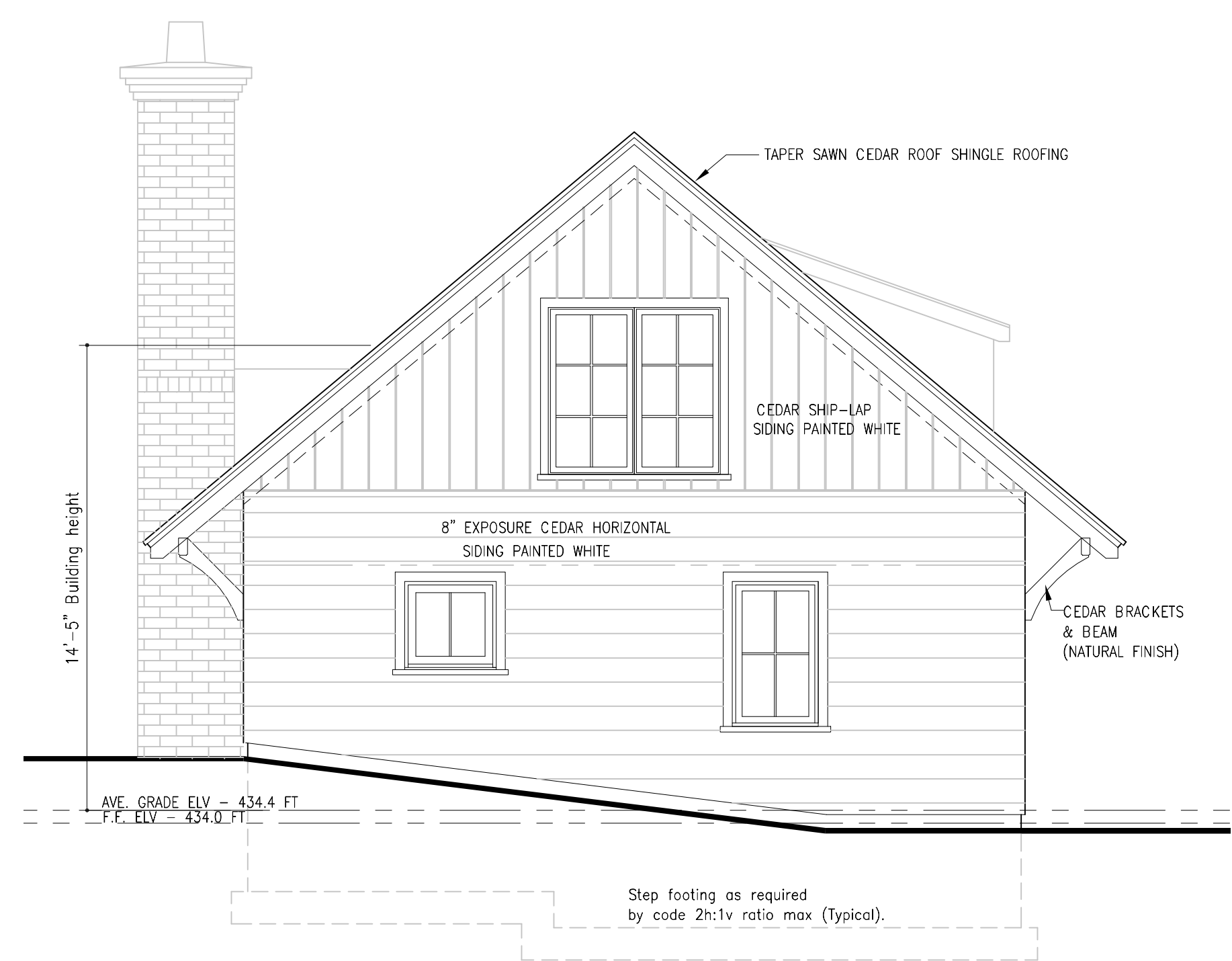
Exterior Lighting by Hubbardton Forge					
TYPE	HEIGHT	DIRECTION	SHIELD	POWER	TIMING
Meridian Small Outdoor Sconce - Dimmable w/ opal glass	6'-0" from Finish Floor	Aimed to access door	Metal Shade	LED 9.5 W Bulb	Occasional



**3 PROPOSED RIGHT SIDE ELEVATION**  
Scale: 1/4" = 1'-0"



**4 PROPOSED REAR ELEVATION**  
Scale: 1/4" = 1'-0"



**5 PROPOSED LEFT SIDE ELEVATION**  
Scale: 1/4" = 1'-0"

PROJECT  
**PROPOSED POOL HOUSE AT BEDFORD-BANKSVILLE RD**

263 BEDFORD-BANKSVILLE RD  
ARMONK, NY

DRAWING TITLE  
**PROPOSED FLOOR PLANS & EXTERIOR ELEVATIONS**



DATE  
**2-10-23**

SCALE  
**AS NOTED**

DRAWING NO.  
**P101.00**

PAGE NO.

# Architectural Plans

## Accessory Structures

- **Stable**
- **Indoor Arena**
- **Garage**

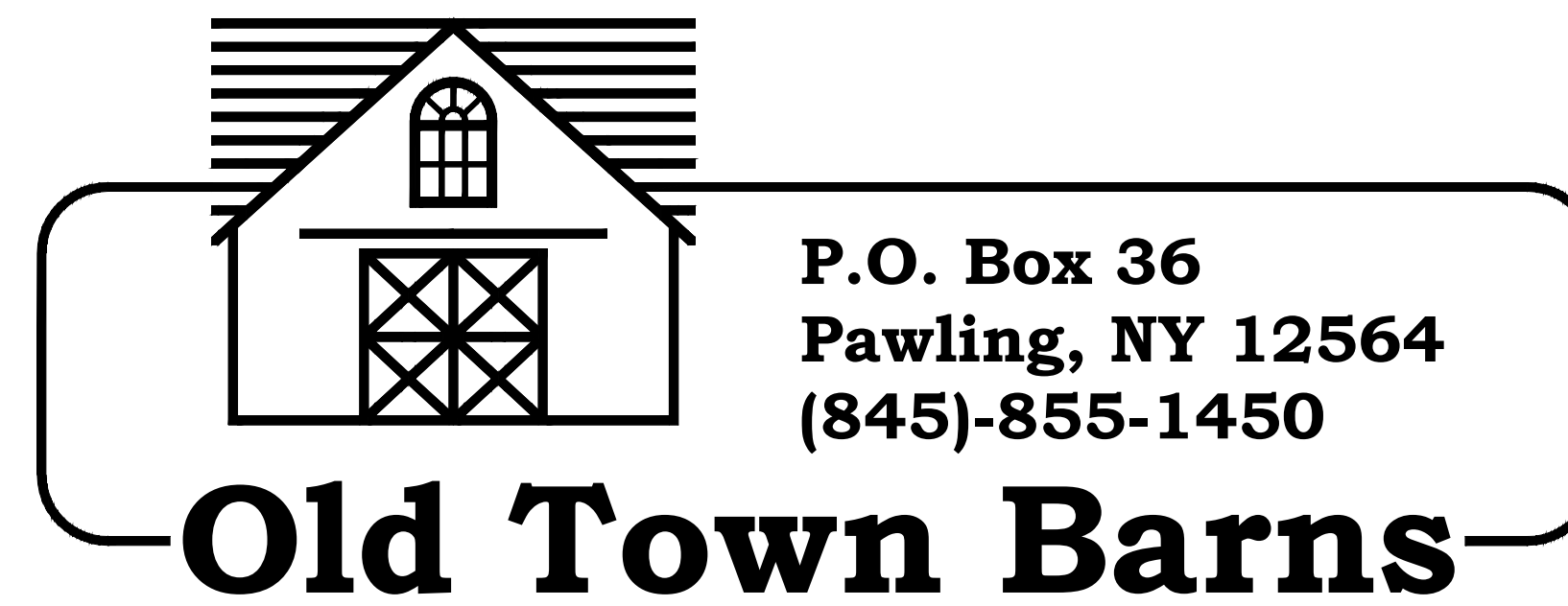
by: Old Town Barns

# PROPOSED STABLE

for

263 BEDFORD BANKSVILLE ROAD  
NORTH CASTLE, NEW YORK 10506

by



DRAWING INDEX:

DRAWING TITLE	DWG. No.	DATE
PROJECT COVER SHEET		2/10/23
FLOOR PLANS	A - 100	2/10/23
ELEVATIONS	A - 200	2/10/23
ELEVATIONS	A - 210	2/10/23



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 DAVID A. DELUCA, P.E.  
 027299  
 PROFESSIONAL ENGINEER  
 STATE OF NEW YORK  
 (845) 855-1450  
 P.O. BOX 36  
 PAWING, NY 12564  
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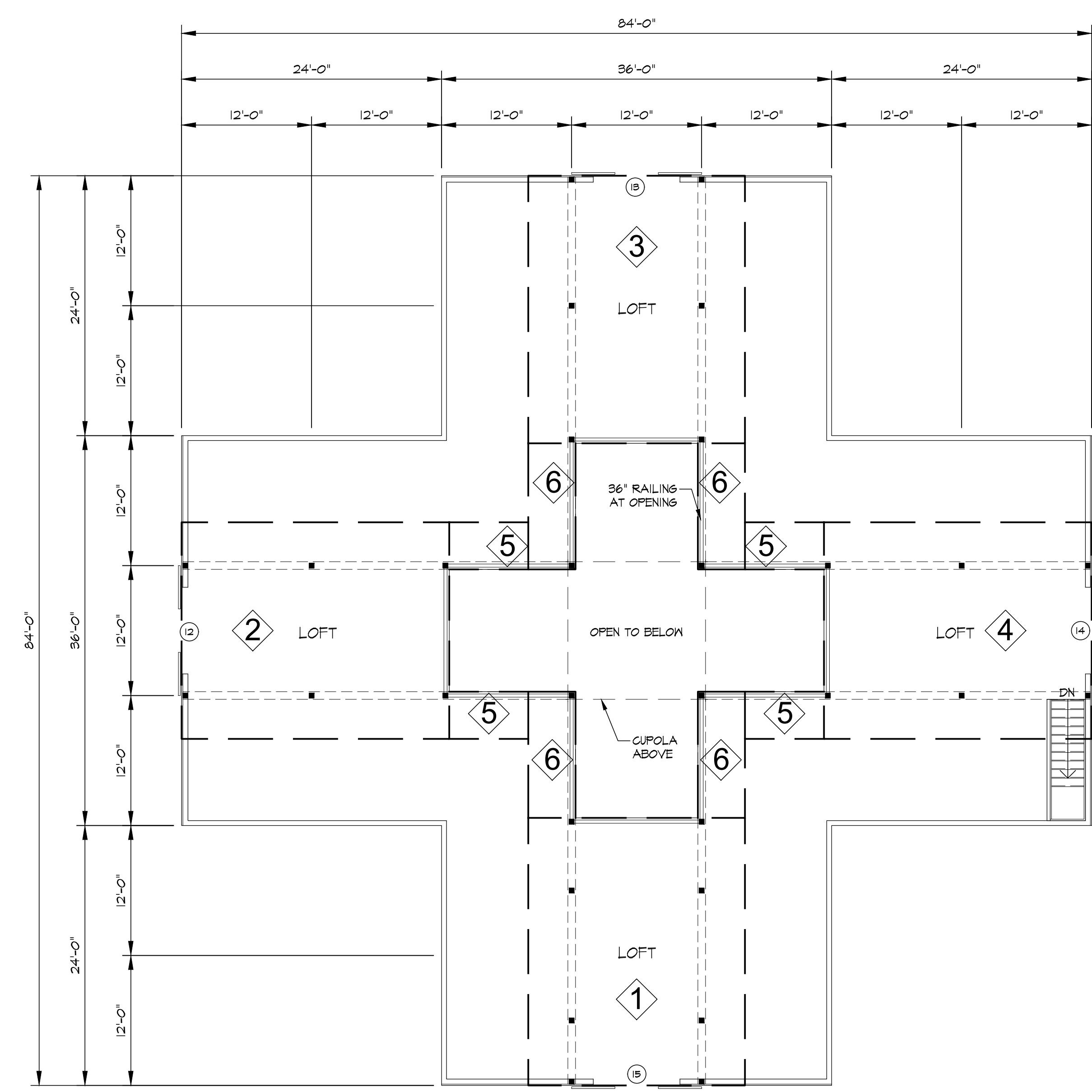
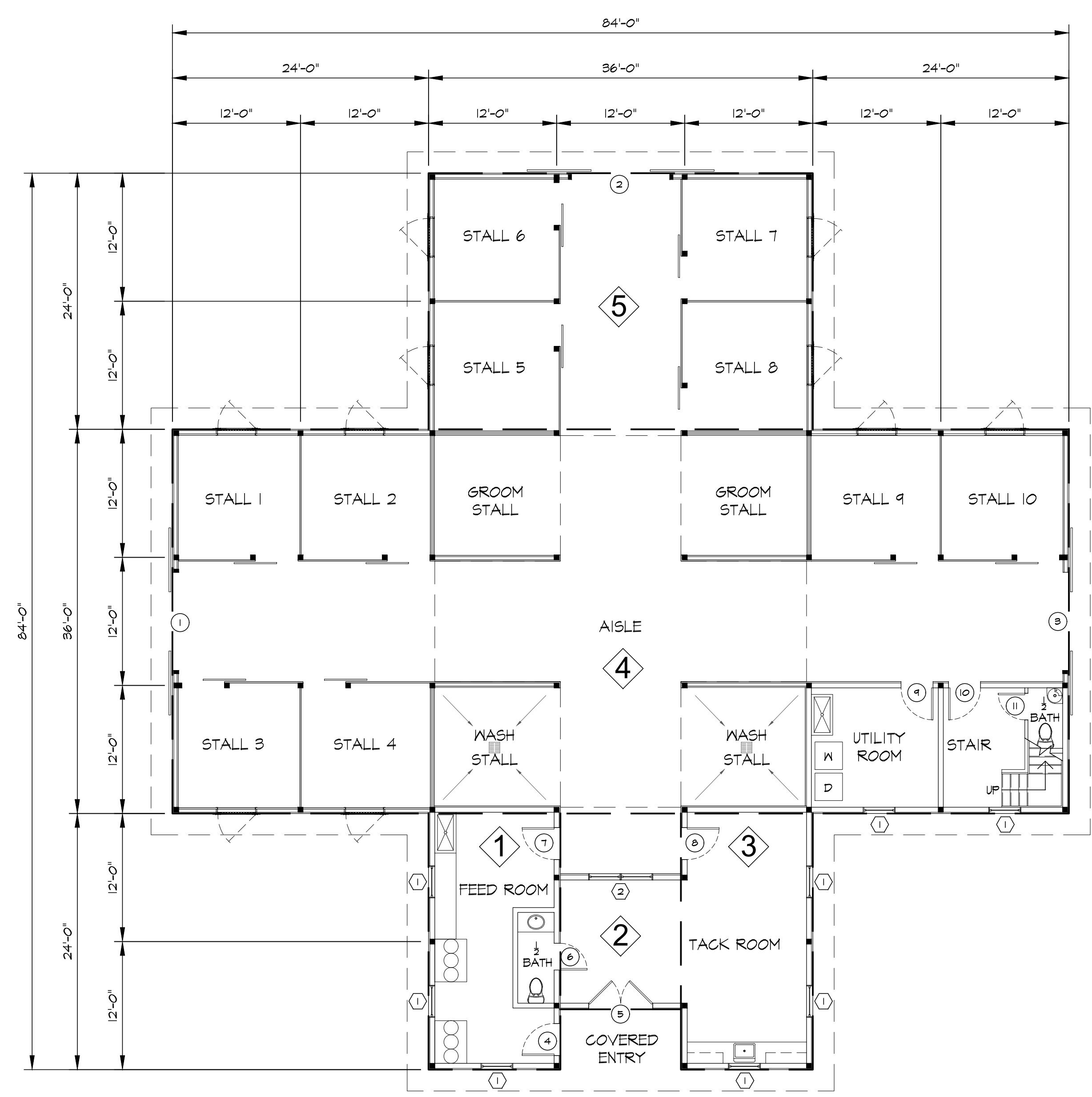
**Old Town Barns**  
 P.O. Box 36  
 Pawing, NY 12564  
 (845) 855-1450

# STABLE

## FLOOR AREA CALCULATIONS

PROPOSED : 10 STALL STABLE 4,686 SQFT

BLOCK	DIMENSIONS (FT)	AREA (SQFT)
①	12.8 x 24	296
②	11.8 x 18.8	206
③	12.8 x 24	296
④	84 x 36	3,024
⑤	36 x 24	864
TOTAL		4,686



REV	DATE	DESCRIPTION

PROPOSED STABLE FOR :  
 263  
**BEDFORD BANKSVILLE ROAD**  
 NORTH CASTLE, NEW YORK 10506

DRAWING NAME FLOOR PLANS	
DATE 2/10/23	DRAWING NUMBER
SCALE as noted	A-100
DRAWN BY KAJ	



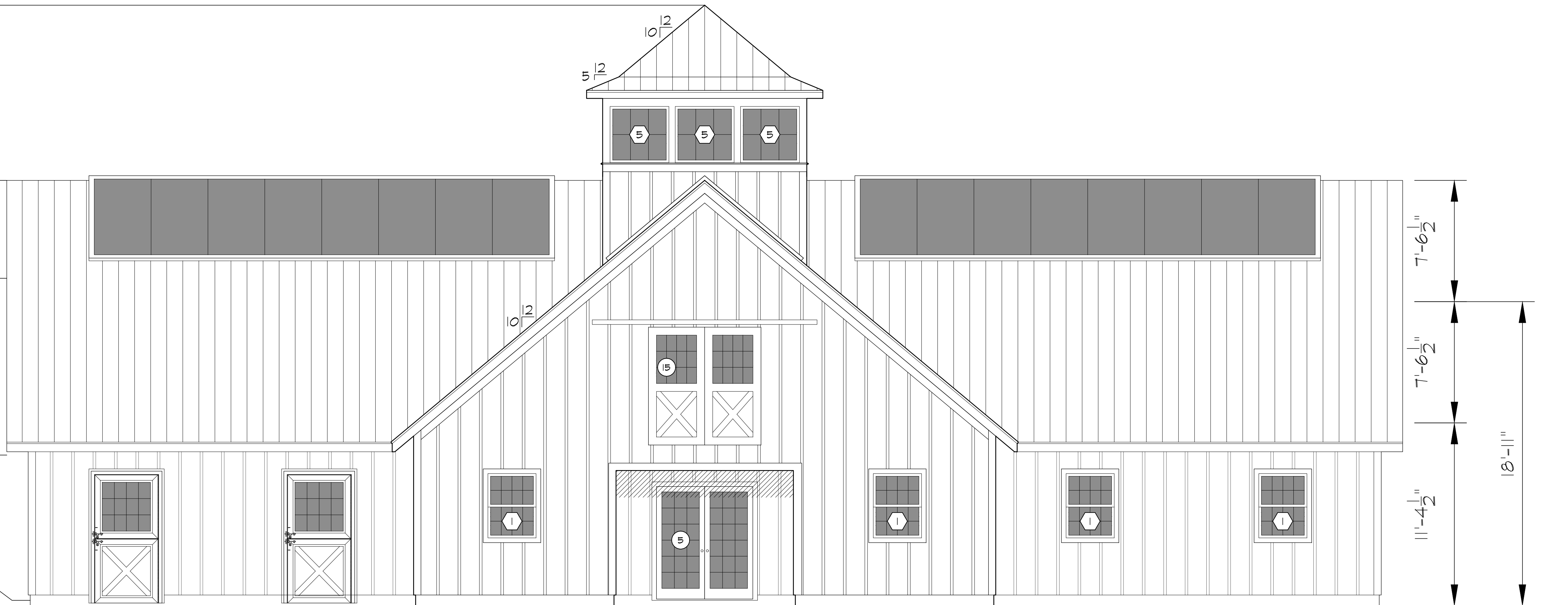
T/O CUPOLA  
ELEV. = 443'-2"  
(+36'-8")

RIDGE HEIGHT  
ELEV. = 432'-6"  
(+26'-0")

T/O GIRDER  
ELEV. = 426'-6"  
(+20'-0")

T/O GIRDER  
ELEV. = 415'-6"  
(+9'-0")

FINISHED FLOOR  
ELEV. = 406'-6"  
(0'-0")



FRONT ELEVATION  
SCALE: 1/4" = 1'-0"

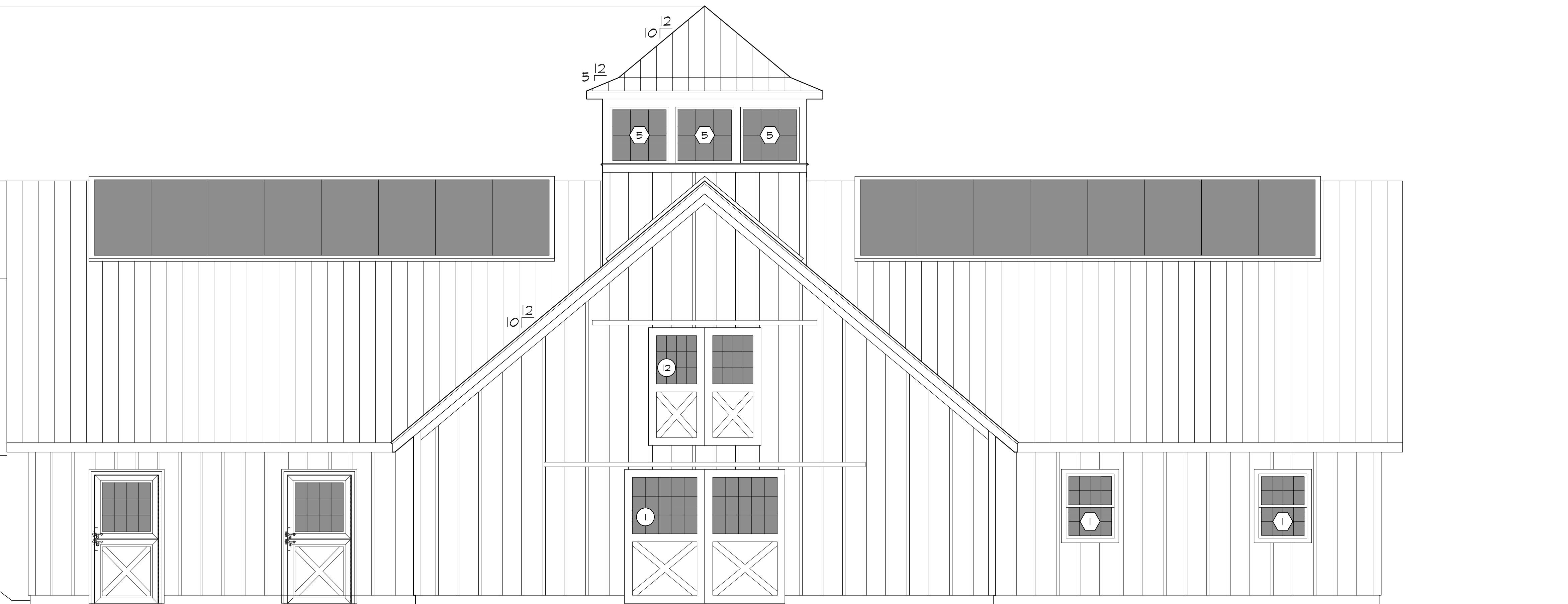
T/O CUPOLA  
ELEV. = 443'-2"  
(+36'-8")

RIDGE HEIGHT  
ELEV. = 432'-6"  
(+26'-0")

T/O GIRDER  
ELEV. = 426'-6"  
(+20'-0")

T/O GIRDER  
ELEV. = 415'-6"  
(+9'-0")

FINISHED FLOOR  
ELEV. = 406'-6"  
(0'-0")

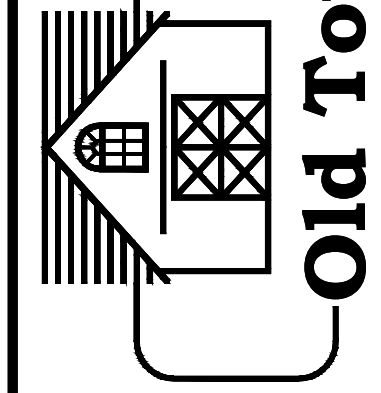


LEFT ELEVATION  
SCALE: 1/4" = 1'-0"



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REV	DATE	DESCRIPTION

PROPOSED STABLE FOR :  
263  
BEDFORD BANKSVILLE  
ROAD  
NORTH CASTLE, NEW YORK 10506

DRAWING NAME ELEVATIONS	
DATE 2/10/23	DRAWING NUMBER A-200
SCALE as noted	
DRAWN BY KAL	

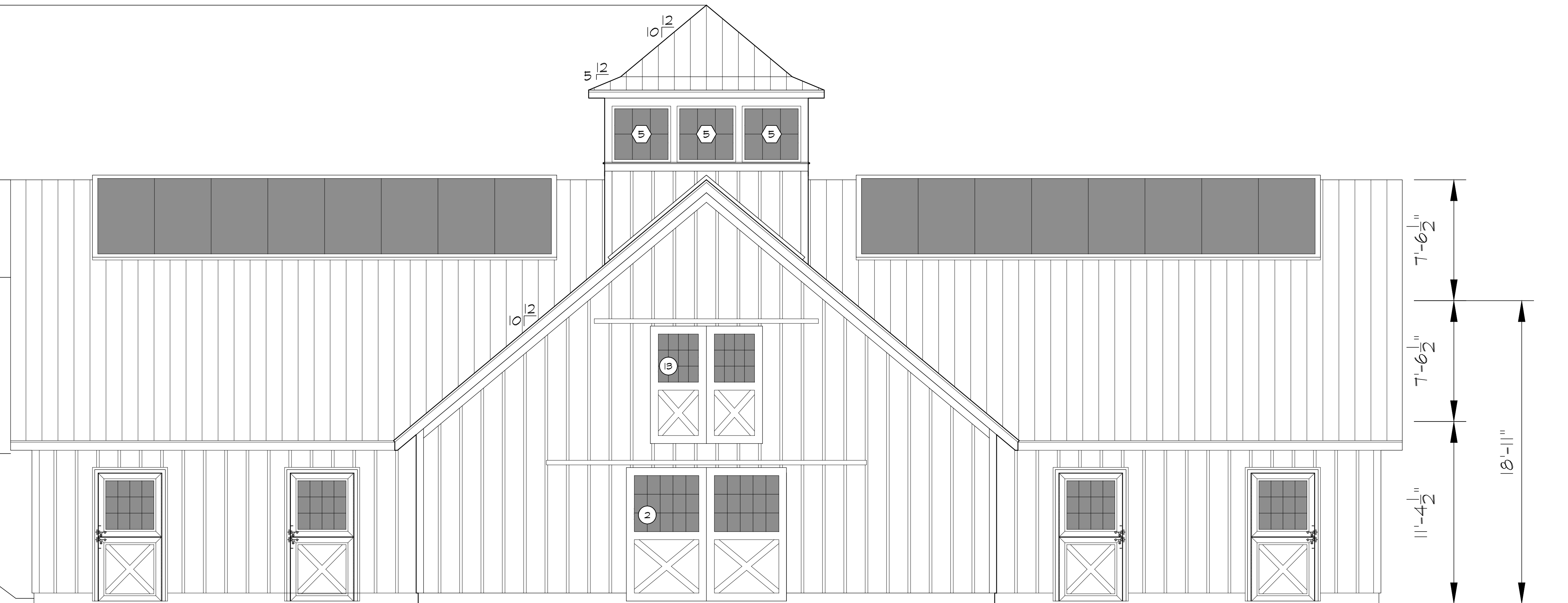
T/O CUPOLA  
ELEV. = 443'-2"  
(+36'-8")

RIDGE HEIGHT  
ELEV. = 432'-6"  
(+26'-0")

T/O GIRDER  
ELEV. = 426'-6"  
(+20'-0")

T/O GIRDER  
ELEV. = 415'-6"  
(+9'-0")

FINISHED FLOOR  
ELEV. = 406'-6"  
(0'-0")



REAR ELEVATION  
SCALE: 1/4" = 1'-0"

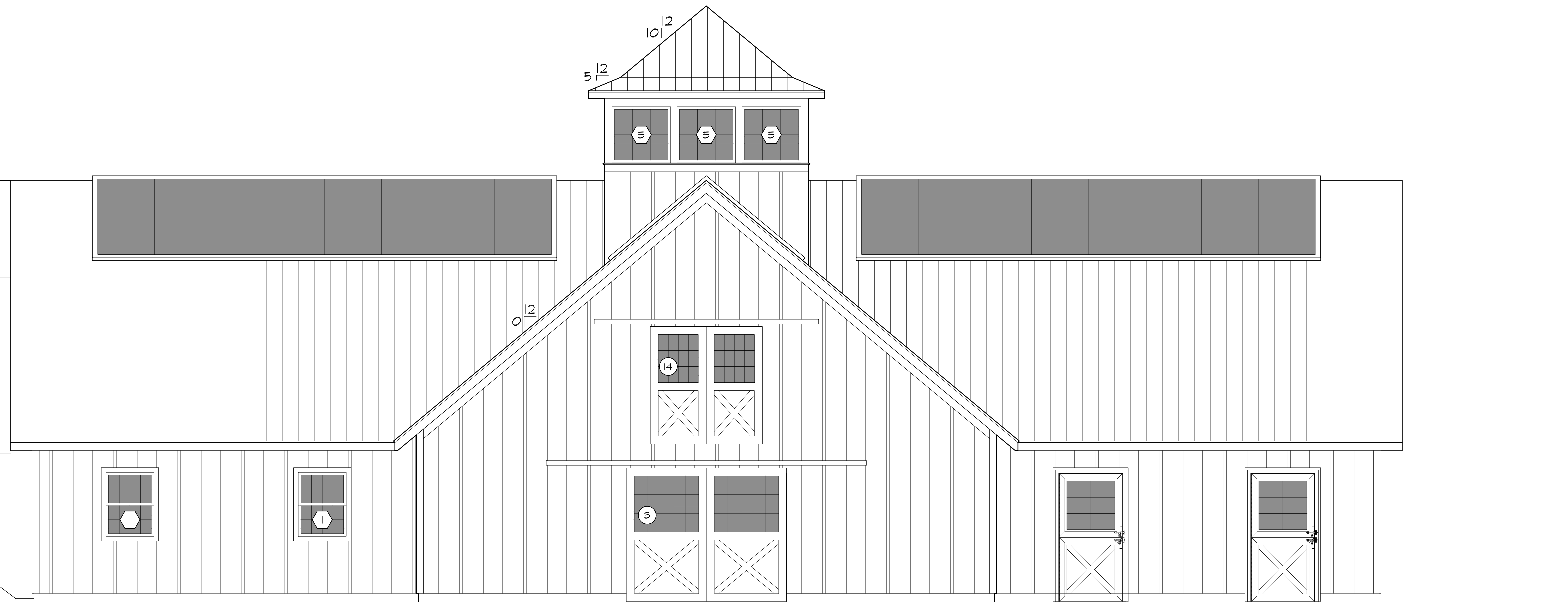
T/O CUPOLA  
ELEV. = 443'-2"  
(+36'-8")

RIDGE HEIGHT  
ELEV. = 432'-6"  
(+26'-0")

T/O GIRDER  
ELEV. = 426'-6"  
(+20'-0")

T/O GIRDER  
ELEV. = 415'-6"  
(+9'-0")

FINISHED FLOOR  
ELEV. = 406'-6"  
(0'-0")



RIGHT ELEVATION  
SCALE: 1/4" = 1'-0"



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**Old Town Barns**

REV	DATE	DESCRIPTION

PROPOSED STABLE FOR :  
263  
**BEDFORD BANKSVILLE**  
**ROAD**  
NORTH CASTLE, NEW YORK 10506

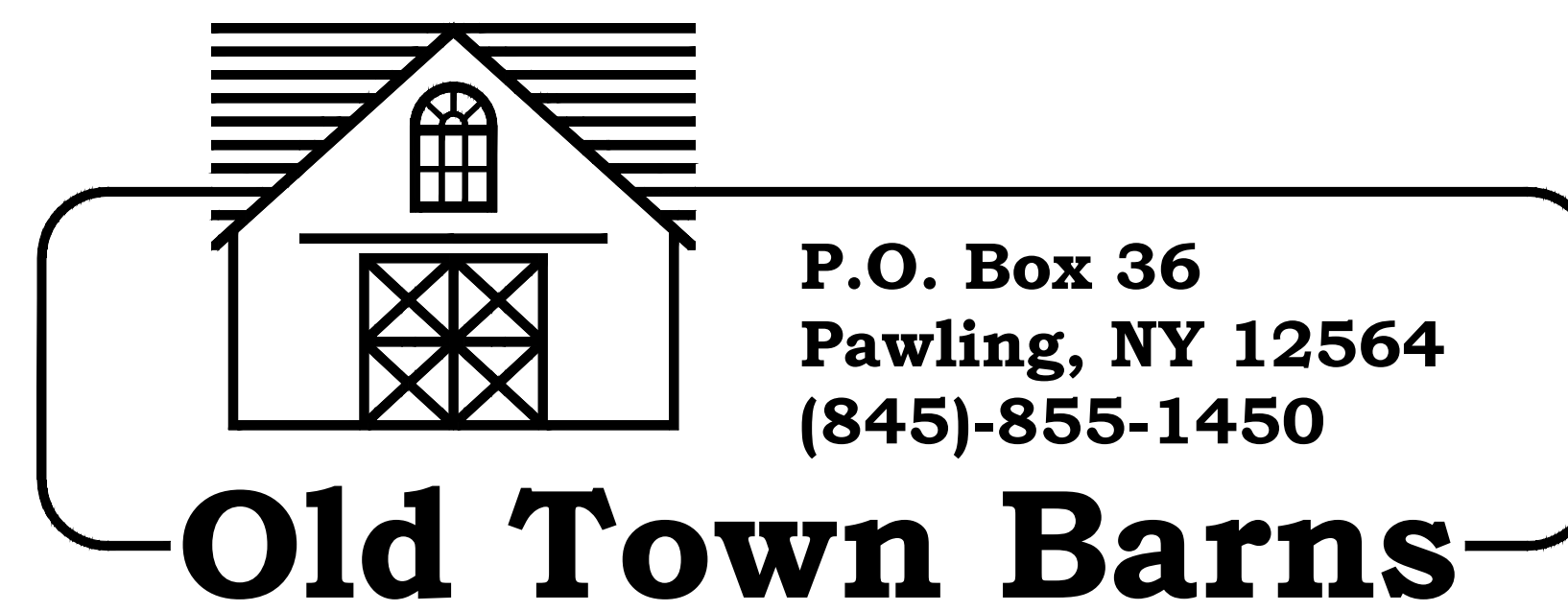
DATE	2/10/23	DRAWING NUMBER	A-210
SCALE	as noted		
DRAWN BY	KAJ		

# PROPOSED INDOOR ARENA RENOVATION

for

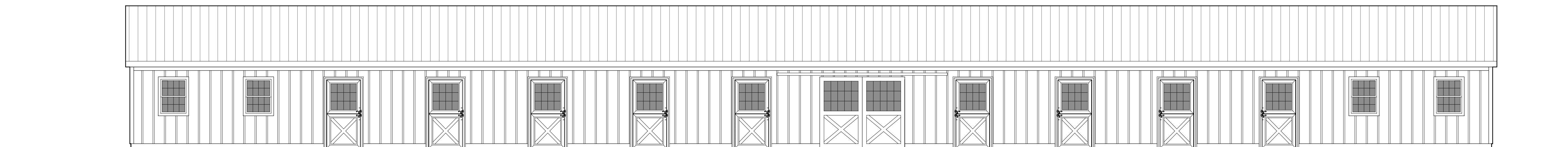
263 BEDFORD BANKSVILLE ROAD  
NORTH CASTLE, NEW YORK 10506

by



#### DRAWING INDEX:

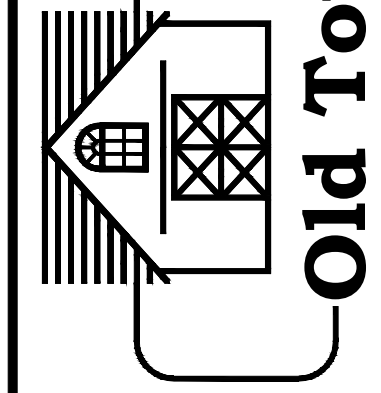
DRAWING TITLE	DWG. No.	DATE
PROJECT COVER SHEET		3/10/23
FLOOR PLANS	A - 100	3/10/23
ELEVATIONS	A - 200	3/10/23





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REV	DATE	DESCRIPTION

PROPOSED INDOOR ARENA RENOVATION FOR :  
263  
**BEDFORD BANKSVILLE**  
ROAD  
NORTH CASTLE, NEW YORK 10506

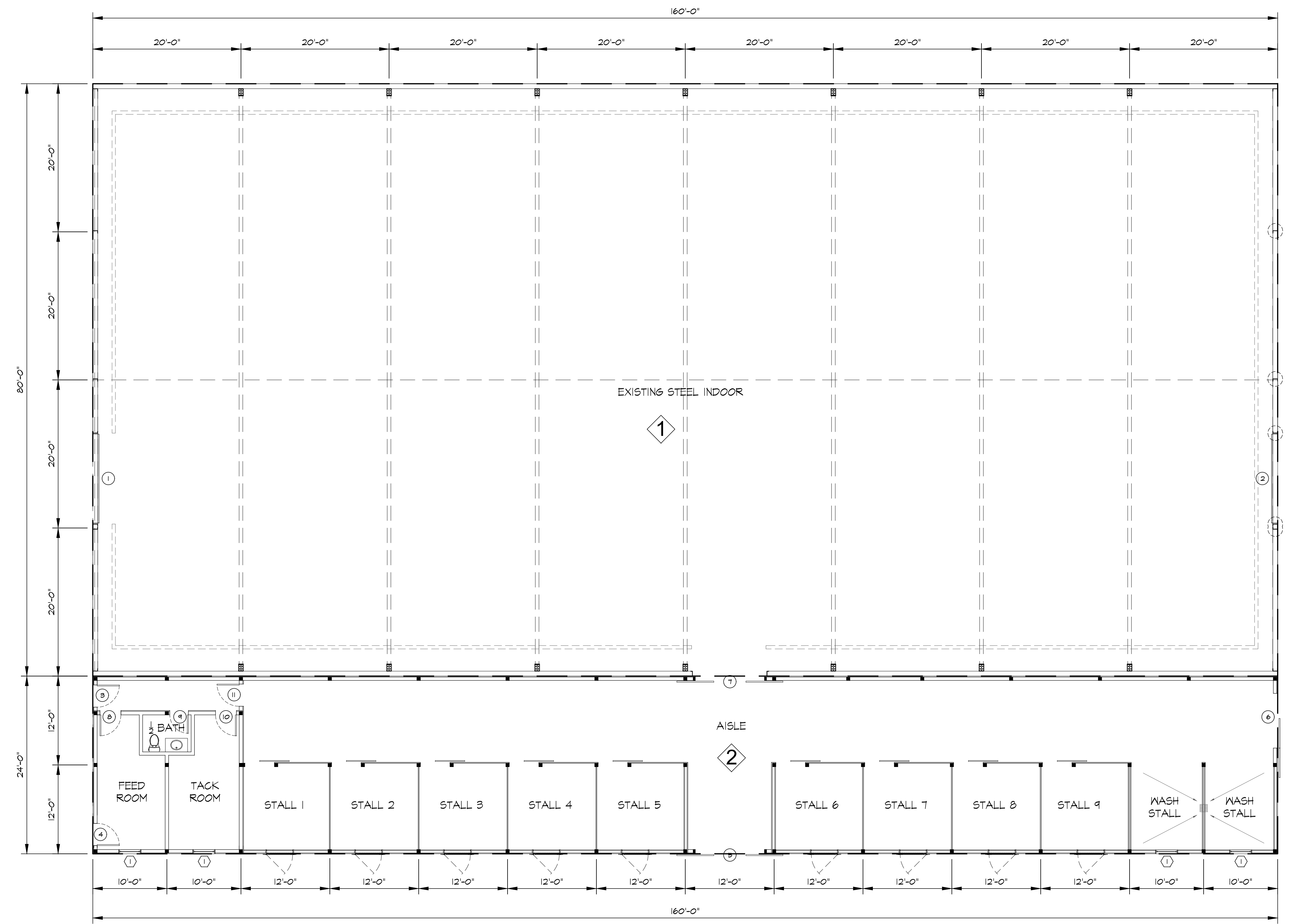
DATE	DRAWING NUMBER
3/10/23	A-100
SCALE	AS NOTED
DRAWN BY	KAJ

# INDOOR ARENA

## FLOOR AREA CALCULATIONS

EXISTING : INDOOR / 12 STALL STABLE 17,230 SQFT  
PROPOSED : INDOOR / 9 STALL STABLE 16,640 SQFT

FLOOR PLAN		
BLOCK	DIMENSIONS (FT)	AREA (SQFT)
1	160 x 80	12,800
2	160 x 24	3,840
TOTAL		16,640



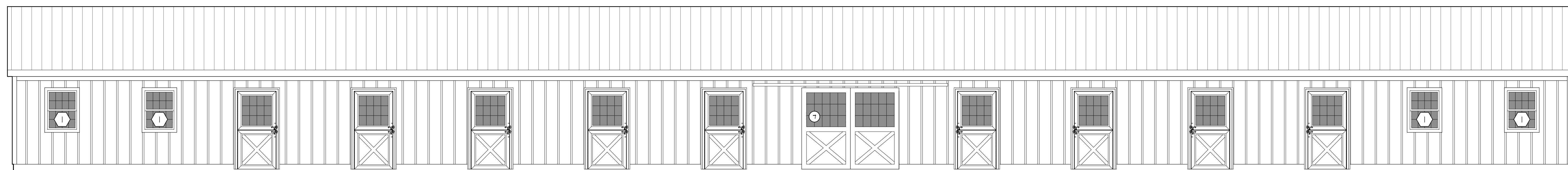
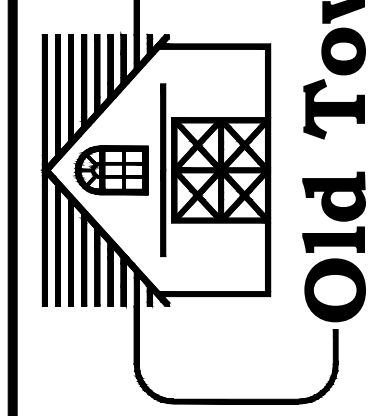
FLOOR PLAN  
SCALE: 1/8" = 1'-0"



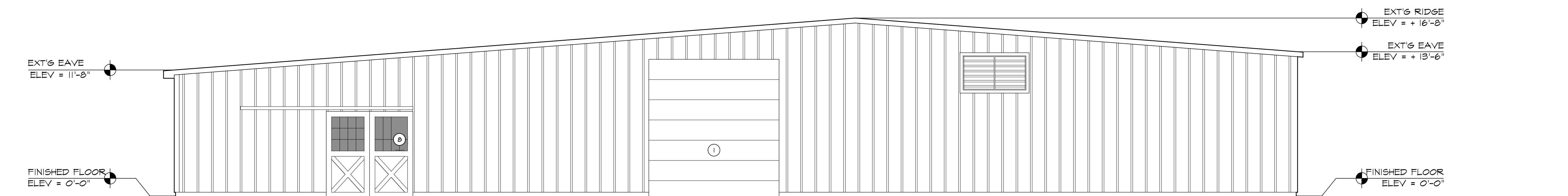


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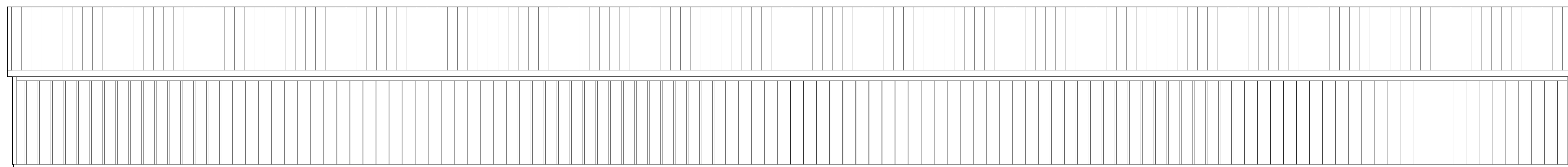
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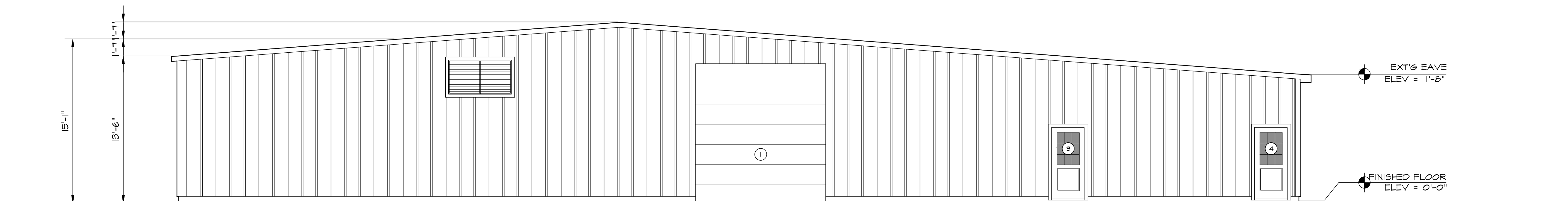
○ FRONT ELEVATION  
SCALE: 3/16" = 1'-0"



○ RIGHT ELEVATION  
SCALE: 3/16" = 1'-0"



○ REAR ELEVATION  
SCALE: 3/16" = 1'-0"



○ LEFT ELEVATION  
SCALE: 3/16" = 1'-0"

REV DATE DESCRIPTION

PROPOSED INDOOR ARENA RENOVATION FOR :  
263  
BEDFORD BANKSVILLE  
ROAD  
NORTH CASTLE, NEW YORK 10506

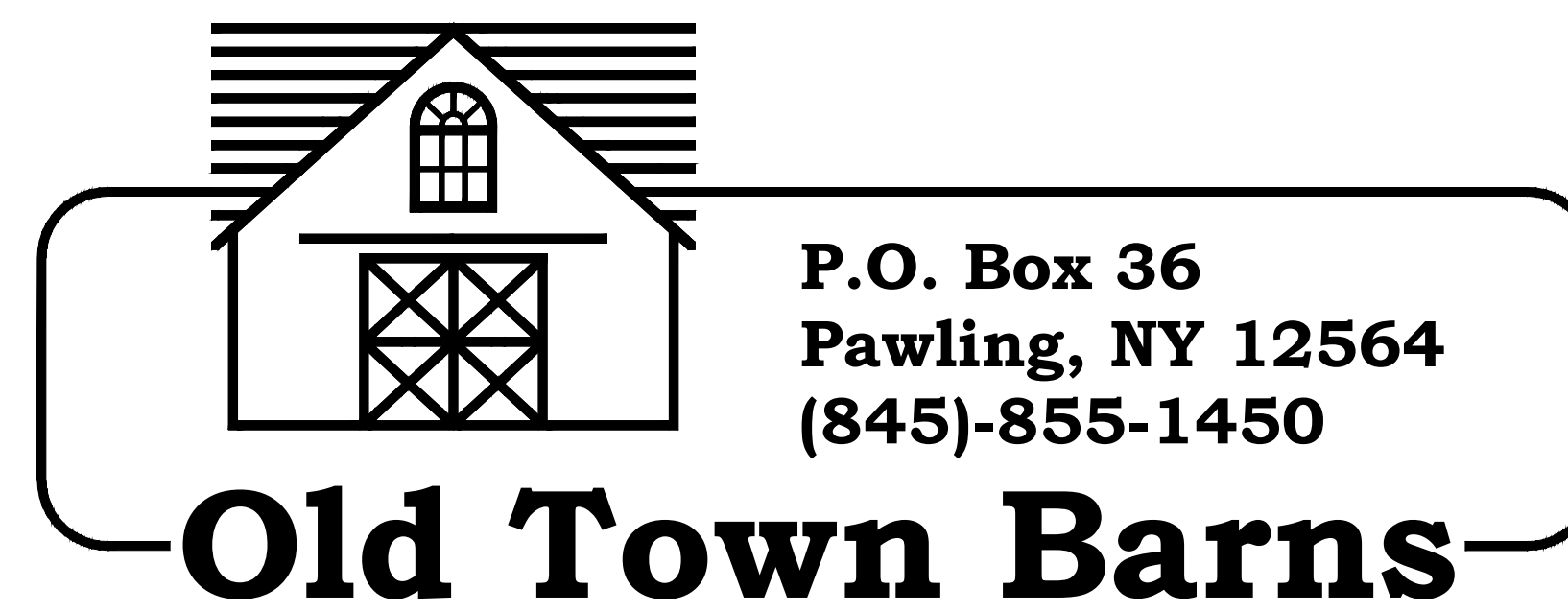
DRAWING NAME ELEVATIONS	
DATE 3/10/23	DRAWING NUMBER A-200
SCALE as noted	
DRAWN BY KAL	

# PROPOSED GARAGE

for

263 BEDFORD BANKSVILLE ROAD  
NORTH CASTLE, NEW YORK 10506

by



#### DRAWING INDEX:

DRAWING TITLE	DWG. No.	DATE
PROJECT COVER SHEET		2/10/23
FLOOR PLANS	A - 100	2/10/23
ELEVATIONS	A - 200	2/10/23



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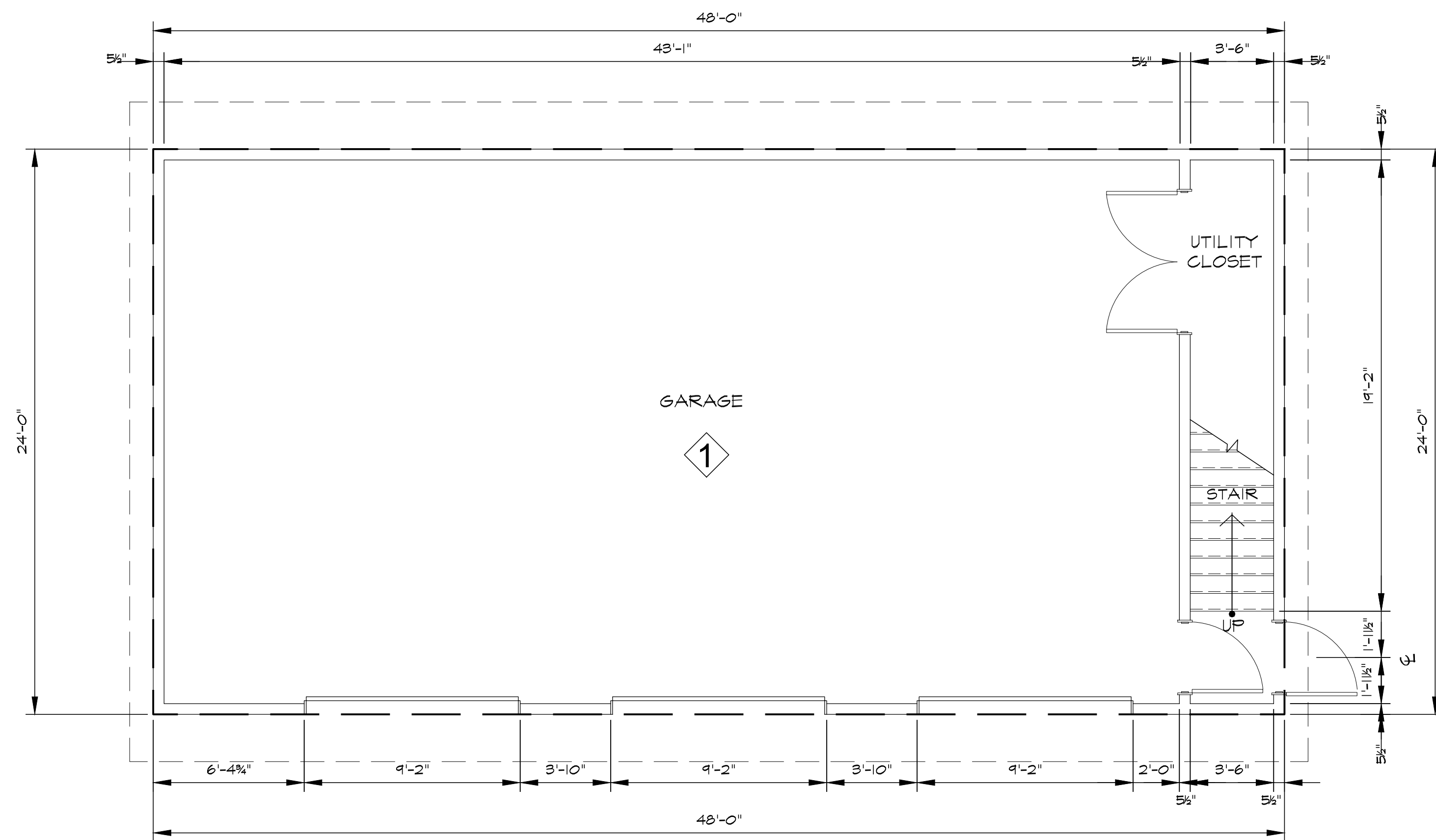
# GARAGE

## FLOOR AREA CALCULATIONS

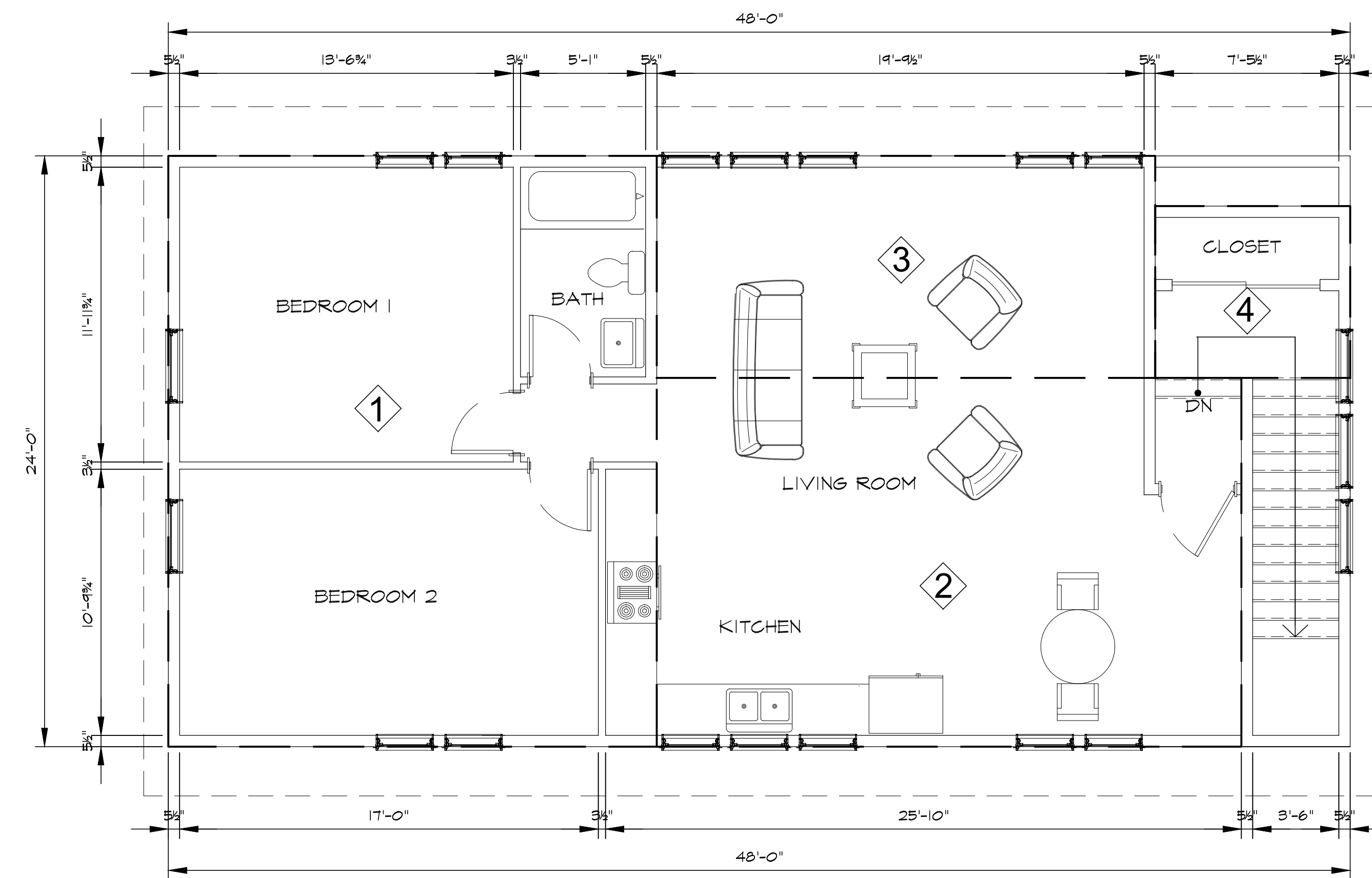
PROPOSED : 3 BAY GARAGE/ 2 BED 1 BATH APT. 2,221 SQFT

GARAGE		
BLOCK	DIMENSIONS (FT)	AREA (SQFT)
①	48 x 24	1,152
TOTAL		1,152

SECOND FLOOR PLAN		
BLOCK	DIMENSIONS (FT)	AREA (SQFT)
①	19.8 x 24	476
②	23.75 x 15	356
③	20.25 x 9	182
④	7.9 x 7	55
TOTAL		1,069



1ST FLOOR PLAN  
SCALE: 1/4" = 1'-0"



2ND FLOOR PLAN  
SCALE: 1/4" = 1'-0"

P.O. Box 36  
Pawling, NY 12564  
(845)-855-1450

**Old Town Barns**

DESCRIPTION

DATE

REV

PROPOSED GARAGE FOR  
263  
**BEDFORD BANKSVILLE**  
**ROAD**  
NORTH CASTLE, NEW YORK 10506

DRAWING NAME  
FLOOR PLANS

DATE	DRAWING NUMBER
2/10/23	A-100
SCALE	
as noted	
DRAWN BY	
KAJ	



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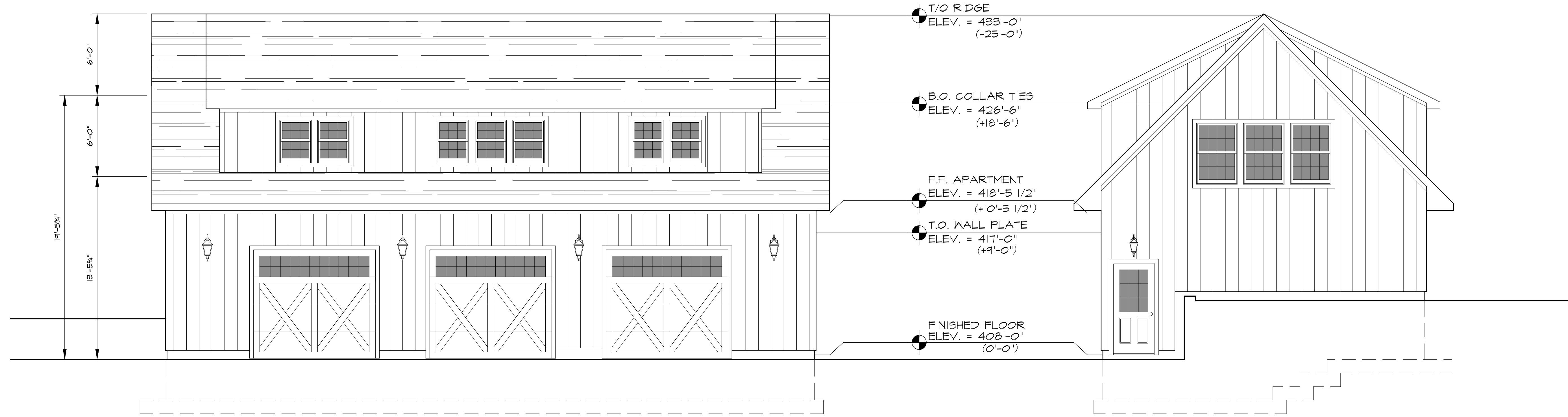
**Old Town Barns**  
 P.O. Box 36  
 Pawling, NY 12564  
 (845)-855-1450

REV	DATE	DESCRIPTION

PROPOSED GARAGE FOR  
**263**  
**BEDFORD BANKSVILLE**  
**ROAD**  
 NORTH CASTLE, NEW YORK 10506

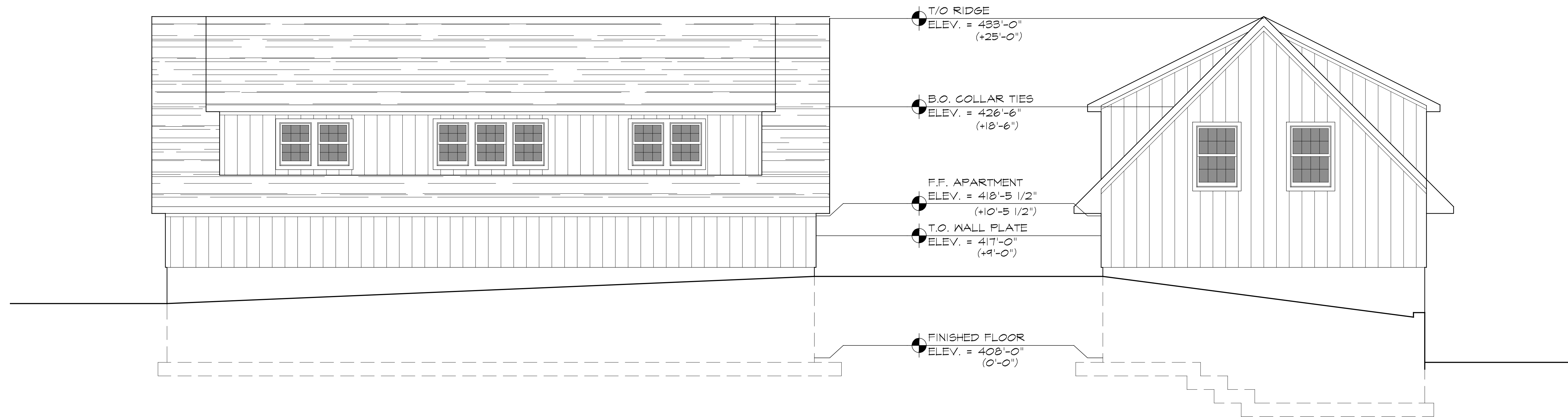
DRAWING NAME  
 ELEVATIONS

DATE	DRAWING NUMBER
2/10/23	A-200
SCALE	as noted
DRAWN BY	DAZ



FRONT ELEVATION  
 SCALE: 1/4" = 1'-0"

RIGHT ELEVATION  
 SCALE: 1/4" = 1'-0"



REAR ELEVATION  
 SCALE: 1/4" = 1'-0"

LEFT ELEVATION  
 SCALE: 1/4" = 1'-0"



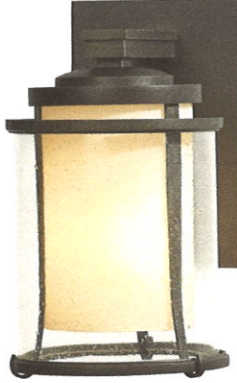
# Exterior Light Fixtures

MAIN HOUSE FIXTURE - WALL MOUNT

## Meridian Small Outdoor Sconce

Base Item #: 305605

### Selected Options



**Lamping**


~~Incandescent (SKT)~~ LED

**Finish**

Coastal Dark Smoke (77)

Configured item #: 305605-1008

Smart String: 305605-SKT-77-ZS0296

 Image shown may not correspond to selected options

## Specifications

**Dimensions**

Height	10.3"
Width	6.3"
Depth	7.2"
Product weight	4.8 lbs
Backplate	5" x 7.5"
Mounting Heightvertical	6.5"
Packed weight	8 lbs
Dim Weight	33 lbs

**Lamping Information**

Socket Type	medium
Bulb	A15, 60 watt Max <b>LED bulb</b>
Number of Bulbs	1 (not included)
Location Rating UL	Outdoor Wet
Safety Rating	UL CUL listed

## Options

**Lamping**

~~Incandescent (SKT)~~  
LED BULB

**Finish**

- Coastal Burnished Steel (78)
- Coastal Dark Smoke (77)
- White (02)
- Coastal Bronze (75)
- Oil Rubbed Bronze (14)
- Natural Iron (20)
- Coastal Black (80)

MAIN HOUSE FIXTURE - EX. CEILING MOUNT

## Meridian Outdoor Semi-Flush

Base Item #: 365605

### Selected Options



#### Lamping

Incandescent (SKT)

#### Finish

Coastal Bronze (75)

#### Option1

Opal and Seeded Glass (ZS) [ZS0297]

Configured item #: 365605-1007

Smart String: 365605-SKT-75-ZS0297

 Image shown may not correspond to selected options

## Specifications

#### Dimensions

Height	12.6"
Width	7.7"
Depth	7.7"
Product weight	3.6 lbs
Canopy Dim Plate	5.3" SQ
Packed weight	12 lbs
Dim Weight	44 lbs

#### Lamping Information

Lamping	Dedicated
Socket Type	medium
Bulb	A19, 100 watt Max
Number of Bulbs	1 (not included)
LED	LED - GU24, 9.8W Bulb, 800lm (Bulb Incl)
CCT	2700K
CRI	80
Dimming	Yes
Location Rating UL	Outdoor Damp
Safety Rating	UL   CUL listed

## Options

#### Lamping

Incandescent (SKT)

#### Finish

Coastal Bronze (75)  
 White (02)  
 Natural Iron (20)  
 Oil Rubbed Bronze (14)  
 Coastal Black (80)  
 Coastal Burnished Steel (78)  
 Coastal Dark Smoke (77)

#### Option1

Opal and Seeded Glass (ZS) [ZS0297]

Cole Outdoor Wall Light, Large  
LC005367

Project Name: 263 Bedford Banksville Rd



- Outdoor wall-mounted light features four candelabra bulbs set in a classic lantern style metal and glass fixture and finished in matte black
- Wet-rated fixture and weather resistant powder coated finish that will stand up to the elements
- Ideal in pairs adjacent to an entryway door or to illuminate a garage facade
- Elevates the outside appearance of any home while increasing safety
- This wall mounted light takes four E12 candelabra bulbs (sold separately)

**Backplate / Canopy Dimensions**  
5.5" W x 10" H

**Bulbs Included**  
No

**Certification**  
ETL, Wet

**Finishing**  
Textured Matte Black, Clear Glass

**Indoor / Outdoor**  
Indoor and Outdoor

**Installation Options**  
Hard-Wire

**Material**  
Stainless Steel, Glass

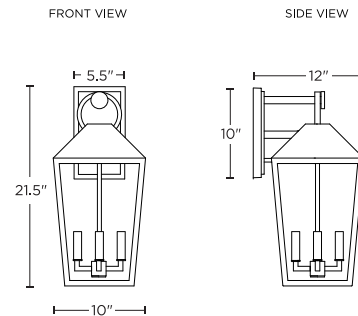
**Maximum Wattage**  
60W

**Number of Sockets per Item**  
Four

**Product Dimensions**  
10" W x 21.5" H x 12" D

**Socket Type**  
E12, Phenolic

**Wire Length**  
6" from backplate



# DOUBLE SPOT Endurance

WP-LED430

# WAC LIGHTING

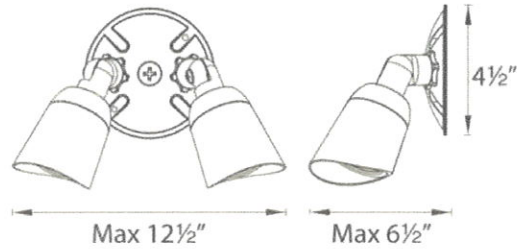


Fixture Type: \_\_\_\_\_

Catalog Number: \_\_\_\_\_

Project: \_\_\_\_\_

Location: \_\_\_\_\_



## PRODUCT DESCRIPTION

Die cast aluminum factory sealed housings with patent pending design for a water and dust proof IP66 rated outdoor luminaire

## FEATURES

- Factory-Sealed LED Light Engine
- Die-cast aluminum construction
- Photo/Motion Sensor Compatible (Sold Separately)
- 120V Direct Wire - No Driver Needed
- 85 CRI
- 39,000 hour rated life

## SPECIFICATIONS

**Construction:** Die-cast aluminum

**Power:** Line Voltage input (120V)

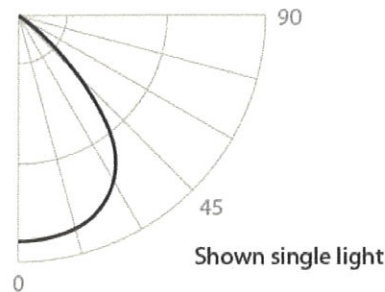
**Dimming:** 100% - 10% with Electronic Low Voltage (ELV) dimmer

**Finish:** Architectural Black, Bronze, White and Graphite

**Standards:** IP66, Wet Location, ETL & cETL Listed

**Operating Temperature:** -40°C (-40°F) to 40°C (104°F)

## PHOTOMETRY



## ORDER NUMBER

Model	Wattage	Comparable	Color temp	Delivered Lumens	Finish
WP-LED430 <i>Double Spot</i>	30W	2 x 75W	30 3000K	965 x 2	aBK Architectural Black
			50 5000K	1030 x 2	aBZ Architectural Bronze
					aGH Architectural graphite
					aWT Architectural White

Example: WP-LED430-50-aBK

wacighting.com  
Phone (800) 526.2588  
Fax (800) 526.2585

Headquarters/Eastern Distribution Center  
44 Harbor Park Drive  
Port Washington, NY 11050

Central Distribution Center  
1600 Distribution Ct  
Lithia Springs, GA 30122

Western Distribution Center  
1750 Archibald Avenue  
Ontario, CA 91760



## DESCRIPTION

Replace existing metal halide flood fixtures with these more efficient color selectable LED flood fixtures.

## FEATURES

- Delivers up to 151 LPW for highly efficient performance
- Knuckle mount adjusts up to 180° (90° left and 90° right)
- Yoke mount adjusts up to 180° (90° left and 90° right)
- Slipfitter adjusts up to 180° (90° left and 90° right)
- Trunnion adjusts up to 180° (90° left and 90° right)
- 0-10V dimming; see Dimmer Compatibility for list of compatible dimmers
- 11.81" whip on 15W to 80W fixtures; 19.69" whip on 105W to 140W fixtures
- Light output changes depending on the color temperature selected; see Selectable Table for full breakdown
- Color temperature can be adjusted using the dip switch on the top of the fixture; see installation instructions for more information

## LISTINGS

- UL rated for wet locations
- IP65
- FCC
- DesignLights Consortium® 5.1 Premium - meets the requirements for the highest DLC qualification for efficacy and lumen maintenance

## PERFORMANCE

- CRI: >80
- CCT: 3000K, 4000K, 5000K
- LED L70 Lifetime: 100,000 Hours

## THERMAL

- -31°F to 122°F or (-35°C to 50°C) operating temperature

## ELECTRICAL

- THD: ≤20%
- Power Factor: ≥0.9
- Input Voltage: 120-277V
- Surge Protection: 2.5kV (15W-60W), 4kV (80W-140W)
- Dimmable power supply (0-10V)

## INSTALLATION

- Designed for installation with included mount; see Performance Summary for a full breakdown of which mount is included. For information on how to install these fixtures, see installation instructions.

## CONSTRUCTION

- Die-cast aluminum housing
- Durable polyester bronze powder coating withstands demanding environments
- Clear impact-resistant tempered glass lens

project name	type
catalog number	
comments	voltage
approved by	date



## WARRANTY

- 5 year limited warranty; see [pltsolutions.com](http://pltsolutions.com) for warranty details

## APPLICATIONS

- Safety and Security Lighting
- Sign Lighting
- Building Facades



# PERFORMANCE SUMMARY

Item #	Watts*	CCT*	Beam Angle	CRI	Dimming	Voltage	Replaces	Mounting	BUG	DLC#	DLC Rating
PLTS-12339	15W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	70W MH	Knuckle	B1-U0-G0	PLTSNH211151	5.1 Premium
PLTS-12340	15W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	70W MH	Yoke	B1-U0-G0	PLTSNH211153	5.1 Premium
PLTS-12341	25W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	100W MH	Knuckle	B1-U0-G0	PLTSNH221151	5.1 Premium
PLTS-12342	25W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	100W MH	Yoke	B1-U0-G0	PLTSNH221153	5.1 Premium
PLTS-12343	35W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	150W MH	Knuckle	B2-U0-G0	PLTSNH231151	5.1 Premium
PLTS-12344	35W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	150W MH	Yoke Mount	B2-U0-G0	PLTSNH231153	5.1 Premium
<b>PLTS-12345</b>	<b>60W</b>	<b>3000K / 4000K / 5000K</b>	<b>145°</b>	<b>&gt;80</b>	<b>0-10V</b>	<b>120-277V</b>	<b>175W MH</b>	<b>Knuckle</b>	<b>B3-U0-G1</b>	<b>PLTSNH241151</b>	<b>5.1 Premium</b>
PLTS-12346	60W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	175W MH	Yoke	B3-U0-G1	PLTSNH241153	5.1 Premium
PLTS-12347	80W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	250W MH	Slipfitter	B3-U0-G1	PLTSNH251154	5.1 Premium
PLTS-12348	80W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	250W MH	Yoke	B3-U0-G1	PLTSNH251153	5.1 Premium
PLTS-12349	105W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	250W MH	Slipfitter	B4-U0-G1	PLTSNH261155	5.1 Premium
PLTS-12350	105W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	250W MH	Yoke	B4-U0-G1	PLTSNH261153	5.1 Premium
PLTS-12351	140W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	400W MH	Slipfitter	B4-U0-G1	PLTSNH271155	5.1 Premium
PLTS-12352	140W	3000K / 4000K / 5000K	145°	>80	0-10V	120-277V	400W MH	Trunnion	B4-U0-G1	PLTSNH271152	5.1 Premium

\*See Selectable Table for full breakdown

# SELECTABLE TABLE

Wattage	CCT	Lumen	Efficacy
15	3000K	2097	140
	4000K	2259	151
	5000K	2194	146
25	3000K	3485	139
	4000K	3760	150
	5000K	3658	146
35	3000K	4642	133
	4000K	5034	144
	5000K	4864	139
<b>60</b>	3000K	7782	130
	4000K	8372	140
	5000K	8178	136
80	3000K	10,712	134
	4000K	11,509	144
	5000K	11,325	142
105	3000K	13,243	126
	4000K	14,129	135
	5000K	13,616	130
140	3000K	17,894	128
	4000K	19,158	137
	5000K	18,672	133

# DIMMER COMPATIBILITY

Brand	Model
Leviton	SD710
Leviton	IP710
Legrand	RH4FBL3PW
Lutron	NFTV
Lutron	NTSTV
Lutron	DVTV



## DIMENSIONS

### 15W-35W W/ KNUCKLE MOUNT

Length: 5.79"  
Length (with mount): 9.21"  
Width: 7.40"  
Depth: 2.67"  
Weight: 2.34 lbs  
Weight (with mount): 2.65 lbs

Knuckle Mount Length: 3.47"  
Knuckle Mount Width: 2.64"  
Knuckle Mount Height: 1.89"



### 60W W/ YOKE MOUNT

Length: 7.44"  
Length (with mount): 9.13"  
Width: 9.7"  
Depth: 3.03"  
Weight: 4.10 lbs  
Weight w/ mount: 4.81 lbs

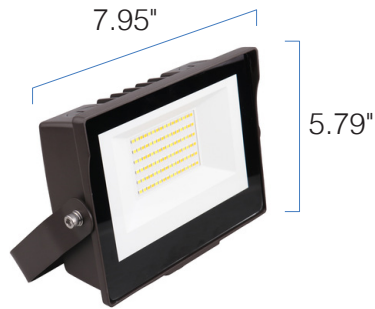
Yoke Length: 10.31"  
Yoke Width: 6.02"  
Yoke Height: 1.18"



### 15W-35W W/ YOKE MOUNT

Length: 5.79"  
Length (with mount): 7.24"  
Width: 7.95"  
Depth: 2.60"  
Weight: 2.34 lbs  
Weight (w/ mount): 2.87 lbs

Yoke Length: 7.95"  
Yoke Width: 4.92"  
Yoke Height: 1.10"



### 80W W/ SLIPFITTER MOUNT

Length: 7.44"  
Length (with mount): 16.06"  
Width: 10.24"  
Depth: 3.58"  
Weight: 4.10 lbs  
Weight (w/ mount): 6.88 lbs

Slipfitter Length: 12.91"  
Slipfitter Width: 10.24"  
Slipfitter Height: 2.87"



### 60W W/ KNUCKLE MOUNT

Length: 7.44"  
Length (with mount): 10.91"  
Width: 9.69"  
Depth: 3.03"  
Weight: 4.10 lbs  
Weight (with mount): 4.41 lbs

Knuckle Mount Length: 3.47"  
Knuckle Mount Width: 2.64"  
Knuckle Mount Height: 1.89"



### 80W W/ YOKE MOUNT

Length: 7.44"  
Length (with mount): 9.13"  
Width: 9.7"  
Depth: 3.03"  
Weight: 4.41 lbs  
Weight w/ mount: 5.11 lbs

Yoke Length: 10.31"  
Yoke Width: 6.02"  
Yoke Height: 1.18"



## DIMENSIONS

### 105W W/ SLIPFITTER MOUNT

Length: 9.09"  
Length (with mount): 15.94"  
Width: 11.42"  
Depth: 3.54"  
Weight: 7.2 lbs  
Weight (w/ mount): 8.82 lbs



Slipfitter Length: 6.93"  
Slipfitter Width: 4.88"  
Slipfitter Height: 2.87"

### 140W W/ SLIPFITTER MOUNT

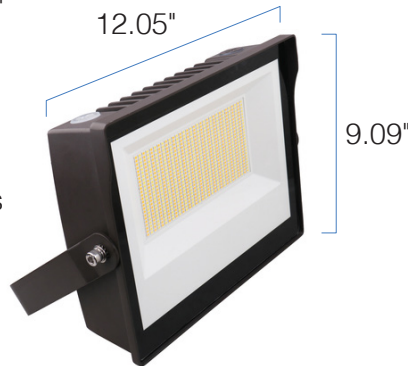
Length: 9.09"  
Length (with mount): 18"  
Width: 11.8"  
Depth: 4.06"  
Weight: 7.72 lbs  
Weight (w/ mount): 9.08 lbs



Slipfitter Length: 6.89"  
Slipfitter Width: 4.88"  
Slipfitter Height: 2.87"

### 105W W/ YOKE MOUNT

Length: 9.09"  
Length (with mount): 10.98"  
Width: 12.05"  
Depth: 3.9"  
Weight: 7.72 lbs  
Weight (w/ mount): 8.51 lbs



Yoke Length: 12.05"  
Yoke Width: 7.13"  
Yoke Height: 1.38"

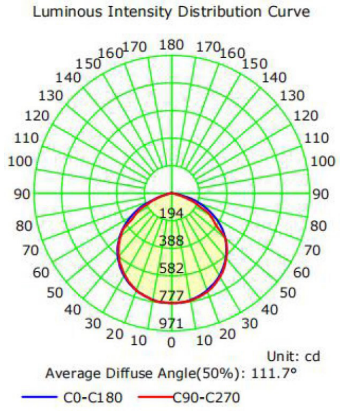
### 140W W/ TRUNNION MOUNT

Length: 9.09"  
Length (with mount): 15.4"  
Width: 11.8"  
Depth: 3.9"  
Weight: 7.72 lbs  
Weight (w/ mount): 9.08 lbs

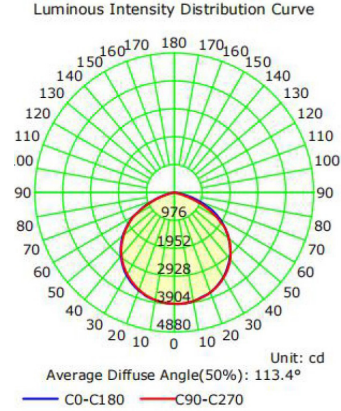


Trunnion Length: 7.13"  
Trunnion Width: 5.35"  
Trunnion Depth: 2.76"

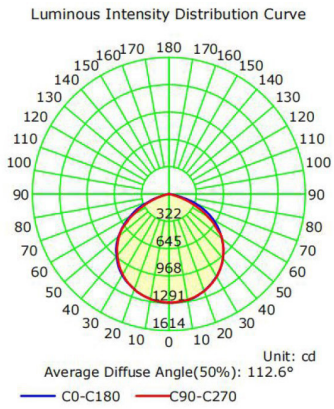
**15W FLOOD FIXTURE**



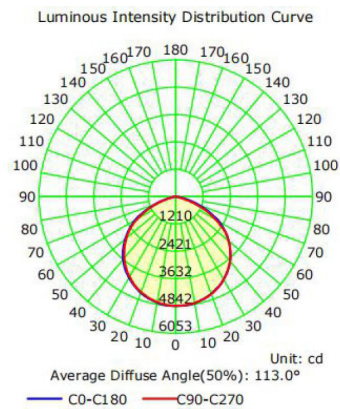
**80W FLOOD FIXTURE**



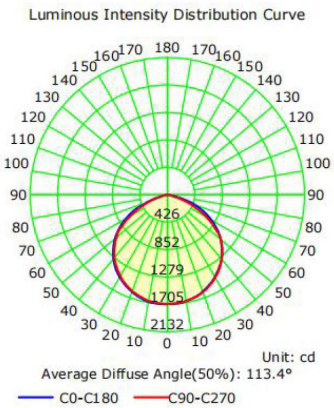
**25W FLOOD FIXTURE**



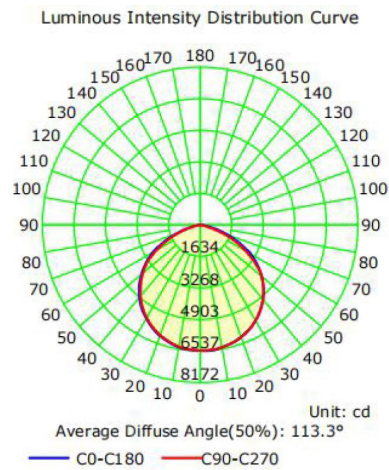
**105W FLOOD FIXTURE**



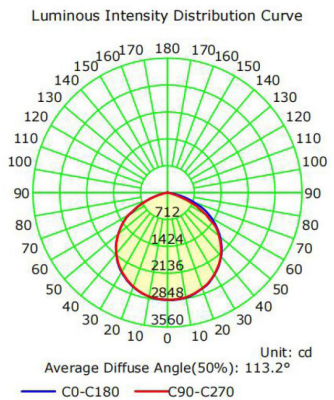
**35W FLOOD FIXTURE**



**140W FLOOD FIXTURE**

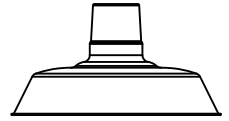


**60W FLOOD FIXTURE**





SPS-0111 REV B

**THE ORIGINAL™ SERIES**JOB NAME: 263 Bedford Banksville FIXTURE TYPE: Gooseneck

BLE - G  - WHS16  - 150  - G22  - 100  - NA  - WGG  -

A B C D E F G

100  - CLR  - DBPC  - E26

H I J K

Order Example: BLE - G - WHS12 - 600 - G15 - 980 - NA - CGG - 975 - FST - HDBP - E26

**A - MOUNTING STYLE**

<b>C</b>	Cord Hung
<b>CN</b>	Chain Hung
<b>F</b>	Flush Mount <sup>1</sup>
<b>G</b>	Gooseneck
<b>S</b>	Stem Mount

**B - SHADE SIZE**

THE ORIGINAL™:

<b>WHS12</b>	12" Shade
<b>WHS14</b>	14" Shade
<b>WHS16</b>	16" Shade
<b>WHS18</b>	18" Shade
<b>WHS20<sup>2</sup></b>	20" Shade

**C - SHADE FINISH**PORCELAIN FINISHES<sup>3</sup>:

<b>150</b>	Black
<b>250</b>	White
<b>350</b>	Vintage Green
<b>355</b>	Jadite
<b>455</b>	Cherry Red
<b>550</b>	Yellow
<b>650</b>	Bronze
<b>750</b>	Cobalt Blue
<b>765</b>	Delphite Blue
<b>850</b>	Graphite
<b>950</b>	Metallic Chrome

POWDER COAT FINISHES<sup>4</sup>:

<b>100</b>	Black
<b>105</b>	Textured Black
<b>106</b>	Matte Black
<b>200</b>	White
<b>206</b>	Matte White
<b>300</b>	Dark Green
<b>307</b>	Emerald Green
<b>311</b>	Jadite
<b>370</b>	Mint
<b>380</b>	Chartreuse
<b>390</b>	Teal
<b>400</b>	Barn Red
<b>420</b>	Orange
<b>470</b>	Watermelon
<b>480</b>	Blush Pink
<b>490</b>	Magenta
<b>495</b>	Sherbet Orange
<b>500</b>	Buttery Yellow
<b>570</b>	Sunflower
<b>600</b>	Bronze
<b>601</b>	Chocolate

**C - SHADE FINISH (CONTINUED)**POWDER COAT FINISHES<sup>4</sup>:

<b>605</b>	Rust
<b>615</b>	Oil-Rubbed Bronze
<b>700</b>	Royal Blue
<b>705</b>	Navy
<b>710</b>	Cobalt Blue
<b>715</b>	Delphite Blue
<b>790</b>	Lavender
<b>800</b>	Industrial Grey
<b>805</b>	Charcoal Granite
<b>810</b>	Graphite
<b>975</b>	Galvanized

NATURAL METALS<sup>5</sup>:

<b>995</b>	Raw Copper
<b>996</b>	Weathered Copper
<b>997</b>	Raw Brass
<b>998</b>	Weathered Brass
<b>999</b>	Oil-Rubbed Copper

**D - MOUNTING**

Please Note: If Flush Mount [F] is selected in Section A, please select NA

<b>NA</b>	Not Applicable
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CSA LISTED CORD OPTIONS:

<b>SBK</b>	Standard Black
<b>SWH</b>	Standard White
<b>CMG</b>	Grey Cotton
<b>CRZ</b>	Red Chevron
<b>CSB</b>	Black Cloth
<b>CSW</b>	White Cloth
<b>CSR</b>	Red Cloth
<b>CSBB</b>	Black & Brown Cloth
<b>CSRW</b>	Red & White Cloth
<b>CSGW</b>	Gold & White Cloth
<b>CSBG</b>	Black & Gold Cloth
<b>CSBW</b>	Black & White Cloth
<b>CSBP</b>	Black & Pink Cloth
<b>CSUW</b>	Blue & White Cloth

NON-CSA LISTED CORD OPTIONS<sup>6</sup>:

<b>TBK</b>	Black Cotton Twist
<b>TWH</b>	White Cotton Twist
<b>TBR</b>	Brown Cotton Twist
<b>TRD</b>	Red Cotton Twist
<b>TPT</b>	Putty Cotton Twist
<b>TBW</b>	Black & White Twist
<b>TRW</b>	Red & White Twist
<b>TBB</b>	Brown & Beige Twist

**D - MOUNTING (CONTINUED)**CHAIN MOUNT OPTIONS<sup>2</sup>:

<b>CN36</b>	3' of Chain
<b>CN48</b>	4' of Chain
<b>CN60</b>	5' of Chain
<b>CN72</b>	6' of Chain

GOOSENECK OPTIONS:

<b>G1<sup>2</sup></b>	<b>G16<sup>2</sup></b>
<b>G2<sup>2</sup></b>	<b>G17</b>
<b>G3<sup>2,7</sup></b>	<b>G19<sup>2</sup></b>
<b>G4<sup>7</sup></b>	<b>G22</b>
<b>G5<sup>2</sup></b>	<b>G24</b>
<b>G6</b>	<b>G25</b>
<b>G7</b>	<b>G26<sup>2</sup></b>
<b>G8</b>	<b>G32</b>
<b>G9</b>	<b>G34<sup>2</sup></b>
<b>G10</b>	<b>G35<sup>2</sup></b>
<b>G11<sup>2</sup></b>	<b>G36<sup>2</sup></b>
<b>G12<sup>2</sup></b>	<b>G40<sup>2</sup></b>
<b>G13</b>	<b>G64<sup>2</sup></b>
<b>G14</b>	<b>G65<sup>2</sup></b>
<b>G15</b>	

STEM MOUNT OPTIONS:

<b>ST506</b>	.5" Stem Mount, 6" <sup>2</sup>
<b>ST512</b>	.5" Stem Mount, 12" <sup>2</sup>
<b>ST518</b>	.5" Stem Mount, 18" <sup>2</sup>
<b>ST524</b>	.5" Stem Mount, 24" <sup>2</sup>
<b>ST536</b>	.5" Stem Mount, 36" <sup>2</sup>
<b>ST548</b>	.5" Stem Mount, 48" <sup>2</sup>
<b>ST706</b>	.75" Stem Mount, 6"
<b>ST712</b>	.75" Stem Mount, 12"
<b>ST718</b>	.75" Stem Mount, 18"
<b>ST724</b>	.75" Stem Mount, 24"
<b>ST736</b>	.75" Stem Mount, 36"
<b>ST748</b>	.75" Stem Mount, 48"

**E - MOUNTING FINISH**

Please Note: See Section C for Finish Options. 980-Brushed Aluminum is also available for Gooseneck (Except G36, G40, G64, &amp; G65) and Stem mounting styles. If Porcelain Finish is selected, mounting will be powder coat painted-to-match.

(I) If Cord Hung [C] or Flush Mount [F]<sup>2</sup> Mounting Style, selection identifies canopy finish

(II) If Chain Hung [CN] Mounting Style, selection identifies chain and canopy finish

(III) If Stem Mount [S] Mounting Style, selection identifies stem and canopy finish

<b>980</b>	Brushed Aluminum
------------	------------------

**F - CORDS<sup>8</sup>**

Please Note: See Section D for all applicable CSA Listed Cord Options for Chain Hung Mounting Style

<b>NA</b>	Not Applicable
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**G - SHADE ACCESSORIES<sup>2</sup>**

<b>NA</b>	None
<b>WC</b>	Wire Cage <sup>10</sup>
<b>ACR</b>	Acrylic Diffuser <sup>9,10,11</sup>
<b>TGG</b>	Heavy Duty Guard
<b>CGG</b>	Cast Guard
<b>WGG</b>	Wire Guard

**H - SHADE ACCESSORY FINISH**

Please Note: See Section C for Finish Options. Natural Metals not applicable. If Porcelain Finish is selected, accessory will be powder coat painted-to-match

<b>NA</b>	Not Applicable
-----------	----------------

**I - GLASS OPTION<sup>12</sup>**

<b>NA</b>	Not Applicable
<b>CLR</b>	Clear Glass
<b>FST</b>	Frosted Glass
<b>RIB</b>	Ribbed Glass
<b>BLU</b>	Blue Glass
<b>RED</b>	Red Glass
<b>AMB</b>	Amber Glass
<b>GRN</b>	Green Glass

**J - MOUNTING ACCESSORY**

<b>NA</b>	None/Not Applicable
<b>HSC</b>	Hang Straight Canopy <sup>2,13</sup>
<b>HDSMC</b>	Heavy Duty Stem Mount Canopy <sup>2,13</sup>
<b>HDBP</b>	Heavy Duty Backing Plate <sup>2,14,15</sup>
<b>DD</b>	Dusk-to-Dawn Photocell <sup>14,15</sup>
<b>DBPC</b>	Decorative Backing Plate Cover <sup>14,15</sup>
<b>DCHX</b>	Decorative Backing Plate Cover & Hex Cover <sup>14,15</sup>

**K - LIGHT SOURCE**

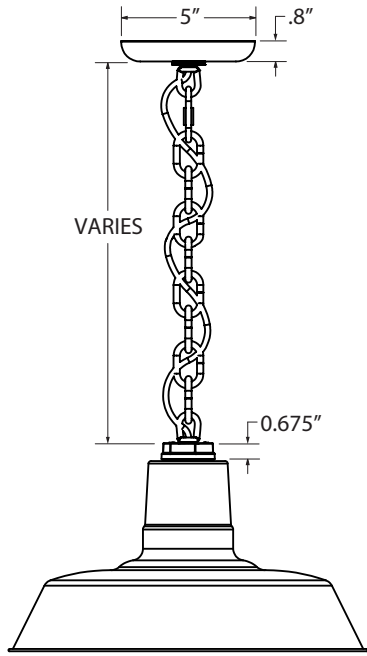
<b>E26</b>	200 Watt Max
<b>GU24</b>	23 Watt Max <sup>1,16</sup>

**IMPORTANT:** (1) Not available with Acrylic Diffuser accessory (2) Not available in Natural Metals (3) All Porcelain Enamel finished shades feature a white interior and a black outer rim (4) All Powder Coat finished shades, Galvanized excluded, feature a white interior (5) Natural Metals have a longer estimated manufacturing time, please check the website for exact lead time. There are no returns accepted on Natural Metals (6) Not Available with Chain Hung (CH) option (7) Not compatible with 16" shade size and larger (8) Only applicable if Chain Hung Mounting Style selected in Section A, select NA if another Mounting Style is selected (9) Acrylic Diffuser accessory reduces incandescent wattage to 60W (10) Not available with the Guard & Glass Accessory (11) Fixture is UL Listed for Damp Locations with Acrylic Diffuser (12) Guard and Glass accessory reduces incandescent wattage to 100W Max and GU24 Bi-Pin to 18W Max (13) Only applicable if Stem Mounting Style is selected in Section A (14) Only applicable if Gooseneck Mounting Style is selected in Section A (15) Not available with G19, G36 and G40 (16) Fixtures configured with GU24 sockets are non-returnable

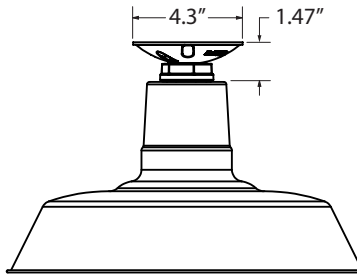


**MOUNTING STYLE**

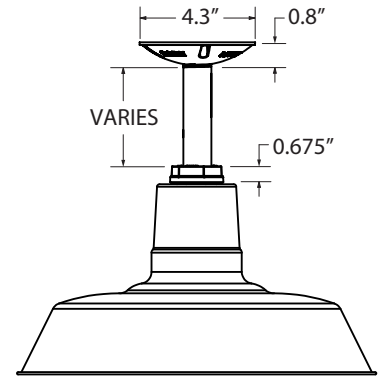
**CHAIN HUNG PENDANT (CN)**



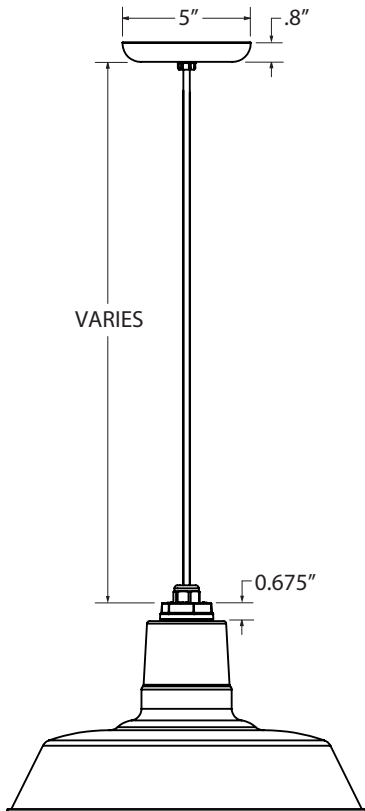
**FLUSH MOUNT (F)**



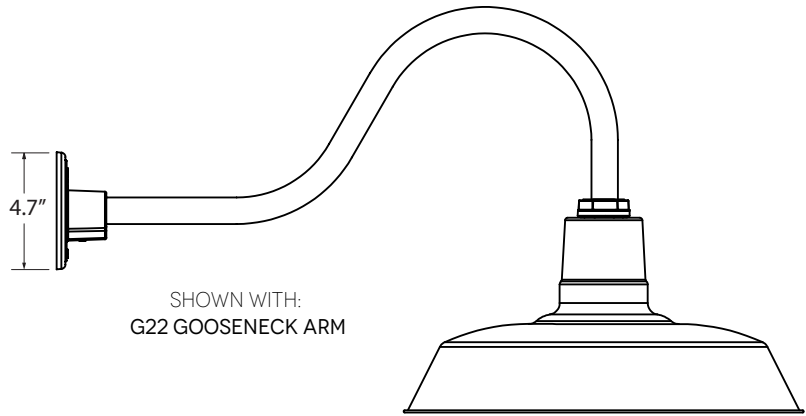
**STEM MOUNT PENDANT (S)**



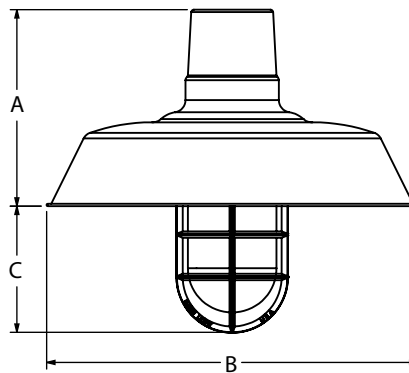
**CORD HUNG PENDANT (C)**



**GOOSENECK (G)**



**LUMINAIRE DIMENSIONS**



SHOWN WITH: OPTIONAL GUARD & GLASS ACCESSORY

SHADE CODE	HEIGHT (A)	DIAMETER (B)	EXTENSION (C)
WHS12	7"	12"	5.1"
WHS14	7.5"	14"	4.8"
WHS16	7.75"	16"	4.4"
WHS18	8.5"	18"	3.6"
WHS20	9.25"	20"	2.9"

**SPECIFICATIONS****CERTIFICATIONS, LISTINGS & WARRANTY**

## MADE IN THE USA

Manufactured and Hand-Crafted in Our 60,000 Square Foot Facility  
Located in Titusville, FL

## CSA LISTED FOR WET LOCATIONS

Includes All Gooseneck, Stem and Flush Mounting Styles  
ACR UL Listed for Damp Locations for Gooseneck and Stem  
Mounting Styles

## CSA LISTED FOR DAMP LOCATIONS

Includes All Chain and Select Cord Hung Mounting Styles  
ACR UL Listed for Damp Locations

## LIMITED WARRANTY

For Additional Information on Our Limited Warranty, Please See  
Our Terms & Conditions

## UL CERTIFICATION

UL Listed Fixtures Available upon Request. Please Consult Factory  
for Additional Information

**LIGHT SOURCE**

## INCANDESCENT

Medium Base E26 Socket, 120 VAC, 200W Max

## COMPACT FLUORESCENT

Bi-Pin Base GU24 Socket, 120 VAC, 23W Max

**CONSTRUCTION & FINISH**

## POWDER COAT SHADE

Hand-Spun from High Purity 3003-O Temper Aluminum

## GALVANIZE SHADE

Hand Spun from High Quality Galvanized Steel

## PORCELAIN SHADE

Hand-Spun from 20 Gauge Porcelain Steel

## POWDER COAT FINISHES

Polyester Powder Coat Finishes Are Electro-Statically Applied and  
Thermocured

## PORCELAIN FINISHES

Applied by Hand and Fired in a High Temperature Oven

## COPPER

Hand-Spun from High Purity C11000-O60 ETP Copper

## BRASS

Hand-Spun from High Purity C2600-O60 Brass

## STEM

1/2" Nominal (0.84" Actual) or 3/4" Nominal (1.05" Actual) Sch 40,  
6063 Aluminum Mounting Stem. Custom Lengths Available upon  
Request.

## GOOSENECK

1/2" Nominal (0.84" Actual) or 3/4" Nominal (1.05" Actual) Sch 40,  
6063 Aluminum Gooseneck

## CORD

Cord-Hung Pendants Include 7' of Standard Cord or 5' of Cotton or  
Cloth Cord, +/- For Socket Orientation

## CHAIN

4-Gauge Chain Complete with Quick Link for On-Site Adjustments  
to Chain's Length

# Floor Area Calculations

by: Teo Següenza, Architect

by: Old Town Barns





**TOWN OF NORTH CASTLE**  
**WESTCHESTER COUNTY**  
**17 Bedford Road**  
**Armonk, New York 10504-1898**

**PLANNING DEPARTMENT**  
**Adam R. Kaufman, AICP**  
**Director of Planning**

**Telephone: (914) 273-3542**  
**Fax: (914) 273-3554**  
[www.northcastleny.com](http://www.northcastleny.com)

## FLOOR AREA CALCULATIONS WORKSHEET

Application Name or Identifying Title: 263 Bedford Banksville Rd. Date: 10/20/23

Tax Map Designation or Proposed Lot No.: 95.03-2-56

### Floor Area

1. Total Lot Area (Net Lot Area for Lots Created After 12/13/06): 941,901 SF/21.62 AC
2. **Maximum** permitted floor area (per Section 355-26.B(4)): 36,637 SF
3. Amount of floor area contained within first floor:  
0 existing + 3,820 proposed = 3,199 SF
4. Amount of floor area contained within second floor:  
0 existing + 4,382 proposed = 3,684 SF
5. Amount of floor area contained within garage:  
0 existing + 931 proposed = 931 SF
6. Amount of floor area contained within porches capable of being enclosed:  
0 existing + 1,084 proposed = 484 SF
7. Amount of floor area contained within basement (if applicable – see definition):  
0 existing + 0 proposed = 0
8. Amount of floor area contained within attic (if applicable – see definition):  
0 existing + 0 proposed = 0
9. Amount of floor area contained within all accessory buildings: by Old Town Barns  
0 existing + 24,344 proposed = 24,344 SF & T. Siguenza, Architect  
Pool House & OTB Structures
10. Proposed **floor area**: Total of Lines 3 – 9 = 32,642 SF

If Line 10 is less than or equal to Line 2, your proposal **complies** with the Town's maximum floor area regulations and the project may proceed to the Residential Project Review Committee for review. If Line 10 is greater than Line 2 your proposal does not comply with the Town's regulations.

Signature and Seal of Professional Preparing Worksheet



10/18/23

Date



TOWN OF NORTH CASTLE  
WESTCHESTER COUNTY  
17 Bedford Road  
Armonk, New York 10504-1898

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Director of Planning

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## FLOOR AREA CALCULATIONS WORKSHEET

Application Name or Identifying Title: 263 Bedford Banksville Rd. Date: 10/20/23

Tax Map Designation or Proposed Lot No.: 95.03-2-56

### Floor Area

1. Total Lot Area (Net Lot Area for Lots Created After 12/13/06): 941,901 SF/21.62 AC
2. **Maximum** permitted floor area (per Section 355-26.B(4)): 36,637 SF
3. Amount of floor area contained within first floor:  
0 existing + 3,820 proposed = 3,199 SF
4. Amount of floor area contained within second floor:  
0 existing + 4,382 proposed = 3,684 SF
5. Amount of floor area contained within garage:  
0 existing + 931 proposed = 931 SF
6. Amount of floor area contained within porches capable of being enclosed:  
0 existing + 1,084 proposed = 484 SF
7. Amount of floor area contained within basement (if applicable – see definition):  
0 existing + 0 proposed = 0
8. Amount of floor area contained within attic (if applicable – see definition):  
0 existing + 0 proposed = 0
9. Amount of floor area contained within all accessory buildings: by Old Town Barns  
0 existing + 24,344 proposed = 24,344 SF & T. Siguenza, Architect  
Pool House & OTB Structures
10. Proposed **floor area**: Total of Lines 3 – 9 = 32,642 SF

If Line 10 is less than or equal to Line 2, your proposal **complies** with the Town's maximum floor area regulations and the project may proceed to the Residential Project Review Committee for review. If Line 10 is greater than Line 2 your proposal does not comply with the Town's regulations.

Signature and Seal of Professional Preparing Worksheet



10/18/23

Date

# Gross Land Coverage Calculations

by: Karl H. Weed, Engineer



TOWN OF NORTH CASTLE  
 WESTCHESTER COUNTY  
 17 Bedford Road  
 Armonk, New York 10504-1898

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### GROSS LAND COVERAGE CALCULATIONS WORKSHEET

Application Name or Identifying Title: 263 BEDFORD BANKSVILLE RD Date: 2/10/2023

Tax Map Designation or Proposed Lot No.: 95.03-2-56

Gross Lot Coverage

1.	Total lot Area (Net Lot Area for Lots Created After 12/13/06):	<u>941,901 SF</u>
2.	<b>Maximum</b> permitted gross land coverage (per Section 355-26.C(1)(a)):	<u>77,378 SF</u>
3.	<b>BONUS</b> maximum gross land cover (per Section 355-26.C(1)(b)): Distance principal home is beyond minimum front yard setback <u>294</u> x 10 = _____	<u>2,940 SF</u>
4.	<b>TOTAL Maximum Permitted gross land coverage</b> = Sum of lines 2 and 3	<u>80,318 SF</u>
5.	Amount of lot area covered by <b>principal building</b> : <u>0</u> existing + <u>4,130</u> proposed =	<u>4,130 SF</u>
6.	Amount of lot area covered by <b>accessory buildings</b> : <u>16,640</u> existing + <u>6,702</u> proposed =	<u>23,342 SF</u>
7.	Amount of lot area covered by <b>decks</b> : <u>0</u> existing + <u>0</u> proposed =	<u>0 SF</u>
8.	Amount of lot area covered by <b>porches</b> : <u>0</u> existing + <u>510</u> proposed =	<u>510 SF</u>
9.	Amount of lot area covered by <b>driveway, parking areas and walkways</b> : <u>8,415</u> existing + <u>19,695</u> proposed =	<u>28,110 SF</u>
10.	Amount of lot area covered by <b>terraces</b> : <u>0</u> existing + <u>1,645</u> proposed =	<u>1,645 SF</u>
11.	Amount of lot area covered by <b>tennis court, pool and mechanical equip</b> : <u>0</u> existing + <u>1,065</u> proposed =	<u>1,065 SF</u>
12.	Amount of lot area covered by <b>all other structures</b> : <u>0</u> existing + <u>205</u> proposed =	<u>205 SF</u>
13.	Proposed <b>gross land coverage</b> : Total of Lines 5 – 12 =	<u>59,007 SF</u>

If Line 13 is less than or equal to Line 4, your proposal **complies** with the Town's maximum gross land coverage regulations and the project may proceed to the Residential Project Review Committee for review. If Line 13 is greater than Line 4 your proposal does not comply with the Town's regulations.

*Karl H Weed*



Signature and Seal of Professional Preparing Worksheet

2/10/2023

Date



**TOWN OF NORTH CASTLE**  
**WESTCHESTER COUNTY**  
17 Bedford Road  
Armonk, New York 10504-1898

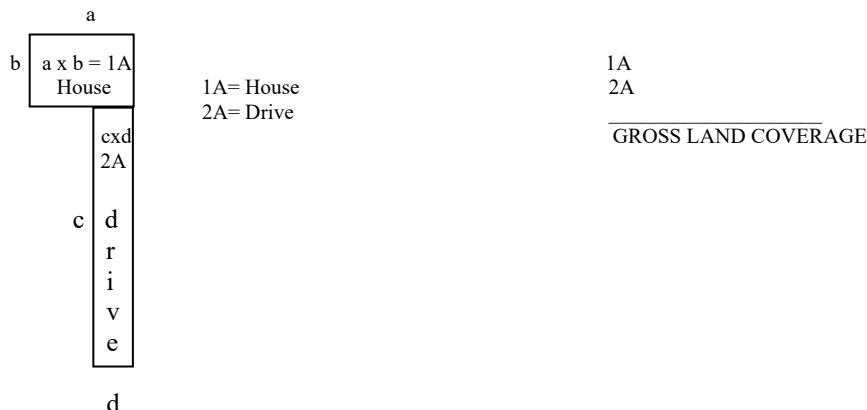
**PLANNING DEPARTMENT**  
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## GROSS LAND COVERAGE WORKSHEET

The following format is to be used for all applications for the purpose of demonstrating the gross land coverage of a property as necessary to show compliance with gross land coverage limitations of the Town Code.

1. Scaled worksheets are to be prepared based upon a site plan which represents existing or proposed conditions as applicable to the particular circumstances of the approval being sought. All site plans and worksheets are required to be prepared by a licensed or registered professional in the State of New York.
2. Each component of the gross land coverage is to be divided into simple polygons (squares, rectangles, etc.) each being drawn on the plan. The area of each polygon is to be shown by providing the dimensions and resulting area measurement. Each polygon is to be assigned an identifying label for reference purposes.
3. A summary table for each component is to be completed. The area of each polygon is to be listed by reference label then added, resulting in the gross land coverage for the entire site.
4. Any exception of land coverage from the gross land coverage must be identified on the floor plans and summary tables. The rationale for any exception must accompany the floor area worksheets.
5. A schematic illustration of the format is shown below (or a schematic illustration with areas computed by CAD)





LOT AREA, NET – Lot area minus seventy five (75) percent of the area of any wetlands, waterbodies and, watercourses, but excluding any adjacent areas, all as defined in Chapter 340 Wetlands and Drainage, of the Town Code, and the area of any steep slopes, as defined Chapter 355, except that in the case of one-family lots, the deduction for steep slopes shall be only fifty (50) percent.

Lot Size	Maximum Permitted Gross Land Coverage for One-Family Dwelling Lots <sup>1</sup> (square feet)
Less than 5,000 square feet	50% of the lot area
5,000 to 9,999 square feet	2,500 plus 30% of the lot area in excess of 5,000 square feet
10,000 to 14,999 square feet	4,000 plus 24% of the lot area in excess of 10,000 square feet
15,000 square feet to 0.499 acres	5,200 plus 18% of the lot area in excess of 15,000 square feet
0.5 to 0.749 acres	6,420 plus 15% of the lot area in excess of 0.5 acres
0.75 to 0.999 acres	8,050 plus 12% of the lot area in excess of 0.75 acres
1.0 to 1.999 acres	9,350 plus 9% of the lot area in excess of 1.0 acres
2.0 acres or more	13,270 plus 7.5% of the lot area in excess of 2.0 acres

\*Permitted gross land coverage limitations for two-family dwelling lots in the R-2F District shall be twenty five (25) percent greater than that permitted for one-family dwelling lots.

NOTWITHSTANDING ABOVE LIMITATIONS, AN ADDITIONAL 10 SQUARE FEET OF GROSS LAND COVERAGE SHALL BE PERMITTED FOR EACH ONE FOOT OF FRONT YARD SETBACK OF THE PRINCIPAL DWELLING IN EXCESS OF THE MINIMUM FRONT YARD SETBACK REQUIRED.

Stormwater Pollution  
Prevention Plan  
(SWPPP)

by: DiMarzo & Bereczky, Inc.



## Stormwater Pollution Prevention Plan (SWPPP)

### Owner & Operator:

Marengo Farms, LLC  
c/o Chloe Gasiorowski  
48 Davids Way  
Bedford Hills, NY 10507

### Project Location:

Marengo Farms, LLC  
263 Bedford Banksville Road  
Bedford, NY 10506  
(Town of North Castle Municipality)

### SWPPP Preparer:

DiMarzo & Bereczky Inc.  
191 Lloyd Drive  
Fairfield, CT 06825

Karl H. Weed, P.E.  
Registration #075695

### SWPPP Preparation Date:

Revision Date: 10/18/2023  
Initial Date: 2/10/2023

### Project Dates:

Estimated Start Date: 1/15/2024  
Estimated Completion Date: 12/19/2024

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## SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

### 1.1 Project/Site Information

Project/Site Name: Marengo Farms LLC

Project Street/Location: 263 Bedford Banksville Road

City: North Castle

State: NY

ZIP Code: 10506

County: Westchester

Latitude/Longitude

Latitude: 41° 10' 01" N

Longitude: 73° 39' 32" W

Method for determining latitude/longitude: U.S.D.A. National Resources Conservation Service

NPDES project or permit tracking number: T.B.D.

### 1.2 Contact Information/Responsible Parties

#### Owner & Operator:

Marengo Farms, LLC c/o Chloe Gasiorowski  
48 Davids Way  
Bedford Hills, NY 10507  
(347) 853-6073

#### SWPPP Preparer:

DiMarzo & Bereczky, Inc.  
Louis DiMarzo, P.E.  
191 Lloyd Drive  
Fairfield, CT 06825  
(203) 857 4110  
Fax: (203) 857 4110

**Project Manager or Site Supervisor:** T.B.D.

**Subcontractor(s):** T.B.D.

**Emergency 24-Hour Contact:** T.B.D.



### **1.3 Introduction**

Marengo Farms LLC is the property owner of 263 Bedford Banksville Road in Bedford. The lot is 21.6 acres. The parcel is on the west side of Bedford Banksville Road approximately 300 feet south of its intersection with Finch Drive. An orientation map may be found on drawing sheet C-1. The property is currently developed as an equestrian estate. The owner is proposing to raze the principal dwelling and construct a new single-family residence with a pool, pool house, terrace and a new drive court. The existing indoor riding area building shall be renovated. A new ten (10) horse stall barn is proposed. A Grooms Quarters building with 4 bedrooms is proposed. Existing paddocks shall be expanded, and new paddocks are proposed.

The area of disturbance for the proposed project improvements is 4.9 acres. A majority of the work will be done within the previously developed portion of the site. The project surveyor is T.C. Merritts, and the survey is listed below. Reference is made to the following site design drawings prepared by DiMarzo & Berezcky, Inc.

Topographic of Property prepared for Kent Farrington LLC, dated 6/21/2021

C-0 Zoning Site Plan, dated 10/18/2023

C-1 Site Development Plan, dated 10/18/2023

C-2 Gross Land Coverage Plan, dated 10/18/2023

C-3A Site Plan – 3A, dated 10/18/2023

C-3B Site Plan – 3B, dated 10/18/2023

C-4 Erosion & Sediment Control Plan, dated 10/18/2023

C-5 Notes & Details, dated 10/18/2023

C-6 Details-1, dated 10/18/2023

C-7 Details-2, dated 10/18/2023

C-8 Turning Templates Plan, dated 10/18/2023

### **1.4 Existing Conditions**

The property at 263 Bedford Banksville Road is 21.6 acres and lies within the R-4A Zone. The property is currently developed with a single-family dwelling, sheds, barns, indoor riding area building, paddocks, and conventional utility services.

The Mianus River is the western boundary of the lot. It flows from south to north. A pond is located within the northwest portion of property and within 110 feet from the river. Separately, a stream is located within the northeast corner of the property. It flows from its eastern culvert underneath Bedford Banksville Road to the north towards its culvert with Finch Drive. NYSDEC wetlands are located along the western boundary and associated with the Mianus River. Local wetlands are adjacent to the pond. Additionally, local wetlands are along the stream in the northeast of the property. The wetland investigation and delineation was prepared by Jay Fain & Associates, LLC. Their findings are published in a report titled, "Soils Mapping & Wetland/Watercourse Delineation for 263 Bedford Banksville Road, North Castle, NY 10506" dated 3/04/2021. This report is in Appendix A. The property is tributary to the Mianus River Watershed. Both the western and northeast portions of the site lie within the 100-year flood plain per the Federal Emergency Management Agency (FEMA). The FEMA Flood Insurance Rate Map dated 9/28/2007 is in Appendix B.

The site soils in the central and more developed portion of the property consist of Chatfield-Charlton complex and Chatfield-Charlton fine sandy. The site soils within the western portion of the site are classified as Riverhead loam with areas of Udorthents around the pond. The northeast area along the stream contains Leicester loam soils. These classifications are identified by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soils map for Westchester County. The NRCS soil survey is in Appendix B. The hydrological soils classifications are primarily type B for the eastern half of the property. The western half is split between type A and D.

## **1.5 Pre-Construction Drainage Analysis**

There is a central ridge with a north-south axis on the property. Thus, the site drains in two directions. A larger portion of the site drains to the west towards the pond and the Mianus River via overland flow. This is the West Basin at 16.49 acres. The remaining areas drain with overland flow towards the northeastern stream. This is the East Basin at 5.13 acres.

The West Basin contains gravel and dirt roads, the house, lawn, a barn, paddocks, wooded areas, meadow, and a pond. The East Basin contains gravel drives, sheds, indoor riding area building, paddocks, meadow, some lawn, and wooded areas.

Refer to Table 1 below for information on the existing drainage basin.

**Table 1 - Existing Conditions Basin**

Existing Conditions			
Basin	Area (ac)	CN	Tc (min)
Ex West	16.49	67.60	20.2
Ex East	5.13	72.95	13.7

## 1.6 Post-Construction Drainage Analysis

Under proposed conditions the site drains to the same discharge points as it does under existing conditions. The proposed improvements will increase onsite impervious coverage by 18,855 square feet (SF). The Eastern Basin has an impervious surface reduction of 1,515 SF. The Western Basin has an impervious surface increase of 20,370 SF. For this drainage study, gravel roads are considered as impervious surfaces for both existing and proposed conditions. Refer to the “Proposed Conditions Drainage Basin Map” in Appendix C.

Eight (8) infiltration systems are proposed for the re-development. The systems will serve to treat and store the WQv volume, and the CPv volume. They will also serve to mitigate peak flow rates of runoff generated by the 10 and 100-year storm events. The post-construction peak flow rates leaving the site will be equal to or less than pre-construction conditions.

Under proposed conditions, the Western Basin is divided into five (5) sub-basins. The West-1, West-2, West-3 and West-4 sub-basins are associated with infiltration systems. The remaining areas are within the West Bypass. Similarly, the Eastern Basin is divided into five (5) sub-basins. The East-1, East -2, East -3 and East -4 sub-basins are associated with infiltration systems. The remaining areas are within the East Bypass.

Refer to Table 2 below for information on the proposed drainage basins.



**Table 2 - Proposed Drainage Basins**

Proposed Conditions						
Basin	Area (ac)	CN	Sub-Basin	Area (ac)	CN	Tc (min)
Pr West	16.71	67.80	West Bypass	16.07	66.83	20.2
			W-1	0.19	98.00	5.0
			W-2	0.01	98.00	5.0
			W-3	0.33	88.55	5.0
			W-4	0.11	98.00	5.0
Pr East	4.92	72.80	East Bypass	4.31	71.87	13.7
			E-1	0.05	85.00	5.0
			E-2	0.13	76.17	5.0
			E-3	0.24	84.01	5.0
			E-4	0.19	74.52	5.0

The runoff for the West-1, West-3, and West-4 basins are captured by applicable roof gutters, roof leaders, area drains, and catch basins for the new development. The respective drainage basin areas are piped to the proposed infiltration systems designated as BMP-W1, BMP-W3, and BMP-W4. The systems each consist of Cultec Recharger 330XLHD chamber units and crushed stone. A conservative exfiltration rate of 2.0 inches per hour is applied based on field testing. The systems shall have a high-level discharge controlled by an adjacent level spreader on the down gradient slope. The crushed stone of the level spreaders shall daylight at finished grade and provide for non-erosive outlet protection.

The runoff for the West-2 basin is captured by an area drain within the proposed dumpster pad area for manure collection. The tributary infiltration system is BMP-W2. It is proposed as a two (2) chambers of Cultec Recharger 330XLHD. The system has been designed to contain the entire 100 year storm event below the upstream area drain grate.

The runoff for the East-1, East-2, East-3 and East-4 basins are captured by applicable roof gutters, roof leaders, and catch basins for the new development. The respective drainage basin areas are piped to the proposed infiltration systems designated as BMP-E1, BMP-E2, BMP-E3, and BMP-E4. The E-1, E-2, E-3, and E-4 systems consist of Cultec 100HD, 150XLHD, 330XLHD, and 280HD chamber units respectively and crushed stone. Refer to the Site Plan drawing set. A conservative exfiltration rate of 2.0 inches per hour is applied based on field testing. The systems shall have a high-level discharge controlled by an adjacent level spreader on the down gradient slope. The

crushed stone of the level spreaders shall daylight at finished grade and provide for non-erosive outlet protection.

### 1.7 Runoff Calculations

Runoff for the drainage analysis is calculated using the computer program HydroCAD version 10.2 produced by HydroCAD Software Solutions, LLC. The 24-hour design storms analyzed include the 10 and 100-year storm events, with rainfall depths of 5.1 and 9.1 inches respectively. The method used is USDA, NRCS TR-55, and the rainfall distribution is defined as Type III.

Weighted curve numbers were determined for each sub-basin based on hydrologic soil type and land cover. Land cover information was determined from aerial photographs and field inspection. Hydrologic soil groups were obtained from the Soil Survey of Westchester County, NY prepared by the USDA, NRCS.

The storage within the proposed infiltration systems and their outlets has been modeled as a part of this drainage study. Refer to Appendix D for drainage maps, water quality calculation and HydroCAD analysis. Table 3 and Table 4 below show a comparison of existing and proposed peak runoff rates and runoff volumes for each respective study point.

**Table 3 - Peak Rates of Runoff**

WEST Study Point			
Storm Event (yrs)	Existing Peak Rate of Runoff (cfs)	Proposed Peak Rate of Runoff (cfs)	% change
1	5.75	5.16	-10.3%
10	24.07	23.65	-1.7%
100	66.63	65.76	-1.3%

EAST Study Point			
Storm Event (yrs)	Existing Peak Rate of Runoff (cfs)	Proposed Peak Rate of Runoff (cfs)	% change
1	3.36	2.59	-22.9%
10	11.00	9.83	-10.6%
100	27.22	24.85	-8.7%

**Table 4 - Runoff Volume Rates**

WEST Study Point						
Storm Event (yrs)	Hydraulic Volume (cubic feet)			Hydraulic Volume (acre feet)		
	Existing	Proposed	% change	Exsiting	Proposed	% change
1	33279	30675	-7.8	0.764	0.704	-7.8
10	114350	110724	-3.2	2.625	2.542	-3.2
100	305546	302118	-1.1	7.014	6.936	-1.1

EAST Study Point						
Storm Event (yrs)	Hydraulic Volume (cubic feet)			Hydraulic Volume (acre feet)		
	Existing	Proposed	% change	Exsiting	Proposed	% change
1	14731	11578	-21.4	0.338	0.266	-21.4
10	43720	36693	-16.1	1.004	0.842	-16.1
100	107547	96029	-10.7	2.469	2.205	-10.7

The proposed BMPs provide for a runoff storage volume in cubic feet (cuft) as follows: W-1, W-2, W-3, W-4, E-1, E-2, E-3, and E-4 provide for 1,007, 250, 1,211, 634, 296, 329, 905, and 518 cuft respectively. These volumes satisfy WQv, and CPv volumes. Pretreatment volume compliance is provided with a proposed Cultec Separator Row to achieve 80% total suspended solids removal from the infiltration systems. Refer to Appendix “D” for the calculations of WQv. Refer to Appendix “C” for the HydroCAD 1-year storm event analysis for CPv.

At each study point of comparison, the peak runoff flow rates are mitigated for the 10 and 100-year storm events. This complies with NYSDEC Qp and Qf requirements. Thus, the post-construction downstream erosion will be unaffected by this project.



## SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

### 2.1 Minimize Disturbed Area and Protect Natural Features and Soil

Limiting the amount of disturbance and limiting the amount of time areas are disturbed are the best controls for limiting erosion on the construction site. The Erosion and Sediment Control Plan C-4 depicts the proposed limits of disturbance for the site. The total temporary construction disturbance is 4.9 acres. Most of this disturbance is within areas previously disturbed by the prior development of the lot.

The designated responsible party of this SWPPP must obtain coverage under the New York State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001). A Notice of Intent (NOI) shall be submitted electronically to the NYSDEC online NOI. A MS4 SWPPP acceptance form shall be completed, approved and submitted to the NYSDEC.

### 2.2 Construction Phasing

- Phase 1: Preparation (1 week)
  - An on-site pre-construction meeting shall be attended by the Town Engineer, Town Building Inspector, The inspecting Engineer of Record, Contractor, and Owner to review the Erosion and Sediment Control Plans and discuss modifications. The contractor shall be responsible for coordinating the pre-construction meeting.
  - Install silt fences and tracking pad for construction.
  - Install tree protection and trim limbs that may be damaged by construction.
  - Install inlet protection on existing catch basins as depicted on the plan.
  - Install a protection fence around the proposed septic leaching area and the proposed stormwater infiltration galleries.
  - Cut trees to be removed.
- Phase 2: Demolition: (2 weeks)
  - Cap-off and remove existing utilities to the house.
  - Demolish and remove existing house, sheds, stall barn, and southwest wing to the existing indoor riding building
- Phase 3: Construction of house, pool house, pool, and drive (30 weeks)
  - Excavate and construct foundation for house and pool house.
  - Excavate and construct 10 stall stable barn and grooms quarters.
  - Rough grade the proposed gravel driveways and the asphalt drive court.

- Construct the house, pool house, barn, and grooms quarters. Backfill foundations as soon as possible.
  - Install septic leaching trenches, tanks, boxes and associated piping.
  - Install stormwater infiltration galleries.
  - Install water, electric and communication utilities
  - Grade proposed paddock areas.
  - Final paving for the drives and driveway.
  - Maintain all sediment and erosion controls in an effective condition during the construction period.
- Phase 4: Landscaping (3 weeks)
    - Fully stabilize all disturbed areas.
    - Install seed and mulch.
  - Phase 5: Clean up after all areas are stabilized (1 week)
    - Clean effected portions of off-site roads and driveways.
    - Remove accumulated silt and debris.
    - Remove temporary sediment and erosion controls.
    - Make any necessary repairs to permanent erosion and sediment controls.

### **2.3 Anti-Tracking Pad**

Anti-tracking pads consisting of crushed stone and a geotextile foundation will be installed at the locations shown on site drawing C-4 to prevent off site transport of sediment by construction vehicles. The anti-tracking pads will be at least 50 feet long, a minimum of 12 feet wide, flared at the end closest to the paved road, and will consist of a 6-inch-thick layer of crushed stone (1"-4" inch diameter). The crushed stone will be placed over a layer of geotextile filter fabric to reduce the mitigation of sediment from the underlying soil.

The stabilized exits will be installed before construction begins on the site. The anti-tracking pads will be placed on the pavement and will remain until all areas of the site have been stabilized.

The tracking pads will be inspected weekly and after storm events or heavy use. The exits will be maintained in a condition that will prevent tracking or flowing of sediment off site or onto public roads. All sediment tracked, spilled, dropped or washed off site will be swept up immediately and hauled off-site for disposal at the appropriate disposal facility. Sediment will be swept from the anti-tracking pad weekly, or more often if necessary. If excess sediment has clogged the pad, the exit will be top dressed with new crushed stone. Replacement of the entire pad might be necessary when the pad becomes completely filled with sediment. The pad will be reshaped as needed for drainage and runoff control. Broken road pavement as a result of construction activities on roadways immediately

adjacent to the project site will be repaired immediately. The stone anti-tracking pad will be removed before the subgrade of pavement is applied to the parking lot. The removed stone and sediment from the pad will be hauled off site and disposed of at the appropriate disposal facility.

## **2.4 Establish Perimeter Controls and Sediment Barriers**

Silt fences will be installed in accordance with drawing C-4 and around any stockpiles. Silt fences will be installed by excavating a 12-inch-deep trench along the line of proposed installation. Wooden posts supporting the silt fence will be spaced 4 to 6 feet apart and driven securely into the ground; a minimum of 18 to 20 inches deep. The silt fence will be fastened securely to the wooden posts with wire ties spaced every 24 inches at the top, middle, and bottom of the wooden post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent storm water and sediment from discharging underneath the silt fence.

The silt fences will be installed before construction begins at the site and around stockpiles once they have been established.

Silt fences will be inspected weekly and immediately after a large storm event to ensure it is intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If gaps or tears are found during the inspection, the fabric will be repaired or replaced immediately. Accumulated sediment will be removed from the fence base if it reaches one-third the height of the silt fence and hauled off-site for disposal. If accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event, the sediment will be removed more frequently. Before the fence is removed from the project area, the sediment will be removed. The anticipated life span of the silt fence is 6 months and will likely need to be replaced after this period

## **2.5 Protect Existing and Proposed Storm Drain Inlets**

Proposed storm drain inlets on the site will be protected from sediment by filter fabric drop inlet protection per the detail and locations on site drawing C-4. Catch basin drop inlet protection will be installed in proposed catch basins directly after installation of the proposed catch basin or area drain.

The filter fabric drop inlet protection will be inspected weekly and immediately after storm events. If the filter fabric becomes clogged with sediment, the fabric will be removed and replaced.



Storm drain inlets on the site will also be protected from sediment by a perimeter of hay bales per the detail and locations on site drawing C-4. Hay bales will be installed on-site prior to any construction activities beginning. These hay bales serve to prevent any large size particle sediment from reaching the storm drain inlets. These hay bale perimeters will be removed once the site has been permanently stabilized.

The hay bale perimeters will be inspected weekly and immediately after storm events. If the hay bale perimeter is deteriorating or not functioning properly, it will be removed and replaced per recommendation of the site engineer.

## **SECTION 3: GOOD HOUSEKEEPING BMPS**

### **3.1 Material Handling and Waste Management**

#### **Waste Materials**

All waste materials will be collected and disposed of into metal trash dumpsters in the materials storage area. Dumpsters will have a secure watertight lid, be placed away from stormwater conveyances and drains, and meet all federal, state, and municipal regulations. Only trash and construction debris from the site will be deposited in the dumpsters. No construction materials will be buried on-site. All personnel will be instructed regarding the correct disposal of trash and construction debris. Notices that state these practices will be posted in the office trailer and the individual who manages day to day site operations will be responsible for seeing that these practices are followed.

Trash dumpsters will be installed once the material storage area has been established. The dumpsters will be inspected weekly and immediately after storm events. The dumpsters will be emptied weekly and taken to the appropriate disposal facility. If trash and construction debris are exceeding the dumpster's capacity, the dumpsters will be emptied more frequently.

#### **Hazardous Waste Materials**

It is not anticipated that this project will produce unusual hazardous wastes; but in an effort to prevent any unanticipated disposal of hazardous materials, then this SWPPP will address the issue as follows: All hazardous waste materials such as oil filters, petroleum products, paint, and equipment maintenance fluids will be stored in structurally sound and sealed shipping containers, within the hazardous materials storage area. Hazardous waste materials will be stored in appropriate and clearly marked containers and segregated from other non-waste materials. Secondary containment will be provided for all waste materials in the hazardous materials storage area and will consist of commercially available spill pallets. Additionally, all hazardous waste materials will be

disposed of in accordance with federal, state, and municipal regulations. Hazardous waste materials will not be disposed of into the on-site dumpsters. All personnel will be instructed regarding the proper procedures for hazardous waste disposal. Notices that state these procedures will be posted in the office trailer and the individual who manages day to day site operations will be responsible for seeing that these procedures are followed.

Shipping containers used to store hazardous waste materials will be installed once the site materials storage area has been installed.

The hazardous waste materials storage areas will be inspected weekly and after storm events. The storage areas will be kept clean, organized, and equipped with ample clean up supplies as appropriate for the materials being stored. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer.

### **Sanitary Waste**

Temporary sanitary facilities (portable toilets) will be provided at the site throughout the construction phase. The portable toilets will be located away from a concentrated flow paths and traffic flow.

The portable toilets will be brought to the site once the staging area has been established. All sanitary waste will be collected from the portable facilities as necessary. The portable toilets will be inspected weekly of evidence of leaking holding tanks. Toilets with leaking holding tanks will be removed from the site and replaced with new portable toilets.

## **3.2 Establish Proper Equipment and Vehicle Fueling and Maintenance Practices**

Several types of vehicles and equipment will be used on-site throughout the project, including graders, excavators, backhoes, loaders, paving equipment, rollers, and trucks and trailers. Only minor equipment maintenance will occur on-site. All equipment fluids generated from maintenance activities will be disposed of into designated drums stored on spill pallets in accordance with Part 3.1. Absorbent, spill cleanup materials and spill kits will be available at the combined staging and materials storage area.

BMPs implemented for equipment and vehicle maintenance and fueling activities will begin at the start of the project. Equipment and vehicle storage areas and fuel tanks will be inspected weekly and after major storm events. Vehicles and equipment will be inspected on each day of use. Leaks will be repaired immediately, or the problem vehicle(s) or equipment will be removed from the

project site. Ample supply of spill-cleanup materials will be kept on site and will be used to clean up spills immediately and will be disposed of properly.

## **SECTION 4: CERTIFICATION**

### **4.1 Certification Statement**

To the best of my knowledge, and with the proper implementation of the design drawings, construction of this proposed project will not result in adverse hydraulic or hydrologic impacts on adjacent or downstream properties or drainage facilities.



# APPENDIX – A

# JAY FAIN & ASSOCIATES, LLC

Environmental Consulting Services

Jay Fain  
Principal  
elmst@optonline.net

Victoria Landau  
Principal, ASLA  
vplandau@optonline.net

2000 Post Road  
Suite 201  
Fairfield, CT 06824  
203 254-3156  
jfassociates@optonline.net

## SOILS MAPPING & WETLAND/WATERCOURSE DELINEATION FOR 263 BEDFORD BANKSVILLE ROAD, NORTH CASTLE, NY 10506

Page 1

### PROPERTY LOCATION AND DESCRIPTION:

LAND USE: **Horse Farm** ACRES: **21.0±**

DELINEATION ADDRESS: **263 Bedford Banksville Rd.  
North Castle, NY 10506**

### REPORT COMPLETED FOR:

NAME: **Kent Farrington  
c/o Old Town Barns**  
MAILING ADDRESS: **125 Rt. 22  
Pawling, NY 12564**

### MAPPING AND DELINEATION METHODOLOGY

Soils analysis, as described in this report, is intended as an inventory and evaluation of the existing soil characteristics on the subject property. A first order soil survey in accordance with the principles and practices noted in the USDA publication Soil Survey Manual (1993) was completed at the site. Soil units mapped in the field correspond with those in the USDA publication *Soil Survey of Putnam and Westchester Counties, New York* (1994).

Wetland identification was based on the presence of poorly and very poorly drained soils and/or a prevalence of hydrophytic vegetation. Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, numerous two-foot deep test pits and/or hand borings were completed throughout the site. Prevalence of hydrophytic vegetation was confirmed by visually determining the dominant plant species in each vegetation community in accordance with the Onsite Routine Determination method as described in the 1989 manual titled Corps of Engineers Wetland Delineation Manual (Manual) by the Environmental Laboratory. Transects were located perpendicular to and at representative points along the perceived boundaries of the wetland areas identified on the property. Soil morphologies and vegetation were observed at sampling points along the transects. Sampling began well outside the bounds of the wetland and continued towards it until hydric soils and/or a prevalence of hydrophytic vegetation were observed. This point on each transect was marked (flagged) with an orange surveyor's tape labeled "Wetland Boundary". The complete boundary of every wetland area is located along the lines that connect these sequentially numbered boundary points.

**The wetland and watercourse boundaries are subject to change until adopted by the Town.**

### DATE AND CONDITIONS AT TIME OF INSPECTION

DATE: **December 02, 2020** INSPECTED BY: **Jay Fain**  
**Amended March 4, 2021**

WEATHER: **Cool & Cloudy**

SOIL MOISTURE CONDITIONS:  DRY  MOIST  WET FROST DEPTH: **N/A** SNOW DEPTH: **N/A**

### CERTIFICATION

  
\_\_\_\_\_  
JAY FAIN, PRINCIPAL, SOIL SCIENTIST



**SOILS MAPPING & WETLAND/WATERCOURSE  
DELINEATION FOR  
263 BEDFORD BANKSVILLE ROAD, NORTH CASTLE, NY 10506**

Page 2

**WETLAND/WATERCOURSE IDENTIFIED**

FLAG NUMBERS	WETLAND TYPE	SOIL TYPE	COMMENTS
1-33	Riverine	Ff – Frequently Flooded	Mianus River Floodplain
50-77	Aquents	Aq - Aquents	Pond, Edge of Pond
200-212	Stream	RdA – Ridgebury loam	-

**SOIL MAP UNITS**

Each soil map unit that was identified on the property represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of the map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope) of each unit are provided. These are generally the primary characteristics to be considered in land use planning and management. A narrative that defines each characteristic and describes their land use implications follows the table. Complete descriptions of each soil map unit can be found in the *Soil Survey of Putnam and Westchester Counties, New York (1993)*.

**UPLAND SOILS**

SOIL		PARENT MATERIAL	SLOPE %	DRAINAGE CLASS	HIGH WATER TABLE			DEPTH TO BEDROCK (in)
SYM.	NAME				DEPTH (ft)	KIND	MOS.	
CrC	Charleton-Chatfield complex, rolling, very rocky	Loose Glacial Till	2-15	Well Drained	>6.0	--	--	>60
		Loose Glacial Till	2-15	Well Drained & Somewhat Excessively Drained	>6.0	--	--	20-40
RhC	Riverhead loam	Glacial Outwash	0-3 3-8 8-15 15-25 25-50	Well Drained	>6.0	--	--	>60

**WETLAND SOILS**

SOIL		PARENT MATERIAL	SLOPE %	DRAINAGE CLASS	HIGH WATER TABLE			DEPTH TO BEDROCK (in)
SYM.	NAME				DEPTH (ft)	KIND	MOS.	
Ff	Frequently flooded	Alluvial	0-3	Poorly Drained	<2.0	Apparent	Jan-Dec	>60
Aq	Aquents	-	0-3	Poorly Drained	0.0-1.5	Apparent	Nov-May	>60
RdA	Ridgebury Loam	Compact Glacial Till	0-3 3-8	Poorly Drained, Somewhat Poorly Drained	0.0-1.05	Perched	Nov.-May	>60



**SOILS MAPPING & WETLAND/WATERCOURSE  
DELINEATION FOR  
263 BEDFORD BANKSVILLE ROAD, NORTH CASTLE, NY 10506**

Page 3

**SOIL CHARACTERISTICS: DEFINITIONS AND LAND USE IMPLICATIONS**

**PARENT MATERIAL:** Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted, nonstratified glacial drift consisting of clay, silt, sand and boulders transported and deposited by glacial ice. Glacial outwash consists of gravel, sand and silt, which is commonly stratified, deposited by glacial melt water. Alluvium is material such as sand, silt or clay deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

A soil's texture affects the ease of digging, filling and compacting and the permeability of a soil. Generally sand and gravel soils, such as outwash soils, have higher permeability rates than most glacial till soils. Soil permeability effects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude their use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use, such as construction subbase material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

**DRAINAGE CLASS:** Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

**HIGH WATER TABLE:** High water table is the highest level of a saturated zone in the soil in most years. The water table can effect when shallow excavations can be made; the ease of the excavations, construction, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

**DEPTH TO BEDROCK:** The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction, such as digging, filling, compacting and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

**SLOPE:** Generally soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.



# Mapping Westchester County

1-33 river  
50-77 pond/cut



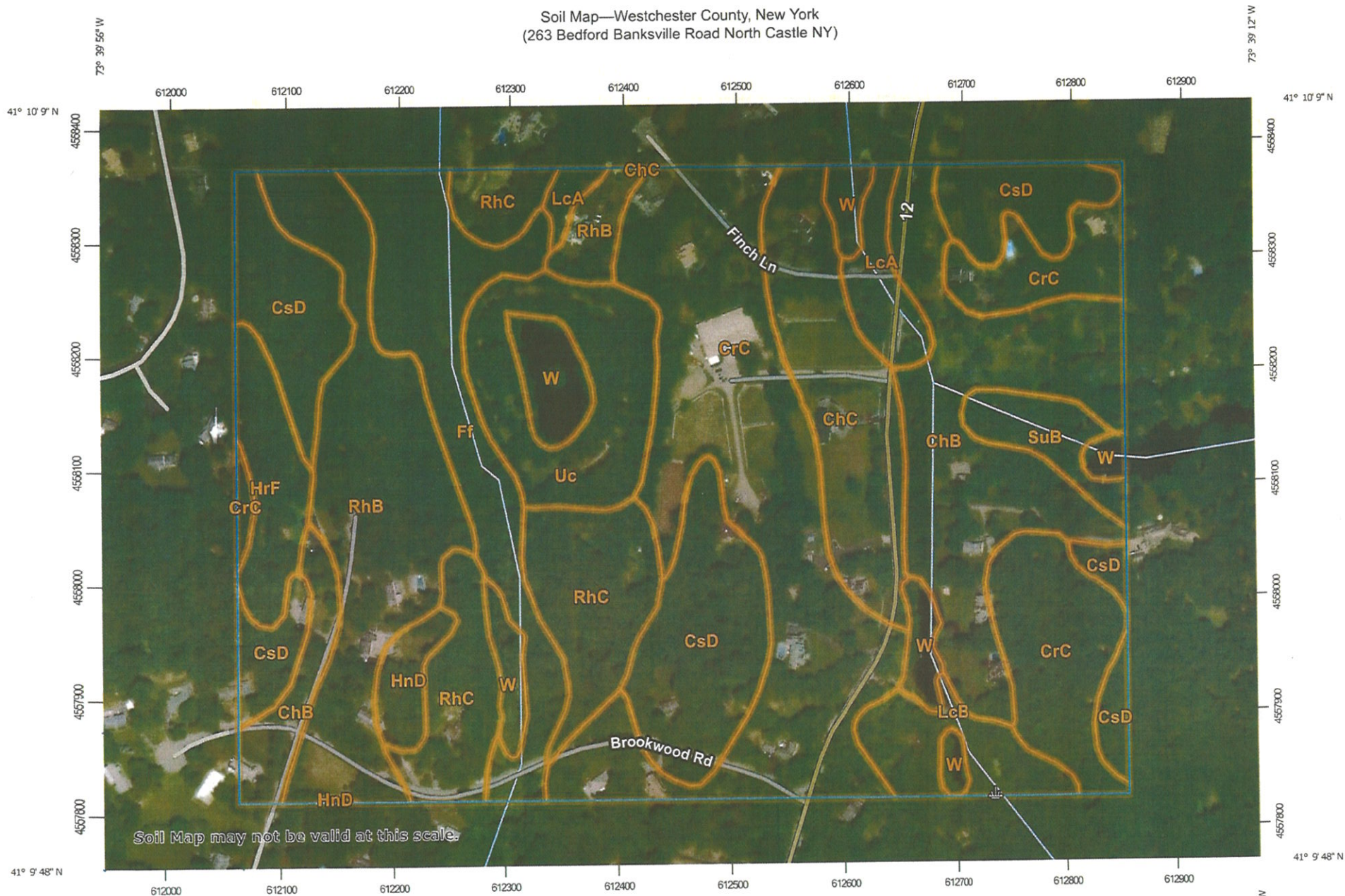
Wetland Sketch M.P  
JFA - 12/2/20  
1-33 - Flood plain  
50-77 - Pond

0 110 220 440  
ft  
1:2,257 December 1, 2020

N  
GIS  
<http://giswww.westchestergov.com>  
Michaelian Office Building  
148 Marine Avenue Rm 214  
White Plains, New York 10601

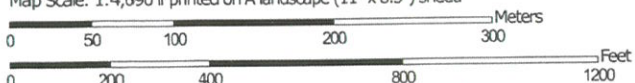
unicipal Boundaries

Soil Map—Westchester County, New York  
(263 Bedford Banksville Road North Castle NY)



Soil Map may not be valid at this scale.

Map Scale: 1:4,690 if printed on A landscape (11" x 8.5") sheet.




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





## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York  
Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 16, 2017

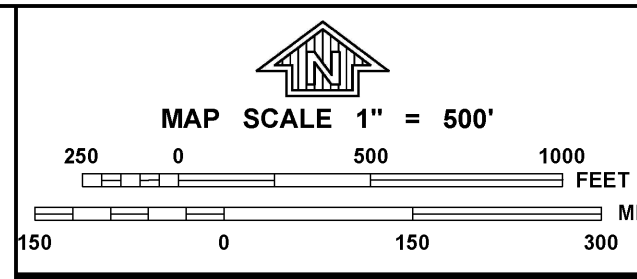
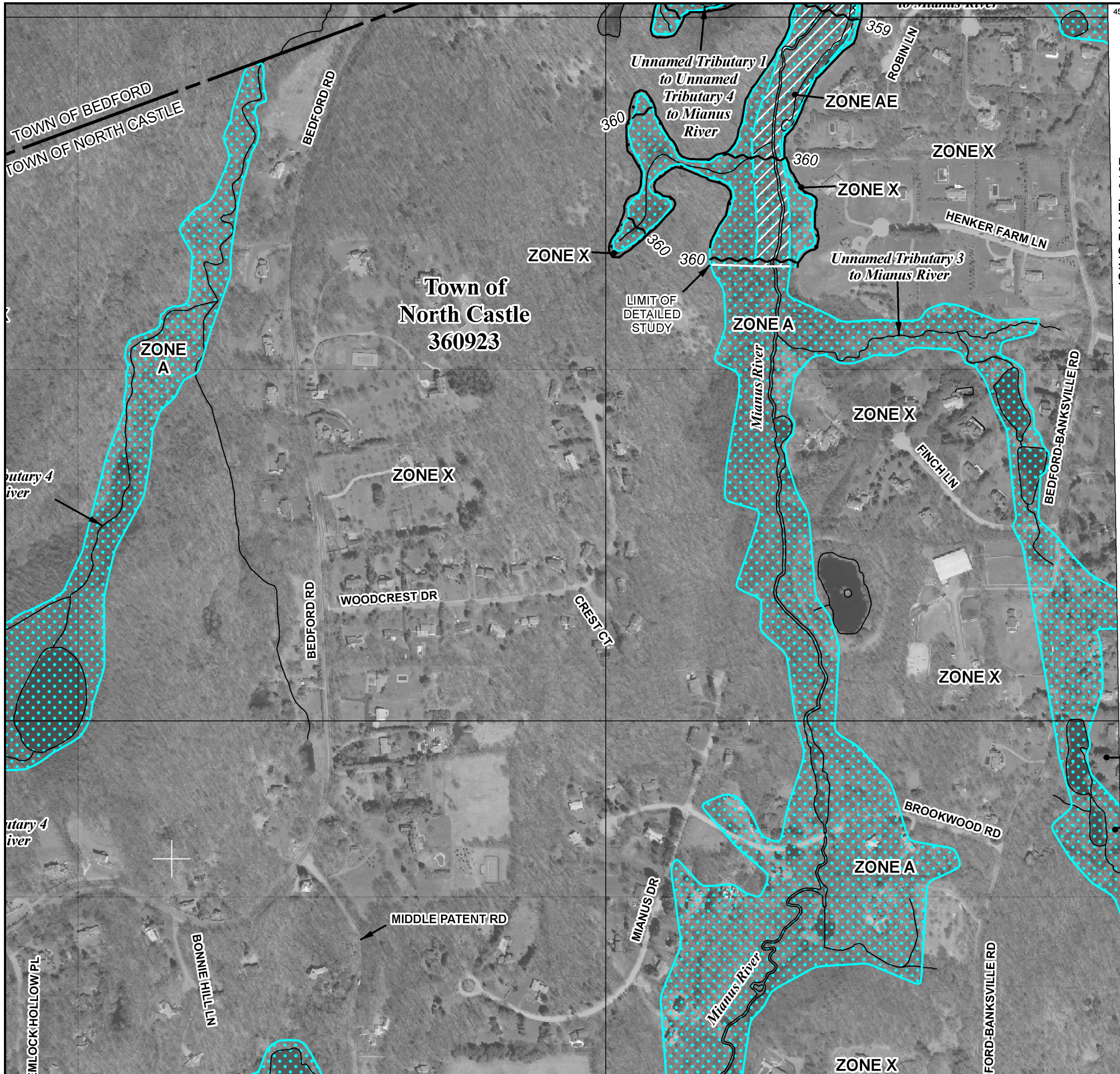
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	13.4	12.4%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	6.8	6.2%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	25.2	23.2%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	13.7	12.7%
Ff	Fluvaquents-Udifuvents complex, frequently flooded	8.1	7.4%
HnD	Hinckley loamy sand, 15 to 25 percent slopes	1.3	1.2%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	2.8	2.6%
LcA	Leicester loam, 0 to 3 percent slopes, stony	2.2	2.0%
LcB	Leicester loam, 3 to 8 percent slopes, stony	2.7	2.5%
RhB	Riverhead loam, 3 to 8 percent slopes	12.0	11.0%
RhC	Riverhead loam, 8 to 15 percent slopes	8.5	7.8%
SuB	Sutton loam, 3 to 8 percent slopes	1.8	1.7%
Uc	Udorthents, wet substratum	5.8	5.3%
W	Water	4.2	3.9%
<b>Totals for Area of Interest</b>		<b>108.6</b>	<b>100.0%</b>

# APPENDIX – B





PANEL 0166F

**FIRM**  
FLOOD INSURANCE RATE MAP

for WESTCHESTER COUNTY, NEW YORK  
(ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
BEDFORD, TOWN OF	360903
NORTH CASTLE, TOWN OF	360923

PANEL 166 OF 426  
MAP SUFFIX: F  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER  
36119C0166F

EFFECTIVE DATE  
SEPTEMBER 28, 2007

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>.

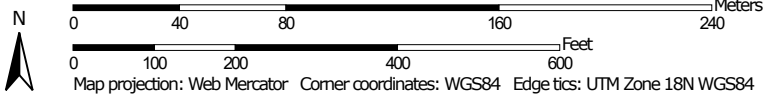


Hydrologic Soil Group—Westchester County, New York



Soil Map may not be valid at this scale.

Map Scale: 1:2,840 if printed on A landscape (11" x 8.5") sheet.



## MAP LEGEND

### Area of Interest (AOI)









 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





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

#### Soil Rating Lines

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

#### Soil Rating Points





 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York  
 Survey Area Data: Version 16, Jun 11, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 16, 2017

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



## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	B	1.7	7.6%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	6.0	26.7%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	B	2.2	9.7%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	A/D	1.3	6.0%
LcA	Leicester loam, 0 to 3 percent slopes, stony	A/D	0.5	2.2%
RhB	Riverhead loam, 3 to 8 percent slopes	A	0.0	0.1%
RhC	Riverhead loam, 8 to 15 percent slopes	A	3.4	15.1%
Uc	Udorthents, wet substratum	A/D	5.8	25.8%
W	Water		1.5	6.7%
<b>Totals for Area of Interest</b>			<b>22.4</b>	<b>100.0%</b>

## Description

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

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

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

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

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

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

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

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

# APPENDIX – C



P.O.C. WEST  
TOTAL AREA = 718,431 SF  
IMPERVIOUS AREA = 15,763 SF

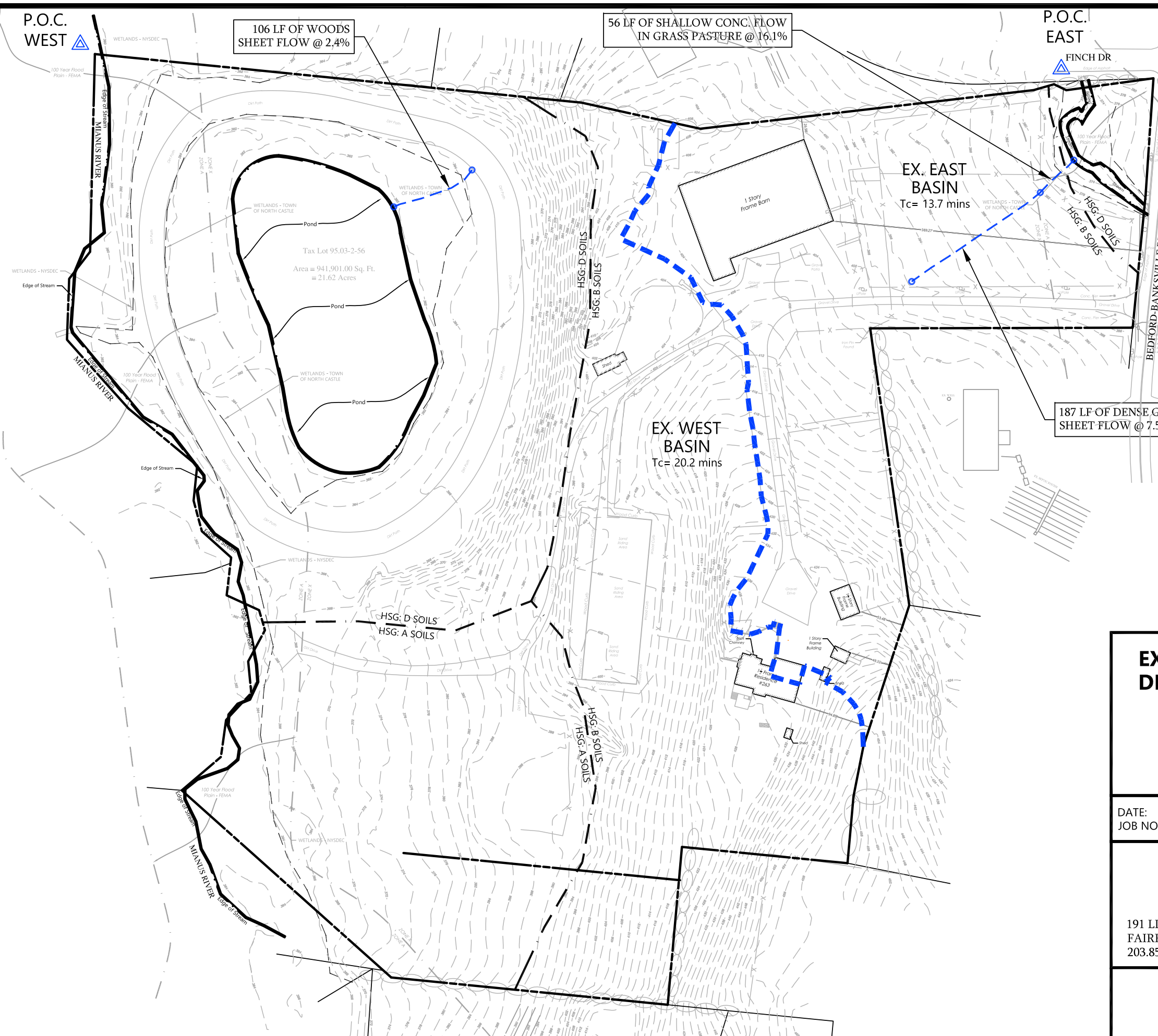
P.O.C. WEST

106 LF OF WOODS  
SHEET FLOW @ 2.4%

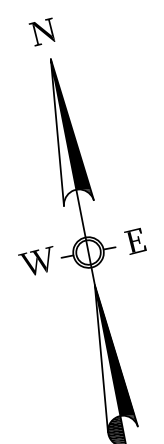
56 LF OF SHALLOW CONC. FLOW  
IN GRASS PASTURE @ 16.1%

P.O.C. EAST

P.O.C. EAST  
TOTAL AREA = 223,470 SF  
IMPERVIOUS AREA = 35,770 SF



187 LF OF DENSE GRASS  
SHEET FLOW @ 7.5%



**EXISTING CONDITIONS  
DRAINAGE BASIN MAP**  
PREPARED FOR  
**263 BEDFORD -  
BANKSVILLE RD  
BEDFORD, NY**

DATE: 2/10/2023  
JOB NO. 179

SCALE: 0 120  
1"=120'

**DIMARZO &  
BERECKKY**

191 LLOYD DRIVE  
FAIRFIELD, CT 06825  
203.857.4110

LAND SURVEYING  
CIVIL ENGINEERING  
PERMITTING

**DR-EX**

P.O.C. WEST  
TOTAL AREA = 728,868 SF  
IMPERVIOUS AREA = 36,132 SF

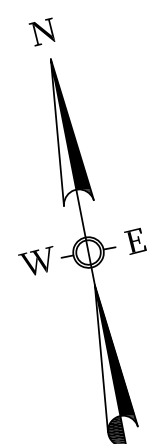
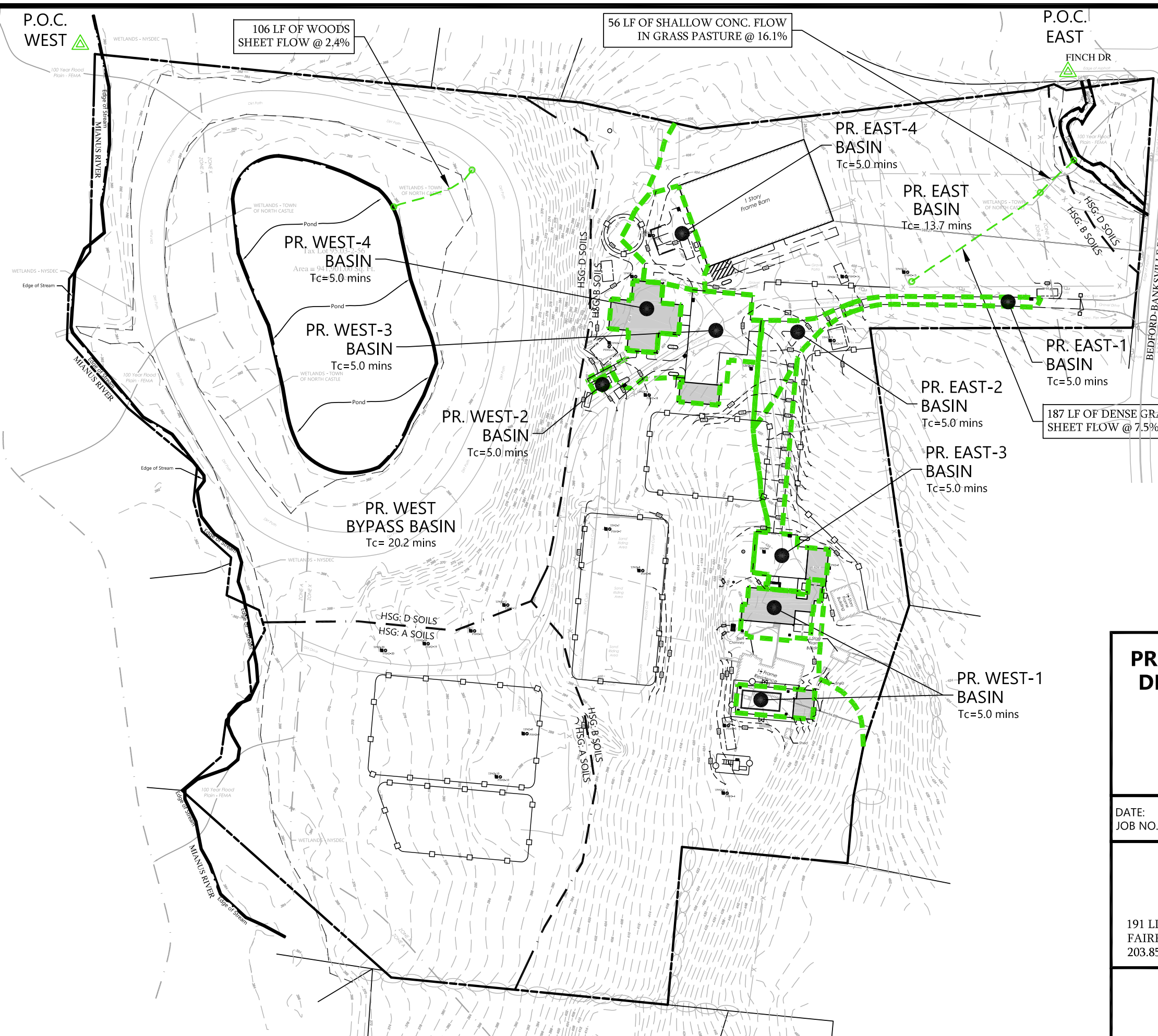
P.O.C. WEST

106 LF OF WOODS  
SHEET FLOW @ 2.4%

56 LF OF SHALLOW CONC. FLOW  
IN GRASS PASTURE @ 16.1%

P.O.C. EAST

P.O.C. EAST  
TOTAL AREA = 213,033 SF  
IMPERVIOUS AREA = 34,255 SF



**PROPOSED CONDITIONS  
DRAINAGE BASIN MAP**  
PREPARED FOR  
**263 BEDFORD -  
BANKSVILLE RD  
BEDFORD, NY**

DATE: 10/18/2023  
JOB NO. 179

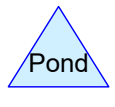
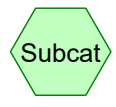
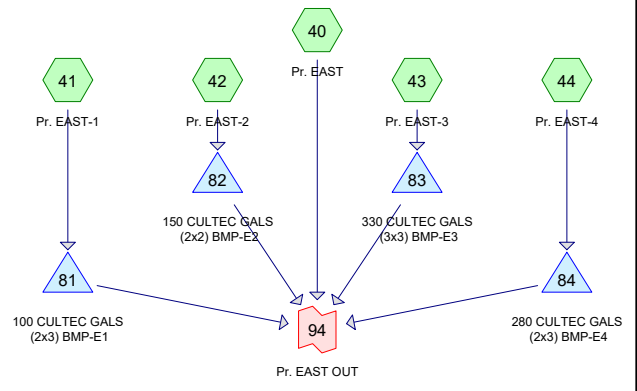
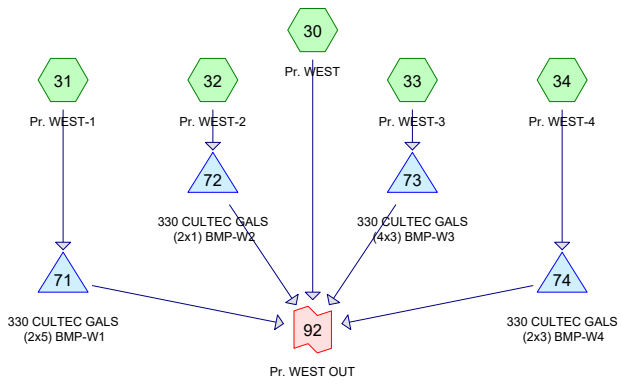
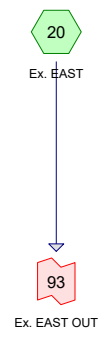
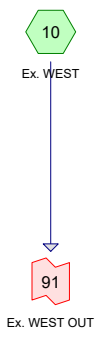
SCALE: 0 120  
1"=120'

**DIMARZO &  
BERECKKY**

191 LLOYD DRIVE  
FAIRFIELD, CT 06825  
203.857.4110

LAND SURVEYING  
CIVIL ENGINEERING  
PERMITTING

**DR-PR**



**Routing Diagram for 179 HydroCAD 2023-10-18**  
 Prepared by DiMarzo & Bereczky, Inc, Printed 10/18/2023  
 HydroCAD® 10.20-3c s/n 10099 © 2023 HydroCAD Software Solutions LLC



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

**Subcatchment 10: Ex. WEST** Runoff Area=718,431 sf 0.52% Impervious Runoff Depth>0.56"  
 Flow Length=106' Slope=0.0240 '/' Tc=20.2 min CN=67.60 Runoff=5.75 cfs 33,279 cf

**Subcatchment 20: Ex. EAST** Runoff Area=223,470 sf 8.62% Impervious Runoff Depth>0.79"  
 Flow Length=243' Tc=13.7 min CN=72.95 Runoff=3.36 cfs 14,731 cf

**Subcatchment 30: Pr. WEST** Runoff Area=700,113 sf 0.18% Impervious Runoff Depth>0.53"  
 Flow Length=106' Slope=0.0240 '/' Tc=20.2 min CN=66.83 Runoff=5.16 cfs 30,675 cf

**Subcatchment 31: Pr. WEST-1** Runoff Area=8,280 sf 100.00% Impervious Runoff Depth>2.67"  
 Tc=5.0 min CN=98.00 Runoff=0.55 cfs 1,840 cf

**Subcatchment 32: Pr. WEST-2** Runoff Area=450 sf 100.00% Impervious Runoff Depth>2.67"  
 Tc=5.0 min CN=98.00 Runoff=0.03 cfs 100 cf

**Subcatchment 33: Pr. WEST-3** Runoff Area=14,195 sf 57.73% Impervious Runoff Depth>1.77"  
 Tc=5.0 min CN=88.55 Runoff=0.70 cfs 2,096 cf

**Subcatchment 34: Pr. WEST-4** Runoff Area=4,752 sf 100.00% Impervious Runoff Depth>2.67"  
 Tc=5.0 min CN=98.00 Runoff=0.32 cfs 1,056 cf

**Subcatchment 40: Pr. EAST** Runoff Area=187,696 sf 9.93% Impervious Runoff Depth>0.74"  
 Flow Length=243' Tc=13.7 min CN=71.87 Runoff=2.59 cfs 11,578 cf

**Subcatchment 41: Pr. EAST-1** Runoff Area=2,295 sf 0.00% Impervious Runoff Depth>1.50"  
 Tc=5.0 min CN=85.00 Runoff=0.10 cfs 287 cf

**Subcatchment 42: Pr. EAST-2** Runoff Area=5,475 sf 0.00% Impervious Runoff Depth>0.96"  
 Tc=5.0 min CN=76.17 Runoff=0.14 cfs 436 cf

**Subcatchment 43: Pr. EAST-3** Runoff Area=10,380 sf 34.16% Impervious Runoff Depth>1.43"  
 Tc=5.0 min CN=84.01 Runoff=0.41 cfs 1,240 cf

**Subcatchment 44: Pr. EAST-4** Runoff Area=8,265 sf 0.00% Impervious Runoff Depth>0.87"  
 Tc=5.0 min CN=74.52 Runoff=0.19 cfs 599 cf

**Pond 71: 330 CULTEC GALS (2x5) BMP-W1** Peak Elev=427.88' Storage=932 cf Inflow=0.55 cfs 1,840 cf  
 Discarded=0.02 cfs 1,320 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 1,320 cf

**Pond 72: 330 CULTEC GALS (2x1) BMP-W2** Peak Elev=397.02' Storage=25 cf Inflow=0.03 cfs 100 cf  
 Discarded=0.01 cfs 100 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 100 cf

**Pond 73: 330 CULTEC GALS (4x3) BMP-W3** Peak Elev=402.31' Storage=989 cf Inflow=0.70 cfs 2,096 cf  
 Discarded=0.05 cfs 1,895 cf Primary=0.00 cfs 0 cf Outflow=0.05 cfs 1,895 cf

**Pond 74: 330 CULTEC GALS (2x3) BMP-W4** Peak Elev=402.47' Storage=453 cf Inflow=0.32 cfs 1,056 cf  
 Discarded=0.02 cfs 1,050 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 1,050 cf

**179 HydroCAD 2023-10-18**

*Type III 24-hr 1-Year Rainfall=2.90"*

Prepared by DiMarzo & Bereczky, Inc

Printed 10/18/2023

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Page 3

**Pond 81: 100 CULTEC GALS (2x3) BMP-E1** Peak Elev=387.36' Storage=99 cf Inflow=0.10 cfs 287 cf  
Discarded=0.01 cfs 287 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 287 cf

**Pond 82: 150 CULTEC GALS (2x2) BMP-E2** Peak Elev=400.95' Storage=170 cf Inflow=0.14 cfs 436 cf  
Discarded=0.01 cfs 436 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 436 cf

**Pond 83: 330 CULTEC GALS (3x3) BMP-E3** Peak Elev=404.04' Storage=549 cf Inflow=0.41 cfs 1,240 cf  
Discarded=0.03 cfs 1,227 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 1,227 cf

**Pond 84: 280 CULTEC GALS (2x3) BMP-E4** Peak Elev=401.16' Storage=236 cf Inflow=0.19 cfs 599 cf  
Discarded=0.02 cfs 598 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 598 cf

**Link 91: Ex. WEST OUT** Inflow=5.75 cfs 33,279 cf  
Primary=5.75 cfs 33,279 cf

**Link 92: Pr. WEST OUT** Inflow=5.16 cfs 30,675 cf  
Primary=5.16 cfs 30,675 cf

**Link 93: Ex. EAST OUT** Inflow=3.36 cfs 14,731 cf  
Primary=3.36 cfs 14,731 cf

**Link 94: Pr. EAST OUT** Inflow=2.59 cfs 11,578 cf  
Primary=2.59 cfs 11,578 cf

**Total Runoff Area = 1,883,802 sf Runoff Volume = 97,919 cf Average Runoff Depth = 0.62"**  
**96.39% Pervious = 1,815,722 sf 3.61% Impervious = 68,080 sf**

**Summary for Subcatchment 10: Ex. WEST**

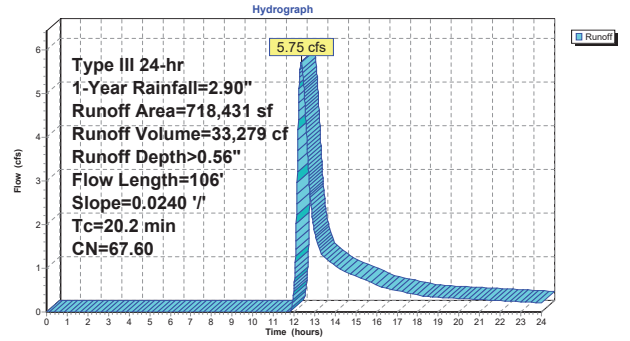
Runoff = 5.75 cfs @ 12.34 hrs, Volume= 33,279 cf, Depth> 0.56"  
 Routed to Link 91 : Ex. WEST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
3,067	98.00	Roofs, HSG B
12,045	85.00	Gravel roads, HSG B
651	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
14,020	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
16,710	49.00	Pasture/grassland/range, Fair, HSG A
66,215	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
136,825	36.00	Woods, Fair, HSG A
112,308	60.00	Woods, Fair, HSG B
279,420	79.00	Woods, Fair, HSG D
64,205	98.00	Water Surface, 0% imp, HSG D
* 12,965	61.00	Paddock, Good, HSG B
718,431	67.60	Weighted Average
714,713		99.48% Pervious Area
3,718		0.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	106	0.0240	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.43"

**Subcatchment 10: Ex. WEST**



**Summary for Subcatchment 20: Ex. EAST**

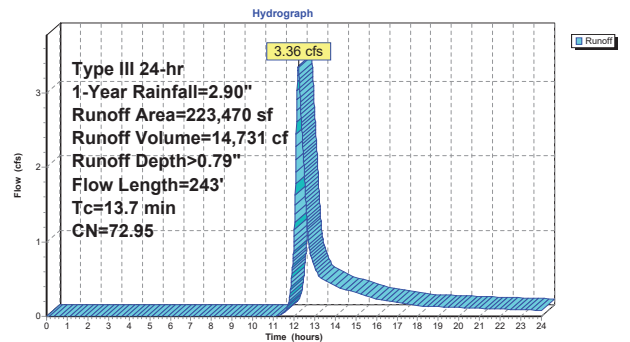
Runoff = 3.36 cfs @ 12.21 hrs, Volume= 14,731 cf, Depth> 0.79"  
 Routed to Link 93 : Ex. EAST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
19,190	98.00	Roofs, HSG B
16,500	85.00	Gravel roads, HSG B
80	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
15,400	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
139,125	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
14,350	60.00	Woods, Fair, HSG B
18,825	79.00	Woods, Fair, HSG D
223,470	72.95	Weighted Average
204,200		91.38% Pervious Area
19,270		8.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	187	0.0750	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.43"
0.3	56	0.1610	2.81		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.7	243	Total			

**Subcatchment 20: Ex. EAST**





**Summary for Subcatchment 30: Pr. WEST**

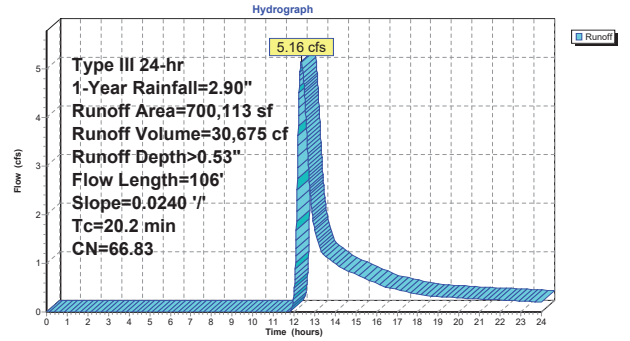
Runoff = 5.16 cfs @ 12.35 hrs, Volume= 30,675 cf, Depth> 0.53"  
 Routed to Link 92 : Pr. WEST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
10,731	85.00	Gravel roads, HSG B
1,234	98.00	Paved parking, HSG B
*	0	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
15,083	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
10,560	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
112,979	36.00	Woods, Fair, HSG A
130,806	60.00	Woods, Fair, HSG B
279,420	79.00	Woods, Fair, HSG D
64,205	98.00	Water Surface, 0% imp, HSG D
* 39,905	39.00	Paddock, Good, HSG A
* 35,190	61.00	Paddock, Good, HSG B
700,113	66.83	Weighted Average
698,879	99.82%	Pervious Area
1,234	0.18%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	106	0.0240	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.43"

**Subcatchment 30: Pr. WEST**



**Summary for Subcatchment 31: Pr. WEST-1**

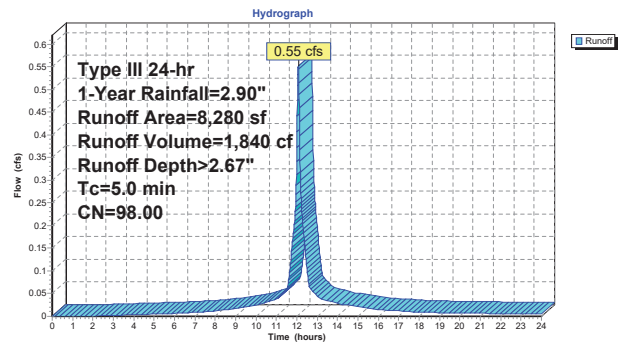
Runoff = 0.55 cfs @ 12.07 hrs, Volume= 1,840 cf, Depth> 2.67"  
 Routed to Pond 71 : 330 CULTTEC GAL5 (2x5) BMP-W1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
4,564	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
2,816	98.00	Paved parking, HSG B
*	900	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
* 0	39.00	Paddock, Good, HSG A
* 0	61.00	Paddock, Good, HSG B
8,280	98.00	Weighted Average
8,280	100.00%	Impervious Area

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

**Subcatchment 31: Pr. WEST-1**



**Summary for Subcatchment 32: Pr. WEST-2**

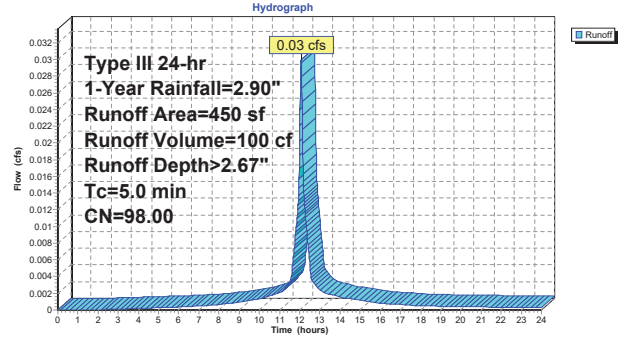
Runoff = 0.03 cfs @ 12.07 hrs, Volume= 100 cf, Depth> 2.67"  
 Routed to Pond 72 : 330 CULTEC GALs (2x1) BMP-W2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
450	98.00	Paved parking, HSG B
*	0	Pool, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
*	0	Paddock, Good, HSG A
*	0	Paddock, Good, HSG B
450	98.00	Weighted Average
450		100.00% Impervious Area

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

**Subcatchment 32: Pr. WEST-2**



**Summary for Subcatchment 33: Pr. WEST-3**

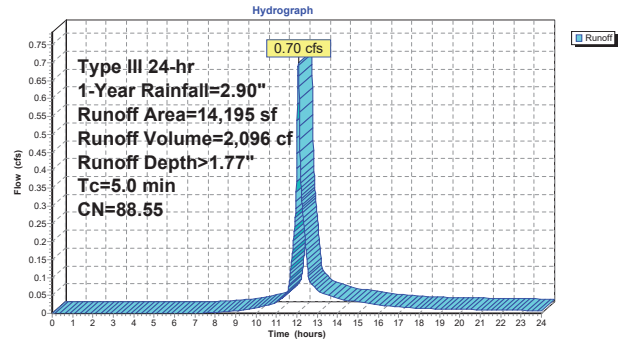
Runoff = 0.70 cfs @ 12.07 hrs, Volume= 2,096 cf, Depth> 1.77"  
 Routed to Pond 73 : 330 CULTEC GALs (4x3) BMP-W3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
1,152	98.00	Roofs, HSG B
2,490	85.00	Gravel roads, HSG B
7,043	98.00	Paved parking, HSG B
*	0	Pool, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,510	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
*	0	Paddock, Good, HSG A
*	0	Paddock, Good, HSG B
14,195	88.55	Weighted Average
6,000		42.27% Pervious Area
8,195		57.73% Impervious Area

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

**Subcatchment 33: Pr. WEST-3**



**Summary for Subcatchment 34: Pr. WEST-4**

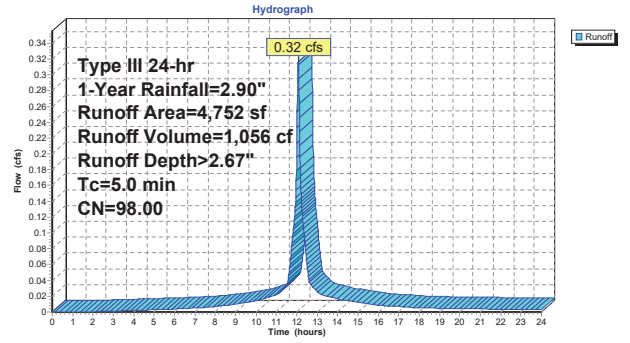
Runoff = 0.32 cfs @ 12.07 hrs, Volume= 1,056 cf, Depth> 2.67"  
 Routed to Pond 74 : 330 CULTEC GALs (2x3) BMP-W4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
4,752	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
*	0	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
*	0	Paddock, Good, HSG A
*	0	Paddock, Good, HSG B
4,752	98.00	Weighted Average
4,752		100.00% Impervious Area

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

**Subcatchment 34: Pr. WEST-4**



**Summary for Subcatchment 40: Pr. EAST**

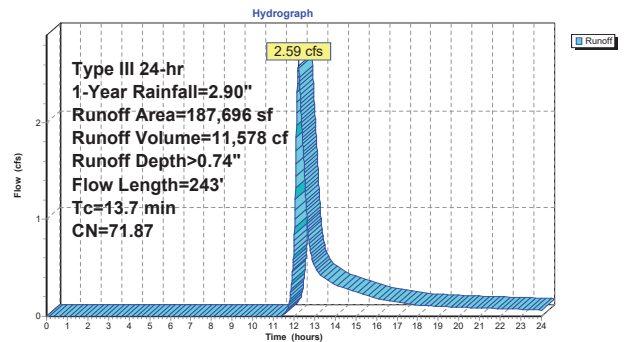
Runoff = 2.59 cfs @ 12.21 hrs, Volume= 11,578 cf, Depth> 0.74"  
 Routed to Link 94 : Pr. EAST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
17,537	98.00	Roofs, HSG B
845	85.00	Gravel roads, HSG B
1,098	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
9,987	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
116,572	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
20,730	60.00	Woods, Fair, HSG B
18,825	79.00	Woods, Fair, HSG D
*	2,102	Paddock, Good, HSG B
187,696	71.87	Weighted Average
169,061		90.07% Pervious Area
18,635		9.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	187	0.0750	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.43"
0.3	56	0.1610	2.81		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.7	243	Total			

**Subcatchment 40: Pr. EAST**





**Summary for Subcatchment 41: Pr. EAST-1**

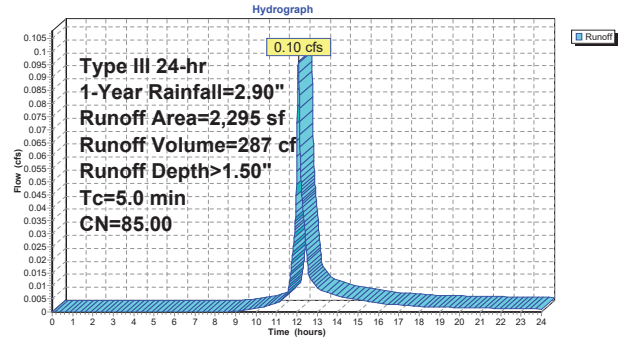
Runoff = 0.10 cfs @ 12.08 hrs, Volume= 287 cf, Depth> 1.50"  
 Routed to Pond 81 : 100 CULTEC GALS (2x3) BMP-E1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
2,295	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
2,295	85.00	Weighted Average
2,295		100.00% Pervious Area

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

**Subcatchment 41: Pr. EAST-1**



**Summary for Subcatchment 42: Pr. EAST-2**

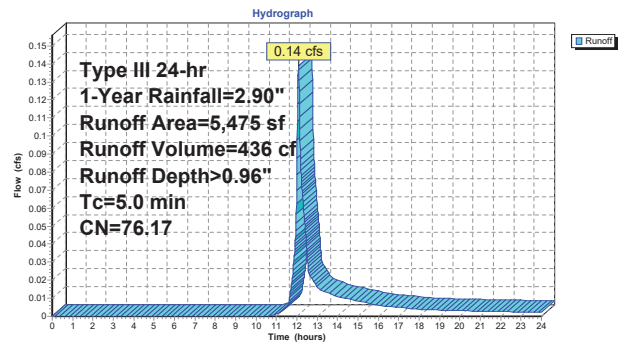
Runoff = 0.14 cfs @ 12.08 hrs, Volume= 436 cf, Depth> 0.96"  
 Routed to Pond 82 : 150 CULTEC GALS (2x2) BMP-E2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
2,455	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,020	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
5,475	76.17	Weighted Average
5,475		100.00% Pervious Area

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

**Subcatchment 42: Pr. EAST-2**



**Summary for Subcatchment 43: Pr. EAST-3**

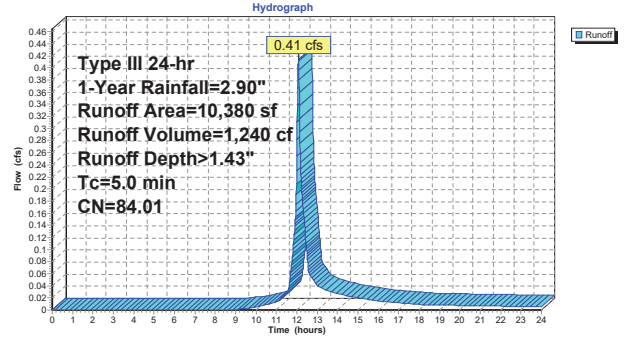
Runoff = 0.41 cfs @ 12.08 hrs, Volume= 1,240 cf, Depth> 1.43"  
 Routed to Pond 83 : 330 CULTTEC GALs (3x3) BMP-E3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
3,309	85.00	Gravel roads, HSG B
3,546	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,525	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
10,380	84.01	Weighted Average
6,834		65.84% Pervious Area
3,546		34.16% Impervious Area

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

**Subcatchment 43: Pr. EAST-3**



**Summary for Subcatchment 44: Pr. EAST-4**

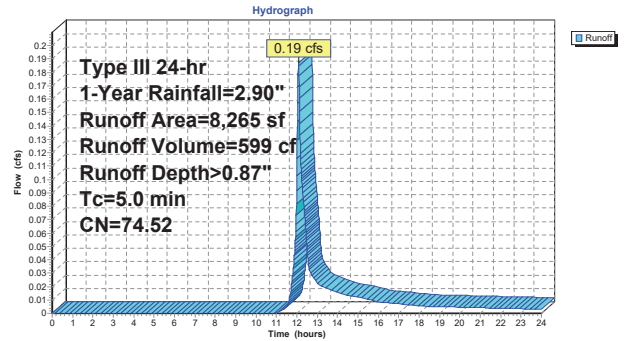
Runoff = 0.19 cfs @ 12.08 hrs, Volume= 599 cf, Depth> 0.87"  
 Routed to Pond 84 : 280 CULTTEC GALs (2x3) BMP-E4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
3,170	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
4,455	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	640	Paddock, Good, HSG B
8,265	74.52	Weighted Average
8,265		100.00% Pervious Area

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

**Subcatchment 44: Pr. EAST-4**



**Summary for Pond 71: 330 CULTEC GALS (2x5) BMP-W1**

Inflow Area = 8,280 sf, 100.00% Impervious, Inflow Depth > 2.67" for 1-Year event  
 Inflow = 0.55 cfs @ 12.07 hrs, Volume= 1,840 cf  
 Outflow = 0.02 cfs @ 14.83 hrs, Volume= 1,320 cf, Atten= 96%, Lag= 165.3 min  
 Discarded = 0.02 cfs @ 14.83 hrs, Volume= 1,320 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 427.88' @ 14.83 hrs Surf.Area= 430 sf Storage= 932 cf

Plug-Flow detention time= 257.0 min calculated for 1,319 cf (72% of inflow)  
 Center-of-Mass det. time= 166.5 min ( 923.6 - 757.1 )

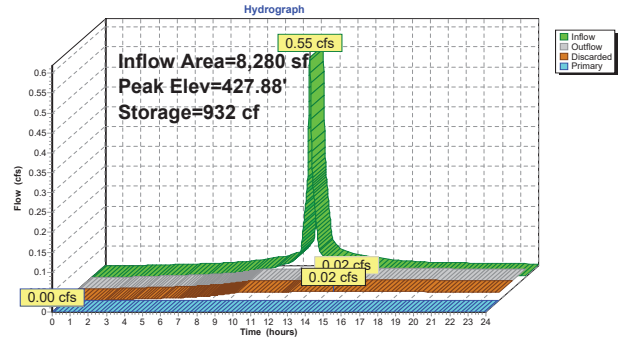
Volume	Invert	Avail.Storage	Storage Description
#1	424.50'	402 cf	<b>11.17'W x 38.50'L x 3.60'H Crushed Stone</b> 1,548 cf Overall - 544 cf Embedded = 1,004 cf x 40.0% Voids
#2	425.00'	544 cf	<b>Cultec R-330XLHD x 10 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
#3	427.10'	65 cf	<b>2.00'W x 38.50'L x 2.10'H LVL SP VOLUME</b> Impervious 162 cf Overall x 40.0% Voids
			1,010 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	429.10'	<b>36.0' long x 1.0' breadth Broad-Crested Rectangular Weir LVL.SP</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	424.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.02 cfs @ 14.83 hrs HW=427.88' (Free Discharge)  
 2=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=424.50' (Free Discharge)  
 1=Broad-Crested Rectangular Weir LVL.SP ( Controls 0.00 cfs)

**Pond 71: 330 CULTEC GALS (2x5) BMP-W1**



**Stage-Area-Storage for Pond 71: 330 CULTEC GALS (2x5) BMP-W1**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
424.50	430	0	427.15	430	770
424.55	430	9	427.20	430	784
424.60	430	17	427.25	430	797
424.65	430	26	427.30	430	810
424.70	430	34	427.35	430	822
424.75	430	43	427.40	430	833
424.80	430	52	427.45	430	844
424.85	430	60	427.50	430	855
424.90	430	69	427.55	430	865
424.95	430	77	427.60	430	875
425.00	430	86	427.65	430	885
425.05	430	103	427.70	430	895
425.10	430	121	427.75	430	905
425.15	430	138	427.80	430	916
425.20	430	155	427.85	430	926
425.25	430	172	427.90	430	936
425.30	430	189	427.95	430	946
425.35	430	206	428.00	430	956
425.40	430	223	428.05	430	966
425.45	430	240	428.10	430	976
425.50	430	258	428.15	430	978
425.55	430	275	428.20	430	979
425.60	430	292	428.25	430	981
425.65	430	308	428.30	430	983
425.70	430	325	428.35	430	984
425.75	430	342	428.40	430	986
425.80	430	358	428.45	430	987
425.85	430	375	428.50	430	989
425.90	430	391	428.55	430	990
425.95	430	408	428.60	430	992
426.00	430	424	428.65	430	993
426.05	430	441	428.70	430	995
426.10	430	457	428.75	430	996
426.15	430	474	428.80	430	998
426.20	430	490	428.85	430	1,000
426.25	430	506	428.90	430	1,001
426.30	430	522	428.95	430	1,003
426.35	430	538	429.00	430	1,004
426.40	430	554	429.05	430	1,006
426.45	430	570	429.10	430	1,007
426.50	430	585	429.15	430	1,009
426.55	430	601	429.20	430	1,010
426.60	430	616			
426.65	430	631			
426.70	430	646			
426.75	430	660			
426.80	430	675			
426.85	430	689			
426.90	430	703			
426.95	430	717			
427.00	430	730			
427.05	430	743			
427.10	430	756			

**Summary for Pond 72: 330 CULTEC GALS (2x1) BMP-W2**

[42] Hint: Gap in defined storage above volume #1 at 400.10'

Inflow Area = 450 sf, 100.00% Impervious, Inflow Depth > 2.67" for 1-Year event  
 Inflow = 0.03 cfs @ 12.07 hrs, Volume= 100 cf  
 Outflow = 0.01 cfs @ 12.47 hrs, Volume= 100 cf, Atten= 79%, Lag= 24.0 min  
 Discarded = 0.01 cfs @ 12.47 hrs, Volume= 100 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 397.02' @ 12.47 hrs Surf.Area= 117 sf Storage= 25 cf

Plug-Flow detention time= 26.3 min calculated for 100 cf (100% of inflow)  
 Center-of-Mass det. time= 25.2 min ( 782.4 - 757.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	396.50'	123 cf	<b>11.17'W x 10.50'L x 3.60'H Crushed Stone</b> 422 cf Overall - 115 cf Embedded = 307 cf x 40.0% Voids
#2	397.00'	115 cf	<b>Cultec R-330XLHD x 2 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
#3	400.50'	12 cf	<b>2.00'W x 2.00'L x 3.10'H AD VOLUME</b> Impervious
			251 cf Total Available Storage

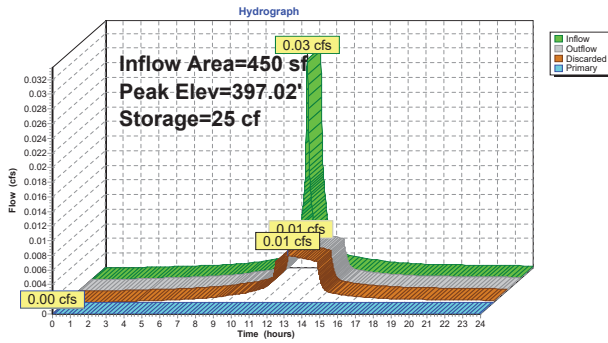
Device	Routing	Invert	Outlet Devices
#1	Primary	403.50'	<b>1.2" x 6.0" Horiz. Orifice/Grate 24x24 X 9.00 columns</b> X 3 rows C= 0.600 in 24.0" x 24.0" Grate (34% open area) Limited to weir flow at low heads
#2	Discarded	396.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 393.50'

Discarded OutFlow Max=0.01 cfs @ 12.47 hrs HW=397.02' (Free Discharge)  
 2=Exfiltration ( Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=396.50' (Free Discharge)  
 1=Orifice/Grate 24x24 ( Controls 0.00 cfs)



**Pond 72: 330 CULTEC GALS (2x1) BMP-W2**



**Stage-Area-Storage for Pond 72: 330 CULTEC GALS (2x1) BMP-W2**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
396.50	117	0	401.80	117	243
396.60	117	5	401.90	117	244
396.70	117	9	402.00	117	244
396.80	117	14	402.10	117	245
396.90	117	19	402.20	117	245
397.00	117	23	402.30	117	245
397.10	117	32	402.40	117	246
397.20	117	40	402.50	117	246
397.30	117	48	402.60	117	247
397.40	117	57	402.70	117	247
397.50	117	65	402.80	117	247
397.60	117	73	402.90	117	248
397.70	117	81	403.00	117	248
397.80	117	90	403.10	117	249
397.90	117	98	403.20	117	249
398.00	117	106	403.30	117	249
398.10	117	114	403.40	117	250
398.20	117	122	403.50	117	250
398.30	117	130	403.60	117	251
398.40	117	137			
398.50	117	145			
398.60	117	153			
398.70	117	160			
398.80	117	167			
398.90	117	174			
399.00	117	181			
399.10	117	188			
399.20	117	194			
399.30	117	200			
399.40	117	205			
399.50	117	210			
399.60	117	215			
399.70	117	219			
399.80	117	224			
399.90	117	229			
400.00	117	233			
400.10	117	238			
400.20	117	238			
400.30	117	238			
400.40	117	238			
400.50	117	238			
400.60	117	239			
400.70	117	239			
400.80	117	239			
400.90	117	240			
401.00	117	240			
401.10	117	241			
401.20	117	241			
401.30	117	241			
401.40	117	242			
401.50	117	242			
401.60	117	243			
401.70	117	243			

**Summary for Pond 73: 330 CULTEC GALS (4x3) BMP-W3**

Inflow Area = 14,195 sf, 57.73% Impervious, Inflow Depth > 1.77" for 1-Year event  
 Inflow = 0.70 cfs @ 12.07 hrs, Volume= 2,096 cf  
 Outflow = 0.05 cfs @ 13.76 hrs, Volume= 1,895 cf, Atten= 93%, Lag= 101.4 min  
 Discarded = 0.05 cfs @ 13.76 hrs, Volume= 1,895 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 6  
 Peak Elev= 402.31' @ 13.76 hrs Surf.Area= 510 sf Storage= 989 cf

Plug-Flow detention time= 237.8 min calculated for 1,895 cf (90% of inflow)  
 Center-of-Mass det. time= 191.1 min ( 1,006.6 - 815.4 )

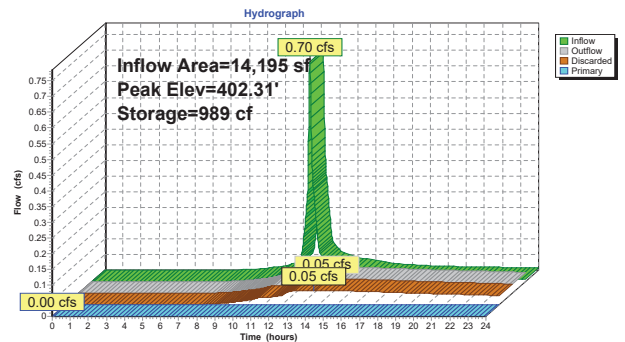
Volume	Invert	Avail.Storage	Storage Description
#1	399.50'	467 cf	<b>20.83'W x 24.50'L x 3.60'H STONE DATA VOLUME</b> 1,837 cf Overall - 671 cf Embedded = 1,167 cf x 40.0% Voids
#2	400.00'	671 cf	<b>Cultec R-330XLHD x 12 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50" Overlap Row Length Adjustment= +1.50" x 7.45 sf x 4 rows
#3	402.10'	43 cf	<b>2.00'W x 24.50'L x 2.20'H LVL SP VOLUME</b> Impervious 108 cf Overall x 40.0% Voids
#4	401.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			1,219 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	404.10'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	404.20'	<b>1.7" x 6.5" Horiz. Orifice/Grate CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#3	Discarded	399.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.05 cfs @ 13.76 hrs HW=402.31' (Free Discharge)  
 3=Exfiltration ( Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=399.50' (Free Discharge)  
 1=Broad-Crested Rectangular Weir - LVL.SP. ( Controls 0.00 cfs)  
 2=Orifice/Grate CB ( Controls 0.00 cfs)

**Pond 73: 330 CULTEC GALS (4x3) BMP-W3**



Stage-Area-Storage for Pond 73: 330 CULTEC GALS (4x3) BMP-W3

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
399.50	510	0	402.15	510	939
399.55	510	10	402.20	510	955
399.60	510	20	402.25	510	971
399.65	510	31	402.30	510	986
399.70	510	41	402.35	510	1,000
399.75	510	51	402.40	510	1,013
399.80	510	61	402.45	510	1,026
399.85	510	71	402.50	510	1,038
399.90	510	82	402.55	510	1,050
399.95	510	92	402.60	510	1,062
400.00	510	102	402.65	510	1,074
400.05	510	113	402.70	510	1,085
400.10	510	124	402.75	510	1,097
400.15	510	135	402.80	510	1,109
400.20	510	146	402.85	510	1,121
400.25	510	157	402.90	510	1,132
400.30	510	168	402.95	510	1,144
400.35	510	179	403.00	510	1,156
400.40	510	190	403.05	510	1,168
400.45	510	201	403.10	510	1,180
400.50	510	212	403.15	510	1,191
400.55	510	223	403.20	510	1,203
400.60	510	234	403.25	510	1,214
400.65	510	245	403.30	510	1,226
400.70	510	256	403.35	510	1,237
400.75	510	267	403.40	510	1,249
400.80	510	278	403.45	510	1,260
400.85	510	289	403.50	510	1,271
400.90	510	300	403.55	510	1,283
400.95	510	311	403.60	510	1,294
401.00	510	322	403.65	510	1,306
401.05	510	333	403.70	510	1,317
401.10	510	344	403.75	510	1,329
401.15	510	355	403.80	510	1,340
401.20	510	366	403.85	510	1,352
401.25	510	377	403.90	510	1,363
401.30	510	388	403.95	510	1,375
401.35	510	399	404.00	510	1,386
401.40	510	410	404.05	510	1,398
401.45	510	421	404.10	510	1,409
401.50	510	432	404.15	510	1,421
401.55	510	443	404.20	510	1,432
401.60	510	454	404.25	510	1,444
401.65	510	465	404.30	510	1,455
401.70	510	476	404.35	510	1,467
401.75	510	487	404.40	510	1,478
401.80	510	498			
401.85	510	509			
401.90	510	520			
401.95	510	531			
402.00	510	542			
402.05	510	553			
402.10	510	564			

Summary for Pond 74: 330 CULTEC GALS (2x3) BMP-W4

Inflow Area = 4,752 sf, 100.00% Impervious, Inflow Depth > 2.67" for 1-Year event  
 Inflow = 0.32 cfs @ 12.07 hrs, Volume= 1,056 cf  
 Outflow = 0.02 cfs @ 13.10 hrs, Volume= 1,050 cf, Atten= 93%, Lag= 61.9 min  
 Discarded = 0.02 cfs @ 13.10 hrs, Volume= 1,050 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 402.47' @ 13.10 hrs Surf.Area= 273 sf Storage= 453 cf

Plug-Flow detention time= 183.1 min calculated for 1,049 cf (99% of inflow)  
 Center-of-Mass det. time= 179.0 min ( 936.1 - 757.1 )

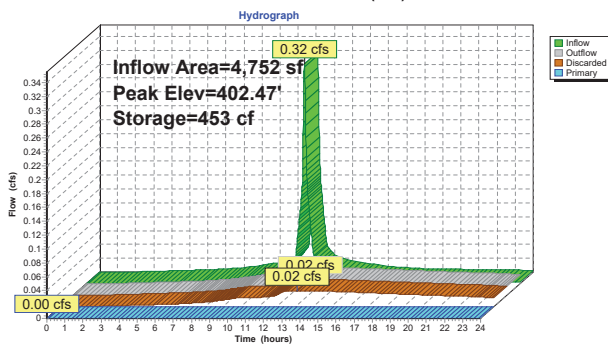
Volume	Invert	Avail.Storage	Storage Description
#1	400.00'	260 cf	11.16'W x 24.50'L x 3.60'H STONE DATA VOLUME 984 cf Overall - 335 cf Embedded = 649 cf x 40.0% Voids
#2	400.50'	335 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
#3	402.60'	41 cf	2.00'W x 24.50'L x 2.10'H LVL SP VOLUME-Impervious 103 cf Overall x 40.0% Voids
			636 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	404.60'	22.0' long x 1.0' breadth Broad-Crested Rectangular Weir LVL.SP Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	400.00'	2.000 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 397.00'

Discarded OutFlow Max=0.02 cfs @ 13.10 hrs HW=402.47' (Free Discharge)  
 ↳2=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=400.00' (Free Discharge)  
 ↳1=Broad-Crested Rectangular Weir LVL.SP (Controls 0.00 cfs)

Pond 74: 330 CULTEC GALS (2x3) BMP-W4



Stage-Area-Storage for Pond 74: 330 CULTEC GALS (2x3) BMP-W4

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
400.00	273	0	402.65	273	484
400.05	273	5	402.70	273	492
400.10	273	11	402.75	273	501
400.15	273	16	402.80	273	509
400.20	273	22	402.85	273	516
400.25	273	27	402.90	273	524
400.30	273	33	402.95	273	530
400.35	273	38	403.00	273	537
400.40	273	44	403.05	273	544
400.45	273	49	403.10	273	550
400.50	273	55	403.15	273	556
400.55	273	61	403.20	273	563
400.60	273	66	403.25	273	569
400.65	273	72	403.30	273	576
400.70	273	77	403.35	273	582
400.75	273	83	403.40	273	589
400.80	273	89	403.45	273	595
400.85	273	94	403.50	273	602
400.90	273	100	403.55	273	608
400.95	273	106	403.60	273	615
401.00	273	112	403.65	273	621
401.05	273	118	403.70	273	627
401.10	273	124	403.75	273	634
401.15	273	130	403.80	273	640
401.20	273	136	403.85	273	647
401.25	273	142	403.90	273	653
401.30	273	148	403.95	273	660
401.35	273	154	404.00	273	667
401.40	273	160	404.05	273	673
401.45	273	166	404.10	273	680
401.50	273	172	404.15	273	687
401.55	273	178	404.20	273	693
401.60	273	184	404.25	273	700
401.65	273	190	404.30	273	707
401.70	273	196	404.35	273	713
401.75	273	202	404.40	273	720
401.80	273	208	404.45	273	727
401.85	273	214	404.50	273	733
401.90	273	220	404.55	273	740
401.95	273	226	404.60	273	747
402.00	273	232	404.65	273	753
402.05	273	238	404.70	273	760
402.10	273	244			
402.15	273	250			
402.20	273	256			
402.25	273	262			
402.30	273	268			
402.35	273	274			
402.40	273	280			
402.45	273	286			
402.50	273	292			
402.55	273	298			
402.60	273	304			

**Summary for Pond 81: 100 CULTEC GALS (2x3) BMP-E1**

Inflow Area = 2,295 sf, 0.00% Impervious, Inflow Depth > 1.50" for 1-Year event  
 Inflow = 0.10 cfs @ 12.08 hrs, Volume= 287 cf  
 Outflow = 0.01 cfs @ 12.74 hrs, Volume= 287 cf, Atten= 88%, Lag= 39.9 min  
 Discarded = 0.01 cfs @ 12.74 hrs, Volume= 287 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 387.36' @ 12.74 hrs Surf.Area= 213 sf Storage= 99 cf

Plug-Flow detention time= 68.2 min calculated for 287 cf (100% of inflow)  
 Center-of-Mass det. time= 67.3 min ( 896.4 - 829.0 )

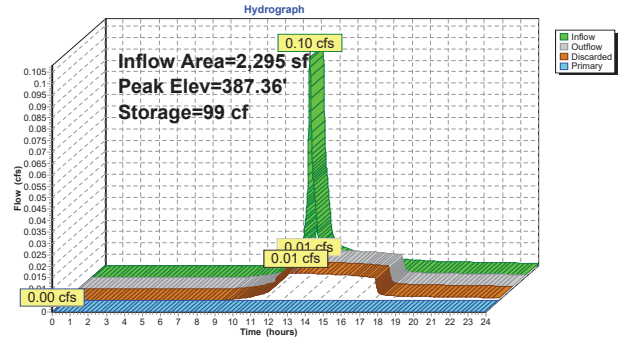
Volume	Invert	Avail.Storage	Storage Description
#1	386.50'	144 cf	<b>8.50'W x 25.00'L x 2.10'H STONE DATA VOLUME</b> 446 cf Overall - 86 cf Embedded = 361 cf x 40.0% Voids
#2	387.00'	86 cf	<b>Cultec C-100HD x 6 Inside #1</b> Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap Row Length Adjustment= +0.50' x 1.86 sf x 2 rows
#3	387.60'	39 cf	<b>2.00'W x 23.20'L x 2.10'H LVL SP VOLUME</b> Impervious 97 of Overall x 40.0% Voids
#4	387.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			307 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	389.70'	<b>1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Primary	389.60'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Discarded	386.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 382.50'

Discarded OutFlow Max=0.01 cfs @ 12.74 hrs HW=387.36' (Free Discharge)  
 3=Exfiltration ( Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.50' (Free Discharge)  
 1=Orifice/Grate - CB ( Controls 0.00 cfs)  
 2=Broad-Crested Rectangular Weir - LVL.SP. ( Controls 0.00 cfs)

**Pond 81: 100 CULTEC GALS (2x3) BMP-E1**



**Stage-Area-Storage for Pond 81: 100 CULTEC GALS (2x3) BMP-E1**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
386.50	213	0	389.15	213	282
386.55	213	4	389.20	213	284
386.60	213	9	389.25	213	285
386.65	213	13	389.30	213	287
386.70	213	17	389.35	213	288
386.75	213	21	389.40	213	290
386.80	213	26	389.45	213	291
386.85	213	30	389.50	213	293
386.90	213	34	389.55	213	294
386.95	213	38	389.60	213	296
387.00	213	43	389.65	213	297
387.05	213	50	389.70	213	299
387.10	213	58	389.75	213	299
387.15	213	66	389.80	213	300
387.20	213	73	389.85	213	301
387.25	213	82	389.90	213	301
387.30	213	90	389.95	213	302
387.35	213	98	390.00	213	302
387.40	213	106	390.05	213	303
387.45	213	114	390.10	213	304
387.50	213	122	390.15	213	304
387.55	213	130	390.20	213	305
387.60	213	137	390.25	213	305
387.65	213	146	390.30	213	306
387.70	213	154	390.35	213	307
387.75	213	162	390.40	213	307
387.80	213	169			
387.85	213	177			
387.90	213	184			
387.95	213	190			
388.00	213	196			
388.05	213	202			
388.10	213	207			
388.15	213	213			
388.20	213	219			
388.25	213	225			
388.30	213	231			
388.35	213	236			
388.40	213	242			
388.45	213	248			
388.50	213	254			
388.55	213	259			
388.60	213	265			
388.65	213	267			
388.70	213	268			
388.75	213	270			
388.80	213	271			
388.85	213	273			
388.90	213	274			
388.95	213	276			
389.00	213	277			
389.05	213	279			
389.10	213	281			

**Summary for Pond 82: 150 CULTEC GALS (2x2) BMP-E2**

Inflow Area = 5,475 sf, 0.00% Impervious, Inflow Depth > 0.96" for 1-Year event  
 Inflow = 0.14 cfs @ 12.08 hrs, Volume= 436 cf  
 Outflow = 0.01 cfs @ 13.58 hrs, Volume= 436 cf, Atten= 91%, Lag= 89.9 min  
 Discarded = 0.01 cfs @ 13.58 hrs, Volume= 436 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 6  
 Peak Elev= 400.95' @ 13.58 hrs Surf.Area= 186 sf Storage= 170 cf

Plug-Flow detention time= 140.8 min calculated for 435 cf (100% of inflow)  
 Center-of-Mass det. time= 139.8 min ( 999.1 - 859.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	399.50'	145 cf	<b>8.00'W x 23.25'L x 2.55'H STONE DATA VOLUME</b> 474 of Overall - 113 cf Embedded = 361 cf x 40.0% Voids
#2	400.00'	113 cf	<b>Cultec R-150XLHD x 4 Inside #1</b> Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 2 rows
#3	401.10'	41 cf	<b>2.00'W x 23.20'L x 2.20'H LVL SP VOLUME</b> Impervious 102 of Overall x 40.0% Voids
#4	400.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			337 cf Total Available Storage

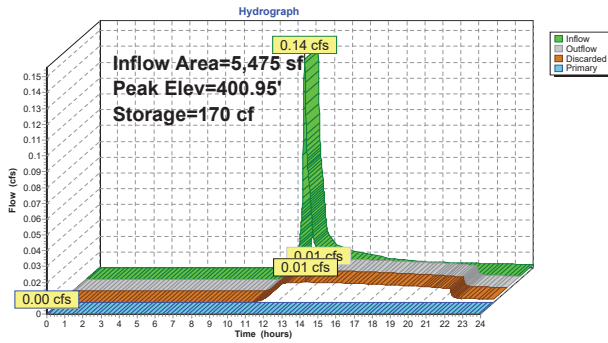
Device	Routing	Invert	Outlet Devices
#1	Primary	403.20'	<b>1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Primary	403.10'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Discarded	399.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.01 cfs @ 13.58 hrs HW=400.95' (Free Discharge)  
 3=Exfiltration ( Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=399.50' (Free Discharge)  
 1=Orifice/Grate - CB ( Controls 0.00 cfs)  
 2=Broad-Crested Rectangular Weir - LVL.SP. ( Controls 0.00 cfs)



**Pond 82: 150 CULTEC GALS (2x2) BMP-E2**



**Stage-Area-Storage for Pond 82: 150 CULTEC GALS (2x2) BMP-E2**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
399.50	186	0	402.15	186	300
399.55	186	4	402.20	186	302
399.60	186	7	402.25	186	303
399.65	186	11	402.30	186	305
399.70	186	15	402.35	186	306
399.75	186	19	402.40	186	308
399.80	186	22	402.45	186	309
399.85	186	26	402.50	186	311
399.90	186	30	402.55	186	312
399.95	186	33	402.60	186	314
400.00	186	37	402.65	186	315
400.05	186	44	402.70	186	317
400.10	186	51	402.75	186	318
400.15	186	58	402.80	186	320
400.20	186	64	402.85	186	322
400.25	186	72	402.90	186	323
400.30	186	79	402.95	186	325
400.35	186	86	403.00	186	326
400.40	186	93	403.05	186	328
400.45	186	101	403.10	186	329
400.50	186	108	403.15	186	331
400.55	186	115	403.20	186	332
400.60	186	122	403.25	186	334
400.65	186	129	403.30	186	335
400.70	186	136	403.35	186	336
400.75	186	143	403.40	186	337
400.80	186	150			
400.85	186	157			
400.90	186	163			
400.95	186	170			
401.00	186	177			
401.05	186	184			
401.10	186	189			
401.15	186	196			
401.20	186	203			
401.25	186	210			
401.30	186	216			
401.35	186	222			
401.40	186	228			
401.45	186	234			
401.50	186	239			
401.55	186	245			
401.60	186	250			
401.65	186	255			
401.70	186	260			
401.75	186	266			
401.80	186	271			
401.85	186	276			
401.90	186	281			
401.95	186	287			
402.00	186	292			
402.05	186	297			
402.10	186	299			

**Summary for Pond 83: 330 CULTEC GALS (3x3) BMP-E3**

Inflow Area = 10,380 sf, 34.16% Impervious, Inflow Depth > 1.43" for 1-Year event  
 Inflow = 0.41 cfs @ 12.08 hrs, Volume= 1,240 cf  
 Outflow = 0.03 cfs @ 13.69 hrs, Volume= 1,227 cf, Atten= 93%, Lag= 96.8 min  
 Discarded = 0.03 cfs @ 13.69 hrs, Volume= 1,227 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 404.04' @ 13.69 hrs Surf.Area= 392 sf Storage= 549 cf

Plug-Flow detention time= 195.3 min calculated for 1,227 cf (99% of inflow)  
 Center-of-Mass det. time= 189.3 min (1,021.6 - 832.6)

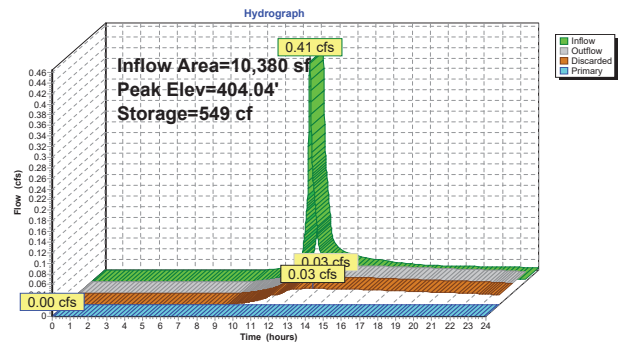
Volume	Invert	Avail.Storage	Storage Description
#1	402.00'	363 cf	16.00'W x 24.50'L x 3.60'H STONE DATA VOLUME 1,411 cf Overall - 503 cf Embedded = 908 cf x 40.0% Voids
#2	402.50'	503 cf	Cultec R-330XLHD x 9 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 3 rows
#3	404.60'	41 cf	2.00'W x 24.50'L x 2.10'H LVL SP VOLUME Impervious 103 cf Overall x 40.0% Voids
		907 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	406.60'	22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP. Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	402.00'	2,000 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 399.00'

Discarded OutFlow Max=0.03 cfs @ 13.69 hrs HW=404.04' (Free Discharge)  
 2=Exfiltration ( Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=402.00' (Free Discharge)  
 1=Broad-Crested Rectangular Weir - LVL.SP.( Controls 0.00 cfs)

**Pond 83: 330 CULTEC GALS (3x3) BMP-E3**



Stage-Area-Storage for Pond 83: 330 CULTEC GALS (3x3) BMP-E3

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
402.00	392	0	404.65	392	706
402.05	392	8	404.70	392	718
402.10	392	16	404.75	392	730
402.15	392	24	404.80	392	741
402.20	392	31	404.85	392	751
402.25	392	39	404.90	392	761
402.30	392	47	404.95	392	771
402.35	392	55	405.00	392	780
402.40	392	63	405.05	392	789
402.45	392	71	405.10	392	798
402.50	392	78	405.15	392	806
402.55	392	84	405.20	392	815
402.60	392	91	405.25	392	824
402.65	392	98	405.30	392	833
402.70	392	104	405.35	392	842
402.75	392	110	405.40	392	851
402.80	392	117	405.45	392	859
402.85	392	124	405.50	392	868
402.90	392	131	405.55	392	877
402.95	392	138	405.60	392	886
403.00	392	145	405.65	392	887
403.05	392	152	405.70	392	888
403.10	392	159	405.75	392	889
403.15	392	166	405.80	392	890
403.20	392	173	405.85	392	891
403.25	392	180	405.90	392	892
403.30	392	187	405.95	392	893
403.35	392	194	406.00	392	894
403.40	392	201	406.05	392	895
403.45	392	208	406.10	392	896
403.50	392	215	406.15	392	897
403.55	392	222	406.20	392	898
403.60	392	229	406.25	392	899
403.65	392	236	406.30	392	900
403.70	392	243	406.35	392	901
403.75	392	250	406.40	392	902
403.80	392	257	406.45	392	903
403.85	392	264	406.50	392	903
403.90	392	271	406.55	392	904
403.95	392	278	406.60	392	905
404.00	392	285	406.65	392	906
404.05	392	292	406.70	392	907
404.10	392	299			
404.15	392	306			
404.20	392	313			
404.25	392	320			
404.30	392	327			
404.35	392	334			
404.40	392	341			
404.45	392	348			
404.50	392	355			
404.55	392	362			
404.60	392	369			

Summary for Pond 84: 280 CULTEC GALS (2x3) BMP-E4

Inflow Area = 8,265 sf, 0.00% Impervious, Inflow Depth > 0.87" for 1-Year event  
 Inflow = 0.19 cfs @ 12.08 hrs, Volume= 598 cf  
 Outflow = 0.02 cfs @ 13.79 hrs, Volume= 598 cf, Atten= 91%, Lag= 102.7 min  
 Discarded = 0.02 cfs @ 13.79 hrs, Volume= 598 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9  
 Peak Elev= 401.16' @ 13.79 hrs Surf.Area= 246 sf Storage= 236 cf

Plug-Flow detention time= 152.1 min calculated for 598 cf (100% of inflow)  
 Center-of-Mass det. time= 151.1 min ( 1,016.1 - 865.0 )

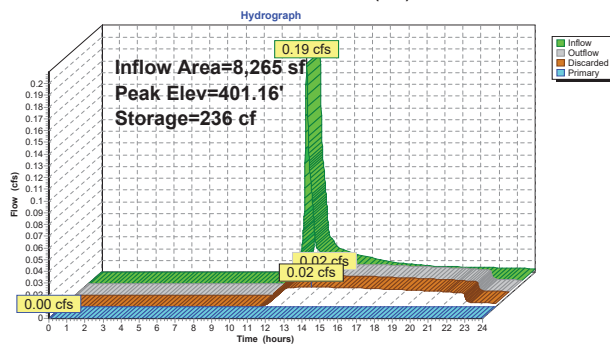
Volume	Invert	Avail.Storage	Storage Description
#1	399.75'	213 cf	10.25'W x 24.00'L x 3.25'H Crushed Stone 800 cf Overall - 267 cf Embedded = 532 cf x 40.0% Voids
#2	400.25'	267 cf	Cultec R-280HD x 6 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 2 rows
#3	400.20'	41 cf	3.00'W x 4.00'L x 3.40'H CB-Impervious
			521 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	403.40'	1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Discarded	399.75'	2.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 396.75'

Discarded OutFlow Max=0.02 cfs @ 13.79 hrs HW=401.16' (Free Discharge)  
 ↳Z=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=399.75' (Free Discharge)  
 ↳I=Orifice/Grate - CB ( Controls 0.00 cfs)

Pond 84: 280 CULTEC GALS (2x3) BMP-E4



Stage-Area-Storage for Pond 84: 280 CULTEC GALS (2x3) BMP-E4

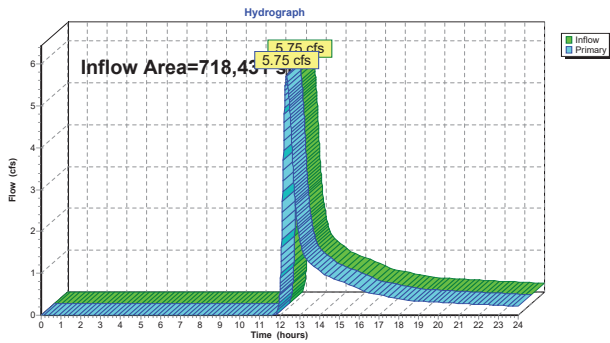
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
399.75	246	0	402.40	246	447
399.80	246	5	402.45	246	453
399.85	246	10	402.50	246	458
399.90	246	15	402.55	246	464
399.95	246	20	402.60	246	470
400.00	246	25	402.65	246	475
400.05	246	30	402.70	246	481
400.10	246	34	402.75	246	486
400.15	246	39	402.80	246	492
400.20	246	44	402.85	246	497
400.25	246	49	402.90	246	503
400.30	246	54	402.95	246	508
400.35	246	59	403.00	246	514
400.40	246	64	403.05	246	514
400.45	246	69	403.10	246	515
400.50	246	74	403.15	246	515
400.55	246	79	403.20	246	516
400.60	246	84	403.25	246	517
400.65	246	89	403.30	246	517
400.70	246	94	403.35	246	518
400.75	246	99	403.40	246	518
400.80	246	104	403.45	246	519
400.85	246	109	403.50	246	520
400.90	246	114	403.55	246	520
400.95	246	119	403.60	246	521
401.00	246	124			
401.05	246	129			
401.10	246	134			
401.15	246	139			
401.20	246	144			
401.25	246	149			
401.30	246	154			
401.35	246	159			
401.40	246	164			
401.45	246	169			
401.50	246	174			
401.55	246	179			
401.60	246	184			
401.65	246	189			
401.70	246	194			
401.75	246	199			
401.80	246	204			
401.85	246	209			
401.90	246	214			
401.95	246	219			
402.00	246	224			
402.05	246	229			
402.10	246	234			
402.15	246	239			
402.20	246	244			
402.25	246	249			
402.30	246	254			
402.35	246	259			

**Summary for Link 91: Ex. WEST OUT**

Inflow Area = 718,431 sf, 0.52% Impervious, Inflow Depth > 0.56" for 1-Year event  
 Inflow = 5.75 cfs @ 12.34 hrs, Volume= 33,279 cf  
 Primary = 5.75 cfs @ 12.34 hrs, Volume= 33,279 cf, Atten= 0%, Lag= 0.0 min

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

**Link 91: Ex. WEST OUT**

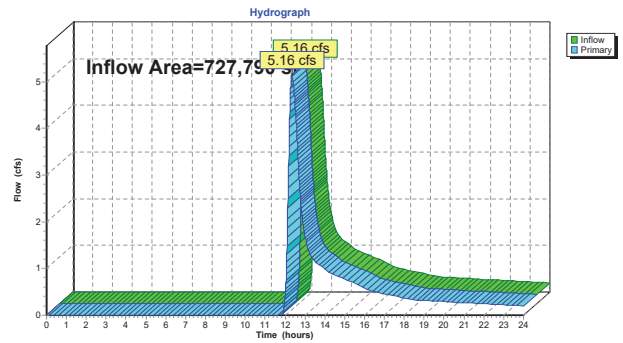


**Summary for Link 92: Pr. WEST OUT**

Inflow Area = 727,790 sf, 3.15% Impervious, Inflow Depth > 0.51" for 1-Year event  
 Inflow = 5.16 cfs @ 12.35 hrs, Volume= 30,675 cf  
 Primary = 5.16 cfs @ 12.35 hrs, Volume= 30,675 cf, Atten= 0%, Lag= 0.0 min

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

**Link 92: Pr. WEST OUT**

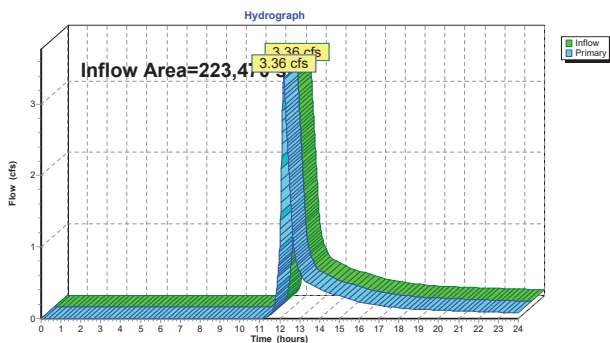


**Summary for Link 93: Ex. EAST OUT**

Inflow Area = 223,470 sf, 8.62% Impervious, Inflow Depth > 0.79" for 1-Year event  
 Inflow = 3.36 cfs @ 12.21 hrs, Volume= 14,731 cf  
 Primary = 3.36 cfs @ 12.21 hrs, Volume= 14,731 cf, Atten= 0%, Lag= 0.0 min

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

**Link 93: Ex. EAST OUT**

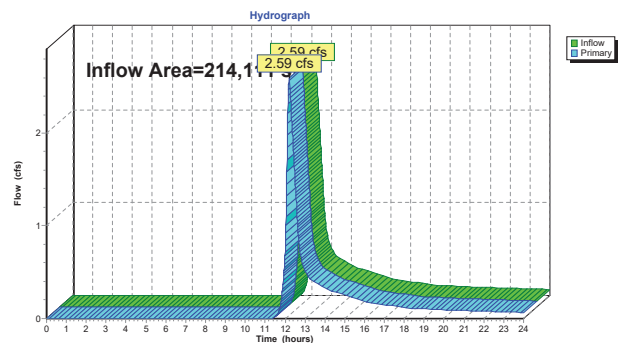


**Summary for Link 94: Pr. EAST OUT**

Inflow Area = 214,111 sf, 10.36% Impervious, Inflow Depth > 0.65" for 1-Year event  
 Inflow = 2.59 cfs @ 12.21 hrs, Volume= 11,578 cf  
 Primary = 2.59 cfs @ 12.21 hrs, Volume= 11,578 cf, Atten= 0%, Lag= 0.0 min

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

**Link 94: Pr. EAST OUT**





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

**Subcatchment 10: Ex. WEST** Runoff Area=718,431 sf 0.52% Impervious Runoff Depth>1.91"  
 Flow Length=106' Slope=0.0240 '/' Tc=20.2 min CN=67.60 Runoff=24.07 cfs 114,350 cf

**Subcatchment 20: Ex. EAST** Runoff Area=223,470 sf 8.62% Impervious Runoff Depth>2.35"  
 Flow Length=243' Tc=13.7 min CN=72.95 Runoff=11.00 cfs 43,720 cf

**Subcatchment 30: Pr. WEST** Runoff Area=700,113 sf 0.18% Impervious Runoff Depth>1.85"  
 Flow Length=106' Slope=0.0240 '/' Tc=20.2 min CN=66.83 Runoff=22.61 cfs 107,952 cf

**Subcatchment 31: Pr. WEST-1** Runoff Area=8,280 sf 100.00% Impervious Runoff Depth>4.86"  
 Tc=5.0 min CN=98.00 Runoff=0.98 cfs 3,353 cf

**Subcatchment 32: Pr. WEST-2** Runoff Area=450 sf 100.00% Impervious Runoff Depth>4.86"  
 Tc=5.0 min CN=98.00 Runoff=0.05 cfs 182 cf

**Subcatchment 33: Pr. WEST-3** Runoff Area=14,195 sf 57.73% Impervious Runoff Depth>3.82"  
 Tc=5.0 min CN=88.55 Runoff=1.47 cfs 4,516 cf

**Subcatchment 34: Pr. WEST-4** Runoff Area=4,752 sf 100.00% Impervious Runoff Depth>4.86"  
 Tc=5.0 min CN=98.00 Runoff=0.56 cfs 1,925 cf

**Subcatchment 40: Pr. EAST** Runoff Area=187,696 sf 9.93% Impervious Runoff Depth>2.26"  
 Flow Length=243' Tc=13.7 min CN=71.87 Runoff=8.85 cfs 35,307 cf

**Subcatchment 41: Pr. EAST-1** Runoff Area=2,295 sf 0.00% Impervious Runoff Depth>3.46"  
 Tc=5.0 min CN=85.00 Runoff=0.22 cfs 661 cf

**Subcatchment 42: Pr. EAST-2** Runoff Area=5,475 sf 0.00% Impervious Runoff Depth>2.63"  
 Tc=5.0 min CN=76.17 Runoff=0.40 cfs 1,200 cf

**Subcatchment 43: Pr. EAST-3** Runoff Area=10,380 sf 34.16% Impervious Runoff Depth>3.36"  
 Tc=5.0 min CN=84.01 Runoff=0.97 cfs 2,906 cf

**Subcatchment 44: Pr. EAST-4** Runoff Area=8,265 sf 0.00% Impervious Runoff Depth>2.49"  
 Tc=5.0 min CN=74.52 Runoff=0.57 cfs 1,713 cf

**Pond 71: 330 CULTEC GALS (2x5) BMP-W1** Peak Elev=429.16' Storage=1,009 cf Inflow=0.98 cfs 3,353 cf  
 Discarded=0.02 cfs 1,526 cf Primary=1.52 cfs 1,098 cf Outflow=1.54 cfs 2,624 cf

**Pond 72: 330 CULTEC GALS (2x1) BMP-W2** Peak Elev=397.40' Storage=57 cf Inflow=0.05 cfs 182 cf  
 Discarded=0.01 cfs 182 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 182 cf

**Pond 73: 330 CULTEC GALS (4x3) BMP-W3** Peak Elev=404.18' Storage=1,214 cf Inflow=1.47 cfs 4,516 cf  
 Discarded=0.06 cfs 2,570 cf Primary=1.40 cfs 1,360 cf Outflow=1.46 cfs 3,929 cf

**Pond 74: 330 CULTEC GALS (2x3) BMP-W4** Peak Elev=404.64' Storage=635 cf Inflow=0.56 cfs 1,925 cf  
 Discarded=0.03 cfs 1,419 cf Primary=0.50 cfs 314 cf Outflow=0.53 cfs 1,734 cf

**Pond 81: 100 CULTEC GALS (2x3) BMP-E1** Peak Elev=389.40' Storage=290 cf Inflow=0.22 cfs 661 cf  
Discarded=0.02 cfs 660 cf Primary=0.00 cfs 0 cf Outflow=0.02 cfs 660 cf

**Pond 82: 150 CULTEC GALS (2x2) BMP-E2** Peak Elev=403.13' Storage=330 cf Inflow=0.40 cfs 1,200 cf  
Discarded=0.02 cfs 759 cf Primary=0.32 cfs 312 cf Outflow=0.33 cfs 1,071 cf

**Pond 83: 330 CULTEC GALS (3x3) BMP-E3** Peak Elev=406.65' Storage=906 cf Inflow=0.97 cfs 2,906 cf  
Discarded=0.05 cfs 1,850 cf Primary=0.61 cfs 652 cf Outflow=0.66 cfs 2,502 cf

**Pond 84: 280 CULTEC GALS (2x3) BMP-E4** Peak Elev=403.45' Storage=519 cf Inflow=0.57 cfs 1,713 cf  
Discarded=0.03 cfs 1,037 cf Primary=0.35 cfs 423 cf Outflow=0.37 cfs 1,460 cf

**Link 91: Ex. WEST OUT** Inflow=24.07 cfs 114,350 cf  
Primary=24.07 cfs 114,350 cf

**Link 92: Pr. WEST OUT** Inflow=23.65 cfs 110,724 cf  
Primary=23.65 cfs 110,724 cf

**Link 93: Ex. EAST OUT** Inflow=11.00 cfs 43,720 cf  
Primary=11.00 cfs 43,720 cf

**Link 94: Pr. EAST OUT** Inflow=9.83 cfs 36,693 cf  
Primary=9.83 cfs 36,693 cf

**Total Runoff Area = 1,883,802 sf Runoff Volume = 317,786 cf Average Runoff Depth = 2.02"**  
**96.39% Pervious = 1,815,722 sf 3.61% Impervious = 68,080 sf**

**Summary for Subcatchment 10: Ex. WEST**

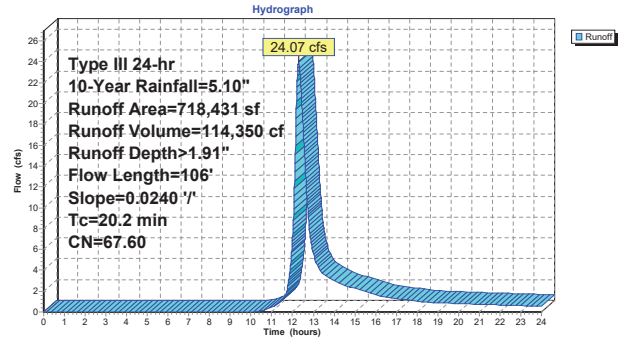
Runoff = 24.07 cfs @ 12.29 hrs, Volume= 114,350 cf, Depth> 1.91"  
 Routed to Link 91 : Ex. WEST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
3,067	98.00	Roofs, HSG B
12,045	85.00	Gravel roads, HSG B
651	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
14,020	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
16,710	49.00	Pasture/grassland/range, Fair, HSG A
66,215	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
136,825	36.00	Woods, Fair, HSG A
112,308	60.00	Woods, Fair, HSG B
279,420	79.00	Woods, Fair, HSG D
64,205	98.00	Water Surface, 0% imp, HSG D
* 12,965	61.00	Paddock, Good, HSG B
718,431	67.60	Weighted Average
714,713		99.48% Pervious Area
3,718		0.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	106	0.0240	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.43"

**Subcatchment 10: Ex. WEST**



**Summary for Subcatchment 20: Ex. EAST**

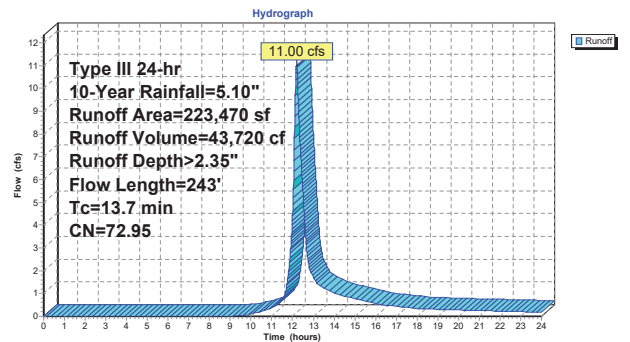
Runoff = 11.00 cfs @ 12.19 hrs, Volume= 43,720 cf, Depth> 2.35"  
 Routed to Link 93 : Ex. EAST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
19,190	98.00	Roofs, HSG B
16,500	85.00	Gravel roads, HSG B
80	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
15,400	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
139,125	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
14,350	60.00	Woods, Fair, HSG B
18,825	79.00	Woods, Fair, HSG D
223,470	72.95	Weighted Average
204,200		91.38% Pervious Area
19,270		8.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	187	0.0750	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.43"
0.3	56	0.1610	2.81		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.7	243	Total			

**Subcatchment 20: Ex. EAST**





**Summary for Subcatchment 30: Pr. WEST**

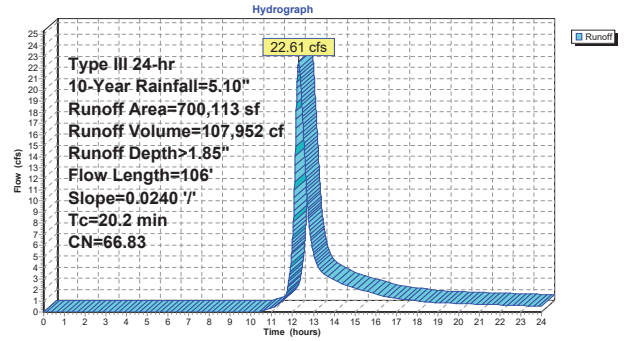
Runoff = 22.61 cfs @ 12.30 hrs, Volume= 107,952 cf, Depth> 1.85"  
 Routed to Link 92 : Pr. WEST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
10,731	85.00	Gravel roads, HSG B
1,234	98.00	Paved parking, HSG B
*	0	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
15,083	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
10,560	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
112,979	36.00	Woods, Fair, HSG A
130,806	60.00	Woods, Fair, HSG B
279,420	79.00	Woods, Fair, HSG D
64,205	98.00	Water Surface, 0% imp, HSG D
* 39,905	39.00	Paddock, Good, HSG A
* 35,190	61.00	Paddock, Good, HSG B
700,113	66.83	Weighted Average
698,879	99.82%	Pervious Area
1,234	0.18%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	106	0.0240	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.43"

**Subcatchment 30: Pr. WEST**



**Summary for Subcatchment 31: Pr. WEST-1**

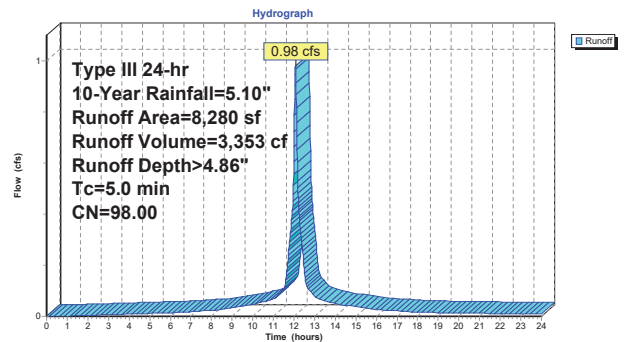
Runoff = 0.98 cfs @ 12.07 hrs, Volume= 3,353 cf, Depth> 4.86"  
 Routed to Pond 71 : 330 CULTTEC GAL5 (2x5) BMP-W1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
4,564	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
2,816	98.00	Paved parking, HSG B
*	900	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
* 0	39.00	Paddock, Good, HSG A
* 0	61.00	Paddock, Good, HSG B
8,280	98.00	Weighted Average
8,280	100.00%	Impervious Area

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

**Subcatchment 31: Pr. WEST-1**



**Summary for Subcatchment 32: Pr. WEST-2**

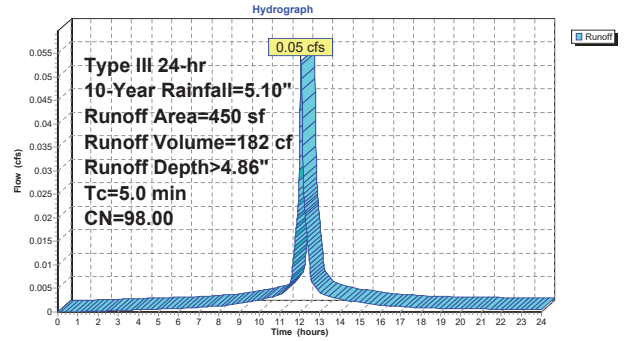
Runoff = 0.05 cfs @ 12.07 hrs, Volume= 182 cf, Depth> 4.86"  
 Routed to Pond 72 : 330 CULTEC GALs (2x1) BMP-W2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
450	98.00	Paved parking, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
0	39.00	Paddock, Good, HSG A
0	61.00	Paddock, Good, HSG B
450	98.00	Weighted Average
450		100.00% Impervious Area

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

**Subcatchment 32: Pr. WEST-2**



**Summary for Subcatchment 33: Pr. WEST-3**

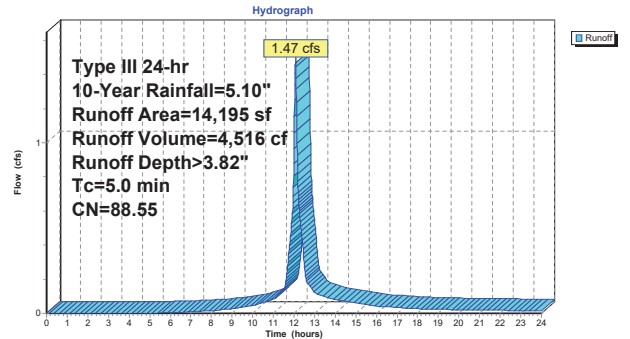
Runoff = 1.47 cfs @ 12.07 hrs, Volume= 4,516 cf, Depth> 3.82"  
 Routed to Pond 73 : 330 CULTEC GALs (4x3) BMP-W3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
1,152	98.00	Roofs, HSG B
2,490	85.00	Gravel roads, HSG B
7,043	98.00	Paved parking, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,510	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
0	39.00	Paddock, Good, HSG A
0	61.00	Paddock, Good, HSG B
14,195	88.55	Weighted Average
6,000		42.27% Pervious Area
8,195		57.73% Impervious Area

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

**Subcatchment 33: Pr. WEST-3**



**Summary for Subcatchment 34: Pr. WEST-4**

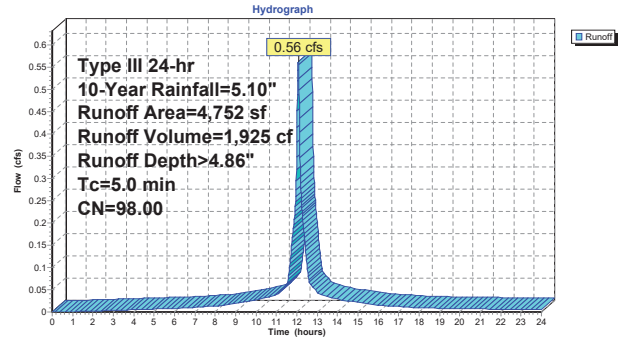
Runoff = 0.56 cfs @ 12.07 hrs, Volume= 1,925 cf, Depth> 4.86"  
 Routed to Pond 74 : 330 CULTEC GALS (2x3) BMP-W4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
4,752	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
0	39.00	Paddock, Good, HSG A
0	61.00	Paddock, Good, HSG B
4,752	98.00	Weighted Average
4,752		100.00% Impervious Area

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

**Subcatchment 34: Pr. WEST-4**



**Summary for Subcatchment 40: Pr. EAST**

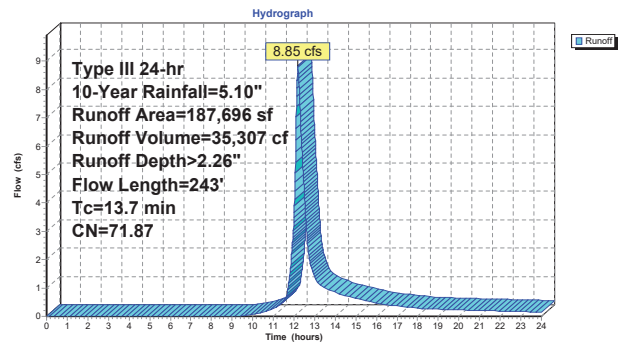
Runoff = 8.85 cfs @ 12.19 hrs, Volume= 35,307 cf, Depth> 2.26"  
 Routed to Link 94 : Pr. EAST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
17,537	98.00	Roofs, HSG B
845	85.00	Gravel roads, HSG B
1,098	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
9,987	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
116,572	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
20,730	60.00	Woods, Fair, HSG B
18,825	79.00	Woods, Fair, HSG D
2,102	61.00	Paddock, Good, HSG B
187,696	71.87	Weighted Average
169,061		90.07% Pervious Area
18,635		9.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	187	0.0750	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.43"
0.3	56	0.1610	2.81		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.7	243	Total			

**Subcatchment 40: Pr. EAST**





**Summary for Subcatchment 41: Pr. EAST-1**

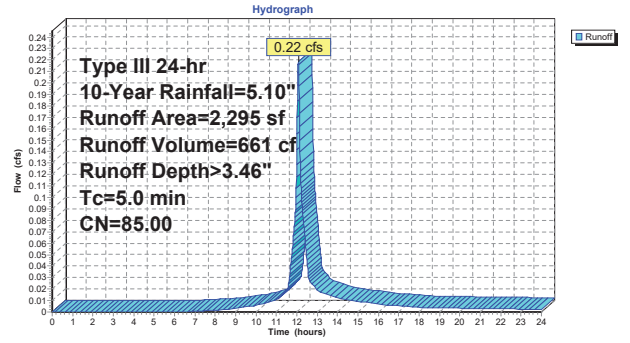
Runoff = 0.22 cfs @ 12.07 hrs, Volume= 661 cf, Depth> 3.46"  
 Routed to Pond 81 : 100 CULTEC GALS (2x3) BMP-E1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
2,295	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
2,295	85.00	Weighted Average
2,295		100.00% Pervious Area

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

**Subcatchment 41: Pr. EAST-1**



**Summary for Subcatchment 42: Pr. EAST-2**

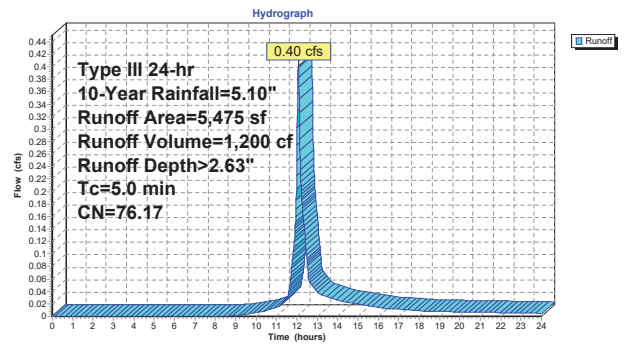
Runoff = 0.40 cfs @ 12.08 hrs, Volume= 1,200 cf, Depth> 2.63"  
 Routed to Pond 82 : 150 CULTEC GALS (2x2) BMP-E2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
2,455	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,020	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
5,475	76.17	Weighted Average
5,475		100.00% Pervious Area

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

**Subcatchment 42: Pr. EAST-2**



**Summary for Subcatchment 43: Pr. EAST-3**

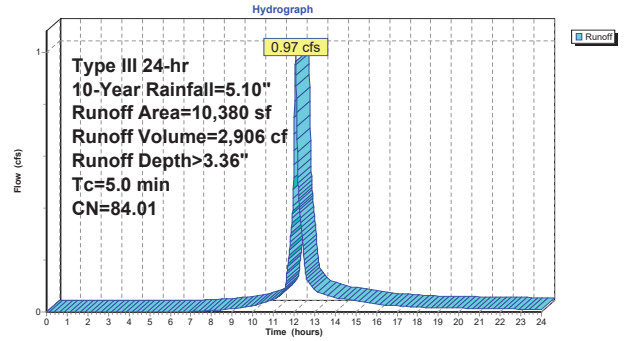
Runoff = 0.97 cfs @ 12.07 hrs, Volume= 2,906 cf, Depth> 3.36"  
 Routed to Pond 83 : 330 CULTTEC GALs (3x3) BMP-E3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
3,309	85.00	Gravel roads, HSG B
3,546	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,525	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
10,380	84.01	Weighted Average
6,834		65.84% Pervious Area
3,546		34.16% Impervious Area

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

**Subcatchment 43: Pr. EAST-3**



**Summary for Subcatchment 44: Pr. EAST-4**

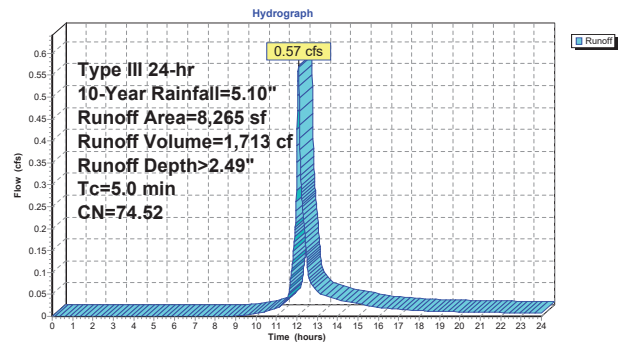
Runoff = 0.57 cfs @ 12.08 hrs, Volume= 1,713 cf, Depth> 2.49"  
 Routed to Pond 84 : 280 CULTTEC GALs (2x3) BMP-E4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=5.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
3,170	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
4,455	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	64.00	Paddock, Good, HSG B
8,265	74.52	Weighted Average
8,265		100.00% Pervious Area

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

**Subcatchment 44: Pr. EAST-4**



**Summary for Pond 71: 330 CULTEC GALS (2x5) BMP-W1**

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 8,280 sf, 100.00% Impervious, Inflow Depth > 4.86" for 10-Year event  
 Inflow = 0.98 cfs @ 12.07 hrs, Volume= 3,353 cf  
 Outflow = 1.54 cfs @ 12.07 hrs, Volume= 2,624 cf, Atten= 0%, Lag= 0.2 min  
 Discarded = 0.02 cfs @ 12.07 hrs, Volume= 1,526 cf  
 Primary = 1.52 cfs @ 12.07 hrs, Volume= 1,098 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 429.16' @ 12.07 hrs Surf.Area= 430 sf Storage= 1,009 cf

Plug-Flow detention time= 153.7 min calculated for 2,623 cf (78% of inflow)  
 Center-of-Mass det. time= 73.3 min ( 819.6 - 746.3 )

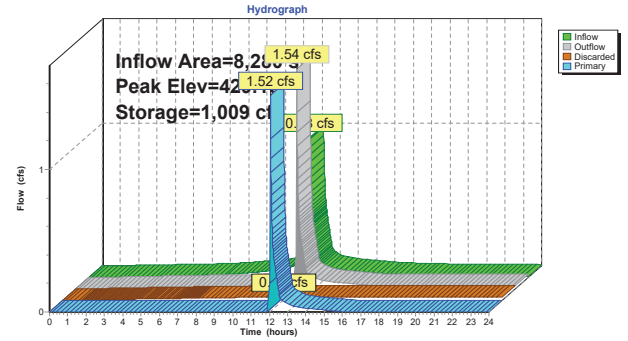
Volume	Invert	Avail. Storage	Storage Description
#1	424.50'	402 cf	<b>11.17'W x 38.50'L x 3.60'H Crushed Stone</b> 1,548 cf Overall - 544 cf Embedded = 1,004 cf x 40.0% Voids
#2	425.00'	544 cf	<b>Cultec R-330XLHD x 10 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
#3	427.10'	65 cf	<b>2.00'W x 38.50'L x 2.10'H LVL SP VOLUME</b> Impervious 162 cf Overall x 40.0% Voids
		1,010 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	429.10'	<b>36.0' long x 1.0' breadth Broad-Crested Rectangular Weir LVL.SP</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	424.50'	<b>2,000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

**Discarded OutFlow** Max=0.02 cfs @ 12.07 hrs HW=429.16' (Free Discharge)  
 ↳2=Exfiltration ( Controls 0.02 cfs)

**Primary OutFlow** Max=1.31 cfs @ 12.07 hrs HW=429.16' (Free Discharge)  
 ↳1=Broad-Crested Rectangular Weir LVL.SP (Weir Controls 1.31 cfs @ 0.64 fps)

**Pond 71: 330 CULTEC GALS (2x5) BMP-W1**



**Stage-Area-Storage for Pond 71: 330 CULTEC GALS (2x5) BMP-W1**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
424.50	430	0	427.15	430	770
424.55	430	9	427.20	430	784
424.60	430	17	427.25	430	797
424.65	430	26	427.30	430	810
424.70	430	34	427.35	430	822
424.75	430	43	427.40	430	833
424.80	430	52	427.45	430	844
424.85	430	60	427.50	430	855
424.90	430	69	427.55	430	865
424.95	430	77	427.60	430	875
425.00	430	86	427.65	430	885
425.05	430	103	427.70	430	895
425.10	430	121	427.75	430	905
425.15	430	138	427.80	430	916
425.20	430	155	427.85	430	926
425.25	430	172	427.90	430	936
425.30	430	189	427.95	430	946
425.35	430	206	428.00	430	956
425.40	430	223	428.05	430	966
425.45	430	240	428.10	430	976
425.50	430	258	428.15	430	978
425.55	430	275	428.20	430	979
425.60	430	292	428.25	430	981
425.65	430	308	428.30	430	983
425.70	430	325	428.35	430	984
425.75	430	342	428.40	430	986
425.80	430	358	428.45	430	987
425.85	430	375	428.50	430	989
425.90	430	391	428.55	430	990
425.95	430	408	428.60	430	992
426.00	430	424	428.65	430	993
426.05	430	441	428.70	430	995
426.10	430	457	428.75	430	996
426.15	430	474	428.80	430	998
426.20	430	490	428.85	430	1,000
426.25	430	506	428.90	430	1,001
426.30	430	522	428.95	430	1,003
426.35	430	538	429.00	430	1,004
426.40	430	554	429.05	430	1,006
426.45	430	570	429.10	430	1,007
426.50	430	585	429.15	430	1,009
426.55	430	601	429.20	430	1,010
426.60	430	616			
426.65	430	631			
426.70	430	646			
426.75	430	660			
426.80	430	675			
426.85	430	689			
426.90	430	703			
426.95	430	717			
427.00	430	730			
427.05	430	743			
427.10	430	756			

**Summary for Pond 72: 330 CULTEC GALS (2x1) BMP-W2**

[42] Hint: Gap in defined storage above volume #1 at 400.10'

Inflow Area = 450 sf, 100.00% Impervious, Inflow Depth > 4.86" for 10-Year event  
 Inflow = 0.05 cfs @ 12.07 hrs, Volume= 182 cf  
 Outflow = 0.01 cfs @ 12.57 hrs, Volume= 182 cf, Atten= 87%, Lag= 30.0 min  
 Discarded = 0.01 cfs @ 12.57 hrs, Volume= 182 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 397.40' @ 12.57 hrs Surf.Area= 117 sf Storage= 57 cf

Plug-Flow detention time= 56.0 min calculated for 182 cf (100% of inflow)  
 Center-of-Mass det. time= 54.9 min ( 801.2 - 746.3 )

Volume	Invert	Avail. Storage	Storage Description
#1	396.50'	123 cf	<b>11.17'W x 10.50'L x 3.60'H Crushed Stone</b> 422 cf Overall - 115 cf Embedded = 307 cf x 40.0% Voids
#2	397.00'	115 cf	<b>Cultec R-330XLHD x 2 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
#3	400.50'	12 cf	<b>2.00'W x 2.00'L x 3.10'H AD VOLUME</b> Impervious
		251 cf	Total Available Storage

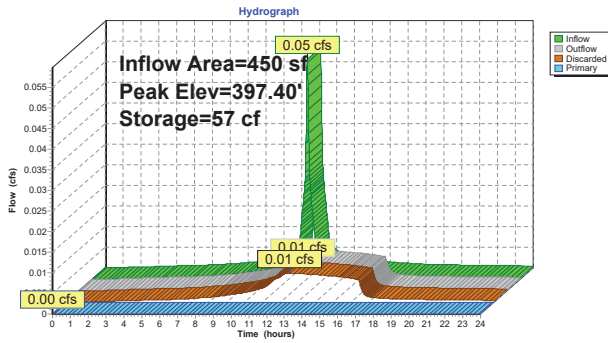
Device	Routing	Invert	Outlet Devices
#1	Primary	403.50'	<b>1.2" x 6.0" Horiz. Orifice/Grate 24x24 X 9.00 columns</b> X 3 rows C= 0.600 in 24.0" x 24.0" Grate (34% open area) Limited to weir flow at low heads
#2	Discarded	396.50'	<b>2,000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 393.50'

**Discarded OutFlow** Max=0.01 cfs @ 12.57 hrs HW=397.40' (Free Discharge)  
 ↳2=Exfiltration ( Controls 0.01 cfs)

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=396.50' (Free Discharge)  
 ↳1=Orifice/Grate 24x24 ( Controls 0.00 cfs)



**Pond 72: 330 CULTEC GALS (2x1) BMP-W2**



**Stage-Area-Storage for Pond 72: 330 CULTEC GALS (2x1) BMP-W2**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
396.50	117	0	401.80	117	243
396.60	117	5	401.90	117	244
396.70	117	9	402.00	117	244
396.80	117	14	402.10	117	245
396.90	117	19	402.20	117	245
397.00	117	23	402.30	117	245
397.10	117	32	402.40	117	246
397.20	117	40	402.50	117	246
397.30	117	48	402.60	117	247
397.40	117	57	402.70	117	247
397.50	117	65	402.80	117	247
397.60	117	73	402.90	117	248
397.70	117	81	403.00	117	248
397.80	117	90	403.10	117	249
397.90	117	98	403.20	117	249
398.00	117	106	403.30	117	249
398.10	117	114	403.40	117	250
398.20	117	122	403.50	117	250
398.30	117	130	403.60	117	251
398.40	117	137			
398.50	117	145			
398.60	117	153			
398.70	117	160			
398.80	117	167			
398.90	117	174			
399.00	117	181			
399.10	117	188			
399.20	117	194			
399.30	117	200			
399.40	117	205			
399.50	117	210			
399.60	117	215			
399.70	117	219			
399.80	117	224			
399.90	117	229			
400.00	117	233			
400.10	117	238			
400.20	117	238			
400.30	117	238			
400.40	117	238			
400.50	117	238			
400.60	117	239			
400.70	117	239			
400.80	117	239			
400.90	117	240			
401.00	117	240			
401.10	117	241			
401.20	117	241			
401.30	117	241			
401.40	117	242			
401.50	117	242			
401.60	117	243			
401.70	117	243			

**Summary for Pond 73: 330 CULTEC GALS (4x3) BMP-W3**

Inflow Area = 14,195 sf, 57.73% Impervious, Inflow Depth > 3.82" for 10-Year event  
 Inflow = 1.47 cfs @ 12.07 hrs, Volume= 4,516 cf  
 Outflow = 1.46 cfs @ 12.08 hrs, Volume= 3,929 cf, Atten= 1%, Lag= 0.4 min  
 Discarded = 0.06 cfs @ 12.08 hrs, Volume= 2,570 cf  
 Primary = 1.40 cfs @ 12.08 hrs, Volume= 1,360 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 6  
 Peak Elev= 404.18' @ 12.08 hrs Surf.Area= 510 sf Storage= 1,214 cf

Plug-Flow detention time= 155.3 min calculated for 3,929 cf (87% of inflow)  
 Center-of-Mass det. time= 97.4 min ( 891.2 - 793.8 )

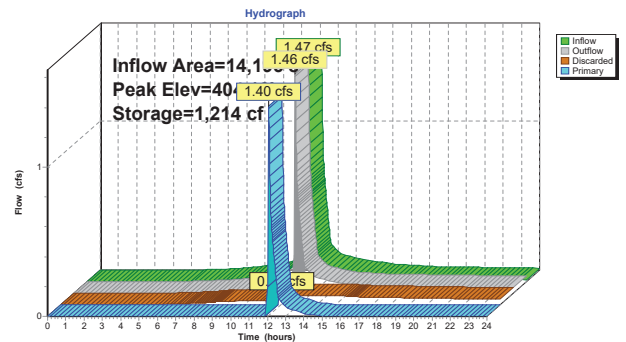
Volume	Invert	Avail.Storage	Storage Description
#1	399.50'	467 cf	<b>20.83'W x 24.50'L x 3.60'H STONE DATA VOLUME</b> 1,837 cf Overall - 671 cf Embedded = 1,167 cf x 40.0% Voids
#2	400.00'	671 cf	<b>Cultec R-330XLHD x 12 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 4 rows
#3	402.10'	43 cf	<b>2.00'W x 24.50'L x 2.20'H LVL SP VOLUME</b> Impervious 108 cf Overall x 40.0% Voids
#4	401.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			1,219 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	404.10'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	404.20'	<b>1.7" x 6.5" Horiz. Orifice/Grate CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#3	Discarded	399.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.06 cfs @ 12.08 hrs HW=404.18' (Free Discharge)  
 3=Exfiltration ( Controls 0.06 cfs)

Primary OutFlow Max=1.36 cfs @ 12.08 hrs HW=404.18' (Free Discharge)  
 1=Broad-Crested Rectangular Weir - LVL.SP. (Weir Controls 1.36 cfs @ 0.76 fps)  
 2=Orifice/Grate CB ( Controls 0.00 cfs)

**Pond 73: 330 CULTEC GALS (4x3) BMP-W3**



Stage-Area-Storage for Pond 73: 330 CULTEC GALS (4x3) BMP-W3

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
399.50	510	0	402.15	510	939
399.55	510	10	402.20	510	955
399.60	510	20	402.25	510	971
399.65	510	31	402.30	510	986
399.70	510	41	402.35	510	1,000
399.75	510	51	402.40	510	1,013
399.80	510	61	402.45	510	1,026
399.85	510	71	402.50	510	1,038
399.90	510	82	402.55	510	1,050
399.95	510	92	402.60	510	1,062
400.00	510	102	402.65	510	1,074
400.05	510	113	402.70	510	1,085
400.10	510	124	402.75	510	1,097
400.15	510	135	402.80	510	1,109
400.20	510	146	402.85	510	1,121
400.25	510	157	402.90	510	1,132
400.30	510	168	402.95	510	1,144
400.35	510	179	403.00	510	1,156
400.40	510	190	403.05	510	1,168
400.45	510	201	403.10	510	1,180
400.50	510	212	403.15	510	1,191
400.55	510	223	403.20	510	1,203
400.60	510	234	403.25	510	1,214
400.65	510	245	403.30	510	1,226
400.70	510	256	403.35	510	1,238
400.75	510	267	403.40	510	1,250
400.80	510	278	403.45	510	1,261
400.85	510	289	403.50	510	1,273
400.90	510	300	403.55	510	1,285
400.95	510	311	403.60	510	1,297
401.00	510	322	403.65	510	1,309
401.05	510	333	403.70	510	1,321
401.10	510	344	403.75	510	1,333
401.15	510	355	403.80	510	1,345
401.20	510	366	403.85	510	1,357
401.25	510	377	403.90	510	1,369
401.30	510	388	403.95	510	1,381
401.35	510	399	404.00	510	1,393
401.40	510	410	404.05	510	1,405
401.45	510	421	404.10	510	1,417
401.50	510	432	404.15	510	1,429
401.55	510	443	404.20	510	1,441
401.60	510	454	404.25	510	1,453
401.65	510	465	404.30	510	1,465
401.70	510	476	404.35	510	1,477
401.75	510	487	404.40	510	1,489
401.80	510	498			
401.85	510	509			
401.90	510	520			
401.95	510	531			
402.00	510	542			
402.05	510	553			
402.10	510	564			

Summary for Pond 74: 330 CULTEC GALS (2x3) BMP-W4

Inflow Area = 4,752 sf, 100.00% Impervious, Inflow Depth > 4.86" for 10-Year event  
 Inflow = 0.56 cfs @ 12.07 hrs, Volume= 1,925 cf  
 Outflow = 0.53 cfs @ 12.13 hrs, Volume= 1,734 cf, Atten= 6%, Lag= 3.8 min  
 Discarded = 0.03 cfs @ 12.13 hrs, Volume= 1,419 cf  
 Primary = 0.50 cfs @ 12.13 hrs, Volume= 314 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 404.64' @ 12.13 hrs Surf.Area= 273 sf Storage= 635 cf

Plug-Flow detention time= 177.0 min calculated for 1,734 cf (90% of inflow)  
 Center-of-Mass det. time= 127.5 min ( 873.8 - 746.3 )

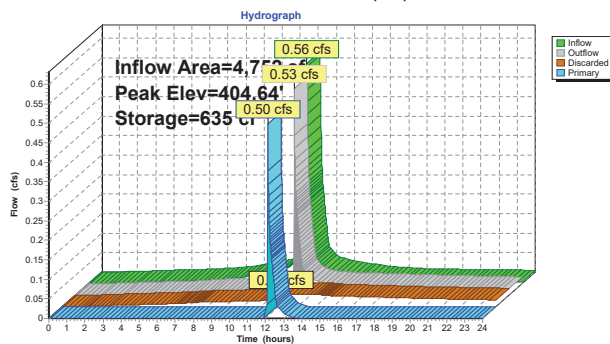
Volume	Invert	Avail.Storage	Storage Description
#1	400.00'	260 cf	11.16'W x 24.50'L x 3.60'H STONE DATA VOLUME 984 of Overall - 335 cf Embedded = 649 cf x 40.0% Voids
#2	400.50'	335 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50" x 7.45 sf x 2 rows
#3	402.60'	41 cf	2.00'W x 24.50'L x 2.10'H LVL SP VOLUME-Impervious 103 cf Overall x 40.0% Voids
			636 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	404.60'	22.0' long x 1.0' breadth Broad-Crested Rectangular Weir LVL.SP Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	400.00'	2.000 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 397.00'

Discarded OutFlow Max=0.03 cfs @ 12.13 hrs HW=404.64' (Free Discharge)  
 2=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.37 cfs @ 12.13 hrs HW=404.63' (Free Discharge)  
 1=Broad-Crested Rectangular Weir LVL.SP (Weir Controls 0.37 cfs @ 0.49 fps)

Pond 74: 330 CULTEC GALS (2x3) BMP-W4



Stage-Area-Storage for Pond 74: 330 CULTEC GALS (2x3) BMP-W4

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
400.00	273	0	402.65	273	484
400.05	273	5	402.70	273	492
400.10	273	11	402.75	273	501
400.15	273	16	402.80	273	509
400.20	273	22	402.85	273	516
400.25	273	27	402.90	273	524
400.30	273	33	402.95	273	530
400.35	273	38	403.00	273	537
400.40	273	44	403.05	273	544
400.45	273	49	403.10	273	550
400.50	273	55	403.15	273	556
400.55	273	61	403.20	273	563
400.60	273	66	403.25	273	569
400.65	273	72	403.30	273	576
400.70	273	77	403.35	273	582
400.75	273	83	403.40	273	589
400.80	273	88	403.45	273	595
400.85	273	94	403.50	273	602
400.90	273	100	403.55	273	608
400.95	273	106	403.60	273	615
401.00	273	112	403.65	273	615
401.05	273	118	403.70	273	616
401.10	273	124	403.75	273	617
401.15	273	130	403.80	273	618
401.20	273	136	403.85	273	619
401.25	273	142	403.90	273	620
401.30	273	148	403.95	273	621
401.35	273	154	404.00	273	622
401.40	273	160	404.05	273	623
401.45	273	166	404.10	273	624
401.50	273	172	404.15	273	625
401.55	273	178	404.20	273	626
401.60	273	184	404.25	273	627
401.65	273	190	404.30	273	628
401.70	273	196	404.35	273	629
401.75	273	202	404.40	273	630
401.80	273	208	404.45	273	631
401.85	273	214	404.50	273	632
401.90	273	220	404.55	273	633
401.95	273	226	404.60	273	634
402.00	273	232	404.65	273	635
402.05	273	238	404.70	273	636
402.10	273	244			
402.15	273	250			
402.20	273	256			
402.25	273	262			
402.30	273	268			
402.35	273	274			
402.40	273	280			
402.45	273	286			
402.50	273	292			
402.55	273	298			
402.60	273	304			

**Summary for Pond 81: 100 CULTEC GALS (2x3) BMP-E1**

Inflow Area = 2,295 sf, 0.00% Impervious, Inflow Depth > 3.46" for 10-Year event  
 Inflow = 0.22 cfs @ 12.07 hrs, Volume= 661 cf  
 Outflow = 0.02 cfs @ 13.18 hrs, Volume= 660 cf, Atten= 92%, Lag= 66.6 min  
 Discarded = 0.02 cfs @ 13.18 hrs, Volume= 660 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 389.40' @ 13.18 hrs Surf.Area= 213 sf Storage= 290 cf

Plug-Flow detention time= 183.1 min calculated for 660 cf (100% of inflow)  
 Center-of-Mass det. time= 182.4 min ( 987.7 - 805.3 )

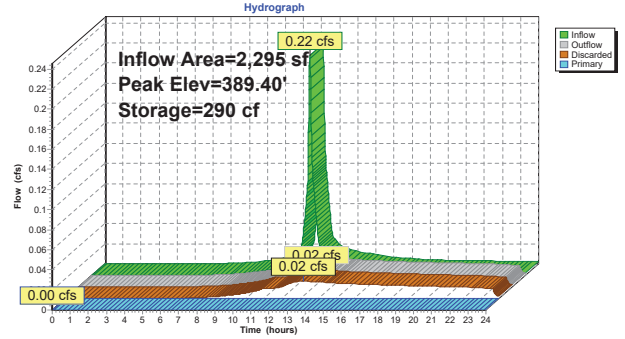
Volume	Invert	Avail.Storage	Storage Description
#1	386.50'	144 cf	<b>8.50'W x 25.00'L x 2.10'H STONE DATA VOLUME</b> 446 of Overall - 86 of Embedded = 361 cf x 40.0% Voids
#2	387.00'	86 cf	<b>Cultec C-100HD x 6 Inside #1</b> Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 of Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap Row Length Adjustment= +0.50' x 1.86 sf x 2 rows
#3	387.60'	39 cf	<b>2.00'W x 23.20'L x 2.10'H LVL SP VOLUME</b> Impervious 97 of Overall x 40.0% Voids
#4	387.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			307 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	389.70'	<b>1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Primary	389.60'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Discarded	386.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 382.50'

Discarded OutFlow Max=0.02 cfs @ 13.18 hrs HW=389.40' (Free Discharge)  
 3=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=386.50' (Free Discharge)  
 1=Orifice/Grate - CB ( Controls 0.00 cfs)  
 2=Broad-Crested Rectangular Weir - LVL.SP. ( Controls 0.00 cfs)

**Pond 81: 100 CULTEC GALS (2x3) BMP-E1**



**Stage-Area-Storage for Pond 81: 100 CULTEC GALS (2x3) BMP-E1**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
386.50	213	0	389.15	213	282
386.55	213	4	389.20	213	284
386.60	213	9	389.25	213	285
386.65	213	13	389.30	213	287
386.70	213	17	389.35	213	288
386.75	213	21	389.40	213	290
386.80	213	26	389.45	213	291
386.85	213	30	389.50	213	293
386.90	213	34	389.55	213	294
386.95	213	38	389.60	213	296
387.00	213	43	389.65	213	297
387.05	213	50	389.70	213	299
387.10	213	58	389.75	213	299
387.15	213	66	389.80	213	300
387.20	213	73	389.85	213	301
387.25	213	82	389.90	213	301
387.30	213	90	389.95	213	302
387.35	213	98	390.00	213	302
387.40	213	106	390.05	213	303
387.45	213	114	390.10	213	304
387.50	213	122	390.15	213	304
387.55	213	130	390.20	213	305
387.60	213	137	390.25	213	305
387.65	213	146	390.30	213	306
387.70	213	154	390.35	213	307
387.75	213	162	390.40	213	307
387.80	213	169			
387.85	213	177			
387.90	213	184			
387.95	213	190			
388.00	213	196			
388.05	213	202			
388.10	213	207			
388.15	213	213			
388.20	213	219			
388.25	213	225			
388.30	213	231			
388.35	213	236			
388.40	213	242			
388.45	213	248			
388.50	213	254			
388.55	213	259			
388.60	213	265			
388.65	213	267			
388.70	213	268			
388.75	213	270			
388.80	213	271			
388.85	213	273			
388.90	213	274			
388.95	213	276			
389.00	213	277			
389.05	213	279			
389.10	213	281			

**Summary for Pond 82: 150 CULTEC GALS (2x2) BMP-E2**

Inflow Area = 5,475 sf, 0.00% Impervious, Inflow Depth > 2.63" for 10-Year event  
 Inflow = 0.40 cfs @ 12.08 hrs, Volume= 1,200 cf  
 Outflow = 0.33 cfs @ 12.14 hrs, Volume= 1,071 cf, Atten= 17%, Lag= 4.1 min  
 Discarded = 0.02 cfs @ 12.14 hrs, Volume= 759 cf  
 Primary = 0.32 cfs @ 12.14 hrs, Volume= 312 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 6  
 Peak Elev= 403.13' @ 12.14 hrs Surf.Area= 186 sf Storage= 330 cf

Plug-Flow detention time= 157.5 min calculated for 1,071 cf (89% of inflow)  
 Center-of-Mass det. time= 106.3 min ( 935.7 - 829.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	399.50'	145 cf	<b>8.00'W x 23.25'L x 2.55'H STONE DATA VOLUME</b> 474 of Overall - 113 of Embedded = 362 cf x 40.0% Voids
#2	400.00'	113 cf	<b>Cultec R-150XLHD x 4 Inside #1</b> Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 2 rows
#3	401.10'	41 cf	<b>2.00'W x 23.20'L x 2.20'H LVL SP VOLUME</b> Impervious 102 of Overall x 40.0% Voids
#4	400.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			337 cf Total Available Storage

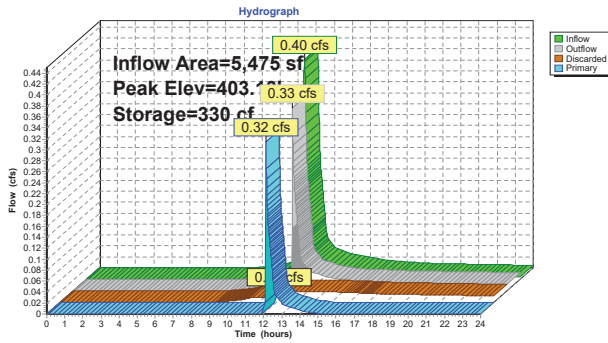
Device	Routing	Invert	Outlet Devices
#1	Primary	403.20'	<b>1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Primary	403.10'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Discarded	399.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.02 cfs @ 12.14 hrs HW=403.13' (Free Discharge)  
 3=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=0.27 cfs @ 12.14 hrs HW=403.13' (Free Discharge)  
 1=Orifice/Grate - CB ( Controls 0.00 cfs)  
 2=Broad-Crested Rectangular Weir - LVL.SP. (Weir Controls 0.27 cfs @ 0.45 fps)



**Pond 82: 150 CULTEC GALS (2x2) BMP-E2**



**Stage-Area-Storage for Pond 82: 150 CULTEC GALS (2x2) BMP-E2**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
399.50	186	0	402.15	186	300
399.55	186	4	402.20	186	302
399.60	186	7	402.25	186	303
399.65	186	11	402.30	186	305
399.70	186	15	402.35	186	306
399.75	186	19	402.40	186	308
399.80	186	22	402.45	186	309
399.85	186	26	402.50	186	311
399.90	186	30	402.55	186	312
399.95	186	33	402.60	186	314
400.00	186	37	402.65	186	315
400.05	186	44	402.70	186	317
400.10	186	51	402.75	186	318
400.15	186	58	402.80	186	320
400.20	186	64	402.85	186	322
400.25	186	72	402.90	186	323
400.30	186	79	402.95	186	325
400.35	186	86	403.00	186	326
400.40	186	93	403.05	186	328
400.45	186	101	403.10	186	329
400.50	186	108	403.15	186	331
400.55	186	115	403.20	186	332
400.60	186	122	403.25	186	334
400.65	186	129	403.30	186	335
400.70	186	136	403.35	186	336
400.75	186	143	403.40	186	337
400.80	186	150			
400.85	186	157			
400.90	186	163			
400.95	186	170			
401.00	186	177			
401.05	186	184			
401.10	186	189			
401.15	186	196			
401.20	186	203			
401.25	186	210			
401.30	186	216			
401.35	186	222			
401.40	186	228			
401.45	186	234			
401.50	186	239			
401.55	186	245			
401.60	186	250			
401.65	186	255			
401.70	186	260			
401.75	186	266			
401.80	186	271			
401.85	186	276			
401.90	186	281			
401.95	186	287			
402.00	186	292			
402.05	186	297			
402.10	186	299			

**Summary for Pond 83: 330 CULTEC GALS (3x3) BMP-E3**

Inflow Area = 10,380 sf, 34.16% Impervious, Inflow Depth > 3.36" for 10-Year event  
 Inflow = 0.97 cfs @ 12.07 hrs, Volume= 2,906 cf  
 Outflow = 0.66 cfs @ 12.15 hrs, Volume= 2,502 cf, Atten= 32%, Lag= 4.5 min  
 Discarded = 0.05 cfs @ 12.15 hrs, Volume= 1,850 cf  
 Primary = 0.61 cfs @ 12.15 hrs, Volume= 652 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 406.65' @ 12.15 hrs Surf.Area= 392 sf Storage= 906 cf

Plug-Flow detention time= 177.7 min calculated for 2,501 cf (86% of inflow)  
 Center-of-Mass det. time= 116.9 min ( 925.2 - 808.2 )

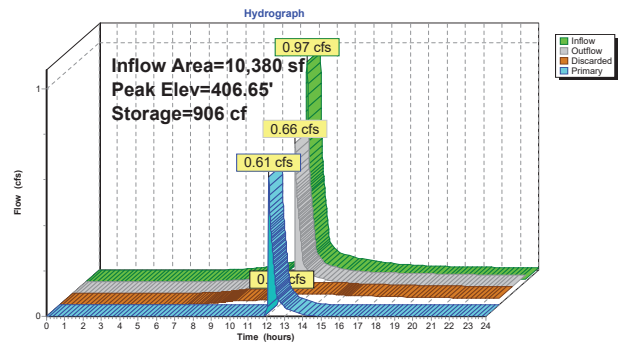
Volume	Invert	Avail.Storage	Storage Description
#1	402.00'	363 cf	16.00'W x 24.50'L x 3.60'H STONE DATA VOLUME 1,411 cf Overall - 503 cf Embedded = 908 cf x 40.0% Voids
#2	402.50'	503 cf	Cultec R-330XLHD x 9 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 3 rows
#3	404.60'	41 cf	2.00'W x 24.50'L x 2.10'H LVL SP VOLUME Impervious 103 cf Overall x 40.0% Voids
		907 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	406.60'	22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP. Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	402.00'	2,000 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 399.00'

Discarded OutFlow Max=0.05 cfs @ 12.15 hrs HW=406.65' (Free Discharge)  
 2=Exfiltration ( Controls 0.05 cfs)

Primary OutFlow Max=0.57 cfs @ 12.15 hrs HW=406.65' (Free Discharge)  
 1=Broad-Crested Rectangular Weir - LVL.SP.(Weir Controls 0.57 cfs @ 0.57 fps)

**Pond 83: 330 CULTEC GALS (3x3) BMP-E3**



Stage-Area-Storage for Pond 83: 330 CULTEC GALS (3x3) BMP-E3

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
402.00	392	0	404.65	392	706
402.05	392	8	404.70	392	718
402.10	392	16	404.75	392	730
402.15	392	24	404.80	392	741
402.20	392	31	404.85	392	751
402.25	392	39	404.90	392	761
402.30	392	47	404.95	392	771
402.35	392	55	405.00	392	780
402.40	392	63	405.05	392	789
402.45	392	71	405.10	392	798
402.50	392	78	405.15	392	806
402.55	392	84	405.20	392	815
402.60	392	91	405.25	392	824
402.65	392	98	405.30	392	833
402.70	392	104	405.35	392	842
402.75	392	110	405.40	392	851
402.80	392	116	405.45	392	859
402.85	392	121	405.50	392	868
402.90	392	126	405.55	392	877
402.95	392	131	405.60	392	886
403.00	392	136	405.65	392	887
403.05	392	141	405.70	392	888
403.10	392	146	405.75	392	889
403.15	392	151	405.80	392	890
403.20	392	156	405.85	392	891
403.25	392	161	405.90	392	892
403.30	392	166	405.95	392	893
403.35	392	171	406.00	392	894
403.40	392	176	406.05	392	895
403.45	392	181	406.10	392	896
403.50	392	186	406.15	392	897
403.55	392	191	406.20	392	898
403.60	392	196	406.25	392	899
403.65	392	201	406.30	392	900
403.70	392	206	406.35	392	901
403.75	392	211	406.40	392	902
403.80	392	216	406.45	392	903
403.85	392	221	406.50	392	903
403.90	392	226	406.55	392	904
403.95	392	231	406.60	392	905
404.00	392	236	406.65	392	906
404.05	392	241	406.70	392	907
404.10	392	246			
404.15	392	251			
404.20	392	256			
404.25	392	261			
404.30	392	266			
404.35	392	271			
404.40	392	276			
404.45	392	281			
404.50	392	286			
404.55	392	291			
404.60	392	296			

Summary for Pond 84: 280 CULTEC GALS (2x3) BMP-E4

Inflow Area = 8,265 sf, 0.00% Impervious, Inflow Depth > 2.49" for 10-Year event  
 Inflow = 0.57 cfs @ 12.08 hrs, Volume= 1,713 cf  
 Outflow = 0.37 cfs @ 12.18 hrs, Volume= 1,460 cf, Atten= 35%, Lag= 6.5 min  
 Discarded = 0.03 cfs @ 12.18 hrs, Volume= 1,037 cf  
 Primary = 0.35 cfs @ 12.18 hrs, Volume= 423 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9  
 Peak Elev= 403.45' @ 12.18 hrs Surf.Area= 246 sf Storage= 519 cf

Plug-Flow detention time= 176.0 min calculated for 1,460 cf (85% of inflow)  
 Center-of-Mass det. time= 111.6 min ( 945.2 - 833.6 )

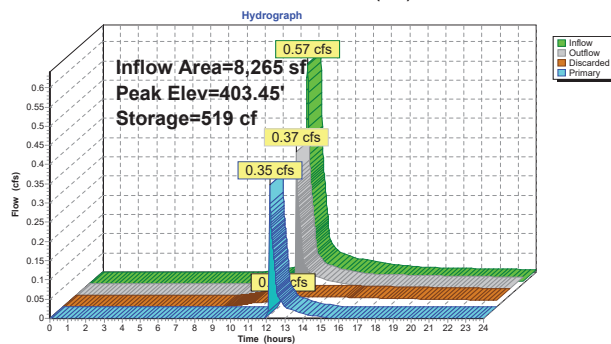
Volume	Invert	Avail.Storage	Storage Description
#1	399.75'	213 cf	10.25'W x 24.00'L x 3.25'H Crushed Stone 800 cf Overall - 267 cf Embedded = 532 cf x 40.0% Voids
#2	400.25'	267 cf	Cultec R-280HD x 6 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 2 rows
#3	400.20'	41 cf	3.00'W x 4.00'L x 3.40'H CB-Impervious
			521 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	403.40'	1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Discarded	399.75'	2.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 396.75'

Discarded OutFlow Max=0.03 cfs @ 12.18 hrs HW=403.45' (Free Discharge)  
 ↳Z=Exfiltration ( Controls 0.03 cfs)

Primary OutFlow Max=0.30 cfs @ 12.18 hrs HW=403.45' (Free Discharge)  
 ↳I=Orifice/Grate - CB (Weir Controls 0.30 cfs @ 0.72 fps)

Pond 84: 280 CULTEC GALS (2x3) BMP-E4



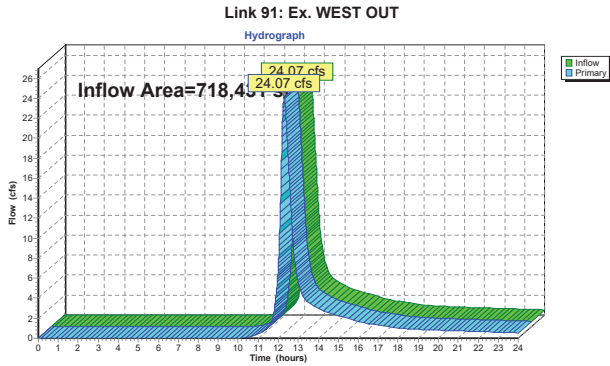
Stage-Area-Storage for Pond 84: 280 CULTEC GALS (2x3) BMP-E4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
399.75	246	0	402.40	246	447
399.80	246	5	402.45	246	453
399.85	246	10	402.50	246	458
399.90	246	15	402.55	246	464
399.95	246	20	402.60	246	470
400.00	246	25	402.65	246	475
400.05	246	30	402.70	246	481
400.10	246	34	402.75	246	486
400.15	246	39	402.80	246	492
400.20	246	44	402.85	246	497
400.25	246	50	402.90	246	503
400.30	246	56	402.95	246	508
400.35	246	61	403.00	246	514
400.40	246	67	403.05	246	514
400.45	246	72	403.10	246	515
400.50	246	78	403.15	246	515
400.55	246	83	403.20	246	516
400.60	246	89	403.25	246	517
400.65	246	94	403.30	246	517
400.70	246	100	403.35	246	518
400.75	246	105	403.40	246	518
400.80	246	111	403.45	246	519
400.85	246	116	403.50	246	520
400.90	246	122	403.55	246	520
400.95	246	127	403.60	246	521
401.00	246	133			
401.05	246	138			
401.10	246	144			
401.15	246	149			
401.20	246	154			
401.25	246	160			
401.30	246	165			
401.35	246	171			
401.40	246	176			
401.45	246	182			
401.50	246	187			
401.55	246	193			
401.60	246	198			
401.65	246	204			
401.70	246	209			
401.75	246	215			
401.80	246	220			
401.85	246	226			
401.90	246	231			
401.95	246	237			
402.00	246	242			
402.05	246	248			
402.10	246	253			
402.15	246	259			
402.20	246	264			
402.25	246	270			
402.30	246	275			
402.35	246	281			

**Summary for Link 91: Ex. WEST OUT**

Inflow Area = 718,431 sf, 0.52% Impervious, Inflow Depth > 1.91" for 10-Year event  
 Inflow = 24.07 cfs @ 12.29 hrs, Volume= 114,350 cf  
 Primary = 24.07 cfs @ 12.29 hrs, Volume= 114,350 cf, Atten= 0%, Lag= 0.0 min

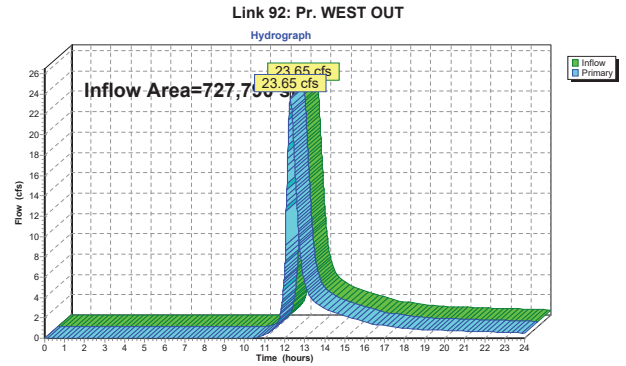
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



**Summary for Link 92: Pr. WEST OUT**

Inflow Area = 727,790 sf, 3.15% Impervious, Inflow Depth > 1.83" for 10-Year event  
 Inflow = 23.65 cfs @ 12.28 hrs, Volume= 110,724 cf  
 Primary = 23.65 cfs @ 12.28 hrs, Volume= 110,724 cf, Atten= 0%, Lag= 0.0 min

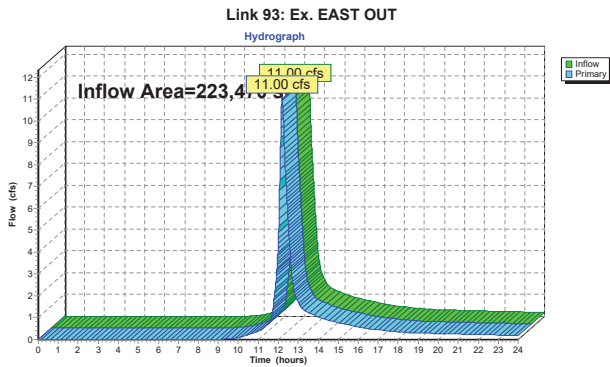
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



**Summary for Link 93: Ex. EAST OUT**

Inflow Area = 223,470 sf, 8.62% Impervious, Inflow Depth > 2.35" for 10-Year event  
 Inflow = 11.00 cfs @ 12.19 hrs, Volume= 43,720 cf  
 Primary = 11.00 cfs @ 12.19 hrs, Volume= 43,720 cf, Atten= 0%, Lag= 0.0 min

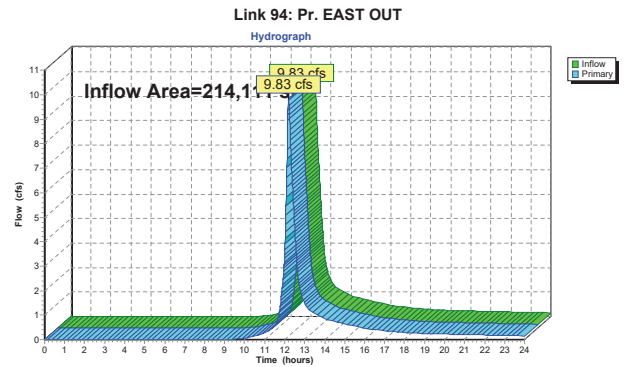
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



**Summary for Link 94: Pr. EAST OUT**

Inflow Area = 214,111 sf, 10.36% Impervious, Inflow Depth > 2.06" for 10-Year event  
 Inflow = 9.83 cfs @ 12.19 hrs, Volume= 36,693 cf  
 Primary = 9.83 cfs @ 12.19 hrs, Volume= 36,693 cf, Atten= 0%, Lag= 0.0 min

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





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

**Subcatchment 10: Ex. WEST** Runoff Area=718,431 sf 0.52% Impervious Runoff Depth>5.10"  
 Flow Length=106' Slope=0.0240 '/' Tc=20.2 min CN=67.60 Runoff=66.63 cfs 305,546 cf

**Subcatchment 20: Ex. EAST** Runoff Area=223,470 sf 8.62% Impervious Runoff Depth>5.78"  
 Flow Length=243' Tc=13.7 min CN=72.95 Runoff=27.22 cfs 107,547 cf

**Subcatchment 30: Pr. WEST** Runoff Area=700,113 sf 0.18% Impervious Runoff Depth>5.01"  
 Flow Length=106' Slope=0.0240 '/' Tc=20.2 min CN=66.83 Runoff=63.70 cfs 292,174 cf

**Subcatchment 31: Pr. WEST-1** Runoff Area=8,280 sf 100.00% Impervious Runoff Depth>8.85"  
 Tc=5.0 min CN=98.00 Runoff=1.76 cfs 6,109 cf

**Subcatchment 32: Pr. WEST-2** Runoff Area=450 sf 100.00% Impervious Runoff Depth>8.85"  
 Tc=5.0 min CN=98.00 Runoff=0.10 cfs 332 cf

**Subcatchment 33: Pr. WEST-3** Runoff Area=14,195 sf 57.73% Impervious Runoff Depth>7.71"  
 Tc=5.0 min CN=88.55 Runoff=2.86 cfs 9,118 cf

**Subcatchment 34: Pr. WEST-4** Runoff Area=4,752 sf 100.00% Impervious Runoff Depth>8.85"  
 Tc=5.0 min CN=98.00 Runoff=1.01 cfs 3,506 cf

**Subcatchment 40: Pr. EAST** Runoff Area=187,696 sf 9.93% Impervious Runoff Depth>5.64"  
 Flow Length=243' Tc=13.7 min CN=71.87 Runoff=22.36 cfs 88,234 cf

**Subcatchment 41: Pr. EAST-1** Runoff Area=2,295 sf 0.00% Impervious Runoff Depth>7.27"  
 Tc=5.0 min CN=85.00 Runoff=0.45 cfs 1,391 cf

**Subcatchment 42: Pr. EAST-2** Runoff Area=5,475 sf 0.00% Impervious Runoff Depth>6.18"  
 Tc=5.0 min CN=76.17 Runoff=0.93 cfs 2,822 cf

**Subcatchment 43: Pr. EAST-3** Runoff Area=10,380 sf 34.16% Impervious Runoff Depth>7.15"  
 Tc=5.0 min CN=84.01 Runoff=1.99 cfs 6,186 cf

**Subcatchment 44: Pr. EAST-4** Runoff Area=8,265 sf 0.00% Impervious Runoff Depth>5.98"  
 Tc=5.0 min CN=74.52 Runoff=1.37 cfs 4,118 cf

**Pond 71: 330 CULTEC GALS (2x5) BMP-W1** Peak Elev=429.17' Storage=1,009 cf Inflow=1.76 cfs 6,109 cf  
 Discarded=0.02 cfs 1,731 cf Primary=1.74 cfs 3,428 cf Outflow=1.76 cfs 5,159 cf

**Pond 72: 330 CULTEC GALS (2x1) BMP-W2** Peak Elev=398.22' Storage=123 cf Inflow=0.10 cfs 332 cf  
 Discarded=0.01 cfs 332 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 332 cf

**Pond 73: 330 CULTEC GALS (4x3) BMP-W3** Peak Elev=404.22' Storage=1,215 cf Inflow=2.86 cfs 9,118 cf  
 Discarded=0.06 cfs 3,144 cf Primary=2.80 cfs 5,059 cf Outflow=2.86 cfs 8,203 cf

**Pond 74: 330 CULTEC GALS (2x3) BMP-W4** Peak Elev=404.66' Storage=635 cf Inflow=1.01 cfs 3,506 cf  
 Discarded=0.03 cfs 1,711 cf Primary=0.98 cfs 1,457 cf Outflow=1.01 cfs 3,168 cf

**Pond 81: 100 CULTEC GALS (2x3) BMP-E1** Peak Elev=389.63' Storage=297 cf Inflow=0.45 cfs 1,391 cf  
Discarded=0.02 cfs 825 cf Primary=0.43 cfs 478 cf Outflow=0.45 cfs 1,302 cf

**Pond 82: 150 CULTEC GALS (2x2) BMP-E2** Peak Elev=403.16' Storage=331 cf Inflow=0.93 cfs 2,822 cf  
Discarded=0.02 cfs 939 cf Primary=0.92 cfs 1,632 cf Outflow=0.93 cfs 2,571 cf

**Pond 83: 330 CULTEC GALS (3x3) BMP-E3** Peak Elev=406.70' Storage=907 cf Inflow=1.99 cfs 6,186 cf  
Discarded=0.05 cfs 2,271 cf Primary=1.94 cfs 3,267 cf Outflow=1.99 cfs 5,538 cf

**Pond 84: 280 CULTEC GALS (2x3) BMP-E4** Peak Elev=403.53' Storage=520 cf Inflow=1.37 cfs 4,118 cf  
Discarded=0.03 cfs 1,268 cf Primary=1.34 cfs 2,418 cf Outflow=1.37 cfs 3,686 cf

**Link 91: Ex. WEST OUT** Inflow=66.63 cfs 305,546 cf  
Primary=66.63 cfs 305,546 cf

**Link 92: Pr. WEST OUT** Inflow=65.76 cfs 302,118 cf  
Primary=65.76 cfs 302,118 cf

**Link 93: Ex. EAST OUT** Inflow=27.22 cfs 107,547 cf  
Primary=27.22 cfs 107,547 cf

**Link 94: Pr. EAST OUT** Inflow=24.85 cfs 96,029 cf  
Primary=24.85 cfs 96,029 cf

**Total Runoff Area = 1,883,802 sf Runoff Volume = 827,083 cf Average Runoff Depth = 5.27"**  
**96.39% Pervious = 1,815,722 sf 3.61% Impervious = 68,080 sf**

**Summary for Subcatchment 10: Ex. WEST**

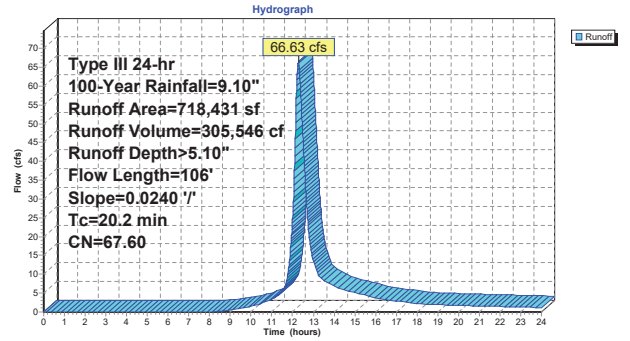
Runoff = 66.63 cfs @ 12.28 hrs, Volume= 305,546 cf, Depth> 5.10"  
 Routed to Link 91 : Ex. WEST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
3,067	98.00	Roofs, HSG B
12,045	85.00	Gravel roads, HSG B
651	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
14,020	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
16,710	49.00	Pasture/grassland/range, Fair, HSG A
66,215	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
136,825	36.00	Woods, Fair, HSG A
112,308	60.00	Woods, Fair, HSG B
279,420	79.00	Woods, Fair, HSG D
64,205	98.00	Water Surface, 0% imp, HSG D
* 12,965	61.00	Paddock, Good, HSG B
718,431	67.60	Weighted Average
714,713		99.48% Pervious Area
3,718		0.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	106	0.0240	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.43"

**Subcatchment 10: Ex. WEST**



**Summary for Subcatchment 20: Ex. EAST**

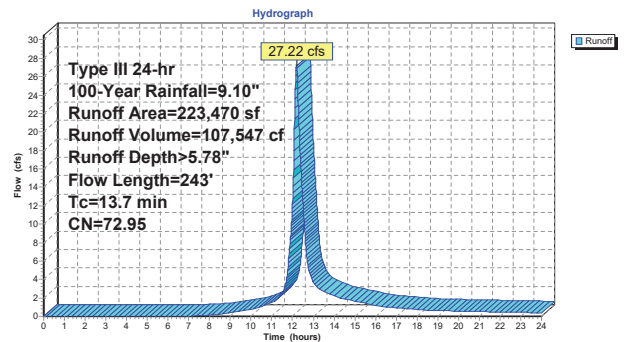
Runoff = 27.22 cfs @ 12.19 hrs, Volume= 107,547 cf, Depth> 5.78"  
 Routed to Link 93 : Ex. EAST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
19,190	98.00	Roofs, HSG B
16,500	85.00	Gravel roads, HSG B
80	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
15,400	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
139,125	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
14,350	60.00	Woods, Fair, HSG B
18,825	79.00	Woods, Fair, HSG D
223,470	72.95	Weighted Average
204,200		91.38% Pervious Area
19,270		8.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	187	0.0750	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.43"
0.3	56	0.1610	2.81		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.7	243	Total			

**Subcatchment 20: Ex. EAST**





**Summary for Subcatchment 30: Pr. WEST**

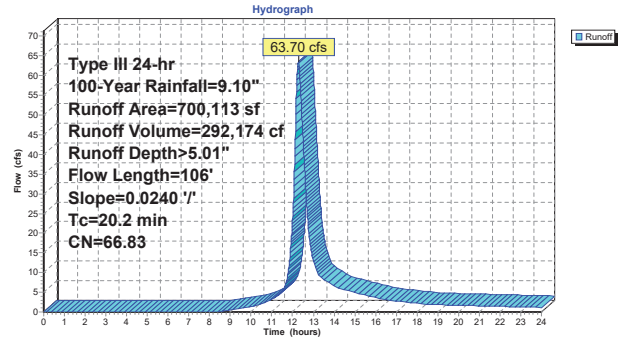
Runoff = 63.70 cfs @ 12.28 hrs, Volume= 292,174 cf, Depth> 5.01"  
 Routed to Link 92 : Pr. WEST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
10,731	85.00	Gravel roads, HSG B
1,234	98.00	Paved parking, HSG B
*	0	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
15,083	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
10,560	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
112,979	36.00	Woods, Fair, HSG A
130,806	60.00	Woods, Fair, HSG B
279,420	79.00	Woods, Fair, HSG D
64,205	98.00	Water Surface, 0% imp, HSG D
* 39,905	39.00	Paddock, Good, HSG A
* 35,190	61.00	Paddock, Good, HSG B
700,113	66.83	Weighted Average
698,879	99.82%	Pervious Area
1,234	0.18%	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	106	0.0240	0.09		<b>Sheet Flow,</b> Woods: Light underbrush n= 0.400 P2= 3.43"

**Subcatchment 30: Pr. WEST**



**Summary for Subcatchment 31: Pr. WEST-1**

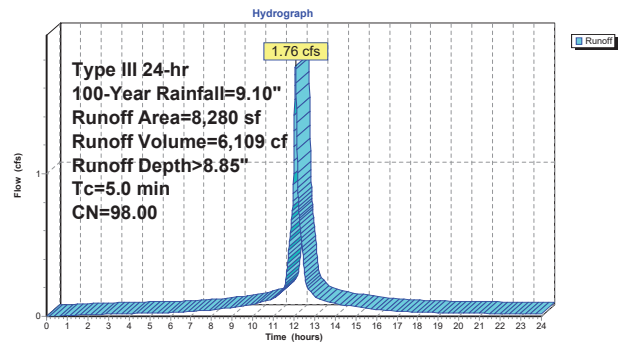
Runoff = 1.76 cfs @ 12.07 hrs, Volume= 6,109 cf, Depth> 8.85"  
 Routed to Pond 71 : 330 CULTTEC GALS (2x5) BMP-W1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
4,564	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
2,816	98.00	Paved parking, HSG B
*	900	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
* 0	39.00	Paddock, Good, HSG A
* 0	61.00	Paddock, Good, HSG B
8,280	98.00	Weighted Average
8,280	100.00%	Impervious Area

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

**Subcatchment 31: Pr. WEST-1**



**Summary for Subcatchment 32: Pr. WEST-2**

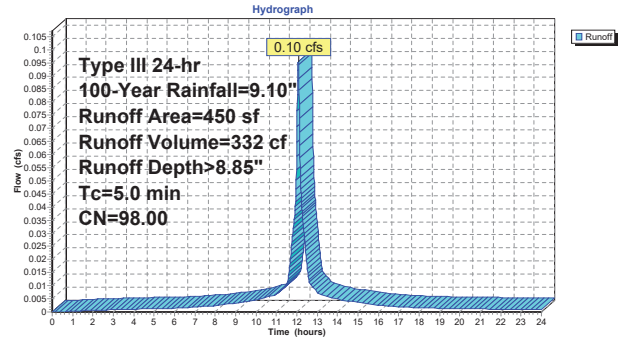
Runoff = 0.10 cfs @ 12.07 hrs, Volume= 332 cf, Depth> 8.85"  
 Routed to Pond 72 : 330 CULTTEC GALs (2x1) BMP-W2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
450	98.00	Paved parking, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
0	39.00	Paddock, Good, HSG A
0	61.00	Paddock, Good, HSG B
450	98.00	Weighted Average
450		100.00% Impervious Area

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

**Subcatchment 32: Pr. WEST-2**



**Summary for Subcatchment 33: Pr. WEST-3**

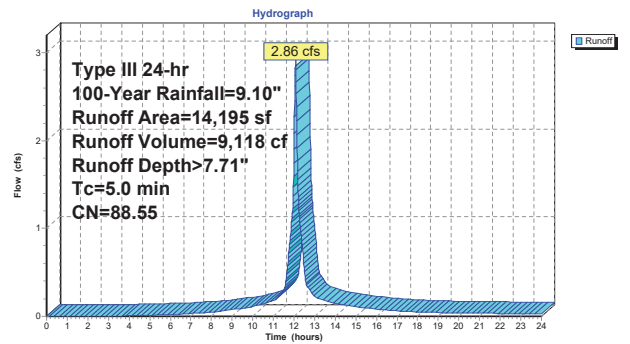
Runoff = 2.86 cfs @ 12.07 hrs, Volume= 9,118 cf, Depth> 7.71"  
 Routed to Pond 73 : 330 CULTTEC GALs (4x3) BMP-W3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
1,152	98.00	Roofs, HSG B
2,490	85.00	Gravel roads, HSG B
7,043	98.00	Paved parking, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,510	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
0	39.00	Paddock, Good, HSG A
0	61.00	Paddock, Good, HSG B
14,195	88.55	Weighted Average
6,000		42.27% Pervious Area
8,195		57.73% Impervious Area

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

**Subcatchment 33: Pr. WEST-3**



**Summary for Subcatchment 34: Pr. WEST-4**

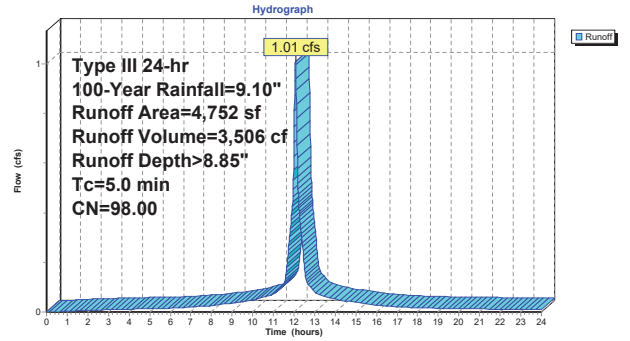
Runoff = 1.01 cfs @ 12.07 hrs, Volume= 3,506 cf, Depth> 8.85"  
 Routed to Pond 74 : 330 CULTEC GALs (2x3) BMP-W4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
4,752	98.00	Roofs, HSG B
0	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	98.00	Pool, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
0	98.00	Water Surface, 0% imp, HSG D
0	39.00	Paddock, Good, HSG A
0	61.00	Paddock, Good, HSG B
4,752	98.00	Weighted Average
4,752		100.00% Impervious Area

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

**Subcatchment 34: Pr. WEST-4**



**Summary for Subcatchment 40: Pr. EAST**

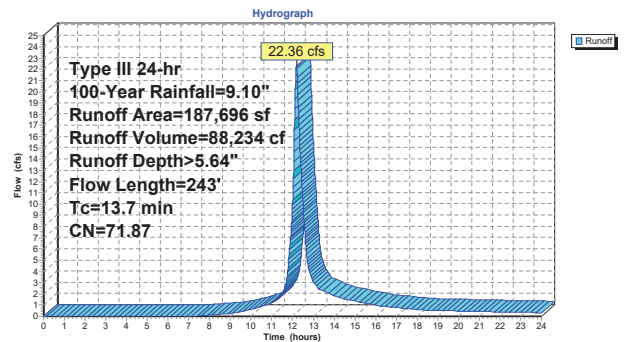
Runoff = 22.36 cfs @ 12.19 hrs, Volume= 88,234 cf, Depth> 5.64"  
 Routed to Link 94 : Pr. EAST OUT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
17,537	98.00	Roofs, HSG B
845	85.00	Gravel roads, HSG B
1,098	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
9,987	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
116,572	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
20,730	60.00	Woods, Fair, HSG B
18,825	79.00	Woods, Fair, HSG D
2,102	61.00	Paddock, Good, HSG B
187,696	71.87	Weighted Average
169,061		90.07% Pervious Area
18,635		9.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	187	0.0750	0.23		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 3.43"
0.3	56	0.1610	2.81		<b>Shallow Concentrated Flow,</b> Short Grass Pasture Kv= 7.0 fps
13.7	243	Total			

**Subcatchment 40: Pr. EAST**





**Summary for Subcatchment 41: Pr. EAST-1**

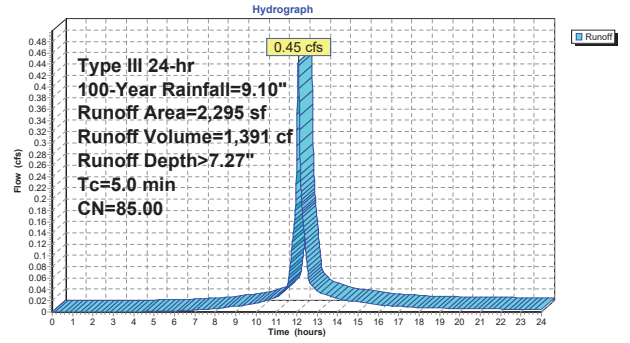
Runoff = 0.45 cfs @ 12.07 hrs, Volume= 1,391 cf, Depth> 7.27"  
 Routed to Pond 81 : 100 CULTEC GALS (2x3) BMP-E1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
2,295	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
0	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
2,295	85.00	Weighted Average
2,295		100.00% Pervious Area

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

**Subcatchment 41: Pr. EAST-1**



**Summary for Subcatchment 42: Pr. EAST-2**

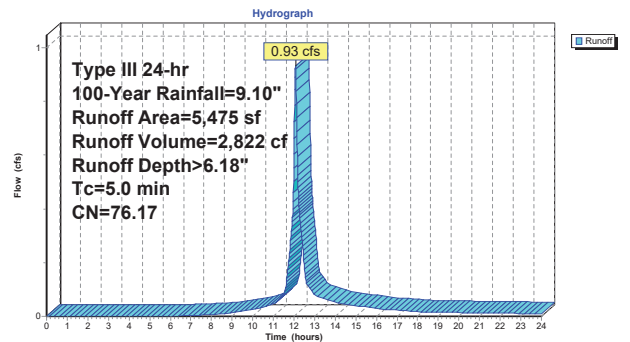
Runoff = 0.93 cfs @ 12.07 hrs, Volume= 2,822 cf, Depth> 6.18"  
 Routed to Pond 82 : 150 CULTEC GALS (2x2) BMP-E2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
2,455	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,020	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	0	Paddock, Good, HSG B
5,475	76.17	Weighted Average
5,475		100.00% Pervious Area

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

**Subcatchment 42: Pr. EAST-2**



**Summary for Subcatchment 43: Pr. EAST-3**

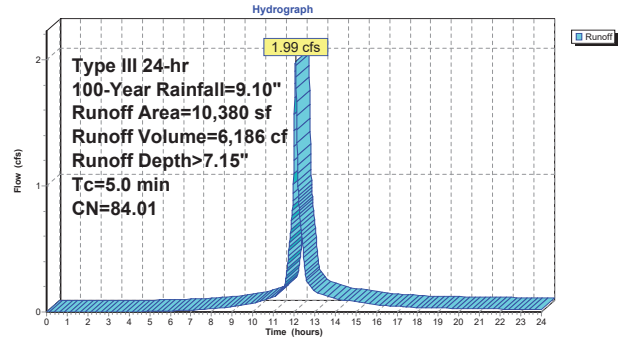
Runoff = 1.99 cfs @ 12.07 hrs, Volume= 6,186 cf, Depth> 7.15"  
 Routed to Pond 83 : 330 CULTTEC GALs (3x3) BMP-E3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
3,309	85.00	Gravel roads, HSG B
3,546	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
3,525	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	61.00	Paddock, Good, HSG B
10,380	84.01	Weighted Average
6,834		65.84% Pervious Area
3,546		34.16% Impervious Area

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

**Subcatchment 43: Pr. EAST-3**



**Summary for Subcatchment 44: Pr. EAST-4**

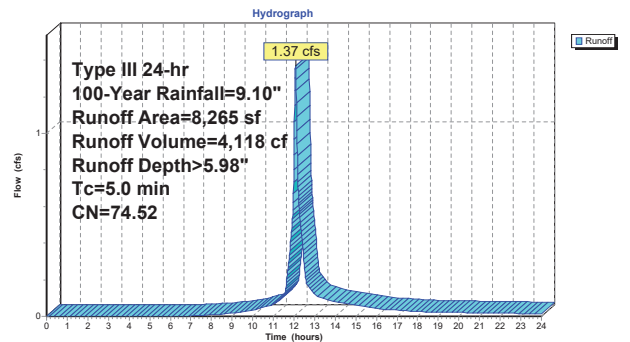
Runoff = 1.37 cfs @ 12.07 hrs, Volume= 4,118 cf, Depth> 5.98"  
 Routed to Pond 84 : 280 CULTTEC GALs (2x3) BMP-E4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 100-Year Rainfall=9.10"

Area (sf)	CN	Description
0	98.00	Roofs, HSG B
3,170	85.00	Gravel roads, HSG B
0	98.00	Paved parking, HSG B
0	49.00	50-75% Grass cover, Fair, HSG A
4,455	69.00	50-75% Grass cover, Fair, HSG B
0	84.00	50-75% Grass cover, Fair, HSG D
0	49.00	Pasture/grassland/range, Fair, HSG A
0	69.00	Pasture/grassland/range, Fair, HSG B
0	84.00	Pasture/grassland/range, Fair, HSG D
0	36.00	Woods, Fair, HSG A
0	60.00	Woods, Fair, HSG B
0	79.00	Woods, Fair, HSG D
*	64.00	Paddock, Good, HSG B
8,265	74.52	Weighted Average
8,265		100.00% Pervious Area

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

**Subcatchment 44: Pr. EAST-4**



**Summary for Pond 71: 330 CULTEC GALS (2x5) BMP-W1**

Inflow Area = 8,280 sf, 100.00% Impervious, Inflow Depth > 8.85" for 100-Year event  
 Inflow = 1.76 cfs @ 12.07 hrs, Volume= 6,109 cf  
 Outflow = 1.76 cfs @ 12.07 hrs, Volume= 5,159 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.02 cfs @ 12.07 hrs, Volume= 1,731 cf  
 Primary = 1.74 cfs @ 12.07 hrs, Volume= 3,428 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 429.17' @ 12.07 hrs Surf.Area= 430 sf Storage= 1,009 cf

Plug-Flow detention time= 102.6 min calculated for 5,157 cf (84% of inflow)  
 Center-of-Mass det. time= 35.7 min ( 774.0 - 738.3 )

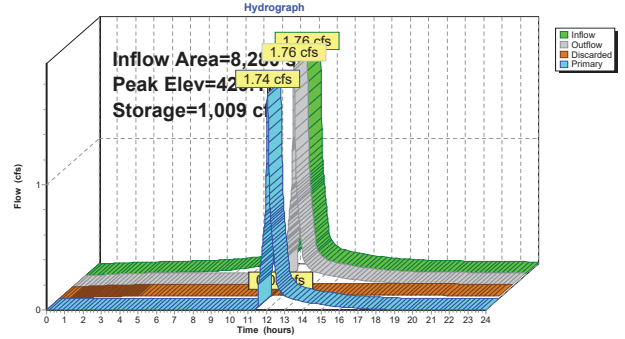
Volume	Invert	Avail.Storage	Storage Description
#1	424.50'	402 cf	<b>11.17'W x 38.50'L x 3.60'H Crushed Stone</b> 1,548 cf Overall - 544 cf Embedded = 1,004 cf x 40.0% Voids
#2	425.00'	544 cf	<b>Cultec R-330XLHD x 10 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
#3	427.10'	65 cf	<b>2.00'W x 38.50'L x 2.10'H LVL SP VOLUME</b> Impervious 162 cf Overall x 40.0% Voids
1,010 cf			Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	429.10'	<b>36.0' long x 1.0' breadth Broad-Crested Rectangular Weir LVL.SP</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	424.50'	<b>2,000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.02 cfs @ 12.07 hrs HW=429.17' (Free Discharge)  
 2=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=1.67 cfs @ 12.07 hrs HW=429.17' (Free Discharge)  
 1=Broad-Crested Rectangular Weir LVL.SP (Weir Controls 1.67 cfs @ 0.70 fps)

**Pond 71: 330 CULTEC GALS (2x5) BMP-W1**



**Stage-Area-Storage for Pond 71: 330 CULTEC GALS (2x5) BMP-W1**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
424.50	430	0	427.15	430	770
424.55	430	9	427.20	430	784
424.60	430	17	427.25	430	797
424.65	430	26	427.30	430	810
424.70	430	34	427.35	430	822
424.75	430	43	427.40	430	833
424.80	430	52	427.45	430	844
424.85	430	60	427.50	430	855
424.90	430	69	427.55	430	865
424.95	430	77	427.60	430	875
425.00	430	86	427.65	430	885
425.05	430	103	427.70	430	895
425.10	430	121	427.75	430	905
425.15	430	138	427.80	430	916
425.20	430	155	427.85	430	926
425.25	430	172	427.90	430	936
425.30	430	189	427.95	430	946
425.35	430	206	428.00	430	956
425.40	430	223	428.05	430	966
425.45	430	240	428.10	430	976
425.50	430	258	428.15	430	978
425.55	430	275	428.20	430	979
425.60	430	292	428.25	430	981
425.65	430	308	428.30	430	983
425.70	430	325	428.35	430	984
425.75	430	342	428.40	430	986
425.80	430	358	428.45	430	987
425.85	430	375	428.50	430	989
425.90	430	391	428.55	430	990
425.95	430	408	428.60	430	992
426.00	430	424	428.65	430	993
426.05	430	441	428.70	430	995
426.10	430	457	428.75	430	996
426.15	430	474	428.80	430	998
426.20	430	490	428.85	430	1,000
426.25	430	506	428.90	430	1,001
426.30	430	522	428.95	430	1,003
426.35	430	538	429.00	430	1,004
426.40	430	554	429.05	430	1,006
426.45	430	570	429.10	430	1,007
426.50	430	585	429.15	430	1,009
426.55	430	601	429.20	430	1,010
426.60	430	616			
426.65	430	631			
426.70	430	646			
426.75	430	660			
426.80	430	675			
426.85	430	689			
426.90	430	703			
426.95	430	717			
427.00	430	730			
427.05	430	743			
427.10	430	756			

**Summary for Pond 72: 330 CULTEC GALS (2x1) BMP-W2**

[42] Hint: Gap in defined storage above volume #1 at 400.10'

Inflow Area = 450 sf, 100.00% Impervious, Inflow Depth > 8.85" for 100-Year event  
 Inflow = 0.10 cfs @ 12.07 hrs, Volume= 332 cf  
 Outflow = 0.01 cfs @ 12.89 hrs, Volume= 332 cf, Atten= 91%, Lag= 49.2 min  
 Discarded = 0.01 cfs @ 12.89 hrs, Volume= 332 cf  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 398.22' @ 12.89 hrs Surf.Area= 117 sf Storage= 123 cf

Plug-Flow detention time= 116.2 min calculated for 331 cf (100% of inflow)  
 Center-of-Mass det. time= 115.1 min ( 853.4 - 738.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	396.50'	123 cf	<b>11.17'W x 10.50'L x 3.60'H Crushed Stone</b> 422 cf Overall - 115 cf Embedded = 307 cf x 40.0% Voids
#2	397.00'	115 cf	<b>Cultec R-330XLHD x 2 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 1 rows
#3	400.50'	12 cf	<b>2.00'W x 2.00'L x 3.10'H AD VOLUME</b> Impervious
251 cf			Total Available Storage

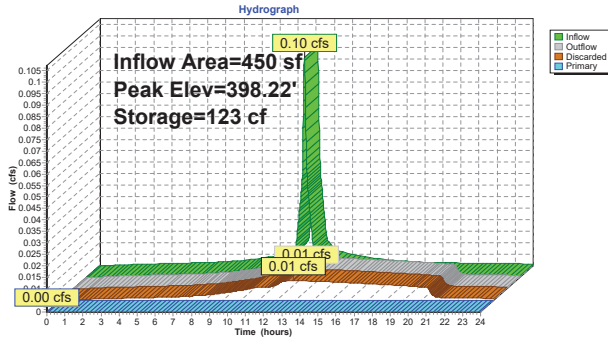
Device	Routing	Invert	Outlet Devices
#1	Primary	403.50'	<b>1.2" x 6.0" Horiz. Orifice/Grate 24x24 X 9.00 columns</b> X 3 rows C= 0.600 in 24.0" x 24.0" Grate (34% open area) Limited to weir flow at low heads
#2	Discarded	396.50'	<b>2,000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 393.50'

Discarded OutFlow Max=0.01 cfs @ 12.89 hrs HW=398.22' (Free Discharge)  
 2=Exfiltration ( Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=396.50' (Free Discharge)  
 1=Orifice/Grate 24x24 ( Controls 0.00 cfs)



**Pond 72: 330 CULTEC GALS (2x1) BMP-W2**



**Stage-Area-Storage for Pond 72: 330 CULTEC GALS (2x1) BMP-W2**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
396.50	117	0	401.80	117	243
396.60	117	5	401.90	117	244
396.70	117	9	402.00	117	244
396.80	117	14	402.10	117	245
396.90	117	19	402.20	117	245
397.00	117	23	402.30	117	245
397.10	117	32	402.40	117	246
397.20	117	40	402.50	117	246
397.30	117	48	402.60	117	247
397.40	117	57	402.70	117	247
397.50	117	65	402.80	117	247
397.60	117	73	402.90	117	248
397.70	117	81	403.00	117	248
397.80	117	90	403.10	117	249
397.90	117	98	403.20	117	249
398.00	117	106	403.30	117	249
398.10	117	114	403.40	117	250
398.20	117	122	403.50	117	250
398.30	117	130	403.60	117	251
398.40	117	137			
398.50	117	145			
398.60	117	153			
398.70	117	160			
398.80	117	167			
398.90	117	174			
399.00	117	181			
399.10	117	188			
399.20	117	194			
399.30	117	200			
399.40	117	205			
399.50	117	210			
399.60	117	215			
399.70	117	219			
399.80	117	224			
399.90	117	229			
400.00	117	233			
400.10	117	238			
400.20	117	238			
400.30	117	238			
400.40	117	238			
400.50	117	238			
400.60	117	239			
400.70	117	239			
400.80	117	239			
400.90	117	240			
401.00	117	240			
401.10	117	241			
401.20	117	241			
401.30	117	241			
401.40	117	242			
401.50	117	242			
401.60	117	243			
401.70	117	243			

**Summary for Pond 73: 330 CULTEC GALS (4x3) BMP-W3**

Inflow Area = 14,195 sf, 57.73% Impervious, Inflow Depth > 7.71" for 100-Year event  
 Inflow = 2.86 cfs @ 12.07 hrs, Volume= 9,118 cf  
 Outflow = 2.86 cfs @ 12.07 hrs, Volume= 8,203 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.06 cfs @ 12.07 hrs, Volume= 3,144 cf  
 Primary = 2.80 cfs @ 12.07 hrs, Volume= 5,059 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 6  
 Peak Elev= 404.22' @ 12.07 hrs Surf.Area= 510 sf Storage= 1,215 cf

Plug-Flow detention time= 90.5 min calculated for 8,200 cf (90% of inflow)  
 Center-of-Mass det. time= 42.0 min ( 817.1 - 775.2 )

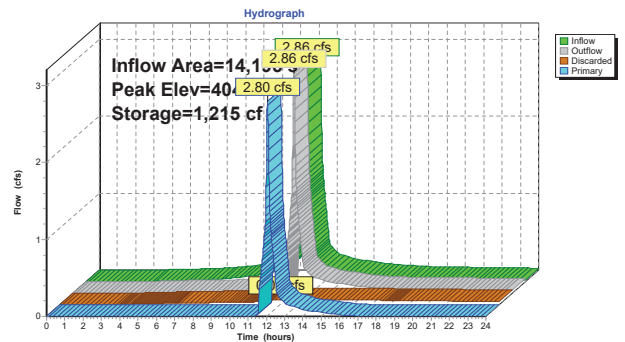
Volume	Invert	Avail.Storage	Storage Description
#1	399.50'	467 cf	<b>20.83'W x 24.50'L x 3.60'H STONE DATA VOLUME</b> 1,837 cf Overall - 671 cf Embedded = 1,167 cf x 40.0% Voids
#2	400.00'	671 cf	<b>Cultec R-330XLHD x 12 Inside #1</b> Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 4 rows
#3	402.10'	43 cf	<b>2.00'W x 24.50'L x 2.20'H LVL SP VOLUME</b> Impervious 108 cf Overall x 40.0% Voids
#4	401.20'	38 cf	<b>3.00'W x 4.00'L x 3.20'H CB</b> Impervious
			1,219 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	404.10'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	404.20'	<b>1.7" x 6.5" Horiz. Orifice/Grate CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#3	Discarded	399.50'	<b>2,000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.06 cfs @ 12.07 hrs HW=404.22' (Free Discharge)  
 3=Exfiltration ( Controls 0.06 cfs)

Primary OutFlow Max=2.72 cfs @ 12.07 hrs HW=404.22' (Free Discharge)  
 1=Broad-Crested Rectangular Weir - LVL.SP. (Weir Controls 2.61 cfs @ 0.95 fps)  
 2=Orifice/Grate CB (Weir Controls 0.11 cfs @ 0.51 fps)

**Pond 73: 330 CULTEC GALS (4x3) BMP-W3**



Stage-Area-Storage for Pond 73: 330 CULTEC GALS (4x3) BMP-W3

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
399.50	510	0	402.15	510	939
399.55	510	10	402.20	510	955
399.60	510	20	402.25	510	971
399.65	510	31	402.30	510	986
399.70	510	41	402.35	510	1,000
399.75	510	51	402.40	510	1,013
399.80	510	61	402.45	510	1,026
399.85	510	71	402.50	510	1,038
399.90	510	82	402.55	510	1,050
399.95	510	92	402.60	510	1,062
400.00	510	102	402.65	510	1,074
400.05	510	123	402.70	510	1,085
400.10	510	144	402.75	510	1,097
400.15	510	165	402.80	510	1,109
400.20	510	185	402.85	510	1,121
400.25	510	206	402.90	510	1,132
400.30	510	227	402.95	510	1,144
400.35	510	248	403.00	510	1,156
400.40	510	268	403.05	510	1,168
400.45	510	289	403.10	510	1,180
400.50	510	310	403.15	510	1,181
400.55	510	330	403.20	510	1,183
400.60	510	351	403.25	510	1,184
400.65	510	371	403.30	510	1,186
400.70	510	391	403.35	510	1,188
400.75	510	411	403.40	510	1,189
400.80	510	431	403.45	510	1,191
400.85	510	451	403.50	510	1,192
400.90	510	471	403.55	510	1,194
400.95	510	491	403.60	510	1,195
401.00	510	511	403.65	510	1,197
401.05	510	531	403.70	510	1,199
401.10	510	551	403.75	510	1,200
401.15	510	571	403.80	510	1,202
401.20	510	591	403.85	510	1,203
401.25	510	611	403.90	510	1,205
401.30	510	631	403.95	510	1,206
401.35	510	651	404.00	510	1,208
401.40	510	670	404.05	510	1,210
401.45	510	690	404.10	510	1,211
401.50	510	709	404.15	510	1,213
401.55	510	728	404.20	510	1,214
401.60	510	747	404.25	510	1,216
401.65	510	766	404.30	510	1,218
401.70	510	784	404.35	510	1,218
401.75	510	803	404.40	510	1,219
401.80	510	821			
401.85	510	838			
401.90	510	856			
401.95	510	873			
402.00	510	890			
402.05	510	907			
402.10	510	923			

Summary for Pond 74: 330 CULTEC GALS (2x3) BMP-W4

Inflow Area = 4,752 sf, 100.00% Impervious, Inflow Depth > 8.85" for 100-Year event  
 Inflow = 1.01 cfs @ 12.07 hrs, Volume= 3,506 cf  
 Outflow = 1.01 cfs @ 12.07 hrs, Volume= 3,168 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.03 cfs @ 12.07 hrs, Volume= 1,711 cf  
 Primary = 0.98 cfs @ 12.07 hrs, Volume= 1,457 cf  
 Routed to Link 92 : Pr. WEST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 404.66' @ 12.07 hrs Surf.Area= 273 sf Storage= 635 cf

Plug-Flow detention time= 117.6 min calculated for 3,168 cf (90% of inflow)  
 Center-of-Mass det. time= 68.7 min ( 807.0 - 738.3 )

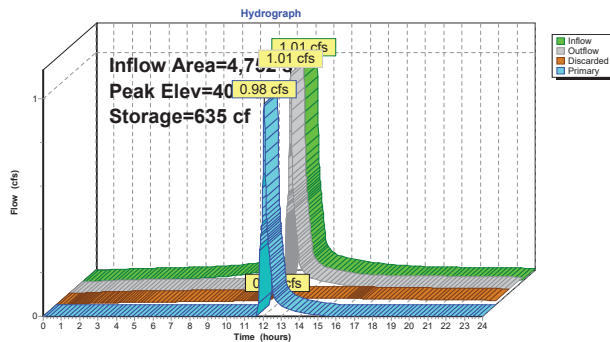
Volume	Invert	Avail.Storage	Storage Description
#1	400.00'	260 cf	11.16'W x 24.50'L x 3.60'H STONE DATA VOLUME 984 cf Overall - 335 cf Embedded = 649 cf x 40.0% Voids
#2	400.50'	335 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
#3	402.60'	41 cf	2.00'W x 24.50'L x 2.10'H LVL SP VOLUME-Impervious 103 cf Overall x 40.0% Voids
			636 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	404.60'	22.0' long x 1.0' breadth Broad-Crested Rectangular Weir LVL.SP Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	400.00'	2.000 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 397.00'

Discarded OutFlow Max=0.03 cfs @ 12.07 hrs HW=404.66' (Free Discharge)  
 2=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.95 cfs @ 12.07 hrs HW=404.66' (Free Discharge)  
 1=Broad-Crested Rectangular Weir LVL.SP (Weir Controls 0.95 cfs @ 0.68 fps)

Pond 74: 330 CULTEC GALS (2x3) BMP-W4



Stage-Area-Storage for Pond 74: 330 CULTEC GALS (2x3) BMP-W4

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
400.00	273	0	402.65	273	484
400.05	273	5	402.70	273	492
400.10	273	11	402.75	273	501
400.15	273	16	402.80	273	509
400.20	273	22	402.85	273	516
400.25	273	27	402.90	273	524
400.30	273	33	402.95	273	530
400.35	273	38	403.00	273	537
400.40	273	44	403.05	273	544
400.45	273	49	403.10	273	550
400.50	273	55	403.15	273	556
400.55	273	66	403.20	273	563
400.60	273	76	403.25	273	569
400.65	273	87	403.30	273	576
400.70	273	98	403.35	273	582
400.75	273	109	403.40	273	589
400.80	273	119	403.45	273	595
400.85	273	130	403.50	273	602
400.90	273	141	403.55	273	608
400.95	273	151	403.60	273	615
401.00	273	162	403.65	273	615
401.05	273	173	403.70	273	616
401.10	273	183	403.75	273	617
401.15	273	194	403.80	273	618
401.20	273	204	403.85	273	619
401.25	273	215	403.90	273	620
401.30	273	225	403.95	273	621
401.35	273	236	404.00	273	622
401.40	273	246	404.05	273	623
401.45	273	256	404.10	273	624
401.50	273	267	404.15	273	625
401.55	273	277	404.20	273	626
401.60	273	287	404.25	273	627
401.65	273	298	404.30	273	628
401.70	273	308	404.35	273	629
401.75	273	318	404.40	273	630
401.80	273	328	404.45	273	631
401.85	273	338	404.50	273	632
401.90	273	348	404.55	273	633
401.95	273	358	404.60	273	634
402.00	273	367	404.65	273	635
402.05	273	377	404.70	273	636
402.10	273	387			
402.15	273	396			
402.20	273	405			
402.25	273	414			
402.30	273	424			
402.35	273	432			
402.40	273	441			
402.45	273	450			
402.50	273	458			
402.55	273	467			
402.60	273	475			

**Summary for Pond 81: 100 CULTEC GALS (2x3) BMP-E1**

Inflow Area = 2,295 sf, 0.00% Impervious, Inflow Depth > 7.27" for 100-Year event  
 Inflow = 0.45 cfs @ 12.07 hrs, Volume= 1,391 cf  
 Outflow = 0.45 cfs @ 12.07 hrs, Volume= 1,302 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.02 cfs @ 12.07 hrs, Volume= 825 cf  
 Primary = 0.43 cfs @ 12.07 hrs, Volume= 478 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 389.63' @ 12.07 hrs Surf.Area= 213 sf Storage= 297 cf

Plug-Flow detention time= 123.3 min calculated for 1,302 cf (94% of inflow)  
 Center-of-Mass det. time= 89.1 min ( 873.8 - 784.8 )

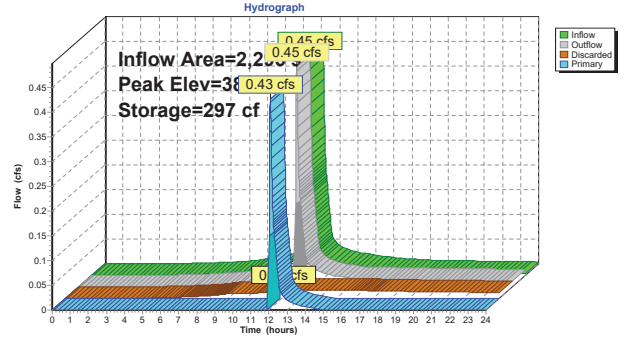
Volume	Invert	Avail.Storage	Storage Description
#1	386.50'	144 cf	<b>8.50"W x 25.00"L x 2.10'H STONE DATA VOLUME</b> 446 cf Overall - 86 cf Embedded = 361 cf x 40.0% Voids
#2	387.00'	86 cf	<b>Cultec C-100HD x 6 Inside #1</b> Effective Size= 32.1"W x 12.0"H => 1.86 sf x 7.50'L = 14.0 cf Overall Size= 36.0"W x 12.5"H x 8.00'L with 0.50' Overlap Row Length Adjustment= +0.50' x 1.86 sf x 2 rows
#3	387.60'	39 cf	<b>2.00"W x 23.20"L x 2.10'H LVL SP VOLUME</b> Impervious 97 of Overall x 40.0% Voids
#4	387.20'	38 cf	<b>3.00"W x 4.00'L x 3.20'H CB</b> Impervious
			307 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	389.70'	<b>1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Primary	389.60'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Discarded	386.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 382.50'

Discarded OutFlow Max=0.02 cfs @ 12.07 hrs HW=389.63' (Free Discharge)  
 3=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=0.39 cfs @ 12.07 hrs HW=389.63' (Free Discharge)  
 1=Orifice/Grate - CB ( Controls 0.00 cfs)  
 2=Broad-Crested Rectangular Weir - LVL.SP. (Weir Controls 0.39 cfs @ 0.50 fps)

**Pond 81: 100 CULTEC GALS (2x3) BMP-E1**



**Stage-Area-Storage for Pond 81: 100 CULTEC GALS (2x3) BMP-E1**

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
386.50	213	0	389.15	213	282
386.55	213	4	389.20	213	284
386.60	213	9	389.25	213	285
386.65	213	13	389.30	213	287
386.70	213	17	389.35	213	288
386.75	213	21	389.40	213	290
386.80	213	26	389.45	213	291
386.85	213	30	389.50	213	293
386.90	213	34	389.55	213	294
386.95	213	38	389.60	213	296
387.00	213	43	389.65	213	297
387.05	213	50	389.70	213	299
387.10	213	58	389.75	213	299
387.15	213	66	389.80	213	300
387.20	213	73	389.85	213	301
387.25	213	82	389.90	213	301
387.30	213	90	389.95	213	302
387.35	213	98	390.00	213	302
387.40	213	106	390.05	213	303
387.45	213	114	390.10	213	304
387.50	213	122	390.15	213	304
387.55	213	130	390.20	213	305
387.60	213	137	390.25	213	305
387.65	213	146	390.30	213	306
387.70	213	154	390.35	213	307
387.75	213	162	390.40	213	307
387.80	213	169			
387.85	213	177			
387.90	213	184			
387.95	213	190			
388.00	213	196			
388.05	213	202			
388.10	213	207			
388.15	213	213			
388.20	213	219			
388.25	213	225			
388.30	213	231			
388.35	213	236			
388.40	213	242			
388.45	213	248			
388.50	213	254			
388.55	213	259			
388.60	213	265			
388.65	213	267			
388.70	213	268			
388.75	213	270			
388.80	213	271			
388.85	213	273			
388.90	213	274			
388.95	213	276			
389.00	213	277			
389.05	213	279			
389.10	213	281			

**Summary for Pond 82: 150 CULTEC GALS (2x2) BMP-E2**

Inflow Area = 5,475 sf, 0.00% Impervious, Inflow Depth > 6.18" for 100-Year event  
 Inflow = 0.93 cfs @ 12.07 hrs, Volume= 2,822 cf  
 Outflow = 0.93 cfs @ 12.07 hrs, Volume= 2,571 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.02 cfs @ 12.07 hrs, Volume= 939 cf  
 Primary = 0.92 cfs @ 12.07 hrs, Volume= 1,632 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 6  
 Peak Elev= 403.16' @ 12.07 hrs Surf.Area= 186 sf Storage= 331 cf

Plug-Flow detention time= 77.5 min calculated for 2,571 cf (91% of inflow)  
 Center-of-Mass det. time= 33.4 min ( 838.5 - 805.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	399.50'	145 cf	<b>8.00"W x 23.25"L x 2.55'H STONE DATA VOLUME</b> 474 of Overall - 113 cf Embedded = 362 cf x 40.0% Voids
#2	400.00'	113 cf	<b>Cultec R-150XLHD x 4 Inside #1</b> Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 2 rows
#3	401.10'	41 cf	<b>2.00"W x 23.20"L x 2.20'H LVL SP VOLUME</b> Impervious 102 of Overall x 40.0% Voids
#4	400.20'	38 cf	<b>3.00"W x 4.00'L x 3.20'H CB</b> Impervious
			337 cf Total Available Storage

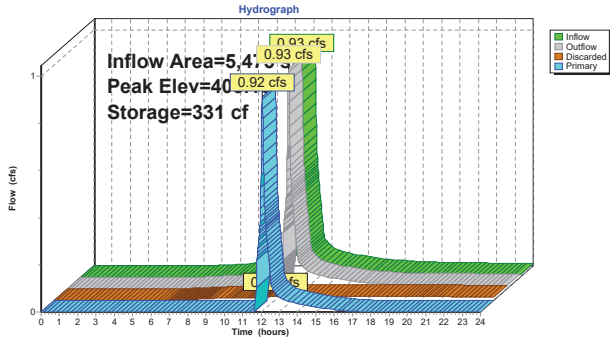
Device	Routing	Invert	Outlet Devices
#1	Primary	403.20'	<b>1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns</b> X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Primary	403.10'	<b>22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP.</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#3	Discarded	399.50'	<b>2.000 in/hr Exfiltration over Horizontal area</b> Conductivity to Groundwater Elevation = 396.50'

Discarded OutFlow Max=0.02 cfs @ 12.07 hrs HW=403.16' (Free Discharge)  
 3=Exfiltration ( Controls 0.02 cfs)

Primary OutFlow Max=0.90 cfs @ 12.07 hrs HW=403.16' (Free Discharge)  
 1=Orifice/Grate - CB ( Controls 0.00 cfs)  
 2=Broad-Crested Rectangular Weir - LVL.SP. (Weir Controls 0.90 cfs @ 0.67 fps)



Pond 82: 150 CULTEC GALS (2x2) BMP-E2



Stage-Area-Storage for Pond 82: 150 CULTEC GALS (2x2) BMP-E2

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
399.50	186	0	402.15	186	300
399.55	186	4	402.20	186	302
399.60	186	7	402.25	186	303
399.65	186	11	402.30	186	305
399.70	186	15	402.35	186	306
399.75	186	19	402.40	186	308
399.80	186	22	402.45	186	309
399.85	186	26	402.50	186	311
399.90	186	30	402.55	186	312
399.95	186	33	402.60	186	314
400.00	186	37	402.65	186	315
400.05	186	44	402.70	186	317
400.10	186	51	402.75	186	318
400.15	186	58	402.80	186	320
400.20	186	64	402.85	186	322
400.25	186	72	402.90	186	323
400.30	186	79	402.95	186	325
400.35	186	86	403.00	186	326
400.40	186	93	403.05	186	328
400.45	186	101	403.10	186	329
400.50	186	108	403.15	186	331
400.55	186	115	403.20	186	332
400.60	186	122	403.25	186	334
400.65	186	129	403.30	186	335
400.70	186	136	403.35	186	336
400.75	186	143	403.40	186	337
400.80	186	150			
400.85	186	157			
400.90	186	163			
400.95	186	170			
401.00	186	177			
401.05	186	183			
401.10	186	189			
401.15	186	196			
401.20	186	203			
401.25	186	210			
401.30	186	216			
401.35	186	222			
401.40	186	228			
401.45	186	234			
401.50	186	239			
401.55	186	245			
401.60	186	250			
401.65	186	255			
401.70	186	260			
401.75	186	266			
401.80	186	271			
401.85	186	276			
401.90	186	281			
401.95	186	287			
402.00	186	292			
402.05	186	297			
402.10	186	299			

Summary for Pond 83: 330 CULTEC GALS (3x3) BMP-E3

Inflow Area = 10,380 sf, 34.16% Impervious, Inflow Depth > 7.15" for 100-Year event  
 Inflow = 1.99 cfs @ 12.07 hrs, Volume= 6,186 cf  
 Outflow = 1.99 cfs @ 12.07 hrs, Volume= 5,538 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.05 cfs @ 12.07 hrs, Volume= 2,271 cf  
 Primary = 1.94 cfs @ 12.07 hrs, Volume= 3,267 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 4  
 Peak Elev= 406.70' @ 12.07 hrs Surf.Area= 392 sf Storage= 907 cf

Plug-Flow detention time= 95.3 min calculated for 5,538 cf (90% of inflow)  
 Center-of-Mass det. time= 45.3 min ( 832.6 - 787.3 )

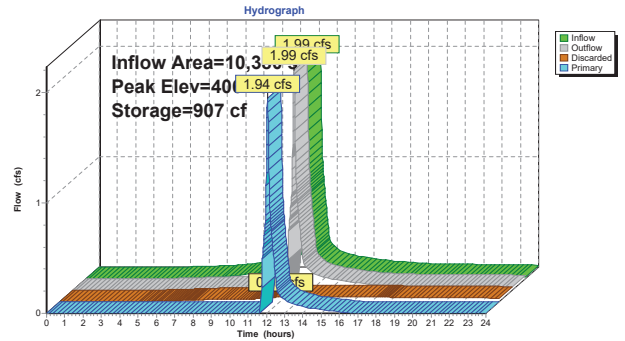
Volume	Invert	Avail.Storage	Storage Description
#1	402.00'	363 cf	16.00'W x 24.50'L x 3.60'H STONE DATA VOLUME 1,411 cf Overall - 503 cf Embedded = 908 cf x 40.0% Voids
#2	402.50'	503 cf	Cultec R-330XLHD x 9 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 3 rows
#3	404.60'	41 cf	2.00'W x 24.50'L x 2.10'H LVL SP VOLUME Impervious 103 cf Overall x 40.0% Voids
		907 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	406.60'	22.0' long x 1.0' breadth Broad-Crested Rectangular Weir - LVL.SP. Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	402.00'	2.000 in/hr Exfiltration over Horizontal area Conductivity to Groundwater Elevation = 399.00'

Discarded OutFlow Max=0.05 cfs @ 12.07 hrs HW=406.70' (Free Discharge)  
 2=Exfiltration ( Controls 0.05 cfs)

Primary OutFlow Max=1.94 cfs @ 12.07 hrs HW=406.70' (Free Discharge)  
 1=Broad-Crested Rectangular Weir - LVL.SP.(Weir Controls 1.94 cfs @ 0.86 fps)

Pond 83: 330 CULTEC GALS (3x3) BMP-E3



Stage-Area-Storage for Pond 83: 330 CULTEC GALS (3x3) BMP-E3

Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Horizontal (sq-ft)	Storage (cubic-feet)
402.00	392	0	404.65	392	706
402.05	392	8	404.70	392	718
402.10	392	16	404.75	392	730
402.15	392	24	404.80	392	741
402.20	392	31	404.85	392	751
402.25	392	39	404.90	392	761
402.30	392	47	404.95	392	771
402.35	392	55	405.00	392	780
402.40	392	63	405.05	392	789
402.45	392	71	405.10	392	798
402.50	392	78	405.15	392	806
402.55	392	84	405.20	392	815
402.60	392	91	405.25	392	824
402.65	392	98	405.30	392	833
402.70	392	104	405.35	392	842
402.75	392	110	405.40	392	851
402.80	392	117	405.45	392	859
402.85	392	124	405.50	392	868
402.90	392	131	405.55	392	877
402.95	392	138	405.60	392	886
403.00	392	145	405.65	392	887
403.05	392	152	405.70	392	888
403.10	392	159	405.75	392	889
403.15	392	166	405.80	392	890
403.20	392	173	405.85	392	891
403.25	392	180	405.90	392	892
403.30	392	187	405.95	392	893
403.35	392	194	406.00	392	894
403.40	392	201	406.05	392	895
403.45	392	208	406.10	392	896
403.50	392	215	406.15	392	897
403.55	392	222	406.20	392	898
403.60	392	229	406.25	392	899
403.65	392	236	406.30	392	900
403.70	392	243	406.35	392	901
403.75	392	250	406.40	392	902
403.80	392	257	406.45	392	903
403.85	392	264	406.50	392	903
403.90	392	271	406.55	392	904
403.95	392	278	406.60	392	905
404.00	392	285	406.65	392	906
404.05	392	292	406.70	392	907
404.10	392	299	406.75	392	907
404.15	392	306			
404.20	392	313			
404.25	392	320			
404.30	392	327			
404.35	392	334			
404.40	392	341			
404.45	392	348			
404.50	392	355			
404.55	392	362			
404.60	392	369			

Summary for Pond 84: 280 CULTEC GALS (2x3) BMP-E4

Inflow Area = 8,265 sf, 0.00% Impervious, Inflow Depth > 5.98" for 100-Year event  
 Inflow = 1.37 cfs @ 12.07 hrs, Volume= 4,118 cf  
 Outflow = 1.37 cfs @ 12.07 hrs, Volume= 3,686 cf, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.03 cfs @ 12.07 hrs, Volume= 1,268 cf  
 Primary = 1.34 cfs @ 12.07 hrs, Volume= 2,418 cf  
 Routed to Link 94 : Pr. EAST OUT

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9  
 Peak Elev= 403.53' @ 12.07 hrs Surf.Area= 246 sf Storage= 520 cf

Plug-Flow detention time= 81.9 min calculated for 3,684 cf (89% of inflow)  
 Center-of-Mass det. time= 31.9 min ( 840.5 - 808.5 )

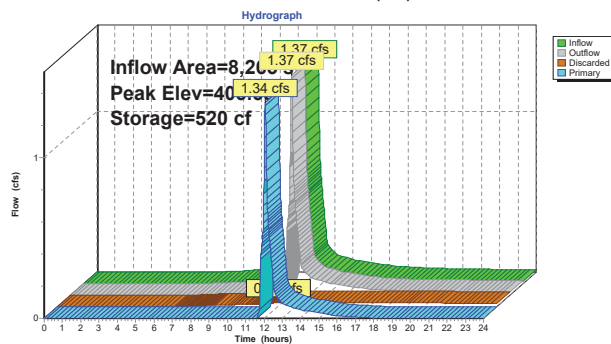
Volume	Invert	Avail.Storage	Storage Description
#1	399.75'	213 cf	10.25'W x 24.00'L x 3.25'H Crushed Stone 800 cf Overall - 267 cf Embedded = 532 cf x 40.0% Voids
#2	400.25'	267 cf	Cultec R-280HD x 6 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap Row Length Adjustment= +1.00' x 6.07 sf x 2 rows
#3	400.20'	41 cf	3.00'W x 4.00'L x 3.40'H CB-Impervious
			521 cf Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	403.40'	1.7" x 6.5" Horiz. Orifice/Grate - CB X 5.00 columns X 4 rows C= 0.600 in 17.7" x 35.2" Grate (35% open area) Limited to weir flow at low heads
#2	Discarded	399.75'	2.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 396.75'

Discarded OutFlow Max=0.03 cfs @ 12.07 hrs HW=403.53' (Free Discharge)  
 ↳=Exfiltration ( Controls 0.03 cfs)

Primary OutFlow Max=1.34 cfs @ 12.07 hrs HW=403.53' (Free Discharge)  
 ↳=Orifice/Grate - CB (Weir Controls 1.34 cfs @ 1.17 fps)

Pond 84: 280 CULTEC GALS (2x3) BMP-E4



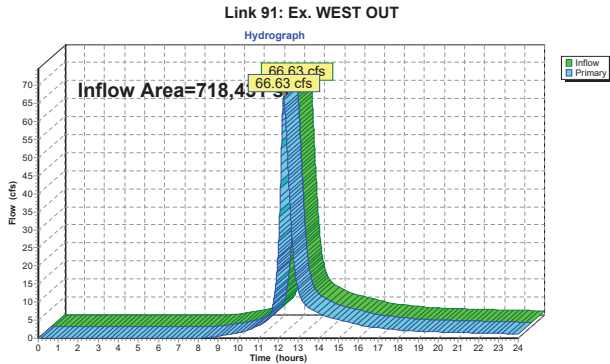
Stage-Area-Storage for Pond 84: 280 CULTEC GALS (2x3) BMP-E4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
399.75	246	0	402.40	246	447
399.80	246	5	402.45	246	453
399.85	246	10	402.50	246	458
399.90	246	15	402.55	246	464
399.95	246	20	402.60	246	470
400.00	246	25	402.65	246	475
400.05	246	30	402.70	246	481
400.10	246	34	402.75	246	486
400.15	246	39	402.80	246	492
400.20	246	44	402.85	246	497
400.25	246	50	402.90	246	503
400.30	246	56	402.95	246	508
400.35	246	61	403.00	246	514
400.40	246	67	403.05	246	514
400.45	246	72	403.10	246	515
400.50	246	78	403.15	246	515
400.55	246	84	403.20	246	516
400.60	246	90	403.25	246	517
400.65	246	96	403.30	246	517
400.70	246	102	403.35	246	518
400.75	246	108	403.40	246	518
400.80	246	114	403.45	246	519
400.85	246	120	403.50	246	520
400.90	246	126	403.55	246	520
400.95	246	132	403.60	246	521
401.00	246	138			
401.05	246	144			
401.10	246	150			
401.15	246	156			
401.20	246	162			
401.25	246	168			
401.30	246	174			
401.35	246	180			
401.40	246	186			
401.45	246	192			
401.50	246	198			
401.55	246	204			
401.60	246	210			
401.65	246	216			
401.70	246	222			
401.75	246	228			
401.80	246	234			
401.85	246	240			
401.90	246	246			
401.95	246	252			
402.00	246	258			
402.05	246	264			
402.10	246	270			
402.15	246	276			
402.20	246	282			
402.25	246	288			
402.30	246	294			
402.35	246	300			

**Summary for Link 91: Ex. WEST OUT**

Inflow Area = 718,431 sf, 0.52% Impervious, Inflow Depth > 5.10" for 100-Year event  
 Inflow = 66.63 cfs @ 12.28 hrs, Volume= 305,546 cf  
 Primary = 66.63 cfs @ 12.28 hrs, Volume= 305,546 cf, Atten= 0%, Lag= 0.0 min

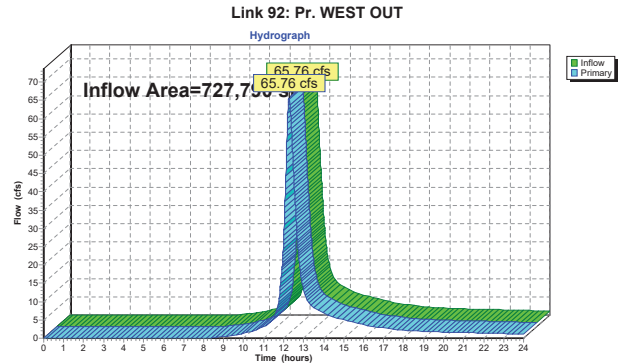
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



**Summary for Link 92: Pr. WEST OUT**

Inflow Area = 727,790 sf, 3.15% Impervious, Inflow Depth > 4.98" for 100-Year event  
 Inflow = 65.76 cfs @ 12.28 hrs, Volume= 302,118 cf  
 Primary = 65.76 cfs @ 12.28 hrs, Volume= 302,118 cf, Atten= 0%, Lag= 0.0 min

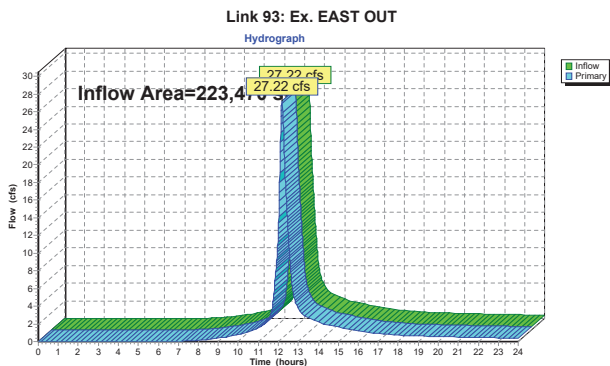
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



**Summary for Link 93: Ex. EAST OUT**

Inflow Area = 223,470 sf, 8.62% Impervious, Inflow Depth > 5.78" for 100-Year event  
 Inflow = 27.22 cfs @ 12.19 hrs, Volume= 107,547 cf  
 Primary = 27.22 cfs @ 12.19 hrs, Volume= 107,547 cf, Atten= 0%, Lag= 0.0 min

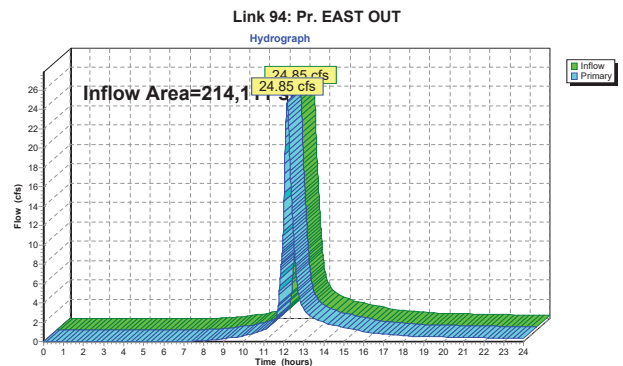
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



**Summary for Link 94: Pr. EAST OUT**

Inflow Area = 214,111 sf, 10.36% Impervious, Inflow Depth > 5.38" for 100-Year event  
 Inflow = 24.85 cfs @ 12.17 hrs, Volume= 96,029 cf  
 Primary = 24.85 cfs @ 12.17 hrs, Volume= 96,029 cf, Atten= 0%, Lag= 0.0 min

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





# APPENDIX – D

<b>Water Quality Volume Calculations</b>			
<b>Project:</b> 263 Bedford Banksville Rd		<b>Project #:</b> 179	<b>Date:</b>
<b>Location:</b> Bedford, NY		<b>By:</b> LD	10/18/2023
<b>BMP-W1 Infiltration System</b>	Contributing Area=	0.1901	acres
	Impervious Area=	0.1901	acres
	I=	100.0%	<sup>c</sup>
	R <sub>v</sub> =	0.950	<sup>b</sup>
	WQ <sub>v</sub> =	0.0211	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	918	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	229	cuft <sup>d</sup>
<b>BMP-W2 Infiltration System</b>	Contributing Area=	0.0103	acres
	Impervious Area=	0.0103	acres
	I=	100.0%	<sup>c</sup>
	R <sub>v</sub> =	0.950	<sup>b</sup>
	WQ <sub>v</sub> =	0.0011	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	50	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	12	cuft <sup>d</sup>
<sup>a</sup> WQ <sub>v</sub> =(P x R <sub>v</sub> x A)/12; Water Quality Volume, Equation taken from 2015 New York State Stormwater Management Design Manual (NYSSMDM) section 4.2 P= 90% Rainfall Event Number (per Figure 4.1 NYSSMDM); <b>P= 1.4"</b>			
<sup>b</sup> R <sub>v</sub> = 0.05 + 0.009(I); Volumetric runoff Coefficient, Equation taken from 2015 NYSSMDM section 4.2			
<sup>c</sup> I=Percent Impervious Coverage A= site area in acres (Contributing Area)			
<sup>d</sup> Pretreatment Volume requirement per 2015 NYSSMDM section 6.3.3			

Water Quality Volume Calculations			
<b>Project:</b> 263 Bedford Banksville Rd		<b>Project #:</b> 179	<b>Date:</b>
<b>Location:</b> Bedford, NY		<b>By:</b> LD	10/18/2023
<b>BMP-W3 Infiltration System</b>	Contributing Area=	0.3259	acres
	Impervious Area=	0.2453	acres
	I=	75.3%	<sup>c</sup>
	R <sub>v</sub> =	0.727	<sup>b</sup>
	WQ <sub>v</sub> =	0.0277	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	1,205	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	301	cuft <sup>d</sup>
<b>BMP-W4 Infiltration System</b>	Contributing Area=	0.1091	acres
	Impervious Area=	0.1091	acres
	I=	100.0%	<sup>c</sup>
	R <sub>v</sub> =	0.950	<sup>b</sup>
	WQ <sub>v</sub> =	0.0121	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	527	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	132	cuft <sup>d</sup>
<sup>a</sup> WQ <sub>v</sub> =(P x R <sub>v</sub> x A)/12; Water Quality Volume, Equation taken from 2015 New York State Stormwater Management Design Manual (NYSSMDM) section 4.2 P= 90% Rainfall Event Number (per Figure 4.1 NYSSMDM); <b>P= 1.4"</b>			
<sup>b</sup> R <sub>v</sub> = 0.05 + 0.009(I); Volumetric runoff Coefficient, Equation taken from 2015 NYSSMDM section 4.2			
<sup>c</sup> I=Percent Impervious Coverage A= site area in acres (Contributing Area)			
<sup>d</sup> Pretreatment Volume requirement per 2015 NYSSMDM section 6.3.3			



<b>Water Quality Volume Calculations</b>			
<b>Project:</b> 263 Bedford Banksville Rd		<b>Project #:</b> 179	<b>Date:</b>
<b>Location:</b> Bedford, NY		<b>By:</b> LD	10/18/2023
<b>BMP-E1 Infiltration System</b>	Contributing Area=	0.0527	acres
	Impervious Area=	0.0527	acres
	I=	100.0%	<sup>c</sup>
	R <sub>v</sub> =	0.950	<sup>b</sup>
	WQ <sub>v</sub> =	0.0058	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	254	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	64	cuft <sup>d</sup>
<b>BMP-E2 Infiltration System</b>	Contributing Area=	0.1257	acres
	Impervious Area=	0.0564	acres
	I=	44.8%	<sup>c</sup>
	R <sub>v</sub> =	0.454	<sup>b</sup>
	WQ <sub>v</sub> =	0.0067	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	290	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	72	cuft <sup>d</sup>
<sup>a</sup> WQ <sub>v</sub> =(P x R <sub>v</sub> x A)/12; Water Quality Volume, Equation taken from 2015 New York State Stormwater Management Design Manual (NYSSMDM) section 4.2 P= 90% Rainfall Event Number (per Figure 4.1 NYSSMDM); <b>P= 1.4"</b>			
<sup>b</sup> R <sub>v</sub> = 0.05 + 0.009(I); Volumetric runoff Coefficient, Equation taken from 2015 NYSSMDM section 4.2			
<sup>c</sup> I=Percent Impervious Coverage A= site area in acres (Contributing Area)			
<sup>d</sup> Pretreatment Volume requirement per 2015 NYSSMDM section 6.3.3			

Water Quality Volume Calculations			
<b>Project:</b> 263 Bedford Banksville Rd		<b>Project #:</b> 179	<b>Date:</b>
<b>Location:</b> Bedford, NY		<b>By:</b> LD	10/18/2023
<b>BMP-E3 Infiltration System</b>	Contributing Area=	0.2383	acres
	Impervious Area=	0.1574	acres
	I=	66.0%	<sup>c</sup>
	R <sub>v</sub> =	0.644	<sup>b</sup>
	WQ <sub>v</sub> =	0.0179	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	780	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	195	cuft <sup>d</sup>
<b>BMP-E4 Infiltration System</b>	Contributing Area=	0.1897	acres
	Impervious Area=	0.0728	acres
	I=	38.4%	<sup>c</sup>
	R <sub>v</sub> =	0.395	<sup>b</sup>
	WQ <sub>v</sub> =	0.0087	ac. ft. <sup>a</sup>
	WQ <sub>v</sub> =	381	cuft
<b>Required Pretreatment for Infiltration Practice</b>			
Infiltration Rate applied:		2.0	in/hr
25% of WQ <sub>v</sub>	Pretreatment Vol=	95	cuft <sup>d</sup>
<sup>a</sup> WQ <sub>v</sub> =(P x R <sub>v</sub> x A)/12; Water Quality Volume, Equation taken from 2015 New York State Stormwater Management Design Manual (NYSSMDM) section 4.2 P= 90% Rainfall Event Number (per Figure 4.1 NYSSMDM); <b>P= 1.4"</b>			
<sup>b</sup> R <sub>v</sub> = 0.05 + 0.009(I); Volumetric runoff Coefficient, Equation taken from 2015 NYSSMDM section 4.2			
<sup>c</sup> I=Percent Impervious Coverage A= site area in acres (Contributing Area)			
<sup>d</sup> Pretreatment Volume requirement per 2015 NYSSMDM section 6.3.3			

# APPENDIX – E





# APPENDIX – F





# APPENDIX – G

## Appendix G – Subcontractor Certifications/Agreements

### SUBCONTRACTOR CERTIFICATION STORMWATER POLLUTION PREVENTION PLAN

Project Number: \_\_\_\_\_

Project Title: \_\_\_\_\_

Operator(s): \_\_\_\_\_

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

**I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.**

This certification is hereby signed in reference to the above named project:

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type of construction service to be provided: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

# APPENDIX – H





# APPENDIX – I

## Appendix I – SWPPP Training Log

### STORMWATER POLLUTION PREVENTION TRAINING LOG

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: \_\_\_\_\_

Date: \_\_\_\_\_

Course Length (hours): \_\_\_\_\_

Stormwater Training Topic: *(check as appropriate)*

- Erosion Control BMPs
- Emergency Procedures
- Sediment Control BMPs
- Good Housekeeping BMPs
- Non-Stormwater BMPs

Specific Training Objective: \_\_\_\_\_

---

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		



# APPENDIX – J

## Appendix J – Delegation of Authority Form

### DELEGATION OF AUTHORITY

I, \_\_\_\_\_ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the \_\_\_\_\_ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

\_\_\_\_\_ (name of person or position)  
\_\_\_\_\_ (company)  
\_\_\_\_\_ (address)  
\_\_\_\_\_ (city, state, zip)  
\_\_\_\_\_ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in \_\_\_\_\_ (Reference State Permit), and that the designee above meets the definition of a “duly authorized representative” as set forth in \_\_\_\_\_ (Reference State Permit).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Name:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

# APPENDIX – K



# NOI for coverage under Stormwater General Permit for Construction Activity

version 1.35

(Submission #: HPW-FD3B-BW4QK, version 1)

## Details

---

**Originally Started By** Michael Freeman  
**Alternate Identifier** MARENGO FARMS LLC  
**Submission ID** HPW-FD3B-BW4QK  
**Submission Reason** New  
**Status** Draft

## Form Input

---

### Owner/Operator Information

**Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)**  
MARENGO FARMS LLC

**Owner/Operator Contact Person Last Name (NOT CONSULTANT)**  
GASIOROWSKI

**Owner/Operator Contact Person First Name**  
CHLOE

**Owner/Operator Mailing Address**  
48 DAVIDS WAY

**City**  
BEDFORD HILLS

**State**  
NY

**Zip**

10507

**Phone**

3478536073

**Email**

cnicol@algondonadvisors.com

**Federal Tax ID**

NONE PROVIDED

**Project Location**

**Project/Site Name**

MARENGO FARMS LLC

**Street Address (Not P.O. Box)**

263 BEDFORD BANKSVILLE RD

**Side of Street**

West

**City/Town/Village (THAT ISSUES BUILDING PERMIT)**

BEDFORD

**State**

NY

**Zip**

10506

**DEC Region**

3

**County**

WESTCHESTER

**Name of Nearest Cross Street**

FINCH LN

**Distance to Nearest Cross Street (Feet)**

300

**Project In Relation to Cross Street**

South

**Tax Map Numbers Section-Block-Parcel**

95.03-2-56

**Tax Map Numbers**

1/01/11.A

**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**

41.166662,-73.65986699999999

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

Redevelopment with increase in impervious area

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

Forest

**Post-Development Future Land Use**

Recreational/Sports Field

**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)**

21.6

**Total Area to be Disturbed (acres)**

4.9

**Existing Impervious Area to be Disturbed (acres)**

1.5



**Future Impervious Area Within Disturbed Area (acres)**

.3

**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 (%)**

17

**B (%)**

47

**C (%)**

0

**D (%)**

36

**7. Is this a phased project?**

No

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

11/01/2023

**End Date**

10/31/2024

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

MIANUS RIVER WATERSHED

**9a. Type of waterbody identified in question 9?**

Wetland/State Jurisdiction On Site (Answer 9b)

River On 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?**

Yes

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

Yes

**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?**

No

**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?**

TOWN OF NORTH CASTLE

**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)?**

No

**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?**

NONE PROVIDED

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

**SWPPP Preparer**

DIMARZO & BERECZKY, INC.

**Contact Name (Last, Space, First)**

WEED KARL

**Mailing Address**

191 LLYOD DRIVE

**City**

FAIRFIELD

**State**

CT

**Zip**

06825

**Phone**

2038574110

**Email**

KWEED19@TWC.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**

263 Bed Banks SWPPP Preparer cert (2023-07-28).pdf - 07/28/2023 10:28 AM

**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**

Silt Fence

Stabilized Construction Entrance

Storm Drain Inlet Protection

**Biotechnical**

None

**Vegetative Measures**

Protecting Vegetation

Seeding

Topsoiling

**Permanent Structural**

None

**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.**

NONE PROVIDED

**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).**

NONE PROVIDED

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

NONE PROVIDED

**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)**

NONE PROVIDED

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

NONE PROVIDED

**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)**

NONE PROVIDED

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

NONE PROVIDED

**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)**

NONE PROVIDED

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).**

NONE PROVIDED

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

NONE PROVIDED

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:**

NONE PROVIDED

**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)**

NONE PROVIDED

**Post-Development (CFS)**

NONE PROVIDED

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

NONE PROVIDED

**Post-Development (CFS)**

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

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

NONE PROVIDED

**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.**

NONE PROVIDED

**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)**

NONE PROVIDED

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

NONE PROVIDED

**Standard SMPs**

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**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?**

Yes

**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**[263 Bed Banks Owner Certification \(2023-07-28\).pdf - 07/28/2023 10:15 AM](#)**Comment**

NONE PROVIDED

**Attachments**

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<b>Date</b>	<b>Attachment Name</b>	<b>Context</b>	<b>User</b>
7/28/2023 10:28 AM	263 Bed Banks SWPPP Preparer cert (2023-07-28).pdf	Attachment	Michael Freeman
7/28/2023 10:15 AM	263 Bed Banks Owner Certification (2023-07-28).pdf	Attachment	Michael Freeman



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**