INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

March 2, 2021

Village of Mt. Kisco Planning Board
104 Main Street
Mt. Kisco, New York 10549

RE: ARC Westchester
699 E. Main Street
Village of Mt. Kisco
Tax Map No. 80.72-4-19

Dear Vice-Chairman Bainlardi and Members of the Board:

On behalf of the Applicant, ARC Westchester, we respectfully submit this letter requesting that this Board adjourn the Public Hearing on this application from its March 23rd, 2021 meeting to the April 13th, 2021 meeting, in order to permit us to further address outstanding items.

Thank you for your consideration.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams Jr., P.E.
Principal Engineer

RDW/jfr

Enclosures

cc: Kristen Springer, ARC Westchester (via email)
Ian Mueller, IKMueller Architecture PLLC (via email)

Insite File No. 20102.100

Village/Town of Mount Kisco Building Department
104 Main Street
Mount Kisco, New York 10549
Ph. (914) 864-0019-fax (914) 864-1085

MEMORANDUM

TO: The Honorable Acting Chairman Bainlardi and Planning Board Members

FROM: Peter J. Miley, Building Inspector

SUBJECT: 2 Morgan Drive, LLC
2 Morgan Drive, SBL 80.55-1-2.1/4

DATE: March 4, 2021

Comments

- The future of the existing structures on Lot B should be further discussed. Proposed subdivision property line creates a situation whereas, several of the existing structures (until removed) will be noncompliant and too close to the newly created property line. Removal of the unsafe structure(s) down to grade without disturbing the soil should be considered

- The RDX Bulk Zoning Requires Table: Page 1 compared to page 2, do not match

- Refer to updated Fire Department memo (3/4/2021) regarding access drive and walkways along the south building wall

- The Building Department defers to the Village Engineer regarding the required access road/driveway including grades and the ability to support fire trucks

APPROVALS REQUIRED

1. DEP/DEC Approvals
2. Site Plan Approval
3. Subdivision Approval
4. Steep Slopes Permit
5. Architectural Review Board Approval
6. Review by the Mount Kisco Fire Department

PM/mkr

Mount Kisco Volunteer Fire Department

P.O. Box 91 Mount Kisco, NY 10549-0091
Phone: (914) 666-4692 Fax: (914) 666-5794 MKFDChiefs@gmail.com

David J. Hughes
Chief of Department

John M. Hochstein
First Assistant Chief

Matthew R. Hollis
Second Assistant Chief

March 4, 2021

Honorable Acting Chairman
and Members of the Planning Board
Village of Mount Kisco
104 E. Main Street
Mount Kisco, New York 10549

RE: Fire Department Access
Proposed Indoor Car Storage Facility
Radio City Ventures, LLC
2 Morgan Drive

Dear Honorable Acting Chairman and
Members of the Planning Board:

The Mount Kisco Fire Department reviewed the recent – amended site plan submission (2/24/2021) as it pertains to Fire Department access, staging, and the positioning of apparatuses and equipment.

We offer the following comments:

1. Original Comment: Provide a minimum of one access road of not less than 20 feet in width (unobstructed) alongside – running parallel to the north wall of the building for the full distance of the building.
    a. An apparatus turn-around is required for all access roads with a dead-end in excess of 150 ft. In lieu of a turn-around, an access road that runs from Morgan Drive and exits onto Pump House Road would be acceptable.

- **March 4, 2021 Comment:** 20 ft. access road is shown. Plan should include turning templates/radii utilizing ladder truck template provided to ensure that apparatus can access, navigate around the building, and egress on to Pump House Rd. We defer to the

Village Engineer to ensure that the road is constructed of adequate materials to support the fire trucks.

2. Original Comment: Building "side-access" doors shall be provided with a solid walkway to door entrances.

March 4, 2021 Comment: Infiltration structure is provided along the side of the south wall. We defer to the Village Engineer to ensure that materials are adequate for sidewalks.

3. Original Comment: Interior access at door entries shall be unobstructed at all times – no parking should be permitted in front of the doors; interior area(s) should be properly marked.

March 4, 2021 Comment: Review shall take place at the building permit submission. We defer the Village Building Department for review of the vehicle "stacking" plan.

4. Original Comment: Fire Department Connection (FDC) is required. FDC should be placed in the front of the building with enough room to locate and operate a pumper truck (40 ft.) without blocking access to the rest of the building.

March 4, 2021 Comment: Information is not provided in the 2/24/2021 revision.

If you have any questions, please don't hesitate to contact me.

Sincerely,

David Hughes
Chief of Department

by PSM.

KELLARD SESSIONS

John Kellard, P.E.
David Sessions, RLA, AICP
Joseph M. Cermele, P.E., CFM
Jan K. Johannessen, AICP

MEMORANDUM

TO: Acting Chairman John Bainlardi and
Members of the Mount Kisco Planning Board

CC: Michelle Russo
Whitney Singleton, Esq.
Anthony Oliveri, P.E.
Peter Miley

FROM: Jan K. Johannessen, AICP
Village Planner

DATE: March 4, 2021

RE: Subdivision, Site Plan (Formal), Wetland Permit and Steep Slopes Permit Application
2 Morgan Drive
2 Morgan Drive, LLC
Section 80.55, Block 1, Lot 2.1/4

PROJECT DESCRIPTION

The subject property consists of ±5.7 acres of land and is located at the corner of Radio Circle Drive and Morgan Drive. The site is bounded by vacant undeveloped land to the north/northwest, Village owned property to the north/northeast, and commercially developed parcels to the southeast and southwest, including the U.S. Post Office, Frito Lay, 40 Radio Circle (Katonah Arts Center). The subject property was once part of a larger parcel that was occupied by a New York City Department of Environmental Protection (NYCDEP) sewage treatment and disposal facility; the facility ceased operation in the early to mid 1960's. The remnants of several related structures remain on the subject property and various levels and types of contamination exist and are being evaluated. The applicant is proposing a 2-lot subdivision and the construction of a 325'L x 112'W (70,400 s.f.) building on Lot A; the proposed building is intended to be used for the indoor storage of a private automobile collection and is a permitted use within the underlying RDX Zoning District; the facility will not be open to the public. Lot A is proposed to consist of ±2.7 acres, will be accessed via Morgan Drive, and is proposed to contain ±10 off-street parking spaces, a paved terrace area at the rear of the building, and stormwater facilities; the building will be served via municipal water and sewer. Lot B is proposed to consist of ±3.046 acres and is not proposed to be developed at this time given on-site contamination and remediation requirements. The future development of Lot B will be subject to remediation and will require independent land use approvals and SEQRA evaluation.

SEQRA

The proposed action has been identified as an Unlisted Action under the State Environmental Quality Review Act (SEQRA) and a coordinated review is underway. Prior to taking action on this pending application, the Planning Board must issue a determination of significance.

REQUIRED APPROVALS/REFERRALS

1. Preliminary and Final Subdivision Plat Approval, Site Plan Approval, a Wetland Permit and a Steep Slopes Permit is required from the Planning Board; a public hearing is required to be held on the Wetland Permit, Steep Slopes Permit and Preliminary Subdivision Plat.

2. The proposed building must be reviewed and approved by the Architectural Review Board (ARB).

3. Work proposed within the Village right-of-way will requires a permit from the Department of Public Works (DPW), as will connections to Village water and sewer services.

4. The proposed subdivision requires Realty Subdivision Approval from the Westchester County Department of Health (WCDH).

5. The proposed Stormwater Pollution Prevention Plan (SWPPP) requires approval from the New York City Department of Environmental Protection (NYCDEP).

6. The subject property is located within the NYC East of Hudson Watershed and proposed land disturbance exceeds 5,000 s.f. Coverage under New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) will be required.

7. The application must be referred to the Westchester County Planning Board in conformance with Section 239-m of the General Municipal Law; the Planning Board Secretary will coordinate this referral.

COMMENTS

1. The applicant has responded to our SEQRA-related comments. This office will have technical comments on the site plan which we will defer until such time as the plans have been progressed and the plans and SWPPP have been reviewed by the NYCDEP.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

PLANS REVIEWED, PREPARED BY STERLING ENVIRONMENTAL ENGINEERING, P.C., DATED FEBRUARY 24, 2021:

- Existing Conditions Plan (Sheet 1 of 8)
- Proposed Site Plan – Lot A (Sheet 2 of 8)
- Proposed Stormwater Plan – Lot A (3 of 8)
- Site Details – Lot A (4 of 8)
- Erosion and Sediment Control Plan (5 of 8)
- Infiltration Chambers Details (Sheet 6 of 8)
- Parking and Driveway Profiles (Sheet 7 of 8)
- Wetland Disturbance and Steep Slopes Plan and Sections (Sheet 8 of 8)

DOCUMENTS REVIEWED:

- Letter, prepared by Sterling Environmental Engineering, P.C., dated February 23, 2021
- Response Letters, prepared by GEODesign, Inc., dated December 3, 2020
- Full EAF Parts 2 and 3 and EAF Supporting Narrative
- NYSDEC Letter, dated February 18, 2021
- Steep Slopes Permit Application Narrative
- Adjacent Property Owner List
- Tax Parcel Maps
- Final Subdivision Plat, prepared by H. Stanley Johnson and Company, Land Surveyors, P.C.
- Landscaping Plans, dated July 20, 2020

JKJ/dc

GEO DESIGN

GEODesign, Inc.
984 Southford Rd.
Middlebury, CT 06762
(203) 758-8836

MEMORANDUM

TO: **Acting Chairman John Bainlardi**

CC: **Members of the Mount Kisco Planning Board**
Edward W. Brancati, Village Manager
Jan Johannessen AICP, Village Planner
Peter Miley, Building Inspector
Anthony Oliveri, P.E.

FROM: **Paul Woodell, P.G., L.E.P., Associate, GEODesign, Inc.**

DATE: **March 5, 2021**

RE: **2 Morgan Drive, LLC**
2 Morgan Drive
Site Plan, Subdivision and Steep Slopes Application,
Environmental Conditions

FILE NO.: **4265-001**

With regard to the above-referenced project, GEODesign has reviewed the following plans and submittals:

- Response Letter and Attachments, prepared by Sterling Environmental Engineering, P.C., dated February 23, 2021, and attached therein:
  - Parts 2 and 3 of the Environmental Assessment Form including the revised Part 3 Supporting Narrative.
- February 18, 2021 and February 24, 2021 letters from Daniel Lanners of the New York State Department of Environmental Conservation.

We continue our comments as follows:

1. In the Part 3 Supporting Narrative, Section 4 (Impact on Groundwater), Sterling Environmental Engineering, P.C. (Sterling) discusses their conceptual model for infiltration of runoff water from the proposed infiltration chamber system (we recognize that the formerly proposed rain gardens have been removed and replaced with catch basins). The discussion references a Figure 1 which was not attached to the Narrative. Please include the supporting Figure 1.

2. In the Part 3 Supporting Narrative, Section 16 (Impact on Human Health), Sterling states (page 5) that *Institutional controls are not expected for Lot A.* However, in the same section (page 8), Sterling states that *Institutional controls in the form of a Deed*

Restriction to Lot A will incorporate the obligation to implement a soil excavation radiological management plan.

In the February 24, 2021 NYSDEC letter, Daniel Lanners states that based on the findings of the December 2020 CoPhysics Final Status Survey of 2 Morgan Drive Lot A, *"Radiological monitoring during future intrusive work on Lot A is not deemed necessary".*

Please clarify this apparent contradiction and whether an Institutional Control deed restriction is needed based on limited Lot A soils exceeding Unrestricted Use Soil Cleanup Objectives for non-radiological constituents. Also, please consider attaching the February 24, 2021 NYSDEC letter in addition to that from February 18, 2021.

3. We note that the formerly proposed southern rain gardens still appear on Drawings LP-1.0, 1 of 2 and 2 of 2.

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Sterling Environmental Engineering, P.C

February 23, 2021

Ms. Michelle Russo
Planning Board Secretary
Village of Mount Kisco Planning Board
104 Main Street
Mount Kisco, New York 10549

Via Email (planning@mountkiscony.gov)

Mr. Peter J. Miley
Building Inspector
Village of Mount Kisco Building Department
104 Main Street
Mount Kisco, New York 10549

Via Email (pmiley@mountkiscony.gov)

Jan K. Johannessen, AICP
Kellard Sessions
500 Main Street
Armonk, New York 10504

Via Email (jjohannessen@kelses.com)

Anthony Oliveri, P.E.
Dolph Rotfeld Engineering
570 Taxter Road
Elmsford, New York 10523

Via Email (anthony@drepc.com)

Paul Woodell, Jr. LEP, P.G.
GEODesign
984 Southford Road
Middlebury, Connecticut 06762

Via Email (pwoodell@Geocompanies.com)

Subject: 2 Morgan Drive, LLC
Mt. Kisco, NY
Applications for Site Plan and Subdivision
STERLING File #2018-39

This letter is in response to the discussion at the January 12, 2021 and February 9, 2021 Planning Board meeting and Public Hearing, and in the response to the following memoranda:

GEO Design	December 3, 2020 & January 8, 2021, February 5, 2021
Kellard Sessions	December 4, 2020 & January 12, 2021 (Incorrectly dated December 4, 2020)
Dolph Rotfield Engineering	December 2, 2020

Additionally, the following also addresses the February 3, 2021 comments from the Mt. Kisco Volunteer Fire Department.

We provide copies of these comment memos annotated with our responses (See Attachment 1).

Also provided are the following requested items.

1. Refreshed Site Plan drawing set is enclosed incorporating requested modifications.

    - Revised Subdivision Plat with updated Bulk Area calculations from revised slope analysis.*
    - Revised Existing Conditions with updated Steep Slope analysis and Wetlands Buffer Zones.
    - Revised Grading and Site Plan per meeting with Fire Department.
    - Landscaping and Tree Removal Plan dated January 11, 2021.*
    - Revised Stormwater Management Plan with limits of disturbance.
    - Wetland Buffer Disturbance (grading and landscaping only, no impervious surface), if necessary.
    - Stormwater details.**

    * Subdivision Plat and Landscaping Plans will be updated following approval of site layout by Planning Board and Mt. Kisco Fire Department.

    ** Additional site and stormwater details will be provided following consultation and approval by the NYCDEP. This consultation cannot begin until the Planning Board makes its SEQRA determination.

2. Revised FEAF Part 2 with Item 4, Impact on Groundwater, checked "yes" and "other," checked "moderate to large." A revised Part 2 is provided in Attachment 2. See related discussion in Section 4 of Part 3 of the FEAF demonstrating no appreciable impact.

3. Revised FEAF Part 3 is provided in Attachment 2 which expands the discussions in response to the comments provided by the Planning Board consultants. The revisions include an expanded discussion regarding management of construction surplus soil, groundwater and surface water and vegetation.

4. Revised Steep Slopes Permit Application Narrative is provided in Attachment 3.

The NYCDEP has stated that they will not conduct a complete technical review of the prepared SWPPP until such time they receive a SEQR Negative Declaration. It is important that the SEQR process is completed as soon as possible to facilitate this review.

Based upon the updated record, we request that the Planning Board close the public hearing and complete its deliberations under SEQRA at the March 9, 2021 meeting. This will position the Planning Board to issue a SEQRA determination at its March 23, 2021 meeting. The only public comment received to date concerned preservation of a 30" DBH Hickory tree. This particular tree conflicts with the proposed site entrance driveway and cannot be preserved.

After the Planning Board completes SEQRA, the applicant will submit the SWPPP and SEQRA Determination to the NYCDEP to initiate their review of the project. Once we have the NYCDEP comments, we will return before the Planning Board with a final Site Plan and Subdivision Plan that incorporates any modifications mandated by the NYCDEP.

Please contact me should you have any questions.

Very truly yours,
STERLING ENVIRONMENTAL ENGINEERING, P.C.

Mark P. Millspaugh, P.E.
President
mark.millspaugh@sterlingenvironmental.com

MPM/bc
Email
Attachments

cc: Kent Thuesen, Thuesen Mechanical Corp.

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ATTACHMENT 1

ANNOTED PLANNING BOARD COMMENT MEMORANDUMS

GEO DESIGN

GEODesign, Inc.
984 Southford Rd.
Middlebury, CT 06762
(203) 758-8836

MEMORANDUM

TO: **Village/Town of Mount Kisco Planning Board**

FROM: **Paul Woodell, P.G., L.E.P., Associate, GEODesign, Inc.**

DATE: **December 3, 2020**

RE: **2 Morgan Drive Proposed Property Subdivision, Environmental Conditions**

FILE NO.: **4265-001**

GEODesign has been retained by the Village/Town of Mount Kisco Planning Board to review reports, correspondence, plans and other information provided to us and relating to the environmental contaminant conditions at 2 Morgan Drive in the Village. Based on our review of files provided and a discussion during the November 25, 2020 site visit, we have the following questions/comments regarding the Applicant's proposed property subdivision of the parcel into Lots A and B:

1. A soil pile southwest of Primary Tank 2 (Lot B) is identified by a NYCDEP consultant as having elevated gamma readings and elevated radium-226 and thorium-230. This pile appears to be referred to as "Hot Spot-4" (HS-4) in a September 20, 2019 letter from Great Lakes Environmental & Safety Consultants. The proposed subdivision line is offset to avoid incorporating this pile in Lot A.

The lateral and vertical extent of radionuclide-bearing soil at HS-4 is not fully defined. Additional characterization of this pile and pile area (sample analysis for radionuclides) is requested to fully define the lateral and vertical extent of this soil contamination. The position of the subdivision line in this area should be based on the fully-characterized extents.

2. Assuming the Applicant does not intend to remediate the HS-4 soil pile prior to development of Lot A, it would be prudent to erect a physical barrier (fence or similar) around the fully-delineated HS-4 to prevent Lot A construction activities from disturbing HS-4 soils. The Applicant should also determine the need to cover HS-4.

Comments resolved

3. Two rain gardens and one underground infiltration chamber are planned in close proximity to, and hydrologically upgradient or side-gradient of hot spot soil pile HS-4.

Please provide evidence that infiltrating soil water from these features will not migrate through or cause water-table mounding such that there would be a risk of mobilizing radionuclides and impacting groundwater quality.

See revised narrative and Figures

4. The groundwater quality beneath Lot A is represented by only one monitor well (MW-1) near the toe of the slope. Groundwater from the well has been analyzed for radium-226 and -228 (but not thorium-230) on one date (April 9, 2018, GLESC). Concentrations were reportedly below the NYS groundwater standard. In February 2019, LiRo Engineers reported the compound perfluorooctanoic acid (PFOA) at a concentration slightly above the current NYS guidance.

Additional groundwater quality characterization beneath Lot A is requested. Emphasis should be placed on analysis for radionuclides near soil pile HS-4 and on polyfluoroalkyl substances (PFAS).

See February 18, 2021 NYSDEC letter

5. A Draft August 2019 Radiological Characterization Survey Report by CoPhysics Corporation describes the primary radiological contaminants as radium-226, radium-228 and thorium-230. The report defines a conversion factor to relate gamma exposure rate in uR/hr (the field detector readings using a calibration factor) to actual radium-226 concentrations in soil samples expressed in pCi/g. This conversion factor is used roughly to apply the federal cleanup guideline for radium-226 (5 pCi/g) to the observed gamma readings from the ground survey. However, the calculated conversion factor does not account for thorium-230, detected at concentrations averaging 12.6 times greater than radium-226. CoPhysics acknowledges that the high thorium-230 concentrations *may significantly affect the eventual release criteria.*

The Applicant should determine whether the high thorium concentrations have an influence on the site areas (including Lot A) delineated in green and presumed to be below the federal guideline on the CoPhysics Characterization Survey Gamma Map (Attachment 1).

See February 18, 2021 NYSDEC letter

6. Please describe the construction sequence especially the management and final disposition of surplus construction soils derived from Lot A development.

See revised narrative

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GEO DESIGN

GEODesign, Inc.
984 Southford Rd.
Middlebury, CT 06762
(203) 758-8836

MEMORANDUM

TO: **Chairman Douglas Hertz**

CC: **Members of the Mount Kisco Planning Board**
Edward W. Brancati, Village Manager
Whitney Singleton Esq., Village Attorney
Jan Johannessen AICP, Village Planner
Peter Miley, Building Inspector
Anthony Oliveri, P.E.

FROM: **Paul Woodell, P.G., L.E.P., Associate, GEODesign, Inc.**

DATE: **January 8, 2021**

RE: **2 Morgan Drive, LLC**
2 Morgan Drive
Site Plan, Subdivision and Steep Slopes Application,
Environmental Conditions

FILE NO.: **4265-001**

With regard to the above-referenced project, GEODesign has reviewed the following plans and submittals:

- Response Letter and Attachments, prepared by Sterling Environmental Engineering, P.C., dated December 22, 2020, and attached therein:
  - Final Status Survey of 2 Morgan Drive Lot A, Mt. Kisco, NY prepared by CoPhysics Corporation and dated December 2020;
  - Part 3 of the Environmental Assessment Form including the Supporting Narrative.

We continue our comments as follows:

1. Sterling Environmental Engineering, P.C. (Sterling) states that temporary construction fencing will be placed around the location on Lot B exhibiting elevated radioactivity. The December 2020 CoPhysics Report states, *However, for liability purposes, the property line between the two lots should be fenced.* Based on the recommendation by CoPhysics, a fence should be placed along the subdivision line separating Lots A and B.

Agreed- Site fence and construction demarcation fence will be installed along north lot line as indicated on proposed Stormwater Plan

2. The December 2020 CoPhysics Report concludes that radionuclide levels in the surface and subsurface soil along the boundary between Lots A and B are representative of background conditions. However, the vertical extent of

See revised Part 3 Narrative

radionuclides below Hotspot-4 (Lot B) was not investigated and has not been identified. Proposed infiltration structures (final design of which is subject to DEP approval) will concentrate flow to the subsurface at localized areas compared to existing conditions. Please provide evidence to support the statement that *proposed infiltration practices will not increase the groundwater elevation at the location on Lot B exhibiting elevated radioactivity*.

See revised Part 3 Narrative

3. Based on a 12/23/20 conversation between myself and Daniel Lanners, the NYSDEC Project Manager for the site, any Department requirements regarding the management of soils derived from Lot A development or the need for institutional controls will be determined following the Department's review of the December 2020 CoPhysics report. Also, Mr. Lanners indicated that storage of Lot A surplus soils on Lot B for future use is not likely to be permitted and that Lot A surplus will need to be appropriately managed off-site.

See February 18, 2021 NYSDEC letter

4. Responses to the Impacts on Human Health section of the EAF provided by Sterling in the EAF Part 3 Supporting Narrative are brief and somewhat non-conclusive. The Narrative should stand alone and not require that the reader have background knowledge of the site and investigation findings. Please expand on this portion of the Narrative such that evidence and conclusions support the statements.

See revised Part 3 Narrative

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GEO DESIGN

GEODesign, Inc.
984 Southford Rd.
Middlebury, CT 06762
(203) 758-8836

MEMORANDUM

TO: **Chairman Douglas Hertz**

CC: **Members of the Mount Kisco Planning Board**
Edward W. Brancati, Village Manager
Whitney Singleton Esq., Village Attorney
Jan Johannessen AICP, Village Planner
Peter Miley, Building Inspector
Anthony Oliveri, P.E.

FROM: **Paul Woodell, P.G., L.E.P., Associate, GEODesign, Inc.**

DATE: **February 5, 2021**

RE: **2 Morgan Drive, LLC**
2 Morgan Drive
Site Plan, Subdivision and Steep Slopes Application,
Environmental Conditions

FILE NO.: **4265-001**

With regard to the above-referenced project, GEODesign has reviewed the following plans and submittals:

- Response Letter and Attachments, prepared by Sterling Environmental Engineering, P.C., dated January 19, 2021, and attached therein:
  - Parts 2 and 3 of the Environmental Assessment Form including the revised Part 3 Supporting Narrative.

We continue our comments as follows:

1. In the Part 3 Narrative, Section 1-d, Sterling Environmental Engineering, P.C. (Sterling) discusses the potential to stage soil from Lot A construction activities on Lot B, to be used for remediation activities. The Board has indicated that this practice will not be permitted. Please modify this section to indicate that all surplus construction soil will be appropriately removed from the site.

   All soil will be managed off site

2. Section 4 of the Part 3 Narrative provides an analysis of infiltration from stormwater structures proposed for the southwestern portion of Lot A and their potential to impact localized groundwater in the vicinity of radionuclide-bearing soil nearby on Lot B. The analysis was discussed during a February 1, 2021 call between Sterling and Village consultants and an employee. It was agreed that Sterling would prepare additional information, including graphical representations, to further

   See revised Narrative

support their position that these infiltration structures will not result in mobilization of radionuclides or impact to groundwater quality beneath Lot B. Bear in mind that the Narrative, including this section, should be as non-technical as feasible such that it will be understandable to laypersons.

See revised Narrative

3. Sterling provided additional information to Narrative Section 16 (Impact to Human Health) in comparison to their December 12, 2020 submittal. As discussed during the February 1st call, we request that Sterling expand upon the discussions in this section with the intent to provide the reader with all qualitative information necessary to understand the reasons that Sterling reaches the conclusions that they do. This would include the findings of prior investigations on both Lots A and B and the nature, extent and classes of contaminants found in soil and groundwater. Please review paragraph (j) as there appears to be some inconsistencies there.

See revised Narrative

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Village/Town of Mount Kisco Building Department
104 Main Street
Mount Kisco, New York 10549
Ph. (914) 864-0019-fax (914) 864-1085

MEMORANDUM

TO: The Honorable Chairman Hertz and Planning Board Members

FROM: Peter J. Miley, Building Inspector

SUBJECT: 2 Morgan Drive, LLC
2 Morgan Drive, SBL 80.55-1-2.1/4

DATE: December 3, 2020

PROPERTY

The property consists of a 5.76 acre parcel located at 2 Morgan Dr. across from the Village post office. Proposed is an application that includes subdividing an existing 5.76 acre lot into two (2) separate and individual lots (Lot A and Lot B) and redeveloping the site. The property is located in the RDX Zoning District. Proposed Lot A is a 2.67 acre, 116,300 s.f. lot (gross lot area) that includes a proposed, 70,000 sq. ft. (36,400 sq. ft. footprint) "private auto storage facility" to accommodate a private car collection. Lot B is a 3.046 acre, 132,700 s.f. lot that will not be developed until remediation is completed. Today, Lot B contains numerous dilapidated structures.

COMMENTS

1. The applicant has responded to all of the comments included on the on the May 8, 2020 Building Department memo. See Sterling – September 1, 2020 letter. — Agreed

2. The Building Department defers to the Village Planner with regard to the subdivision plat and a complete site plan package including landscaping, tree removal/planting and lighting. — Noted

3. The Building Department defers to the Village Engineer for all driveway slopes/profiles, retainage, storm water/infiltration and impervious surface. — Noted

4. The future of Lot B should be further discussed, the subdivision plat and site plan should be modified thereby demonstrating a dimensionally compliant building lot without a proposed structure. Multiple structures on Lot B will need further discussion – see zoning. — Existing structures on Lot B will be demolished when Lot B is remediated

ZONING

1. Lot A is a conforming lot, no variances are required. Noted

2. Note* Lot B contains multiple dilapidated structures that can't be removed until lot has been remediated and four of the structures are too close to the proposed side yard lot line after subdivision. The subdivision will create noncompliant conditions on Lot B. A resolution to correct and/or satisfy this condition should be discussed during the workshop session. A variance may be required.

Noted. However, a variance is not proposed. the subdivisions, plat and Site Plan will all note as a condition of approval that the former WWTP structures will all be demolished when Lot B is remediated. Resulting in a conforming lot.

APPROVALS

1. DEP/DEC Approvals
2. Site Plan Approval
3. Subdivision Approval
4. Steep Slopes Permit
5. Architectural Review Board Approval

PM/mkr

KELLARD SESSIONS

John Kellard, P.E.
David Sessions, RLA, AICP
Joseph M. Cermele, P.E., CFM
Jan K. Johannessen, AICP

MEMORANDUM

TO: Chairman Douglas Hertz and
Members of the Mount Kisco Planning Board

CC: Michelle Russo
Whitney Singleton, Esq.
Anthony Oliveri, P.E.
Peter Miley

FROM: Jan K. Johannessen, AICP
Village Planner

DATE: December 4, 2020

RE: Subdivision, Site Plan (Formal), and Steep Slopes Permit Application
2 Morgan Drive
2 Morgan Drive, LLC
Section 80.55, Block 1, Lot 2.1/4

PROJECT DESCRIPTION

The subject property consists of ±5.7 acres of land and is located at the corner of Radio Circle Drive and Morgan Drive. The site is bounded by vacant undeveloped land to the north/northwest, Village owned property to the north/northeast, and commercially developed parcels to the southeast and southwest, including the U.S. Post Office, Frito Lay, 40 Radio Circle (Katonah Arts Center). The subject property was once part of a larger parcel that was occupied by a New York City Department of Environmental Protection (NYCDEP) sewage treatment and disposal facility; the facility ceased operation in the early to mid 1960's. The remnants of several related structures remain on the subject property and various levels and types of contamination exist and are being evaluated. The applicant is proposing a 2-lot subdivision and the construction of a 325'L x 112'W (70,400 s.f.) building on Lot A; the proposed building is intended to be used for the indoor storage of a private automobile collection and is a permitted use within the underlying RDX Zoning District; the facility will not be open to the public. Lot A is proposed to consist of ±2.7 acres, will be accessed via Morgan Drive, and is proposed to contain ±10 off-street parking spaces, a paved terrace area at the rear of the building, and stormwater facilities; the building will be served via municipal water and sewer. Lot B is proposed to consist of ±3.046 acres and is not proposed to be developed at this time given on-site contamination and remediation requirements. The future development of Lot B will be subject to remediation and will require independent land use approvals and SEQRA evaluation.

No response required

SEQRA

The proposed action has been preliminarily identified as an Unlisted Action under the State Environmental Quality Review Act (SEQRA) and a coordinated review is underway. Prior to taking action on this pending application, the Planning Board must issue a determination of significance.

REQUIRED APPROVALS/REFERRALS

1. Preliminary and Final Subdivision Plat Approval, Site Plan Approval and a Steep Slopes Permit is required from the Planning Board; a public hearing is required to be held on the Steep Slopes Permit and Preliminary Subdivision Plat.

2. The proposed building must be reviewed and approved by the Architectural Review Board (ARB).

3. Work proposed within the Village right-of-way will requires a permit from the Department of Public Works (DPW), as will connections to Village water and sewer services.

4. The proposed subdivision requires Realty Subdivision Approval from the Westchester County Department of Health (WCDH).

5. The proposed Stormwater Pollution Prevention Plan (SWPPP) requires approval from the New York City Department of Environmental Protection (NYCDEP).

6. The subject property is located within the NYC East of Hudson Watershed and proposed land disturbance exceeds 5,000 s.f. Coverage under New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) will be required.

7. The application must be referred to the Westchester County Planning Board in conformance with Section 239-m of the General Municipal Law; the Planning Board Secretary will coordinate this referral.

No response required

COMMENTS

1. This office defers review of the plan for parking and zoning compliance to the Building Inspector. — Agreed

2. On behalf of the Planning Board, the applicant shall prepare and submit Parts 2 and 3 of the EAF for review; responses to both parts will be reviewed by staff and the Board. — Complete

3. The previously submitted Subdivision Plat shall be updated, if necessary, and shall accompany all future submissions. — Attached

4. Certain segments of the adjacent Kisco River are not shown on the plan. The limits of the river shall be shown, and the Village's associated 100-foot wetland buffer shall be depicted on all sheets, including the plat. Any land disturbance within 100-feet of the Kisco River will require a Wetland Permit from the Planning Board. — Drawing has been revised

5. We note that existing structures on Lot B will be located within the minimum required side and rear yard setbacks; given the contamination concern on Lot B, and the potential inability to remove these structures at present, we defer to the Building Inspector and Counsel regarding how to handle this potential nonconformity. — Noted

6. As no development of Lot B is being considered at this time and Lot B is no longer intended to be conveyed to the NYCDEP, it is recommended that no hypothetical/future improvement be illustrated; Lot B should be evaluated for zoning compliance only. Any future development of Lot B would be subject to remediation, site plan approval and potentially other local permits, such as steep slopes and wetland permits. Further, an independent SEQRA evaluation would be required for the development of Lot B prior to any action being taken. Please modify the Note on Sheet 2 to state that, in addition to requiring remediation, no development of Lot B shall take place without all necessary approvals and permits from the Village of Mount Kisco and other agencies having jurisdiction. — Agreed

7. It is recommended that the applicant submit the project plans and SWPPP to the NYCDEP and that completion and technical comments from the NYCDEP be provided to the Planning Board in advance of taking action on the application. — NYCDEP requires that the PB completes SEQRA first

8. It is recommended that the Planning Board refer the application to the Mount Kisco Fire Department for review and comment; we defer comment relating to fire access to the Building Inspector and Fire Department. The applicant shall identify whether the proposed building will be sprinklered. — Referral was made, building will be sprinklered

9. While it is helpful to visualize the proposed development of Lot A in relation to Lot B, as depicted on Sheet 2, separate site plans, grading plans, drainage and utility plans, etc. shall be provided which illustrate Lot A only. It would be helpful if the grading plan for Lot A was revised to better decipher between existing and proposed contour lines; additional contour labeling and proposed spot elevations should also be incorporated. — Drawings have been revised. A final Drawing set can not be completed until the NYCDEP approved the Stormmwater Plan.

10. The applicant has identified a net cut of 10,000 c.y.; the applicant shall identify plans for where this material would be used for and transported to and if there will be any restrictions on its future use. — See Site Plan and SEQRA Narrative

11. In accordance with Section 110-28K(2), the Planning Board must determine the required number of parking spaces based upon demand and need; the proposed number of spaces seems reasonable given the proposed use and submitted business plan.

Noted

12. The applicant shall demonstrate that all driveways and parking areas meet Village design requirements in terms of slope. Given the private nature of the facility, the Building Inspector should opine as to whether any accessible parking and loading spaces are required.

The driveway meets code requirements.

13. The plan shall identify locations devoted to snow storage.

See revised Site Plan

14. The applicant has indicated that vehicles will be delivered to the property and unloaded indoors. How will the vehicles be transported to and from the facility? If transported via trailer or car carrier, please illustrate truck turning maneuvers on the plan.

The car transport will back into the building for unloading. A Traffic Plan will be included in the final Drawing set.

15. The following comments pertain to tree removal and proposed landscaping:

    a. The applicant is proposing the removal of nearly all existing trees on Lot A (178 trees), including a large stand of mature conifers to the rear (northeast end) of the site.

    b. The tree removal plan shall illustrate the entire site, so that existing trees to remain can be shown to be preserved.

    c. The tree removal plan shall identify who surveyed the trees and when; the landscape architect shall confirm tree species.

    d. As previously identified, the applicant must demonstrate compliance with Chapter 99, Tree Preservation, of the Village Code; specifically, Sections 99-9 and 99-10.

    e. We note that the proposed replacement trees do not meet the minimum caliper size as specified by code.

    f. The applicant is proposing the installation of 55 trees and is requesting to provide a fee in lieu of planting for any balance of required replacement trees not planted on-site. A tree replacement calculation, conforming to Chapter 99, Tree Preservation, shall be provided.

    g. It is recommended that all proposed landscaping and replacement trees be native species.

    h. The tree removal plan identifies four (4) trees on Parcel B to be removed; it is recommended that these trees be preserved until such time as Parcel B is remediated and approved for development.

The landscape Architect is revising the January 11, 2021 Landscape Plan to include the fire access required by the Fire Department. This will be presented at the March 9, 2021 Planning Board meeting.

i. It appears that a portion of the landscape plan is cutoff; certain notes are not readable.

j. The tree removal and landscape plan shall be incorporated into the plan set.

See the January 11, 2021 revision to the Landscape Plan

16. The following comments pertain to exterior lighting:

a. The applicant has indicated that only building mounted lights will be provided. A detailed lighting plan, demonstrating compliance with Sections 110-32C of the Zoning Code, shall be submitted for review.

b. The locations of building mounted lights shall appear on the site plan and a separate lighting plan (with site plan overlay) shall be included in the plan set. Illuminance levels shall be measured in footcandles and shall be depicted via a photometric plan identifying proposed footcandle measurements every 10 feet and extending over the property line by at least 20 feet.

c. Unless otherwise approved, all light fixtures shall be full cut-off fixtures and shall direct the light downward toward the ground. In accordance with Section 110-32C(2) of the Zoning Code, illumination from light fixtures shall not exceed 0.5 footcandle at the property line.

d. The hours of operation associated with each proposed exterior light fixture shall be identified on the plan. In general and unless otherwise approved by the Planning Board, exterior illumination shall be reduced to the minimum necessary for security purposes during non-operating hours.

e. All applicable lighting details and specifications shall be included on the lighting plan or a detail sheet, to be included in the plan sheet. Please also do provide separate cut sheets or provide lighting information on the architectural plans, as they will not become part of the approved set of site plans drawings.

An Exterior Lighting Plan is being prepared by the Building Architect and will be presented at the March 9, 2021 Planning Board meeting.

17. The site plans shall clarify the location, extent and dimension of any overhands over front, rear and side doorways; dimension the distance between between door overhangs and the side property lines.

18. The applicant has indicated that no exterior dumpster or refuse container is proposed; a note to this effect shall appear on the site plan.

Note added

19. The area of land disturbance (s.f.) shall be calculated and identified on Sheet 5.

Drawing shows the limit of disturbance

20. Future plan submissions, including the Subdivision Plat, site development plans, construction details, landscaping and lighting plans, shall be complied into one set of drawings; this set should include all related site construction drawings, with the exception of architecturals.

We provide the current revised Site Plan drawing set. These are expected to be sufficient to complete SEQRA. A Final Plan set will be furnished following NYSDEP acceptance of the stormwater drawings and SWPPP.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

PLANS REVIEWED, PREPARED BY STERLING ENVIRONMENTAL ENGINEERING, P.C., DATED AUGUST 31, 2020:

- Existing Conditions Plan (Sheet 1 of 8)
- Proposed Site Plan – Lot A (Sheet 2 of 8)
- Proposed Stormwater Plan – Lot A (3 of 8)
- Site Details – Lot A (4 of 8)
- Erosion and Sediment Control Plan (5 of 8)
- Infiltration Chambers Details (Sheet 6 of 8)
- Parking and Driveway Profiles (Sheet 7 of 8)
- Steep Slopes Plan and Sections (Sheet 8 of 8)

DOCUMENTS REVIEWED:

- Letter, prepared by Sterling Environmental Engineering, P.C., dated September 1, 2020
- Full EAF Part 1, dated July 21, 2020 and EAF Supporting Narrative
- FEMA National Flood Hazard Layer FIRMette
- Draft MARSSIM Report
- Revised SWPPP, prepared by Sterling Engineering
- Landscaping Plan, dated July 20, 2020
- Architectural Building Plans, prepared by JPL Architects, dated September 1, 2020
- Completed Steep Slopes Applications, dated September 1, 2020
- Business Plan, dated September 1, 2020

Noted

JKJ/dc

KELLARD SESSIONS

John Kellard, P.E.
David Sessions, RLA, AICP
Joseph M. Cermele, P.E., CFM
Jan K. Johannessen, AICP

MEMORANDUM

TO: Chairman Douglas Hertz and
Members of the Mount Kisco Planning Board

CC: Michelle Russo
Anthony Oliveri, P.E.
Peter Miley

FROM: Jan K. Johannessen, AICP
Village Planner

DATE: December 4, 2020 Mis-dated, received January 12, 2021

RE: Subdivision, Site Plan (Formal), and Steep Slopes Permit Application
2 Morgan Drive
2 Morgan Drive, LLC
Section 80.55, Block 1, Lot 2.1/4

PROJECT DESCRIPTION

The subject property consists of ±5.7 acres of land and is located at the corner of Radio Circle Drive and Morgan Drive. The site is bounded by vacant undeveloped land to the north/northwest, Village owned property to the north/northeast, and commercially developed parcels to the southeast and southwest, including the U.S. Post Office, Frito Lay, 40 Radio Circle (Katonah Arts Center). The subject property was once part of a larger parcel that was occupied by a New York City Department of Environmental Protection (NYCDEP) sewage treatment and disposal facility; the facility ceased operation in the early to mid 1960's. The remnants of several related structures remain on the subject property and various levels and types of contamination exist and are being evaluated. The applicant is proposing a 2-lot subdivision and the construction of a 325'L x 112'W (70,400 s.f.) building on Lot A; the proposed building is intended to be used for the indoor storage of a private automobile collection and is a permitted use within the underlying RDX Zoning District; the facility will not be open to the public. Lot A is proposed to consist of ±2.7 acres, will be accessed via Morgan Drive, and is proposed to contain ±10 off-street parking spaces, a paved terrace area at the rear of the building, and stormwater facilities; the building will be served via municipal water and sewer. Lot B is proposed to consist of ±3.046 acres and is not proposed to be developed at this time given on-site contamination and remediation requirements. The future development of Lot B will be subject to remediation and will require independent land use approvals and SEQRA evaluation.

No response required

SEQRA

The proposed action has been preliminarily identified as an Unlisted Action under the State Environmental Quality Review Act (SEQRA) and a coordinated review is underway. Prior to taking action on this pending application, the Planning Board must issue a determination of significance.

No response required

REQUIRED APPROVALS/REFERRALS

1. Preliminary and Final Subdivision Plat Approval, Site Plan Approval and a Steep Slopes Permit is required from the Planning Board; a public hearing is required to be held on the Steep Slopes Permit and Preliminary Subdivision Plat.

2. The proposed building must be reviewed and approved by the Architectural Review Board (ARB).

3. Work proposed within the Village right-of-way will requires a permit from the Department of Public Works (DPW), as will connections to Village water and sewer services.

4. The proposed subdivision requires Realty Subdivision Approval from the Westchester County Department of Health (WCDH).

5. The proposed Stormwater Pollution Prevention Plan (SWPPP) requires approval from the New York City Department of Environmental Protection (NYCDEP).

6. The subject property is located within the NYC East of Hudson Watershed and proposed land disturbance exceeds 5,000 s.f. Coverage under New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) will be required.

7. The application must be referred to the Westchester County Planning Board in conformance with Section 239-m of the General Municipal Law; the Planning Board Secretary will coordinate this referral.

Noted

COMMENTS

The applicant has submitted Parts 2 and 3 of the Full Environmental Assessment Form (EAF) for review; the completion of these documents is the responsibility of the Planning Board and must be completed prior to the issuance of a Determination of Significance. The applicant's December 22, 2020 submission did not include an updated plan set; therefore, the majority of our site plan replated comments as outlined within our December 4, 2020 memorandum have not been addressed.

Updated Plan set provided

The following comments pertain to Parts 2 and 3 of the Full EAF, as prepared by the applicant:

1. This office has reviewed Part 2 of the EAF and finds it acceptable, as submitted. As Part 2 of the EAF provides the basis for completion of the Part 3 EAF, the Planning Board should review the Part 2 EAF responses for completeness. Noted

Part 3 – Impact on Land

2. Part 3 EAF-Impact on Slopes 15% or Greater (Item 1.b). The 2nd paragraph should be expanded to identify the total land area (within Lots A and B) that are comprised of slopes ≥15% and the area of proposed disturbance on Lot A on slopes ≥15%. The applicant's response quantifies slope disturbance ≥20% only. The narrative pertaining to steep slope disturbance should include a discussion of the temporary and permanent sediment and erosion control measures and other mitigative measures that will be implemented to reduce impacts to steep slopes. The applicant should demonstrate compliance with the Village's Steep Slope Regulations as specified with Section 110-33.1A of the Zoning Ordinance. Further, this section should refer to the specific applicable Village, NYCDEP and NYSDEC regulations pertaining to erosion control and stormwater management and identify that these regulations will be complied with. Revised Narrative provided

3. Part 3 EAF-Excavation and Removal of More than 1,000 tons of Material (Item 1.d). The applicant has identified that approximately 10,000 c.y. of material will need to be exported from Lot A during construction and has indicated that this material may be stored on Lot B and on the adjacent Crème-de la Crème site. Given the unknown regulatory status of the soils to be removed from Lot A, the unknown timing of the remediation and development of Lot B, the fact the Lot B is not being evaluated as part of the SEQRA action with the exception of the proposed subdivision, and that the future remediation and development of the Crème-de la Crème is also unknown and is not part of the proposed action, the Planning Board may wish to prohibit the storage of export material on Lot B, or elsewhere, and require that all export material be transported off-site to an approved facility/ location. For the purposes of the EAF, it is recommended that the applicant assume that all export material will be removed from the subject property and transported off-site. The anticipated amount of time and number of truckloads to remove the material should be quantified and discussed. Please reference the specific NYSDEC regulations that govern removal and transportation of soil and what measures will be taken to test the soil before classification and transport. Revised Narrative provided

Part 3 – Impact on Water

4. Part 3 EAF-Soil Erosion and Stormwater Discharge (Item 3.h). In addition to the Kisco River and the federal wetland which are identified, the applicant should reference the location of on and off-site wetlands and watercourses that are jurisdictional to the NYSDEC and/or the Village; please identify Revised Narrative provided

their relative location and distance to proposed land disturbance and reference submitted wetland delineations/reports. Please clarify any activities proposed within 100-feet of a jurisdictional watercourse or wetland. Further, the applicant should describe the sediment and erosion controls and stormwater management facilities, as well as any other mitigative measures that are proposed to reduce impacts.

Part 3 – Impact on Flooding

5. Part 3 EAF-Modification of Existing Drainage Patterns (Item 5.d). The applicant's response should clarify that no land disturbance, fill or construction is proposed with any designated floodplain or floodway. The applicant should describe the existing and proposed drainage patterns, change in drainage patterns, impacts, and mitigation (if any).

Part 3-Impact to Plants and Animals

6. The applicant should identify the number of trees to be removed, area (acres) of vegetation to be removed, and discussion of potential impacts. Further, the proposed protective measure and tree replacement in accordance with Chapter 99, Tree Preservation, of the Village Code, and the proposed landscaping plan should be discussed.

Part 3 – Impact on Human Health

7. It is recommended that the applicant elaborate upon the responses that deal with on-site contamination by summarizing the present condition, contaminants, the NYSDEC consent order, completed studies, and the proposed subdivision and avoidance of contaminated materials as part of the instant application. This section should clearly state that the future development of Lot B is subject to a separate/future SEQRA evaluation and will require approvals from the Planning Board and all other agencies having jurisdiction.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

Revised Narrative provided

PLANS REVIEWED, PREPARED BY STERLING ENVIRONMENTAL ENGINEERING, P.C., DATED AUGUST 31, 2020:

- Existing Conditions Plan (Sheet 1 of 8)
- Proposed Site Plan – Lot A (Sheet 2 of 8)
- Proposed Stormwater Plan – Lot A (3 of 8)
- Site Details – Lot A (4 of 8)
- Erosion and Sediment Control Plan (5 of 8)
- Infiltration Chambers Details (Sheet 6 of 8)

Noted

- Parking and Driveway Profiles (Sheet 7 of 8)
- Steep Slopes Plan and Sections (Sheet 8 of 8)

DOCUMENTS REVIEWED:

- Letter, prepared by Sterling Environmental Engineering, P.C., dated September 1, 2020
- Full EAF Part 1, dated July 21, 2020 and EAF Supporting Narrative
- FEMA National Flood Hazard Layer FIRMette
- Draft MARSSIM Report
- Revised SWPPP, prepared by Sterling Engineering
- Landscaping Plan, dated July 20, 2020
- Architectural Building Plans, prepared by JPL Architects, dated September 1, 2020
- Completed Steep Slopes Applications, dated September 1, 2020
- Business Plan, dated September 1, 2020

Noted

JKJ/dc

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MEMORANDUM

To: **Douglas Hertz, Planning Board Chairman**

C: **Planning Board Members**
Edward W. Brancati, Village Manager
Peter Miley, Building Inspector
Whitney Singleton Esq., Village Attorney,
Jan K. Johannessen AICP, Village Planner

From: **Anthony Oliveri, P.E.**

Date: **December 2, 2020**

Re: **2 Morgan Drive, LLC**
Site Plan, Subdivision and Steep Slopes Application
Village/Town of Mount Kisco

With regard to the above mentioned project, this office has reviewed the following plans and submittals:

- Response Letter and Attachments, prepared by Sterling Environmental Engineering, P.C., dated 9/1/2020;
- Plans entitled: "2 Morgan Drive Subdivision", Sterling Environmental Engineering, P.C., last dated 8/31/2020;
- Revised SWPPP, prepared by Sterling Environmental Engineering, P.C., dated 9/1/2020;
- Steep slopes application, prepared by Sterling Environmental Engineering, P.C., dated 9/1/2020;

Noted

Our continuing comments are as follows:

1. We note that the village has retained an environmental consultant; we await their review and recommend that the interaction of the proposed stormwater infiltration practices as it may relate to groundwater and radiological and other contamination on the adjacent lot B be evaluated. We have concerns regarding the suitability of infiltration practices to mitigate stormwater due to the proximity of the contamination.

Noted

2. The Steep Slopes narrative provided does not address §110-33.1,A.(2)(c), "Standards for development approval" of the code.

Revised narrative provided

3. We recommend some input be sought by the applicant regarding the proposed stormwater facilities and SWPPP approval from NYCDEP as this could have a significant impact on the site plan.

NYCDEP will not review the SWPPP until the Planning Bord completes the SEQRA

4. The driveway profiles provided must be shown to be in compliance with §93 of the code with regard to slopes proposed. — Notes provided on Drawing
5. As noted previously, separate layout, grading and utility plans should be provided and proposed grades should be better labeled, wall heights indicated and grading conflict at the front rain garden corrected. — Awaiting consultation and approval by NYCDEP
6. It is noted that no curbing is proposed; we recommend curbing to avoid erosion and rutting along driveway and parking areas. — Curbing is now indicated on Drawing.
7. Sewer and water service connections have not been shown and detailed on the plan. — Connections and layouts are shown. Details and awaiting NYCDEP approval of Stormwater Plan
8. Retaining wall details have not been included on the plan.
9. Greater detail for each cultec field and associated rain gardens should be provided including schematic cross sections noting expected water elevations in the practices for each stormwater event and their relation to outlets and outfalls. — See revised Site Plan
10. It is unclear how surface runoff from the front paved area will be directed toward the rain garden and not toward the lower garage entry; it appears that catch basins or revised grading is required. — Rain gardens are eliminated
11. In general, “blind” pipe connections proposed for the drainage piping should be avoided to facilitate future maintenance. All junctions and changes in direction should have access manholes or cleanouts incorporated, the plan should note this along with pipe inverts and sizes. — Noted
12. Detail with regard to the cultec outlet orifices and how they will connect to the proposed 12” outlet pipe must be included. A manhole should be utilized for this transition and allow for future maintenance. — See revised Site Plan
13. The NYSDEC design manual prohibits the use of infiltration practices in natural slopes greater than 15%. This seems to be the case for the proposed infiltration practices, alternate locations or practices should be considered. This issue can also be anticipated under NYCDEP review. — No infiltration practices and proposed on natural slopes
14. A headwall or end section should be utilized at the proposed drainage piping outfall. — Noted
15. The number and location of cleanout/inspection ports should be indicated on the cultec chamber plans; a sufficient number should be provided to clean the entire system. — See revised Site Plan notes

We will be happy to complete our review once additional information is provided.

Thank you

Details for connections, outlet structures, moximam water levels will be finalized following consultation, review and approval by the NYCDEP.

Retaining walls are integral to the building foundation. Building design to be finaized follwoing NYCDEP approval of Stormwater Plan

Mount Kisco Volunteer Fire Department

P.O. Box 91 Mount Kisco, NY 10549-0091
Phone: (914) 666-4692 Fax: (914) 666-5794 MKFDChiefs@gmail.com

David J. Hughes
Chief of Department

John M. Hochstein
First Assistant Chief

Matthew R. Hollis
Second Assistant Chief

February 3, 2021

Honorable Chairman
and Members of the Planning Board
Village of Mount Kisco
104 E. Main Street
Mount Kisco, New York 10549

RE: Fire Department Access
Proposed Indoor Car Storage Facility
Radio City Ventures, LLC
2 Morgan Drive

Dear Honorable Chairman and
Members of the Planning Board:

The Mount Kisco Fire Department reviewed the proposed site plan submission – specifically, sheet numbers: 2 of 8 and 7 of 8 – plan No. 2018-39006 last revised on 8/31/2020 specifically as it pertains to Fire Department access, staging, and the positioning of apparatuses and equipment.

We offer the following recommendations and comments:

1. Provide a minimum of one access road of not less than 20 feet in width (unobstructed) alongside – running parallel to the north wall of the building for the full distance of the building.
    a. An apparatus turn-around is required for all access roads with a dead-end in excess of 150 ft. In lieu of a turn-around, an access road that runs from Morgan Drive and exits onto Pump House Road would be acceptable.

2. Building "side-access" doors shall be provided with a solid walkway to door entrances.

Noted. See revised Site Plan

3. Interior access at door entries shall be unobstructed at all times – no parking should be permitted in front of the doors; interior area(s) should be properly marked. Noted

4. Fire Department Connection (FDC) is required. FDC should be placed in the front of the building with enough room to locate and operate a pumper truck (40 ft.) without blocking access to the rest of the building. Noted

If you have any questions, please don't hesitate to contact me.

Sincerely,

David Hughes
Chief of Department

ATTACHMENT 2

EAF PARTS 2 & 3 AND SUPPORTING NARRATIVE

Agency Use Only [If applicable]

Project :

Date :

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes"** to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No"** to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land

Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)

☐ NO ☑ YES

If "Yes", answer questions a - j. If "No", move on to Section 2.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☑	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☑
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☑	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☑
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☑	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☑	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☑	☐
h. Other impacts: _____ _____		☐	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g)

☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____ _____	E2g	□	□
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	□	□
c. Other impacts: _____ _____		□	□

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h)

☐ NO ☑ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☑	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☑	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☑	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☑	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☑	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☑	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☑	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☑	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☑	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☑	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☑	☐

l. Other impacts: _____ _____		☐	☐

4. Impact on groundwater

The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t)

☐ NO ☑ YES

If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: Possible affect of stormwater infiltration practices on mobilization of contamination.		☐	☑

5. Impact on Flooding

The proposed action may result in development on lands subject to flooding. (See Part 1. E.2)

☐ NO ☑ YES

If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☑	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☑	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☑	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☑
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☑	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☑	☐

g. Other impacts: _____ _____		☐	☐

6. Impacts on Air

The proposed action may include a state regulated air emission source. (See Part 1. D.2.f., D.2.h, D.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☐	☐
f. Other impacts: _____ _____		☐	☐

7. Impact on Plants and Animals

The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☐ NO ☑ YES

If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☑	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☑	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☑	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☑	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☑	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☑	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☑	☐
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____ _____	E1b	☑	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☑	☐
j. Other impacts: _____ _____		☑	☐

8. Impact on Agricultural Resources

The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑ NO ☐ YES

If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	**No, or small impact may occur**	**Moderate to large impact may occur**
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, Elb	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	El a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources

The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)

☑ NO ☐ YES

If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____ _____		☐	☐

10. Impact on Historic and Archeological Resources

The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)

☑ NO ☐ YES

If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____ _____		□	□
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	□	□
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	□	□
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	□	□

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	□	□
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	□	□
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	□	□
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	□	□
e. Other impacts: _____ _____		□	□

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	□	□
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	□	□
c. Other impacts: _____ _____		□	□

13. Impact on Transportation

The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____ _____		☐	☐

14. Impact on Energy

The proposed action may cause an increase in the use of any form of energy. ☐ NO ☑ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☑	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☑	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☑	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☑	☐
e. Other Impacts: _____ _____		☐	☐

15. Impact on Noise, Odor, and Light

The proposed action may result in an increase in noise, odors, or outdoor lighting. ☐ NO ☑ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☑	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☑	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☑	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☑	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☑	☐
f. Other impacts: _____ _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☐ NO ☑ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may cccur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☐	☑
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☑	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☑	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☑
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☑	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☑	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☑	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☐	☑
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☑	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☐	☑
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☑	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☐	☑
m. Other impacts: _____ _____		☐	☐

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. ☑ NO ☐ YES
(See Part 1. C.1, C.2. and C.3.)
If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, Elb	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. ☑ NO ☐ YES
(See Part 1. C.2, C.3, D.2, E.3)
If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

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Agency Use Only [IfApplicable]

Project :

Date :

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

See Attached EAF PART 3 Supporting Narrative

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Village of Mount Kisco Planning Board as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.7(d)).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: 2 Morgan Drive Subdivision	
Name of Lead Agency: Village of Mount Kisco Planning Board	
Name of Responsible Officer in Lead Agency:	
Title of Responsible Officer:	
Signature of Responsible Officer in Lead Agency:	Date:
Signature of Preparer (if different from Responsible Officer)	Date:

For Further Information:

Contact Person:

Address:

Telephone Number:

E-mail:

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

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EAF PART 3 SUPPORTING NARRATIVE

Identified Impact and Importance of Impact

1. Impact on Land

b. The proposed action may involve construction on slopes of 15% or greater

Per Town Code section 110-33.1-A, a steep slopes disturbance permit will be required for the development of Lot A.

The existing nature of the site lends itself to a two-story building constructed into the steep slope areas. The site will be tiered to match the existing topography which will minimize the impact to the slopes to the greatest extent possible. The existing tiered nature of the site will allow for standard construction practices to be utilized when excavating for the building foundations.

The proposed Lot A contains 4,991 square feet of slopes exceeding 25%, 2,895 square feet of slopes between 20-25%, and 2,457 square feet of slopes between 15-20%. Of those totals, approximately 3,530 square feet, 2,180 square feet, and 2,457 square feet will be disturbed, respectively. None of the steep slopes to be disturbed exceed 27.5%.

The nature of the disturbance will be for the construction of a 70,000 square foot (36,400 square foot footprint) two story building that will be built into the slope. The building foundation will act as the retaining structure including two (2) integral retaining walls at either end to separate the building levels. The slopes to the southwest will be shallowed to facilitate driveway access and will not exceed 10%. The regraded slope to the northeast will be constructed at a 3:1 horizontal to vertical slope. That slope will be vegetated and stabilized in accordance with standard erosion and sediment control practices to prevent erosion during construction. The Proposed Site Plan – Lot A provides the proposed grading plan. The architectural design drawings show the profiles of the building and how it is integrated into the side slope.

A full Stormwater Pollution Prevention Plan (SWPPP) included in the application package has been developed in accordance with the NYS Stormwater Management Design Manual and pertinent NYSDEC, NYCDEP and local regulations. The SWPPP includes erosion and sediment control practices. Runoff from the site to adjacent properties is being mitigated by a system of treatment and infiltration practices that will reduce the runoff to flows below existing condition flows. The SWPPP includes soil information for the site, drainage flow patterns, and the Erosion and Sediment Control Plan.

The proposed building on Lot A will be constructed into the disturbed slope area. The building retaining walls at either end which will stabilize the slopes. The building gutters and stormwater system will collect and direct water around any disturbed areas and infiltrate the water into the ground, or discharge to existing drainage courses at a flow lower than prior to construction, in accordance with the SWPPP.

The design and layout of Lot A has been completed in accordance with best engineering practices and every effort has been taken to ensure that all disturbance of steep slopes is performed in such a way as to minimize any impact to adjacent parcels.

The potential for moderate to large impacts from construction on steep slopes will be mitigated by adherence with the SWPPP to reduce stormwater runoff and erosion and following standard erosion and sediment control practices.

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Because development of Lot A will disturb in aggregate more than 100 square feet of steep slopes, a permit for steep slopes disturbance is needed. as part of the site plan approval. The design of the site is in accordance with Village Code section §110-33.1,A Steep Slopes. All required elements of Subsection 110-33.1, A(2)(c)(2) have been satisfied. Placement of the building, driveways, and parking utilize the natural slope and orientation of the site and the building is built into the slope in accordance with section §110-33.1,A(2)(c)(2)(r). Fill slopes on the site will not exceed 1 vertical to 3 horizontal in accordance with §110-33.1,A(2)(c)(2)(h). The site will utilize 2 retaining walls measuring 10-ft high. These will be structurally integral to the building foundation and the final stamped engineered building plans will include the details and structural analysis of these walls. The height exceeds the 6-ft limit set forth in §110-33.1,A(2)(c)(2)(b) which is allowed if no other alternative is viable. Based on the use of the building and existing site, the 10-ft wall is required to provide proper access and will not alter the aesthetics of the area or nature of the site. As required in the Village Code, construction practices will adhere to all local, state, and federal regulations and all required soil stabilizations measures will be followed as described in the SWPPP to be approved by the Village and NYCDEP

d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material

Soil at Lot A is not considered to be significantly contaminated and the NYSDEC has determined that no further action is necessary. See related discussion at Section 16. Because the construction project is estimated to result in surplus soil that will require management off site, the NYSDEC requires that a Site Management Plan will be developed setting forth the procedures to be followed during any future ground disturbance.

Exposed surfaced following removal of surplus soils will be sampled to document any contaminant levels. The soil to be removed will be sampled and characterized as required by disposal facilities in accordance with their acceptance criteria.

The site work will require excavation and relocation of approximately 10,000 CY of soil to accommodate the building foundation. A preliminary Geotechnical Report dated January 2014 indicated that 1-2' of surficial soils were fill materials over much of the site. Excavated soils that require removal will be tested and removed from the site for off site disposal and/or beneficial use in accordance with the NYSDEC solid waste management regulations. Construction surplus soil will be hauled away by truck. The volume of soil required will result in approximately 13,000 tons or approximately 590 truckloads. Any material transported off-site will be managed in accordance with all applicable solid waste management regulations.

The impact from removal of the soils will occur only during the construction phase, and will therefore be a short term impact.

The schedule for the remediation of Lot B and Crème-de-la-Crème remain unknown. Lot B has not been evaluated under SEQRA. Accordingly, when development of Lot B is proposed, a separate SEQRA evaluation and determination will be required.

3. Impacts on Surface Water

Surface water bodies on or near the project site include the Kisco River and an unnamed Federal wetland approximately 10,831 SF in area.

A Landscape Plan was prepared by a Landscape Architect. All landscaping activities will be completed outside of the 100-foot buffer area for the wetland. Therefore, any potential impacts to surface waters will be none or small. No critical wildlife habitats will be harmed or removed.

The project includes some paving and other impervious surfaces; however, runoff will be controlled with a SWPPP. Construction will not disturb the stream bed or banks.

Impacts to surface water are expected to be minimal, as the impact is isolated to the project site, is of minimal size, and does not adversely affect rare or unusual species, habitats, wetlands, or critical environmental areas. There are no chemicals or other pollutants used on site that would impact surface waterbody chemistry, vegetation, or wildlife species. Runoff will be controlled with erosion control devices.

4. Impact on Groundwater

The Post-development conditions of Lot A have been designed to maintain approximately equal amounts of run-off and infiltration as currently exist in the undeveloped state. This is done using an array of standard infiltration practices spread around Lot A, with larger practices located at the north and east sides of the lot which are not in proximity to any areas of concern on Lot B. The only infiltration practice near an area of elevated radiological readings (Soil Sample 15) is an underground infiltration chamber system receiving runoff solely from the front entrance and parking areas.

To assess the impact to localized groundwater in the vicinity of Soil Sample 15 (SS-15), a volumetric approach to infiltration was used analyzing the 100 year 24 hour rainfall event. The 100 year, 24 hour rainfall event measures 9.26-inches in Mt. Kisco, NY. Using the HydroCAD software by Bentley Systems, the 100 year rainfall event for the front driveway and parking areas was routed into an underground infiltration and storage system via catch basins and pretreatment structures. The infiltration system consists of seventy (70) interconnected Cultec R-280HD chambers each measuring approximately 47”W x 8’L x 26.5”H, oriented in seven (7) rows of ten (10) chambers each, embedded in a gravel field. An overflow from the infiltration structures traverses under the building to the northeast to an existing drainageway along Pumphouse Rd.

The resulting analysis (attached) indicated that 0.213 Ac-ft of runoff would be routed through the chamber system, of which 0.019 Ac-ft is discharged via the overflow pipe. The remaining 0.194 Ac-ft (8,450 CF) is infiltrated into the underlaying soils. An effective porosity of 0.35 for the underlaying sandy soils would result in a saturated soil volume of 24,143 CF.

Under unconfined conditions, the horizontal permeability (K_h) cannot exceed the vertical permeability (K_v). Assuming a worst case condition of $K_h = K_v$ means the slope of the water path would be 1H:1V or 45°. A prismoid was modeled with a top surface area of 2,700 SF (the area of the gravel field), side slopes of 1H:1V, and a volume of 24,143 CF. The resulting height was 6’9” and had a bottom area of 4,450 SF. The dimensions and orientation of this prismoid are depicted on the attached Figure 1 including its proximity to SS-15.

Based on this analysis, water infiltrated from the chamber system cannot pass through any soils of concern at SS-15. As the water migrates vertically to the water table, the maximum lateral extent of the water will be 7-ft from the perimeter of the gravel field before reaching the water table. The apparent groundwater flow direction in a generally to the north, downhill and towards the Kisco River. That flow direction is cross

gradient to SS-15. Therefor there is no risk that the infiltration structures could produce groundwater conditions that would cause any contaminates of concern to migrate on the adjacent lot.

5. Impact on Flooding

d. The proposed action may result in, or require, modification of existing drainage patterns

Stormwater management is the subject of a comprehensive SWPPP which will minimize impacts to water quality and drainage patterns. There will be no increase in stormwater discharge from the site over current levels.

The project site within Lot A is outside the 100 and 500 year floodplain. The floodway extends on a minor portion of the property extension to Lexington Avenue. The floodway does not affect the developable portion of the property and no disturbance, fill or construction is proposed in the designated floodplain. Existing drainage patterns are maintained.

Impacts on flooding and the floodplain will be minimal.

7. Impacts on Plants and Animals

The project will not require conversion of more than 10 acres of forest, grassland, or other important habitat. Approximately 55,000 SF of vegetation will be removed, resulting in minor losses of flora. As indicated on the Tree Removal Plan, 178 trees will be removed. However, there are no known threatened or endangered species, habitat used by rare, threatened or endangered species, species of special concern or conservation need, National Natural Landmarks, or significant natural community located on the site. Public hearing comments inquired about possibly saving an existing 30" DBH hickory tree. As indicated on the Landscape Plan, this tree is in the middle of the proposed entrance drive from Morgan Drive. Due to site topography and building placement on the site, as well as existing utility poles on Morgan Drive, there is no alternative configurations for a driveway that conforms to the Village Code. Therefore, this tree cannot be preserved.

The tree location is presented on the revised January 11, 2021 Tree Removal Plan along with the proposed plantings of replacement trees and landscaping.

Additionally, the project will not involve the use of herbicides or pesticides. Associated impacts to plants and animals will be minimal.

14. Impact on Energy

The project will result in a small increase in the use of energy. There will be no new or upgrades to existing substations, and no need to create or extend an existing supply system. The building is proposed to be 70,000 SF, with an estimated annual electricity demand of 42,000 KWH. The local energy grid will be able to supply the required energy.

Impacts to energy will be minimal.

15. Impact on Noise, Odor and Light

No blasting is proposed, and noise levels will not exceed local regulations. No odors will be created.

Exterior lighting will be minimal. The facility is not a business and is not open to the public. Accordingly, lighting will be limited to the threshold of the building entrance doors, will utilize downcast fixtures and will not direct light beyond the property line.

Impacts from noise, odor and light will be minimal.

16. Impact on Human Health

a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community

By letter dated February 18, 2021, the NYSDEC has determined that the current condition of Lot A requires no further action. The NYSDEC requests that a Site Management Plan be developed presenting the planned approach to any future development and associated excavation activities on Lot A, and including details for how surplus soil removed from Lot A will be managed (see the Attached NYSDEC letter).

The property is located within 1,500 feet of the Mount Kisco Day Care Center and Katonah Arts Center. Impacts to these facilities will be nonexistent or minimal from the proposed project, as described in the sections below.

d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction)

The site is subject to a Consent Order with the New York State Department of Environmental Conservation (NYSDEC). Once the subdivision is approved, Lot A will no longer be subject to the Order. Institutional controls are not expected for Lot A. Fencing is proposed along Lot B to prevent unauthorized access to Lot B.

h. The proposed action may result in the unearthing of solid or hazardous waste

The property at 2 Morgan Drive is proposed for subdivision into Lots A and B.

The Lot B portion of the property is currently vacant and was previously used as a sanitary wastewater treatment plant (WWTP) operated by the New York City Department of Environmental Protection (NYCDEP). The property was not used for landfilling or disposal of solid or hazardous wastes. Several structures from the former treatment plant remain on the Site. These structures include former primary tanks, sludge drying beds, sprinkling filter beds, and a concrete storage building. Two (2) former treatment ponds are also located on the Site.

A summary of the investigations conducted at the Site, results of the investigations and conclusions are presented below.

The following documents summarize the investigations that have been completed to date:

- Environmental Site Assessment Summary Report (Tim Miller Associates, Inc., November 7, 2006)
- Additional Soil and Groundwater Sampling, Lot 3, Morgan Drive Property (Tim Miller Associates, Inc., December 31, 2007)
- Additional Deep Boring Sampling, Morgan Drive Property/Buckingham Property – Lot 3 (Tim Miller Associates, Inc., March 24, 2008)

- Wastewater Treatment Plant (WWTP) Remedial Investigation/Feasibility Study (RI/FS) (Sterling Environmental Engineering, P.C., October 3, 2014)
- Site Characterization Report and Focused Interim Remedial Measures Study (Sterling Environmental Engineering, P.C., July 25, 2016)
- Emerging Contaminant and Ra-226/Ra-228 Sampling Report (Liro Engineers Inc., February 2018)
- Wetland Investigation and Delineation (Shumaker Consulting Engineering & Land Surveying D.P.C., April 2, 2019)
- Pace Analytical Report dated August 8, 2019 (Samples obtained 6/7/2019)
- WTTP Radiological Characterization Report (LiRo Engineers and CoPhysics Corp., August 2019)
- Wetland Delineation Letter Report (Tim Miller Associates, Inc., September 11, 2019)
- Radiological Letter Report- Site A Subdivision (Great Lakes Environmental, September 20, 2019)
- Final Status Survey Report (CoPhysics, December 2020)

Lot A consists of the upland area which is at higher elevation than the former WWTP located on Lot B. As discussed below, this portion of the property showed no significant impact from the historic operations of the WWTP. Several surface soil samples from Lot A contained constituents exceeding Unrestricted Soil Cleanup Objectives (SCOs), but below Restricted Residential SCOs. No soil samples exceeded Commercial SCOs. Accordingly, the proposed non-residential development is to be used as an automobile storage facility and therefore is fully compatible with the existing site conditions. No remediation is indicated.

Lot B is the portion of the property with the former WWTP and adjacent areas where residuals from the WWTP were handled. Lot B will be the subject of further investigation and remedial actions. Subdividing the parcel will allow development of Lot A to proceed while Lot B proceeds towards proper decommissioning of the WWTP.

The Site at 2 Morgan Drive has been the subject of numerous field investigations since 2004, which are summarized in the reports listed above. The site investigations included extensive soil, sediment and surface water sampling, as well as groundwater monitoring. Samples were analyzed for Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), metals, pesticides, herbicides and PCBs. Groundwater was also analyzed for emerging contaminants 1,4-dioxane and Polyfluoroalkyl Substances (PFAS) and Radium-226 and 228 (see section l below). Originally the investigations were conducted to determine if the Site was eligible for inclusion in the Brownfield Cleanup Program (BCP). As described below, levels of contamination found at the site were minimal and as such, the Site did not qualify the site for inclusion in the BCP, according to NYSDEC.

Only four (4) soil samples on Lot A (outside the WWTP structures) slightly exceeded Unrestricted Use SCOs for metals (Total chromium, trivalent chromium, lead and mercury). Five (5) locations on Lot A exceeded Unrestricted SCOs for pesticides. There were no soil samples in the Site soils on Lot A that exceeded the Restricted Residential or Commercial Use SCOs. This means a non-residential development may proceed on Lot A without the need to remediate any environmental conditions.

On Lot B, the former wastewater treatment operations contributed low level impacts to former WWTP system components at Pond 1 and Pond 2, Primary Tank 1 and Primary Tank 2.

There were several exceedances of the Unrestricted and Restricted Residential Use Soil Cleanup Objectives (SCOs) for Site soils and sediment within the remaining WWTP structures on Lot B based on data collected in prior investigations. Exceedance of Restricted Residential Use SCOs were noted for barium, cadmium, mercury, chromium, lead, benz(a)anthracene, benzo(b)fluoranthene, and PCBs in sediment from Pond 1;

mercury in sediment from Pond 2; arsenic and mercury in solids from Primary Tank 1; barium, chromium and mercury in solids from Primary Tank 2; and lead in surface soil at one location.

The likely permanent remedy selected for Lot B will be the proper decommissioning of these WWTP operable units consistent with the applicable and relevant standards and criteria as required under 6 NYCRR Part 375 for Track 4. The remedy is expected to also consist of pumping out and properly managing the liquid contents of the tanks and structures, characterization and incorporation of filter media and sediments within the tanks and structures, and demolition of the sidewalls of tanks and structures which extend above existing grades.

Surficial soils on Lot B exceeding the Restricted Residential Use SCOs will also be used as fill material to eliminate any void within the WWTP units and covered with a layer of clean soil. Site investigations indicate the soils/sediment/media at other locations of the site exceed the Unrestricted Use SCOs. All areas where there is an exceedance will be subject to standard institutional controls.

In addition to the above investigations, the entire site was studied in 2019 and 2020 to determine if there were radiological impacted areas. From 1913 until 1964, the WWTP received sewage from the Village of Mt. Kisco including the Canadian Uranium and Radium Corporation facility located about 3 miles north of the plant. This led to elevated concentrations of radium-226 and thorium-230 being deposited in numerous spots across the property. To study the problem, in 2019, the New York City Department of Environmental Protection and CoPhysics Corporation performed gamma radiation measurements over the entire property. The results of the 2019 surface radiation survey showed that Lot A had no detectable radioactive contamination.

In 2020 a final status survey (FSS) of Lot A was performed so that it could be released from radiological safety controls and developed. The FSS extended the original surface survey by performing additional surface readings, collecting and analyzing sub-surface soil samples, and performing a more in-depth statistical analysis to prove that the lot is free of any residual radioactive contamination. The radiation measurements and the analysis of results were performed per the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM).

In addition to performing a standard FSS of Lot A, additional assessment of the soil near the Lot B elevated area was conducted to determine if any radionuclide migration had occurred. Sub-surface measurements and soil sampling were performed on the Lot A-B boundary nearest to the Lot B elevated area. These results are all indicative of normal unaffected soil. The elevated area of radioactivity on Lot B (near Morgan Drive) has not affected the soil in Lot A. Furthermore, the levels of radiation emitted by the Lot B elevated area are not immediately hazardous to health. No special radiation safety precautions would be necessary for construction personnel working on Lot A, although fencing off the area is recommended.

The results of these tests show that no elevated levels of radioactivity exist on Lot A. The elevated area of radioactivity on Lot B has not affected the soil in Lot A. All readings throughout Lot A are indicative of normal, natural background radiation levels. Therefore, the survey report recommended that the NYSDEC release Lot A from any radiological controls. By its February 18, 2021 letter, the NYSDEC concurs that no further action is required.

A site-specific Health and Safety Plan has been developed that addresses the following precautions: training of all site workers on health hazards of radiological exposure and work practices to mitigate exposure, screening of excavated soil for disposal purposes, and screening of any equipment leaving the Site to ensure no contamination leaves the Site. Action levels will be determined above which excavated material must be disposed of at an approved facility.

Institutional Controls in the form of a Deed Restriction to Lot A will incorporate the obligation to implement a soil excavation radiological management plan.

Development on the Lot A portion of the property will not result in exposure to solid or hazardous wastes. Construction plans will include contingency measures in the event any non-native materials are encountered.

j. The proposed action may result in in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste

The Lot A portion of the property is upgradient of the former WWTP located on Lot B. Prior site investigations of the property indicate minimal impact by conventional contaminants within Lot B (see discussion above). Remediation will occur under NYSDEC and NYCDEP oversight and will not impact the project site.

The Site is bordered to the northwest by vacant land that is currently included in the Brownfield Cleanup Program (BCP) as Site #C360112. Remedial activities at the site have been completed. The remedial program successfully achieved soil cleanup objectives for commercial use. Residual contamination in the soil is being managed under a Site Management Plan. Therefore, potential impacts to human health will be minimal.

l. The proposed action may result in the release of contaminated leachate from the project site

Lot A is upgradient of Lot B. Comprehensive investigations of the property do not indicate historic landfilling or release of leachate. Impact to groundwater was not identified during multiple sampling events. There will be no potential for impacts from contaminated leachate of the Lot A during the future remediation of Lot B.

Prior investigations at the site have included groundwater sampling. Monitoring Well MW-1 is located on Lot A. Historic data indicates that MW-1 has been sampled on multiple occasions for VOCs, SVOCs, Metals, Pesticides, PCBs, PFAS, 1,4 – Dioxane, and Ra-226/Ra-228.

Analytical data for all wells and surface water locations at 2 Morgan Drive (Lots A & B) have been previously reported to the NYSDEC in the July 2016 Site Characterization Report and Focused Interim Remedial Measures Study. There were no violations of the Groundwater Standards at MW-1 with the exception of a slightly elevated Iron concentration (0.79 mg/L vs. a Groundwater Standard of 0.3 mg/L) and Heptachlor (0.08 ug/l vs 0.04 groundwater standard).

Groundwater samples collected from monitoring well MW-01, MW-04 and MW-05 during the 2018 investigation were analyzed for 1,4-dioxane. The 1,4-dioxane results were all not detected at or above the reporting limit of 0.25 ug/L. The samples from MW-01 and MW-05 exhibited PFOA results of 18 and 11 nanograms per liter (ng/L), respectively, which exceed the PFOA screening level of 10 ng/L. The samples from MW-04 and MW-05 exhibited PFOS results of 16 and 17 ng/L, respectively, which exceed the PFOS screening level of 10 ng/L. Total PFAS measured 32.64, 44.44 ng/L and 58.70 ng/L in MW-01, MW-04 and MW-05, respectively.

Accordingly, there is no risk of release of leachate from the proposed development of Lot A.

February 18, 2021 NYSDEC Letter

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 12th Floor, Albany, NY 12233-7014
P: (518) 402-9662 I F: (518) 402-9679
www.dec.ny.gov

Via Electronic Mail Only

February 18, 2021

Mr. Mark P. Millspaugh, P.E.
(mark.millspaugh@sterlingenvironmental.com)
President
Sterling Environmental Engineering, P.C.
24 Wade Road
Latham, NY 12110

RE: Interim Remedial Measures Work Plan – Lot A
Morgan Drive, Lot 3 Site
NYSDEC Site No. 360137
Mount Kisco, Westchester County, NY

Dear Mr. Millspaugh:

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has reviewed the revised draft submittal *Interim Remedial Measures Work Plan – Lot A* (IRMWP), dated August 18, 2020, for the above-referenced site. Based on this review, the IRMWP is hereby approved subject to the following modifications:

1. General Observation: Based on the results of radiological characterization activities completed at the site in 2019 along with the final status survey completed on Lot A in 2020, both conducted by Co-Physics, the NYSDEC and NYSDOH have determined that there are no radiological impacts present on Lot A that would require remediation to protect public health and the environment.

2. Section 2.1 - Summary of Investigations: Please include a final bullet to this section referencing the Final Status Survey Report for Lot A (Co-Physics, December 2020).

3. Section 2.3 – Groundwater Quality: Please include a brief discussion regarding groundwater quality at MW-1 on Lot A in relation to PFOA, PFOS, 1,4-dioxane, and Ra-226/Ra-228.

4. Section 3.0 – INTERIM REMEDIAL MEASURES: Any excess spoil generated during redevelopment of Lot A shall not be stockpiled on Lot B for use as backfill during future remedial activities. This stockpiled material would be an impediment to future investigations that need to be conducted on Lot B, and could become cross-contaminated with radiological contamination present on Lot B. Instead, this material

will need to be sampled, managed and disposed in accordance with applicable federal, state and local regulations. Please revise the IRMWP accordingly.

5. Section 3.2 – IRM, 2nd paragraph: All materials proposed for import onto Lot A will be approved by the NYSDEC prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

6. Section 3.5 – Engineering and Institutional Controls: Fencing shall be installed along the lot boundary between Lots A and B as an additional engineering control to prevent access/exposure to radiological contamination on Lot B and the adjacent parcel at 6 Morgan Drive. Please revise this section of the IRMWP accordingly.

7. Section 5.0 – IRM DESIGN AND IMPLEMENTATION: Please include a discussion of the planned development of Lot A, including an estimate regarding the amount of excess spoil that will be generated. In addition, please provide details how any excess spoils will be managed on Lot A, sampled, transported and disposed off-site.

8. Table 1: Please revise Table 1 to include commercial use and protection of groundwater SCOs, and soil sampling results from soil boring location SS-6.

9. Figures: Please include a figure showing the designed excavation grades/depths necessary to accommodate the planned development of Lot A.

10. Figures: Please include a figure showing the components of the cover system that will be installed on Lot A (e.g., soil cover, pavement/asphalt, concrete, building slab, stone/gravel, etc.).

In accordance with the Order on Consent and 6 NYCRR 375-1.6(d)(3), please indicate within 15 days whether you accept the NYSDEC's modifications to the work plan. Please submit the revised final work plan to the NYSDEC and NYSDOH for final review and record. If you have any questions, please feel free to contact me at (518) 402-9652, or e-mail at daniel.lanners@dec.ny.gov.

Sincerely,

Daniel R. Lanners, P.E.
Project Manager
Remedial Bureau C, Section D
Division of Environmental Remediation

ec: Amen Omorogbe, NYSDEC-DER
Tim Rice, NYSDEC-DMM, Rad. Materials Mgmt.
Maureen Schuck, NYSDOH-BEEI
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DECDocs

ATTACHMENT 3

STEEP SLOPES PERMIT APPLICATION NARRATIVE

Sterling Environmental Engineering, P.C

STEEP SLOPES PERMIT APPLICATION NARRATIVE

Per Village Code section 110-33.1-A, a steep slopes disturbance permit will be required for the development of Lot A. This narrative addresses the required elements of the Steep Slopes Permit Application.

110-33.1-A.(2).(c).[2] – Design Standards

a) Consideration for the best use of the natural terrain has carefully considered the design and layout of a two-story building constructed into the existing slope. This will provide minimal visual impact, and most efficient use of the space while maintaining the site character and safety.
b) The maximum retaining wall height proposed is 10-ft. This is necessary to separate the vehicle entrances to both levels of the storage facility. Given the nature of the site, there is no other viable alternative.
c) The entrance and driveways to the upper level follow the natural grade of the site.
d) Retaining walls and paved parking areas will stabilize most developed slopes. The rear fill area will be graded at a 3:1 H:V slope and vegetated to stabilize the slope. No runoff will be directed to this slope.
e) There is no hilltop or ridgeline development proposed.
f) All grades have been feathered to match the existing perimeter contours and blend naturally to the existing grades.
g) All grading will be feathered and smoothed to create a natural appearance.
h) The maximum proposed fill slope will be 3:1 H:V.
i) Except where retaining walls exist, no cut of fill slopes will be within 20-ft of the building perimeter.
j) There are no rock outcroppings on the site.
k) The building construction will work into the slope to install the foundations and retaining walls progressing in a fashion to protect the surrounding areas and not disturb more area than required.
l) A notation is included in the construction SWPPP sequencing plan indicating that vegetative cover will not be disturbed until immediately before grading activities.
m) All aspects of temporary Erosion and Sediment control are outlined in the construction SWPPP and follow all Federal, State, and Regional guidelines.
n) Soil stabilization in accordance with project SWPPP will be performed immediately following the site achieving final grades.
o) Topsoil stockpiles have been identified on the Stormwater E&SC Plan.
p) Only native soils will be used as fill and the site has a net cut of 10,000 CYD.
q) Construction specifications for the building foundation and subsoils will be provided in the final building design package for building permit approval.
r) The building has been designed to be constructed into the hillside.
s) The site has been laid out to utilize the least impactful areas for building and pavement.
t) The Web Soil Survey indicate that site soils are moderately prone to erosion. Standard erosion and sediment controls will be sufficient to protect the site from migration of soils off site. Observation of Test Pits confirms these conditions
u) No bedrock or glacial erratics are anticipated to be found on site.
v) The construction SWPPP shall be submitted to and approved by the NYCDEP and the Village of Mount Kisco, which will include all necessary measures for erosion and sediment control.
w) All soil characteristics have been taken into account for the site design and geotechnical testing will be performed as part of the foundation and retaining wall design.

110-33.1-A.(2).(d).[1] – Permit Procedures and Application

(a) The property is owned by:

Radio City Ventures LLC
90 Grove Street, Suite 101
Ridgefield, CT 06877
203-733-2224

Applicant:

2 Morgan Drive, LLC
2 Morgan Drive
Mt. Kisco, New York 10549
914-906-2667

(b) The property address is:

80.55-1-2.1/4
2 Morgan Drive
Mt. Kisco, New York 10549

(c) Statement of Authority included on Application Form

(d) See Attachment 1 – Adjacent Property Owners

(e) The proposed action is a Minor Subdivision of the parcel located at 2 Morgan Drive in the Village of Mt. Kisco. Applications are being made to the Village of Mt. Kisco Planning Board to subdivide the parcel. The newly created Lot B will be held until the environmental remediation of the former wastewater treatment plant is completed. Lot A is upland of Lot B and does not require remedial action. Lot A will be developed with the construction of a 70,000 square-foot, two story building used as a private Indoor Auto Storage Facility as allowed by the local zoning (RDX). The proposed building and areas to be disturbed during construction are entirely limited to proposed Lot A.

(f) The proposed building on Lot A will be constructed into the disturbed slope area. The building will include integral retaining walls at either end which will stabilize the slopes. The building gutters and stormwater system will collect and direct water around any disturbed areas and infiltrate the water into the ground, or discharge to existing drainage courses at a flow lower than prior to construction.

(g) The existing nature of the site lends itself to a two-story building constructed into the steep slope areas. The site will be tiered to match the existing topography which will minimize the impact to the slopes to the greatest extent possible. The existing tiered nature of the site will allow for standard construction practices to be utilized when excavating for the building foundations.

(h) See revised Site Plan drawings for all applicable details and sections.

(i) Planning Board to determine what monitoring will be required during construction.

(j) A list of permits and jurisdictional approvals can be found on the Environmental Assessment Form filed as part of this application.

(k) The Application Fee has been provided.

(l) A Preliminary Geotechnical Investigation is included as Appendix M to the Stormwater Pollution Prevention Plan. Additional geotechnical investigations and borings may be performed as part of the Building Foundation Design to be performed at a later date.

Additional Project Background and Information:

The proposed Lot A contains 4,991 square feet of slopes exceeding 25%, 2,895 square feet of slopes between 20-25%, and 2,457 square feet of slopes between 15-20%. Of those totals, approximately 3,530 square feet, 2,180 square feet, and 2,457 square feet will be disturbed, respectively. None of the steep slopes to be disturbed exceed 27.5%.

The site grades are such that the site is at highest elevation at the southeast border. The site slopes away to the northeast, northwest, and southwest. Grades are typically in the 10-20% range with narrow bands along the slope that range from 20-27.5%. None of the steep slopes to be disturbed exceed 27.5%. The revised Site Plan Drawings includes shading and a bulk table of the site slopes.

The nature of the disturbance will be for the construction of a 70,000 square foot (36,400 square foot footprint) two story building that will be built into the hillside. The building foundation will act as the retaining structure including two (2) integral retaining walls at either end to separate the building levels. The slopes to the southwest will be shallowed to facilitate driveway access and will not exceed 10%. The regraded slope to the northeast will be constructed at a 3:1 horizontal to vertical slope. That slope will be vegetated and stabilized in accordance with standard erosion and sediment control practices to prevent erosion during construction. The Proposed Site Plan – Lot A provides the proposed grading plan. The architectural design drawings show the profiles of the building and how it is integrated into the side slope.

The site work will require the excavation and removal of approximately 10,000 CY of soil material from the hill side. A preliminary Geotechnical Report dated January 2014 indicated that 1-2’ of surficial soils were fill materials over much of the site. This would represent approximately 1,500 to 2,000 CY of the soil to be removed. All excavated and removed soils will be tested and removed from the site for disposal or beneficial use in accordance with the NYSDEC solid waste regulations.

A full SWPPP included in the application package has been developed in accordance with the NYS Stormwater Management Design manual which includes erosion and sediment control practices. Runoff from the site to adjacent properties is being mitigated by a system of treatment and infiltration practices that will reduce the runoff to flows below existing condition flows. The SWPPP includes soil information for the site, drainage flow patterns, and the Erosion and Sediment Control Plan.

The design and layout of Lot A has been completed in accordance with best engineering practices and every effort has been taken to ensure that all disturbance of steep slopes is performed in such a way as to minimize any impact to adjacent parcels.

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thuesen Mechanical - 2018-39\Reports & Work Plans\2020-09-01_Steep Slopes Supporting Narrative.docx

ATTACHMENT 1

ADJACENT PROPERTY OWNERS

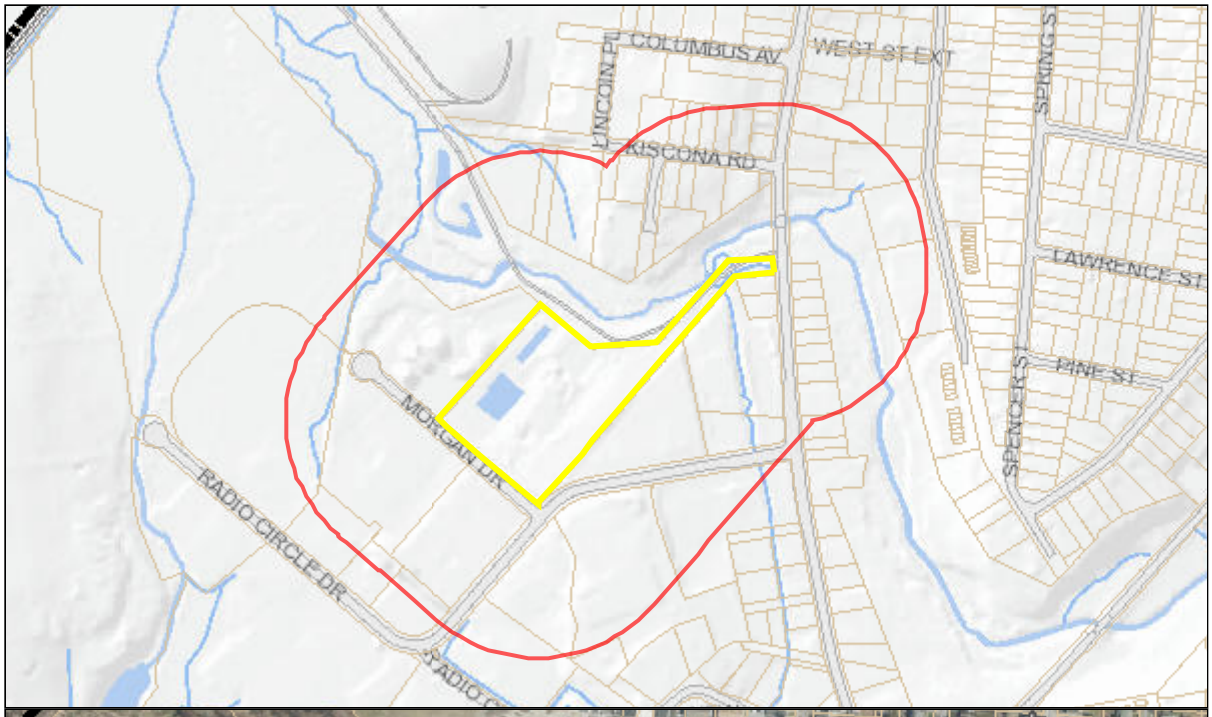
Adjacent Parcel Identification
500-ft Radius from
2 Morgan Dr.
Mount Kisco, NY

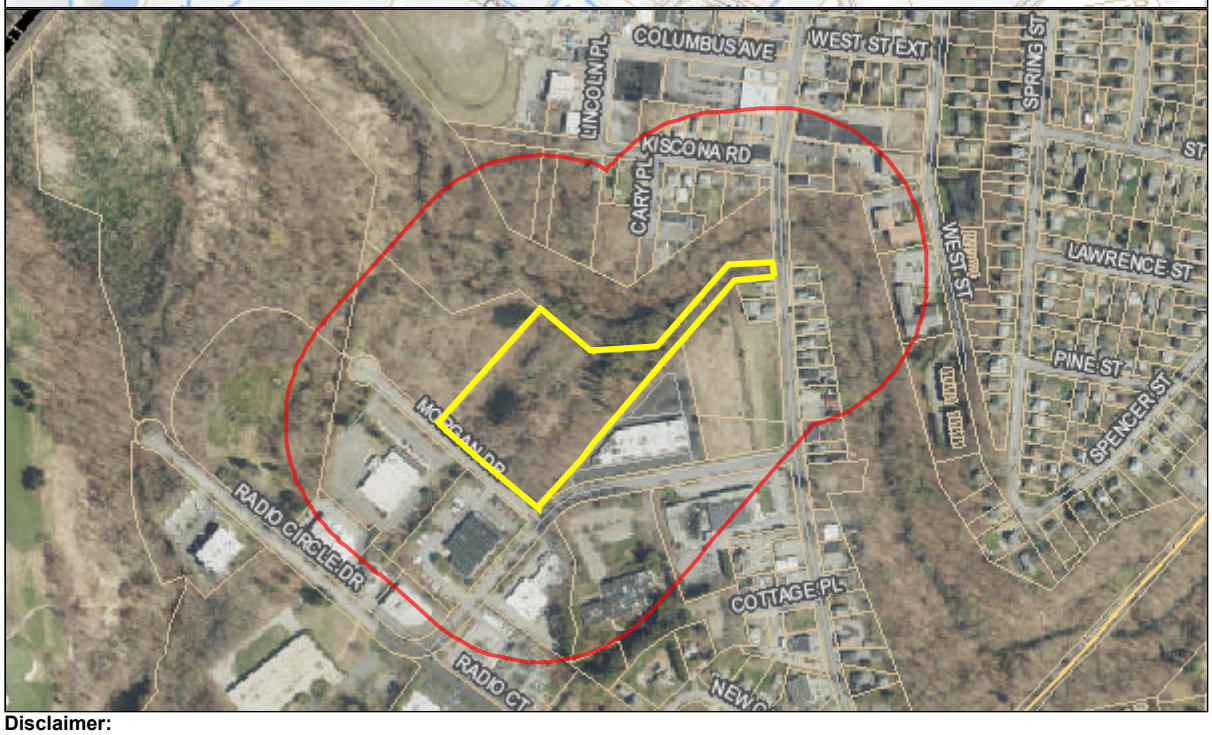
OWNER NAME	PROPERTY ADDRESS	CITY	ZIP	PROPPRINTKEY
128 Radio Circle LLC	128 Radio Circle Dr	MOUNT KISCO	10549	80.63-2-2
Creme de la Creme (Mt Kisco)	6 Morgan Dr	MOUNT KISCO	10549	80.55-1-2.1/3
Carbone Dominick	40 Kiscona Rd	MOUNT KISCO	10549	80.56-1-3
Fedele, Felice - Rosaria Fedele	18 Kiscona Rd	MOUNT KISCO	10549	80.56-2-4
Village of Mount Kisco	1 Lexington Ave	MOUNT KISCO	10549	80.55-1-2.2
Mount Kisco Child Care Center	95 Radio Circle Dr	MOUNT KISCO	10549	80.63-1-2.2
Cosentino Joseph C	22 Kiscona Rd	MOUNT KISCO	10549	80.56-2-3
Lopez Diaz Manuel	411 Lexington Ave	MOUNT KISCO	10549	80.56-5-3
Holohan, Donal	421 Lexington Ave	MOUNT KISCO	10549	80.56-5-4
Cambareri Antonio - Carmela Cambareri	431 Lexington Ave	MOUNT KISCO	10549	80.56-5-6
244 West Street LLC	234 West St	MOUNT KISCO	10549	80.48-4-14
280 West Street LLC	266 West St	MOUNT KISCO	10549	80.56-4-2
United States Postal Service	3 Morgan Dr	MOUNT KISCO	10549	80.55-1-2.1/2
Lesjac Realty LLC	83 Radio Circle Dr	MOUNT KISCO	10549	80.63-1-5
Village of Mount Kisco	Kiscona & Winyam	MOUNT KISCO	10549	80.55-2-1
Rosemar Development LLC	42 Kiscona Rd	MOUNT KISCO	10549	80.56-1-2
440 Lexington Ave Mt Kisco Co	434 Lexington Ave	MOUNT KISCO	10549	80.56-6-4
Twigs-Thriftree Inc	449 Lexington Ave	MOUNT KISCO	10549	80.56-5-9
Cambareri Antonio - Carmela Cambareri	433 Lexington Ave	MOUNT KISCO	10549	80.56-5-7
356 Lexington Avenue Corp	356 Lexington Ave	MOUNT KISCO	10549	80.48-5-5
Mendelson, Mark - Gabriel Mendelson	385 Lexington Ave	MOUNT KISCO	10549	80.48-4-15
Radio Vision Cristiana Mgmt.	150 Radio Circle Dr	MOUNT KISCO	10549	80.55-1-3
Kisco Radio Circle Assoc., LLC	40 Radio Circle Dr	MOUNT KISCO	10549	80.56-6-5
Village of Mount Kisco - Tina Fisher	634 Main St	MOUNT KISCO	10549	80.64-2-6
Unden, John - Lori Unden	19 Kiscona Rd	MOUNT KISCO	10549	80.48-5-8
Rosemar Development LLC	42 Kiscona Rd	MOUNT KISCO	10549	80.56-1-1
Diblasio, Yvonne	402 Lexington Ave	MOUNT KISCO	10549	80.56-6-1
Bueti, Antonino - Lina Bueti	408 Lexington Ave	MOUNT KISCO	10549	80.56-6-2
443 Lex Ave of Mt. Kisco LLC	443 Lexington Ave	MOUNT KISCO	10549	80.56-5-8
Giardina, Anthony Jr - Angela Giardina	9 Kiscona Rd	MOUNT KISCO	10549	80.48-5-6
Lopez, Ramiro - Jeffrey Lopez	354 Lexington Ave	MOUNT KISCO	10549	80.48-5-4
Mt Kisco Supply Co Inc	369 Lexington Ave	MOUNT KISCO	10549	80.48-4-17
TMD Rattner LLC	37 Radio Circle Dr	MOUNT KISCO	10549	80.64-1-19
Rosemar Development LLC	42 Kiscona Rd	MOUNT KISCO	10549	80.56-1-2
Lucadamo, Linda - Daniel DiMarino	14 Cary Pl	MOUNT KISCO	10549	80.56-1-4
25 Kiscona Road MK LLC	25 Kiscona Rd	MOUNT KISCO	10549	80.48-5-10
Cambareri, Carmelo - Maria Cambareri	370 Lexington Ave	MOUNT KISCO	10549	80.56-2-6
Beta Trimar, LLC	116 Radio Circle Dr	MOUNT KISCO	10549	80.63-2-3
Radio City Ventures, LLC - Richard F Breck, Member	2 Morgan Dr	MOUNT KISCO	10549	80.55-1-2.1/4
Kiscona Road Realty Corp	39 Kiscona Rd	MOUNT KISCO	10549	80.48-5-1
Kiscona Road Realty Corp	35 Kiscona Rd	MOUNT KISCO	10549	80.48-5-11
27 Radio Circle LLC	27 Radio Circle Dr	MOUNT KISCO	10549	80.64-1-2
26 Kiscona Road Corp	26 Kiscona Rd	MOUNT KISCO	10549	80.56-2-2
Burns George - George Burns Rev Lvng Trst	21 Cary Pl	MOUNT KISCO	10549	80.56-2-1
Ursino, Vittorio - Giovanna Ursino	8 Kiscona Rd	MOUNT KISCO	10549	80.56-2-5
440 Lexington Ave Mt Kisco Co	Lexington Ave	MOUNT KISCO	10549	80.56-6-3
415 Lexington Ave LLC	415 Lexington Ave	MOUNT KISCO	10549	80.56-5-2
The Gardens At Mt. Kisco Corp	260 West St	MOUNT KISCO	10549	80.56-4-1
350 Lexington Ave Realty LLC	350 Lexington Ave	MOUNT KISCO	10549	80.48-5-2
Katz, Saul - Sara Goldstein	Radio Circle Dr	MOUNT KISCO	10549	80.55-1-1
Radio Circle Realty INC.	136-144 Radio Circle Dr	MOUNT KISCO	10549	80.63-2-1
Akt One Realty LLC	1 Morgan Dr	MOUNT KISCO	10549	80.55-1-2.1/1
TMD Rattner LLC	37 Radio Circle Dr	MOUNT KISCO	10549	80.64-1-1
Randazzo Frank - Margaret Randazzo	403 Lexington Ave	MOUNT KISCO	10549	80.56-5-1
Cambareri Antonio - Carmela Cambareri	427 Lexington Ave	MOUNT KISCO	10549	80.56-5-5
CSMA, LLC	23 Kiscona Rd	MOUNT KISCO	10549	80.48-5-9
Marcos Mercedes - Cesar Marcos	13 Kiscona Rd	MOUNT KISCO	10549	80.48-5-7

Tax Parcel Maps

Address: 2 Morgan Dr

Print Key: 80.55-1-2.1/4 **SBL:** 08005500010020010004





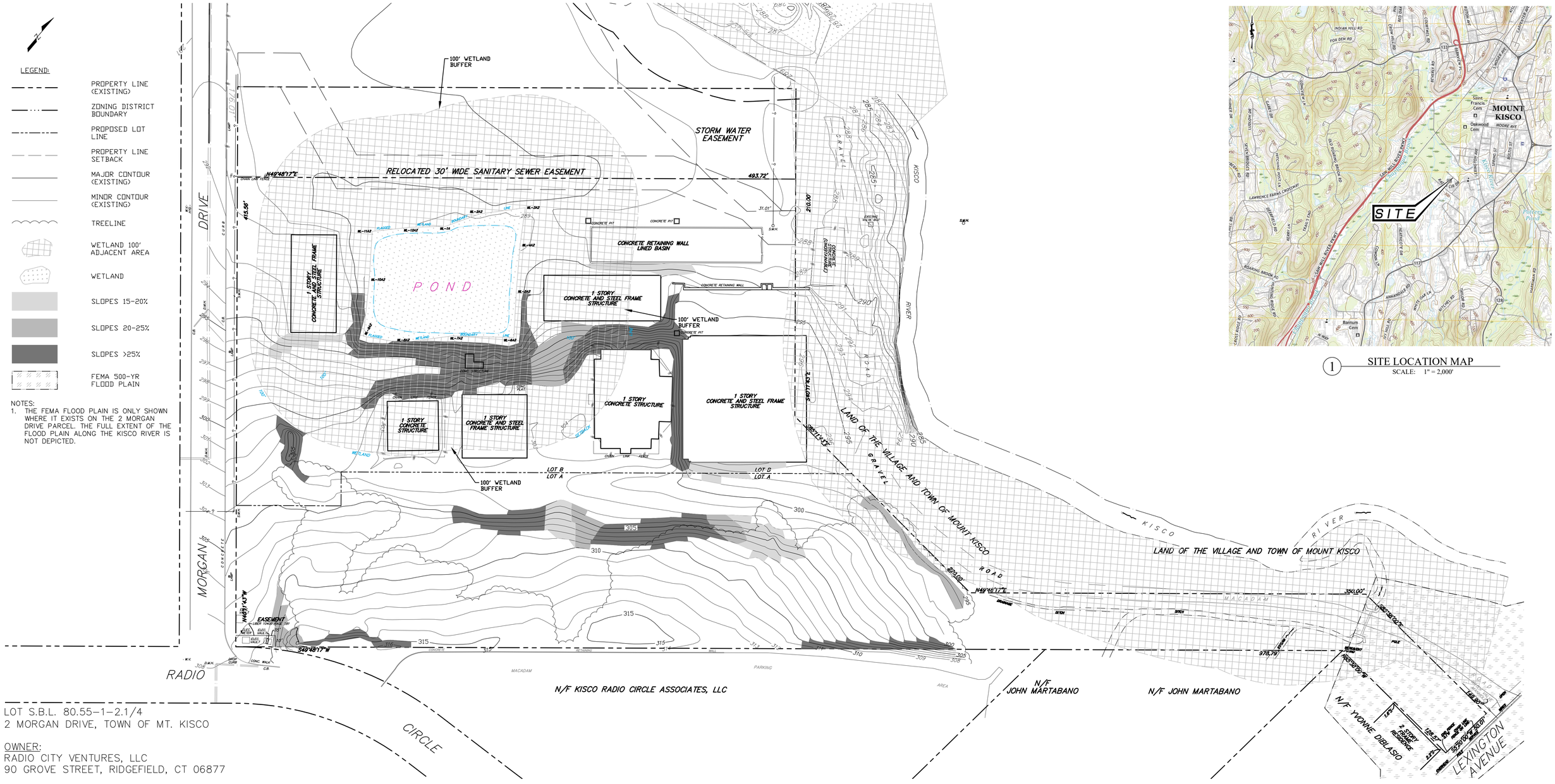
ATTACHMENT 4

SITE PLAN DRAWINGS

LEGEND:

- PROPERTY LINE (EXISTING)
- ZONING DISTRICT BOUNDARY
- PROPOSED LOT LINE
- PROPERTY LINE SETBACK
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- TREELINE
- WETLAND 100' ADJACENT AREA
- WETLAND
- SLOPES 15–20%
- SLOPES 20–25%
- SLOPES >25%
- FEMA 500-YR FLOOD PLAIN

NOTES:
1. THE FEMA FLOOD PLAIN IS ONLY SHOWN WHERE IT EXISTS ON THE 2 MORGAN DRIVE PARCEL. THE FULL EXTENT OF THE FLOOD PLAIN ALONG THE KISCO RIVER IS NOT DEPICTED.



LOT S.B.L. 80.55–1–2.1/4
2 MORGAN DRIVE, TOWN OF MT. KISCO

OWNER:
RADIO CITY VENTURES, LLC
90 GROVE STREET, RIDGEFIELD, CT 06877

1 SITE LOCATION MAP
SCALE: 1" = 2,000'

RDX BULK ZONING REQUIREMENTS

RDX BULK ZONING REQUIREMENTS	REQUIRED	EXISTING	PROPOSED PARCEL A	PROPOSED PARCEL B
MIN. NET LOT AREA	40,000 SF	226,212 SF	111,675 SF	114,536 SF
MAX BLDG COVERAGE	35%	14%	32.6%	N.A.
MAX DEV. COVERAGE	70%	14%	51.4%	N.A.
MIN. LOT WIDTH	100–FT	415.56–FT	125–FT	260.56–FT
MIN. LOT DEPTH	100–FT	493.72–FT	634.28–FT	493.72–FT
SETBACK ABUTTING NON–RESIDENTIAL ZONING DISTRICT				
BLDG SETBACK FRONT	30–FT	47.7–FT	170.8–FT	N.A.
BLDG SETBACK REAR	50–FT	–9.9–FT	N.A.	N.A.
BLDG SETBACK SIDE	20–FT	50.8–FT	20.7–FT	N.A.
BLDG HEIGHT	40–FT	N.A.	38.5–FT	N.A.
BUFFER FRONT	20–FT	20–FT	30–FT	N.A.
BUFFER REAR	20–FT	0–FT	N.A.	N.A.
BUFFER SIDE	20–FT	20–FT	20.7–FT	N.A.

NET LOT AREA CALCULATION

		EXISTING	PROPOSED PARCEL A	PROPOSED PARCEL B
A	GROSS LOT AREA	5.716 AC. 249,000 SF	2.670 AC. 116,300 SF	3.046 AC. 132,700 SF
B	VERY STEEP SLOPES >25%	16,037 SF	4,991 SF	11,046 SF
C	STEEP SLOPES 20–25%	4,465 SF	2,895 SF	1,570 SF
D	50% OF LINE B	8,019 SF	2,496 SF	5,523 SF
E	25% OF LINE C	1,116 SF	724 SF	393 SF
F	WETLANDS	2,833 SF	0 SF	2,833 SF
G	SURFACE WATER FEATURES	12,236 SF	1,405 SF	10,831 SF
H	50% OF LINE F	1,417 SF	0 SF	1,417 SF
I	100% LINE G	12,236 SF	1,405 SF	10,831 SF
J	NET AREA (LINE A MINUS D,E,H,& I)	226,212 SF	111,675 SF	114,536 SF

NOTES:
1. LOT B IS TO REMAIN UNDEVELOPED UNTIL SUCH TIME THE PARCEL IS REMEDIATED.
2. REQUIRED PARKING – LOT A WILL BE DEVELOPED AS AN INDOOR AUTO STORAGE FACILITY, AN APPROVED USE IN THE RDX ZONE. INDOOR AUTO STORAGE IS NOT SPECIFIED IN ATTACHMENT 110–2 MINIMUM OFF–STREET PARKING REGULATIONS. THE PLANNING BOARD WILL DETERMINE THE APPROPRIATE PARKING STANDARDS FOR THIS SITE IN ACCORDANCE WITH TOWN CODE SECTION 110–28–K(2).

MAP REFERENCE: BASE SURVEY BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C. JAN 2014. WETLAND DELINEATION BY TIM MILLER AND ASSOCIATES, AUGUST 23, 2019. SURVEYED BY H. STANLEY JOHNSON AND COMPANY APRIL 23, 2020 AND JAN 2021

LICENSED PROFESSIONAL ENGINEER — MARK P. MILLER — 099182 — STATE OF NEW YORK

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	04/21/2020	REVISIONS PER VILLAGE PLANNER COMMENTS	TAS	MPM	MPM
2	04/24/2020	REVISED WETLAND DELINEATION	TAS	MPM	MPM
3	05/05/2020	REVISED BULK TABLE PER SURVEYOR REVISIONS	TAS	MPM	MPM
4	8/31/2020	REVISIONS PER MAY 7&8 COMMENT LETTERS.	TAS	MPM	MPM
5	2/24/2021	REVISED STEEP SLOPE AND WETLANDS BUFFER	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018–39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1' FEET

0 10' 20' 40' 80'
1" = 40'

2 MORGAN DRIVE SUBDIVISION & LOT–A SITE PLAN
EXISTING CONDITIONS PLAN
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MT. KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

DATE: 03/03/2020 | SCALE: 1" = 40' | DWG. NO. 2018–39005 | SHEET 1 OF 8

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thuesen Mechanical - 2018-39\Drawings\Maps-Figures\ACAD\2018-39005_Sht1 - Existing Conditions_ALV3.dwg 2/23/2021 10:45 AM TYLER.SWEET

LOT S.B.L. 80.55-1-2.1/4
2 MORGAN DRIVE, TOWN OF MT. KISCO

OWNER:
RADIO CITY VENTURES, LLC
90 GROVE STREET, RIDGEFIELD, CT 06877

RDX BULK ZONING REQUIREMENTS

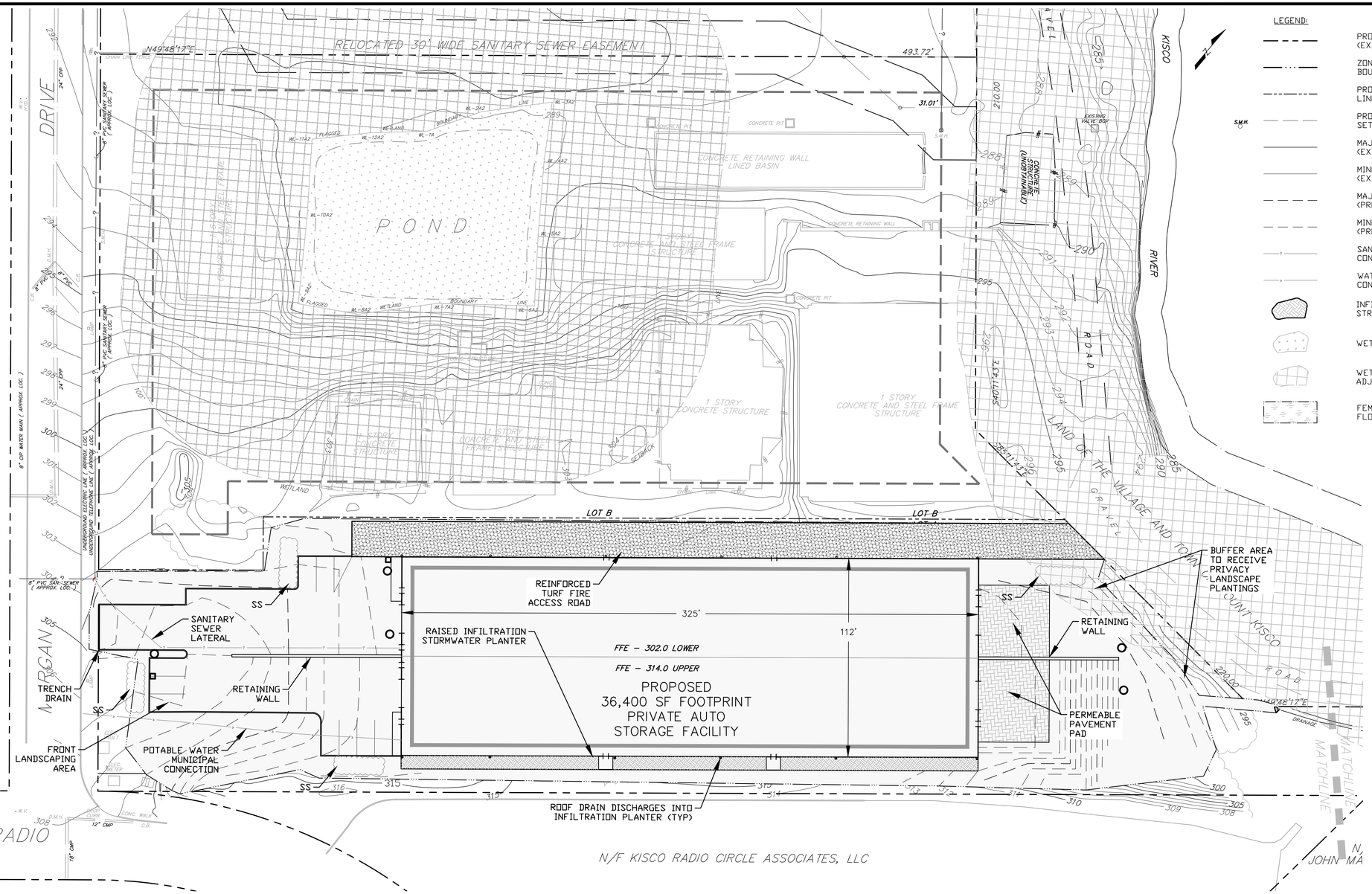
RDX BULK ZONING REQUIREMENTS	REQUIRED	EXISTING	PROPOSED PARCEL A	PROPOSED PARCEL B
MIN. NET LOT AREA	40,000 SF	217,619 SF	105,166 SF	112,453 SF
MAX BLDG COVERAGE	35%	14%	35%	N.A.
MAX DEV. COVERAGE	70%	14%	48%	N.A.
MIN. LOT WIDTH	100-FT	415.56-FT	125-FT	260.56-FT
MIN. LOT DEPTH	100-FT	493.72-FT	634.28-FT	493.72-FT
SETBACK ABUTTING NON-RESIDENTIAL ZONING DISTRICT				
BLDG SETBACK FRONT	30-FT	47.7-FT	170.82-FT	N.A.
BLDG SETBACK REAR	20-FT	-9.9-FT	N.A.	N.A.
BLDG SETBACK SIDE	20-FT	50.8-FT	20.68-FT	N.A.
BLDG HEIGHT	40-FT	N.A.	38.5-FT	N.A.
BUFFER FRONT	20-FT	20-FT	94-FT	N.A.
BUFFER REAR	20-FT	0-FT	N.A.	N.A.
BUFFER SIDE	20-FT	20-FT	20.68-FT	N.A.

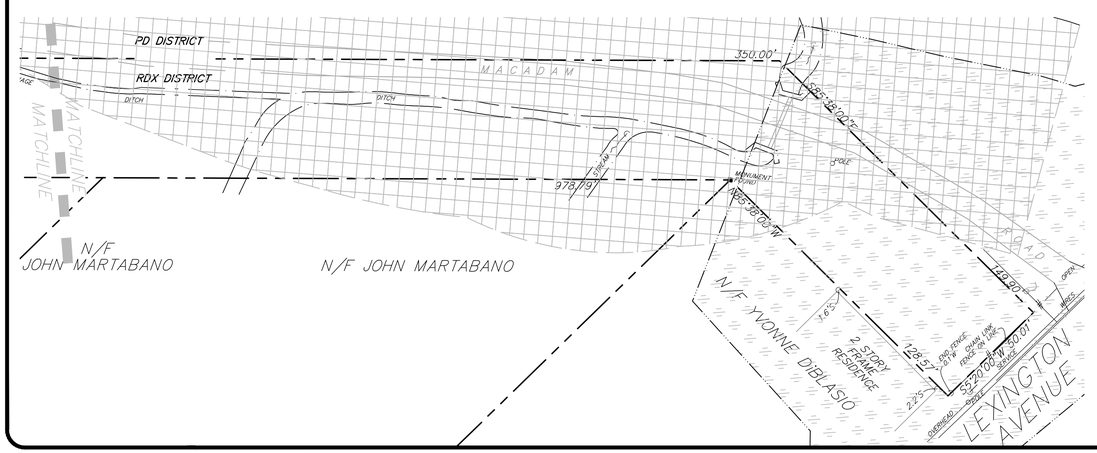
NET LOT AREA CALCULATION

		Existing	Parcel A	Parcel B
A	Gross Lot Area	5.716 Ac. 249,000 s.f.	2.670 Ac. 116,300 s.f.	3.046 Ac. 132,700 s.f.
B	Area Containing Steep Slopes >25%	28,178 s.f.	13,567 s.f.	14,611 s.f.
C	Area Containing Slopes >20-<25%	14,556 s.f.	11,781 s.f.	2,775 s.f.
D	50% of Line B	14,089 s.f.	6,784 s.f.	7,306 s.f.
E	25% of Line C	3,639 s.f.	2,945 s.f.	694 s.f.
F	Area Containing Wetlands	2,833 s.f.	0 s.f.	2,833 s.f.
G	Area Containing lakes, ponds, streams or other surface water	12,236 s.f.	1,405 s.f.	10,831 s.f.
H	50% of Line F	737 s.f.	0 s.f.	737 s.f.
I	100% of Line G	12,236 s.f.	1,405 s.f.	10,831 s.f.
J	Net Lot Area (Line A minus Lines D, E, H and I)	217,619 s.f.	105,166 s.f.	112,453 s.f.

NOTES:
1. LOT B IS TO REMAIN UNDEVELOPED UNTIL SUCH TIME THE SITE IS REMEDIATED.
2. LOT B REMEDIATION WILL REQUIRE THE DEMOLITION AND REMOVAL OF ALL STRUCTURES INCLUDING THOSE CURRENTLY WITHIN THE PROPOSED LOT B SETBACK.
3. REQUIRED PARKING – LOT A WILL BE DEVELOPED AS AN INDOOR AUTO STORAGE FACILITY, AN APPROVED USE IN THE RDX ZONE. INDOOR AUTO STORAGE IS NOT SPECIFIED IN ATTACHMENT 110-2 MINIMUM OFF-STREET PARKING REGULATIONS. THE PLANNING BOARD WILL DETERMINE THE APPROPRIATE PARKING STANDARDS FOR THIS SITE IN ACCORDANCE WITH TOWN CODE SECTION 110-28-K(2).
4. THERE WILL BE NO EXTERIOR REFUSE CONTAINERS.
5. FEMA 500-YR FLOOD PLAIN ONLY EXTENDS ONTO THE PROPOSED LOT A NEAR THE INTERSECTION OF LEXINGTON AVE. THE FULL EXTENT OF THE FLOOD PLAIN IS NOT DEPICTED, ONLY WHERE IT IS PRESENT ON LOT A.

UTILITY NOTES:
1. LOCATION OF WATER, SEWER, AND POWER CONNECTIONS ARE CONCEPTUAL ONLY. FINAL LOCATION TO BE DETERMINED BY BUILDING ARCHITECTURAL PLANS





MAP REFERENCE: BASE SURVEY BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C. JAN 2014. WETLAND DELINEATION BY TIM MILLER AND ASSOCIATES, AUGUST 23, 2019. SURVEYED BY H. STANLEY JOHNSON AND COMPANY APRIL 23, 2020 AND JAN, 2021

LICENSED PROFESSIONAL ENGINEER — 099162 — STATE OF NEW YORK

NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	5/16/2019	REVISIONS PER TOWN ENGINEER COMMENTS	TAS	MPM	MPM
2	2/07/2020	REVISED LOT LINE BASED ON MARSSIM SURVEY	TAS	MPM	MPM
3	4/21/2020	REVISIONS PER VILLAGE PLANNER COMMENTS	TAS	MPM	MPM
4	4/24/2020	REVISED WETLANDS BOUNDARY	TAS	MPM	MPM
5	05/05/2020	REVISED BULK TABLE PER SURVEYOR REVISIONS	TAS	MPM	MPM
6	8/31/2020	REVISIONS PER MAY 7&8 COMMENT LETTERS.	TAS	MPM	MPM
7	2/24/2021	REVISIONS PER MKFD LETTER.	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1' FEET

0 7.5' 15' 30' 60'
1" = 30'

2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
PROPOSED SITE PLAN – LOT A
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MOUNT KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

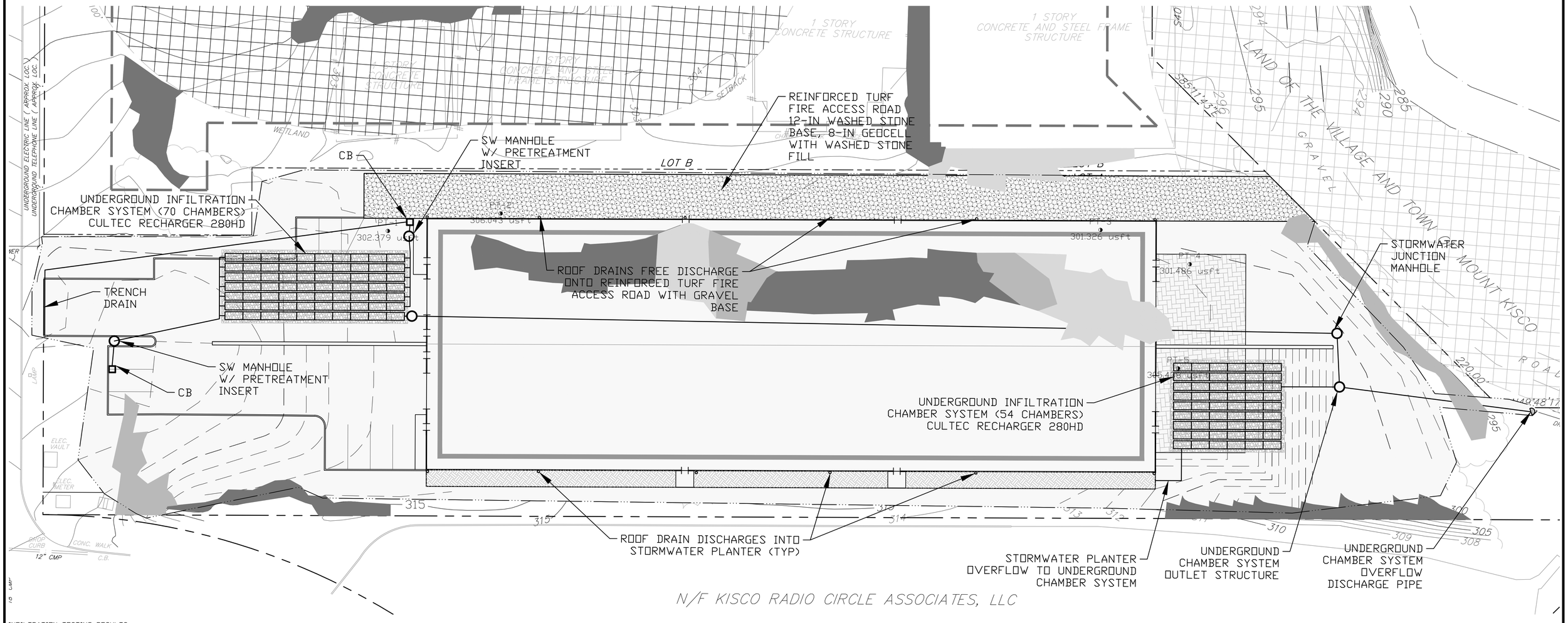
DATE: 02/15/2019 | SCALE: 1" = 30' | DWG. NO. 2018-39006 | SHEET 2 OF 8

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thurman Mechanical - 2018-39\Drawings\Maps\Figures\ACAD\2018-39006_SH-2 - Proposed Site Plan.dwg 2/23/2021 1:01 PM TYLER.SWIFT

LEGEND:

- PROPERTY LINE (EXISTING)
- LIMIT OF DISTURBANCE
- PROPOSED LOT LINE
- PROPERTY LINE SETBACK
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- MAJOR CONTOUR (PROPOSED)
- MINOR CONTOUR (PROPOSED)
- INFILTRATION STRUCTURE
- REINFORCED TURF WITH STONE BASE
- WETLAND 100' ADJACENT AREA
- SLOPES 15-20%
- SLOPES 20-25%
- SLOPES >25%

NOTES:
1. SEE LANDSCAPING PLAN FOR PLANTERS PLANTING SCHEDULE.
2. SEE SHEET 5 FOR TEMPORARY EROSION AND SEDIMENT CONTROLS
3. TOTAL AREA OF DISTURBANCE = 1.94 AC.



INFILTRATION TESTING RESULTS:

TEST ID	ELEV.	RATE
PT-1	302.38	>6"/HR
PT-2	306.04	4"/HR
PT-3	301.33	>6"/HR
PT-4	301.49	>6"/HR
PT-5	305.44	>6"/HR

NOTES:
1. SEE LANDSCAPING PLAN FOR PLANTERS PLANTING SCHEDULE.

MAP REFERENCE: BASE SURVEY BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C. JAN 2014.
WETLAND DELINEATION AREA - SHUMAKER CONSULTING ENGINEERING & LAND SURVEYING, D.P.C.
*WETLAND AREA IS APPROXIMATE

LICENSED PROFESSIONAL ENGINEER — 099165 — STATE OF NEW YORK

NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	8/31/2020	REVISIONS PER MAY 7&8 COMMENT LETTERS.	TAS	MPM	MPM
2	2/24/2021	REVISIONS PER SITE LAYOUT CHANGES	TAS	MPM	MPM

PROJECT

PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1 FEET

0 5' 10' 20' 40'
1" = 20'

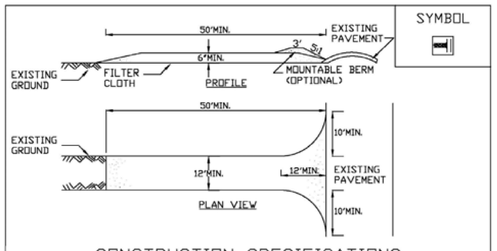
2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
PROPOSED STORMWATER PLAN - LOT A
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MOUNT KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

DATE: 03/02/2020 | SCALE: 1" = 20' | DWG. NO. 2018-39009 | SHEET 3 OF 8

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thoreen Mechanical - 2018-39\Drawings\Maps\Figures\ACAD\2018-39009_Dwg - Proposed Stormwater Plan REVISED.dwg 2/23/2021 1:02 PM TYLER.VIET

Stabilized Construction Access

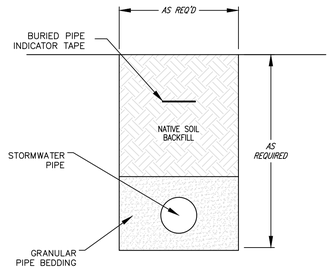


CONSTRUCTION SPECIFICATIONS

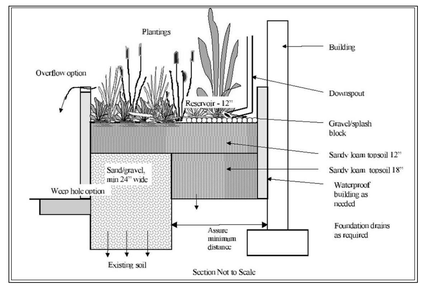
1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL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

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ACCESS



TYPICAL PIPE BEDDING DETAIL
NOT TO SCALE



INFILTRATION PLANTER CROSS SECTION
NOT TO SCALE

GENERAL NOTES

1. PRIOR TO COMMENCING WORK, NOTIFY PROPERTY OWNER AND PROJECT ENGINEER.
2. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZED CONSTRUCTION ENTRANCE PRIOR TO ANY SITE DISTURBANCES.
3. SURROUND SOIL STOCKPILES WITH HAYBALES AND/OR SILT FENCE AND PROTECT STOCKPILE SOILS FROM EROSION.
4. EROSION AND SEDIMENT CONTROL MEASURES INSPECTIONS, MAINTENANCE AND REPAIR OR REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. PRIOR TO REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES VEGETATION MUST BE ESTABLISHED AND THE PROPERTY OWNER AND PROJECT ENGINEER MUST BE NOTIFIED FOR INSPECTION AND FINAL APPROVAL OF THE WORK.

STANDARDS FOR LAND GRADING

1. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THE SLOPES ARE PERMANENTLY STABILIZED.
2. ALL SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
3. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNT NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS.
4. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
5. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF FOUR (4) INCHES PRIOR TO PLACEMENT OF TOPSOIL.
6. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
7. ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED NINE (9) INCHES IN THICKNESS.
8. EXCEPT FOR APPROVED LANDFILLS, FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
9. FROZEN MATERIALS OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED IN FILLS.
10. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
11. ALL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
12. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHODS.
13. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
14. STOCKPILES, BORROW AREAS AND SPOIL AREAS SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

STANDARDS FOR DUST CONTROL

1. DUST CONTROL MEASURES WILL BE IMPLEMENTED ACROSS AREAS OF SITE DISTURBANCE.
2. TEMPORARY STABILIZATION (SEEDING, MULCHING) WILL BE EMPLOYED IF CONSTRUCTION AREAS ARE TO BE LEFT OPEN FOR LONG PERIODS OF TIME.
3. DUST CONTROL MEASURES ARE TO BE MAINTAINED THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS ARE STABILIZED.
4. SPECIFIC DUST CONTROL MEASURES MAY INCLUDE:
   a. WATER SPRAYED ON THE SURFACE OF DISTURBED AREAS UNTIL THE SURFACE IS WET. THIS PRACTICE IS ESPECIALLY EFFECTIVE ON MULCH.
   b. MULCH MATERIAL INCLUDING WOOD CHIPS AND GRAVEL CAN BE USED ON AREAS WHERE A FAST EFFECTIVE MEANS TO CONTROL DUST IS NEEDED. THIS CAN ALSO INCLUDE ROLLED EROSION CONTROL BLANKETS.
   c. TEMPORARY SEEDING MAY BE EMPLOYED IN DISTURBED AREAS NOT SUBJECT TO TRAFFIC.
   d. SPRAY ADHESIVES GENERALLY COMPOSED OF POLYMERS IN A LIQUID OR SOLID FORM THAT ARE MIXED WITH WATER TO FORM AN EMULSION THAT IS SPRAYED ON THE SOIL SURFACE WITH TYPICAL HYDROSEEDING EQUIPMENT. THE MIXING RATIOS AND APPLICATION RATES WILL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE SPECIFIC SOILS ON THE SITE. IN NO CASE SHOULD THE APPLICATION OF THESE ADHESIVES BE MADE ON WET SOILS OR IF THERE IS A PROBABILITY OF PRECIPITATION WITHIN 48 HOURS OF ITS PROPOSED USE. MATERIAL SAFETY DATA SHEETS ARE TO BE PROVIDED TO ALL APPLICATORS AND OTHERS WORKING WITH THE MATERIAL.

INFILTRATION PLANTER NOTES

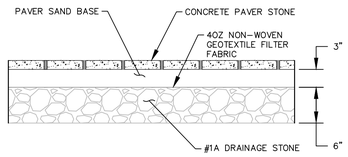
1. PLANTERS TO BE EQUIPPED WITH 4"ø OVERFLOW DRAINS.
2. EACH PLANTER SECTION WILL HAVE 1 x 4"ø SDR-35 PVC OVERFLOW PIPE SET AT 6-INCHES BELOW THE CONCRETE PERIMETER WALL.
3. 4"ø OVERFLOW PIPES TO BE CONNECTED TO 6"ø SOLID WALLED SDR-35 PVC PIPE PLACED AT 1% MIN SLOPE AND TO DISCHARGE INTO THE INFILTRATION CHAMBERS AS SHOWN ON PLANS.
4. BUILDING FOUNDATION TO HAVE WATERPROOF MEMBRANE APPLIED TO SURFACE TO ALLOW MINIMUM DISTANCE FOR INFILTRATION FROM BUILDING FOOTERS.

STANDARDS FOR TEMPORARY CONSTRUCTION AREA SEEDING

1. TEMPORARY SEEDING PROVIDES EROSION CONTROL PROTECTION TO DISTURBED AREAS AND/OR LOCALIZED CRITICAL AREAS FOR AN INTERIM PERIOD BY COVERING ALL BARE GROUND THAT EXISTS AS A RESULT OF CONSTRUCTION ACTIVITIES OR A NATURAL EVENT.
2. THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE. LARGE DEBRIS AND ROCKS ARE TO BE REMOVED.
3. THE SEEDBED MUST BE SEEDED WITHIN 24 HOURS OF DISTURBANCE OR SCARIFICATION OF THE SOIL SURFACE WILL BE NECESSARY PRIOR TO SEEDING. FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.
4. TEMPORARY SEEDING IN THE SPRING OR SUMMER OR EARLY FALL SHALL USE RYEGRASS (ANNUAL OR PERENNIAL) AT A RATE OF 30 POUNDS PER ACRE, APPROXIMATELY 0.7 POUNDS PER 100 SQUARE FEET OR USE 1 POUND PER 1000 SQUARE FEET.
5. TEMPORARY SEEDING IN THE LATE FALL OR EARLY WINTER SHALL USE CERTIFIED 'AROOSTOOK' WINTER RYE (CEREAL RYE) AT A RATE OF 100 POUNDS PER ACRE OR 2.5 POUNDS PER 1000 SQUARE FEET.
6. ANY SEEDING METHOD MAY BE USED THAT WILL PROVIDE UNIFORM APPLICATION OF SEED TO THE AREA AND RESULT IN RELATIVELY GOOD SOIL TO SEED CONTACT.
7. MULCH THE AREA WITH HAY OR STRAW AT A RATE OF 2 TONS PER ACRE (APPROXIMATELY 2 BALES OR 90 POUNDS PER 1000 SQUARE FEET).
8. MULCH ANCHORING WILL BE REQUIRED WHERE WIND OR AREAS OF CONCENTRATED WATER ARE OF CONCERN.
9. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATION.

STANDARDS FOR PERMANENT CONSTRUCTION AREA PLANTING AND SEEDING

1. PERMANENT SEEDING FOR GRASSES AND/OR SHRUBS TO PROVIDE A MINIMUM OF 80% PERENNIAL VEGETATIVE COVER ON AREAS DISTURBED BY CONSTRUCTION IS NEEDED TO REDUCE EROSION AND SEDIMENT TRANSPORT.
2. THE SEEDBED MUST BE PREPARED TO ALLOW GOOD SOIL-TO-SEED CONTACT AND ADEQUATE SOIL MOISTURE MUST BE PRESENT.
3. IF SEEDING IS COMPLETED WITHIN 24 HOURS OF FINAL GRADING, ADDITIONAL SCARIFICATION IS GENERALLY NOT NEEDED.
4. ALL STONES AND OTHER DEBRIS IS TO BE REMOVED FROM THE SURFACE THAT ARE GREATER THAN 4 INCHES, OR THAT WILL INTERFERE WITH FUTURE MOWING OR MAINTENANCE.
5. SOIL AMENDMENTS SHOULD BE INCORPORATED INTO THE UPPER 2 INCHES OF SOIL WHEN FEASIBLE. THE SOIL SHOULD BE TESTED TO DETERMINE THE AMOUNTS OF AMENDMENTS NEEDED.
6. GROUNDED AGRICULTURAL LIMESTONE SHOULD BE APPLIED TO ATTAIN A Ph OF 6.0 IN THE UPPER 2 INCHES OF SOIL.
7. IF SOIL MUST BE FERTILIZED BEFORE RESULTS OF A SOIL TEST ARE OBTAINED TO DETERMINE FERTILIZER NEEDS, APPLY COMMERCIAL FERTILIZER AT 600 POUNDS PER ACRE OR 5-5-10 OR EQUIVALENT. IF MANURE IS USED, APPLY A QUANTITY TO MEET THE NUTRIENTS OF A 5-5-10 MIXTURE. DO NOT USE MANURE ON SITES TO BE PLANTED WITH BIRDSFOOT TREFOIL OR IN THE PATH OF CONCENTRATED WATER FLOW.
8. GENERAL SEED MIXTURE - SEED MIXTURES MAY VARY DEPENDING ON LOCATION AND TIME OF SEEDING. A SEED MIXTURE SPECIFIED IN TABLE 4.4 OF PERMANENT CONSTRUCTION AREA PLANTING MIXTURE RECOMMENDATIONS IN THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL SHOULD BE USED FOR PERMANENT SEEDING.
9. TIME OF SEEDING - THE OPTIMUM TIMING FOR THE SEEDING IS BASED ON THE SPECIFIED SEED MIXTURE AND IS GENERALLY IN EARLY SPRING. PERMANENT SEEDINGS MAY BE MADE ANY TIME OF YEAR IF PROPERLY MULCHED AND ADEQUATE MOISTURE IS PROVIDED.
10. METHOD OF SEEDING - BROADCASTING, DRILLING, CULTIPACK TYPE SEEDING, OR HYDROSEEDING ARE ACCEPTABLE METHODS. PROPER SOIL TO SEED CONTACT IS KEY TO SUCCESSFUL SEEDINGS.
11. MULCHING - MULCHING IS ESSENTIAL TO OBTAIN A UNIFORM STAND OF SEEDED PLANTS. OPTIMUM BENEFITS OF MULCHING NEW SEEDINGS ARE OBTAINED WITH THE USE OF SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE AND ANCHORED WITH A NETTING OR TACKIFIER. SEE THE STANDARDS AND SPECIFICATIONS FOR MULCHING.
12. IRRIGATION - WATERING MAY BE ESSENTIAL TO ESTABLISH A NEW SEEDING WHEN A DROUGHT CONDITION OCCURS SHORTLY AFTER A NEW SEEDING EMERGES. IRRIGATION IS A SPECIALIZED PRACTICE AND CARE MUST BE TAKEN NOT TO EXCEED THE APPLICATION RATE FOR THE SOIL OR SUBSOIL.



POROUS PAVEMENT SECTION
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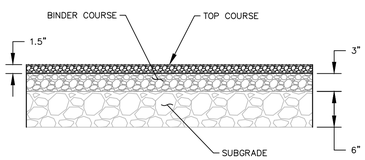

TYPICAL PAVEMENT SECTION
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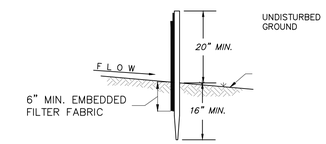
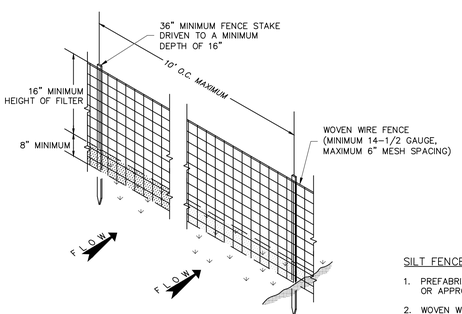


SECTION VIEW

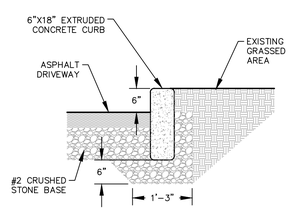


PERSPECTIVE VIEW

SILT FENCE DETAIL
NOT TO SCALE

SILT FENCE NOTES:

1. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE STAKES WITH WIRE TIES OR STAPLES.
3. FILTER FABRIC SHALL BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
4. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



EXTRUDED CONCRETE CURB DETAIL
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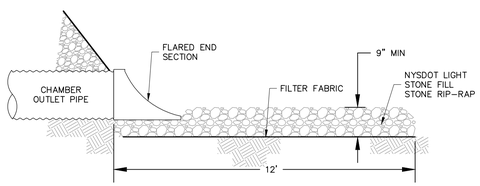

STONE OUTLET PROTECTION DETAIL
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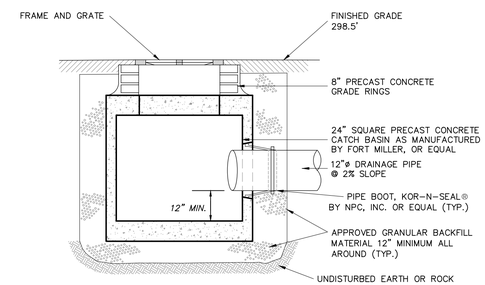

CATCH BASIN
NOT TO SCALE

LICENSED PROFESSIONAL ENGINEER — 099165 — STATE OF NEW YORK

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NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	5/16/19	REVISIONS PER TOWN ENGINEER COMMENTS	TAS	MPM	MPM
2	8/31/2020	REVISIONS PER MAY 7&8 COMMENT LETTERS.	TAS	MPM	MPM
3	2/24/2021	SITE LAYOUT REVISIONS PER MKFD COMMENTS	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	– FEET

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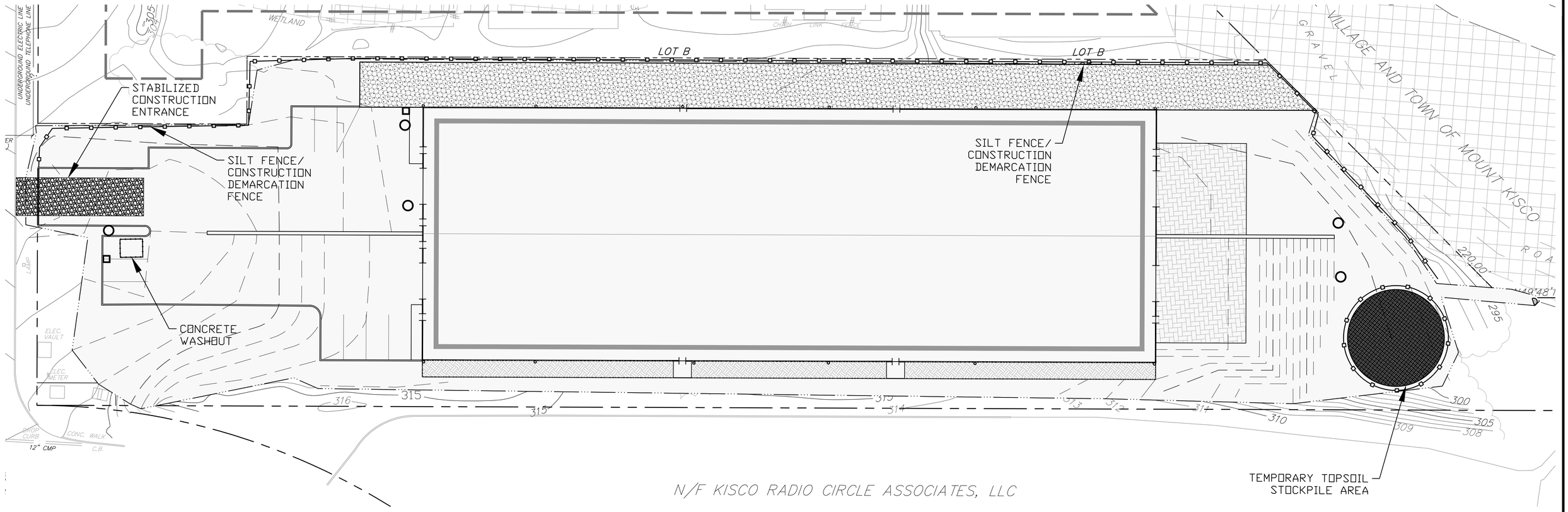
AS NOTED

2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
SITE DETAILS - LOT A
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MOUNT KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

DATE: 02/15/2019 | SCALE: AS NOTED | DWG. NO. 2018-3901 | SHEET 4 OF 8

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thrasen Mechanical - 2018-39\Drawings-Maps-Figures\ACAD\2018-3901_Sht-4 - Site Details REVS.dwg 2/23/2021 1:23 PM TYLER.SHEET



NOTES:
1. TOTAL LIMIT OF DISTURBANCE 1.94 ACRES.
2. SILT FENCE TO BE INSTALLED PARALLEL TO GRADES ALONG NORTHWEST PROPERTY LINE.
3. ORANGE CONSTRUCTION DEMARCATION FENCE TO BE INSTALLED ALONG ENTIRE LOT LINE BETWEEN LOT A AND LOT B.

LEGEND:

- PROPERTY LINE (EXISTING)
- PROPOSED LOT LINE
- LIMIT OF DISTURBANCE
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- MAJOR CONTOUR (PROPOSED)
- MINOR CONTOUR (PROPOSED)
- SILT FENCE/ CONSTRUCTION DEMARCATION FENCE

CONSTRUCTION SEQUENCE:
1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL TEMPORARY E&SC CONTROLS (I.E. PERIMETER SILT FENCE).
3. INSTALL TREE PROTECTION MEASURES.
4. CLEAR AND GRUB LIMIT OF DISTURBANCE.
5. STRIP AND STOCKPILE TOPSOIL.
6. CONSTRUCT BUILDING FOUNDATION AND RETAINING WALLS.
7. INSTALL UNDERGROUND INFILTRATION CHAMBERS.
8. PAVE AND STABILIZE SITE.
9. CONSTRUCT PERMANENT STORMWATER PLANTERS.
10. REMOVE TEMPORARY E&SC CONTROLS.

MAP REFERENCE: BASE SURVEY BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C. JAN 2014.
WETLAND DELINEATION AREA - SHUMAKER CONSULTING ENGINEERING & LAND SURVEYING, D.P.C.
*WETLAND AREA IS APPROXIMATE

LICENSED PROFESSIONAL ENGINEER — 099165 — STATE OF NEW YORK

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NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	8/31/2020	REVISIONS PER MAY 7&8 COMMENT LETTERS.	TAS	MPM	MPM
2	2/24/2021	SITE LAYOUT REVISIONS PER MKFD COMMENTS	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1' FEET

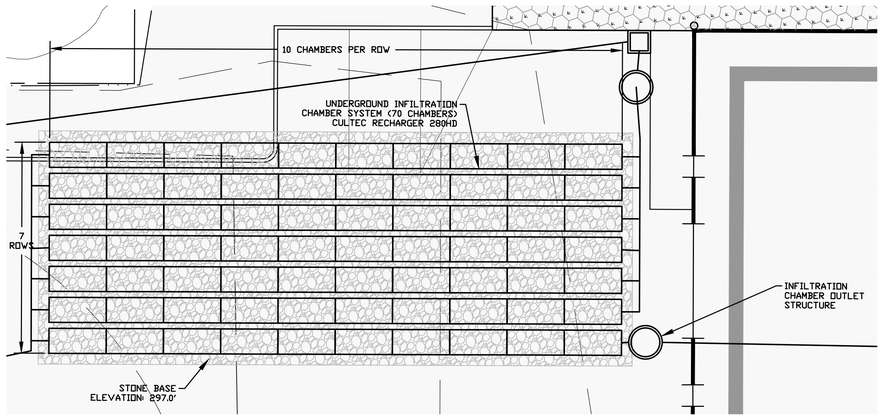
0 5' 10' 20' 40'
1" = 20'

2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
EROSION AND SEDIMENT CONTROL PLAN
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MOUNT KISCO WESTCHESTER CO., NEW YORK

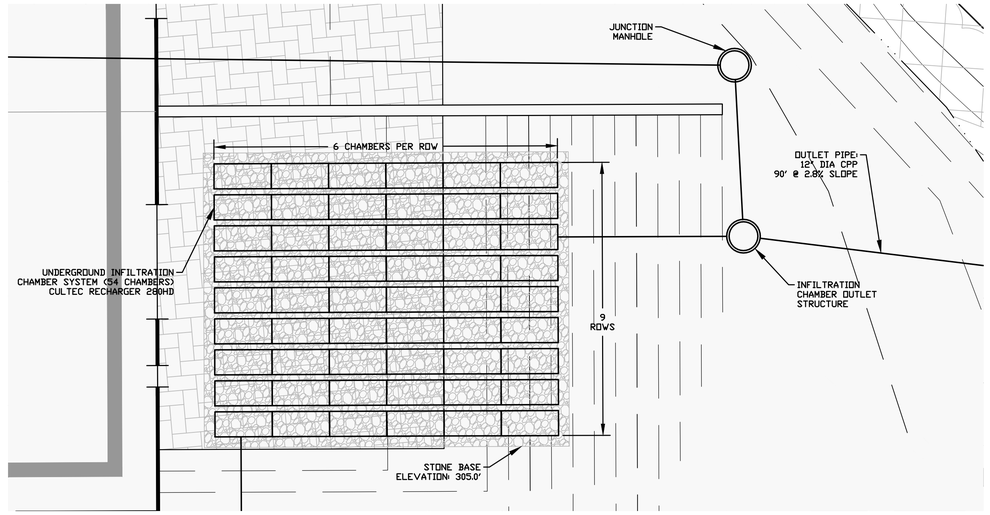
STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

DATE: 03/02/2020 | SCALE: 1" = 20' | DWG. NO. 2018-39010 | SHEET 5 OF 8

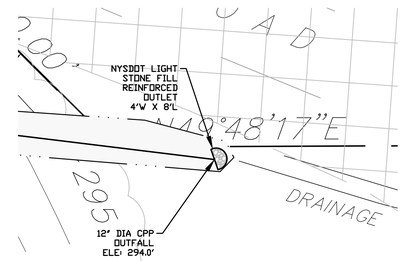
S:\Sterling\Projects\2018 Projects\Mt Kisco - Thoesen Mechanical - 2018-39\Drawings-Maps-Figures\ACAD\2018-39010_Dr-5 - Construction Erosion and Sediment Control Plan_RCVC.dwg 2/23/2021 1:12 PM TYLER.SWEET



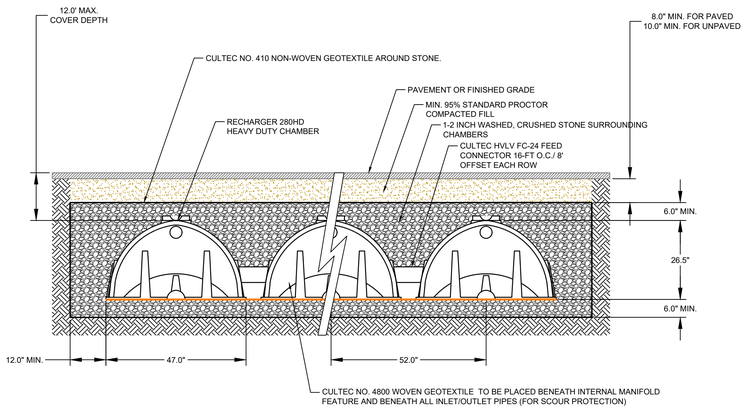
1 SOUTHWEST CHAMBERS LAYOUT
SCALE: 1" = 10'



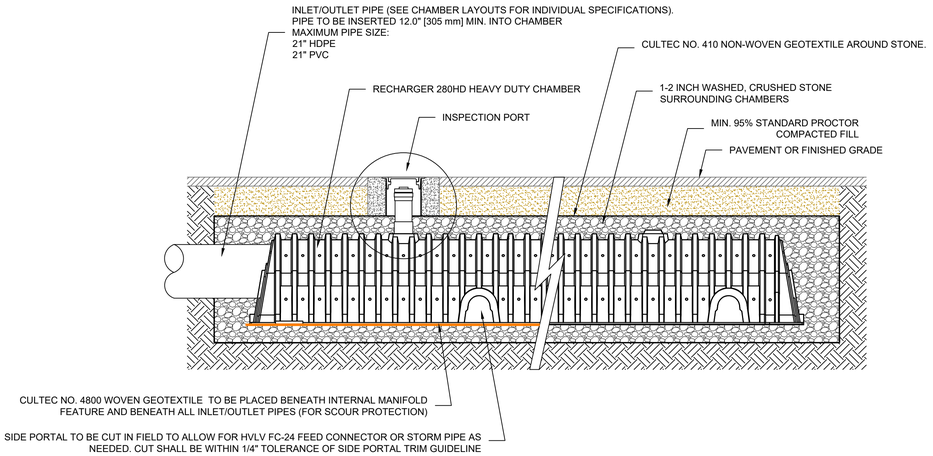
2 UPPER NORTHEAST CHAMBERS LAYOUT
SCALE: 1" = 10'

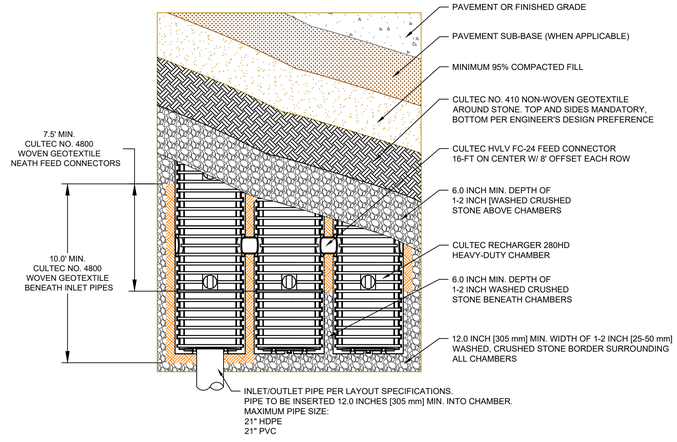


3 NORTHEAST OUTFALL PLAN
SCALE: N.T.S.



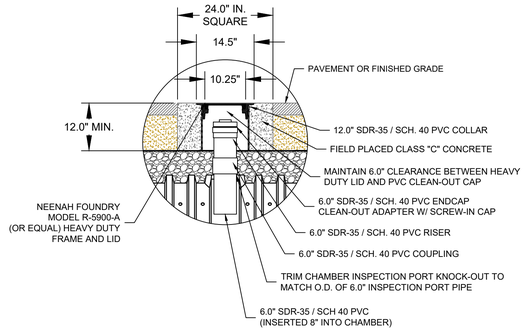
4 CHAMBER CROSS SECTIONS
SCALE: N.T.S.





5 CHAMBER INSTALLATION DETAIL PLAN
SCALE: N.T.S.

NOTES:
1. SEE SHEET 9 FOR OUTLET STRUCTURE AND OUTFALL DETAILS AND SPECIFICATIONS.



6 CHAMBER INSPECTION PORT DETAIL
SCALE: N.T.S.

NOTES:
1. EACH ROW OF CHAMBERS SHALL BE EQUIPPED WITH A CLEANOUT/INSPECTION PORT.
2. INSPECTION PORTS SHALL BE INSTALLED IN THE LAST CHAMBER IN A ROW, ALTERNATING ENDS EACH ROW.

LICENSED PROFESSIONAL ENGINEER — MICHAEL P. ALLEN, P.E. — 099165 — STATE OF NEW YORK

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NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	2/24/2021	SITE LAYOUT REVISIONS PER MKFD COMMENTS	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1' FEET

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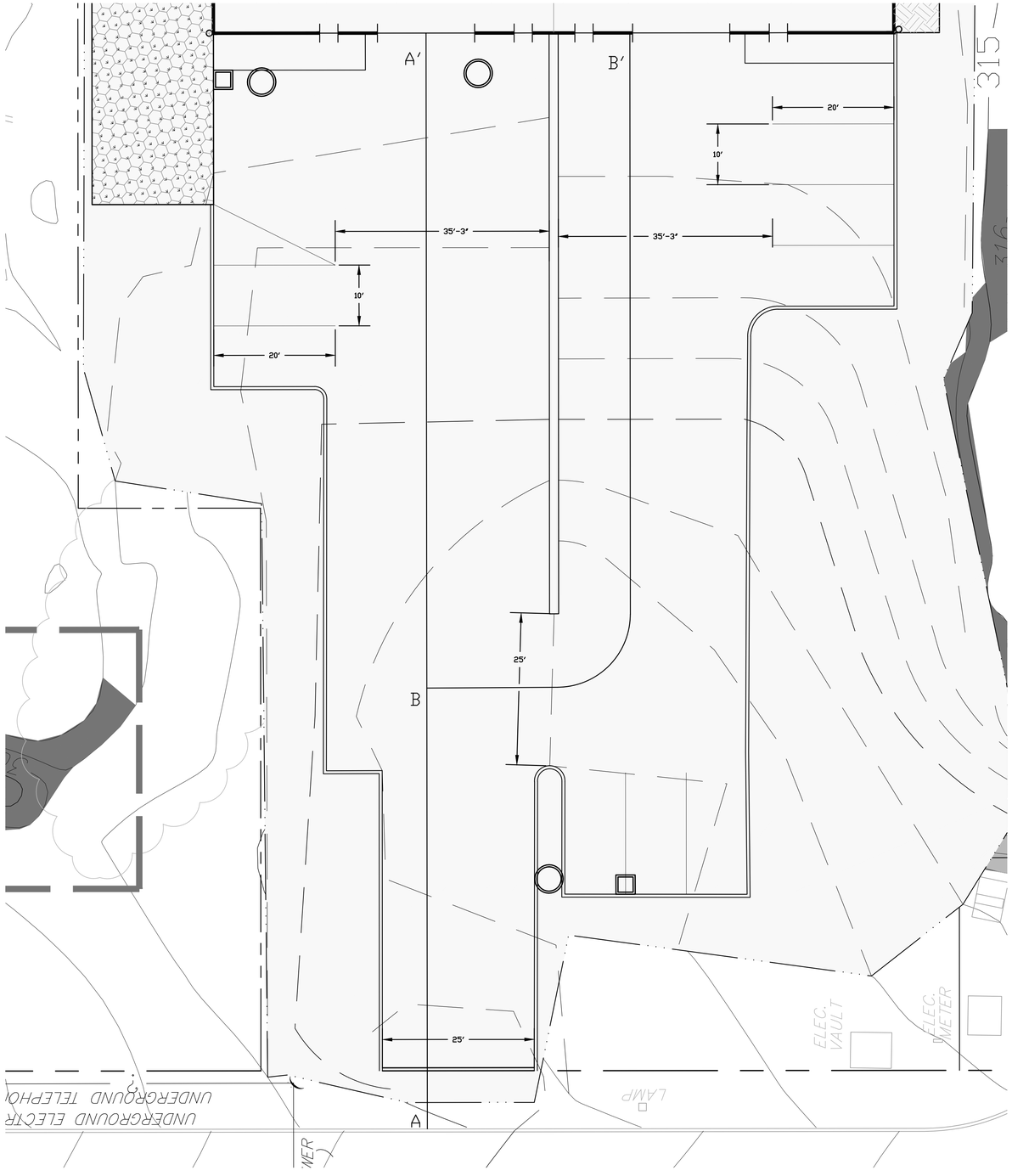
2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
INFILTRATION CHAMBER DETAILS
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MOUNT KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

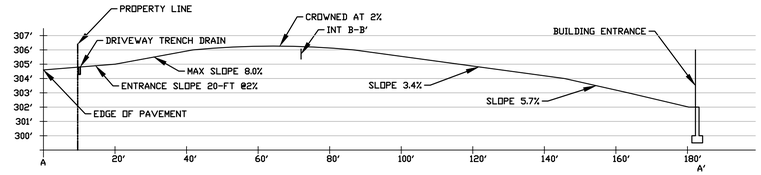
DATE: 07/20/2020 | SCALE: 1" = 10' | DWG. NO. 2018-39012 | SHEET 6 OF 8

LOT S.B.L. 80.55-1-2.1/4
2 MORGAN DRIVE, TOWN OF MT. KISCO

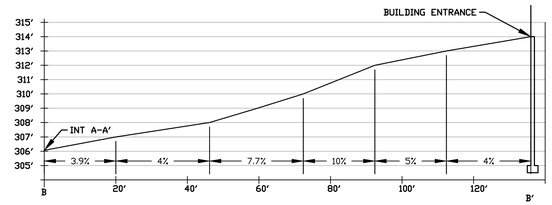
OWNER:
RADIO CITY VENTURES, LLC
90 GROVE STREET, RIDGEFIELD, CT 06877



PARKING ANDAISLE DIMENSIONS
SCALE: 1" = 10'



DRIVEWAY PROFILE A-A'
H-SCALE: 1" = 20'
V-SCALE 1" = 5'
VE = 4



DRIVEWAY PROFILE B-B'
H-SCALE: 1" = 20'
V-SCALE 1" = 5'
VE = 4

LEGEND:

- PROPERTY LINE (EXISTING)
- PROPOSED LOT LINE
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- MAJOR CONTOUR (PROPOSED)
- MINOR CONTOUR (PROPOSED)

MAP REFERENCE: BASE SURVEY BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C. JAN 2014.
WETLAND DELINEATION BY TIM MILLER AND ASSOCIATES, AUGUST 23, 2019. SURVEYED BY H. STANLEY JOHNSON AND COMPANY APRIL 23, 2020
AREA BULK TABLES FROM H. STANLEY JOHNSON SUBDIVISION PLAT PLAN, REVISED 5-01-2020.

LICENSED PROFESSIONAL ENGINEER
MARC P. ALLEN
No. 092162
STATE OF NEW YORK

NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	2/24/2021	REVISIONS PER MKFD LETTER.	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1' FEET

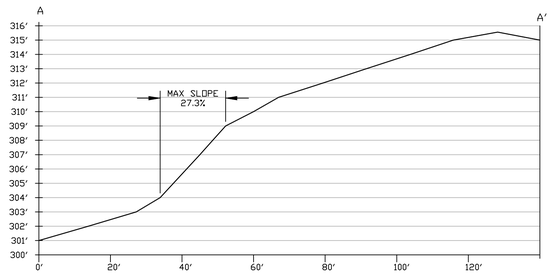
0 2.5' 5' 10' 20'
1" = 10'

2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
PARKING AND DRIVEWAY PROFILES
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MOUNT KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

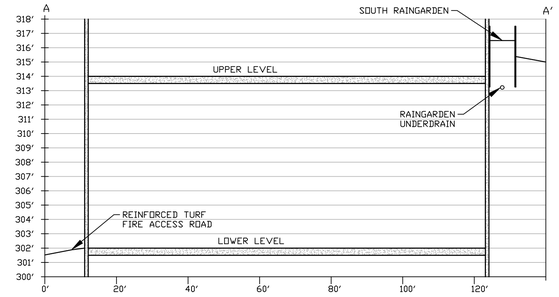
DATE: 08/30/2020 | SCALE: 1" = 10' | DWG. NO. 2018-39015 | SHEET 7 OF 8

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thoresen Mechanical - 2018-39\Drawings\Maps+Figures\ACAD\2018-39015_Sht7 - Parking and Drive Profiles REV1.dwg 2/23/2021 1:03 PM TYLER.KVIET



CROSS SECTION A-A' - EXISTING CONDITIONS

H-SCALE: 1" = 20'
V-SCALE: 1" = 5'
V.E. = 4



CROSS SECTION 1 - BUILDING SECTION

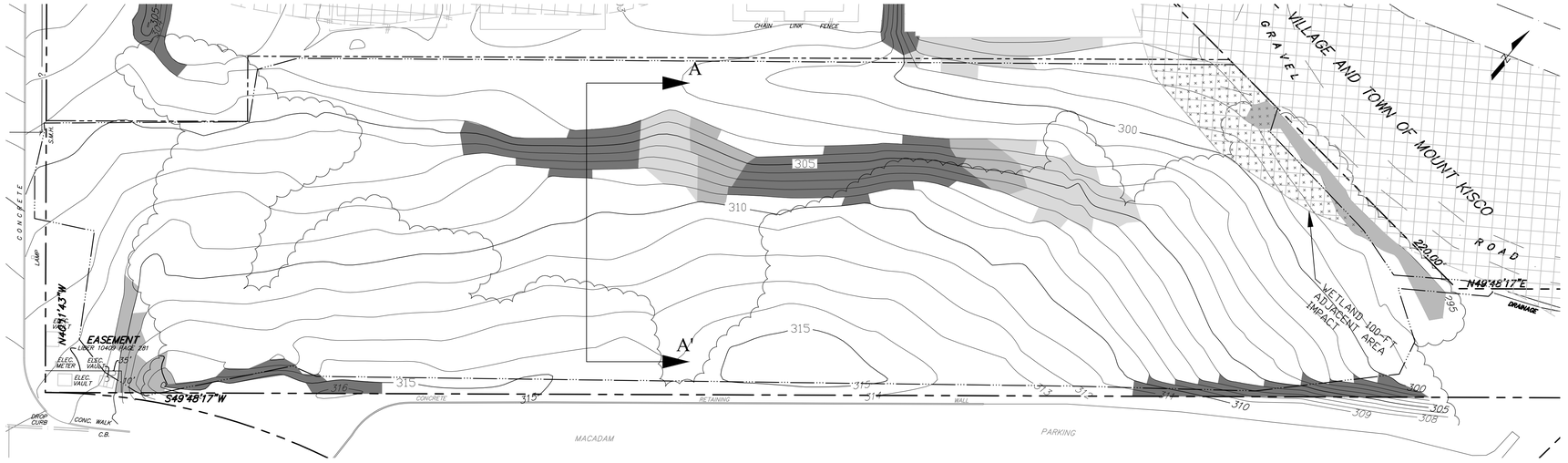
H-SCALE: 1" = 20'
V-SCALE: 1" = 5'
V.E. = 4

LEGEND:

- PROPERTY LINE (EXISTING)
- PROPOSED LOT LINE
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- TREELINE
- MINOR CONTOUR (EXISTING)
- SLOPES 15-20%
- SLOPES 20-25%
- SLOPES >25%
- WETLAND 100-FT ADJACENT AREA
- CUT > 10'
- CUT 5' - 10'
- CUT 1' - 5'
- FILL 1' - 5'
- FILL > 5'
- WETLAND BUFFER DISTURBANCE

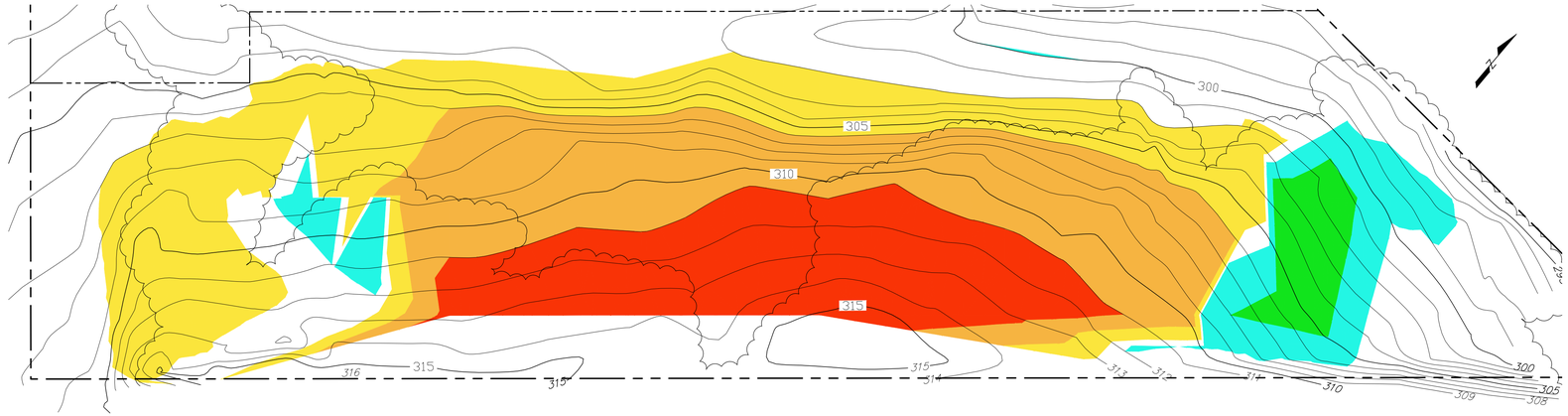
LOT S.B.L. 80.55-1-2.1/4
2 MORGAN DRIVE, TOWN OF MT. KISCO

OWNER:
RADIO CITY VENTURES, LLC
90 GROVE STREET, RIDGEFIELD, CT 06877



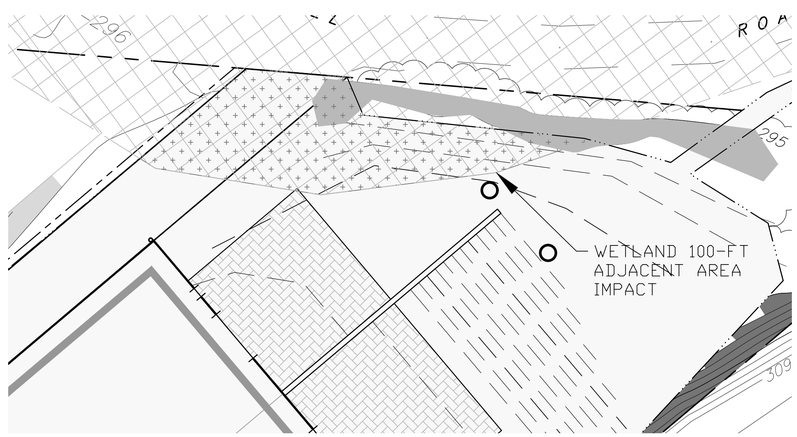
EXISTING SLOPE CATEGORIES

SCALE: 1" = 30'



CUT-FILL ANALYSIS

SCALE: 1" = 30'
NET CUT - 10,000 CYD



WETLANDS BUFFER DISTURBANCE ANALYSIS

SCALE: 1" = 20'
TOTAL DISTURBANCE - 2,315 SF
NO NEW IMPERVIOUS AREA

MAP REFERENCE: BASE SURVEY BY H. STANLEY JOHNSON AND COMPANY LAND SURVEYORS, P.C. JAN 2014.
WETLAND DELINEATION BY TIM MILLER AND ASSOCIATES, AUGUST 23, 2019. SURVEYED BY H. STANLEY JOHNSON AND COMPANY APRIL 23, 2020
AREA BULK TABLES FROM H. STANLEY JOHNSON SUBDIVISION PLAT PLAN, REVISED 5-01-2020.

LICENSED PROFESSIONAL ENGINEER
MICHAEL J. GALLO, P.E.
099165
STATE OF NEW YORK

NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	2/24/2021	SITE LAYOUT REVISIONS PER MKFD COMMENTS	TAS	MPM	MPM

PROJECT	
PROJ. ENGR.:	MPM
PROJ. NO.:	2018-39
PREPARED BY:	TAS
DRAFTED BY:	TAS
CHECKED BY:	
APPROVED BY:	
DATUM:	NAD83
CONTOUR INTERVAL =	1' FEET

0
AS NOTED

2 MORGAN DRIVE SUBDIVISION & LOT-A SITE PLAN
WETLAND DISTURBANCE AND STEEP SLOPES PLAN AND SECTIONS
RADIO CITY VENTURES, LLC
2 MORGAN DRIVE
VILLAGE OF MT. KISCO WESTCHESTER CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

DATE: 08/30/2020 | SCALE: AS NOTED | DWG. NO. 2018-39016 | SHEET 8 OF 8

S:\Sterling\Projects\2018 Projects\Mt Kisco - Thuesen Mechanical - 2018-39\Drawings\Maps\Figures\ACAD\2018-39016_Sht8 - Steep Slope Sections REV1.dwg 2/23/2021 10:52 AM TYLERJEVIET

WESTCHESTER COUNTY DEPARTMENT OF HEALTH

Mount Kisco, New York

Approved pursuant to Chapter 873, Article X, Sections 873.951 and 873.1021 of the Westchester County Sanitary Code subject to the provision of public water supply and public sanitary sewer facilities to serve all structures intended for human occupancy constructed herein.

Each purchaser of property shown hereon shall be furnished a true copy of this plat showing this endorsement. Any erasures, changes, additions or alterations of any kind, except the addition of signatures of other approving authority and the date thereof made on this plan after this approval, shall invalidate this approval.

Approved by the Assistant Comissioner of Health on behalf of the Department of Health — Date

Proposed Land Area Schedule:	
PARCEL A	2.670 Acres
PARCEL B	3.046 Acres
TOTAL AREA	5.716 Acres

Approved by Resolution of the Town of Mount Kisco Planning Board.

Chairman — Date

Approved for filing in the Westchester County Clerk's Office, Division of Land Records:

Date

Richard Breck
Radio City Ventures, LLC
c\o Reynolds & Rowella
90 Grove St., Suite 101
Ridgefield, CT 06877

NET LOT AREA CALCULATION

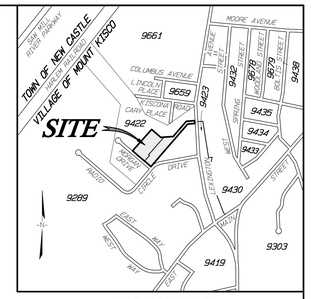
		Existing	Parcel A	Parcel B
A	Gross Lot Area	5,716 Ac., 249,000 s.f.	2,670 Ac. 116,300 s.f.	3.046 Ac. 132,700 s.f.
B	Area Containing Steep Slopes >25%	16,037 s.f.	4,991 s.f.	11,046 s.f.
C	Area Containing Slopes >20-<25%	4,465 s.f.	2,895 s.f.	1,570 s.f.
D	50% of Line B	8,019 s.f.	2,496 s.f.	5,523 s.f.
E	25% of Line C	1,116 s.f.	724 s.f.	393 s.f.
F	Area Containing Wetlands	2,833 s.f.	0 s.f.	2,833 s.f.
G	Area Containing lakes, ponds, streams or other surface water	12,236 s.f.	1,405 s.f.	10,831 s.f.
H	50% of Line F	1,417 s.f.	0 s.f.	1,417 s.f.
I	100% of Line G	12,236 s.f.	1,405 s.f.	10,831 s.f.
J	Net Lot Area (Line A minus Lines D, E, H and I)	226,212 s.f.	111,675 s.f.	114,536 s.f.

Area Containing Steep Slopes >25%
Area Containing Slopes >20-<25%
Area Containing Slopes >15-<20%

RDX BULK ZONING REQUIREMENTS

RDX Bulk Zoning Requirements	Required	Existing	Proposed Parcel A	Proposed Parcel B
Min. Net Lot Area	40,000 s.f.	226,212 s.f.	111,675 s.f.	114,536 s.f.
Max. Building Coverage	35%	13%	31%	–
Max. Development Coverage	70%	14%	41%	–
Min. Lot Width	100 feet	415.56'	125'	260.56'
Min. Lot Depth	100 feet	493.72'	634.28'	493.72'
Setback - Abutting Nonresidential Zoning District				
Building Setback Front	30 feet	47.7'	170.8 feet	N.A.
Building Setback Rear	50 feet	~9.9'	53.4 feet	N.A.
Building Setback Side	20 feet	50.8'	20.7 feet	N.A.
Buffer Front	20 feet	20 feet	75.2 feet	N.A.
Buffer Rear	20 feet	0 feet	32.2 feet	N.A.
Buffer Side	20 feet	20 feet	20.7 feet	N.A.
Building Height	40 feet	N.A.	38.5 feet	N.A.

* No development abutting residential district



LOCATION MAP

SCALE: 1"=1,000'

Notes:

1) Premises shown hereon located in the RDX (Research and Development District) Zone in the Village and Town of Mount Kisco.
2) Premises shown hereon known and designated as Section 80.55 Block 1 Lot 2.1/1 on the Village of Mount Kisco Tax Maps.
3) Additional underground easements, utilities or structures, etc. other than those shown hereon may be encountered.
4) Unauthorized alterations or additions to this drawing is a violation of Section 7209 (2) of the New York State Education Law.
5) Wetland Delineated on August 23, 2019 by:
Steven Marino P.W.S.
Tim Miller Associates, Inc.
10 North Street
Cold Spring, N.Y. 10516
(845) 265-4400
6) Property shown hereon is subject ot the "Rules and Regulations for the protection from the contamination of the New York city water supply and its sources"
7) Elevations shown hereon are in accordance with the official Village and Town of Mount Kisco Datum.
8) Address: 2 Morgan Drive, Mt Kisco N.Y. 10549
9) Trees shown hereon were located January 17, 2014.

FINAL SUBDIVISION PLAT
PREPARED FOR

RADIO CITY VENTURES, LLC

Being Lot 3 as shown on a certain map entitled "Final Plat Lot Line Change Prepared for Crème de la Crème (Mt. Kisco), Inc. and Sanctuary Ventures, L.L.C., etc." Said map filed in the Westchester County Clerk's Office, Division of Land Records: November 4, 2009 as Map No. 28290.

SITUATE IN THE
VILLAGE AND TOWN OF MOUNT KISCO
WESTCHESTER COUNTY, NEW YORK

SCALE: 1" = 30'

0 30 60 90

SHEET 159 BLOCK 9422 IN COUNTY INDEX SYSTEM

"RE-SUBDIVISION OF LOT NO.1 PREPARED FOR RADIO CIRCLE BUSINESS PARK, INC."
FILED FEBRUARY 8, 1990 AS MAP NO. 24079

UNITED STATES POSTAL SERVICE
LOT 1B

N/F ROLLING FRITO-LAY SALES, LLP
LOT 1A

N/F CREME DE LA CREME (MT KISCO)
2
FILED MAP 28290

RELOCATED 30' WIDE SANITARY SEWER EASEMENT
PROP. 8" SANITARY SEWER MAIN

STORM WATER EASEMENT AS PER FM 28290

RDX DISTRICT
PD DISTRICT

DRIVE
PAVEMENT

POND

PARCEL B
AREA = 3.046 Acres

PARCEL A
AREA = 2.670 Acres

1 STORY CONCRETE AND STEEL FRAME STRUCTURE
1 STORY CONCRETE STRUCTURE
CONCRETE RETAINING WALL LINED BASIN
CONCRETE PIT
CONC. STRUCTURE
CONC. PLAT.
CHAIN LINK FENCE
WETLAND
BUILDING SETBACK LINE
BUFFER
PROPOSED PARKING
PROPOSED WALL
PROPOSED 70,000 S.F. PRIVATE CAR STORAGE
PROPOSED IMPERVIOUS PARKING
PROPOSED WALL
RETAINING WALL EDGE
MACADAM PARKING AREA
EXIST. 8" PVC SAN. SEWER
WATER
COR. BLDG. 9.9' N.
EASEMENT LIBER 10489 PAGE 281
ELEC. VAULT
MONUMENT
D.M.H.
C.B.
CONC. WALK
6" PVC SAN. SEWER (APPROX. LOC.)
8" SANITARY MAIN
ACCESS
ROAD
RIVER
KISCO
LAND OF THE VILLAGE AND TOWN OF MOUNT KISCO

MORGAN
MACADAM
(PRIVATE)

RADIO
CIRCLE

N/F LESJAC REALTY LLC

N/F TDM RATTNER LLC

N/F KISCO RADIO CIRCLE ASSOCIATES, LLC

N/F 440 LEXINGTON AVE. MT. KISCO CO.

N/F YVONNE DIBLASIO
2 STORY RESIDENCE

LEXINGTON AVENUE

N49°48'17"E 55.15'
S89°21'43"E 203.01'
N49°48'17"E 120.00'
S89°21'43"E 9.62'
N89°21'43"W 11.45'
S89°48'17"W 97.54'
N49°48'17"E 82.19'
336.76'
415.56'
N49°48'17"E 280.39'
99.00'
N71°07'40"E 83.08'
74.77'
493.72'
18.06'
59.70'
N89°19'20"W 292.36'
S21°07'40"W 71.45'
S89°19'20"E 25.53'
S49°50'27"W 43.08'
N86°19'20"W 31.74'
S49°48'17"W 249.15'
S40°11'43"E 210.00'
S86°11'43"E 17.50'
541.64'
S40°11'43"E 30.01'
S49°48'33"W 82.64'
N40°11'43"W 125.00'
S49°48'17"W 170.8'
N49°48'17"E 220.00'
350.00'
S38°38'00"E 978.79'
N52°38'00"W 129.57'
S38°38'00"E 30.01'
N52°38'00"W 129.57'
S38°38'00"E 149.99'
N49°48'17"E 634.28'
S40°11'43"E 210.00'
S49°48'17"W 634.28'
N40°11'43"W 210.00'

Revised: February 9, 2021
Revised: May 1, 2020 to modify Net Lot Area Calculation.
Revised: April 24, 2020 to show wetlands only.
Revised: April 16, 2020

We, H. Stanley Johnson and Company, Land Surveyors, P.C., the surveyors who made this map, do hereby certify that the survey upon which this map is based was completed January 17, 2014 and that this map was completed: February 29, 2020.

BY: _____
NEW YORK STATE LICENSED LAND SURVEYOR NO. 50037
ROBERT S. JOHNSON, P.L.S.

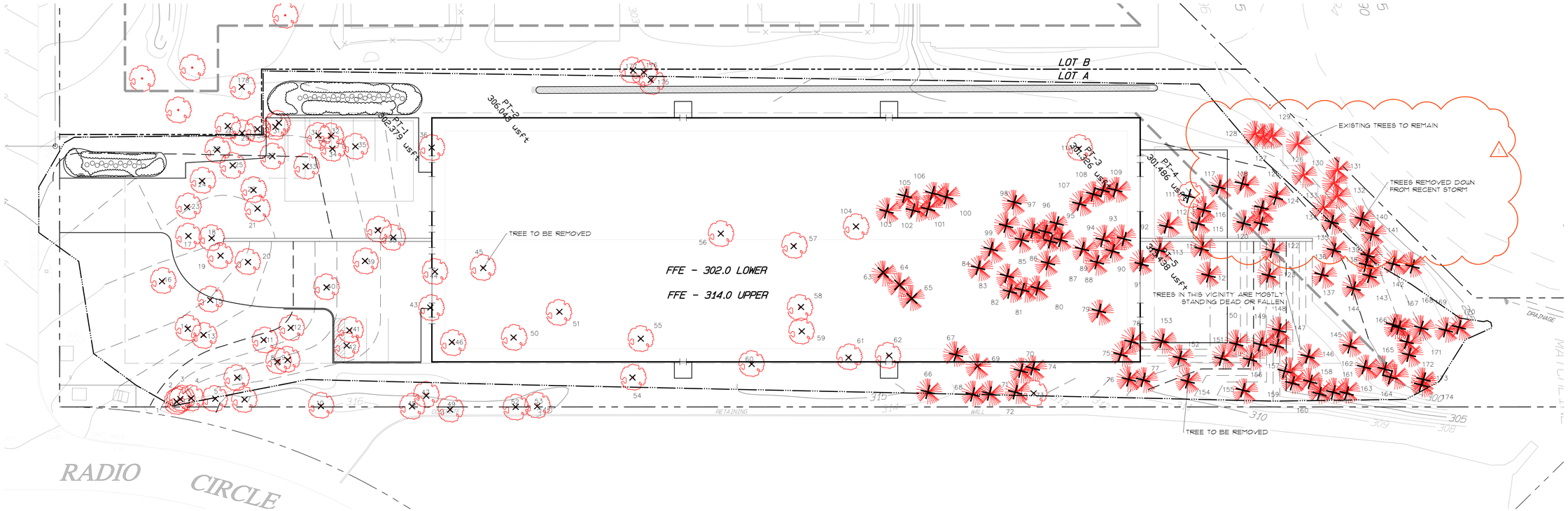
LICENSED LAND SURVEYOR ROBERT S. JOHNSON No. 50037 STATE OF NEW YORK

H. STANLEY JOHNSON AND COMPANY
LAND SURVEYORS, P.C.
42 SMITH AVENUE P.O. BOX 93
MT. KISCO, N.Y. 10549
TEL. 914-241-3872
FAX. 914-241-0438

DATA: F03-017

PREPARED BY: JRJ CHECKED BY: RSJ

JOB No. F19-088.02_SD



TREE REMOVAL

Tree Id #	DBH	Species	Condition	Reason for Removal	Village Comment
1	16"	Locust		development	
2	12"	Black Birch		development	
3	10"	Locust		development	
4	12	Black Birch		development	
5	10"	Black Birch		development	
6	10"	Locust		development	
7	16"	Ash		development	
8	8"	Black Birch		development	
9	8"	Black Birch		development	
10	20"	Ash		development	
11	8	hickory		development	
12	8"	Black Birch		development	
13	10"	Black Birch		development	
14	10"	Black Birch		development	
15	10"	Black Birch		development	
16	20"	Maple		development	
17	10"	Black Birch		development	
18	16"	hickory		development	
19	10"	Black Birch		development	
20	8"	Locust		development	
21	30"	hickory		development	
22	14"	Ash		development	
23	8"	Black Birch		development	
24	10"	Black Birch		development	
25	10"	Locust		development	
26	10"	Black Birch		development	
27	24"	Locus		development	
28	14"	Black Birch		development	
29	10"	Ash		development	
30	18"	Ash		development	
31	14"	Ash		development	
32	12"	Black Birch		development	
33	14"	Ash		development	
34	14"	Ash		development	
35	20"	Black Birch		development	
36	10"	Black Birch		development	
37	8"	Black Birch		development	
38	8"	Black Birch		development	
39	8"	Black Birch		development	
40	14"	Black Birch		development	
41	8"	Black Birch		development	
42	8"	Maple		development	
43	8"	Oak		development	
44	8"	Maple		development	
45	8"	Mapl		development	
46	8"	Oak		development	
47	12"	Black Birch		development	
48	10"	Ash		development	
49	20"	Maple		development	
50	8"	Oak		development	
51	8"	Black Birch		development	
52	10"	Black Birch		development	
53	12"	Black Birch		development	
54	8"	Black Birch		development	
55	8"	Maple		development	
56	20"	Oak		development	
57	8"	Maple		development	
58	8"	Maple		development	
59	36"	Mapl		development	
60	8"	Maple		development	
61	22"	hickory		development	
62	14"	Black Birch		development	
63	12"	Pine		development	
64	24"	Pine		development	
65	16"	Pine		development	
66	32"	Pine		development	
67	16"	Pine		development	
68	16"	hickory		development	
69	16"	Pine		development	
70	8"	Pine		development	
71	14"	Pine		development	
72	14"	Pine		development	
73	12"	Black Birch		development	
74	22"	Pine		development	
75	12"	Pine		development	
76	16"	Pine		development	
77	16"	Pine		development	
78	10"	Pine		development	
79	24"	Pine		development	
80	18"	Pine		development	
81	14"	Pine		development	
82	20"	Pine		development	
83	12"	Pine		development	
84	24"	Pine		development	
85	14"	Pine		development	
86	12"	Pine		development	
87	14"	Pine		development	
88	12"	Pine		development	
89	18"	Pine		development	
90	12"	Pine		development	
91	16"	Pine		development	
92	12"	Pine		development	
93	10"	Pine		development	
94	8"	Pine		development	
95	14"	Pine		development	
96	10"	Pine		development	
97	12"	Pine		development	
98	26"	Pine		development	
99	10"	Pine		development	
100	20"	Pine		development	
101	14"	Pine		development	
102	8"	Pine		development	
103	18"	Pine		development	
104	14"	Oak		development	
105	14"	Pine		development	
106	12"	Pine		development	
107	20"	Pine		development	
108	24"	Pine		development	
109	10"	Pine		development	
110	14"	Pine		development	
111	8"	Pine		development	
112	18"	Pine		development	
113	16"	Pine		development	
114	16"	Pine		development	
115	24"	Pine		development	
116	10"	Pine		development	
117	20"	Pine		development	
118	20"	Pine		development	
119	12"	Pine		development	
120	14"	Pine		development	
121	20"	Pine		development	
122	26"	Pine		development	
123	10"	Pine		development	
124	18"	Pine		development	
125	16"	Oak		development	
126	22"	Pine			Remain
127	22"	Pine			Remain
128	14"	Pine			Remain
129	10"	Pine			Remain
130	20"	Pine			Remain
131	14"	Pine			Remain
132	12"	Pine			Remain
133	18"	Pine			Remain
134	14"	Pine			Remain
135	16"	Pine		development	
136	12"	Pine		development	
137	22"	Pine		development	
138	8"	Pine		Storm Removed	
139	14"	Pine		Storm Removed	
140	16"	Pine		Storm removed	
141	18"	Pine		Storm Removed	
142	12"	Pine		development	
143	18"	Pine		Storm Removed	
144	12"	Pine		Storm Removed	
145	24"	Pine		development	
146	20"	Pine		development	
147	14"	Pine		development	
148	14"	Pine		development	
149	18"	Pine		development	
150	24"	Pine		development	
151	18"	Pine		development	
152	24"	Pine		development	
153	18"	Pine		development	
154	16"	Pine		development	
155	26"	Pine		development	
156	16"	Pine		development	
157	18"	Pine		development	
158	12"	Pine		development	
159	8"	Pine		development	
160	22"	Pine		development	
161	12"	Pine		development	
162	12"	Pine		development	
163	18"	Pine		development	
164	22"	Pine		development	
165	10"	Pine		development	
166	22"	Pine		development	
167	24"	Oak		development	
168	16"	Pine		development	
169	16"	Pine		development	
170	18"	Pine		development	
171	12"	Pine		development	
172	18"	Pine		development	
173	10"	Pine		development	
174	20"	Pine		development	
175	8"	Ash		development	
176	8"	Ash		development	
177	8"	Ash		development	
178	10"	Locust		development	

1 NOTE: 178 Trees to be removed. 55 provided. In lieu of planting onsite applicant will provide town with monetary fee for the balance of trees.

NOTES:

1. Survey Site Plan information taken from a Site Plan prepared by Sterling Environmental Engineering P.C. refer to this Site Plan for more information.

2. Location of existing utilities not performed by this office, confirm location of all utilities prior to construction. CALL DIG SAFELY NEW YORK.

3. Contractor to verify all grades and dimensions prior to construction, contractor to inform Landscape Architect with any discrepancies.

0' 20' 40' 80'
1" = 20' - 0"

NORTH:

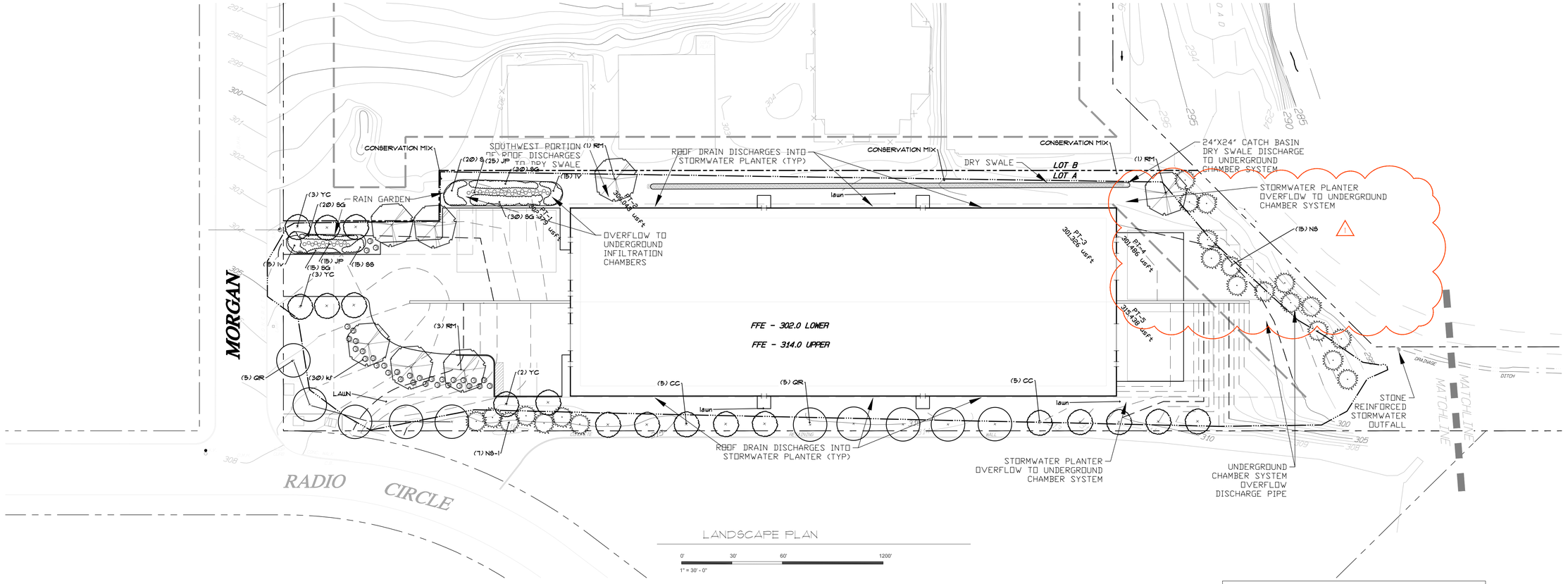
ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p/f.203.796.1547 c.203.994.5337 e:robertsherwood@me.com

PROJECT: TREE REMOVAL PLAN

CLIENT: 2 MORGAN DRIVE LLC
2 Morgan Drive
Mt Kisco NY

#1 comments 1.11.21

REVISIONS:	
SCALE:	AS NOTED
DATE:	7.20.20
JOB NO:	20.08
DRAWING NO:	LP-1.0



LANDSCAPE PLAN

0' 30' 60' 1200'

1" = 30' - 0"

NORTH:

ROBERT SHERWOOD
LANDSCAPE ARCHITECT LLC
P.O. BOX 564, BROOKFIELD CT 06804
p:\ 203.796.1547 c.203.994.5337 e:robertsherwood@me.com

PLANT LIST

Key	Qty.	Common & Botanical Name	Size
RM	5	October Glory Maple Acer rubrum October Glory'	3 1/2" Cal.
QR	10	Red Oak Quercus rubrum	3" Cal.
YC	8	Yoshino Cherry Prunus yedoensis	3" Cal.
CC	10	Redbud Cercis canadensis	3" Cal.
NS-1	7	Norway Spruce Picea abies	10'
NS	15	Norway Spruce Picea abies	6' Ht.
KFG	24	Karl Foerster Grass Calengrostis x acout, 'Karl Foerster'	#5 Cont.
JPW	40	Joe Pye weed Eupatorium maculatum	#1 Cont.
IV	30	Blue Flag Iris Iris versicolor	#1 Cont.
SG	95	Switch Grass Panicum varigatum	Plug
SS	35	Soft Stem Bulrush Scripus validus	Plug

HERBACEOUS PLANTINGS
STORMWATER PLANTERS

HERBACEOUS MASS PLANTINGS, AS BY LANDSCAPE ARCHITECT

key	qty.	common & botanical name	size
JP	150	Joe Pye Weed Eupatorium maculatum	#1 Cont.
BF	100	Blue Flag Iris Iris versicolor	#1 Cont.
SG	120	Switch Grass Panicum varigatum	#1 Cont.
SS	30	Soft Stem Bulrush Scripus validus	#1 Cont.
EG	60	Grass-Leaved Goldenrod Euthamia graminifolia	#1 Cont.

NOTES:

1. Survey Site Plan information taken from a Site Plan prepared by Sterling Environmental Engineering P.C. refer to this Site Plan for more information.

2. Location of existing utilities not performed by this office, confirm location of all utilities prior to construction. CALL DIG SAFELY NEW YORK.

3. Contractor to verify all grades and dimensions prior to construction, contractor to inform Landscape Architect with any discrepancies.

SEEDING NOTES:

CONSERVATON MIX:

INCLUDES CREEPING RED FESCUE 60%, COMMON EVENING PRIMROSE 10%, LITTLE BLUESTEM 25% PATRIDGE PEA AND GOLDEN ALEXANDER

1. SCARIFY THE EXISTING SEEDDED AREAS BY HAND TO PREPARE SOILS FOR NEW SEED.
2. THE RATE OF SEEDING SHALL BE 1 POUND PER 2500 SF. SOUN BY HAND OR BY APPROVED MACHINE IN SUCH A MANNER THAT A UNIFORM STAND WILL RESULT AFTER SEEDING, THE SURFACE SHALL BE EVENLY RAKED WITH A FINE TOOTHED RAKE.
3. GRASS SEED SHALL BE SOUN ONLY BETWEEN APRIL AND JUNE 1, AND BETWEEN AUGUST 15 AND OCTOBER 1 AND DURING APPROVED PERIODS WHEN WEATHER CONDITIONS ARE SUITABLE AS DETERMINED BY THE LANDSCAPE ARCHITECT.
4. LOOSELY APPLY STRAW MULCH TO ALL SEEDED AREAS.
5. RESEED ALL AREAS THAT DO NOT SHOU A SATISFACTORY STAND OF GRASS AFTER 30 DAYS AND CONTINUE TO DO SO UNTIL A SATISFACTORY STAND OF GRASS HAS BEEN ESTABLISHED.

GENERAL PLANTING NOTES AND SPECIFICATIONS:

1. PROVIDE ALL PROPOSED TREES, EVERGREENS, SHRUBS AND BEDS WITH TWO (2) INCHES (MINIMUM) DEPTH OF PREMIUM DARK BROUN TRIPLE GROUND BARK MULCH AROUND THE ROOT BALL. MULCH AREA TO BE A MINIMUM OF TWICE THE DIAMETER OF THE ROOT BALL OR CONTAINER.

2. ALL PLANTS SHALL BE NURSERY GROUN AND BE TRUE TO NAME AND SIZE IN CONFORMITY WITH THE AMERICAN ASSOCIATION OF NURSERY MEN'S STANDARDS. ALL PLANTS SHALL HAVE NORMAL, WELL-DEVELOPED BRANCHES AND VIGOROUS ROOT SYSTEMS. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, AND FREE FROM DISFIGURING KNOTS, ABRASIONS OF THE BARK, SUNSCALD INJURIES, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL OTHER FORM OF INFECTIONS.

3. PRIOR TO CONSTRUCTION, THE LANDSCAPE CONTRACTOR SHALL INFORM PROPER AUTHORITIES AND THE OUNERS' REPRESENTATIVE BEFORE ANY PLANTING EXCAVATION OCCURS. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION.

4. LANDSCAPE CONTRACTOR IS NOT ALLOUED TO SUBSTITUTE PLANT MATERIAL TYPE OR SIZE AND WILL BE REJECTED AT THE COST TO THE LANDSCAPE CONTRACTOR UNLESS JOUN SLAKER DESIGN GROUP IS CONTACTED PRIOR AND ACCEPTS ALTERNATIVE PLANT TYPE. PHONE (914) 271-5033.

5. LANDSCAPE CONTRACTOR SHALL INSPECT PLANTING PITS AND DETERMINE WHETHER THEY WILL SUPPORT PLANT GROUTH. IF THE LANDSCAPE CONTRACTOR DETERMINES THAT THE SOIL IS INADEQUATE OR LEDGE ROCK IS FOUND HE SHALL NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO PROCEEDING WITH PLANT INSTALLATION. THE LANDSCAPE ARCHITECT AND OUNER SHALL DECIDE UPON REMEDIAL MEASURES, IF REQUIRED.

6. LANDSCAPE CONTRACTOR TO LOCATE PLANTS AND TREES BY SCALING OFF PLANS UNLESS OTHERWISE DIMENSIONED IN THE PLANT LIST.

7. ALL SHRUBS AND GROUNDCOVER MASSES SHOUN ON THE PLAN SHALL BE PLANTED WITH STAGGERED SPACING UNLESS NOTED OTHERWISE.

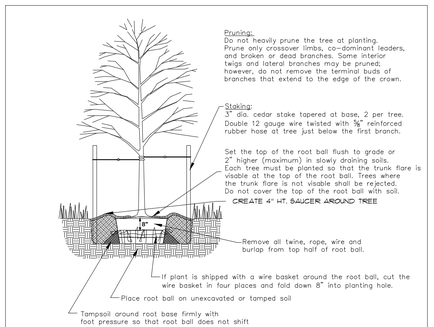
8. LANDSCAPE CONTRACTOR TO REPORT ANY DISCREPANCIES IN THE PLANTING PLAN TO THE LANDSCAPE ARCHITECT, PRIOR TO STARTING CONSTRUCTION / INSTALLATION.

9. LANDSCAPE CONTRACTOR TO COORDINATE WITH THE SITE CONSTRUCTION MANAGER AND SITE CONSTRUCTION DRAWINGS AS TO THE LOCATIONS OF THE UNDERGROUND UTILITIES PRIOR TO DIGGING PLANTING PITS, TRENCHING, ETC. UTILITIES SHOUN ON THIS PLAN WERE PROVIDED BY PROJECT ENGINEER AND ARE FOR GENERAL LOCATIONS ONLY. REFER TO PROJECT ENGINEERS SITE CONSTRUCTION DRAWINGS FOR ACCURATE LOCATIONS.

10. LANDSCAPE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING PAVEMENTS, UTILITIES, STRUCTURES, ETC. AND SHALL REPAIR OR REPLACE ANY SUCH DAMAGE AT NO COST TO THE OUNER.

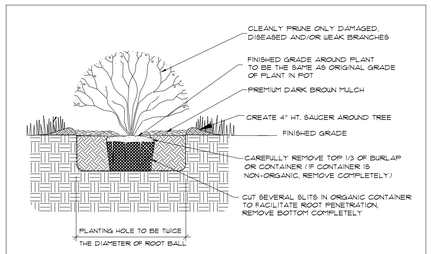
11. REFER TO TREE, EVERGREEN AND SHRUB PLANTING DETAILS FOR ADDITIONAL INFORMATION AND SPECIFICATIONS.

12. LAYOUT AND PLACEMENT OF PLANT MATERIAL MAY CHANGE DUE TO SITE CONDITIONS AT THE DISCRETION AND APPROVAL OF THE OUNER.



Notes:
1) Wrap tree trunks only upon the approval of the Landscape Architect.

Tree Planting Detail



Shrub Planting Detail

PROJECT: LANDSCAPE PLAN

CLIENT: 2 MORGAN DRIVE LLC
2 Morgan Drive
Mt Kisco NY

#1 comments 1.11.21

REVISIONS:	
SCALE:	AS NOTED
DATE:	07.20.20
JOB NO:	20.08
DRAWING NO:	LP-1.0

2 OF 2

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

February 16, 2021

Village of Mt. Kisco Planning Board
104 Main Street
Mt. Kisco, New York 10549

RE: SCS Sarles Street
180 S. Bedford Road
Village of Mt. Kisco
Tax Map No. 80.44-1-1

Dear Acting Chairman Bonforte and Members of the Board:

Attached please find nine (9) copies the following plans and documents submitted in support of an application for Site Plan, Steep Slopes Permit and Special Permit Approvals for the above referenced project:

- Drawing Set, 11 Sheets, last revised February 16, 2021.
- Sound Level Analysis, prepared by B. Laing Associates, dated February 2021.
- Biodiversity Study prepared by Ecological Analysis, last revised February 10, 2021.
- Line of Sight Cross Section Profiles, 3 Sheets, last revised February 15, 2021 (updating the view from the El Bouhali Residence).
- Stormwater Pollution Prevention Plan dated February 16, 2021 (4 copies only).

The enclosed documents are a supplemental submission to provide additional information to the Board including:

1. The proposed open space area depicted on Drawing OP-1 has been expanded to 13.15 acres from the 8.9 acres previously shown. As such 52.6 % of the property will be preserved during the term of the 25-year lease (and any extensions thereof) in a conservation area greatly exceeding the 35% required by code.
2. The Biodiversity Study has been updated to include the October 1, 2020 (i.e. early fall) and January 15 2021 (i.e. mid-winter) observations and assessments.
3. A Sound Level Analysis has been prepared for the project and included as part of this submission.

With respect to the questions / comments raised at the February 9, 2021 Planning Board Meeting, we offer the following:

1. *Several comments were made regarding the stormwater management areas being in the buffer on the north and south side of the site.*

   Under Village Code a Buffer is: "A strip of land along the perimeter of the parcel, identified on a site plan, established to separate one type of land use from another. No structure, parking or loading is permitted in any "buffer." "Buffers" are to be landscaped and kept as open space,

except that driveways and walkways providing access through the "buffer" to a structure or parking on the lot are permitted."

Per the definition above the buffer area is intended to restrict construction of a structure (solar panels themselves) or parking. The buffer is not intended or expressly described in the Code as a "no disturbance area" as suggested by several commentors.

As such the stormwater areas, which will be landscaped, are permitted to be situated within the buffers.

2. *Mr. Vigliotti made a comment about the encroachment into the buffer along Sarles Street with the solar field.*

While this application is proposing a 59-foot encroachment into the buffer along Sarles Street, the design shifts the location of the solar fields to minimize other impacts to other portions of the site to the west where the field could be situated without encroaching into any buffer area. Were the solar fields moved westerly and removed from the 59-foot encroachment proposed, the westerly location would necessitate increased tree removal that the current design avoids. Thus, the design presented is the preferred layout to minimize impact to the site.

The 59-foot encroachment of the solar fields is situated along a sloped area that minimizes visibility of the solar facility, as more particularly detailed in the line-of-sight drawings submitted to this Board.

One of the neighbor incorrectly stated that the buffer requirements were not satisfied around lands N/F Pietrobono due to the location of detention basins. Other Mount Kisco projects such as Lexus also have placed drainage basins in such buffer areas and the Building Inspector has confirmed the placement of such basins in this project are compliant with Code. There is no variance needed for the areas surrounding the Pietrobono property. In addition, the previously requested landscaping by Mr. Pietrobono remains a part of the proposed plan.

Similarly, another commentor inaccurately asserted that there were buffer incursions along the southern property line. The Building Inspector has not raised this issue as the drainage basins are permitted in the buffer areas.

The only area in which a variance is sought is along the eastern property line which runs parallel to Sarles Street. That is because this allows the solar field to utilize the existing topography along Sarles Street in order to minimize the view of the solar farm based on the following:

- There is a steep slope along Sarles Street that places the solar farm approximately 55 feet to 65 feet higher than Sarles Street.
- At the closest point the fence is 12.8 feet from the top of the steep slope. And in most cases is 40 feet to 50 feet from the top of the steep slope.
- The solar field will stand no taller than 8 feet and will be surrounded by a 7 foot tall fence.
- The solar panels set back another 12 feet from the fence or approximately 24 feet from the top of slope at the closest point.
- Approximately half of the frontage along Sarles Street where the buffer encroachment is proposed (the northern half closest to the El Bouhali and Pietrbono residence) is within previously disturbed areas of the site and outside of the forested area.

Remains of an old foundation are present at the northern most portion of this area. By focusing on areas previously developed the removal of forested areas in other portions of the site is minimized.

- It should be noted that if a residential development were proposed on this site the buffer would be reduced to 100 feet which would permit the construction of 2 ½ story or 35-foot tall structures closer to the edge of the steep slope.

- Cross sections have been provided illustrating the view from Sarles Street as well as the potential seasonal view of the solar farm from the one side of the El Bouhali residence. The El Bouhali Residence is approximately 500 feet away at the closest point and would have seasonal views of portions of the solar farm. The applicant is proposing a vigorous layer of landscape screening in front of the 7 foot tall fence to mitigate the view.

  It should be noted that if the solar farm were relocated to comply with the buffer along Sarles Street the view from the El Bouhali Residence would not be materially affected, and a limited seasonal view of the solar farm would still exist. The Code does not require that screening completely prevent visibility of the solar facility. Instead, reasonable screening is required as has been proposed by the evergreens that will grow over time to more fully screen the view (as contrasted with residential homes, which would remain visible).

- Alternative designs were presented to the Planning Board showing the current size of the solar farm extended to the south and not within the buffer area along Sarles Street. However, this alternate plan necessitated expanding the footprint to other portions of the property as described above, which would result in further tree removal and disturbance into forested areas on the southern and western portions of the property.

  Given the limited views from Sarles Street due to the unique topographic conditions, which views are further screened by the extensive landscaping proposed, it is submitted that adequate mitigation has been provided to address visual impacts.

3. *Mr. Vigliotto commented the report entitled, A Discussion of Renewable Energy Fiscal Analysis for Planning and Zoning of Solar Energy Projects, does not provide enough financial data to determine support the buffer encroachment along Sarles Street.*

   The above referenced report identifies the various factors involved in assessing the viability of a solar farm. Among other things, these factors recognize that time of approval as it relates to securing NYSERDA credits affect the viability of the project as the rates and quantity of credits change substantially as time passes. The report also notes that the project is feasible at its current size, but if the rates and credits change, or the size is reduced, the project becomes less likely to succeed.

   The buffer encroachment sought should not be solely tied to the fiscal viability of the project, as it has been demonstrated that existing conditions along Sarles Street include the change in topography and use of previously disturbed portions of the buffer that establish beneficial reasons to grant a variance to permit the solar fields to extend into this area of the site. In addition, the low height of the solar farm (less than 8 feet), the screening provided as mitigation, plus the more condensed footprint than presented in previous alternatives, further support the reasons for approving the buffer encroachment that will result in a better project for the community.

4. *It was requested that an updated cross section from the El Bouhali Residence be provided to show the view line from the third story of the residence.*

   An updated cross section has been provided as requested to illustrate the view from the third level of the house.

5. *It was indicated that the NYSDEC considered Solar Panels Impervious.*

   The NYSDEC and the NYCDEP do consider solar panels as impervious surfaces. Both regulations require hydrologic modeling to show post-development peak flows are mitigated to pre-development levels and require treatment of new impervious surfaces associated with driveways and parking areas.

   The project SWPPP has been designed in accordance with NYSDEC and NYCDEP requirements. The Stormwater Pollution Prevention Plan provided illustrates the project's post-development peak flows are less than pre-development flows and will be discharged in a non-erosive manner.

6. *It was indicated that the project will be visible from the neighboring Penwood community.*

   The view from the majority of the Penwood Community of the proposed solar farm is obstructed by hillsides within the community.

   It should be noted of the approximately 35 homes in the Penwood Community, it appears there are only three homes with potential views of the solar farm. That is because these homes are at or higher in elevation than the solar farm and are not separated by a highpoint located in the southern portion of the development. These few homes are 11 Tucker Road, the residence adjacent to 11 Tucker Road and 25 Tucker Road. These residences are 1,900 feet, 2,000 feet and 1,500 feet away, respectively. It should also be noted that the orientation of these residences is such that they do not directly face the proposed solar farm, and each residence contains forest within close proximity of their property.

   These three residences are located north of the site and as such the panels will be angled away from the residence. As the panels are only 7.7 feet tall, will be angled away from these residences, are more than 1,500 feet away from the closest residence, and all the residences are surrounded by forest, the solar farm will have limited visibility, if any, from the residences in the Penwood Community.

7. *It was asked if additional trees will be removed beyond what is shown and if additional trees more than 10 feet beyond the fence line will be removed?*

   The trees proposed to be removed have been shown on the project drawings. Additional tree removal beyond what is shown has been determined not to be needed.

8. *It was asked what are the source of the CO2 numbers used in the report entitled "An Analysis of the Carbon Value of Proposed Tree Removal and its Relationship to CO2 Equivalency of Solar Panels"?*

   There are several calculations used in this report, which are all based on standard industry values as well as surveyed data as opposed to assumptions. They include:

   - The Biomass calculation is based upon tree height, tree species and DBH. A drone survey of the forested area was performed to determine tree height and a detailed tree survey was performed to understand the breakdown of tree species and DBH of the onsite forested area. These values were then input into *Canada's National Forestry*

Inventory: Individual Tree Biomass Calculator. It should be noted the 39 dead trees also are included in this calculation resulting in a conservative estimate for the loss of biomass.

- The CO2 equivalences are based on the US Environmental Protection Agency's (EPA) Greenhouse Gas Equivalencies Calculator. To input the CO2 equivalency of the solar farm, Helioscope, which is platformed on the PVSyst modeling tool was used.

The numbers presented show the substantial benefit offered by solar farms with respect to utilizing renewable power sources. The project calculations show that the solar farm's carbon sequestration is 292 times more effective than the trees to be removed over the 25-year time period studied.

Notwithstanding the tremendous benefit of solar power the project site is seeking to balance the development of a renewable power source with the site's natural features as follows:

- The project is only proposing 19.2% development coverage where 35% is permitted.
- The project site focuses the solar farm's development on existing developed portions of the site.
- Of the project's site's 25 acres, 17 acres of forested area are proposed to remain. These 17 acres are located next to offsite contiguous forested areas to help maintain forested corridors.
- It was estimated that there are approximately 3,300 trees onsite of which almost 2,700 are being preserved.
- 219 trees are proposed to be replanted either onsite or within the Village.
- Comparing the net 400 trees to be removed (619 trees to be removed less the 219 trees to be replanted) versus the 3,300 trees onsite only 12% of the overall trees are being removed.

9. *It was asked how the estimated 410 trees in the Mt. Kisco Chase forested area come into the tree removal analysis.*

The 410 trees estimated in the forested area of the Mt. Kisco Chase combined with an additional 2,990 contiguous trees in the adjoining Marsh Sanctuary, and approximately 2,700 contiguous trees on the subject property were calculated to show the overall contiguous forested area. They were not credited as an offset against the 619 trees to be removed by the project.

The project site was designed with the intent of maintaining contiguous forested areas to maximize the benefit to the adjacent Marsh Sanctuary. This will allow the overall forested area to be preserved as a contiguous forest (refer to the proposed onsite designated Open Space Area), maximizing the area available for fauna to travel, and minimizing visibility of the solar farm from adjacent properties. One of the alternatives previously studied looked at expanding the solar farm into the southerly corner of the site. This resulted in greater tree removal and locating the solar farm closer to the Mt. Kisco Chase. In lieu of that alternative it was decided to pursue a variance from the Sarles Street buffer where we can maximize use of formerly developed portions of the site, while maintaining limited visibility from Sarles Street due to the existing topography.

10. *It was asked how the construction of the solar farm would impact animal movements.*

    An updated *Wildlife Habitat Assessment for New York State or Federally Listed Threatened or Endangered Species and Species of Special Concern* has been provided. This report addresses fauna movement throughout the site. It is noted there will be a temporary disruption during construction. However, there will be existing onsite corridors when the construction is completed that will be preserved as open space. Also, the fence height will be raised 6 inches to allow the passing of small fauna.

    It should be noted 17 acres of the 25-acre site will remain as forested area and only 3.5 acres of existing forested area are proposed to be removed. In addition, the replanting with native pollinator seed mix will also create additional habitat value not currently present on the previously developed portions of the site.

11. *It was requested a full year of assessments be completed.*

    The *Wildlife Habitat Assessment for New York State or Federally Listed Threatened or Endangered Species and Species of Special Concern* now incorporates the findings from four field visits occurring between March of 2020 and January of 2021. No protected wildlife species identified for this location by state or federal agencies were found.

With respect to the comments received by the Consulting Village Engineer in his February 9, 2021 letter, we offer the following:

1. *It is noted that the Site Plan, SWPPP and Steep Slopes calculations have been revised to incorporate the possible development of a cell tower by Homeland Towers, LLC. As requested, however, improvements associated with the tower and not required for the Solar Farm development have been noted as such.*

   No response necessary as the plans have been revised to incorporate the adjacent cell tower development.

2. *It is also noted that further investigation of the existing access driveway is in progress; irrespective of the outcome of that investigation, this plan and design must certify the capacity of the existing roadway and associated widened areas to accept required truck loading.*

   It is noted the driveway design will be required to meet fire truck loading. With respect to SEQRA it is acknowledged that this will only impact the limit of disturbance (LOD). Either the existing portions of the driveways will remain outside the LOD, of they will be included and incorporated into the phasing plan if the driveway needs reconstruction.

3. *The Stormwater Pollution Prevention Plan has been revised to model the site as was suggested in our previous memorandum and does demonstrate reduced peak flows to the suggested design points. However, there is concern regarding infiltration systems 1.3p and 1.5p in that the design incorporates overflow discharges from the 10 and 100 year storm events through level spreaders to adjacent steep slopes. Consideration should be given to expanding these systems to fully contain the 100 year storm event below the overflow outlets as was done for the other infiltration ponds and galleries in this design.*

   We have updated the modeling to maximize onsite retention, and will reach out to discuss the updated modeling with the Consulting Town Engineer.

4. *Some clarity should be given as to the use of "flow spreaders" or "flow diffusers" and dimensions provided including lengths proposed for these structures.*

The flow spreaders / flow diffusers have been modeled in HydroCAD to substantiate their design lengths and confirm the dischargers are non-erosive.

5. *The proposed grass swales should be shown with contour lines; some travel parallel to proposed contours, proper pitch should be shown, and grades demonstrated.*

   The grass swales have been graded as requested.

6. *Details and sizing for the multiple proposed temporary sediment traps must be included.*

   Sizing for the sediment traps has been included as an Appendix of the SWPPP as requested and details have been provided on the drawings.

7. *Details for rip-rap swales and temporary stone check dams are provided but could not be located on the plan.*

   The details for the grass swales and temporary stone check dams are on Drawing D-2 of the project drawing set.

8. *Two pool set up areas have been designated; these should be detailed.*

   Our office will reach out to the Consulting Town Engineer regarding the details sought.

9. *Additional structures (DMH) should be considered at the outfall of system 1.5p to avoid overly turbulent flows within the manholes.*

   An additional DMH was provided as requested.

10. *Cross sections should be provided at the proposed infiltration systems, 1.6p and 1.7p including the road widening and adjacent steep slopes.*

    Cross sections have been provided as requested.

11. *Pipe profiles for the proposed drainage piping, particularly the lower road piping should be provided to demonstrate sufficient number of structures to work with the steep slopes.*

    The requested profiles have been provided.

12. *In general, all pipes should be labelled with slopes.*

    All pipes have been labeled as requested.

13. *Flow splitters 1.6 and 1.7 are missing from the plan; additional detail is required to demonstrate how these will function effectively to separate flows with water entering from the above grate.*

    Flow Splitter 1.6 and 1.7 have been stepped back from the curb line so an inlet weir can be constructed to ensure the flow splitter functions as designed.

14. *Concrete curbs should be clearly called out where proposed along the access driveway.*

    The location of the concrete curbs along the access driveway have been shown as requested.

15. *Construction phasing has been revised to limit disturbance to less than 5 acres at one time as was requested. Some specific notes regarding the level that disturbed areas must be*

"stabilized" prior to moving on to the next phases (i.e. vegetative cover or mulch) should be provided.

The requested notes regarding the construction phasing have been added to the Overall Construction Sequence.

We trust you will find the enclosed information in order. We look forward to continuing discussion of the project with the Planning Board at their March 9th, 2021 meeting.

Should you have any questions or comments or require additional copies of the enclosed information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams Jr., P.E.
Principal Engineer

RDW/dlm

Enclosures

cc: Doug Hertz, Sunrise Solar Solutions, LLC
William Null, Cuddy and Feder

Insite File No. 19192.100

Wildlife Habitat Assessment for New York State or Federally Listed Threatened or Endangered Species And Species of Special Concern

FINAL

Project:

SUNRISE COMMUNITY SOLAR

Village of Mount Kisco
Westchester County, NY

Prepared By:

Bruce Friedmann

ECOLOGICAL ANALYSIS, LLC
633 Route 211 East
Suite 4 Box 4
Middletown, New York 10941
(845) 495-0123

Revised February 15, 2021

Introduction

The proposed Sunrise Community Solar field project (SCS) site is located on a 25-plus acres parcel situated generally to the southwest of the intersection of NYS Route 172 (South Bedford Road) and Sarles Road, within the Village of Mount Kisco. As part of this project's review requirements, Ecological Analysis, LLC, (EA) completed a wildlife habitat assessment of the property, which included observations of resident wildlife, as well as the potential for the site to support certain "target" species that are listed as "endangered", "threatened" or "species of special concern" by the New York State Department of Conservation (NYSDEC) and/or by the federal government's United States Fish and Wildlife Service (USFWS).

The list of target species used throughout this report was additionally refined by querying both the New York State office of the Natural Heritage Program (NHP) of the NYSDEC and the USFWS IPaC[1] website. Copies of the communications with the NYSDEC and of the USFWS IPaC report are provided in Appendices A and B of this report.

While the staff of the NHP responded to our request, we did not receive a response from the Region 3 office of the NYSDEC as our request was made at the onset of a time when Region 3 staff were working from home due to state work restrictions in place to address Covid-19. The NHP response stated that they have "no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity" and therefore no additional target species were considered as a result of our inquiries.

The online generated IPaC report listed two endangered species (Indiana bat and bog turtle) that may be present on or near the project area, however IPaC reports are automatically generated using data that is neither site-specific nor project- specific and thus any potential effects of any project would be modified by project and site specific details. The IPaC report stated that the project area lies outside of critical habitat for the Indiana bat. The expected potential for project impacts to these two species is discussed in the impacts section below.

The subject site is located in the coterminous jurisdictions of the Town and Village of Mount Kisco in central Westchester County, New York. The property is generally wooded, with upland woods on well drained soils on most of the property (Photo 1), exposed bedrock ledges, knobs and talus slopes (Photo 2), an abandoned residential property and open fields within 3.4 acres near the center of the parcel (Photo 3), and a small, 0.2 acres roadside wetland on the southeast edge of the parcel (Photo 4). The present fragmented nature of this site and other nearby off-site areas, influenced by both natural and anthropogenic factors, is reflective of the existing environment of central Westchester County, which includes many urban, suburban, and exurban neighborhoods interspersed within patches of second-growth forests that are on privately or publicly held lands. Elevations above sea level across the property range from approximately 400 feet around the periphery of the site, to approximately 530 feet at the highest point. The property is in the upper watershed of the Kisco River. A vegetation survey of the property was also initiated for the property and a list of the 134 taxa of vegetation observed during the four seasonal site visits (conducted on 3/10/2020, 5/13/2020, 10/1/2020, and 1/15/2021) is attached to this report (Appendix C).

The site features five major habitat/ecosystem variants[2] that were observed and evaluated (Figure 1):

1. Uplands – Southern hardwoods;
2. Uplands – Hemlock northern hardwoods;
3. Uplands – Successional old field/meadows/cultural;
4. Uplands – Acidic talus slope woodlands;
5. Wetland – Palustrine shrub swamp.

[1] Information for Planning and Consultation (IPaC), a project planning tool of the USFWS.

[2] Adapted from: Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Of these five, the one that predominates across the property is the southern hardwood variant which is largely present as an oak-birch-maple forest. The other four habitats are smaller in scale and relatively confined in their presence. These include: an area of Norway spruce and eastern white pine along the existing access driveway onto the property;

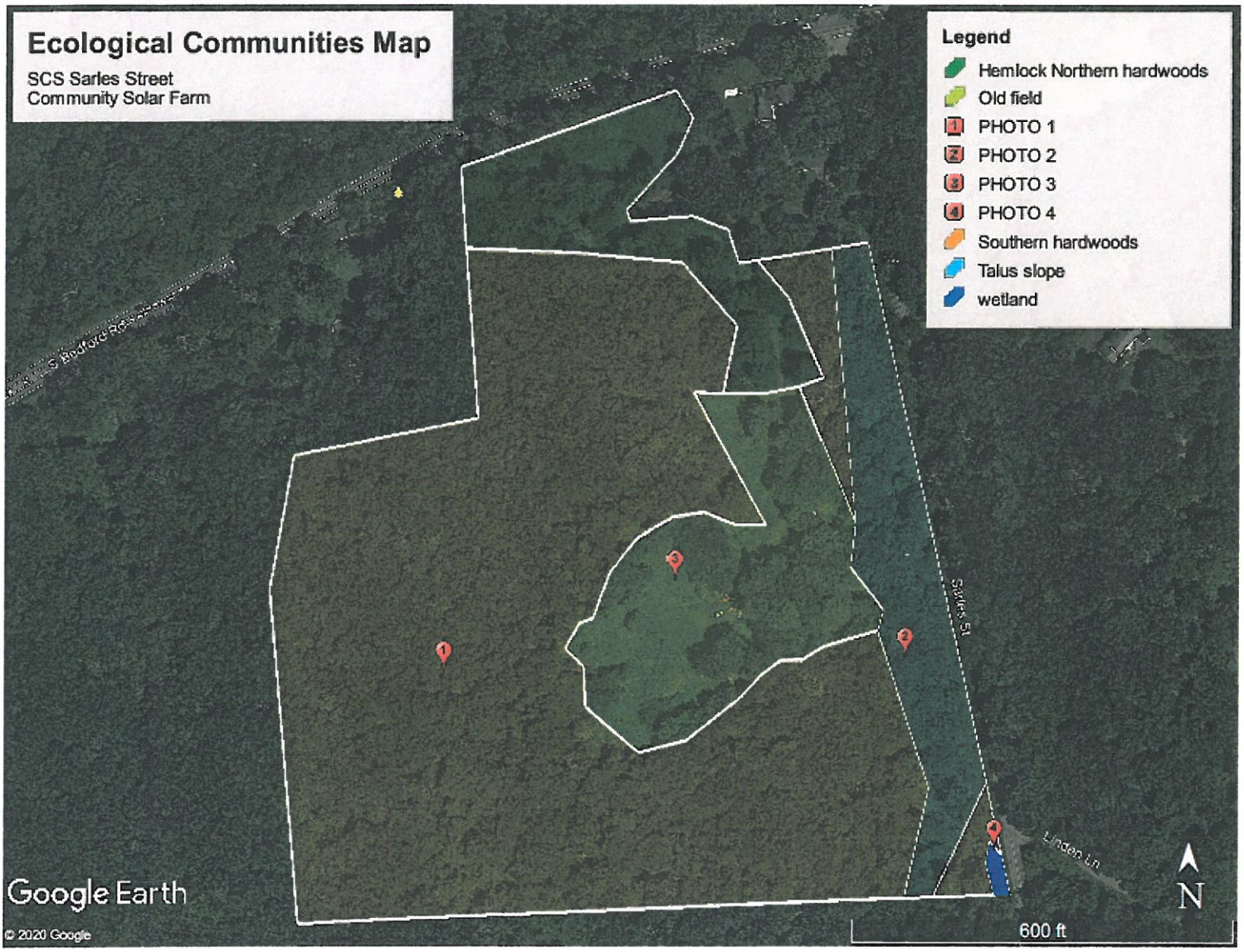


Figure 1 – Locations of major ecological communities across the site.

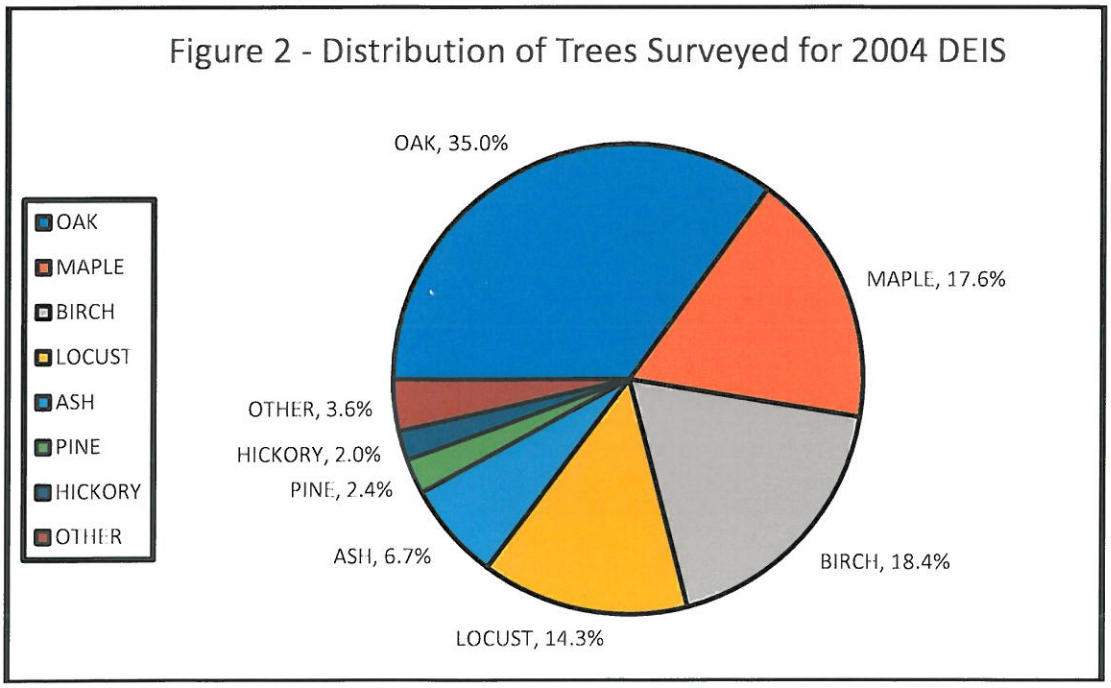
a hilltop area of abandoned and overgrown successional field where an estate residence was once located, and along Sarles Road, a small wetland and a narrow, wooded talus slope.

Of the five ecological community types described above, one type, the Acidic Talus Slope Woodland, is listed by the NYSDEC NHP as being a Significant Natural Community of statewide interest. The state however does not extend specific protections to this community type.

2001 Tree Survey

Earlier site surveys and investigations of the habitats, wildlife, and vegetation across this parcel were conducted in the Spring and Summer of 2001 as part of a SEQRA study conducted for a previous landowner by the environmental firm of Tim Miller Associates. The relevant section of the draft environmental impact statement (DEIS) for that SEQRA project (Chapter/Section 3.3 Terrestrial and Aquatic Ecology[3]) is presented in the appendices to this report (Appendix D). As part of that SEQRA study, an inventory was made of all trees on the property that were of a size equal to or greater than 8 inches in diameter (diameter at breast height, or DBH), and each of these trees was identified to taxa, surveyed to location on the parcel, and tagged in a sequence of serially numbered metal disk tags. The complete inventory of these data is presented in the 2004 DEIS document. Approximately 1,620 trees were included in that survey, of which approximately 1,069 were considered to be "specimen trees" as defined by the Mounty Kisco Tree Preservation ordinance. That ordinance, Chapter 99 of Mount Kisco's general legislation, defines a "specimen tree" as one which has a minimum circumference of 36 inches (approximately 11.5" DBH), and/or a minimum crown spread of 15 feet, or is otherwise identified significant by the Village's Naturalist.

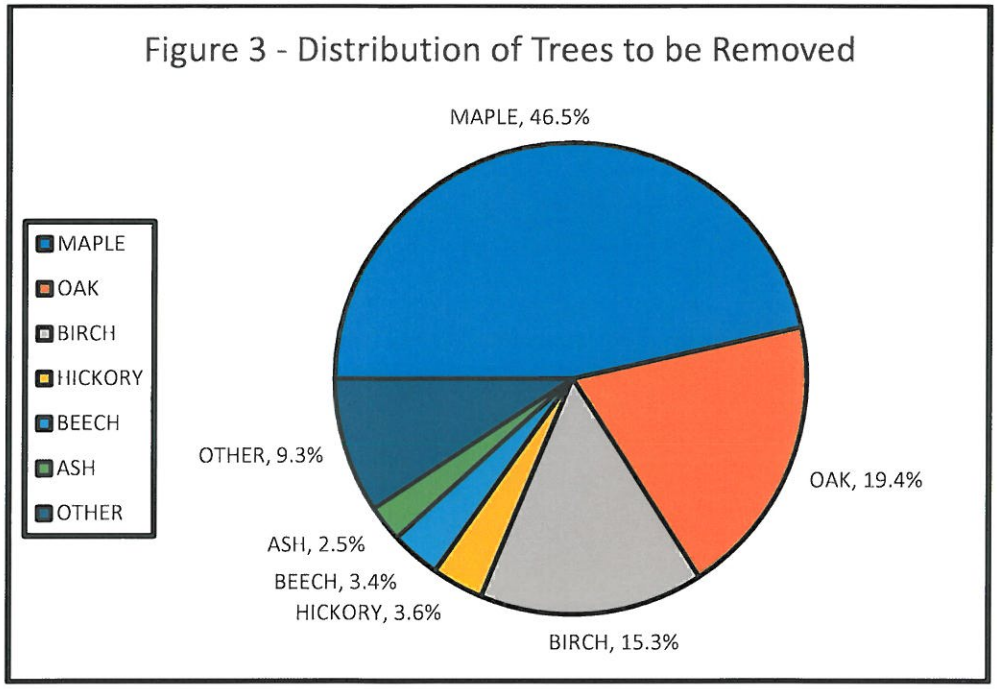
The most prevalent trees identified in the DEIS tree survey were oaks and maples of several species, sweet birch, black locust, ashes, eastern white pine, and hickories of various species. Several other tree species were noted in lesser numbers, including American beech, tulip poplar, black walnut, eastern hemlock, eastern red cedar, apples, cherries, sassafras, and sycamore.



[3] Tim Miller Associates. 2004. Sarles Estates Draft Environmental Impact Statement.

August 2020 Tree Survey

While the taxa distribution shown in Figure 2 is dated to 2004, a more recent survey of living trees within the footprint of the proposed solar field demonstrates that the characterization of the predominant wooded community on the site remains one dominated by various oaks, maples, and birches. For the currently proposed project, a field survey was performed in August, 2020, to provide a count of trees that would be removed in order to clear the property to the Limits of Disturbance (LOD) required for this project's needs. The most prevalent species of trees found within the Project's LOD were various species of maples, oaks, and birches (Figure 3). This survey provided counts of the total number of live trees to be removed (TBR's), the number of Town designated "specimen trees" TBR, and the number of "Dead" TBR's (the latter category is based on a visual assessment by the field surveyors that, in August of 2020, a tree appeared to be dead).



Those counts in August of 2020 were: 462 live TBR, 141 specimen TBR, and 44 dead TBR, for a total count of 603 live trees and 44 dead trees to be removed within the proposed LOD. Those trees that are identified as "dead" were assessed visually by Insite in August and appeared to be dead or to have been knocked down following an episode of high winds on August 4 associated with the passage of a downgraded extratropical depression (Hurricane Isaias).

November 2020 Tree Assessment Survey

In November of 2020, a licensed arborist from SavATree®, independently evaluated the health condition of 1,074 trees identified onsite inside of the proposed LOD as well as those trees located within 10 feet of the proposed LOD. The report from this survey[4] detailed the species, size (DBH), and condition of each of these trees and of the 619 living and 39 dead trees that will be removed from the project.

The area within the project's proposed LOD is 7.4 acres, of which approximately 3.18 acres is southern hardwood habitat, 0.87 is hemlock northern hardwood habitat, and 3.35 is old field habitat. There are no time-of-year restrictions imposed by state or federal regulatory agencies in regard to the felling or removal of the trees on this property.

[4] Insite. 2021. Tree Assessment & Removal Summary for SCS Sarles Street Community Solar Farm. 3pp, plus figures and tables.

On-site observations and assessments were conducted by Mr. Bruce Friedmann, a Senior Environmental Scientist with EA, LLC. A total of 15.75 hours of on-site walks and observations occurred during 2020-2021 over four days in the months of January, March, May, and October, enabling EA to complete a three-season set of observations of some of the notable wildlife, vegetation, and ecological aspects of the project site. During the site walks, EA employed a series of random, zig-zag transects with observations, listening, and/or ground searches being conducted across all of the site's ecological habitats as site specific features changed along the walking transect routes (e.g. through upland hardwood forested slopes, to successional fields, to the talus slope, and through the wetland).

The site visits were focused on observing wildlife habitat present on the property. The random nature of these transects allowed the investigator to observe and actively investigate landscape features of interest encountered. This tactic also allowed data to be collected from a greater variety of micro-habitats than would be encountered by more rigid transect procedures. During these transects, incidental observations of wildlife and vegetation were made and are noted in this report.

Many of the understory and groundstory shrubs and forbs observed to be dominant within both the forested and the open meadow areas of the property are plant species that are listed by the NYSDEC as either prohibited or regulated[5]. These include: garlic mustard, common wormwood (mugwort), Japanese barberry, oriental bittersweet, cypress spurge, privets, bush honeysuckles, Japanese honeysuckle, Nepalese browntop (stiltgrass), wineberry, multiflora rose, winged euonymus (burning bush), Norway maple, and black locust.

Upland Communities

The upland areas on the subject property range from second growth Southern hardwood forested areas to small stands of Northern hardwood evergreen trees, to several areas of bedrock exposures, to an area of cleared forest land that had been developed as a residential estate property, but has reverted to a shrubby field dominated by multiflora rose, brambles (several *Rubus* spp.) and a variety of herbaceous plants and grasses.

The majority of the property is an upland forested community that is primarily dominated by several species of oak (chestnut, white, and pin oaks) that are co-dominant with any one or more of the following: maples (sugar and red maples), sweet birch, and ashes (white and green ashes) in the overstory (Photo 1, next page). Photo 1 was taken in the larger, western portion of the Southern Hardwoods Forest polygon of Figure 1.

Black locusts are present within the developed areas and along the roads that border the parcel. Underneath the dense and closed canopy of the overstory trees, there is a very open understory shrub and sapling layer over a sparse herbaceous ground layer of vegetation that is reflective of the low light intensities that reach the forest floor during most of the growing season. These strata were primarily comprised of saplings of the overstory trees in the understory layer while garlic mustard, wood ferns, and bedstraws were found in the herbaceous ground layer. This type of forest habitat within the project site provides habitat for wildlife species that require forest interior conditions, such as wood thrush, veery, eastern wood pewee, red-eyed vireo, black-capped chickadee, rose-breasted grosbeak, wild turkey, nuthatches, and pileated woodpecker. Regionally common mammals that would utilize this forested habitat would include whitetail deer, red fox, raccoon, striped skunk, porcupine, opossum, and many of the terrestrial or arboreal rodent species, including gray squirrel, red squirrel, and eastern chipmunk.

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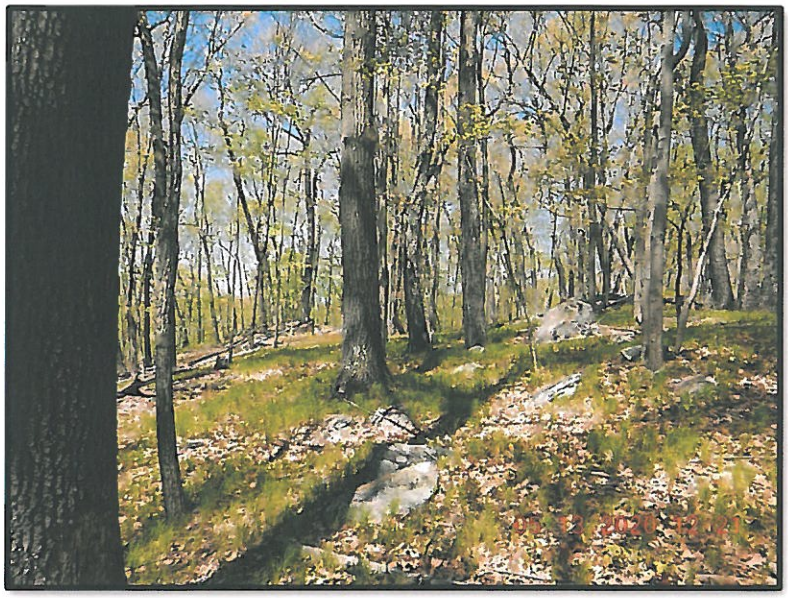
[5] In New York State, listed prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce or propagate. Regulated invasive species are species which cannot be knowingly introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction. Adapted from: 6 CRR-NY Part 575 Prohibited and Regulated Invasive Species. Current through January 31, 2020

PHOTO 1

View, looking north, of typical hardwood forested areas traversed by remnants of pastoral era stone walls.



Areas of denser evergreen tree canopies are uncommon on this parcel and are generally confined to the edges of the abandoned access driveway where much of these trees have been felled and harvested since the hilltop residence was abandoned (approximately 40-45 years prior). These areas (q.v. Figure 1 – Hemlock Northern Hardwoods polygon), though presently limited, may be used as cover by many of the same species that utilize the more open deciduous woodlands of the site. Some specialist species that prefer this cover type and may also utilize the site include black throated green warbler, pine warbler, pileated woodpecker and Acadian flycatcher.

As shown in Photo 2, much of the far eastern edge of the parcel consists of steep gradient slopes that present bedrock exposures along the upper edge of the slopes above a strongly sloping area of both embedded and loose talus. Photo 2 was taken of the upslope elevations within the Talus Slope polygon demarked on Figure 1.

PHOTO *2*

View, looking northwest, of top of talus slopes bordering Sarles Road on eastern edge of parcel.

The upland areas of abandoned residential foundations, yards, and fields (Photo 3) on this property are dominated by multiflora roses (frequently showing evidence of damage caused by rose rosette viral infections), American red raspberry, various grasses, goldenrods, and clovers. Saplings of white pine and eastern red cedar are colonizing these fields. White tail deer, mourning dove, American robin, gray catbird, and blue jay were observed in these more open areas of the site. Photo 3 was taken in the center portion of the Successional Old Field/Meadows/Cultural polygon of Figure 1. Extensive beds of plantings of pachysandra still remain in several areas around the abandoned residential foundations and this plant has spread into adjacent areas of woodland, to the exclusion of other native ground vegetation.

The ecological values of unoccupied, abandoned, or razed cultural habitats can differ widely in association with site specific details for the types of remaining structures, landscaping plantings or pioneering vegetation present. At this site, an undisturbed successional meadow around several abandoned concrete foundations has developed into a diverse plant community of grasses, forbs and shrubs, and may support an array of wildlife, including invertebrates, reptiles, mammals, and birds. Upland meadows such as is present here, often have large populations of small mammals and can be used as hunting grounds for fox, coyote, and raptors.

PHOTO 3

View, to south, of rubble and successional old fields around hilltop abandoned residential areas.

Wetland Community

The single small wetland on the property (Photo 4, next page) would be classified as either a wooded or scrub/shrub habitat. Photo 4 was taken within the Wetlands 'A' polygon of Figure 1. This small pocket, of less than 800 square footage, is dominated by skunk cabbage, spotted jewelweed, sensitive fern, and stinging nettle. Although it was dry during our visits in January, March, and October, it did hold a shallow pool of standing water during our visit in May. There is a 12" corrugated steel culvert underneath Sarles Road that carries any discharge from this wetland. The

overstory vegetation shading this localized wetland area consists of ashes and red maples, as both saplings and mature trees, within a surrounding sparse understory of multiflora rose, wineberry, and tangles of oriental bittersweet vines.

The only wetland inhabitants observed during our visit were aquatic insect larvae and green frogs. However other, larger, fauna may utilize these areas in transit and smaller, omnivorous, mammals such as raccoons and skunks would forage within and around the wetland, consuming smaller vertebrate and invertebrate aquatic prey species.

There were no streams nor vernal pools of water identified on the property during the wildlife study field investigations. There is, however, one small headwater tributary that is included within the NYSDEC Environmental Resource Mapper (Mapper) GIS database, as shown on the Mapper display for the project site (Appendix E). Although the feature is shown on the Mapper output, we were unable, during either of our site visits, to find any evidence of streamflow, or stream or wetland vegetation, when exploring the area of the natural hillside swale where this mapped stream resource has been depicted by the NYSDEC.

PHOTO 4

View, to south, of the small wetland located along Sarles Road on eastern edge of parcel.

Of note, along Sarles Road was an impact on many of the wetland bordering shrubs, nearby trees, and even adjacent power lines that have been overgrown by a variety of climbing and vining plants, including tara vine (hardy kiwi), Amur peppervine (porcelain berry), and Asiatic tearthumb (mile-a-minute vine) as shown in Photos 5 and 6 (next page), taken north of the Photo 4 location. These three exotic, invasive plants are capable of killing the shrubs and trees that they smother, either directly by outcompeting the supporting plants for sunlight, or indirectly by causing those supporting plants and structures to be more susceptible to damage by either high winds or snowfall burdens.

The Natural Heritage Program (NHP) of the NYSDEC publishes mapping resources that provide evaluations of the ecological condition of forested lands throughout the state for general planning purposes. The wooded lands on the project parcel and on adjacent terrains are either unrated by the NHP or are forests fragments that are assigned to some of the lower statewide rating classifications (see NHP Forest Resource Condition Indices figure in Appendix E). The project's fenced-in solar enclosure (blue-outlined polygon shown on the figure) and the entire, larger, project parcel are in an unrated area adjacent to urban and residential developments that serve to separate it from any more extensive tracts of nearby forest. The forested areas nearest to this site are ranked by the NYSDEC NHP with Forest Condition

PHOTOS 5 and 6

Views of vining, invasive plants along Sarles Road

(Left – tara vine, Right – Amur peppervine and Asiatic tearthumb)

Indices that indicate that each of them is compromised by one or several of the metrics applied by NHP to evaluate their ecological condition. As shown on the figure, the site was not evaluated to include any core forest areas (shown on the figure as areas of black cross-hatching). Core forests, where present, as on some of the nearby forested lands shown on the figure, contain sufficient undisturbed interior forest habitat to be of greater importance for those many species of wildlife and forest songbirds which typically avoid areas of human disturbance. While not intended solely as a wildlife impact mitigation measure, the landscape plantings to be utilized on the site will be directed towards the use of native species of bushes and trees that will offer wildlife values associated with shelter and forage opportunities.

Aside from the observable seasonal changes in the site's vegetation described below, the other most notable change to the site that had occurred since the earlier mid-spring visit was the blowdown of many trees on the south facing slope of the site (Photo 7, next page) related to the passage of the remnants of Hurricane Isaias on August 4, 2020, that had affected much of downstate New York. As shown in the photograph, trail clearing, and the removal of portions of the fallen timber, had begun by the time of EA's site visit in October. It was noted that some of the blowdowns were tagged with the numbered metal disks that had been applied to identify trees during earlier tree surveys.

PHOTO 7

View, to west, of storm felled trees and path clearing activity on south facing slopes.

Wildlife Use of the Site

The site provides several different types of habitats and their associated localized ecotones for use by wildlife species. The wooded uplands provide acorns and hickory nuts (mast) from trees in addition to producing various berries, fruits, twigs, and winter buds for wildlife browsing on the various shrubs. The site is bordered in part by the ecologically more diverse lands of the Marsh Sanctuary that also supports a diversity of mast and browse producing plant species supporting local wildlife populations (Appendix F). Dead wood, including fallen trunks and limbs and decaying stumps, was observed throughout the site, providing shelter for smaller animals and producing invertebrate food sources for many predatory species of mammals, reptiles, amphibians, and birds. Some of the standing, but stressed, ash trees show extensive bark stripping, or blonding, by woodpeckers as a result of bark peeling by pileated woodpeckers (a species that was observed on site), and insect exit hole evidence was observed on these trees that would be related to infestations of emerald ash borer beetle larvae.

In the context of the parcel's overall landscape, a number of bird species, which require either open meadow or closed canopy woodlands to thrive, are likely to use this site, either as a stopover during seasonal migrations or for feeding or nesting activities. Such species might include: vireos, ovenbirds, thrushes, and woodpeckers as well as some of the owl species and some of the migratory warblers. While these species are not specifically state protected, they are of concern as areas of woodlands are cleared for development. The presence of wooded areas and undeveloped parcels extending for several miles in all directions within numerous regional preserves, parklands and undeveloped portions of this and other parcels results in continuous woodland corridors that may be used by these species if displaced either temporarily or permanently from the hilltop areas of the site proposed for this development.

During EA's site visits, all direct observations of wildlife or their spoor or calls were of regionally common species, which for this site have included such terrestrial species as white-tailed deer, eastern chipmunk, gray squirrel, short-tailed shrew, red-backed salamander, spring peeper, wood frog, and green frog. Avian species either seen or heard have included mourning dove, pileated woodpecker, hairy woodpecker, tufted titmouse, bluejay, American robin, gray catbird, black-capped chickadee, white-breasted nuthatch, house wren, scarlet tanager, and Carolina wren.

Potential for Use by Threatened or Endangered Species or Species of Special Concern

The site was examined for potential use by a number of threatened or endangered species which are given statutory protection by Section 182.2g of 6 NYCRR Part 182. Based strictly on the characteristics of the property including its single, roadside, wetland area, habitat potential was analyzed for the following species that are either New York State threatened or endangered:

- Bog turtle - Endangered
- Mud turtle - Endangered
- Tiger salamander - Endangered
- Northern cricket frog – Endangered
- Indiana bat – Endangered
- Northern long-eared bat – Threatened
- Northern fence lizard - Threatened
- Timber rattlesnake – Threatened

Habitat potential was also evaluated for the following species of special concern, a category of protected animals that is also listed by 6 NYCRR Part 182:

- Eastern box turtle
- Wood turtle
- Spotted turtle
- Eastern hognose snake
- Worm snake
- Mole salamanders:
    - Marbled salamander
    - Blue spotted salamander
    - Jefferson salamander

Several of the species from these listings of protected animals were eliminated from consideration due to the lack of known populations within the range of central Westchester County generally, including:

- Bog turtle – outside of known range for bog turtles, lack of suitable habitat. Neither of the requests to either the USFWS or the NYSDEC NHP returned any known concern for this species at this site.
- Mud turtle - north of its known range of Long Island, lack of open field areas, lack of suitable open water.
- Tiger salamander - north of its known range, confined to eastern Long Island.
- Northern cricket frog - requires sunlit pond habitat, within New York State known only in the Hudson Highlands and areas of Orange, Ulster, and Dutchess Counties. There are no known populations in Westchester County.
- Indiana bat – the NYSDEC NHP does not list any critical habitat or any known populations at or near this site.
- Northern long-eared bat – Neither request to either the USFWS or the NYSDEC NHP returned any known concern for this species at or near this site.
- Northern fence lizard and timber rattlesnake – While both have populations in the Hudson Highlands to the north of Westchester County (and the fence lizard has a known population to the east, bordering Connecticut), these two species have specific requirements for exposed rock and ledge terrain for denning and basking that are not present on this site.
- Worm snake – requires moist woody areas with sandy or rock substrate. Known from the Peekskill area in upper Westchester County and from Long Island.

Habitat conditions available on the site (forested uplands, meadows, and a small, intermittently flooded wetland) were then considered, and several further of these species were eliminated from consideration.

- Spotted turtle - the habitat for the spotted turtle is flooded wetlands, ponded areas and adjacent wooded areas. The requirement for flooded, ponded areas is not met by this site.
- Mole salamanders - Mole salamanders include the three species listed: marbled salamanders, blue-spotted salamanders, and Jefferson salamanders. While the blue-spotted and Jefferson salamanders are known to have populations in areas of northern Westchester County, only the marbled salamander has populations generally located throughout the county. All of the mole salamanders are terrestrial as adults and spend most of their lifespan utilizing inground burrows within upland, wooded areas. But they do require the isolated features of vernal pool wetlands for breeding purposes and the single site wetland does not persist as a vernal pool habitat that could be exploited for the successful breeding of any of these species.

Of the remaining species from the above listings, each of their range and habitat requirements may be met in part within portions of the proposed project site. Each of these species and their general habitat requirements are listed in the following table and then discussed individually below.

General habitat requirements for state listed "Species of Special Concern" potentially present on the SCS property		
Common Name	**Scientific Name**	**Habitat requirements met on the SCS property**
eastern box turtle	*Terrapene carolina*	Upland woods, wooded wetland corridors
Wood turtle	*Glyptemys insculpta*	Upland woods, wooded wetland corridors
eastern hognose snake	*Heterodon platyrhinos*	Wooded areas with stone walls or rocky surface

Eastern Box Turtle and Wood Turtle

Based on site reconnaissance, there are densely wooded areas of the property that may be used by both the eastern box turtle and the wood turtle. These two species are listed by New York State as species of special concern.

These are primarily terrestrial turtles, although they may make seasonal movements to any offsite stream beds or shallow ponds that would serve as refugia for them during the hotter months of summer. The major threats to terrestrial turtles appear to be pesticide poisoning, collection as pets and natural predation in areas where predators such as raccoons may be increasing.

Eastern Hognose Snake

There is the possibility that habitat on-site could support the eastern hognose snake. This species is listed by NYSDEC as being a species of special concern, although it has also described as being locally common. It is a highly secretive species that may utilize the stone walls and wooded areas of the site for cover and feeding. Since this species is also adaptable to new fields, pastures and suburban areas, the proposed development of the property should not result in a significant adverse impact to the hognose snake, if in fact it is present on this site. No hognose snakes were observed on the site.

Potential Impacts to "Species of Special Concern"

Following the use of the range and habitat assessments discussed above to eliminate many of the target species from further consideration, the currently proposed development plan was reviewed to determine what if any impact the proposed structures, access roadways and other site plan features may have on the local populations of the three listed species remaining under consideration. The potentially impacted "species of special concern" identified above include the following three species, that if present, are likely to utilize the upland or wetland portions of this site during at least some portion of their life phases:

The eastern box turtle and the wood turtle both make extensive overland movements for foraging and may use any portion of this property. While construction at any time on a portion of the site may temporarily alter some patterns of movement, there will be areas of undisturbed land for turtle foraging movements to occur. The temporary disturbance of portions of the site at any time could potentially impact individuals in the development area, but is unlikely to impact the population as a whole. Long term impacts are not expected unless visitors to this site proceed to capture and collect individuals. The planned provision of a 6" gap between the bottom of the security cyclone fence and the ground would allow all small terrestrial animals such as these turtles to freely move throughout the property.

The hognose snake is known to be adaptable to new developments in rural and suburban areas. Thus, the proposed development should not result in a significant adverse impact to the hognose snake population, if in fact the species has a presence on this site.

Conclusions

There were no protected wildlife species identified for this location by state or federal agencies. The site remains predominately an area of southern hardwood forest, dominated by oaks, maples, and birches, with a limited development of understory tiers, as it was also described in a previous analysis of the terrestrial and aquatic ecology of the site that was conducted by others over 2001-2004 (reference to Tim Miller Associates DEIS report of 2004, Appendix D). A section of demolished residential foundations remains with the property, and has developed into an open meadow. This part of the site has been designated as the main focus for the proposed project. As this area is located within the highest elevations of the property, and is centrally located, surrounded by the forested lands, the impacts of the project on the site woods have been significantly reduced. Approximately 17 acres of the existing contiguous forest will be preserved on-site. This forested land will remain connected to offsite forested areas, as shown in Figure FA-2 in the *Tree Assessment and Removal Summary* that was submitted to the Town Planning Board in January of 2021.

In addition to avoiding the removal of existing live trees to the extent practicable, the project proposes to establish a landscaped border/buffer around much of the perimeter of the project installation, using native shrub and tree species. Many of these plantings provide mitigation for some impacts to both resident and transient wildlife through the enhanced provision of nesting, shelter, browse, and foraging opportunities. An estimated 7.95 acres of the existing vegetative communities will be removed by the project and replaced with the proposed surrounding landscaping plantings as well as by pollinator seedings to be established. All of the old field and meadow area would be disturbed, and replanted. Approximately 3.5 acres of the southern hardwood forest and hemlock northern hardwood area would be cleared, resulting in the removal of 619 existing live trees and 39 standing dead trees. An updated breakdown and summary of the size, species, and condition of the trees to be removed is provided in the *Tree Assessment and Removal Summary*. Based on an extrapolation of the 1,074 trees examined within the designated area of this tree inventory, it is estimated that the total count of trees onsite approximates 3,306.

It is proposed that the equivalent of 219 replacement trees would be provided per §99-10 -*Tree Preservation,* and §110-33.3 – *Solar Energy Law*, of the Village Code during the development of this project. There are 69 replacement trees proposed to be planted on the project site, with the balance of the required replacement trees to be planted on an alternate Village of Mount Kisco site, or a contribution will be made to the Village tree fund. Ultimately, as part of

the future decommissioning of the proposed solar farm, a reforestation plan would be accomplished within the area previously disturbed.

As stated earlier, it can be expected that a temporary displacement of many of the different wildlife species on the property might occur during development of the property, and permanent displacement of some species would occur within the fenced confines of the proposed project where all of the live and dead (standing or fallen) trees would be removed. However, any pre-existing corridors for wildlife movement will remain around all sides of the centrally located solar field. These local wildlife corridors would still connect to adjacent and surrounding offsite undeveloped tracts of land, including parts of the Marsh Sanctuary to the south and west of the property, the smaller Mount Kisco Chase Forest to the southwest of the property, as well as currently undeveloped lands along South Bedford Road (NYS Route 172) and Sarles Street. The forested areas to be preserved within the southern portion of the site alongside the protected lands of the Marsh Sanctuary and the Mount Kisco Chase Forest represent the most traversable area of the site, and is the most ideal forested corridor for most area wildlife. These existing wildlife corridors will allow for the continued relatively unobstructed movement of species through the site as well as onto adjacent lands. Therefore, it is our professional opinion that none of the wildlife species identified within this report should be adversely affected by the proposed development plan.

Appendices:

- APPENDIX A – Correspondence with NYSDEC
    - EA letter to request Jurisdictional Determination of NYSDEC, dated March 12, 2020
    - EA letter to NYSDEC Natural Heritage Program, dated March 13, 2020
    - NYSDEC Natural Heritage Program response, dated March 27, 2020
- APPENDIX B – USFWS IPaC resource list, generated online on March 12, 2020
- APPENDIX C – List of observed vegetation, 2020-2021
- APPENDIX D – Chapter 3.3, Terrestrial and Aquatic Ecology. from Sarles Estates DEIS, 2004.
- APPENDIX E – NYSDEC Environmental Resources maps, generated online on June 8, 2020
- APPENDIX F – Miscellaneous plant lists and observations
- APPENDIX G – Work resume of field investigator

Appendix A

Correspondence with NYSDEC

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

12 March 2020

Mr. John Petronella, Regional Permit Administrator
NYSDEC Region 3
21 South Putt Corner Road
New Paltz, NY 12561-1620

Re: Jurisdictional Determination Request
180 South Bedford Road
Sunrise Community Solar project
Town of Mount Kisco, Westchester County

Dear Mr. Petronella:

Ecological Analysis, LLC, has been retained to perform the environmental work for the proposed commercial development project identified above and located within the enclosed area highlighted on a copy of the USGS 1:24,000 Mount Kisco Quadrangle map.

At present, the parcel is undeveloped.

At this time, the site plan for this community solar farm is in the review phase and an exact site plan has not been done. To aid us in this process, we are trying to identify all of the environmental and ecological constraints associated with this property. So for that purpose we are requesting a Jurisdictional Determination from your office for this approximately 25 acres site. This information will then be used throughout the subsequent planning stages of this commercial development project.

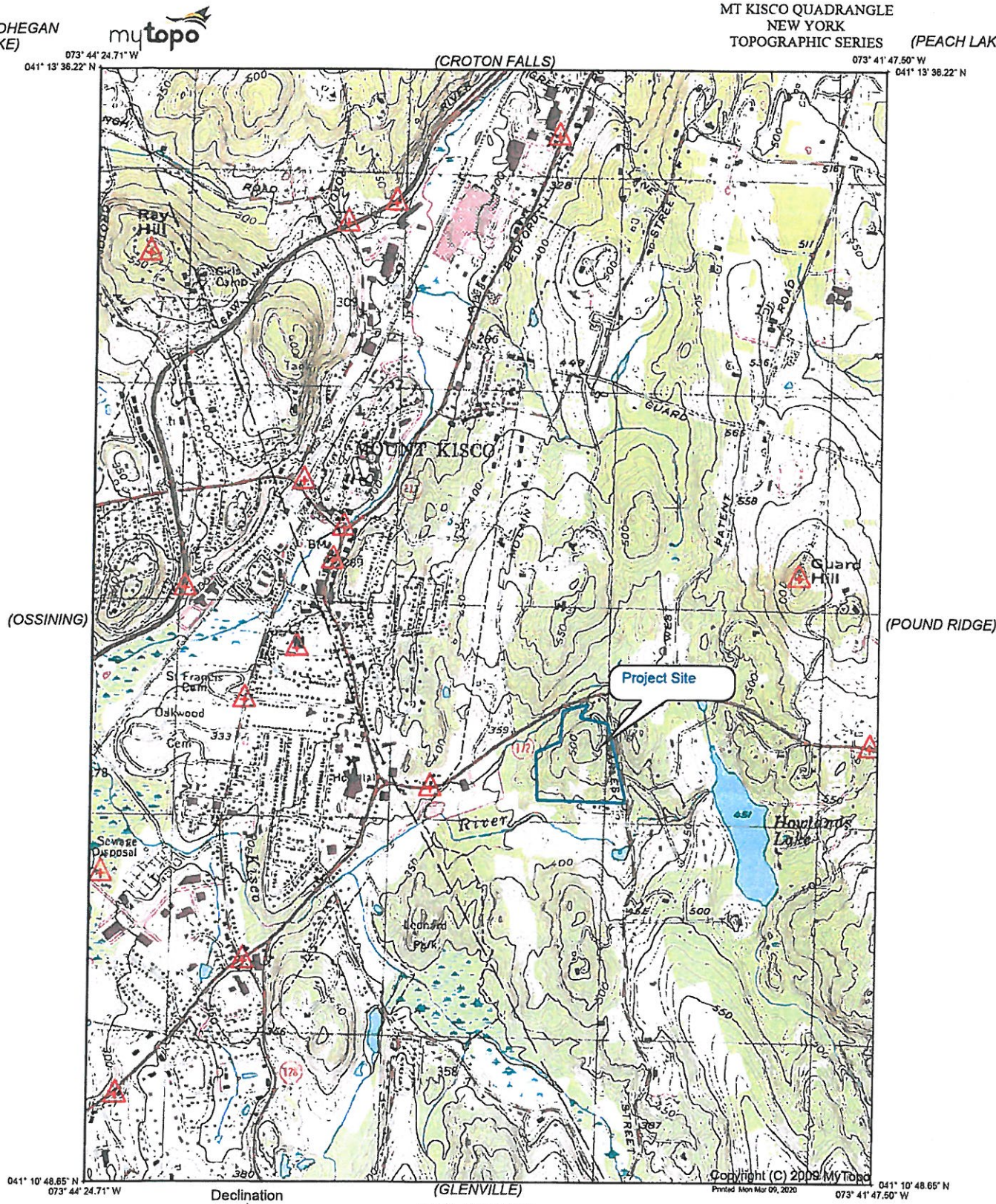
If you have any questions, please do not hesitate to contact me. Thank you for your time.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachment: USGS location map, Mount Kisco Quad



Produced by MyTopo Terrain Navigator
Topography based on USGS 1:24,000 Maps

North American 1983 Datum (NAD83)
Transverse Mercator Projection

To place on the predicted North American 1927 move the projection lines 11M N and 35M E

MT KISCO, NY
1998

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

March 13, 2020

Ms. Jean Pietrusiak
NYS Natural Heritage Program
Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757

Re: Jurisdictional Determination Request
180 South Bedford Road
Sunrise Community Solar project
S/B/L 80.44-1-1
Village of Mount Kisco, Westchester County

Dear Ms. Pietrusiak:

Ecological Analysis, LLC, has been retained to perform the environmental work for the proposed commercial development project identified above and located within the enclosed area highlighted on a copy of the USGS 1:24,000 Mount Kisco Quadrangle map.

At present, the parcel is mostly forested and undeveloped, outside of clearings around the abandoned foundations of a previous inhabitation.

At this time, the site plan for this community solar farm is in the Planning Board review phase and an exact site plan has not been done. To aid us in this process, we are trying to identify all of the environmental and ecological constraints associated with this property. We are requesting any information in regards to threatened and/or endangered species or ecologically significant communities on or adjacent to the referenced property. This information will then be used throughout the subsequent planning stages of this commercial development project.

If you have any questions, please email me at bfriedmann@4ecological.com or call me at (845) 495-0123. Thank you for your time and attention.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachment: USGS location map, Mount Kisco Quad

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

March 27, 2020

Bruce R. Friedmann
Ecological Analysis, LLC
633 Route 211 East, Suite 4
Middletown, NY 10941

Re: Sunrise Community Solar Project, 180 South Bedford Road
County: Westchester Town/City: Mount Kisco

Dear Mr. Friedmann:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

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Appendix B

USFWS IPaC resource list

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Westchester County, New York

Local offices

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967-2258

New York Ecological Services Field Office

(607) 753-9334

(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

http://www.fws.gov/northeast/nyfo/es/section7.htm

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered

Reptiles

NAME	STATUS
Bog Turtle Clemmys muhlenbergii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects,

and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

List of observed vegetation, 2020-2021

List of vegetation observed in 2020 and 2021 across the Sunrise Community Solar property

COMMON NAME	SCIENTIFIC NAME
Common threeseed mercury	*Acalypha rhomboidea*
Japanese maple	*Acer palmatum*
Norway maple	*Acer platanoides*
Red maple	*Acer rubrum*
Sugar maple	*Acer saccharum*
Tara vine	*Actinidia arguta*
White snakeroot	*Ageratina altissima*
Tree of heaven	*Ailanthus altissima*
Garlic mustard	*Alliaria petiolata*
Wild leek	*Allium tricoccum*
Field garlic	*Allium vineale*
Serviceberry	*Amelanchier* spp.
Amur peppervine	*Ampelopsis brevipedunculata*
Wild columbine	*Aquilegia canadensis*
Smooth rock cress	*Arabis laevigata*
Japanese angelica tree	*Aralia elata*
Jack in the pulpit	*Arisaema triphyllum*
Common wormwood	*Artemisia vulgaris*
Common milkweed	*Asclepias syriaca*
Ebony spleenwort	*Asplenium platyneuron*
Japanese barberry	*Berberis thunbergii*
Yellow birch	*Betula alleghaniensis*
Sweet birch	*Betula lenta*
Smooth brome grass	*Bromus inermis*
Pennsylvania sedge	*Carex pensylvanica*
Bitternut hickory	*Carya cordiformis*
Pignut hickory	*Carya glabra*
Shagbark hickory	*Carya ovata*
Oriental bittersweet	*Celastrus orbiculatus*
Mouse-ear chickweed	*Cerastium fontanum*
Celandine	*Chelidonium majus*
Spotted wintergreen	*Chimaphila maculata*
Wild basil	*Clinopodium vulgare*
Richweed	*Collinsonia canadensis*
Asiatic dayflower	*Commelina communis*
Flowering dogwood	*Cornus florida*
Hayscented fern	*Dennstaedtia punctilobula*
Deer-tongue grass	*Dichanthelium clandestinum*

COMMON NAME	SCIENTIFIC NAME
Spinulose wood fern	*Dryopteris carthusiana*
Marginal woodfern	*Dryopteris marginalis*
Field horsetail	*Equisetum arvense*
Philadelphia fleabane	*Erigeron philadelphicus*
Dogtooth violet	*Erythronium americanum*
Winged euonymus	*Euonymus alata*
Cypress spurge	*Euphorbia cyparissias*
White wood aster	*Eurybia divaricata*
American beech	*Fagus grandifolia*
White ash	*Fraxinus americana*
Catchweed bedstraw	*Galium aparine*
Licorice bedstraw	*Galium circaezans*
Bedstraws	*Galium* spp.
Spotted geranium	*Geranium maculatum*
Virginia stickseed	*Hackelia virginiana*
Witchhazel	*Hamamelis virginiana*
Jewelweed	*Impatiens capensis*
Path rush	*Juncus tenuis*
Eastern red cedar	*Juniperus virginiana*
Hairy bushclover	*Lespedeza hirta*
Privets	*Ligustrum* spp.
Butter-and-eggs	*Linaria vulgaris*
Tulip poplar	*Liriodendron tulipifera*
Japanese honeysuckle	*Lonicera japonica*
Bush honeysuckles	*Lonicera* spp.
Common woodrush	*Luzula multiflora*
Red campion	*Lychnis coronaria*
Canada mayflower	*Maianthemum canadense*
Canada moonseed	*Menispermum canadense*
Nepalese browntop	*Microstegium vimineum*
Indian pipe	*Monotropa uniflora*
Daffodil	*Narcissus pseudonarcissus*
Sensitive fern	*Onoclea sensibilis*
Japanese pachysandra	*Pachysandra terminalis*
Virginia creeper	*Parthenocissus quinquefolia*
Common reed	*Phragmites australis*
Pokeweed	*Phytolacca americana*
Norway spruce	*Picea abies*
Clearweed	*Pilea pumila*
Eastern white pine	*Pinus strobus*

COMMON NAME	SCIENTIFIC NAME
Common plantain	*Plantago major*
Mayapple	*Podophyllum peltatum*
Hairy solomon's seal	*Polygonatum pubescens*
Oriental lady's thumb	*Polygonum cespitosum*
Japanese knotweed	*Polygonum cuspidatum*
Asiatic tearthumb	*Polygonum perfoliatum*
Jumpseed	*Polygonum virginianum*
Rock polypody	*Polypodium virginianum*
Christmas fern	*Polystichum acrostichoides*
Common cinquefoil	*Potentilla simplex*
Black cherry	*Prunus serotina*
Waxflower shinleaf	*Pyrola elliptica*
White oak	*Quercus alba*
Chestnut oak	*Quercus prinus*
Red oak	*Quercus rubra*
Littleleaf buttercup	*Ranunculus abortivus*
Great laurel	*Rhododendron maximum*
Black locust	*Robinia pseudoacacia*
Multiflora rose	*Rosa multiflora*
Allegheny blackberry	*Rubus allegheniensis*
American red raspberry	*Rubus idaeus*
Wineberry	*Rubus phoenicolasius*
Bitter dock	*Rumex obtusifolius*
Bloodroot	*Sanguinaria canadensis*
Sassafras	*Sassafras albidum*
Little bluestem	*Schizachyrium scoparium*
Japanese bristlegrass	*Setaria faberi*
Yellow foxtail	*Setaria pumila*
Roundleaf greenbriar	*Smilax rotundifolia*
Greenbriers	*Smilax* spp.
Horsenettle	*Solanum carolinense*
Climbing nightshade	*Solanum dulcamara*
Silverrod	*Solidago bicolor*
Wreath goldenrod	*Solidago caesia*
Canada goldenrod	*Solidago canadensis*
Goldenrods	*Solidago* spp.
Wooly hedgenettle	*Stachys byzantina*
Common chickweed	*Stellaria media*
White panicle aster	*Symphyotrichum lanceolatum*
Calico aster	*Symphyotrichum lateriflorum*

COMMON NAME	SCIENTIFIC NAME
Skunk cabbage	*Symplocarpus foetidus*
Common dandelion	*Taraxacum officinale*
Japanese yew	*Taxus cuspidata*
New York fern	*Thelypteris noveboracensis*
Eastern poison ivy	*Toxicodendron radicans*
Purpletop tridens	*Tridens flavus*
Eastern hemlock	*Tsuga canadensis*
American elm	*Ulmus americana*
Stinging nettle	*Urtica dioica*
Lowbush blueberry	*Vaccinium angustifolium*
Common mullein	*Verbascum thapsus*
Vervain	*Verbena* spp.
Common gypsyweed	*Veronica officinalis*
Viburnum	*Viburnum* spp.
Common blue violet	*Viola sororia*
Grapes	*Vitis* spp.

This list represents species that were observed during the four field surveys conducted in 2020-21, and therefore is not reported as an exhaustive list of all of those species that are present on the property.

Appendix D

Chapter 3.3 Terrestrial and Aquatic Ecology from Sarles Estates DEIS
September 24, 2004

3.3 Terrestrial and Aquatic Ecology

3.3.1 Existing Conditions

Vegetation

Most of the project site consists of second growth upland woods vegetative cover. Also located on the site is a disturbed area associated with a former estate residence. Vegetation in this portion of the site includes a mixture of old field successional species as well as a grove of large evergreen trees. In addition, a small pocket of wetland vegetation was observed in the southeastern corner of the project site adjacent to Sarles Street. Figure 3.3-1 is an aerial photograph of the project site that shows the extent of the woodlands on the site and on adjacent properties. Also indicated on Figure 3.3-1 is the location of the former residence in the central portion of the site and the small wetland area in the southeastern corner of the site.

The three vegetative community types on the project site are described in the following paragraphs. Data was compiled by field surveys conducted by environmental consultants from Tim Miller Associates, Inc. A list of observed plant species on the project site, indicating common and botanical names, is included in Table 3.3-1.

Upland Woodlands

The majority of the subject site is vegetated with a second-growth hardwood forest with a generally closed canopy. The primary tree species in this community type include sugar maple, red maple, white oak, pignut hickory, beech and occasionally hemlock. The majority of the trees on the site range from 10 to 16 inches diameter at breast height (dbh) (approximately 30 - 50 years old.) Understory trees and shrubs include flowering dogwood, witch hazel, barberry, and seedlings and saplings of the overstory trees. Common ground cover species include poison ivy, Virginia creeper, garlic mustard, blackberry and Christmas fern. A tree survey was conducted on the project site to identify and map all trees with a diameter of eight inches or greater at breast height (dbh) and all specimen trees with a minimum circumference of 36 inches and a minimum crown spread of 15 feet. The results of the tree survey are described further below.

Former House Site/Mixed Evergreens

This portion of the subject site was formerly used for residential use, and includes large cleared areas, old foundations and retaining walls, and landscape plantings. On both the south and north end of this area, vegetation is dominated by large evergreens that were introduced and have gotten large since the site was abandoned. On the north end of the site this is particularly true from the edge of the clearing to Route 172, where a mix of white pine and Norway spruce dominate the vegetation and form a dense canopy. Abandonment of the residential use occurred 25-30 years ago. The remaining areas of the clearing support introduced grasses, successional old-field herbaceous plants and blackberry canes, with much of this area remaining as bare earth.

Wetland Area and its Functions

A small pocket of wetland vegetation occurs in the southeast corner of the site adjacent to Sarles Street. This area is approximately 500 square feet in size and is drained by an existing

Figure 3.3-1. Aerial photograph of the project site, is not available.

culvert that drains to the east side of Sarles Street. Vegetation in this wetland area consists primarily of skunk cabbage, water plantain, sensitive fern and poison ivy. This area has a moist substrate but no standing water. This area does not support any fish populations, but may provide habitat opportunities for some amphibians and reptiles. However, no vertebrate species or wildlife indicators were observed in the wetland area. This wet area appears to have developed from the accumulation of sediment and road debris at the culvert pipe inlet. Functional attributes of this wetland pocket are associated with stormwater functions (water detention, pollutant filtering, nutrient trapping), and possibly small animal habitat. The small size of the wetland area (approximately 500 square feet) and its proximity to Sarles Street diminish the habitat value of this wetland area.

Protected Species

Correspondence from the New York State Department of Environmental Conservation Natural Heritage Program indicates that there are no known occurrences of rare or unusual habitat types on this property. The Natural Heritage Program's database identified one historical record of a protected plant species within the vicinity of the project site. The state records indicate a rattlebox (*Crotalaria sagittalis*) plant was last sighted in 1915 at a location simply identified as "Mount Kisco". The exact coordinates of the sighting of this endangered species were not provided. However, according to the Natural Heritage records and *Necomb's Wildflower Guide* (1977), this herbaceous specie occurs in sandy soils. Sandy soil conditions do not occur within the project site as previously described in Chapter 3.1. This plant species has not been identified on the project site and is not expected to be encountered due to the existing soil conditions at the project site. Because the Natural Heritage Program considers its database findings to be sensitive information and specifically indicates that it may not be released to the public, this correspondence is not included in this document.

No rare, endangered or threatened plant species were identified on the project site or are expected to be encountered as described above. The value of the existing vegetative community types for wildlife is discussed below. The vegetative communities on the project site do not represent unique habitat types and are typical to other woodland areas in the area. The existing on-site vegetation appears to be in a generally healthy and productive state. Species abundance and distribution was typical within each community type.

A list of plants observed or expected to reside on the project site is provided below. Some of the ferns listed are protected in New York State, as noted. Federal and New York State laws provide protections against the "taking" of plant species that have been identified as "endangered", "threatened", "rare", and in New York, "exploitably vulnerable". The protected ferns are considered exploitably vulnerable under State law, meaning they may be vulnerable to collection that could make them rare. These are not rare, endangered or threatened species under Federal or State law. Since the protection afforded by State law applies to takings without the consent of the property owner, the disturbance of any State protected species on this site as a result of this project development and with the consent of the property owner is legal.

Table 3.3-1
Project Site Vegetation

Common Name (Scientific Name)	Community Type		
TREES	U	W	HS
American beech (*Fagus grandifolia*)	X		
Red oak (*Quercus rubra*)	X		
White oak (*Quercus alba*)	X		
Chestnut oak (*Quercus prinus*)	X		
Red maple (*Acer rubrum*)	X	X	
Sugar maple (*Acer saccharum*)	X		
Pignut hickory (*Carya glabra*)	X		
Shagbark hickory (*Carya ovata*)	X		
Bitternut hickory (*Carya cordiformis*)	X		
American elm (*Ulmus americana*)	X		
Tulip poplar (*Liriodendron tulipifera*)	X		
Hop hornbeam (*Ostrya virginiana*)	X		
Sassafras (*Sassafras albidum*)	X		
Black cherry (*Prunus serotina*)	X		X
Black locust (*Robinia pseudoacacia*)	X		X
Flowering dogwood (*Cornus florida*)	X		
White ash (*Fraxinus americana*)	X		
Black Birch (*Betula lenta*)	X		
White pine (*Pinus strobus*)	X		X
Eastern hemlock (*Tsuga canadensis*)	X		
Spruce (*Picea sp.*)	X		X
SHRUBS			
Arrowwood (*Viburnum dentatum*)	X		
Rhododendron (*Rhododendron sp.*)	X		X
Witch hazel (*Hamamelis virginiana*)	X		
Spicebush (*Lindera benzoin*)	X		
Tartarian honeysuckle (*Lonicera tartarica*)	X		X
Japanese barberry (*Berberis thungergii*)	X		
Multiflora rose (*Rosa multiflora*)	X		X
Staghorn sumac (*Rhus typhina*)	X		
Winged euonymus (*Euonymus alata*)	X		X
HERBACEOUS PLANTS, CANES AND VINES	U	W	HS
Asters (*Aster spp.*)			X
Wood nettle (*Laportea canadensis*)			X
Smartweed (*Polygonum spp.*)			X
Mullein (*Verbascum blattaria*)			X
Deptford pink (*Dianthus armeria*)			X
Spotted knapweed (*Centaurea maculosa*)			X
Canada thistle (*Cirisium arvense*)			X
Wild carrot (*Daucus carote*)			X
Bladder campion (*Silene cucubalis*)			X
Ragweed (*Ambrosia spp.*)			X
Garlic mustard (*Alliaria petiolata*)	X		X
Pachysandra (*Pachysandra sp.*)	X		X
Skunk cabbage (*Symplocarpus foetidus*)	X	X	
Jack in the pulpit (*Arisaema triphyllum.*)	X		

Table 3.3-1 continued on Next Page

Table 3.3-1 - Continued
Project Site Vegetation

Common Name (Scientific Name)	Community Type		
HERBACEOUS PLANTS, CANES AND VINES	U	W	HS
Blood root (*Sanguinaria canadensis*)	X		
Daisy Fleabane (*Erigeron annuus*)			X
Milkweed (*Asclepias syriaca*)	X		X
Clover (*Trifolium spp.*)			X
Thistle (*Cirsium spp.*)			X
Indian Pipe (*Monotropa uniflora*)	X		
Spotted wintergreen (*Chimaphila maculata*)	X		X
Water Plantain (*Alisma plantago*)		X	
Blackberry (*Rubus allegheniensis*)	X		X
Poison ivy (*Toxicodendron radicans*)	X	X	X
Virginia creeper (*Parthenocissus quinquefolia*)	X	X	X
Common greenbriar (*Smilax rotundifloia*)	X		
Grape (*Vitis spp.*)	X		
FERNS	X		
Bracken fern (*Pteridium aquilinum*)*	X		
Marginal woodfern (*Dryopteris marginalis*)	X		
Hayscented fern (*Dennstaedtia punctilobula*)*	X		
Christmas fern (*Polystichum acrostichoides*)	X		
New York fern (*Dryopteris noveboracensis*)	X		
Sensitive fern (*Onoclea sensibilis*)*	X	X	

*Note: All ferns listed above are protected in New York State with the exception of those followed by an asterisk. The protected ferns are considered "exploitably vulnerable" under State law, meaning they may be vulnerable to collection that could make them rare. The protection afforded by State law applies to takings without the consent of the property owner; these are not "rare", "endangered" or "threatened" species. No attempt was made to inventory plants other than the tree survey.
U = upland woods, W = wetland, HS = former house site
Source: Tim Miller Associates, Field Investigations: 4/10/01, 4/12/01, 7/11/01

Tree Survey

A tree survey was conducted on the project site to identify and map all trees with a diameter at breast height (dbh) of eight inches or greater. A map of the surveyed trees is provided in the rear of the document. A tree schedule which lists the total number of surveyed trees by tag number, species and size is provided on the full-size Details sheet in the rear of the document. The tree survey identified approximately 1,620 trees with a minimum dbh of eight inches on the project site. Of these, 66 percent are defined as specimen trees by the Mount Kisco Tree Preservation Ordinance. According to the ordinance, a specimen tree has minimum circumference of 36 inches and a minimum crown spread of 15 feet. Approximately 1,069 of the surveyed trees meet the Mount Kisco definition of a specimen tree.

Buffer Locations and Adjacent Uses

The project site is bounded by developed areas to the east and north, and undeveloped land to the south and west. The eastern edge of the project site is adjacent to Sarles Street. The east side of Sarles Street supports single family low density "estate" homes in the Town of Bedford. To the north, the project site is bounded by Route 172. A residence and law office is currently located at the corner of Sarles Street and Route 172 to the northeast of the project site. The project site is primarily wooded along the northern and eastern borders.

To the south and west of the project site is the Marsh Memorial Sanctuary, which is an undeveloped wooded area. The project site woodlands are contiguous to the woodlands on the Sanctuary property.

Fish and Wildlife Habitat

The habitat types on this site are described below. Vegetative cover of these areas is described above. None of these habitat types are unique to the area.

Upland Woodlands / Stone Walls

The canopy in the areas of successional forest is not as dense as would be found in older forest areas, and invading sunlight promotes the growth of shrub and herbaceous plants. Indicators of higher predatory species (red fox) have been found on the site. Deer, which are common within Westchester County have also been observed on the site.

A number of loose stone walls are located along portions of the property line and one in the interior of the property, and are indicated on the sealed land survey prepared by H. Stanley Johnson LS that has been provided to the Village Building Inspector. These are low, loosely constructed rubble walls that are typical of abandoned farm lands in Westchester County. These stone walls offer nesting and cover area for a variety of species, including snakes, small mammals (chipmunks, mice, rabbits, voles, etc.) and various amphibian species. Insect populations that are likely to live within the walls provide a food base for many of these creatures.

The stone walls appear on the engineer's base drawings used to design the project. They can be seen in half-tone on all of the full size drawings and in the DEIS Figures, specifically in Figure 3.1-2.

Former House Site/Mixed Evergreens

The presence of this area adds to the habitat diversity of the project site. The open successional old-field area allows ample solar penetration which, in turn supports a number of flowering herbaceous plants and associated insects. Numerous song birds were present in this area. The building remains may also provide habitat opportunities for smaller mammal and reptile species.

Wetland

As described above, there is one small wetland area on the site. This area has a moist substrate but no standing water. This area does not support any fish populations, but may provide habitat opportunities for some amphibians and reptiles. However, no vertebrate species or wildlife indicators were observed in the wetland area. The small size of the wetland area (approximately 500 square feet) and its proximity to Sarles Street diminish the habitat value of this wetland area.

Table 3.3-2 includes a list of actual observations and expected occurrences of wildlife species on the project site in each habitat type, including the "edge habitat" which comprise the boundary areas between the habitats described above.

Table 3.3-2
Wildlife List

Common Name	Scientific Name	Habitat Type				
Mammals		U	W	HS	Ed	SW
white-tail deer*	*Odocoileus virginianus*	X	X	X	X	
raccoon*	*Procyon lotor*	X	X		X	
red fox*	*Vulpes vulpes*	X	X		X	
gray fox	*Urocyon cinereoargenteus*	X			X	
opossum	*Didelphis virginiana*	X	X			
eastern chipmunk	*Eutamias sp.*	X			X	X
gray squirrel*	*Sciurus carolinensis*	X	X			
flying squirrel	*Glaucomys volans*	X	X			
cottontail rabbit	*Sylvilagus floridanus*	X			X	
striped skunk	*Mephitis mephitis*	X		X	X	
white-footed mouse	*Peromyscus leucopus*	X		X	X	X
deer mouse	*Peromyscus maniculatus*	X		X	X	X
house mouse	*Mus musculus*			X	X	
meadow vole	*Microtus pennsylvanicum*			X	X	X
starnosed mole	*Codylura cristata*	X		X	X	
eastern mole	*Scalopus aquaticus*	X		X		
woodchuck	*Marmota monax*	X				
short-tailed shrew	*Blarina brevicanda*	X		X	X	X
common shrew	*Sorex cinereus*	X		X	X	
little brown bat	*Myotis lucifugus*	X	X		X	
red bat	*Lasiurus borealis*	X	X		X	
Reptiles						
garter snake	*Thamnophis sirtalis*	X	X	X	X	X
milk snake	*Lampropeltis triangulum*	X		X	X	
hognose snake**	*Heterodon pletyrhinos*	X	X		X	
brown snake	*Storeria dekayi*	X	X	X	X	X
ringneck snake	*Diadophis punctatus*	X	X			X
eastern racer	*Coluber constrictor*	X			X	X
copperhead	*Agkistrodon contortrix*	X	X		X	
box turtle	*Terrapene carolina*	X	X		X	
Amphibians						
red-backed salamander	*Plethodon cinereus*	X	X		X	
newt	*Notophthalmus virdescens*	X	X		X	X
American toad	*Bufo americanus*	X			X	X
gray treefrog	*Hyla versicolor*	X	X			
wood frog	*Rana sylvatica*	X	X			X
Birds		U	W	HS	Ed	SW
turkey	*Meleagris gallopavo*	X	X			
wood thrush	*Hylocichla mustelina*	X	X			
pileated woodpecker	*Dryocopus pileatus*	X	X			
hairy woodpecker*	*Picoides villosus*	X	X			
downy woodpecker	*Picoides pubescens*	X	X			
northern flicker*	*Colaptes auratus*	X	X			
ovenbird	*Seiurus aurocapillus*	X	X			
sharp shinned hawk	*Accipiter striatus*	X	X		X	

Table 3.3-2 Continued on Next Page

Table 3.3-2 - Continued
Wildlife List

Common Name	Scientific Name	Habitat Type				
Birds		U	W	HS	Ed	SW
red-tailed hawk	*Buteo jamaicensis*	X	X	X	X	
robin*	*Turdus migratorius*	X	X	X	X	
catbird	*Dumetella carolinensis*	X		X	X	
mockingbird*	*Mimus polyglottos*	X	X	X	X	
flycatchers	*Empidonax sp.*	X	X		X	
eastern phoebe	*Sayornis phoebe*	X	X		X	
common yellowthroat	*Geothlypis trichas*				X	
American redstart	*Setophaga ruticella*	X	X	X	X	
red-eyed vireo*	*Vireo olivaceus*	X	X			
crow*	*Corvus brachyrhynchos*	X	X	X	X	
blue jay*	*Cyanocitta cristata*	X	X	X	X	
scarlet tanager	*Piranga olivacae*	X	X			
American goldfinch	*Carduelis tristis*	X	X	X		
cardinal	*Cardinalis cardinalis*			X	X	
veery*	*Hylocicla fuscescens*	X				
eastern bluebird*	*Sialia sialis*	X				
chipping sparrow	*Spizella passerina*			X	X	
towhee	*Pipilo erythrophthalmus*	X	X			
tufted titmouse	*Parus bicolor**	X		X	X	
warbler	*Dendroica spp.*	X	X			
wren	*Troglodytes spp.*	X	X	X	X	
eastern wood pewee	*Contopus virens*	X	X			
junco	*Junco hyemalis*	X	X			
mourning dove*	*Zenaida macroura*			X	X	
chickadee*	*Parus spp.*	X	X	X	X	
nuthatch*	*Sitta spp.*	X	X	X	X	
northern oriole	*Icterus galbula*	X			X	
finch	*Carpodacus spp.*	X		X	X	
evening grosbeak	*Hesperiphona vespertina*	X			X	
brown thrasher	*Toxostoma rufum*				X	
turkey vulture	*Cathartes aura*	X	X		X	
eastern screech owl	*Otus asio*	X	X	X	X	
great horned owl*	*Bubo virginianus*	X	X	X	X	

U = upland woods, W = wetland, HS = former house site, Ed = edge habitat, SW = stone walls
* - Species or indicators observed during field surveys
** - New York State species of special concern
Source: Tim Miller Associates, Inc., 2001, Westchester County, 1987
Field Investigation dates: 4/10/01, 4/12/01, 7/11/01

Recent in-field surveys for wildlife were conducted by Steve Marino and Andrew Mavian of Tim Miller Associates. Mr. Marino is a certified Professional Wetland Scientist and field biologist with over 15 years' experience working in New York, Rhode Island and Connecticut. Mr. Mavian is a Senior Environmental Planner with over seven years' of experience working in New York, Maryland and Virginia.

The wildlife surveys were conducted primarily during Spring and Summer, however, observations during site visits at other times of the year were also incorporated. The surveys were conducted at different times of the day and under varying weather conditions. Visual observations of individuals or groups of species were noted as well as other indicators such as vocalizations, foot prints and scat. No wildlife species were collected or trapped during the on-site field investigations.

The wildlife field surveys did not attempt to estimate wildlife populations on site. Based on the field survey and experience in the area, dominant mammalian and avian species on site are those typically found in northern Westchester County. Dominant mammals include white-tailed deer, gray squirrel, eastern chipmunk, raccoon, opossum, deer mouse, and woodchuck. Dominant avian species include resident songbirds (chickadee, nuthatch, vireos, cardinals, warblers, etc.), downy woodpecker, blue jay, crow, mourning dove, mockingbird and wild turkey. The wildlife species observed on-site appear to be healthy and productive.

No unique, rare or endangered species were observed on the site during recent field investigations. Correspondence from the New York State Department of Environmental Conservation Natural Heritage Program indicates that there are no known occurrences of rare or protected wildlife species on the subject property. The Natural Heritage Program records do indicate one historical record of a protected wildlife specie in the vicinity of the project site. A bog turtle (*Clemmys muhlenbergii*) was last sighted in 1950 at a location identified as "Byram Lake Road Wetland". The exact coordinates of the sighting were not provided. However, Byram Lake Road is more than one mile to the south of the project site. The bog turtle is a semi-aquatic species that inhabit specialized subclimax open canopy areas within large dynamic wetland systems with standing water (Klemens, Amphibians and Reptiles of Connecticut, 2000). The one small wetland area on the project site contains no standing water, therefore suitable habitat for the bog turtle does not exist at the project site.

The composition of species that utilize the project site are expected to be similar to those species found in the upland habitats of the adjacent Marsh Memorial Sanctuary and other similar nearby wooded areas. Resident wildlife is likely to migrate between the adjacent Sanctuary and the project site. It is also likely that some wildlife species may travel between the project site and nearby woodlands on the opposite side of Route 172 and Sarles Street.

3.3.2 Potential Impacts

Vegetation

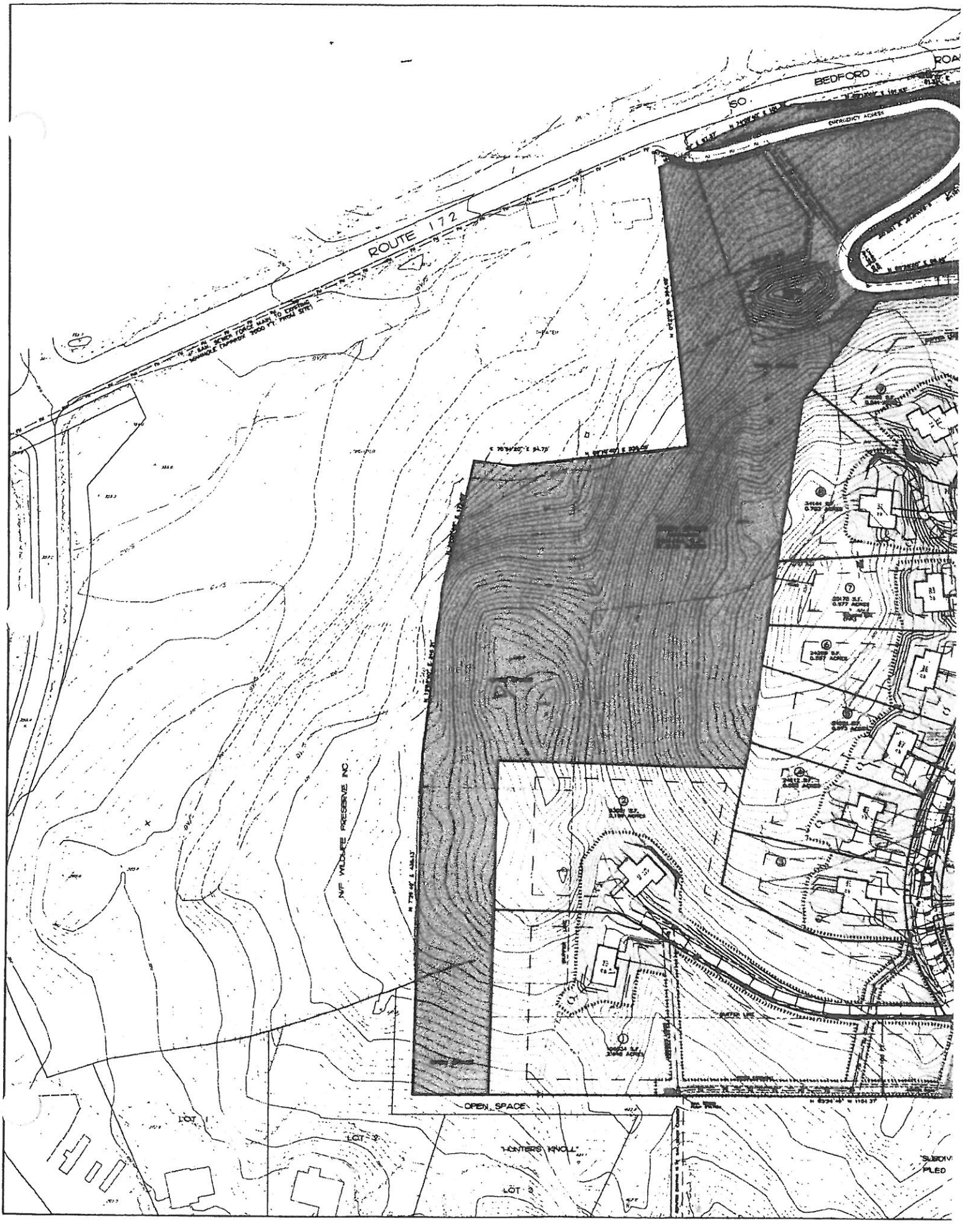
With the proposed site plan, the applicant has attempted to minimize clearing of wooded areas to the extent possible to achieve 16 single family residences on the property. The project engineer estimates that approximately 8.89 acres would be disturbed by the proposed development, including 0.24 acres of existing impervious areas at the abandoned residence, driveway and pool. The project will preserve approximately 64.4 percent of the site. The proposed areas of disturbance are summarized in Table 3.3-3. Most of the disturbed vegetation is comprised of upland woodland species.

Figure 3.3-2 illustrates the land cover on the project site with the proposed development.

A significant portion of the project site is proposed to be protected by designation as open space and offered for dedication to the Village, in two lots:

- an open space lot 0.7 acres in size at the southeast corner of the site
- an open space lot 8.8 acres in size around the remaining perimeter of the property

In addition, proposed easements totaling approximately 3.4 acres will protect additional land located within individual house lots from further development or tree clearing. Dedicated open space on the current plan accounts for 38 percent (9.5 acres) of the project site. In total, all


BEDFORD
ROUTE 172
N/F VILLAGE PRESERVE INC.
OPEN SPACE
LOT 1
LOT 2
HUNTERS KNOLL
LOT 3

open space areas provided on the current plan accounts for nearly 52 percent (12.9 acres) of the project site.

As previously discussed, no plant species were identified on the project site that would be subject to legal protection under Federal or State law in association with this development project. A historical record of a protected rattlebox plant indicates this species was last sighted in Mount Kisco in 1915. This species inhabits sandy soils, which are not present on the project site. Therefore, this species is not expected to be encountered on the project site.

The proposed disturbance to the existing vegetation would result in a loss of wildlife habitat where disturbance is proposed and has the potential to result in increased erosion and sedimentation. The potential for impacts associated with erosion and sedimentation are described in Chapter 3.1 of the DEIS. As previously discussed, erosion and sedimentation controls are proposed as part of the proposed project to minimize or avoid impacts.

Table 3.3-3
Changes in Surface Cover (Acres)

	Existing	Disturbance	Proposed
Woods (upland)	24.58	8.64	15.94
Wetlands	0.01	0.01	0.02
Impervious/pavement	0.34	0.17	1.76
Impervious/buildings	0.07	0.07	0.65
Lawn/landscaping	0.00	0.00	6.63
TOTAL	25.00	8.89	25.00

Wetlands

A small pocket of wetland vegetation approximately 500 square feet in size will be eliminated in the southeast corner of the site adjacent to Sarles Street and replaced by an engineered subsurface water quality structure. The vegetation removal will effect the skunk cabbage, water plantain, sensitive fern and poison ivy that exist in this area. In turn, some amphibians and reptiles that may utilize this area would be affected by its removal. As previously stated, however, this site provides no unique habitat for unique, rare or endangered vegetative or wildlife species. Functional attributes identified for this wetland pocket associated with stormwater (water detention, pollutant filtering, and nutrient trapping) will actually be enhanced by the engineered stormwater management facilities proposed within the project under post-development conditions, as described in DEIS Section 3.2.

Tree Survey

The proposed development is anticipated to result in the loss of approximately 511 of the 1,620 surveyed trees on the project site. Approximately 68 percent of the total number of surveyed trees on the project site will be preserved by the proposed subdivision. Of the impacted trees, approximately 357 are considered specimen trees under the Mount Kisco Tree Preservation Ordinance.

Removal of trees will occur in some areas of steep slopes. An estimated 21 percent of the total number of surveyed trees on the site will be removed from steep slopes for the proposed subdivision. As cited in the project description, a steep slopes permit is required to cut any tree greater than 4 inches diameter on any steep slope, hilltop or ridgeline [§110-33.1.B.(1)].

Proposed tree protection measures are described further below that will be implemented where practicable to save individual trees near proposed development activity.

Fish and Wildlife

Loss of wildlife habitat will result from the proposed development as described in the above section. Portions of the on-site woodlands will be cleared to provide building envelopes for the proposed road, driveways, residences and lawn areas. There are no fish or aquatic species on the project site that would be affected by the proposed development. Removal of a portion of the wooded area on this site will result in some fragmentation of habitat that now comprises the site and adjoining land to the immediate south and west. The proposed plan is intended to minimize this effect by preservation of buffers and open space areas in their natural state to the maximum extent practicable.

All areas where residences, roads and driveways are proposed will no longer function as wildlife habitat or be available for wildlife use. The level of traffic generated by 16 residences is not expected to significantly impede the movements of larger vertebrate species (see Chapter 3.5 for trip generation information). No road curbs are proposed that would impede the movements of smaller vertebrate species.

While not as valuable as the existing forested habitat, the lawns and landscaping will still be used as forage by deer and other plant-eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for songbirds and other avian species.

In general, as a project site is developed, some species will temporarily relocate to similar habitats off-site. Because less than half of this site is scheduled for alteration, not all of the on-site wildlife will relocate to off-site areas permanently. The composition of the wildlife population on the project site may be slightly altered immediately adjacent to developed areas, as species able to adapt to a suburban environment (such as raccoons, opossum, woodchucks, mice, songbirds, etc.) will have a greater ecological advantage, while species less tolerant of human activity (such as wood thrush, oven bird, sharp shinned hawk, veery, eastern wood pewee) may utilize these portions of the project site less.

With the implementation of the proposed stormwater and erosion control measures (see Section 3.1 and 3.2 description), the proposed project would not result in adverse impacts related to surface water. In fact, the proposed project would result in reductions in the existing levels of sediment, phosphorous, nitrogen, and Biochemical Oxygen Demand (BOD) in stormwater runoff from the project site following the treatment of stormwater runoff by a variety of proposed stormwater best management practices (see Section 3.2).

No protected wildlife species have been identified or observed on the project site. The project site does not meet the habitat requirements of the bog turtle, a protected species last sighted in 1950 over one mile from the site. Therefore, the project site would not support this protected species. Thus, no significant adverse impacts to wildlife are projected to occur. The proposed project will preclude future use of the developed portions of the property by wildlife species. This loss of habitat is an unavoidable adverse impact of the proposed development, but is not considered to be significant since there are no wildlife species that are protected under Federal or State law that would be impacted by this project.

No fencing is proposed as part of the project other than temporary fencing around equipment and material during the construction process. As shown in Figure 3.3-2, an undisturbed wooded buffer would remain along most of the perimeter of the project site, with the exception of the site access road and stormwater control structures in the southeastern corner, a 20 foot wide sewer easement in the southwestern side, a stormwater basin in the western side, a drainage easement in the northwestern corner and the existing driveway in the northern portion.

Existing stone walls found on portions of the property line will remain largely undisturbed by the proposal. The entrance roadway would displace approximately 70 lineal feet of the wall along Sarles Street, which would be reconstructed along the edges of the new subdivision road. Approximately 15 lineal feet of a wall in the southwestern corner of the property would be removed for construction of a sewer line, and approximately 20 feet of a wall in the northwestern corner would be removed to accommodate drainage. These stones would be incorporated into the adjacent walls to remain. The interior stone wall would be largely displaced by proposed site features. This wall would be rebuilt as landscape features within individual building lots, where possible.

Cumulative Impacts

From a cumulative perspective, the disturbance and loss of wildlife habitat on the project site contributes to overall losses of wildlife habitat in the region resulting from human activity and development. The proposed project site would result in a net reduction of open space available as wildlife habitat. The importance of existing park land and woodlands in the surrounding area would increase as existing habitat areas are eliminated by development on this site and elsewhere in the Village.

With the current project proposal for Sarles Estates to preserve land in its natural condition, including woodland located within 200 feet of the Marsh Sanctuary lands to the west of the site, the amount of land within the Village that is permanently dedicated for open space and wildlife habitat will be expanded.

3.3.3 Proposed Mitigation

Marsh Memorial Sanctuary

None of the proposed residential lots would abut the adjacent Marsh Memorial Sanctuary. Dedicated open space is proposed adjacent to the Sanctuary. The proposed project retains an undisturbed wooded buffer 200-feet wide along the western property border adjacent to the Sanctuary, which will be preserved in its natural condition via an open space lot to be offered for dedication to the Village.

Tree Protection Measures

Tree protection on the site will take several forms. First, limits of disturbance will be established in the field. No trees beyond these limits will be disturbed. These limits will be marked with erosion control fencing as noted in Westchester County's *Best Management Practices* handbook.

Secondly, trees that will definitely be removed will be marked. No large trees that are not marked will be removed unless during the construction it is determined that those trees cannot be saved.

Thirdly, where practicable, large trees will be saved through the use of tree wells. These wells will typically be constructed with excess rock from on site excavation activities. The walls of the wells will be dry laid, with provision for positive drainage out of the wells.

Vegetated Buffer and Neighboring Uses

As previously indicated and as illustrated in Figure 3.3-2, an undisturbed wooded buffer will be maintained around the perimeter of the project site. Buffer areas shown on the project plans that fall on house lots and will be protected by conservation easements consist of an area 100 feet deep along the south side of the project site (primarily in Lot 1), an area 200 feet deep (which include small portions of Lots 1, 2, 7, 8 and 9), and an area 100 feet deep on the rear of Lots 9 through 15. The buffer areas within house lots will be owned by the individual lot owners and will be protected by open space conservation easements as well as the existing environmental protection afforded by the Village Code. Other portions of the vegetated buffers occur within the designated open space lots.

Adjacent land is primarily undeveloped to the west and south and developed to the north and east. The proposed wooded perimeter buffers will help to visually screen the project from all off-site areas.

Compliance with Zoning Code

A discussion of the proposed project's compliance with the Mount Kisco Zoning Code is provided in Chapter 3.5.

Tree Maintenance Provisions

Maintenance for trees on individual private lots will be the responsibility of those respective property owners. Maintenance of any street trees planted along the proposed roadways will be the responsibility of the Village. Any street trees along the proposed roadway will be selected and planted in accordance with Mount Kisco regulations. Street tree species will be selected later in the approval process with consultation from the Village officials. Street tree selections are anticipated to be ornamental and/or native trees that require minimal maintenance. Tax revenues generated by the proposed development can be used by the Village to fund any future maintenance costs associated with street trees.

Landscape Plantings

The project includes approximately 6.65 acres of lawn and landscape plantings. The landscape plantings would consist of a mixture of native and ornamental species. While not as valuable as the existing forested habitat, the lawns and landscaped areas created by the proposed development will still be used as forage by deer and other plant eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for squirrels, songbirds and other avian species. A conceptual landscaping plan has been developed for the project site. Table 3.3-4 lists typical landscaping species likely to be

included in the Sarles Estates project. A full size conceptual landscape plan is included at the rear of this document.

Table 3.3-4
Typical Landscape Plants
Sarles Estates

Trees	Shrubs
Deciduous Trees - Major	Deciduous Shrubs
horse chestnut (*Aesculus hippocastanum*)	bottlebrush buckeye (*Aesculus parviflora*)
red maple (*Acer rubrum*)	oak leaf hydrangea (*Hydrangea quercifolia*)
American beech (*Fagus grandifolia*)	witchhazel (*Hamamelis virginiana*)
white oak (*Quercus alba*)	staghorn sumac (*Rhus typhina*)
pin oak (*Quercus rubra*)	beautybush (*Myrica pensylvanica*)
little leaf linden (*Tilia cordata*)	viburnum (*Viburnum sp.*)
American elm (*Ulmus americana*)	Evergreen shrubs
Deciduous Tees - Minor	inkberry (*Ilex glabra*)
shadblow (*Amelanchier canadensis*)	Virginia red cedar (*Juniperus virginiana*)
paperbark birch (*Betula papyrifera*)	mountain laurel (*Kalmia latifolia*)
flowering dogwood (*Cornus florida*)	rosebay rhododendron (*Rhododendron maximum*)
crabapple (*Malus sp.*)	white rhododendron (*Rhododendron album*)
cherry (*Prunus sp.*)	leatherleaf viburnum (*Viburnum rhytidophyllum*)
plum (*Prunus sp.*)	
Coniferous Trees	
white fir (*Abies concolor*)	
Colorado spruce (*Picea pungens*)	
Norway spruce (*Picea abies*)	
douglas fir (*Pseudotsuga mensiesii*)	
white pine (*Pinus strobus*)	
red pine (*Pinus resinosa*)	

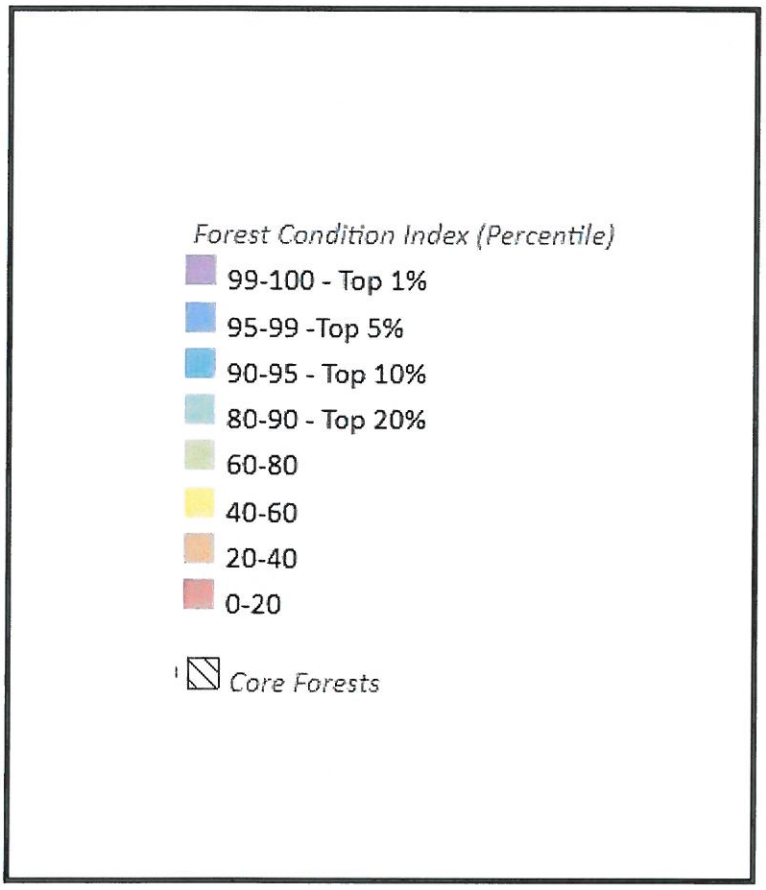
SOURCE: Tim Miller Associates, Inc.

In addition, certain invasive species such as multi-flora rose and barberry will be eliminated where encountered on the project site. The removal of these invasive species is beneficial to wildlife.

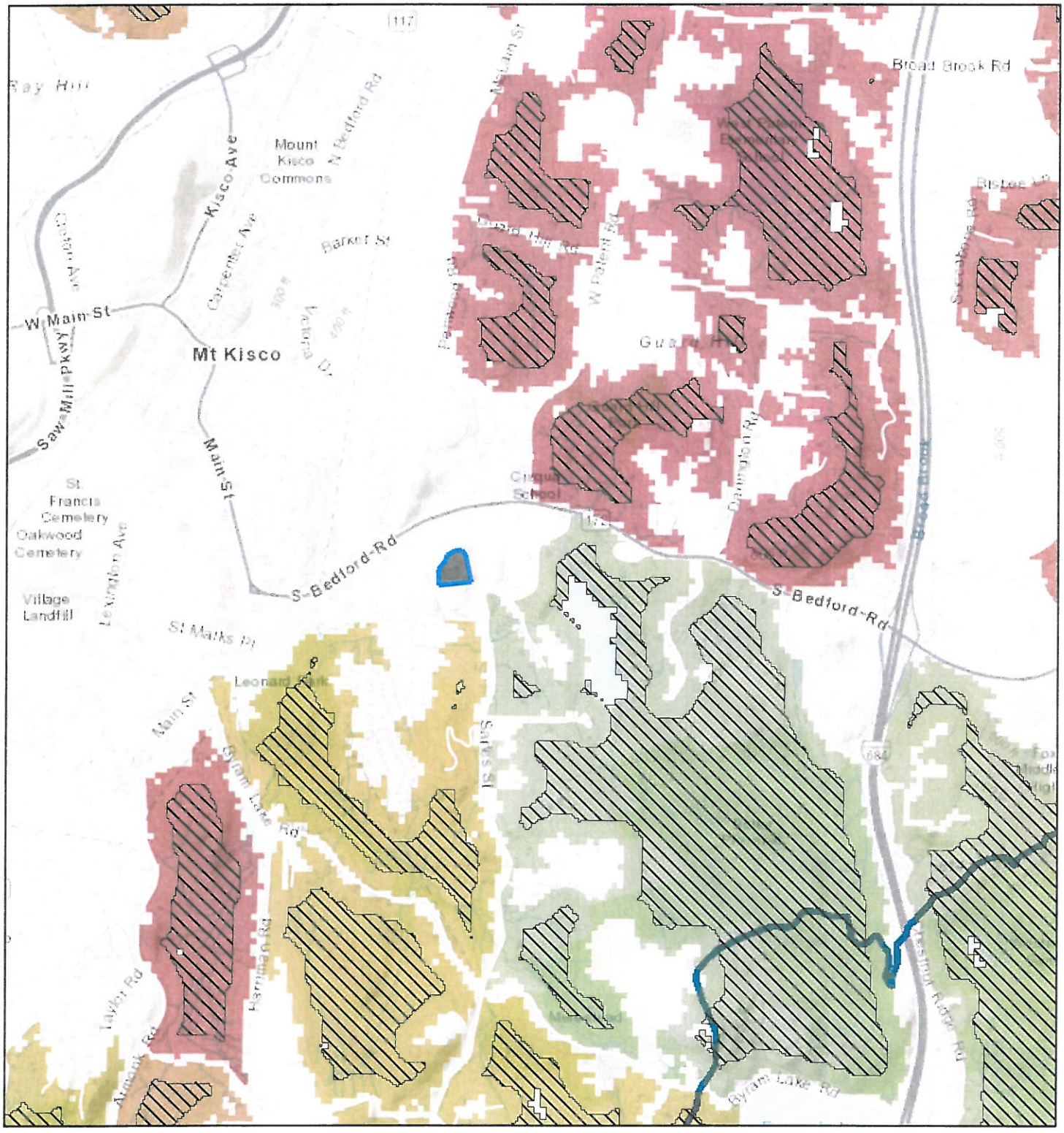
Appendix E

NYSDEC Environmental Resource Maps

Layers and Legend for NYSDEC Environmental Resources Maps



NHP Forest Resource Condition Indices



September 1, 2020

1:36,112

0 0.23 0.45 0.9 mi

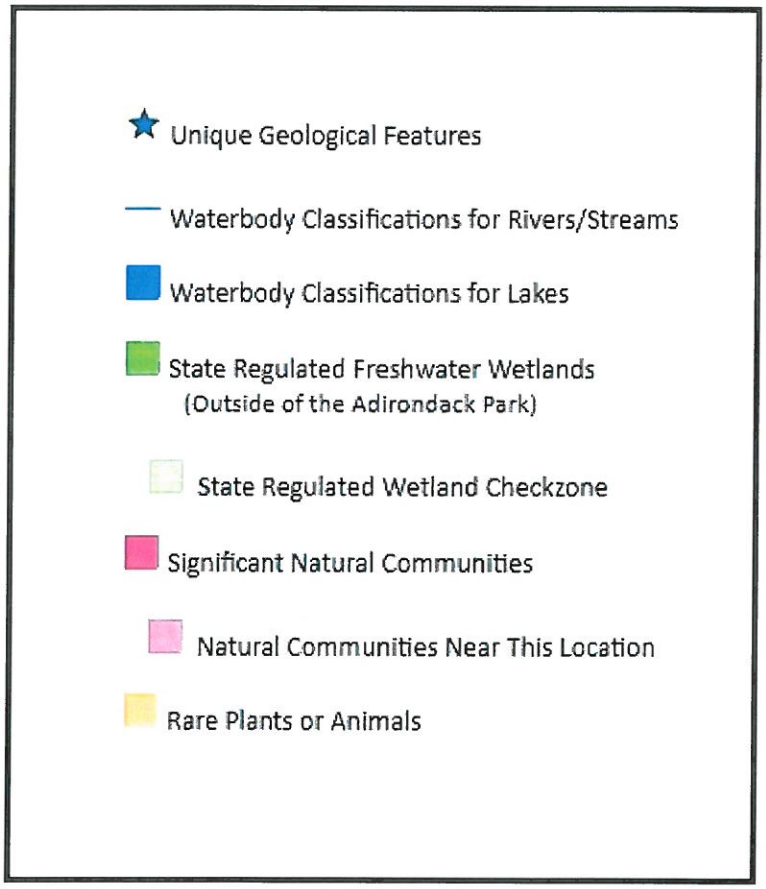
0 0.35 0.7 1.4 km

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

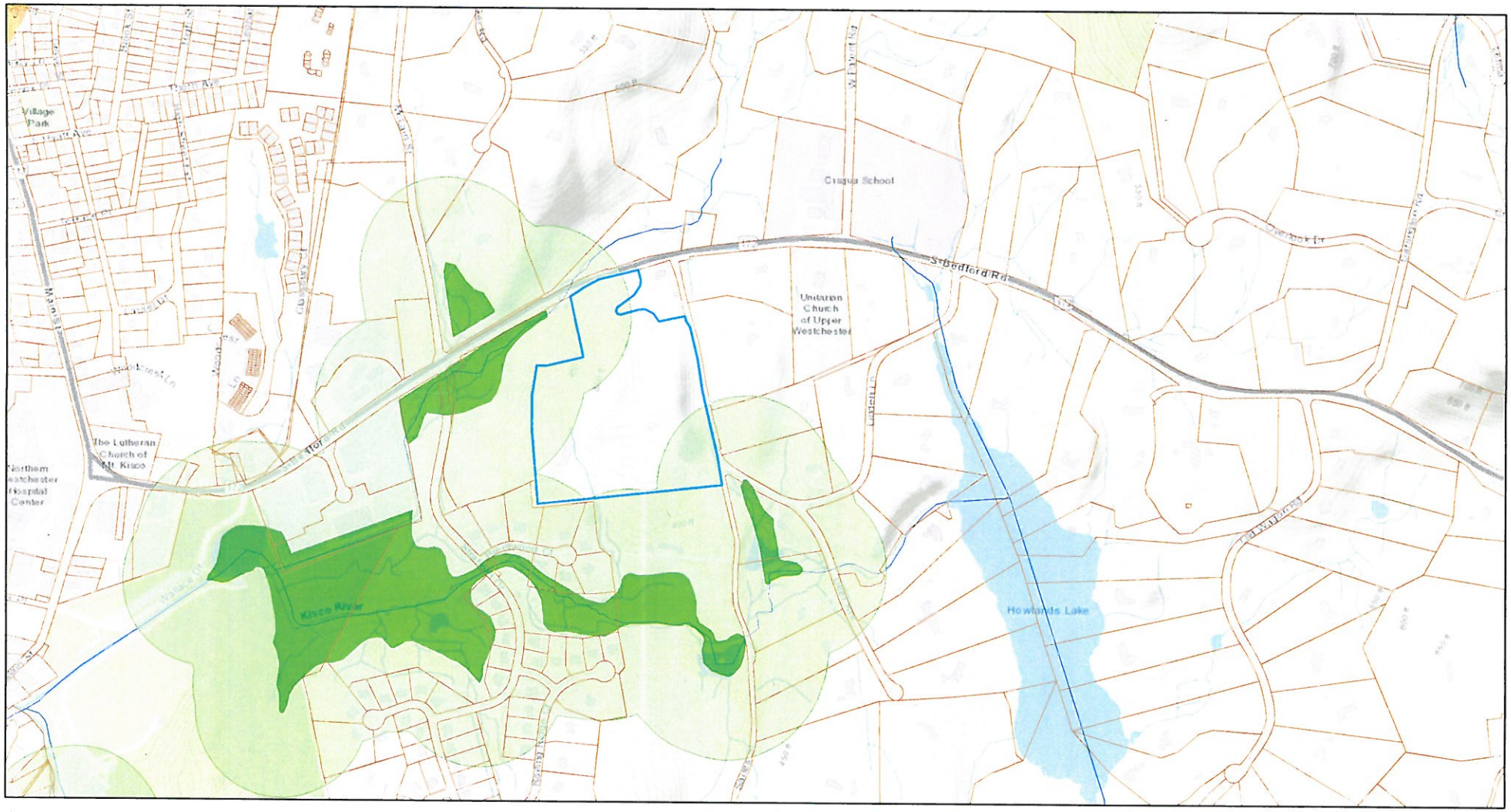
Author: NYSDEC Hudson Valley Natural Resource Mapper

Not a legal document

Layers and Legend for NYSDEC Environmental Resources Maps



Mount Kisco - Parcel 80.44-1-1



June 8, 2020

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Appendix F

Miscellaneous plant lists and observations

Trip Report from the Torrey Botanical Society
CORNELIA VAN RENSSELAER MARSH MEMORIAL WILD SANCTUARY
Mt. Kisco
September 9, 1967

A group of 21 members hiked through a part of the Cornelia Van Rensselaer marsh memorial Wildlife Sanctuary in Mt. Kisco, New York. The sanctuary comprises substantial acreage of marshland, woods, and fields, in addition to the 18-acre Brookside tract of upland deciduous woods visited by the group.

Flowering plants included Solidago bicolor, graminifolia and canadensis, Lobelia siphilitica, and several asters from the largest-leaved Aster macrophyllus to one of the smallest-leaved species Aster ericoides. Two violets were seen in bloom, of an undetermined species.

Participants were treated to sandwiches and cooling drink by Mrs. Marsh, after the walk. The leader was Leona T. Rem, Kitchawan Research Laboratory of the Brooklyn Botanic Garden.

A detailed summary of a visit by local botanist Patrick L. Cooney, Ph.D. has been posted on the NY/NJ/CTBotany Online wesbite along with his Plant List for the Marsh Sanctuary. He also found record of a group visit to the Sanctuary by regional botanists in 1967!

PLANT LIST:
Patrick L. Cooney, Ph. d.
* = blooming on the day of the field trip, May 15, 2008

Trees:
Acer sp. (Japanese maple) planted
Acer negundo (box elder)
Acer rubrum (red maple)
Acer saccharum (sugar maple)
Betula lenta (black birch)
Carpinus caroliniana (musclewood)
Carya (shagbark hickory)
Carya spp. (hickory trees)
Cercis canadensis (red bud) *
Cornus florida (flowering dogwood)
Fagus grandifolia (American beech)
Fraxinus americana (white ash)
Juniperus virginiana (red cedar)
Picea abies (Norway spruce)
Pinus rigida (pitch pine)
Pinus strobus (white pine)
Prunus serotina (black cherry)
Pyrus sp. (malus probably) (apple)
Quercus alba (white oak)
Quercus palustris (pin oak)
Quercus prinus (chestnut oak)
Quercus rubra (red oak)
Quercus velutina (black oak)
Robinia pseudoacacia (black locust)

Salix sp. (willow)
Taxus sp. (yew)
Tsuga canadensis (eastern hemlock)
Ulmus americana (American elm)

Shrubs and sub-shrubs:

Alnus serrulata (smooth alder)
Berberis thunbergii (Japanese barberry) waning blooms
Euonymus alatus (winged euonymus) *
Forsythia sp. (forsythia) *waning
Gaylussacia baccata (black huckleberry
Hamamelis virginiana (witch hazel)
Lonicera morrowii (Morrow's honeysuckle) *
Pachysandra terminalis (pachysandra) *one in bloom
Rhododendron maximum (rosebay rhododendron) *
Rhododendron sp. (white rhododendron) * hort.
Rosa multiflora (multi-flora rose)
Rubus phoenicolasius (wineberry)
Rubus sp. (blackberry)
Viburnum sieboldii (Siebold's viburnum)

Vines:

Celastrus orbiculatus (Asiatic bittersweet)
Lonicera japonica (Japanese honeysuckle)
Parthenocissus quinquefolia (Virginia creeper)
Smilax sp. (greenbrier)
Toxicodendron radicans (poison ivy)
Vitis sp. (grape)
Wisteria sp. (wisteria)

Herbs:

Achillea millefolium (common yarrow)
Ajuga sp. (bugleweed) *
Alliaria petiolata (garlic mustard) *
Allium tricoccum (wild leek or ramps)
Allium vineale (garlic onion (hollow stem)
Apocynum sp. (dogbane)
Aquilegia canadensis (yellow columbine) * hort.
Arctium sp. (burdock)
Arisaema triphyllum v. triphyllum (jack in the pulpit)
Artemisia vulgaris (common mugwort)
Asclepias syriaca (common milkweed)
Aster spp. (asters)
Barbarea vulgaris (common wintercress) *
Chelidonium majus (celandine) *
Chenopodium album (pigweed)
Convallaria majalis (lily of the valley) *
Dicentra cucullaria (Dutchman's breeches)
Erythronium americanum (trout lily)

Euphorbia cyparissias (cypress spurge) *
Fragaria virginiana (common strawberry) *
Gaillardia aristata (common blanket flower) *
Galium sp. (galium)
Geranium maculatum (wild geranium) *
Geum canadense (white avens)
Hemerocallis fulva (tawny day lily)
Impatiens sp. (capensis probably) (jewelweed)
Myosotis scorpioides (forget me not) *
Plantago lanceolata (English plantain) *
Podophyllum peltatum (mayapple)
Polygonum cuspidatum (Japanese knotweed)
Polygonum virginianum (jumpseed)
Symplocarpus foetidus (skunk caggage)
Taraxacum officinale (dandelion) *
Tridens sp. (red clover, probably)
Typhus sp. (cattail)
Urtica dioica v. dioica (stinging nettle)
Verbascum thapsus (common mullein)
Viola sororia (common blue violet) *

Rushes:

Sedges:

Carex laxiflora type (sedge)
Carex pensylvanica (Pennsylvania sedge)
Carex stricta (tussock sedge)

Grasses:

Anthoxanthum odoratum (sweet vernal grass) *
Dactylis glomerata (orchard grass)
Microstegium vimineum (Japanese stilt grass)
Panicum clandestinum (deer-tongue grass)
Poa annua (annual bluegrass)
Schizachyrium scoparium (little blue stem grass)

Ferns and fern Allies:

Equisetum arvense (field horsetail)
Dennstaedtia punctilobula (hay-scented fern)
Onoclea sensibilis (sensitive fern)
Osmunda claytoniana (interrupted fern)
Polystichum acrostichoides (Christmas fern)
Thelypteris noveboracensis (New York fern)

Appendix G

Work resume of field investigator

BRUCE R. FRIEDMANN
SENIOR ENVIRONMENTAL SCIENTIST

EDUCATION/TRAINING

- University of California, B.A. Zoology
- Southern Maine Vocational Technical Institute, Marine Science, and Engineering
- Army Corps of Engineers, Wetland Delineation Training Program

PROFESSIONAL AFFILIATIONS

- New York State Wetlands Forum
  Orange County Land Trust
  New York Flora Association

SELECTED PUBLICATIONS AND PRESENTATIONS

- VanHeukelem, W.F., R.M. Harrel, S.G. Hughes, S. Lindell and B. Friedmann. 2001. Optimal conditions for swim bladder inflation in striped bass larvae reared in intensive systems. Northeastern Regional Aquaculture Center. NRAC Pub. No. 00-006. Univ. Ma North Dartmouth, Ma 5pp.
- Friedmann, B. R., and K. M. Shutty 1999. Effect of timing of oil film removal and first feeding on swim bladder inflation success among intensively cultured striped bass larvae. N. Am. J. Aquaculture.61 (1):43-46.
- Friedmann, B.R. 1995. Culture techniques for the large-scale production of intensively-cultured striped bass, *Morone saxatilis*, fry and fingerlings. Presented at Aquaculture '95 San Diego, California
- Friedmann, B.R. 1995. Comparative aspects of the larviculture of North American temperate basses (Percichthyidae) and their hybrids. Presented at Aquaculture '95 San Diego, California

PROFESSIONAL EXPERIENCE

- **Senior Environmental Scientist**
  Ecological Analysis, LLC, Middletown, New York

  Collected environmental field data and prepared documentation for environmental impact analyses, including vegetation and/or wildlife surveys, habitat assessments, and wetland delineations for projects in NYS, from St. Lawrence County upstate, to Westchester County downstate.
  Provided support in the operation of a 900,000 sq. ft., indoor, 2 acres hydroponic commercial grow-out facility for tilapia aquaculture.

- **Environmental Scientist**
  Tim Miller Associates, Inc., Cold Spring, New York

→ Collected environmental field data and prepared documentation for environmental impact analyses, including vegetation and wildlife field survey, habitat assessments, and wetland delineations. Conducted stormwater runoff monitoring at construction sites. Project field sites were located within the lower Hudson River valley in towns of Westchester, Putnam, Duchess, Rockland, Orange, Ulster, and Sullivan Counties.

- **Aquaculture Research Supervisor**
  Aquafuture, Inc., Turners Falls, Massachusetts

→ Directly responsible for operations research hatchery and staff at a 600,000-gallon indoor commercial culture facility for hybrid striped bass.
→ Supervised research projects under the aegis of NOAA, USDA (NRCS and SBIR) programs, and the US-Israel Science and Technology Commission.

- **Biology Laboratory Manager**
  EA Engineering, Science, and Technology, Inc., Alexandria, Egypt

→ Directly responsible for daily operations of the environmental field and laboratory staff of the Alexandria, Egypt, Wastewater Treatment Program for a USAID EIS. Supervised a field and laboratory staff of 12 in-country scientific professionals and technicians.
→ Designed and directed the development of related environmental database and co-authored input to quarterly and annual program reports.

- **Biologist**
  EA Engineering, Science, and Technology, Inc., Newburgh, New York
  and
  Texas Instruments Ecological Services, Verplanck, New York

→ Conducted aquatic and terrestrial field surveys in New York, New Jersey, Florida, and Puerto Rico. Supervised design, construction and operational phases for various freshwater and saltwater aquaculture and bioassay testing facilities.
→ Designed, constructed, and supervised a toxicology laboratory for the testing of freshwater bioassay organisms in accordance with the standard protocols of U. S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC). Conducted Rapid Bioassessment Protocol (RBP) field stream surveys according to EPA RBP protocols. Field tested and conducted environmental risk assessment stream surveys according to NYSDEC Biothreat Model protocols.
→ Developed and applied relational database programs to integrate and track information for samples processed concurrently in multiple labs. Queried, extracted, and condensed data for presentation in quarterly and annual operating reports.
→

SELECTED PUBLICATIONS AND PRESENTATIONS-continued

- Friedmann B.R., W.P. Dey, and S. M. Jinks. 1995. Use of oleophilic pads to achieve high swimbladder inflation percentages among intensively-cultured striped bass, *Morone saxatilis*. Poster session at Aquaculture '95 San Diego California
- Friedmann, B. R. 1994. Larviculture techniques for the large-scale production of intensively cultured striped bass fry and fingerlings. Presented at the 1994 Striped Bass Workshop of the Atlantic States Marine Fisheries Commission. Washington, D.C. *1994*
- Friedmann, B. R. 1990. Intensive culture techniques for striped bass fingerlings. Pgs. 49-55 In: Proceedings of a Workshop on Biology and Culture of Striped Bass. R.H. Peterson, Ed. Can. Tech. Rpt. Fish. Aquat. Sci. No. 1832.
- Dunning, D.J., Q.E. Ross, B. R. Friedmann, and K.C. Marcellus. 1990. Coded wire tag retention by, and tagging mortality of, striped bass reared at the Hudson River Hatchery. Am. Fish. Soc. Sym. 7:262-266.
- Mattson, M.T., B. R. Friedmann, D.J. Dunning, and Q.E. Ross. 1990. Magnetic tag detection efficiency for Hudson River striped bass. Am. Fish. soc. sym. 7:267-271.
- Kreamer, Q. L., B. R. Friedmann, and W.P. Dey 1988. Larval striped bass (*Morone saxatilis*) mortality under intensive culture conditions Evidence of the role of water composition and nutrition from tissue monitoring and diet-related phenomena. International Fish Health Conference Vancouver, B.C.

PROFESSIONAL EXPERIENCE- (*continued*)

→ Prepared courtroom exhibits as staff biologist during FERC 316(*b*) adjudicatory hearings for Hudson River utility companies. Co-authored related multi-plant impact reports for regional electric utilities, and provided data documentation and technical librarian research services as supporting functions for staff witnesses.

→ Responsible for hiring, training, daily scheduling, and tasking of up to 25 scientific professionals and technicians.

- **INDUSTRIAL EXPERIENCE**

- **Chemical Plant Operator**
  BASF Corporation, Peekskill, New York

→ Conducted plant operations at a coated-mica manufacturing facility utilizing gas-fired belt furnaces, belt filters, bag houses, centrifugal separators, product conveyors, and tray dryers for a 10 metric ton (MT) daily production of specialty effects pigments for use in automotive, cosmetics, and plastics industries. Process operator at the facility's combined demineralized water plant and industrial pretreatment wastewater plant.

- **Chemical Plant Operator**
  Nepera, Inc. Harriman, New York

→ Conducted plant operations at a vitamin B_3 manufacturing plant, a SCADA controlled, FDA-regulated manufacturing facility utilizing high pressure/ temperature reactors, crystallizers, centrifuges, compactors, mills, and packaging equipment for a 10 MT daily production of packaged product.

- **Chemical Treatment Plant Operator**
  LMS Engineers, LLC. Pearl River, New York

→ Responsible for operational SPDES compliance of a SCADA-controlled waste metals removal pre-treatment system at an IBM computer chip manufacturing facility.

Sound Level Analysis
Sarles Street Solar Farm
180 South Bedford Road
Mt. Kisco, NY 10601

February 2021

Prepared for:
SCS Sarles St LLC
an affiliate of Sunrise Solar Solutions, LLC
510 North State Road
Briarcliff Manor, NY 10510

Prepared by:

B. LAING ASSOCIATES
ENVIRONMENTAL CONSULTING
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(631) 261-7170, Fax: (631) 261-7454

Sound Level Analysis
Sarles Street Solar Farm
180 South Bedford Road
Mt. Kisco, NY 10601
February 2021

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APPENDICES

1.0 EXISTING CONDITION

1.1 Purpose of Study

B. Laing Associates, Inc. is an environmental consulting firm providing sound/noise analyses services for the proposed Solar Farm (herein referred to as the Project or the Site) located in the Town/Village of Mount Kisco[1], Westchester County, New York. The Project site is 1,089,000 square feet (25+ acres) and is located south of South Bedford Road (NYS Route 172), and located in an area roughly bounded on the east and west by Sarles Street and Stratford Drive, respectively.

The Applicant, SCS Sarles St LLC, proposes the redevelopment of the site for the use of a Solar Farm facility. The proposed solar farm will include 6,056 photovoltaic panels, 20 power inverters, and one 2,000 kVA transformer.

The purpose of this analysis is to evaluate sound levels that may occur as a result of the proposed use, specifically as a result of electrical equipment such as power inverters and electrical transformers. Mitigation and assessment of significant noise impacts, if any, will be addressed accordingly.

1.2 Existing Conditions

The Project site consists of 25+ acres and is located in the Town/Village of Mount Kisco. The site is bounded on the north by NYS Route 172, and on the east by Sarles Street. The site's southern boundary meets residential and wooded properties associated with Brentwood Court and Marsh Sanctuary, Inc. The western boundary of the site meets a large wooded property owned by Wildlife Preserve, Inc. which separates the site from Stratford Drive.

The site is characterized by dry, xeric hills which are largely wooded, with some visible rock outcroppings present. The slopes are relatively steep on the site's peripheries, plateauing to a less steep, flatter section in the center. This site was once developed residentially, with a mansion, lawns, gardens, etc. situated atop the plateau. This use became defunct sometime in the second half of the 20th century. The structure no longer exists, although some associated remnants exist such as concrete foundations, stone walls, etc. An existing asphalt driveway is used for present-day site access and is a holdover from this historic use. The clearing from the historic use is still evident in many places.

Potentially "sensitive" noise receptors (e.g., hospitals, libraries, schools etc.) within 1,500 linear feet of the site were mapped and included in Figure 2, below. These include the medical facilities to the project's west, across Stratford Drive, some of which are just inside a 1,500-foot radius of the site. Examples of medical facilities present are Kaleidoscope Childcare Center, CareMount Medical, Mt Kisco Medical Group, and Creative Wonders Therapy Center.

[1] The Town and Village boundaries are coterminous.

1.3 General Sound Characteristics

Sound waves are created when changes in pressure are produced in the air. Sound waves are received (and thereby observed) when the human ear reacts to these pressure changes. The pressure changes are expressed as decibels (dB) depending upon the power of the source as expressed in watts of power (with a reference of 1 picowatt or 10^{-12} watts). These pressure levels are created at a wide range of frequencies (i.e., spacing of the waves), with wave frequency depending upon the rate at which sound pressures fluctuate in a cycle over time. This is measured in hertz (Hz), with one Hz equaling 1 cycle per second. The frequency of the wave (in Hz) determines the perceived pitch of the sound.

The average person's ear can detect sounds ranging from 20 to more than 10,000 Hz. Each frequency is detectable at different pressure levels and so, the system for sound measurement which mimics the human ear is an A-weighted decibel system or dB(A). As a point of reference, human conversations at a distance of two to three feet occurs between sound pressure levels (SPL) of 60 dB(A)-- with a calm voice-- to 75 dB(A) with a raised voice[2]. A 3 dB(A) change in sound levels would be considered largely undetectable to the human ear, while a 6 dB(A) increase results in a generally audible change. A 10 dB(A) change in sound levels is approximately a doubling of sound wave pressure.

1.4 Sound Monitoring Methodology

In order to understand the existing ambient sound levels at and around the project site, sound/noise measurements were made using a Cirrus Research plc CR:1710 noise meter, which was set to measure A-weighted decibel levels as a mimic of the average human ear. Ambient noise levels were measured from four (4) locations on and adjacent to the project site. Figure 3 represents the mapped measured locations on a current aerial. Table 1 depicts the measured locations.

With regard to the ambient methodology, there is no specific mathematical methodology that was applied to the existing, ambient noise measurements. The readings are straight forward, taken in approximately 10-minute durations and were monitored at the listed locations for existing ambient conditions. Two rounds of measurements occurred on January 22, 2021; taken during and before the peak p.m. traffic condition. The site condition was partly cloudy, with wind no greater than 8 knots, and an average temperature of 39 degrees Fahrenheit (F).

[2] USEPA's Community Noise, 1971

TABLE 1 – Noise Sampling Locations		
Monitoring ID	Location	Description
Location A	Northwest Property Line	Closest property line approach with Wildlife Preserve, Inc. property to west.
Location B	Southern Property Line	Southern property line associated with residential properties abutting Brentwood Ct. and Wildlife Preserve, Inc. property.
Location C	Eastern Property Line	Roughly centered with respect to proposed development, along Sarles Street.
Location D	Northeast Property Line	Top of the hill along asphalt driveway, roughly associated with residential property to the north and east.
Note: Locations are provided in Figure 3.		

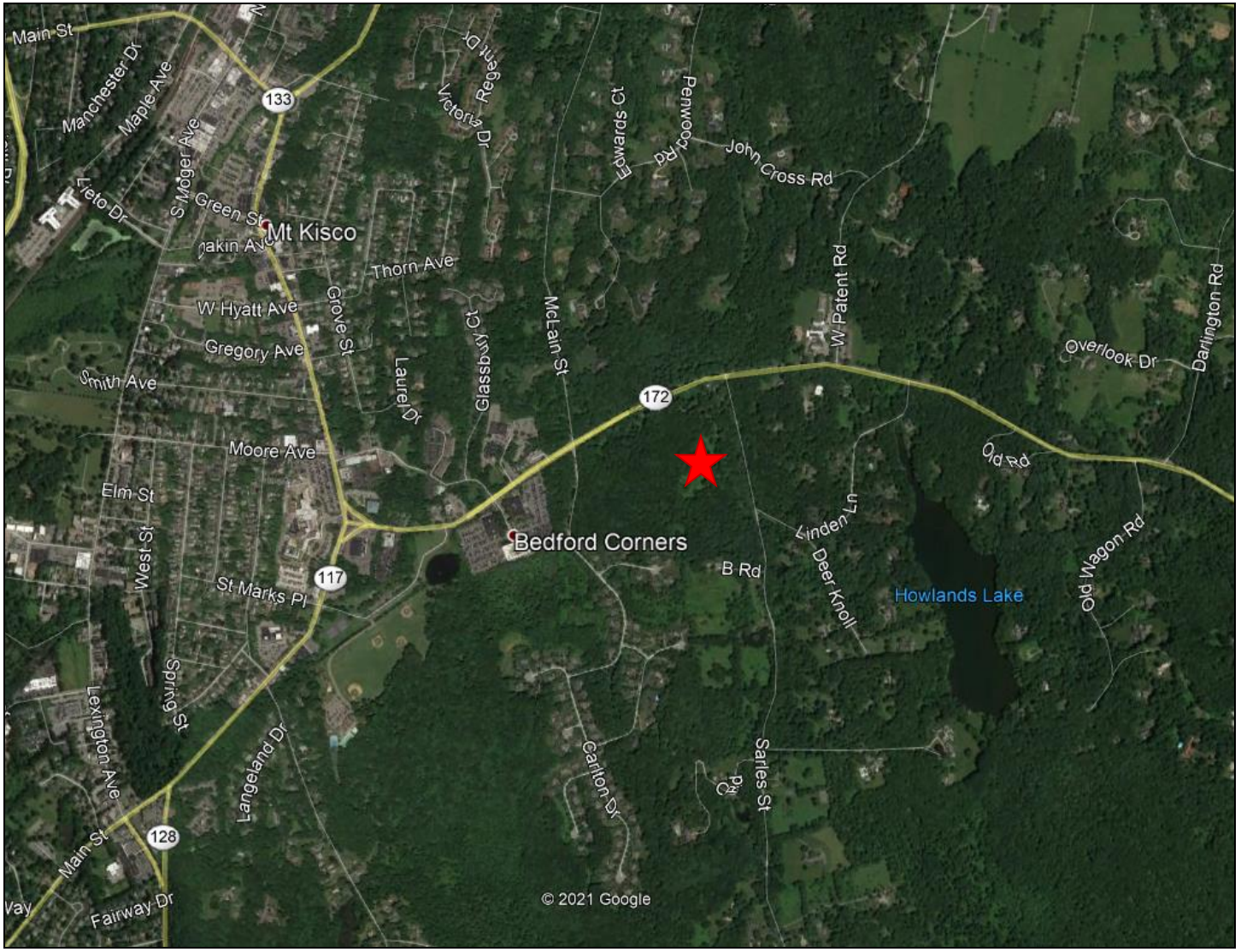


Figure 1[3]: Site Location Map of Project Site.
Satellite imagery sourced from Google. Red star denotes approximate project location.

[3] Bedford Corners designation is placed by Google and not representative of the proposed project. The project location is within the Town/Village boundaries of Mount Kisco.

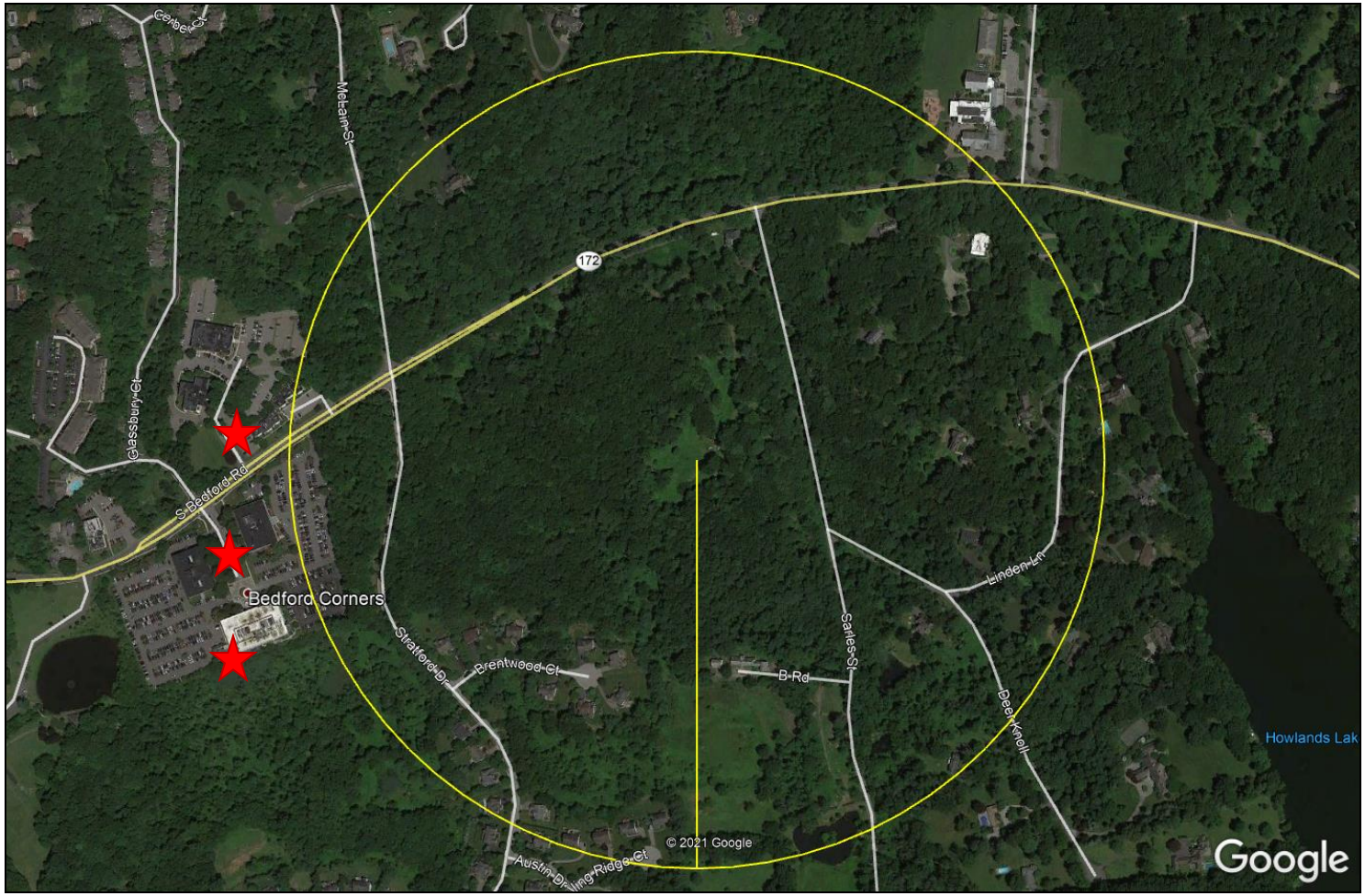


Figure 2[4]: Map of Potentially Sensitive Receptors within 1,500-feet of Project Site.
Satellite imagery sourced from Google. Yellow circle denotes approximate 1,500-foot radius from project location. Red stars denote location of potentially sensitive receptors.

[4] Bedford Corners designation is placed by Google and not representative of the proposed project. The project location is within the Town/Village boundaries of Mount Kisco.

Figure 3: Satellite Imagery of Project Site Showing the Four Ambient Noise Sampling Locations. Letter locations denote sampling location. Approximate property line denoted by red line- for illustrative purposes only.

2.0 NOISE REGULATION

2.1 Town/Village of Mount Kisco Ordinance

The Town/Village of Mount Kisco's Noise Control Law, Code Chapter 77, outlines the regulations and prohibitions regarding the creation of sound pressure levels.

Chapter 77-3, Prohibited Acts, reads as follows: *No person, with the intent to cause public inconvenience, annoyance or alarm or recklessly creating a risk thereof, shall make, continue or cause to be made or continued any unreasonable noise in the village. For purposes of this chapter, "unreasonable noise" is any disturbing, excessive or offensive sound that disturbs or endangers the comfort, repose, health, peace or safety of a reasonable person of normal sensitivities.* The code further describes *prima facie* evidence of a violation of the code, which includes (though is not limited to):

1. Any unreasonably loud or disturbing noise from any source between the hours of 10:00 p.m. and 7:00 a.m. the following day or 11:00 p.m. and 9:00 a.m. the following day if such following day is a Sunday or United States government holiday;

2. The generation of noise from equipment used in the construction, including excavation or filling, demolition, alteration or repair of any building between the hours of 8:00 p.m. and 8:00 a.m. the following day, or 9:00 a.m. the following day if such following day is a Sunday or legal holiday.

3. The discharge into the open air of the exhaust of any steam engine, stationary internal-combustion engine or device, air compressor, motorcycle engine, motor vehicle engine or any other nonelectrical mechanical device, except through a muffler or other device which effectively prevents loud, unusual or explosive noise.

4. The making of deliveries of supplies or merchandise except between the hours of 7:00 a.m. and 11:00 p.m. unless such deliveries do not disturb the comfort or repose of persons in the vicinity.

While the Town/Village Code does not specify a decibel level which constitutes "unreasonable" many local codes use 45 dB(A) at night in residential areas (e.g., the Town of Bedford). Items 1 and 2 of the above are considered pertinent to the project. See below for an analysis of the project and how it relates to Chapter 77 of the Town/Village Code.

2.2 Department of Environmental Conservation Criteria

The New York State Department of Environmental Conservation (NYSDEC) published, *Assessing and Mitigating Noise Impacts* (October 6, 2000 revised February 2, 2001) to provide guidance and policy on existing and proposed sound levels. This document states that sound level increases of 0 to 5 dB(A) have no appreciable effect on receptors, increases of 5 to 10

dB(A) may have the potential for adverse impact but only in cases where the most sensitive receptors are present. See Table 2 below.

Increases of more than 10 dB(A) may require a closer analysis of impact potential depending on existing noise levels and surrounding land uses, and an increase of 10 dB(A) or more suggests consideration of mitigation measures. It also states that the addition of operational noise sources, in a "non-industrial" setting, should not raise the ambient noise level above a maximum of 65 dB(A). Ambient noise levels in industrial or commercial areas may exceed 65 dB(A) but should not exceed 79 dB(A). Construction noise levels are not specifically addressed by this guidance.

TABLE 2

HUMAN REACTION TO INCREASES IN SOUND PRESSURE LEVEL

Increase in Sound Pressure (dB)	Human Reaction
Under 5	Unnoticed to tolerable
5 - 10	Intrusive
10 - 15	Very noticeable
15 - 20	Objectionable
Over 20	Very objectionable to intolerable

(Down and Stocks - 1978)

3.0 PROPOSED ACTION ANALYSIS

3.1 **Proposed Action**

The proposed Solar Farm project will develop approximately 3.72 acres[3] of the 25-acre property. The project involves the installation, construction, and then continued use of 6,056 photovoltaic panels, 20 power inverters, and one 2,000 kVA transformer. Access to the site will continue from the existing asphalt driveway which fronts on NYS Route 172.

It was determined that the 6,056 photovoltaic cells are not a source for additional (or any) sound pressure levels/noise. The below operational sound analysis then is in regards to the two potential sources for additional sound levels which are considered to be the twenty (20) power inverters, and the 2,000 kVA electrical transformer.

The proposed use is not the type that will cause an appreciable increase in traffic. Noise levels associated with vehicular traffic are a function mainly of traffic speed, vehicle mix and volume. The project does not propose any changes to local posted speed limits, nor additional stop signs or traffic lights. Therefore, any changes in traffic related noise will be a function of the change in volume. As no change in local traffic is anticipated due to the proposed action, no change in traffic related noise is proposed.

3.2 **Results of Ambient Noise Measurements**

Per Section 1, above, ambient noise level measurements were taken on January 22, 2021, at four (4) different sampling locations just before, and during peak traffic conditions. These locations are described in Table 1 and Figure 3, above, and included the closest approaches to property lines, especially as related to nearby residential areas. In summary, the ambient noise levels trended higher to the north and lower to the south. This is expected as Route 172 (which is immediately north of the subject property) is the driving source of ambient sound at this location. Location A, which was considered to be the closest location to Route 172 had an average[4] L_{eq} of 54.5 dB(A). Per NYSDEC *Assessing and Mitigation Noise Impacts*, given initial noise measurement standardized at 50 feet from the sound source, every doubled distance will decrease the noise level by approximately 6 dB(A). Per the FHWA, "levels of highway traffic noise typically range from 70 to 80 dB(A) at a distance of 15 meters (50 feet) from the highway." Thus, from Route 172, assuming sound levels between 70-80 dB(A), sound levels should range at Location A between 54-60 dB(A), which the measured ambient matched[5]. Therefore, the majority of ambient noise in the local area, and the nearby receptors, can be considered to be a factor of existing traffic on Route 172. In addition, on January 22, 2021, the following were observed for locations B-D:

[3] This represents the code-defined development coverage and not the area of disturbance.
[4] Average between two measurement periods.
[5] On the low end, as expected. Route 172 would be considered to produce far less noise than the type of highway the FHWA uses as a guide.

Existing sound levels were measured along the site's southern property boundary at Location B. Sound measurements from the proposed project's southeastern location showed L_{eq} measurements of 38.7 and 39.6 dB(A) in the p.m. hour. The noise measurements at this location were taken at the southern property boundary in such a location that they would represent the ambient measurements between the proposed action and both the residential properties on Brentwood Court and the Marsh Sanctuary property to the south. The sound levels, at this location, were expectedly quiet, even during the peak p.m. hour, as they are largely blocked from Route 172 by topography. Some vehicular traffic was present on Sarles Street, which caused small spikes in sound pressure levels.

Existing sound levels were measured along the site's eastern property boundary at Location C. Sound measurements from the proposed project's eastern boundary showed an L_{eq} measurements of 54.3 dB(A) and 58.6 dB(A). The noise measurements at this location were taken at the eastern property boundary adjacent to/abutting Sarles Street. Unlike Location B, this location was not blocked from Route 172 and so the base ambient was higher. In addition, it was considerably more impacted by Sarles Street, which had a modest but appreciable amount of vehicular traffic.

Existing sound levels were measured along the site's northeastern property boundary at Location D. This location was chosen as it was atop the hill, near the area of proposed electrical transformer. It also represented a close approach by the nearby residential lot (within the intersection of Sarles Street and Route 172). Sound measurements from the proposed project's northeastern location showed L_{eq} results of 51.1 and 51.4 dB(A). The sound levels, at this location, result from the existing traffic on Route 172.

A summary of these findings is depicted in Table 3, below.

TABLE 3
Noise Monitoring Results
(Existing Ambient Sound Levels)

Monitoring ID	Location	Time	L_{eq}
A	NORTHWEST PROPERTY LINE	03:32 PM	54.6 dB(A)
		05:49 PM	54.4 dB(A)
B	SOUTHERN PROPERTY LINE	03:48 PM	39.6 dB(A)
		05:33 PM	38.7 dB(A)
C	EASTERN PROPERTY LINE	04:11 PM	58.6 dB(A)
		06:22 PM	54.3 dB(A)
D	NORTHEAST PROPERTY LINE	04:31 PM	51.1 dB(A)
		06:07 PM	51.4 dB(A)

3.3 **Operational Sound Qualitative Analysis**

As above, the majority of noise contributing to the ambient conditions at the project site come from NYS Route 172. However, the potential for noise impacts from the project does not come from an increase of traffic. In this case, the potential for noise impacts come from the twenty (20) power inverters and the electrical utility transformer. For a discussion regarding the proposed electrical equipment, please see below.

To determine how any proposed sound level has the potential to increase the ambient sound, (existing and proposed) levels can be added to determine a middling sound level. Per the NYSDEC guidance and Table 4 below, the difference between two sound levels at 1 dB or less (essentially a doubling of sources) will add 3 dB to the higher of the two sounds and so forth.

TABLE 4

Approximate Addition of Sound Levels

Difference Between Two Sound Levels	Add to the Higher of the Two Sound Levels
1 dB or less	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0 dB

(USEPA, Protective Noise Levels, 1978)

3.3.1 SolarEdge Commercial Three Phase Inverters

The proposed power inverters will be made by SolarEdge, specifically the "Commercial Three Phase Inverters for the 277/480V Grid for North America." The proposed action aims to install twenty (20) inverters, strung along the main access corridor of the photovoltaic cells. As such, they are centrally located, within the middle of the proposed solar facility. The location of the inverters can be found on the project site plans.

Power inverters for solar arrays tend to be very quiet as the noise produced by the units comes from a small cooling fan within them. The SolarEdge Commercial Three Phase Inverter specification sheet indicates that they produce "less than 60 dB" of noise. On January 22, 2021, B. Laing Associates personnel visited an active solar site to compare the proposed noise impacts with existing functional solar equipment. The functioning SolarEdge Commercial inverters which were observed were barely audible, registering no higher than 45 dB(A) at 1 meter on the Cirrus plc 1710 Sound Level Meter. This field-observation of existing, functioning equipment confirmed the specification sheet's information as being equal to or more conservative than same.

In addition, solar inverters only create noise when they are operational and the solar array is producing constant energy (i.e., when weather conditions are sunny, during daylight hours). This means that while a 45 dB(A) sound pressure level may be created by the inverters during daylight hours, no inverter noise will occur during night time. The inverters will also be quiet during periods of low-energy creation (i.e., during overcast conditions, when it is cooler, or when the sun is low in the sky). That is, to say, the 45 dB(A) sound level represents a maximum sound level during peak energy production.

3.3.1 Electrical Utility Transformer

In addition to the solar arrays and power inverters, a 2,000 kVA, 13.2 KV to 480V, oil cooled utility transformer is proposed on site, which has the potential to produce additional noise. This utility transformer is proposed approximately 200' from the closest northeastern property line (roughly Sample Location D).

Per specification sheets for 2,000 kVA utility transformers, the noise output would be considered 61 dB(A) at 1 meter distance. On January 22, 2021, B. Laing Associates personnel visited an active solar site to compare the proposed noise impacts with existing functional solar equipment. The functioning utility transformers which were observed registered 53.2 dB(A) at 1 meter on the Cirrus plc 1710 Sound Level Meter. This field-observation of existing, functioning equipment confirmed the specification sheet's information as being equal to or more conservative than same.

In addition, utility transformers for solar arrays only create noise when they are operational and the solar array is producing constant energy (i.e., when weather conditions are sunny, during daylight hours). This means that while a 61 dB(A) sound pressure level may be created by the utility during daylight hours, the amount of noise generated by this equipment at night would be considerably less (akin to idling rather than producing energy). The transformer will also be quieter during periods of low-energy creation (i.e., during overcast conditions, when it is cooler, or when the sun is low in the sky). That is, to say, the 61 dB(A) sound level represents a maximum sound level during peak energy production.

3.4 **Operational Sound Level Impacts**

Section 3.3 outlines the aspects of the project which have the potential to create additional sound levels, and thus potential sound level impacts. As above, the two sources of proposed sound are the power inverters and the utility transformer which will be associated with the proposed solar arrays.

Functioning power inverters will create a maximum sound pressure level of 45 dB(A) at 1 meter's distance. Sound waves propagate outward in space (in three dimensions) such that its power is lost (and thus its volume) logarithmically. A doubling of distance from a source will decrease the sound pressure level by 6 decibels, and thus its power is halved. Therefore, if a power inverter produces a sound pressure level of 45 dB(A) at 1 meter, its sound pressure level will be 39 dB(A) at 2 meters, 33 dB(A) at 4 meters, and so on. By this calculation it would take

only 8 meter's distance to reach a sound pressure level of 27 dB(A), which is much lower than any possible ambient sound level.

The proposed twenty power inverters will be spread out along the center of the array, from north to south. As such, their sound pressure level will also be spread out to reduce any "additive" sound impacts. As the proposed action is set in the center of a 25-acre parcel, with (at minimum) 200-feet setback from any property line, there is no way the minor sounds of the inverters would cause a *disturbing noise* per the Village/Town of Mount Kisco. Considering the minor noise output, and that this equipment will only be loudest in the daytime, when ambient noise measurements would overwhelm any noise put out by the inverters, no noise impacts are anticipated from the result of operational noise generated by the proposed power inverters.

The functioning utility transformer will create a maximum sound pressure level of 61 dB(A) at 1 meter's distance. Sound waves propagate outward in space (in three dimensions) such that its power is lost (and thus its volume) logarithmically. A doubling of distance from a source will decrease the sound pressure level by 6 decibels, and thus its power is halved. Therefore, if a power inverter produces a sound pressure level of 61 dB(A) at 1 meter, its sound pressure level will be 55 dB(A) at 2 meters, 49 dB(A) at 4 meters, and so on. By this calculation it would take only a distance of 32 meters to reach a negligible sound pressure level of 31 dB(A), which is much lower than any ambient sound level.

The proposed utility transformer is proposed approximately 200' from the closest northeastern property line (roughly Sample Location D) which abuts a residential parcel. This is the closest "receptor" to the proposed transformer. At a distance of 200' (which is approximately 60 meters), any sound pressure level from the proposed transformer will have been reduced to approximately 25 dB(A) which is considerably lower than any ambient noise possible. Considering this equipment will only be loudest in the daytime, when ambient noise measurements are nearly double this amount, no noise impacts are anticipated from the result of operational noise generated by the proposed utility transformer.

As in Section 1.2, a series of medical facilities exist to the property's south, which may be considered "sensitive receptors." As above, these receptors are too far away to be impacted by the minor nature of the proposed sound level production on site. As such, no impacts to sensitive receptors are anticipated as a result of operational noise generated on site. Further, there are also other attenuating factors to consider when evaluating sound levels and impacts. This includes vegetation, structures and location of receptors in relation to the sound source. Per "Assessing and Mitigation Noise Policy," dense vegetation plays a role in reducing sound levels. For every 100 feet of dense vegetation, it is likely that sound levels will be reduced 3 to 7 dB per 100 feet of dense vegetation (and including reductions due to "ground effects" from natural - soft ground surfaces). The project proposes to leave a considerable wooded "buffer" surrounding parts of the site, and woodlands exist to the project's west and south. This has the potential to reduce the proposed generated sound pressure levels. To be conservative, these attenuating factors were not included in any of the above calculations. Therefore, any of the above calculations regarding sound levels would be reduced, further confirming their impact to be negligible or unnoticeable from a noise analysis standpoint.

4.0 CONSTRUCTION

4.1 Construction Noise Analysis

During construction, noise levels will be (1) temporary and (2) will occur at two distinctly different levels. First, the temporary component results from the transient nature of the construction process. The U.S. EPA reports noise levels for development projects range from a high of 88 dB(A) to a low of 75 dB(A) from grading through finishing operations (U.S. EPA, Construction Noise Control Technology Initiatives, Table 2.2-measured at 50 feet).

The proposed construction will occur throughout the project site, within the redevelopment envelope. The noise generated during construction is due mainly from diesel engines that run the equipment. Exhaust is typically the predominant source of diesel engine noise, which is the reason that maintaining mufflers on all equipment is imperative. Noise measurements from some common equipment used in construction can be found Table 5 below[6].

TABLE 5
COMMON EQUIPMENT SOUND LEVELS

Equipment	Decibel Level	Distance in feet
Augered Earth Drill	80	50
Backhoe	83-86	50
Cement Mixer	63-71	50
Chainsaw	75-81	50
Compressor	67	50
Garbage Truck	71-83	50
Jackhammer	82	50
Paving Breaker	82	50
Wood Chipper	89	50
Bulldozer	80	50
Grader	85	50
Truck	91	50
Generator	78	50
Rock drill	98	50
(excerpt and derived from Cowan, 1994)		

As in Section 1.2, a series of medical facilities exist to the property's south, which may be considered "sensitive receptors." The noise created by the first portion of the construction

[6] The equipment listed in Table 5 are not guaranteed to be used in the proposed action

process, may involve temporary levels ranging from 75 to 88 dB(A) and will decrease as a function of distance, at a reduction of 6 dB(A) for every doubling of distance.

The project site covers a fairly large area. The actual sound levels which will be experienced by existing off-site residential uses surrounding the site will be a function of distance, the equipment in operation at any given time, and the speed at which the equipment engines are operating. As such, there is no one single sound level that will occur during construction, and no one existing use will be exposed to the same sound levels over an extended period of time, as construction progresses through the site. The construction noise levels described above are assumed for people outside. A building or house will provide significant attenuation for those who are indoors. Sound levels can be expected to be up to 27 dB(A) lower indoors with the windows closed. Even in homes with the windows open, indoor sound levels can be reduced by up to 17 dB(A) (USEPA 1978).

Further, per "Assessing and Mitigation Noise Policy", dense vegetation will also play a role in reducing sound levels. For every 100 feet of dense vegetation, it is likely that sound levels will be reduced 3 to 7 dB per 100 feet of dense vegetation (and including reductions due to "ground effects" from natural - soft ground surfaces). This has the potential to reduce construction noise further towards the west. As such, construction noise will likely be "unnoticed to tolerable."

As described in Section 2, above, Chapter 77-3 of the Village/Town of Mount Kisco Code does not have a restriction on sound levels for construction. The code prohibits construction noise from being emitted during "the hours of 8:00 p.m. and 8:00 a.m. the following day, or 9:00 a.m. the following day if such following day is a Sunday or legal holiday." As such the construction for the proposed action will take place within the guidelines set forth by the Village/Town of Mount Kisco, and will therefore comply with their code.

Given the above, no noise impacts are anticipated from the result of construction noise generated by the proposed action.

5.0 MITIGATION

5.1 Mitigation Measures

The analysis revealed that no significant noise impact will occur as a result of the proposed project. As such, no mitigation measures are proposed.

6.0 CONCLUSION

6.1 Conclusion of Analysis

The analysis revealed that the proposed project had the potential to create operational sound pressure sources which could generate noise. These potential, operational sound pressure sources were determined to be the proposed electric equipment; specifically, the electrical transformer and power inverters. It was determined that the solar arrays themselves would not generate noise.

Due to numerous factors such as the minor sound levels which are proposed to be generated, distance between noise sources and receptors/property lines, the placement of noise sources, and the influence on local roadways on the existing ambient noise, this analysis found that no significant noise impact will occur as a result of the proposed Solar Farm project. In addition, no violation of Village/Town of Mount Kisco Code 77 will occur as a result of the proposed project.

Despite the fact that no noise impacts are anticipated due to the proposed project, best management practices will be put in place, especially with regard to construction. In addition, the proposed action will adhere to local (Village/Town of Mount Kisco) noise ordinances and guidance set in place by the NYSDEC.

APPENDIX A

Site Photographs
January 22, 2021

Photo A: Looking at a typical view of the site showing hilly uplands with prior human clearing among more wooded areas.

Photo B: A similar photo as in Photo A, showing the character of the subject site with historic clearing in the foreground.

Photo C: A view of the site from Sarles St., looking uphill at wooded uplands.

Photo D: A view from the top of the hill, looking towards Sarles Street, from an area of historic disturbance.

Photo E: Another photographic example of the hilly, wooded uplands which encompass a large amount of the site.

APPENDIX B

Noise Measurement Summary Reports

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

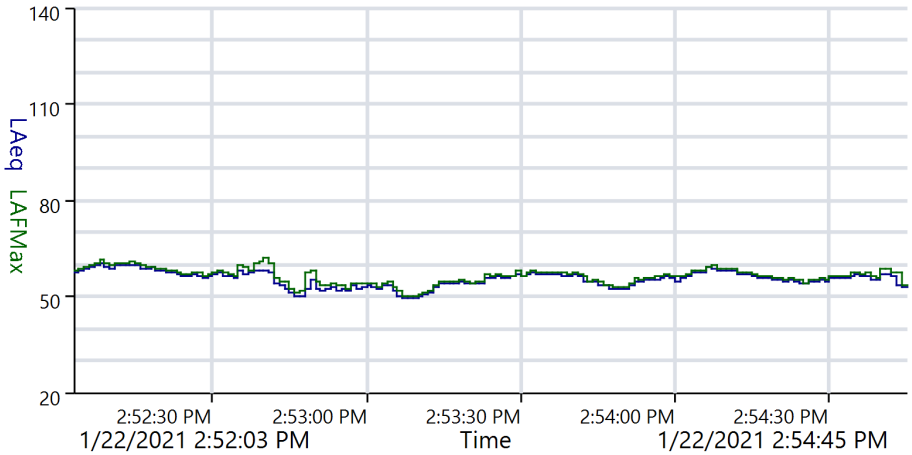
Name	12			
Time	1/22/2021 2:52:03 PM	**Person**	**Place**	**Project**
Duration	00:02:42	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before	Offset	**After**	Offset

Basic Values	
LAeq	56.0 dB
LAE	78.1 dB
LAFMax	61.8 dB

Statistical Levels (Ln)	
LAF1	60.1 dB
LAF5	59.3 dB
LAF10	58.4 dB
LAF50	55.7 dB
LAF90	52.0 dB
LAF95	50.6 dB
LAF99	49.2 dB



Notes

Sample Location A: off-peak traffic, 40 degrees F, wind 5-8 kt

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

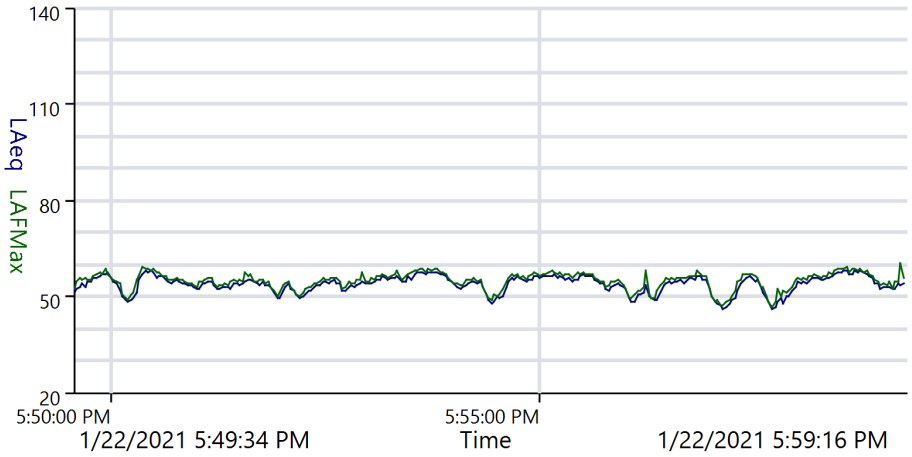
Name	18			
Time	1/22/2021 5:49:34 PM	**Person**	**Place**	**Project**
Duration	00:09:42	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before	Offset	**After**	Offset

Basic Values	
LAeq	54.4 dB
LAE	82.1 dB
LAFMax	60.4 dB

Statistical Levels (Ln)	
LAF1	58.1 dB
LAF5	57.3 dB
LAF10	56.7 dB
LAF50	54.1 dB
LAF90	49.5 dB
LAF95	48.4 dB
LAF99	46.5 dB



Notes

Sample Location A: peak traffic, 40 degrees F, <5 kt.

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

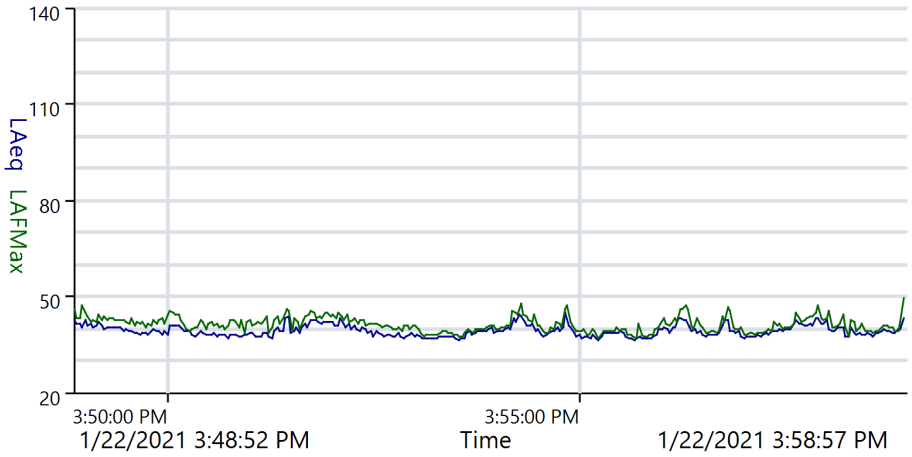
Name	14			
Time	1/22/2021 3:48:52 PM	**Person**	**Place**	**Project**
Duration	00:10:05	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before	Offset	**After**	Offset

Basic Values	
LAeq	39.6 dB
LAE	67.4 dB
LAFMax	49.4 dB

Statistical Levels (Ln)	
LAF1	44.7 dB
LAF5	42.7 dB
LAF10	41.7 dB
LAF50	38.8 dB
LAF90	36.8 dB
LAF95	36.5 dB
LAF99	36.0 dB



Notes

Sample Location B: off-peak traffic, 40 degrees F, wind 5-8 kt

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

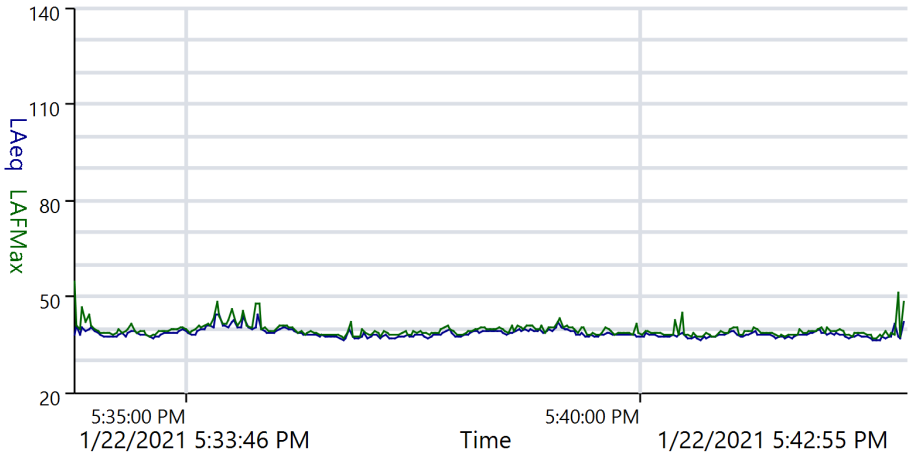
Name	17			
Time	1/22/2021 5:33:46 PM	**Person**	**Place**	**Project**
Duration	00:09:09	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before Offset **After** Offset

Basic Values	
LAeq	38.7 dB
LAE	66.1 dB
LAFMax	54.3 dB

Statistical Levels (Ln)	
LAF1	43.7 dB
LAF5	40.6 dB
LAF10	40.0 dB
LAF50	38.1 dB
LAF90	37.0 dB
LAF95	36.7 dB
LAF99	36.2 dB



Notes

Sample Location B: peak traffic, 40 degrees F, wind <5 kt.

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

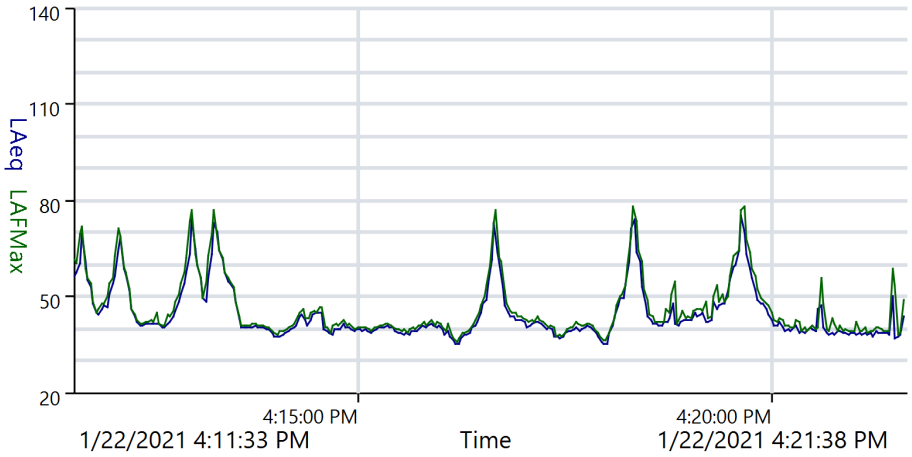
Name	15			
Time	1/22/2021 4:11:33 PM	**Person**	**Place**	**Project**
Duration	00:10:05	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before	Offset	**After**	Offset

Basic Values	
LAeq	58.6 dB
LAE	86.4 dB
LAFMax	78.0 dB

Statistical Levels (Ln)	
LAF1	73.2 dB
LAF5	63.5 dB
LAF10	57.8 dB
LAF50	41.0 dB
LAF90	38.0 dB
LAF95	37.3 dB
LAF99	35.4 dB



Notes

Sample Location C: off-peak traffic, 40 degrees F, wind 5-8 kt

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

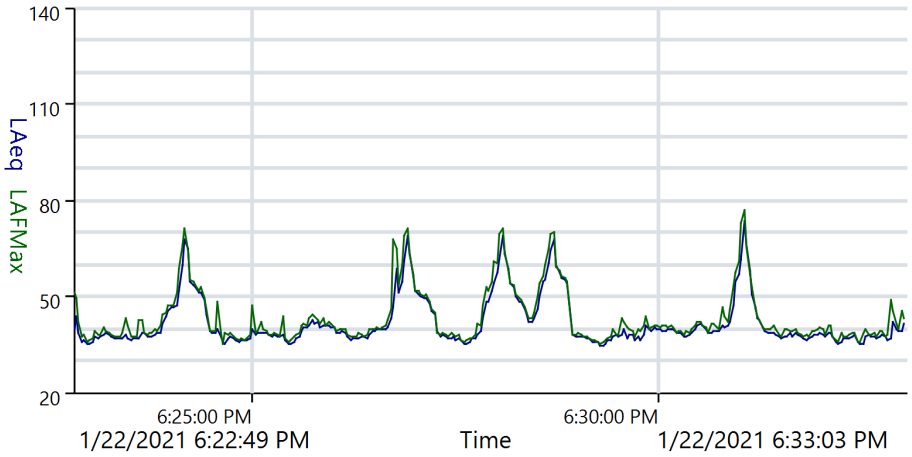
Name	20			
Time	1/22/2021 6:22:49 PM	**Person**	**Place**	**Project**
Duration	00:10:14	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before	Offset	**After**	Offset

Basic Values	
LAeq	54.3 dB
LAE	82.2 dB
LAFMax	76.7 dB

Statistical Levels (Ln)	
LAF1	68.0 dB
LAF5	58.5 dB
LAF10	53.5 dB
LAF50	38.4 dB
LAF90	36.1 dB
LAF95	35.4 dB
LAF99	34.8 dB



Notes

Sample Location C: peak traffic, 38 degrees F, wind <5 kt

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

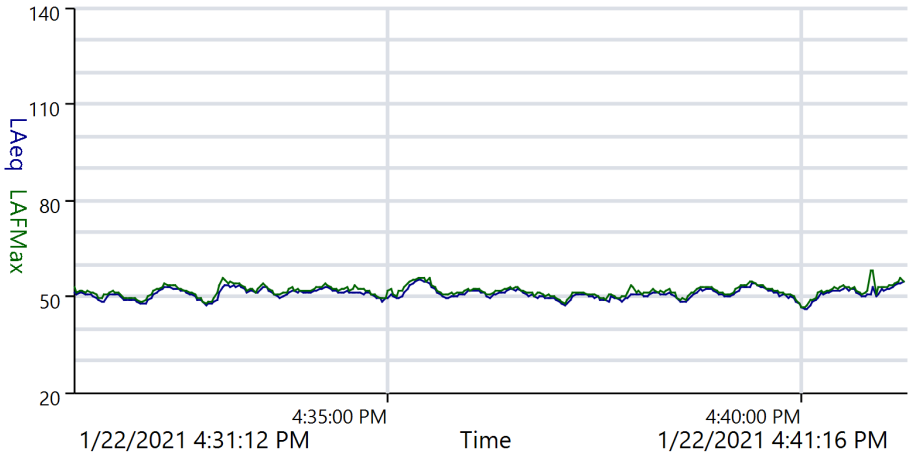
Name	16			
Time	1/22/2021 4:31:12 PM	**Person**	**Place**	**Project**
Duration	00:10:04	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before Offset **After** Offset

Basic Values	
LAeq	51.1 dB
LAE	78.9 dB
LAFMax	58.3 dB

Statistical Levels (Ln)	
LAF1	54.7 dB
LAF5	53.4 dB
LAF10	52.8 dB
LAF50	50.7 dB
LAF90	48.6 dB
LAF95	48.0 dB
LAF99	46.4 dB



Notes

Sample Location D: off-peak traffic, 40 degrees F, wind 5-8 kt

ReportId

Cirrus Research plc

B. LAING ASSOCIATES
103 Fort Salonga Road - Suite 5
Fort Salonga, NY 11768

Measurement Summary Report

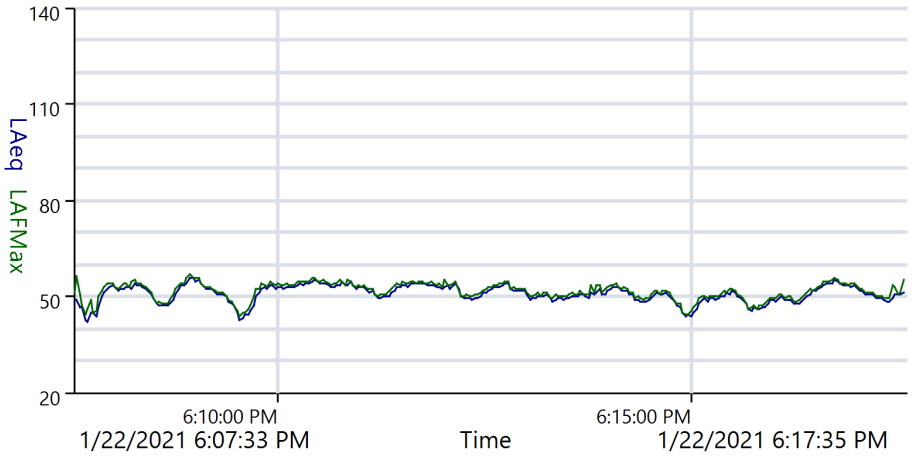
Name	19			
Time	1/22/2021 6:07:33 PM	**Person**	**Place**	**Project**
Duration	00:10:02	Taylor Sturm		SSSKSC01- Mt. Kisco
Instrument	G301840, CR:1710			

Calibration

Before	Offset	**After**	Offset

Basic Values	
LAeq	51.4 dB
LAE	79.2 dB
LAFMax	56.9 dB

Statistical Levels (Ln)	
LAF1	55.1 dB
LAF5	54.2 dB
LAF10	53.7 dB
LAF50	50.8 dB
LAF90	47.0 dB
LAF95	45.3 dB
LAF99	42.7 dB



Notes

Sample Location D: off-peak traffic, 38 degrees F, wind <5 kt

ReportId

APPENDIX C

Equipment Specification Sheets

solaredge

SolarEdge Commercial Three Phase Inverters for the 277/480V Grid

for North America

SE66.6K-SE100K

INVERTERS

Specifically designed to work with power optimizers

- Easy two-person installation – each unit mounted separately, equipped with cables for simple connection between units
- Balance of System and labor reduction compared to using multiple smaller string inverters
- Independent operation of each unit enables higher uptime and easy serviceability
- No wasted ground area: wall/rail mounted, or horizontally mounted under the modules (10˚ inclination)
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Built-in module-level monitoring with Ethernet or cellular GSM
- Fixed voltage inverter for superior efficiency (98.5%) and longer strings
- Integrated DC Safety Switch and optional surge protection & DC fuses (plus & minus)
- Built-in RS485 Surge Protection Device, to better withstand lightning events

SolarEdge Commercial Three Phase Inverters for the 277/480V Grid for North America SE66.6K-SE100K

	SE66.6K	SE100K	
OUTPUT			
Rated AC Power Output	66600	100000	VA
Maximum AC Power Output	66600	100000	VA
AC Output Line Connections	4-wire WYE (L1-L2-L3-N) plus PE		
AC Output Voltage Minimum-Nominal-Maximum[1] (L-N)	244 - 277 - 305		Vac
AC Output Voltage Minimum-Nominal-Maximum[1] (L-L)	422.5 - 480 - 529		Vac
AC Frequency Min-Nom-Max[1]	59.3 - 60 - 60.5		Hz
Maximum Continuous Output Current (per Phase) @277V	80	120	A
GFDI Threshold	1		A
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes		
INPUT			
Maximum DC Power (Module STC)	90000 / 45000	135000 / 45000	W
Transformer-less, Ungrounded	Yes		
Maximum Input Voltage DC to Gnd	500		Vdc
Maximum Input Voltage DC+ to DC-	1000		Vdc
Nominal Input Voltage DC to Gnd	425		Vdc
Nominal Input Voltage DC+ to DC-	850		Vdc
Maximum Input Current	80	120	Adc
Maximum Input Short Circuit Current	120		Adc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	350kΩ Sensitivity per Unit		
CEC Weighted Efficiency	98.5		%
Nighttime Power Consumption	< 12		W
ADDITIONAL FEATURES			
Supported Communication Interfaces	RS485, Ethernet, Cellular GSM (optional)		
Rapid Shutdown	NEC2014 and NEC2017 compliant/certified, upon AC Grid Disconnect		
RS485 Surge Protection	Built-in		
DC SAFETY SWITCH			
DC Disconnect	1000V / 2 x 40A	1000V / 3 x 40A	
DC Surge Protection	Optional, Type II, field replaceable		
DC Fuses on Plus & Minus	Optional, 30A		
STANDARD COMPLIANCE[2]			
Safety	UL1741, UL1741 SA, UL1699B, UL1998, CSA 2.22		
Grid Connection Standards	IEEE 1547, Rule 21, Rule 14 (HI)		
Emissions	FCC part15 class A		
INSTALLATION SPECIFICATIONS			
Number of units	2	3	
AC Output Conduit Size / Max AWG / Max PE AWG	1.5" / 2/0 / 6	2" / 4/0 / 4	
DC Output Conduit Size / Terminal Block AWG Range / Number of Strings[3]	2 x 1.25" / 6-14 / 6 strings	2 x 1.25" / 6-14 / 9 strings	
Dimensions (H x W x D)	Primary Unit: 37 x 12.5 x 10.5 / 940 x 315 x 260; Secondary Unit: 21 x 12.5 x 10.5 / 540 x 315 x 260		in / mm
Weight	Primary Unit: 105.8 / 48; Secondary Unit 99.2 / 45		lb / kg
Operating Temperature Range	-13 to +140 / -25 to +60[4] (-40˚F / -40˚C option)		˚F / ˚C
Cooling	Fan (user replaceable)		
Noise	< 60		dBA
Protection Rating	NEMA 3R		
Bracket Mounted (Brackets Provided)			

[1] For other regional settings please contact SolarEdge support
[2] Pending
[3] Single input option per unit (up to 3AWG) available
[4] De-rating from 50˚C

CE

Three-phase pad-mounted compartmental type transformer

General

At Eaton, we are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality, most reliable transformers. Eaton's Cooper Power series Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. In order to drive this innovation, we have invested both time and money in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin. Such revolutionary products as distribution-class UltraSIL™ Polymer-Housed Evolution™ surge arresters and Envirotemp™ FR3™ fluid have been developed at our Franksville lab.

With transformer sizes ranging from 45 kVA to 12 MVA and high voltages ranging from 2400 V to 46 kV, Eaton has you covered. From fabrication of the tanks and cabinets to winding of the cores and coils, to production of arresters, switches, tap changers, expulsion fuses, current limit fuses, bushings (live and dead) and molded rubber goods, Eaton does it all. Eaton's Cooper Power series transformers are available with electrical grade mineral oil or Envirotemp™ FR3™ fluid, a less-flammable and bio-degradable fluid. Electrical codes recognize the advantages of using Envirotemp™ FR3™ fluid both indoors and outdoors for fire sensitive applications. The bio-based fluid meets Occupational Safety and Health Administration (OSHA) and Section 450.23 NEC Requirements.

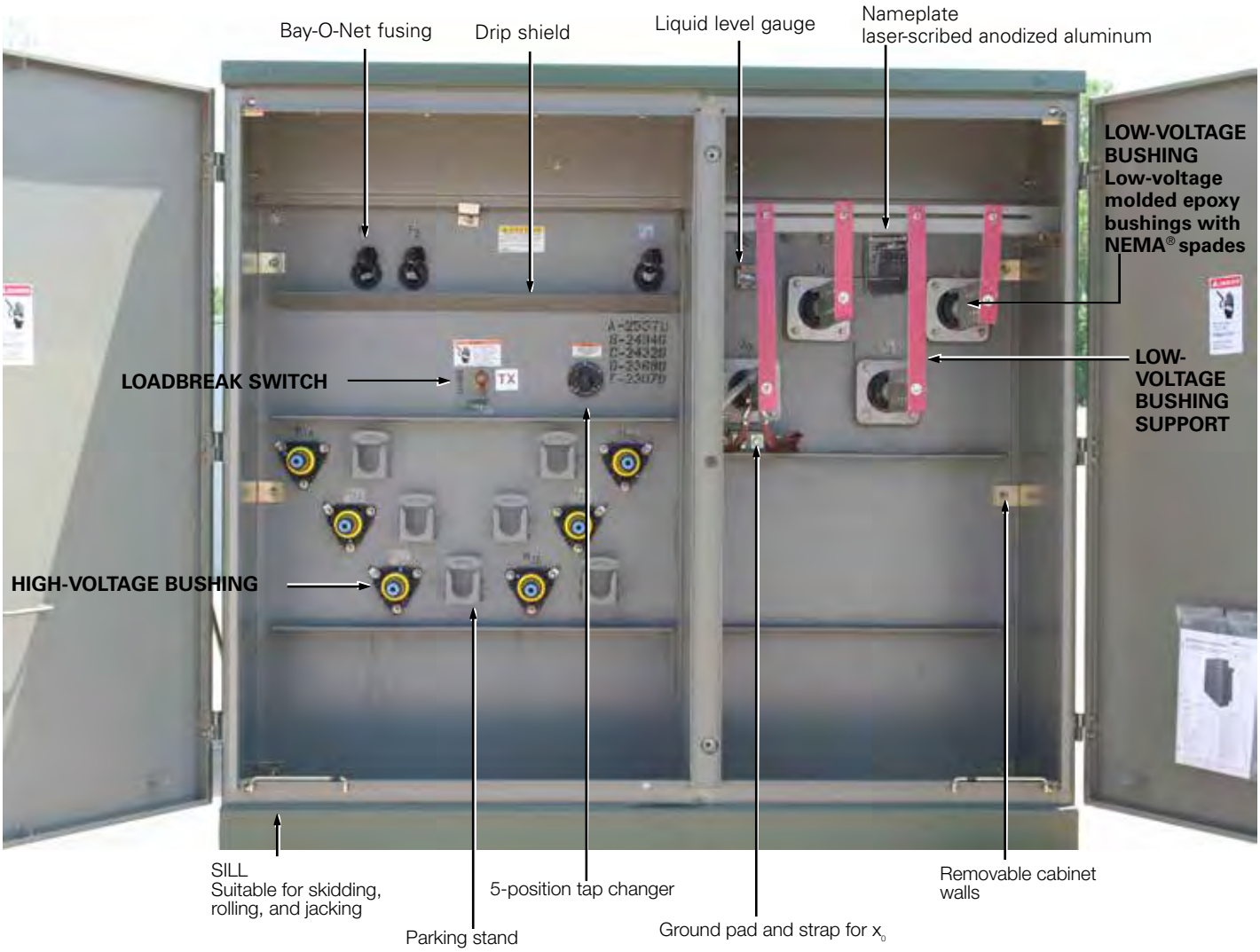


Figure 1. Three-phase pad-mounted compartmental type transformer.

Table 1. Product Scope

Type	Three Phase, 50 or 60 Hz, 65 °C Rise (55 °C, 55/65 °C), 65/75 °C, 75 °C
Fluid Type	Mineral oil or Envirotemp™ FR3™ fluid
Coil Configuration	2-winding or 4-winding or 3-winding (Low-High-Low), 3-winding (Low-Low-High)
Size	45 – 10,000 kVA
Primary Voltage	2,400 – 46,000 V
Secondary Voltage	208Y/120 V to 14,400 V
Specialty Designs	Inverter/Rectifier Bridge
	K-Factor (up to K-19)
	Vacuum Fault Interrupter (VFI)
	UL® Listed & Labeled and Classified
	Factory Mutual (FM) Approved®
	Solar/Wind Designs
	Differential Protection
	Seismic Applications (including OSHPD)
	Hardened Data Center

Table 2. Three-Phase Ratings

Three-Phase 50 or 60 Hz
kVA Available[1]: 45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, 5000, 7500, 10000

[1]Transformers are available in the standard ratings and configurations shown or can be customized to meet specific needs.

Table 3. Impedance Voltage

	Low-voltage rating		
Rating (kVA)	**≤ 600 V**	**2400 Δ through 4800 Δ**	**6900 Δ through 13800GY/7970 or 13800 Δ**
45-75	2.70-5.75	2.70-5.75	2.70-5.75
112.5-300	3.10-5.75	3.10-5.75	3.10-5.75
500	4.35-5.75	4.35-5.75	4.35-5.75
750-2500	5.75	5.75	5.75
3750	5.75	5.75	6.00
5000		6.00	6.50

Note: The standard tolerance is ± 7.5%

Table 4. Audible Sound Levels

	NEMA® TR-1 Average
Self-Cooled, Two Winding kVA Rating	**Decibels (dB)**
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65
5001-6000	66
6001-7500	67
7501-10000	68

Table 5. Insulation Test Levels

KV Class	Induced Test 180 or 400 Hz 7200 Cycle	kV BIL Distribution	Applied Test 60 Hz (kV)
1.2	Twice Rated Voltage	30	10
2.5		45	15
5		60	19
8.7		75	26
15		95	34
25		125	40
34.5		150	50

Table 6. Temperature Rise Ratings 0-3300 Feet (0-1000 meters)

	Standard	Optional
Unit Rating (Temperature Rise Winding)	65 °C	55 °C, 55/65 °C, 75 °C
Ambient Temperature Max	40 °C	50 °C
Ambient Temperature 24 Hour Average	30 °C	40 °C
Temperature Rise Hotspot	80 °C	65 °C

March 1, 2021

Village of Mount Kisco Planning Board
104 Main Street
Mount Kisco, NY 10549

RE: SCS Sarles Street – 180 South Bedford Road proposed solar farm

Dear Acting-Chairman and Members of the Planning Board:

There are sentences in the document “A Discussion of Renewable Energy Financial Analysis for Planning and Zoning of Solar Energy Projects” from Sunrise Community Solar which was in the packet for the meeting on February 9 that I find to be problematic.

1. **“The solar farm recently completed in Croton next to Panas HS is on 30 acres and removed about 20 acres of trees.” (packet pg 381)**

This one sentence has three inaccuracies. The first is relatively minor, the project is located in the Town of Cortlandt, not in Croton. The second inaccuracy is the property is actually 36 acres not 30 acres. The third inaccuracy is the most important. There were not about 20 acres of trees removed which would suggest several thousand trees were removed. The total area of the property with trees was actually 18 acres. The land with trees formed a ring around the perimeter of the property. There was a total of 2,250 trees on the property. Of these trees, 594 were removed. Therefore, fewer trees were removed 3.9 MW solar farm consisting of about 1,000 solar panels than is planned for this SCS solar project in Mount Kisco which would be a considerably a smaller solar farm.
It is noteworthy that the zoning for this property in Cortlandt also required 200-foot buffers and the solar farm was built without any incursion into the buffers. I agree with those who contend that buffer incursion remains a serious problem with the SCS solar farm proposal and raises the question of why this site was chosen in the first place.
Details of the solar farm in Cortlandt are described in a webinar on solar in Westchester by Leo Wegman, a former mayor of Croton-on-Hudson whose company built the solar farm. He begins to describe the site at the 42-

minute mark of the video. The link for the video is https://www.youtube.com/watch?v=LoJzVPwuPh0&feature=youtu.be

2. **“It [solar farm] will make no objectionable noise, in fact at its edges it will be similar to a whisper.” (packet pg 382)**

To my knowledge there does not appear to be any data submitted that supports this statement. The statement itself sounds more like something that would be put in a marketing brochure than in a document submitted to a planning board. How many decibels is a whisper? How many decibels would the noise from the closest inverter be at the edge of the project? Whether the project makes objectionable noise or not would seem to depend on the listener since whether a noise is objectionable can often be a subjective judgement. It appears that Sunrise Solar still has not submitted enough data on noise to determine whether noise during solar farm operation presents a problem.

Thank you for reading this and for all the time you have spent reviewing the material on this proposed solar farm.

Sincerely,

Bob Liebman
60 Barker St
Mount Kisco

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

STORMWATER POLLUTION PREVENTION PLAN

For

SCS Sarles Street Community Solar Farm
180 South Bedford Road
Village of Mount Kisco, New York

February 16, 2021

Applicant Information:

Sunrise Community Solar, LLC
Attn: Doug Hertz
510 N. State Road
Briarcliff Manor, New York 10510

Note: This report in conjunction with the project plans make up the complete Stormwater Pollution Prevention Plan.

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

CONTENTS

APPENDICES

FIGURES

1.0 INTRODUCTION

1.1 Project Description

The subject project is located on a 25.0± acres parcel on South Bedford Road (NYS Route 172) in the Village of Mount Kisco. The parcel and its surroundings are delineated on the attached Location Map (Figure 1). The property is designated as Tax Map Number 80.44-1-1 and is located in the CD zoning district. The property is currently undeveloped and consists of remains of previous residential estate, wooded areas, meadow and an impervious asphalt access driveway. There is a high point in the center of the parcel and the stormwater runoff on the site currently drains from the center of the site out in all directions. The project proposes to improve the existing access drive with pullbys and selected widening for Fire Department access and develop the site with 270 total solar panel tables, gravel parking area, concrete pads and associated appurtenances. It is proposed to capture and treat the stormwater runoff associated with the proposed improvements. The project site is located in the New Croton Watershed.

The following permits are required for the project:

VILLAGE OF MOUNT KISCO
Planning Board Site Plan Approval
Steep Slopes Permit
Special Use Permit
Zoning Board Variance
Building Permit
NEW YORK CITY DEPARTMENT OF ENVIROMENTAL PROTECTION
SWPPP Approval
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SWPPP General Permit Coverage (GP-0-20-001)

There are no known enforcement actions, and no lawsuits or administrative proceedings, commenced against the applicant, or any principle affiliate of the applicant, for any alleged violations of law related to the applicant of the site, in the five years preceding this application.

1.2 Existing Site Conditions (Pre-Development)

The subject property is located on South Bedford Road (NYS Route 172) in the Village of Mount Kisco between Sarles Street and Stratford Drive. The site is currently undeveloped, and the ground cover consists of mostly wooded areas around the perimeter of the site and the remains of a former residential estate parcel located centrally onsite. There is an existing asphalt access drive off of South Bedford Road that provides access to the project site. The site was formerly developed as a single-family residential development with associated appurtenances. The former dwelling has since been removed with only portions of the foundation remaining.

The stormwater runoff from the existing property in the area of the proposed improvements generally drains from the central high point to the north and south the property line. The stormwater analysis included in the subject SWPPP utilizes three (3) design lines. The design lines can be seen on Figure 2 and 3 and are identified as Design Line 1, Design Line 2 and Design Line 3. Design Line 1 is located along a portion of the southern property line. Design Line 2 is located along a portion of the eastern property line. Design Line 3 is generally located along the northern property line. The design lines are used to assess the stormwater runoff from the property and any potential impacts from the proposed development to the existing natural resources on the property and downstream of the project site. The Pre-Development Drainage Map (Figure 2 of this report) shows the location of the design lines. The pre-

development contributing area to Design Line 1, 2, and 3 are identified as subcatchment PRE 1, PRE 2, and PRE 3, respectively.

The hydrologic soils groups for the project consists of “B”, and “D”. The designations of the onsite soils located within the proposed limits of disturbance consist of Charlton Fine Sandy Loam (ChB), Charlton-Chatfield Complex, very rock (CrC), Chatfield-Charlton Complex, very rocky (CsD), and Hollis-Rock Outcrop Complex (HrF) as identified on the Soil Conservation Service Web Soil Survey. The soils boundaries are shown on Figure 2 and 3 of this report.

1.3 Proposed Site Conditions (Post Development)

The proposed project includes the construction of 270 total solar panel tables, gravel parking area, concrete pads and associated appurtenances. The project proposes to improve the existing asphalt access drive by widening the turns and adding pull-off areas along the drive. Mitigation for the newly created impervious surfaces will be provided in the form of proposed stormwater management practices (SMP's) discussed further in later sections of this report. The proposed SMP's will be designed to capture and treat runoff from the impervious surfaces associated with the proposed improvements including the solar panel tables, gravel parking area and concrete pads. The New York State Department of Environmental Conservation *Memorandum for Solar Panel Construction Stormwater Permitting/SWPPP Guidance* was used in determining which solar panel tables were considered as new imperious surface and which tables are considered pervious. As the proposed solar panel tables did not meet all the criteria for items 1-6 in Scenario 1, the proposed solar panels are considered new impervious area.

It is proposed to maintain the existing drainage patterns on the site to the maximum extent practical in the proposed condition to minimize the impact to the existing downstream features. Stormwater treatment for the subject development will be accomplished with several different practices including hydrodynamic separators for pretreatment, infiltration basins, and infiltration systems prior to discharging to the Design Lines. The infiltration basins and infiltration systems have been sized to capture and treat the Water Quality Volume from the proposed improvements.

The stormwater runoff from the proposed development will be captured in a collection system or overland flow and conveyed to one of the proposed stormwater management practices for treatment. Pretreatment of the stormwater runoff will be provided with a hydrodynamic separator prior to the subsurface infiltration system. Pretreatment of the stormwater runoff sent to the infiltration basins will be provided by grass filter strips and vegetated grass swales and the stormwater runoff is conveyed by overland flow to the proposed infiltration basins. A flow splitter is proposed upstream of the infiltration systems, discharging the Water Quality Volume to the infiltration system while bypassing the larger storm events. The contributing areas to the infiltration basins are shown as subcatchment 1.1S, 1.2S, 1.3S and 1.4S. The contributing areas to the subsurface infiltration systems are shown as subcatchment 1.5S, 1.6S and 1.7S. The untreated / undeveloped portion of the contributing area to the Design Lines are shown as subcatchment 1.0S, 2.0S and 3.0S. The subcatchments are shown in Figure 3 of this report.

As shown in the following sections of this report, the stormwater quality and quantity for the proposed development have been mitigated in accordance with the NYSDEC design standards. Additionally, an erosion and sediment control plan has been prepared in accordance with the New York State Standards and Specifications for Erosion and Sediment Control to protect the existing downstream features during construction activities and in the post development condition.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for the Community Solar Farm project has been designed to meet the requirements of local, regional, and state stormwater ordinances and guidelines, including but not limited to the Village of Mount Kisco, NYCDEP and the NYSDEC. Specifically, the following codes / regulations have been used to design this SWPPP:

- *NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-20-001* (GP-0-20-001).
- *NYCDEP Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources* (Rules and Regulations).
- *Village/Village of Mount Kisco Village Code, Chapter 92A – Stormwater Management and Erosion and Sediment Control*.

Since the subject project proposes the disturbance of more than 1 acre, coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001) is required.

In order to meet the requirements set forth by GP-0-20-001, and the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (NYSSMDM), including the requirements listed in Chapter 10: *Enhanced Phosphorus Removal Standards* (Chapter 10) was referenced for the design of the proposed stormwater collection, conveyance and treatment system. The Design Manual specifies five design criteria that are discussed in detail below. They are Runoff Reduction Volume (RR_v), Water Quality Volume (WQ_v), Stream Channel Protection Volume (CP_v), Overbank Flood Control (Q_f), and Extreme Storm Control (Q_p). The first two requirements relate to treating water quality, while the later pertain to stormwater quantity (peak flow) attenuation.

With regard to NYCDEP requirements, Section 18-39 of the Rules and Regulations requires a SWPPP Approval for this project. This project meets one of the thresholds that require SWPPP approval from the NYCDEP. For further discussion on NYCDEP requirements, refer to Section 2.6 below. However, it should be noted that per discussion with the NYCDEP, the proposed solar panel tables are considered pervious as they are raised (i.e. not mounted on the ground). As such, in addition to meeting the NYSDEC criteria above, this SWPPP will:

- Treat the new impervious surfaces associated with the improvements to the existing asphalt access drive, a proposed parking area and associated appurtenances for the proposed solar panels as required by the Rules and Regulations.
- Mitigate the peak flows from the changes in hydrology due to the land clearing.

Where WQv/RRv treatment is required per the NYSDEC requirements, the following post construction green infrastructure and stormwater management practices are proposed for the project:

Table 2.0.1 – Proposed GIP/SMP Design Criteria Summary Table

GIP/SMP ID	Proposed Subcatchment	NYSSMDM Ch. 6 Design Designation	NYSDEC Uniform Stormwater Sizing Criteria Satisfied	NYCDEP Requirement Satisfied
1.1P	1.1S	I-2 Infiltration Basin	RRv, WQ_v, CP_v[1]	Only Practice Required to be Provided.
1.2P	1.2S			
1.3P	1.3S			
1.4P	1.4S			
1.5P	1.5S	I-4 Subsurface Infiltration System	RRv, WQ_v, CP_v[1]	Only Practice Required to be Provided.
1.6P	1.6S			
1.7P	1.7S			

[1] The infiltration practices achieve the CP_v requirement as they are designed to infiltration the 1-year storm as a result of Chapter 10 requirements.

To address stormwater quantity requirements of the NYSDEC, the "HydroCAD" Stormwater Modeling System," by HydroCAD Software Solutions LLC in Tamworth, New Hampshire, was used to model and assess the peak stormwater flows for the subject project. HydroCAD is a computer aided design program for modeling the hydrology and hydraulics of stormwater runoff. It is based primarily on hydrology techniques developed by the United States Department of Agriculture, Soil Conservation Service (USDA, SCS) TR-20 method combined with standard hydraulic calculations. For details on the input data for the subcatchments, design storms, and soil breakdown within the contributing areas shown in the HydroCAD analysis, see Appendix B and C of this report:

The input requirements for the HydroCAD computer program are as follows:

Subcatchments (contributing watershed/sub-watersheds)

- Design storm rainfall in inches
- CN (runoff curve number) values which are based on soil type and land use/ground cover
- Tc (time of concentration) flow path information

Flow Splitters / Subsurface Infiltration System

- Surface area at appropriate elevations
- Flood elevation
- Outlet structure information

The following is a general description of the input data used to calculate the pre- and post-development stormwater runoff values. For detailed information for each subcatchment and pond, see Appendices B&C. The precipitation values for the 1-Year, 10-Year, 100-Year 24-hour design storm events and rainfall distribution curves utilized for this report were obtained from the information provided by Northeast Regional Climate Center(NRCC) and the Natural Resources Conservation Service(NRCS) which is available online at *www.precip.eas.cornell.edu*. The values provided for all design storms analyzed are listed below.

Design Storm	**24-Hour Rainfall**
1-Year	2.79"
10-Year	5.13"
100-Year	9.23"

The CN (runoff curve number) values utilized in this report were referenced from the USDA, SCS publication *Urban Hydrology for Small Watersheds*.

2.1 Chapter 10: Enhanced Phosphorus Removal Standards

As noted above, the New York City East of Hudson Watershed has been identified in the SPDES General Permit GP-0-20-001 as a watershed requiring compliance with the Enhanced Phosphorus Removal Standards when post-construction stormwater management practices are proposed. Chapter 10 establishes four goals to meet sizing performance standards:

- Goal 1: Reducing Runoff Volumes
- Goal 2: Effective Bypass Treatment
- Goal 3: Achieving Effluent Concentrations for Particulate Phosphorus
- Goal 4: Achieving Effluent Concentrations for Dissolved Phosphorus

In order to achieve the first goal, the site design shall," assess the feasibility of hydrological source controls and reduce the total water quality volume by source control, implementation of green infrastructure, or standard SMP's with RR_v capacity, according to the process defined in Chapters 3 and 4 of the Design Manual. Each plan must include a rationale for acceptance and rejection of the various controls." A discussion on RR_v can be found in section 2.2 below. Based upon the results of onsite soil testing, the soils onsite in select areas are suitable for infiltration. Therefore, the use of infiltration

practices (classified as Standard SMP's with RRv capacity) has been maximized, specifically a subsurface infiltration system was selected to treat the stormwater runoff from the proposed impervious surfaces and satisfy RRv minimum requirements. As such, Goal 1 has been achieved in this SWPPP.

Goal 2 cites that proposed stormwater management practices should achieve less than 15% effective treatment bypass of the long-term runoff volume. Chapter 10 further notes this goal is satisfied by capturing and treating the 1-year 24-hour design storm. The NYSDEC stormwater quality treatment practices proposed for this have been designed in accordance with Chapter 10 by utilizing the 1-yr, 24-hour design storm to generate the WQ_v / RR_v. As such, Goal 2 has been achieved in this SWPPP.

Achieving effluent concentrations for particulate phosphorus, Goal 3, is satisfied by achieving an 80% net removal of particulate phosphorus for a median influent concentration of 0.5mg/l. Chapter 10 states that through designing proposed SMP's in accordance with Section 10.4 this goal will be achieved. The proposed infiltration systems have been designed in accordance with Section 10.4.4 of Chapter 10 thus satisfying the requirements of this goal.

Goal 4, achieving effluent concentration for dissolved phosphorus, is achieved by obtaining a 60% net removal of dissolved phosphorus given a median influent concentration of 0.15mg/l. As with Goal 3, Goal 4 is achieved by designing the proposed SMP's in accordance with Section 10.4 of Chapter 10. As noted above the proposed infiltration system have been designed in accordance with section 10.4.4 of Chapter 10 thus satisfying the requirements of this goal.

2.2 NYSDEC Runoff Reduction Volume (RR_v)

The Runoff Reduction Volume (RR_v) criterion is intended to replicate pre-development hydrology by maintaining preconstruction infiltration, peak flow runoff, discharge volume, as well as minimizing concentrated stormwater flow. As stated in Chapter 4 of the NYSSMDM, RR_v may be treated with standard stormwater management practices (SMP's) sized in accordance with the Chapter 4/6 requirements, or with green infrastructure practices (GIP's) sized in accordance with the requirements set forth for each practice in Chapter 5. This requirement has been achieved on the subject project providing an infiltration practice, designed as a SMP in accordance with the latest design standards. Runoff reduction is achieved when runoff from a percentage of the impervious area on the site is captured, routed through a SMP or a GIP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site. Through this implementation, the design of the underground infiltration system as a SMP with the runoff reduction capacity equal to 100% of the WQ_v the RRv requirements will be achieved.

Section 4.3 of the NYSSMDM states for sites that do not achieve runoff reduction to pre-construction condition must, at a minimum reduce a percentage of the runoff from impervious areas to be constructed on the site a minimum RR_v. The following equation can be used to determine the minimum runoff reduction volume:

The minimum runoff reduction volume shall be $RRv_{minimum} = \frac{(P)(R_v)(A_i)}{12}$

Where,

S	= Hydrologic Soil Group (HSG) Specific Reduction Factor
A*ic*	= Total Area of New Impervious Cover
A*i*	= Impervious cover targeted for Runoff Reduction
	= (S)(A*ic*)
Rv	= 0.95

For detailed calculations of the runoff reduction for the proposed stormwater infiltration practices see Appendix A. Listed in Table 2.2.1 below is a summary of the NYSDEC compliant practice, and its satisfaction of the NYSDEC RRv requirements:

Table 2.2.1 Runoff Reduction Volume Summary

Subcatchment	RR_v *Required* = WQ_v (c.f.) From Appendix C	RR_v *Minimum* (c.f.) Calculated in Appendix A	NYSDEC Practice Designation	Allowable % of WQv provided to be applied towards RRv	Storage Volume Provided below System Outlet (c.f.) (From Appendix C)	RRv *Provided* (c.f.)
1.1S	6,360	1,862	I-2 Infiltration Basin	100%	7,374	6,360
1.2S	7,710	2,069			7,997	7,710
1.3S	6,186	1,759			7,471	6,186
1.4S	6,098	1,655			6,293	6,098
1.5S	1,873	517	I-4 Subsurface Infiltration System	100%	1,917	1,873
1.6S	915	103			1,481	1,481
1.7S	643	103			958	958

As shown in the table above the RRv *Provided* in each of the subcatchments is greater than the RRv *Minimum* and RRv *Required* , therefore the RRv requirement has been met for the subject project.

2.3 NYSDEC Water Quality Volume (WQ_v)

The stormwater infiltration practices have been sized in accordance with Chapter 4 & 10 of the Design Manual, as it has been sized to capture and treat the entire water quality volume (WQ_v) from the proposed improvements. The subject project is located in the New York City Watershed, which is listed as a phosphorus-limited watershed per the NYSDEC regulations. Therefore, the stormwater management practices have been designed in general accordance with the Enhanced Phosphorus Removal Supplement (Chapter 10) of the Design Manual. As outlined in Chapter 10, the treatment volume for the WQv is the runoff volume produced during the 1-year 24-hour design storm. See table 2.6.1 for a summary of the WQv that would be generated by the proposed improvements during the 1-year, 24-hour storm.

As permitted by Chapter 9 of the Design Manual the portions of the existing impervious surfaces being redeveloped with impervious surfaces will only require 25% of the WQ_v to be treated. There are two subcatchments that include existing impervious surfaces and the creation of new impervious surfaces within the same subcatchment. Appendix C has broken subcatchments 1.6S and 1.7S into two nodes. That is so the redeveloped impervious surfaces contained within each subcatchment can be accounted for separately and the 25% reduction allowed by Chapter 9 applied. The calculation for the WQv for the areas of redevelopment are shown in the table below.

Table 2.3.1 - Water Quality Volume Calculation for Redevelopment

Subcatchments	WQ_v[1] New Impervious Surface (c.f.)	Full WQ_v[2] Redeveloped Impervious Surface (c.f.)	25% WQv[3] Redevelopment Calculation (c.f.)	WQv Initial[4] (c.f.)
1.6S	566	1,394	349	915
1.7S	523	479	120	643

[1] Refer to Appendix C for the stormwater runoff volume from the 1-year, 24-hour storm event for the areas of new impervious surfaces within the subcatchment.

[2] Refer to Appendix C for the stormwater runoff volume from the 1-year, 24-hour storm event for the existing impervious areas proposed to be redeveloped within the subcatchment.

[3] In accordance with Chapter 9 of the Design Manual, only 25% of the WQv from the existing impervious surfaces to be redeveloped requires treatment. The 25% reduction has been accounted for in the volumes provided.
[4] The volumes provided are the sum of the stormwater runoff volume from the new impervious surfaces and 25% of the runoff volume from the existing impervious surfaces to be redeveloped. These volumes are used in the sizing calculations for the SMP's.

Table 2.2.1 above and the table below summarize the WQv treatment and Required Elements for the proposed infiltration practices, sized in accordance with Chapters 3 and 6 of the NYSSMDM for the proposed practice.

The infiltration practices have been sized to provide 100% storage of the water quality volume between the bottom of the practice and the outlet condition of the practice. By providing 100% storage of the WQv in the infiltration practices the water quality volume storage requirements set forth in the NYSSMDM have been met for the proposed practice. By meeting the Water Quality Volume requirements through employment of the infiltration practices, the water quality objectives of the NYSDEC will be met.

Pretreatment for the proposed infiltration systems have been provided by a hydrodynamic separator upstream of the proposed infiltration system. Pretreatment for the proposed infiltration basins (1.1P, 1.2P, 1.3P, 1.4P) have been provided by grass filter strips and vegetated grass swales.

A hydrodynamic separator is proposed downstream of flow splitter (FS 1.5, FS 1.6 and FS 1.7) and upstream of the subsurface infiltration system (1.5P, 1.6P and 1.7P). The hydrodynamic separator has been sized to treat the peak flow from the 1-year, 24-hour storm event for the contributing area to the infiltration system. As shown in the table below, the hydrodynamic separator treatment capacity is greater than the 1-year, 24-hour post-development peak flow leaving the upstream flow splitter. The treatment capacity for the proposed Hydroworks HydroStorm hydrodynamic separator can be verified in the literature provided in Appendix G. The HydroStorm has an internal bypass capable of bypassing the peak flows from larger storm events from the upstream flow splitter.

Table 3.1 – Pretreatment Hydrodynamic Separator Summary

Subcatchment	Hydrodynamic Separator ID	WQv[1] Peak Flow (c.f.s.)	Hydrodynamic Separator Model	Hydrodynamic Separator Capacity (c.f.s.)
1.5S	HDS 1.5	0.62	HydroStorm HS 4	0.88
1.6S	HDS 1.6	0.54		
1.7S	HDS 1.7	0.25		

[1] For detailed calculations see Appendix C

2.4 NYSDEC Stream Channel Protection Volume (CP_v)

The Stream Channel Protection (CP_v) criterion is intended to protect stream channels from erosion and is accomplished by the 24-hour extended detention of the center-of-mass of the one-year, 24-hour storm event. As noted above, the stormwater infiltration practices have been designed to fully infiltrate the contributing stormwater runoff from the 1-year, 24-hour design storm. By providing a stormwater infiltration practice to fully infiltrate the volume of stormwater runoff from the 1-year, 24-hour design storm, the CP_v has been met for the project. Soil and infiltration testing was performed in the locations of the proposed stormwater management practices and witnessed by the NYCDEP. Testing results are provided on Figure 4 of this report. The test results verify the design requirements for infiltration practices set forth in the NYSSMDM. All infiltration rates in the areas of the proposed infiltration practices exceeded the minimum 0.5 inches/hour requirement. It should be noted that during the time of the infiltration testing, the presoak for infiltration test hole P-1 showed signs that were not indicative of the soil profile observed for deep test hole D-1. It is proposed to reset infiltration test hole P-1 to be tested and witnessed by the

NYCDEP at a later date. As such, a conservative infiltration rate of 5 inches per hour was used for the proposed subsurface infiltration system 1.7P based on the soils observed in deep test hole D-1.

2.5 NYSDEC Overbank Flood Control (Q_p), and Extreme Flood Control (Q_f)

The Overbank Flood Control (Q_p) requirement is intended to prevent an increase in the frequency and magnitude of out-of-bank flooding events generated by urban development. Overbank control requires storage to attenuate the post-development 10-year, 24-hour peak discharge to pre-development rates. The Extreme Flood Control (Q_f) requirement is intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year flood plain, and protect the physical integrity of stormwater management practice. Extreme flood control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates. As shown in Table 2.5.1 attenuation for both the 10-year and 100-year 24-hour storms has been provided thus satisfying the Q_p and Q_f requirements.

Table 2.5.1– Existing and Proposed Conditions Peak Flows

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)				
	10-YEAR (Overbank Flood Control)		100-YEAR (Extreme Flood Control)	
	Pre	Post	Pre	Post
Design Line 1	6.65	3.22	23.18	15.77
Design Line 2	6.32	5.95	15.24	13.62
Design Line 3	6.10	4.37	18.77	15.00

As shown in the above table the peak flows from the contributing areas to the design lines in the post development condition has been mitigated to below the existing condition levels, thus meeting the general requirements of the NYSDEC.

2.6 NYCDEP Requirements

As previously discussed, the proposed project meets one of the thresholds that require SWPPP approval from the NYCDEP per Section 18-39 of the Rules and Regulations. The project meets the following threshold listed in Section 18-39(b)(4) that require NYCDEP SWPPP approval:

(iii) A land clearing project, involving two or more acres, located at least in part within the limiting distance of 100 feet of a watercourse or wetland, or within the limiting distance of 300 feet of a reservoir, reservoir stem or controlled lake or on a slope exceeding 15 percent.

The Rules and Regulations parallel the requirements of the NYSDEC and the Village of Mount Kisco, with the exception that two different NYSDEC standard SMP's are required in series when the drainage area to a SMP is greater than 20% impervious and an infiltration practice is not provided. Although there are subcatchments where the percent impervious exceeds 20% (as shown in Table 2.6.2 below), by providing infiltration practices, there is no need for two different NYSDEC standard SMP's in series for all subcatchments.

As previously discussed, the NYCDEP considers the proposed solar panel tables to be pervious area as they are off the ground. As the proposed site clearing alters the stormwater hydrology from pre to post-development, stormwater management practices are proposed to mitigate the peak flows from the 10-year and 100-year, 24-hour design storm. As shown in Section 2.5, the peak flows from the contributing areas to the design lines in the post development condition has been mitigated to below the existing conditions levels, thus meeting the general requirements of the NYCDEP for the proposed solar panels.

Along with the proposed solar panel tables, the project proposes to install new impervious area associated with improvements to the existing asphalt access drive, a proposed parking area and associated appurtenances for the proposed solar panels. As previously discussed, the stormwater runoff from the new impervious areas were treated in accordance with the Rules and Regulations by providing infiltration practices.

2.7 Wireless Telecommunications Facility Development

Concurrently with this project, Homeland Towers, LLC (Homeland) is proposing to construct a wireless telecommunications facility at the project site. The proposed Homeland development consists of a 2,542 square foot gravel telecommunications equipment compound with a monopole tower and associated utilities. Access to the equipment compound shall be provided off the existing driveway on the project site. A Stormwater Management Report was prepared by APT Engineering, P.C. (APT) to analyze the stormwater impacts from pre to post-development for the proposed wireless telecommunications facility. As shown in Figure 5, the hydrologic analysis performed by APT utilized a similar analysis point to Design Line 3 shown in this SWPPP to assess the stormwater runoff and impacts from the proposed development.

The Stormwater Management Report prepared by APT proposes to mitigate the stormwater runoff from the proposed telecommunications facility by constructing the equipment compound using crushed stone to provide storage volume for the increased runoff from the proposed development and allow the stormwater runoff to infiltrate into the ground. Appendix H of this SWPPP includes a post-development HydroCAD analysis of Design Line 3 including the subject project proposed development and the proposed development by Homeland.

The HydroCAD inputs for the proposed Homeland development were obtained from the Stormwater Management Report prepared by APT. As the proposed Homeland development is contained within subcatchment 3.0S, the remaining subcatchments and post-construction stormwater management practices designed in this SWPPP were not affected by the proposed Homeland development. As such, a link (Link 1) for the remaining subcatchments tributary to Design Line 3 has been included in Appendix C. Link 1 includes the outflow data for the upstream nodes tributary to the link in Appendix C outside of subcatchment 3.0S. Link 1 was then added to the subcatchment 3.0S, PDAIA, and 3P (the areas affected by the wireless telecommunication on facilities). As shown in the table below and the HydroCAD modeling contained in Appendix H, there is a decrease in the peak flows to Design Line 3 in the post-development condition with both proposed developments at the project site.

Table 2.7.1– Design Line 3 Combined Development Peak Flows Summary

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)				
	10-YEAR (Overbank Flood Control)		100-YEAR (Extreme Flood Control)	
	Pre	Combined Post	Pre	Combined Post
Design Line 3	6.10	4.28	18.77	15.44

It should be noted, the Stormwater Management Report prepared by APT provided a stormwater analysis of the 2-year, 5-year, 10-year and 25-year storm event. Although the proposed post-construction stormwater management practice, 3P, shows the storage range exceeded in the 100-year storm event, there is still a decrease in peak flow to Design Line 3.

3.0 STORMWATER CONVEYANCE SYSTEM

The stormwater conveyance system for the project consists of grass swales, precast concrete drainage structures, and HDPE drainage piping. In the locations of new swales and stormwater piping, the system has been sized utilizing the Rational Method and is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. The collection

system has been sized to convey, at a minimum, the 100-year design storm. Swale sizing calculations are provided in Appendix I.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control should be accomplished by four basic principles: diversion of clean water, containment of sediment, treatment of dirty water, and stabilization of disturbed areas. Diversion of clean water should be accomplished with swales. This diverted water should be safely conveyed around the construction area as necessary and discharged downstream of the disturbed areas. Sediment should be contained with the use of silt fence at the toe of disturbed slopes. Disturbed areas should be permanently stabilized within 7 days of final grading to limit the required length of time that the temporary facilities must be utilized. The owner will be responsible for the maintenance of the temporary erosion control facilities. Refer to the Project Drawings for further information implementation of the Erosion Control Plan and Construction Sequence.

4.1 Temporary Erosion and Sediment Control Facilities

Temporary erosion and sediment control facilities should be installed and maintained as required to reduce the impacts to off-site properties. The owner will be required to provide maintenance for the temporary erosion and sediment control facilities. In general, the following temporary methods and materials should be used to control erosion and sedimentation from the project site:

- Stabilized Construction Entrance
- Silt Fence Barriers
- Storm Drain Inlet Protection
- Temporary Soil Stabilization
- Temporary Sediment Trap

All temporary erosion control measures shall be maintained in accordance with the Erosion & Sediment Control Maintenance Schedule contained on the Project Drawings, and as discussed below.

A stabilized construction entrance should be installed at the site entrance as shown on the project plans. The design drawings will include details to guide the contractor in the construction of this entrance. The intent of the stabilized construction entrance is to prevent the “tracking” of soil from the site. Dust control should be accomplished with water sprinkling trucks if required. During dry periods, sprinkler trucks should wet all exposed earth surfaces as required to prevent the transport of air-borne particles to adjoining areas.

Siltation barriers constructed of geosynthetic filter cloth should be installed at the toe of all disturbed slopes. The intent of these barriers is to contain silt and sediment at the source and inhibit its transport by stormwater runoff. The siltation barriers will also help reduce the rate of runoff by creating filters through which the stormwater must pass. During construction, the siltation barriers shall be inspected weekly and after a rainfall event and shall be cleaned/replaced when needed.

Storm drain inlet protection in the form of stone drop inlet protection will be installed around all proposed inlets. The stone drop inlet protection will serve to filter stormwater runoff before it enters the collection system. Throughout construction the concrete drainage structures, associated piping and inlet protections shall be inspected weekly and after a rainfall event. These items shall be cleaned, repaired and/or replaced when needed.

The proposed temporary sediment traps will be utilized during construction of the site. The stormwater runoff from disturbed areas will be directed to the sediment traps. These traps have been sized in accordance with the NYSSSESC, as shown in Appendix J of this report.

When land is exposed during development, the exposure shall be kept to the shortest practical period, but in no case more than 7 days. Temporary grass seed and mulch shall be applied to any construction area idle for two weeks. The temporary seeding and mulching shall be performed in accordance with the seeding notes illustrated on the project drawings. Disturbance shall be minimized in the areas required to perform construction.

Upon completion of final grading topsoil, permanent seeding and mulch shall be applied in accordance with the project drawings.

The stormwater runoff will be managed by the temporary erosion and sediment control facilities during construction. As discussed in the construction sequences provided the project plans the stabilized construction entrance shall be installed at the site entrance and silt fence shall be installed along the downhill perimeter of where soil disturbing activities will occur containing sediment laden stormwater runoff on-site.

4.2 Permanent Erosion and Sediment Control Facilities

Permanent erosion and sediment control will be accomplished by diverting stormwater runoff from steep slopes, controlling/reducing stormwater runoff velocities and volumes, and vegetative and structural surface stabilization. All of the permanent facilities are relatively maintenance free and only require periodic inspections. The owner will provide maintenance for all the permanent erosion and sediment control facilities.

The stormwater conveyance system will discharge to level spreaders or a flow diffuser. Level spreaders and flow diffusers will be provided at discharge points within the site to diffuse and disperse concentrated flow and provide a non-erosive outlet. At a minimum, the level spreaders and flow diffusers will meet the design requirements of the Blue Book. The location of these erosion control facilities are indicated and detailed on the project plans. Each level spreader and flow diffuser has been modeled in Appendix C. The discharge from the level spreaders and flow diffuser is designed to be non-erosive during all storm events.

Rock outlet protection will be provided at the discharge end of all piped drainage systems and will be sized in accordance with the Blue Book. The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach. The rock outlet protection shall be inspected for evidence of scour beneath the riprap and/or for any dislodged stones. Inspections of the rock outlet protection shall be performed during the inspections of the post-construction SMP's for the project.

Other than the paved or gravel surfaces, disturbed surfaces will be stabilized with vegetation within 10 days of final grading. Permanent seed mix and mulch shall be applied to idle areas to minimize the amount of exposed soil. Permanent seed mixtures are proposed for the project and illustrated on project drawings. Application rates for the seed and mulch are provided on the project drawings. The vegetation will control stormwater runoff by preventing soil erosion, reducing runoff volume and velocities, and providing a filter medium. Permanent seeding should optimally be undertaken in the spring from March 21st through May 20th and in late summer from August 15th to October 15th.

5.0 IMPLEMENTATION AND MAINTENANCE

5.1 Construction Phase

Details associated with the implementation and maintenance of the proposed stormwater facilities and erosion control measures during construction are shown on the project drawings. Soil disturbance for the subject project may exceed five acres at any given time if proposed to exceed 5 acres, additional information will be provided in accordance with NYSDEC requirements. The erosion control plan will include associated details and notes to aid the contractor in implementing the plan. Construction is anticipated to begin in the fall of 2020 and anticipated to be completed by the fall of 2021.

During construction, a Site Log Book, Appendix D, is required to be kept per NYSDEC SPDES General Permit GP-0-20-001. Erosion and sediment control inspections are required to be conducted as necessary under coverage of the permit (minimum twice a week) and an updated logbook and a copy of the SWPPP is required to be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the *New York Standards and Specifications for Erosion and Sediment Control* (Blue Book).

In addition to the proposed erosion and sediment control facilities, the following good housekeeping best management practices shall be implemented to mitigate potential pollution during the construction phase of the project. The general contractor overseeing the day-to-day site operation shall be responsible for the good housekeeping best management practices included in the following general categories:

- Material Handling and Waste Management
- Establishment of Building Material Staging Areas
- Establishment of Washout Areas
- Proper Equipment Fueling and Maintenance Practices
- Spill Prevention and Control Plan

All construction waste materials shall be collected and removed from the site regularly by the general contractor. The general contractor shall supply waste barrels for proper disposal of waste materials. All personnel working on the site shall be instructed of the proper procedures for construction waste disposal.

Although it is not anticipated any hazardous waste materials will be utilized during construction, any hazardous waste materials shall be disposed of in accordance with federal, state, and local regulations. No hazardous waste shall be disposed of on-site. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from the other non-waste materials. All hazardous waste shall be stored in a structurally sound and sealed shipping containers located in the staging areas. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer. All personnel working on the site shall be instructed of the proper procedures for hazardous waste disposal.

Temporary sanitary facilities (portable toilets) shall be provided on site during the entire length of construction. The sanitary facilities shall be located in the project staging area, or in an alternate area away from the construction activities on the site. The portable toilets shall be inspected weekly for evidence of leaking holding tanks.

All recyclables, including wood pallets, cardboard boxes, and all other recyclable construction scraps shall be disposed of in a designated recycling barrel provided by the contractor and removed from the site regularly. All personnel working on the site shall be instructed of the proper procedures for construction waste recycling.

All construction equipment and maintenance materials shall be stored in a construction staging area. Silt fence shall be installed down gradient of the construction staging area. Shipping containers shall be utilized to store hand tools, small parts, and other construction materials, not taken off site daily. Construction waste barrels, recycling barrels and if necessary hazardous waste containers shall be located within the limits of the construction staging area.

Throughout the construction of the project, several types of vehicles and equipment will be used on-site. Fueling of the equipment shall occur within the limits of the construction staging area. Fuel will be delivered to the site as needed, by the general contractor, or a party chosen by the general contractor. Only minor vehicle equipment maintenance shall occur on-site, all major maintenance shall be performed off-site. All equipment fluids generated from minor maintenance activities shall be disposed of into designated drums and stored in accordance with the hazardous waste storage as previously discussed.

The designated temporary concrete washout areas shall be constructed in accordance with the detail shown on the project plans. The temporary concrete washout areas shall be lined with plastic sheeting as specified on the detail free of holes or tears. Should the liner rip or tear at any time it shall be replaced immediately. All concrete mixer trucks and chutes shall be washed in the designated concrete wash areas. All personnel working on the site including concrete equipment operators shall be instructed of the locations and proper procedures for concrete washout. When the temporary concrete washout areas are no longer needed the hardened concrete and materials used to construct the washout area shall be broken up and removed from the site and disposed of in a landfill.

Vehicles and equipment shall be inspected on each day of use. Any leak discovered shall be repaired immediately. All leaking equipment unable to be repaired shall be removed from the site. Ample supplies of

absorbent, spill-cleanup materials, and spill kits shall be located in the construction staging area. All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned for disposal at a local landfill. All personnel working on the site shall be instructed of the proper procedures for spill prevention and control. Any spill large enough to discharge to surface water will be immediately reported to the local fire / police departments, NYCDEP, and the National Response Center 1-800-424-8802.

Vegetation should be inspected every 30 days and after every major storm event until established, after which inspections should take place on a quarterly basis and after every large storm event. Damaged areas should be immediately re-seeded and re-mulched.

5.2 Soil Restoration

Soil Restoration is required to be applied across areas of the development site where soils have been disturbed and will be vegetated. The purpose is to recover the original properties and porosity of the soil compacted during construction activity. Soil Restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. Soil restoration includes mechanical decompaction and compost amendment. The table below describes various soil disturbance activities related to land development, soil types and the requirements for soil restoration for each activity as identified in the Design Manual. Restoration is applied across areas of a development site where soils have been compacted and will be vegetated according to the criteria defined in the table below:

<table>
<tr><th colspan="4">Soil Restoration Requirements[1, 2,4]
(Onsite soils within the limit of disturbance belong to Hydrologic Soil Groups (HSG) A, B & D)</th></tr>
<tr><th>Type of Soil Disturbance</th><th colspan="2">Soil Restoration Requirement</th><th>Comments/Examples</th></tr>
<tr><td>No soil disturbance</td><td colspan="2">Restoration not permitted</td><td>Preservation of Natural Features</td></tr>
<tr><td>Minimal soil disturbance</td><td colspan="2">Restoration not required</td><td>Clearing and grubbing</td></tr>
<tr><td rowspan="2">Areas where topsoil is stripped only - no change in grade</td><td>HSG A & B</td><td>HSG C&D</td><td rowspan="2">Protect area from any ongoing construction activities.</td></tr>
<tr><td>Apply 6 inches of topsoil</td><td>Aerate[3] and apply 6 inches of topsoil</td></tr>
<tr><td rowspan="2">Areas of cut or fill</td><td>HSG A &B</td><td>HSG C&D</td><td rowspan="2"></td></tr>
<tr><td>Aerate[1] and apply 6 inches of topsoil</td><td>Apply full Soil Restoration [2]</td></tr>
<tr><td>Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5-foot perimeter around foundation walls)</td><td colspan="2">Apply full Soil Restoration (decompaction and compost Enhancement[6])</td><td></td></tr>
<tr><td>Areas where Runoff Reduction and/or Infiltration practices are applied</td><td colspan="2">Restoration not required but may be applied to enhance the reduction specified for appropriate practices.</td><td>Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single-phase operation fence area</td></tr>
<tr><td>Redevelopment projects</td><td colspan="2">Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.</td><td></td></tr>
</table>

1. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
2. Per “Deep Ripping and De-compaction, DEC 2008”.

3. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which functions like a mini-subsoiler.
4. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:
   5.1. Apply 3 inches of compost over subsoil.
   5.2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
   5.3. Rock-pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
   5.4. Apply topsoil to a depth of 6 inches.
   5.5. Vegetate as required by seeding notes located on the project drawings.
   5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface.
6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

After soil restoration is completed an inspector should be able to push a 3/8" metal bar twelve inches into the soil with just body weight. Following decompaction/soil restoration activities, the following maintenance is anticipated during the first year:

- Initial inspections for the first six months (once after each storm greater than a half-inch).
- Reseeding to repair bare or eroding areas to assure grass stabilization.
- Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
- Fertilization may be needed in the fall after the first growing season to increase plant vigor.

In order to ensure the soil remains decompacted the following ongoing maintenance is recommended:

- Planting the appropriate ground cover with deep roots to maintain the soil structure.
- Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths (sometimes it may be necessary to de-thatch the turf every few years).

5.3 Long Term Maintenance Plan

The stormwater facilities for the subject project have been designed to minimize the required maintenance. This section discusses the minimum maintenance requirements to insure long-term performance of the stormwater facilities. Initially the stormwater facilities will require an increased maintenance and inspection schedule until all portions of the site are stable. Generally, the stormwater facilities consist of either collection and conveyance components or treatment components.

The stormwater collection and conveyance system is composed of HDPE drainage pipe and precast concrete drainage structures. The owner will assume the maintenance responsibilities for the drainage system. Minimal maintenance is typically required for these facilities. All pipes should be checked for debris and blockages and cleaned as required. All drain inlet sumps shall be cleaned to removed deposited sediment. During the cleaning process, the pipes should be inspected for structural integrity and overall condition; repairs and/or replacement should be made as required.

There are hydrodynamic separators located upstream of the infiltration systems. Routine maintenance shall include inspection of the Hydrodynamic Separator for accumulated sediment / debris, and cleaning as necessary, see Appendix G.

Additionally, the infiltration practices shall be checked for deposited sediment as well. Visual inspection of system through the inspection ports shall take place yearly, and the system shall be cleaned / jetted as necessary to remove deposited sediment see Appendix F.

APPENDIX A
RR_v Calculations

RRv Calculation Worksheet - Infiltration Basin 1.1P

Project: Community Solar Farm
Project #: 19192.100
Date: 1/19/2021

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.146 ac-ft* = *6,360 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.1S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	0.9	Acres
RRv Minimum	=	*1,862*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendix)	= 6,360	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	6360	100%	6,360
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*6,360*

5. Summary

RRv Initial	=	6,360	c.f.
RRv Required	=	6,360	c.f.
RRv Minimum	=	1,862	c.f.
RRv Provided	=	6,360	c.f.
WQv Required for Downstream SMP	=	0	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Infiltration Basin 1.2P

Project: Community Solar Farm
Project #: 19192.100
Date: 9/1/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.177 ac-ft* = *7,710 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.2S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	1.0	Acres
RRv Minimum	=	*2,069*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendi	= 7,710	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	7710	100%	7,710
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*7,710*

5. Summary

RRv Initial	=	7,710 c.f.	
RRv Required	=	7,710 c.f.	
RRv Minimum	=	2,069 c.f.	
RRv Provided	=	7,710 c.f.	
WQv Required for Downstream SMP	=	0 c.f.	(= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Infiltration Basin 1.3P

Project: Community Solar Farm
Project #: 19192.100
Date: 9/1/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.142 ac-ft* = *6,186 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.3S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	0.85	Acres
RRv Minimum	=	*1,759*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendi	= 6,186	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	6186	100%	6,186
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*6,186*

5. Summary

RRv Initial	=	6,186	c.f.
RRv Required	=	6,186	c.f.
RRv Minimum	=	1,759	c.f.
RRv Provided	=	6,186	c.f.
WQv Required for Downstream SMP	=	0	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Infiltration Basin 1.4P

Project: Community Solar Farm
Project #: 19192.100
Date: 9/1/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.140 ac-ft* = *6,098 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.4S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	0.80	Acres
RRv Minimum	=	*1,655*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendi	= 6,098	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	6098	100%	6,098
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*6,098*

5. Summary

RRv Initial	=	6,098	c.f.
RRv Required	=	6,098	c.f.
RRv Minimum	=	1,655	c.f.
RRv Provided	=	6,098	c.f.
WQv Required for Downstream SMP	=	0	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Infiltration System 1.5P

Project: Community Solar Farm
Project #: 19192.100
Date: 9/1/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.043 ac-ft* = *1,873 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.5S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	0.25	Acres
RRv Minimum	=	*517*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendi	= 1,873	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	1873	100%	1,873
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*1,873*

5. Summary

RRv Initial	=	1,873	c.f.
RRv Required	=	1,873	c.f.
RRv Minimum	=	517	c.f.
RRv Provided	=	1,873	c.f.
WQv Required for Downstream SMP	=	0	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Infiltration System 1.6P

Project: Community Solar Farm
Project #: 19192.100
Date: 9/1/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.021 ac-ft* = *915 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.6S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	0.05	Acres
RRv Minimum	=	*103*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendi	= 915	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	1481	100%	1,481
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*1,481*

5. Summary

RRv Initial	=	915	c.f.
RRv Required	=	915	c.f.
RRv Minimum	=	103	c.f.
RRv Provided	=	1,481	c.f.
WQv Required for Downstream SMP	=	0	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

RRv Calculation Worksheet - Infiltration System 1.7P

Project: Community Solar Farm
Project #: 19192.100
Date: 9/1/2020

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *0.015 ac-ft* = *643 c.f.*
(refer to Appendic C, HydroCAD Subcatchments 1.7S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	1.50	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.40	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	0.05	Acres
RRv Minimum	=	*103*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box (37 trees at 100 s.f. per tree)		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendi	= 643	c.f.

4. *RRv Provided*

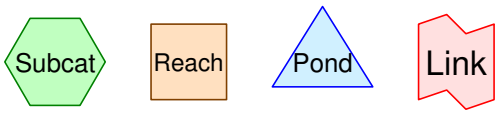
GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	N/A
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	N/A
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	N/A
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	958	100%	958
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	N/A
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*958*

5. Summary

RRv Initial	=	643	c.f.
RRv Required	=	643	c.f.
RRv Minimum	=	103	c.f.
RRv Provided	=	958	c.f.
WQv Required for Downstream SMP	=	0	c.f. (= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

APPENDIX B
Pre-Development Computer Data



Routing Diagram for Pre-Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 8/31/2020

Summary for Subcatchment PRE 1:

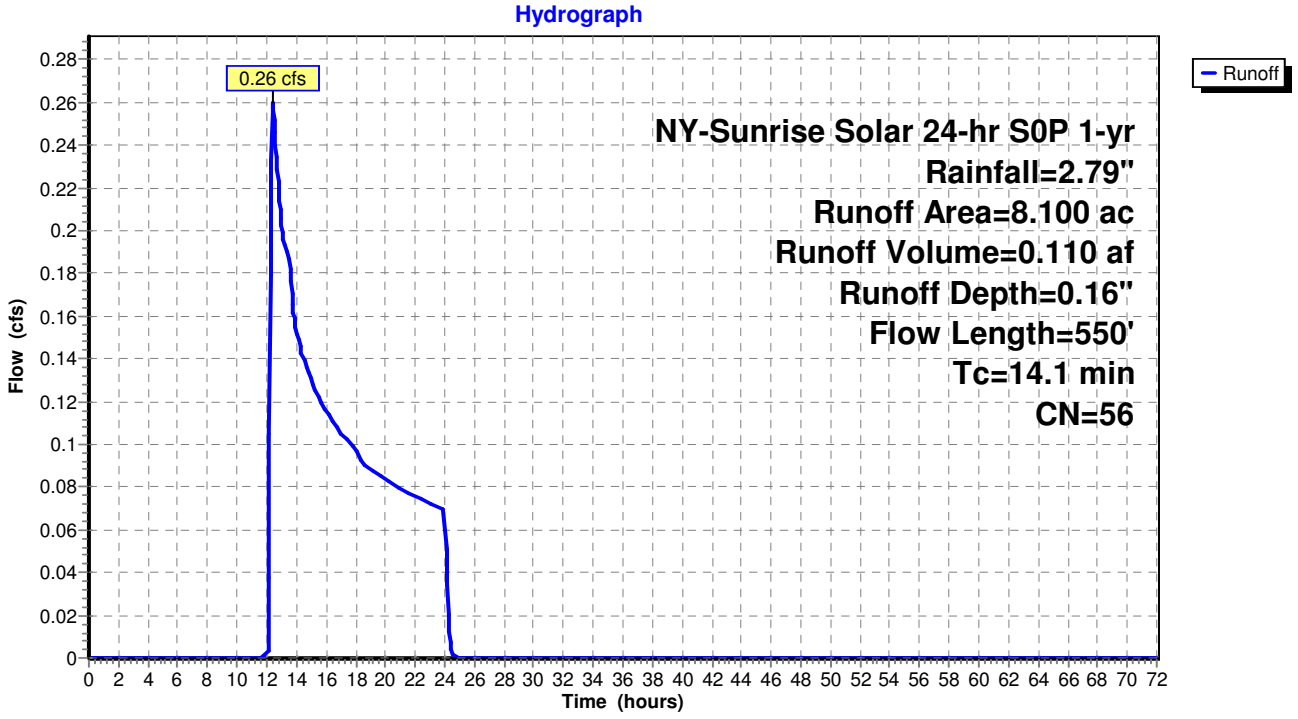
Runoff = 0.26 cfs @ 12.40 hrs, Volume= 0.110 af, Depth= 0.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
1.700	58	Meadow, non-grazed, HSG B
6.400	55	Woods, Good, HSG B
8.100	56	Weighted Average
8.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0500	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
1.2	140	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	150	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	160	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.1	550	Total			

Subcatchment PRE 1:



Summary for Subcatchment PRE 2:

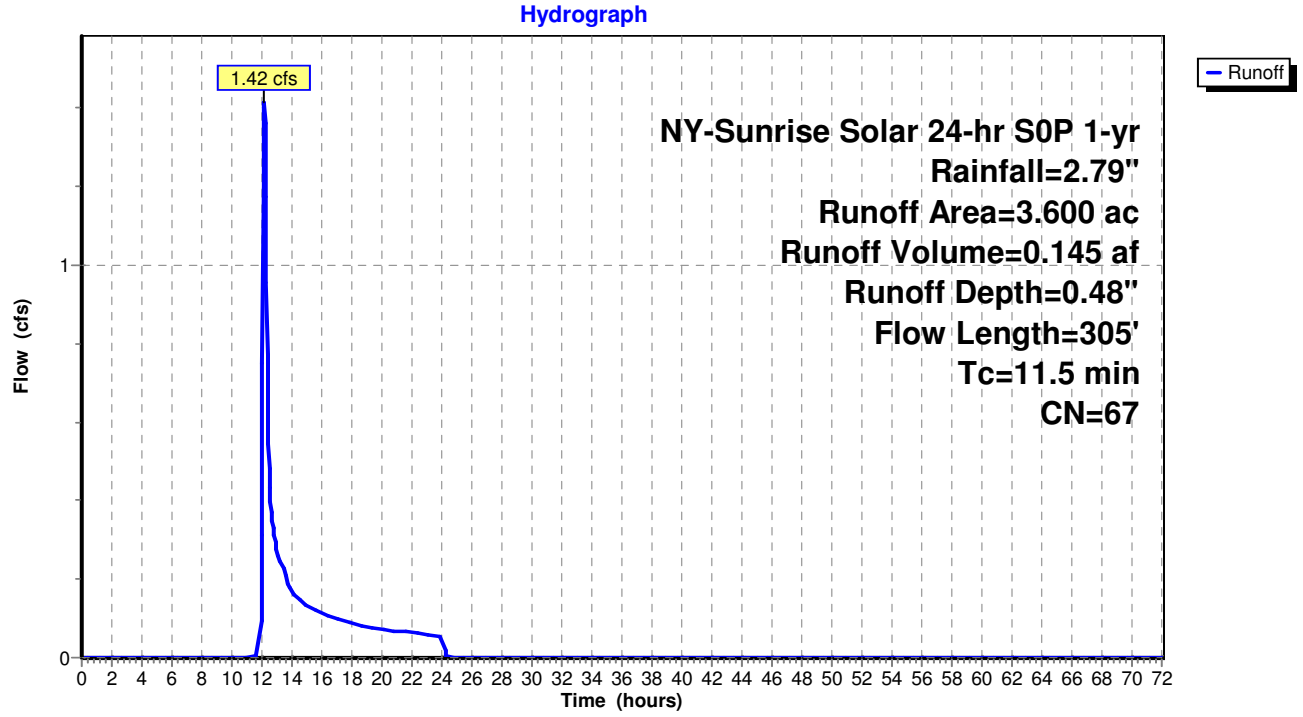
Runoff = 1.42 cfs @ 12.17 hrs, Volume= 0.145 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.600	58	Meadow, non-grazed, HSG B
1.200	55	Woods, Good, HSG B
1.800	77	Woods, Good, HSG D
3.600	67	Weighted Average
3.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.1300	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.1	100	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.5000	3.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	35	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.5	305	Total			

Subcatchment PRE 2:



Summary for Subcatchment PRE 3:

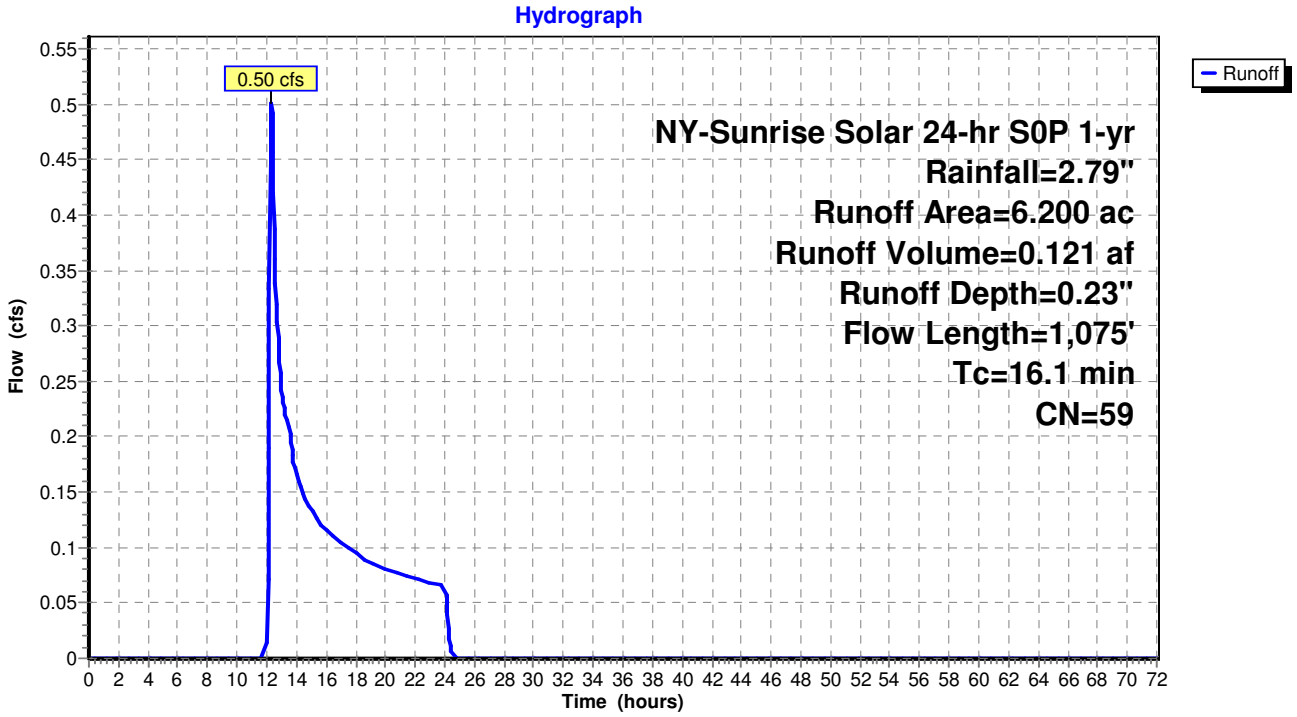
Runoff = 0.50 cfs @ 12.32 hrs, Volume= 0.121 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.300	98	Paved
	2.100	58	Meadow, non-grazed, HSG B
	3.650	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	6.200	59	Weighted Average
	5.900		95.16% Pervious Area
	0.300		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0800	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.4	70	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	80	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	175	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.8	300	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	115	0.2100	6.87		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	35	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	90	0.1700	6.18		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	35	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	75	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	1,075	Total			

Subcatchment PRE 3:



Summary for Subcatchment PRE 1:

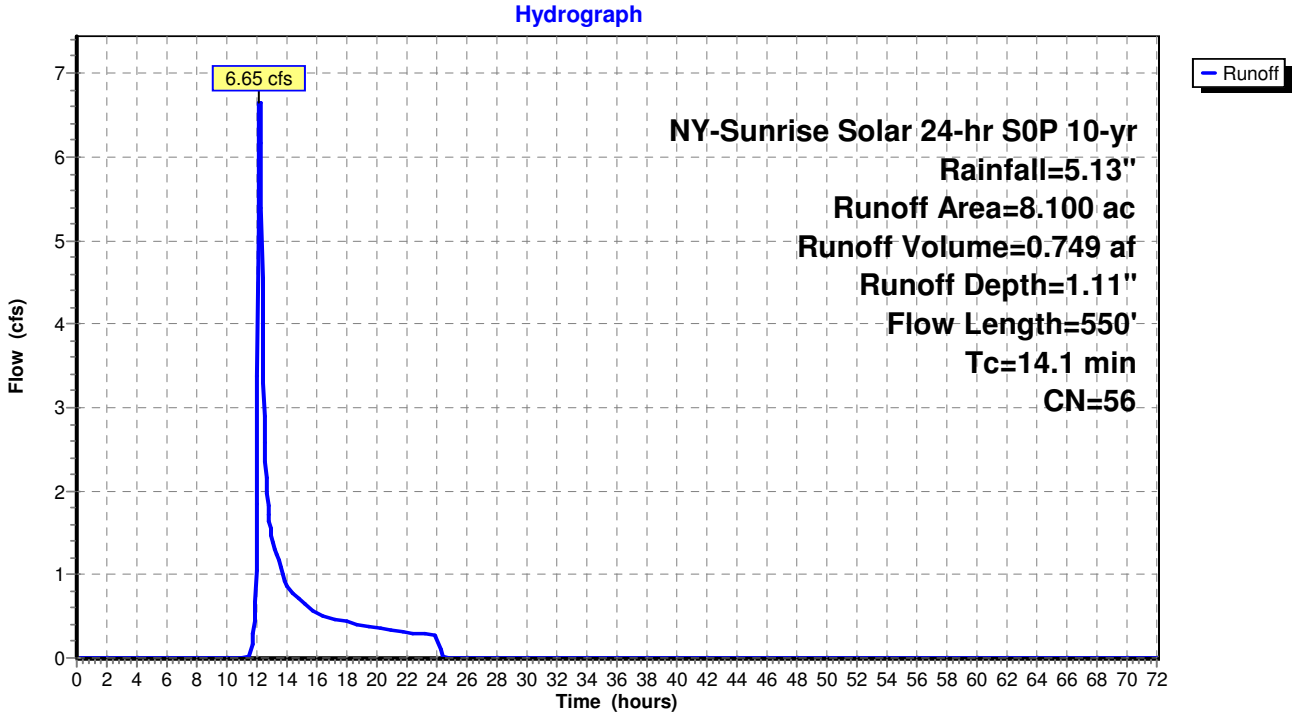
Runoff = 6.65 cfs @ 12.19 hrs, Volume= 0.749 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
1.700	58	Meadow, non-grazed, HSG B
6.400	55	Woods, Good, HSG B
8.100	56	Weighted Average
8.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0500	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
1.2	140	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	150	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	160	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.1	550	Total			

Subcatchment PRE 1:



Summary for Subcatchment PRE 2:

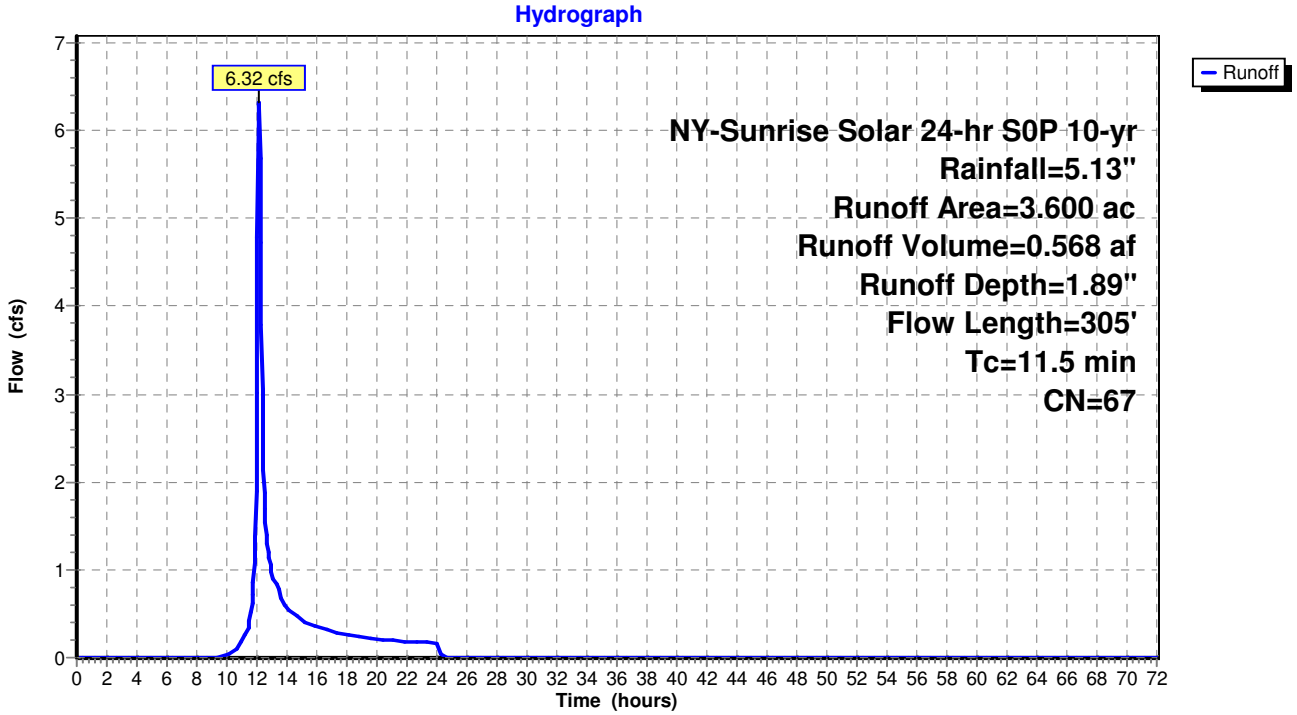
Runoff = 6.32 cfs @ 12.14 hrs, Volume= 0.568 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.600	58	Meadow, non-grazed, HSG B
1.200	55	Woods, Good, HSG B
1.800	77	Woods, Good, HSG D
3.600	67	Weighted Average
3.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.1300	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.1	100	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.5000	3.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	35	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.5	305	Total			

Subcatchment PRE 2:



Summary for Subcatchment PRE 3:

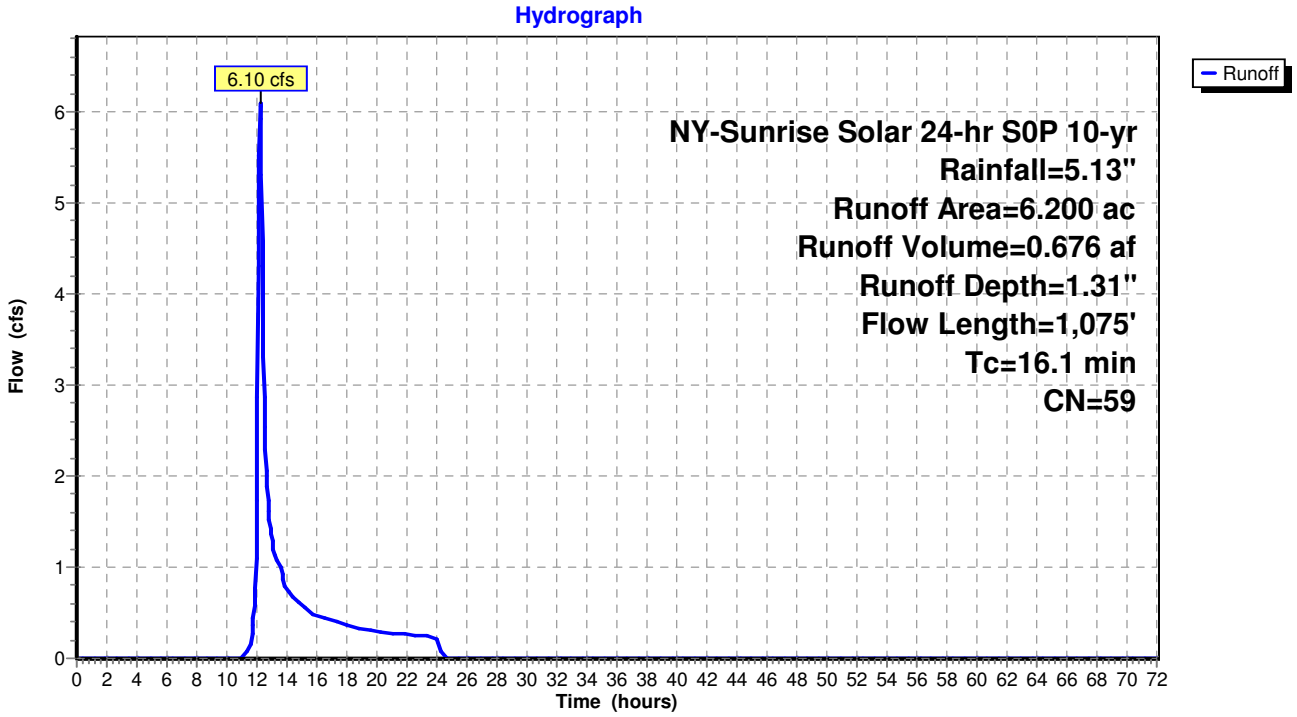
Runoff = 6.10 cfs @ 12.21 hrs, Volume= 0.676 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	0.300	98	Paved
	2.100	58	Meadow, non-grazed, HSG B
	3.650	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	6.200	59	Weighted Average
	5.900		95.16% Pervious Area
	0.300		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0800	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.4	70	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	80	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	175	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.8	300	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	115	0.2100	6.87		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	35	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	90	0.1700	6.18		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	35	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	75	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	1,075	Total			

Subcatchment PRE 3:



Summary for Subcatchment PRE 1:

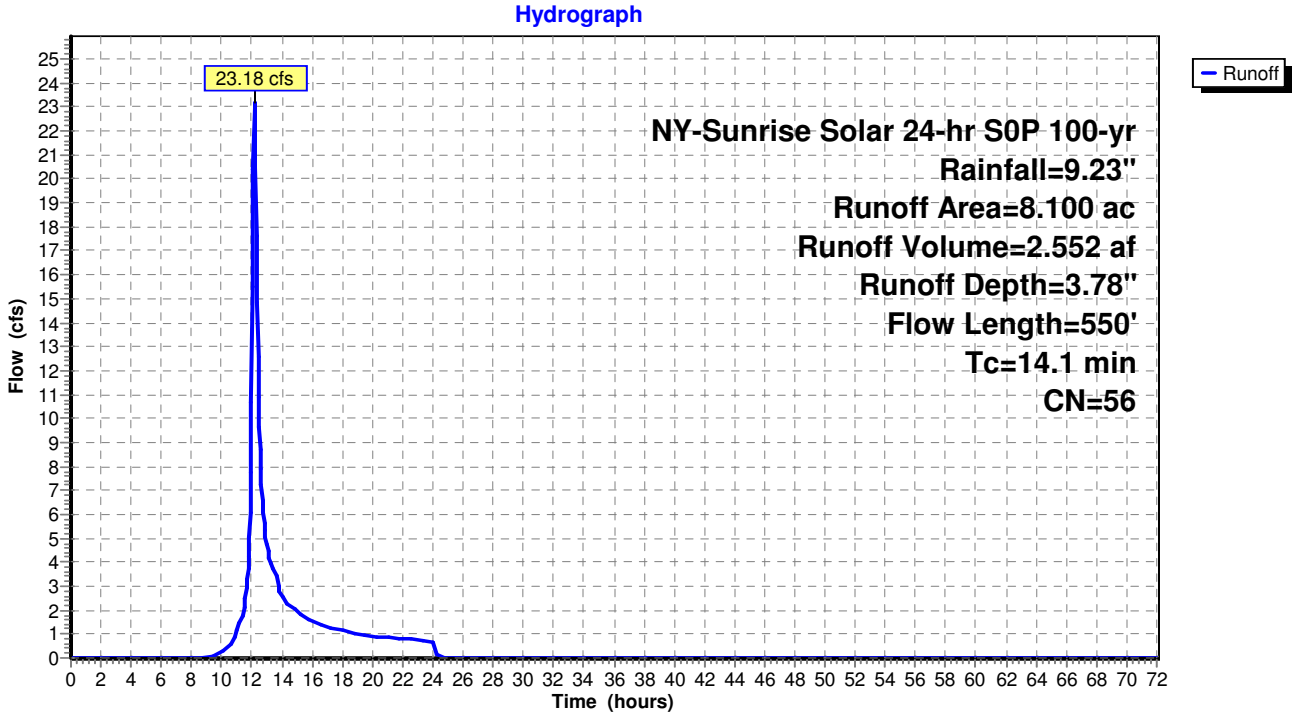
Runoff = 23.18 cfs @ 12.17 hrs, Volume= 2.552 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
1.700	58	Meadow, non-grazed, HSG B
6.400	55	Woods, Good, HSG B
8.100	56	Weighted Average
8.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0500	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
1.2	140	0.1400	1.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.9	150	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	160	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.1	550	Total			

Subcatchment PRE 1:



Summary for Subcatchment PRE 2:

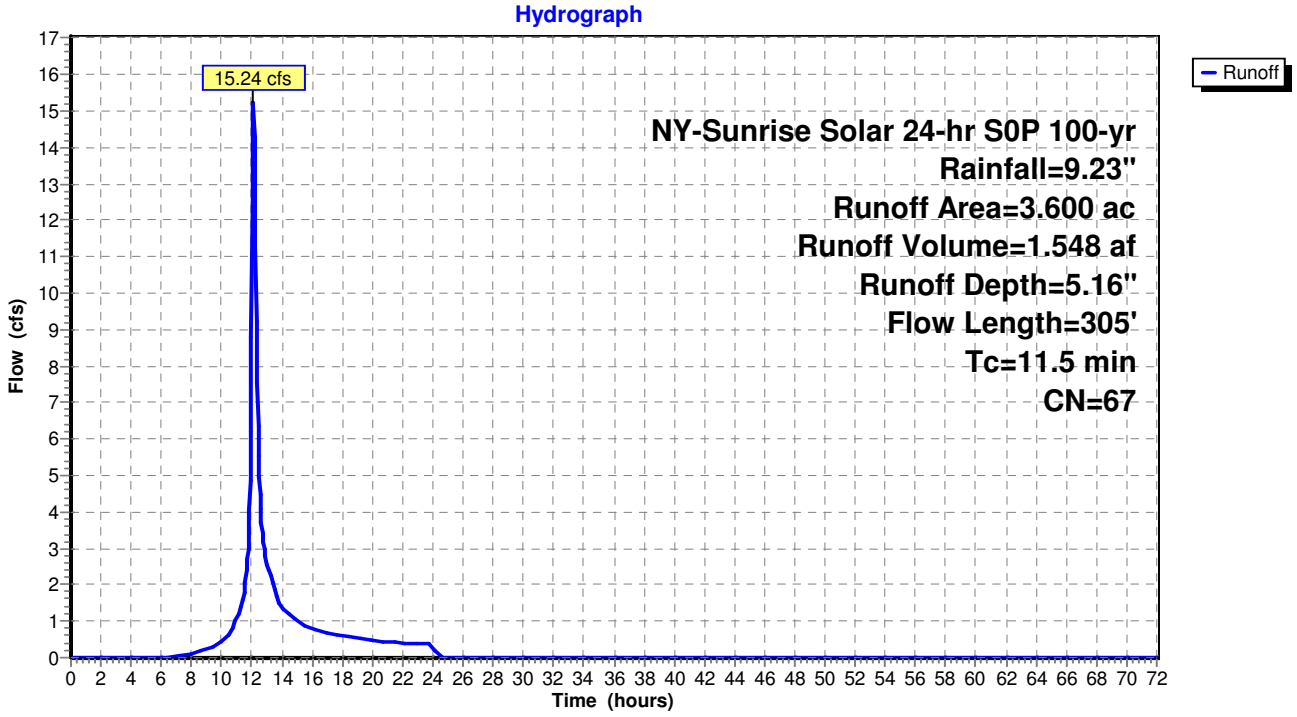
Runoff = 15.24 cfs @ 12.13 hrs, Volume= 1.548 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.600	58	Meadow, non-grazed, HSG B
1.200	55	Woods, Good, HSG B
1.800	77	Woods, Good, HSG D
3.600	67	Weighted Average
3.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	100	0.1300	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.1	100	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.5000	3.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	35	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.5	305	Total			

Subcatchment PRE 2:



Summary for Subcatchment PRE 3:

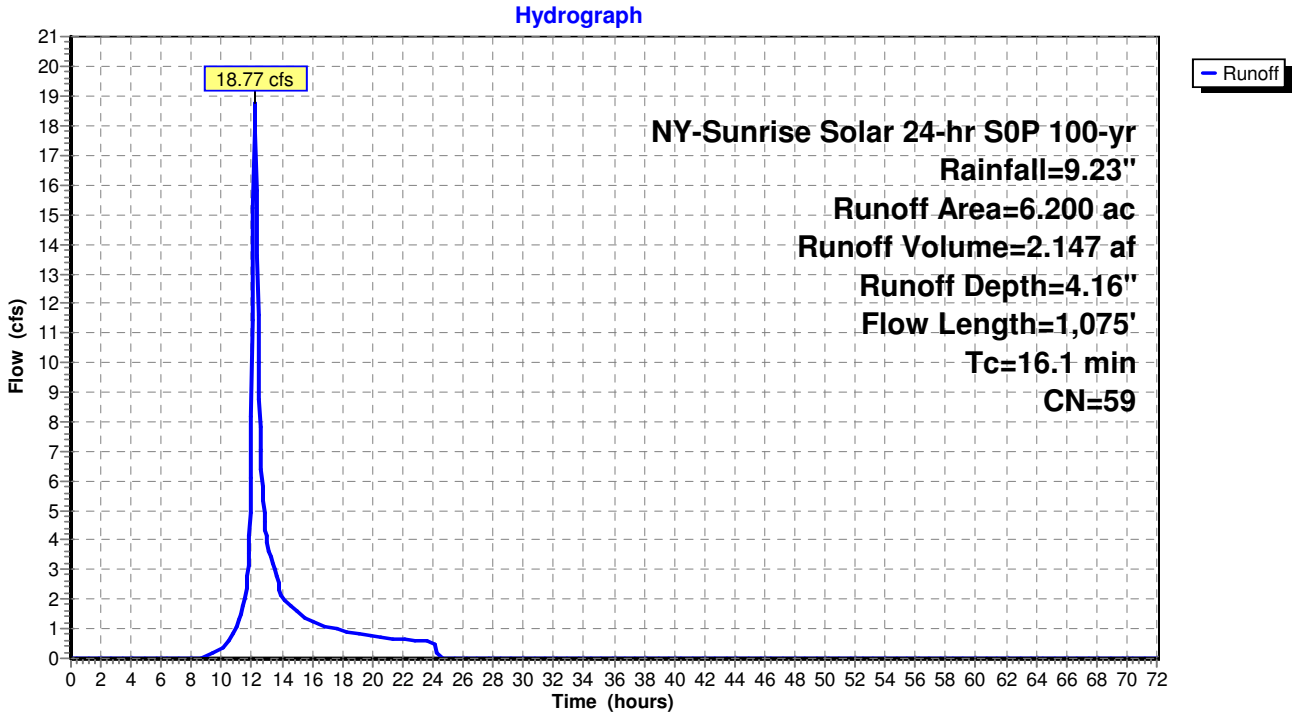
Runoff = 18.77 cfs @ 12.20 hrs, Volume= 2.147 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

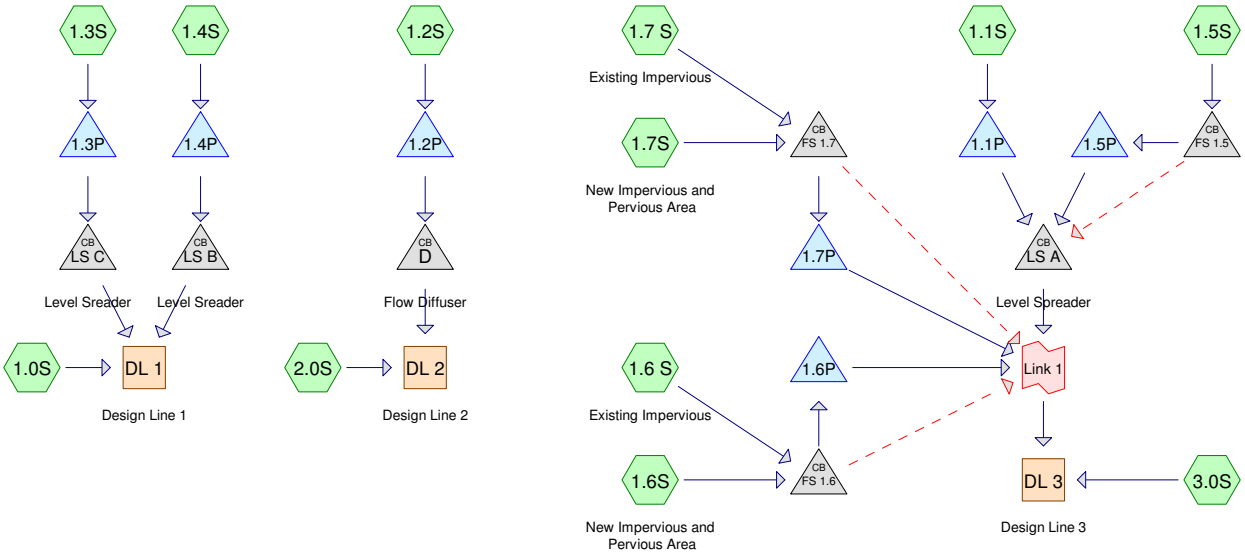
	Area (ac)	CN	Description
*	0.300	98	Paved
	2.100	58	Meadow, non-grazed, HSG B
	3.650	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	6.200	59	Weighted Average
	5.900		95.16% Pervious Area
	0.300		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0800	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.4	70	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	80	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	175	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.8	300	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	115	0.2100	6.87		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	35	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	90	0.1700	6.18		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	35	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	75	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	1,075	Total			

Subcatchment PRE 3:



APPENDIX C
Post Development Computer Data



Subcat Reach Pond Link

Routing Diagram for Post-Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 2/16/2021

Summary for Subcatchment 1.0S:

Runoff = 0.10 cfs @ 12.59 hrs, Volume= 0.051 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.200	58	Meadow, non-grazed, HSG B
4.100	55	Woods, Good, HSG B
4.300	55	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.1800	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.1	175	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.7	400	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.4	675	Total			

Summary for Subcatchment 1.1S:

Runoff = 1.95 cfs @ 12.11 hrs, Volume= 0.146 af, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.900	98	Solar Panels / Impervious
	1.100	58	Meadow, non-grazed, HSG B
	2.000	76	Weighted Average
	1.100		55.00% Pervious Area
	0.900		45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0700	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.3	130	0.1800	6.36		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.6	150	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.3	380	Total			

Summary for Subcatchment 1.2S:

Runoff = 2.58 cfs @ 12.09 hrs, Volume= 0.177 af, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	1.000	98	Solar Panels
	0.500	58	Meadow, non-grazed, HSG B
	1.500	85	Weighted Average
	0.500		33.33% Pervious Area
	1.000		66.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.1	50	0.1600	6.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.2	240	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.6	390	Total			

Summary for Subcatchment 1.3S:

Runoff = 2.26 cfs @ 12.06 hrs, Volume= 0.142 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.850	98	Solar Panels
	0.550	58	Meadow, non-grazed, HSG B
	1.400	82	Weighted Average
	0.550		39.29% Pervious Area
	0.850		60.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.1500	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.5	240	Total			

Summary for Subcatchment 1.4S:

Runoff = 2.24 cfs @ 12.06 hrs, Volume= 0.140 af, Depth= 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.800	98	Solar Panels
	0.450	58	Meadow, non-grazed, HSG B
	1.250	84	Weighted Average
	0.450		36.00% Pervious Area
	0.800		64.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.1400	0.26		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.4	100	0.1000	4.74		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.7	200	Total			

Summary for Subcatchment 1.5S:

Runoff = 0.62 cfs @ 12.08 hrs, Volume= 0.043 af, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.250	98	Paved parking, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.400	83	Weighted Average
0.150		37.50% Pervious Area
0.250		62.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.2	40	0.0600	3.67		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	75	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	215	Total			

Summary for Subcatchment 1.6 S: Existing Impervious

Runoff = 0.46 cfs @ 12.06 hrs, Volume= 0.032 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	300	Total			

Summary for Subcatchment 1.6S: New Impervious and Pervious Area

Runoff = 0.11 cfs @ 12.14 hrs, Volume= 0.013 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	300	Total			

Summary for Subcatchment 1.7 S: Existing Impervious

Runoff = 0.15 cfs @ 12.06 hrs, Volume= 0.011 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	410	Total			

Summary for Subcatchment 1.7S: New Impervious and Pervious Area

Runoff = 0.12 cfs @ 12.12 hrs, Volume= 0.012 af, Depth= 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	410	Total			

Summary for Subcatchment 2.0S:

Runoff = 1.51 cfs @ 12.13 hrs, Volume= 0.135 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

Area (ac)	CN	Description
1.100	55	Woods, Good, HSG B
1.800	77	Woods, Good, HSG D
2.900	69	Weighted Average
2.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	90	0.1700	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.4	80	0.5000	3.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	40	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.6	300	Total			

Summary for Subcatchment 3.0S:

Runoff = 0.21 cfs @ 12.29 hrs, Volume= 0.057 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.100	98	Paved
	0.500	58	Meadow, non-grazed, HSG B
	2.500	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	3.250	58	Weighted Average
	3.150		96.92% Pervious Area
	0.100		3.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.1600	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
2.2	335	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	125	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	30	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	80	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.7	670	Total			

Summary for Reach DL 1: Design Line 1

Inflow Area = 6.950 ac, 23.74% Impervious, Inflow Depth = 0.09" for 1-yr event
Inflow = 0.10 cfs @ 12.59 hrs, Volume= 0.051 af
Outflow = 0.10 cfs @ 12.59 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Reach DL 2: Design Line 2

Inflow Area = 4.400 ac, 22.73% Impervious, Inflow Depth = 0.37" for 1-yr event
Inflow = 1.51 cfs @ 12.13 hrs, Volume= 0.135 af
Outflow = 1.51 cfs @ 12.13 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Reach DL 3: Design Line 3

Inflow Area = 6.650 ac, 23.31% Impervious, Inflow Depth = 0.10" for 1-yr event
Inflow = 0.21 cfs @ 12.29 hrs, Volume= 0.057 af
Outflow = 0.21 cfs @ 12.29 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Pond 1.1P:

Inflow Area = 2.000 ac, 45.00% Impervious, Inflow Depth = 0.88" for 1-yr event
Inflow = 1.95 cfs @ 12.11 hrs, Volume= 0.146 af
Outflow = 1.96 cfs @ 12.12 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.6 min
Discarded = 1.96 cfs @ 12.12 hrs, Volume= 0.146 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 483.04' @ 12.12 hrs Surf.Area= 1,827 sf Storage= 75 cf

Plug-Flow detention time= 0.6 min calculated for 0.146 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (885.8 - 885.2)

Volume	Invert	Avail.Storage	Storage Description
#1	483.00'	17,070 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
483.00	1,800	0	0
484.00	2,460	2,130	2,130
486.00	3,930	6,390	8,520
488.00	4,620	8,550	17,070

Device	Routing	Invert	Outlet Devices
#1	Discarded	483.00'	**55.400 in/hr Exfiltration over Horizontal area**
#2	Primary	483.00'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 483.00' / 469.50' S= 0.2077 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	485.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.34 cfs @ 12.12 hrs HW=483.04' (Free Discharge)
↑└**1=Exfiltration** (Exfiltration Controls 2.34 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=483.00' (Free Discharge)
↑└**2=Culvert** (Controls 0.00 cfs)
↑└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.1P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
483.00	1,800	1,800	0
483.10	1,866	1,866	183
483.20	1,932	1,932	373
483.30	1,998	1,998	570
483.40	2,064	2,064	773
483.50	2,130	2,130	983
483.60	2,196	2,196	1,199
483.70	2,262	2,262	1,422
483.80	2,328	2,328	1,651
483.90	2,394	2,394	1,887
484.00	2,460	2,460	2,130
484.10	2,534	2,534	2,380
484.20	2,607	2,607	2,637
484.30	2,681	2,681	2,901
484.40	2,754	2,754	3,173
484.50	2,828	2,828	3,452
484.60	2,901	2,901	3,738
484.70	2,974	2,974	4,032
484.80	3,048	3,048	4,333
484.90	3,121	3,121	4,642
485.00	3,195	3,195	4,958
485.10	3,269	3,269	5,281
485.20	3,342	3,342	5,611
485.30	3,416	3,416	5,949
485.40	3,489	3,489	6,294
485.50	3,563	3,563	6,647
485.60	3,636	3,636	7,007
485.70	3,709	3,709	7,374
485.80	3,783	3,783	7,749
485.90	3,856	3,856	8,131
486.00	3,930	3,930	8,520
486.10	3,965	3,965	8,915
486.20	3,999	3,999	9,313
486.30	4,034	4,034	9,715
486.40	4,068	4,068	10,120
486.50	4,103	4,103	10,528
486.60	4,137	4,137	10,940
486.70	4,171	4,171	11,356
486.80	4,206	4,206	11,774
486.90	4,240	4,240	12,197
487.00	4,275	4,275	12,623
487.10	4,310	4,310	13,052
487.20	4,344	4,344	13,484
487.30	4,379	4,379	13,921
487.40	4,413	4,413	14,360
487.50	4,448	4,448	14,803
487.60	4,482	4,482	15,250
487.70	4,516	4,516	15,700
487.80	4,551	4,551	16,153
487.90	4,585	4,585	16,610
488.00	**4,620**	**4,620**	**17,070**

Summary for Pond 1.2P:

Inflow Area = 1.500 ac, 66.67% Impervious, Inflow Depth = 1.41" for 1-yr event
Inflow = 2.58 cfs @ 12.09 hrs, Volume= 0.177 af
Outflow = 1.72 cfs @ 12.20 hrs, Volume= 0.177 af, Atten= 33%, Lag= 6.9 min
Discarded = 1.72 cfs @ 12.20 hrs, Volume= 0.177 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 493.47' @ 12.20 hrs Surf.Area= 1,241 sf Storage= 515 cf

Plug-Flow detention time= 1.5 min calculated for 0.177 af (100% of inflow)
Center-of-Mass det. time= 1.5 min (849.7 - 848.3)

Volume	Invert	Avail.Storage	Storage Description
#1	493.00'	13,210 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
493.00	960	0	0
494.00	1,560	1,260	1,260
496.00	2,930	4,490	5,750
498.00	4,530	7,460	13,210

Device	Routing	Invert	Outlet Devices
#1	Discarded	493.00'	**60.000 in/hr Exfiltration over Horizontal area**
#2	Primary	493.00'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 493.00' / 492.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	496.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=1.72 cfs @ 12.20 hrs HW=493.47' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.72 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=493.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.2P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
493.00	960	960	0
493.10	1,020	1,020	99
493.20	1,080	1,080	204
493.30	1,140	1,140	315
493.40	1,200	1,200	432
493.50	1,260	1,260	555
493.60	1,320	1,320	684
493.70	1,380	1,380	819
493.80	1,440	1,440	960
493.90	1,500	1,500	1,107
494.00	1,560	1,560	1,260
494.10	1,629	1,629	1,419
494.20	1,697	1,697	1,586
494.30	1,766	1,766	1,759
494.40	1,834	1,834	1,939
494.50	1,903	1,903	2,126
494.60	1,971	1,971	2,319
494.70	2,039	2,039	2,520
494.80	2,108	2,108	2,727
494.90	2,176	2,176	2,941
495.00	2,245	2,245	3,163
495.10	2,314	2,314	3,390
495.20	2,382	2,382	3,625
495.30	2,451	2,451	3,867
495.40	2,519	2,519	4,115
495.50	2,588	2,588	4,371
495.60	2,656	2,656	4,633
495.70	2,724	2,724	4,902
495.80	2,793	2,793	5,178
495.90	2,861	2,861	5,460
496.00	2,930	2,930	5,750
496.10	3,010	3,010	6,047
496.20	3,090	3,090	6,352
496.30	3,170	3,170	6,665
496.40	3,250	3,250	6,986
496.50	3,330	3,330	7,315
496.60	3,410	3,410	7,652
496.70	3,490	3,490	7,997
496.80	3,570	3,570	8,350
496.90	3,650	3,650	8,711
497.00	3,730	3,730	9,080
497.10	3,810	3,810	9,457
497.20	3,890	3,890	9,842
497.30	3,970	3,970	10,235
497.40	4,050	4,050	10,636
497.50	4,130	4,130	11,045
497.60	4,210	4,210	11,462
497.70	4,290	4,290	11,887
497.80	4,370	4,370	12,320
497.90	4,450	4,450	12,761
498.00	**4,530**	**4,530**	**13,210**

Summary for Pond 1.3P:

Inflow Area = 1.400 ac, 60.71% Impervious, Inflow Depth = 1.22" for 1-yr event
Inflow = 2.26 cfs @ 12.06 hrs, Volume= 0.142 af
Outflow = 0.22 cfs @ 12.92 hrs, Volume= 0.142 af, Atten= 90%, Lag= 51.6 min
Discarded = 0.22 cfs @ 12.92 hrs, Volume= 0.142 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 458.16' @ 12.92 hrs Surf.Area= 2,113 sf Storage= 2,104 cf

Plug-Flow detention time= 84.6 min calculated for 0.142 af (100% of inflow)
Center-of-Mass det. time= 84.5 min (943.3 - 858.7)

Volume	Invert	Avail.Storage	Storage Description
#1	457.00'	14,595 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
457.00	1,500	0	0
458.00	2,030	1,765	1,765
460.00	3,050	5,080	6,845
462.00	4,700	7,750	14,595

Device	Routing	Invert	Outlet Devices
#1	Discarded	457.00'	**4.500 in/hr Exfiltration over Horizontal area**
#2	Primary	457.00'	**12.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 457.00' / 450.00' S= 0.1750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	460.20'	**1.2' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.22 cfs @ 12.92 hrs HW=458.16' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.22 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=457.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.3P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
457.00	1,500	1,500	0
457.10	1,553	1,553	153
457.20	1,606	1,606	311
457.30	1,659	1,659	474
457.40	1,712	1,712	642
457.50	1,765	1,765	816
457.60	1,818	1,818	995
457.70	1,871	1,871	1,180
457.80	1,924	1,924	1,370
457.90	1,977	1,977	1,565
458.00	2,030	2,030	1,765
458.10	2,081	2,081	1,971
458.20	2,132	2,132	2,181
458.30	2,183	2,183	2,397
458.40	2,234	2,234	2,618
458.50	2,285	2,285	2,844
458.60	2,336	2,336	3,075
458.70	2,387	2,387	3,311
458.80	2,438	2,438	3,552
458.90	2,489	2,489	3,799
459.00	2,540	2,540	4,050
459.10	2,591	2,591	4,307
459.20	2,642	2,642	4,568
459.30	2,693	2,693	4,835
459.40	2,744	2,744	5,107
459.50	2,795	2,795	5,384
459.60	2,846	2,846	5,666
459.70	2,897	2,897	5,953
459.80	2,948	2,948	6,245
459.90	2,999	2,999	6,543
460.00	3,050	3,050	6,845
460.10	3,133	3,133	7,154
460.20	3,215	3,215	7,471
460.30	3,298	3,298	7,797
460.40	3,380	3,380	8,131
460.50	3,463	3,463	8,473
460.60	3,545	3,545	8,824
460.70	3,627	3,627	9,182
460.80	3,710	3,710	9,549
460.90	3,792	3,792	9,924
461.00	3,875	3,875	10,308
461.10	3,958	3,958	10,699
461.20	4,040	4,040	11,099
461.30	4,123	4,123	11,507
461.40	4,205	4,205	11,923
461.50	4,288	4,288	12,348
461.60	4,370	4,370	12,781
461.70	4,452	4,452	13,222
461.80	4,535	4,535	13,672
461.90	4,617	4,617	14,129
462.00	**4,700**	**4,700**	**14,595**

Summary for Pond 1.4P:

Inflow Area = 1.250 ac, 64.00% Impervious, Inflow Depth = 1.35" for 1-yr event
Inflow = 2.24 cfs @ 12.06 hrs, Volume= 0.140 af
Outflow = 1.63 cfs @ 12.15 hrs, Volume= 0.140 af, Atten= 27%, Lag= 5.2 min
Discarded = 1.63 cfs @ 12.15 hrs, Volume= 0.140 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 473.51' @ 12.15 hrs Surf.Area= 704 sf Storage= 307 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.9 min (851.7 - 850.7)

Volume	Invert	Avail.Storage	Storage Description
#1	473.00'	15,445 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
473.00	500	0	0
474.00	900	700	700
476.00	2,450	3,350	4,050
478.00	4,220	6,670	10,720
479.00	5,230	4,725	15,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	473.00'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	473.00'	**12.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 473.00' / 470.00' S= 0.0750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	476.80'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=1.62 cfs @ 12.15 hrs HW=473.50' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 1.62 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=473.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)
↑**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.4P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
473.00	500	500	0
473.20	580	580	108
473.40	660	660	232
473.60	740	740	372
473.80	820	820	528
474.00	900	900	700
474.20	1,055	1,055	895
474.40	1,210	1,210	1,122
474.60	1,365	1,365	1,380
474.80	1,520	1,520	1,668
475.00	1,675	1,675	1,988
475.20	1,830	1,830	2,338
475.40	1,985	1,985	2,719
475.60	2,140	2,140	3,132
475.80	2,295	2,295	3,576
476.00	2,450	2,450	4,050
476.20	2,627	2,627	4,558
476.40	2,804	2,804	5,101
476.60	2,981	2,981	5,679
476.80	3,158	3,158	6,293
477.00	3,335	3,335	6,943
477.20	3,512	3,512	7,627
477.40	3,689	3,689	8,347
477.60	3,866	3,866	9,103
477.80	4,043	4,043	9,894
478.00	4,220	4,220	10,720
478.20	4,422	4,422	11,584
478.40	4,624	4,624	12,489
478.60	4,826	4,826	13,434
478.80	5,028	5,028	14,419
479.00	**5,230**	**5,230**	**15,445**

Summary for Pond 1.5P:

Inflow Area = 0.400 ac, 62.50% Impervious, Inflow Depth = 1.28" for 1-yr event
Inflow = 0.62 cfs @ 12.08 hrs, Volume= 0.043 af
Outflow = 0.11 cfs @ 11.95 hrs, Volume= 0.043 af, Atten= 83%, Lag= 0.0 min
Discarded = 0.11 cfs @ 11.95 hrs, Volume= 0.043 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 467.48' @ 12.52 hrs Surf.Area= 0.026 ac Storage= 0.011 af

Plug-Flow detention time= 29.8 min calculated for 0.043 af (100% of inflow)
Center-of-Mass det. time= 29.7 min (886.1 - 856.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	466.70'	0.024 af	**25.25'W x 45.16'L x 3.50'H Field A** 0.092 af Overall - 0.032 af Embedded = 0.060 af x 40.0% Voids
#2A	467.20'	0.032 af	**ADS_StormTech SC-740** x 30 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		0.056 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	466.70'	**4.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	469.20'	**6.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 469.20' / 469.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.11 cfs @ 11.95 hrs HW=466.78' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=466.70' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.5P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
466.70	**0.026**	0.000
466.75	0.026	0.001
466.80	0.026	0.001
466.85	0.026	0.002
466.90	0.026	0.002
466.95	0.026	0.003
467.00	0.026	0.003
467.05	0.026	0.004
467.10	0.026	0.004
467.15	0.026	0.005
467.20	0.026	0.005
467.25	0.026	0.006
467.30	0.026	0.007
467.35	0.026	0.008
467.40	0.026	0.010
467.45	0.026	0.011
467.50	0.026	0.012
467.55	0.026	0.013
467.60	0.026	0.014
467.65	0.026	0.015
467.70	0.026	0.016
467.75	0.026	0.017
467.80	0.026	0.018
467.85	0.026	0.019
467.90	0.026	0.020
467.95	0.026	0.021
468.00	0.026	0.022
468.05	0.026	0.023
468.10	0.026	0.024
468.15	0.026	0.025
468.20	0.026	0.026
468.25	0.026	0.027
468.30	0.026	0.028
468.35	0.026	0.029
468.40	0.026	0.030
468.45	0.026	0.031
468.50	0.026	0.032
468.55	0.026	0.033
468.60	0.026	0.034
468.65	0.026	0.035
468.70	0.026	0.036
468.75	0.026	0.037
468.80	0.026	0.037
468.85	0.026	0.038
468.90	0.026	0.039
468.95	0.026	0.040
469.00	0.026	0.041
469.05	0.026	0.042
469.10	0.026	0.043
469.15	0.026	0.043
469.20	0.026	0.044
469.25	0.026	0.045
469.30	0.026	0.046
469.35	0.026	0.046
469.40	0.026	0.047
469.45	0.026	0.048
469.50	0.026	0.048
469.55	0.026	0.049
469.60	0.026	0.050
469.65	0.026	0.050
469.70	0.026	0.051
469.75	0.026	0.051
469.80	0.026	0.052
469.85	0.026	0.052
469.90	0.026	0.053
469.95	0.026	0.053
470.00	0.026	0.054
470.05	0.026	0.054
470.10	0.026	0.055
470.15	0.026	0.055
470.20	0.026	**0.056**

Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 0.90" for 1-yr event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 0.045 af
Outflow = 0.31 cfs @ 12.05 hrs, Volume= 0.045 af, Atten= 43%, Lag= 0.0 min
Discarded = 0.31 cfs @ 12.05 hrs, Volume= 0.045 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 418.32' @ 12.22 hrs Surf.Area= 0.013 ac Storage= 0.003 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.5 min (818.0 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	**11.00'W x 52.28'L x 3.50'H Field A** 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	**ADS_StormTech SC-740** x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 2 rows
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	**23.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	420.30'	**6.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 418.90' S= 0.0560 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 12.05 hrs HW=417.97' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.80' (Free Discharge)
2=Culvert (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	**0.013**	0.000
417.85	0.013	0.000
417.90	0.013	0.001
417.95	0.013	0.001
418.00	0.013	0.001
418.05	0.013	0.001
418.10	0.013	0.002
418.15	0.013	0.002
418.20	0.013	0.002
418.25	0.013	0.002
418.30	0.013	0.003
418.35	0.013	0.003
418.40	0.013	0.004
418.45	0.013	0.004
418.50	0.013	0.005
418.55	0.013	0.005
418.60	0.013	0.006
418.65	0.013	0.006
418.70	0.013	0.007
418.75	0.013	0.007
418.80	0.013	0.008
418.85	0.013	0.008
418.90	0.013	0.009
418.95	0.013	0.009
419.00	0.013	0.010
419.05	0.013	0.010
419.10	0.013	0.011
419.15	0.013	0.011
419.20	0.013	0.012
419.25	0.013	0.012
419.30	0.013	0.013
419.35	0.013	0.013
419.40	0.013	0.014
419.45	0.013	0.014
419.50	0.013	0.015
419.55	0.013	0.015
419.60	0.013	0.016
419.65	0.013	0.016
419.70	0.013	0.017
419.75	0.013	0.017
419.80	0.013	0.017
419.85	0.013	0.018
419.90	0.013	0.018
419.95	0.013	0.019
420.00	0.013	0.019
420.05	0.013	0.020
420.10	0.013	0.020
420.15	0.013	0.020
420.20	0.013	0.021
420.25	0.013	0.021
420.30	0.013	0.022
420.35	0.013	0.022
420.40	0.013	0.022
420.45	0.013	0.023
420.50	0.013	0.023
420.55	0.013	0.023
420.60	0.013	0.024
420.65	0.013	0.024
420.70	0.013	0.024
420.75	0.013	0.025
420.80	0.013	0.025
420.85	0.013	0.025
420.90	0.013	0.025
420.95	0.013	0.026
421.00	0.013	0.026
421.05	0.013	0.026
421.10	0.013	0.026
421.15	0.013	0.027
421.20	0.013	0.027
421.25	0.013	0.027
421.30	0.013	**0.027**

Summary for Pond 1.7P:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 0.68" for 1-yr event
Inflow = 0.25 cfs @ 12.08 hrs, Volume= 0.023 af
Outflow = 0.05 cfs @ 12.00 hrs, Volume= 0.023 af, Atten= 81%, Lag= 0.0 min
Discarded = 0.05 cfs @ 12.00 hrs, Volume= 0.023 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 395.93' @ 12.57 hrs Surf.Area= 0.010 ac Storage= 0.004 af

Plug-Flow detention time= 22.8 min calculated for 0.023 af (100% of inflow)
Center-of-Mass det. time= 22.7 min (877.3 - 854.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	**11.00'W x 38.04'L x 3.50'H Field A** 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	**ADS_StormTech SC-740** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 2 rows
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	397.60'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 12.00 hrs HW=395.23' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.10' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	**0.010**	0.000
395.15	0.010	0.000
395.20	0.010	0.000
395.25	0.010	0.001
395.30	0.010	0.001
395.35	0.010	0.001
395.40	0.010	0.001
395.45	0.010	0.001
395.50	0.010	0.002
395.55	0.010	0.002
395.60	0.010	0.002
395.65	0.010	0.002
395.70	0.010	0.003
395.75	0.010	0.003
395.80	0.010	0.003
395.85	0.010	0.004
395.90	0.010	0.004
395.95	0.010	0.005
396.00	0.010	0.005
396.05	0.010	0.005
396.10	0.010	0.006
396.15	0.010	0.006
396.20	0.010	0.006
396.25	0.010	0.007
396.30	0.010	0.007
396.35	0.010	0.007
396.40	0.010	0.008
396.45	0.010	0.008
396.50	0.010	0.009
396.55	0.010	0.009
396.60	0.010	0.009
396.65	0.010	0.010
396.70	0.010	0.010
396.75	0.010	0.010
396.80	0.010	0.011
396.85	0.010	0.011
396.90	0.010	0.011
396.95	0.010	0.012
397.00	0.010	0.012
397.05	0.010	0.012
397.10	0.010	0.013
397.15	0.010	0.013
397.20	0.010	0.013
397.25	0.010	0.014
397.30	0.010	0.014
397.35	0.010	0.014
397.40	0.010	0.014
397.45	0.010	0.015
397.50	0.010	0.015
397.55	0.010	0.015
397.60	0.010	0.016
397.65	0.010	0.016
397.70	0.010	0.016
397.75	0.010	0.016
397.80	0.010	0.017
397.85	0.010	0.017
397.90	0.010	0.017
397.95	0.010	0.017
398.00	0.010	0.018
398.05	0.010	0.018
398.10	0.010	0.018
398.15	0.010	0.018
398.20	0.010	0.018
398.25	0.010	0.019
398.30	0.010	0.019
398.35	0.010	0.019
398.40	0.010	0.019
398.45	0.010	0.019
398.50	0.010	0.019
398.55	0.010	0.020
398.60	0.010	**0.020**

Summary for Pond D: Flow Diffuser

Inflow Area = 1.500 ac, 66.67% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 480.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	480.00'	**15.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=480.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond D: Flow Diffuser

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
480.00	**0**	480.52	0
480.01	0	480.53	0
480.02	0	480.54	0
480.03	0	480.55	0
480.04	0	480.56	0
480.05	0	480.57	0
480.06	0	480.58	0
480.07	0	480.59	0
480.08	0	480.60	0
480.09	0	480.61	0
480.10	0	480.62	0
480.11	0	480.63	0
480.12	0	480.64	0
480.13	0	480.65	0
480.14	0	480.66	0
480.15	0	480.67	0
480.16	0	480.68	0
480.17	0	480.69	0
480.18	0	480.70	0
480.19	0	480.71	0
480.20	0	480.72	0
480.21	0	480.73	0
480.22	0	480.74	0
480.23	0	480.75	0
480.24	0	480.76	0
480.25	0	480.77	0
480.26	0	480.78	0
480.27	0	480.79	0
480.28	0	480.80	0
480.29	0	480.81	0
480.30	0	480.82	0
480.31	0	480.83	0
480.32	0	480.84	0
480.33	0	480.85	0
480.34	0	480.86	0
480.35	0	480.87	0
480.36	0	480.88	0
480.37	0	480.89	0
480.38	0	480.90	0
480.39	0	480.91	0
480.40	0	480.92	0
480.41	0	480.93	0
480.42	0	480.94	0
480.43	0	480.95	0
480.44	0	480.96	0
480.45	0	480.97	0
480.46	0	480.98	0
480.47	0	480.99	0
480.48	0	481.00	0
480.49	0		
480.50	0		
480.51	0		

Summary for Pond FS 1.5:

Inflow Area = 0.400 ac, 62.50% Impervious, Inflow Depth = 1.28" for 1-yr event
Inflow = 0.62 cfs @ 12.08 hrs, Volume= 0.043 af
Outflow = 0.62 cfs @ 12.08 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.08 hrs, Volume= 0.043 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 470.16' @ 12.08 hrs
Flood Elev= 472.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	469.40'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 469.40' / 469.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	470.20'	**12.0" Round Culvert** L= 70.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 470.20' / 469.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.08 hrs HW=470.14' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.61 cfs @ 3.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=469.40' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Stage-Area-Storage for Pond FS 1.5:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
469.40	**0**	472.00	0
469.45	0	472.05	0
469.50	0	472.10	0
469.55	0	472.15	0
469.60	0	472.20	0
469.65	0	472.25	0
469.70	0	472.30	0
469.75	0	472.35	0
469.80	0	472.40	0
469.85	0	472.45	0
469.90	0	472.50	0
469.95	0	472.55	0
470.00	0	472.60	0
470.05	0	472.65	0
470.10	0	472.70	0
470.15	0	472.75	0
470.20	0	472.80	0
470.25	0		
470.30	0		
470.35	0		
470.40	0		
470.45	0		
470.50	0		
470.55	0		
470.60	0		
470.65	0		
470.70	0		
470.75	0		
470.80	0		
470.85	0		
470.90	0		
470.95	0		
471.00	0		
471.05	0		
471.10	0		
471.15	0		
471.20	0		
471.25	0		
471.30	0		
471.35	0		
471.40	0		
471.45	0		
471.50	0		
471.55	0		
471.60	0		
471.65	0		
471.70	0		
471.75	0		
471.80	0		
471.85	0		
471.90	0		
471.95	0		

Summary for Pond FS 1.6:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 0.90" for 1-yr event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 0.045 af
Outflow = 0.54 cfs @ 12.07 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.07 hrs, Volume= 0.045 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 421.13' @ 12.07 hrs
Flood Elev= 422.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.52 cfs @ 12.07 hrs HW=421.11' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.52 cfs @ 2.76 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=420.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond FS 1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	**0**	421.04	0
420.02	0	421.06	0
420.04	0	421.08	0
420.06	0	421.10	0
420.08	0	421.12	0
420.10	0	421.14	0
420.12	0	421.16	0
420.14	0	421.18	0
420.16	0	421.20	0
420.18	0	421.22	0
420.20	0	421.24	0
420.22	0	421.26	0
420.24	0	421.28	0
420.26	0	421.30	0
420.28	0	421.32	0
420.30	0	421.34	0
420.32	0	421.36	0
420.34	0	421.38	0
420.36	0	421.40	0
420.38	0	421.42	0
420.40	0	421.44	0
420.42	0	421.46	0
420.44	0	421.48	0
420.46	0	421.50	0
420.48	0	421.52	0
420.50	0	421.54	0
420.52	0	421.56	0
420.54	0	421.58	0
420.56	0	421.60	0
420.58	0	421.62	0
420.60	0	421.64	0
420.62	0	421.66	0
420.64	0	421.68	0
420.66	0	421.70	0
420.68	0	421.72	0
420.70	0	421.74	0
420.72	0	421.76	0
420.74	0	421.78	0
420.76	0	421.80	0
420.78	0	421.82	0
420.80	0	421.84	0
420.82	0	421.86	0
420.84	0	421.88	0
420.86	0	421.90	0
420.88	0	421.92	0
420.90	0	421.94	0
420.92	0	421.96	0
420.94	0	421.98	0
420.96	0	422.00	0
420.98	0		
421.00	0		
421.02	0		

Summary for Pond FS 1.7:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 0.68" for 1-yr event
Inflow = 0.25 cfs @ 12.08 hrs, Volume= 0.023 af
Outflow = 0.25 cfs @ 12.08 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.08 hrs, Volume= 0.023 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.32' @ 12.08 hrs
Flood Elev= 400.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.25 cfs @ 12.08 hrs HW=398.32' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.25 cfs @ 1.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=397.50' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	**0**	398.54	0	399.58	0
397.52	0	398.56	0	399.60	0
397.54	0	398.58	0	399.62	0
397.56	0	398.60	0	399.64	0
397.58	0	398.62	0	399.66	0
397.60	0	398.64	0	399.68	0
397.62	0	398.66	0	399.70	0
397.64	0	398.68	0	399.72	0
397.66	0	398.70	0	399.74	0
397.68	0	398.72	0	399.76	0
397.70	0	398.74	0	399.78	0
397.72	0	398.76	0	399.80	0
397.74	0	398.78	0	399.82	0
397.76	0	398.80	0	399.84	0
397.78	0	398.82	0	399.86	0
397.80	0	398.84	0	399.88	0
397.82	0	398.86	0	399.90	0
397.84	0	398.88	0	399.92	0
397.86	0	398.90	0	399.94	0
397.88	0	398.92	0	399.96	0
397.90	0	398.94	0	399.98	0
397.92	0	398.96	0	400.00	0
397.94	0	398.98	0	400.02	0
397.96	0	399.00	0	400.04	0
397.98	0	399.02	0	400.06	0
398.00	0	399.04	0	400.08	0
398.02	0	399.06	0	400.10	0
398.04	0	399.08	0	400.12	0
398.06	0	399.10	0	400.14	0
398.08	0	399.12	0	400.16	0
398.10	0	399.14	0	400.18	0
398.12	0	399.16	0	400.20	0
398.14	0	399.18	0	400.22	0
398.16	0	399.20	0	400.24	0
398.18	0	399.22	0	400.26	0
398.20	0	399.24	0	400.28	0
398.22	0	399.26	0	400.30	0
398.24	0	399.28	0	400.32	0
398.26	0	399.30	0	400.34	0
398.28	0	399.32	0	400.36	0
398.30	0	399.34	0	400.38	0
398.32	0	399.36	0	400.40	0
398.34	0	399.38	0	400.42	0
398.36	0	399.40	0	400.44	0
398.38	0	399.42	0	400.46	0
398.40	0	399.44	0	400.48	0
398.42	0	399.46	0	400.50	0
398.44	0	399.48	0		
398.46	0	399.50	0		
398.48	0	399.52	0		
398.50	0	399.54	0		
398.52	0	399.56	0		

Summary for Pond LS A: Level Spreader

Inflow Area = 2.400 ac, 47.92% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 466.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	466.00'	**10.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=466.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond LS A: Level Spreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
466.00	**0**	466.52	0
466.01	0	466.53	0
466.02	0	466.54	0
466.03	0	466.55	0
466.04	0	466.56	0
466.05	0	466.57	0
466.06	0	466.58	0
466.07	0	466.59	0
466.08	0	466.60	0
466.09	0	466.61	0
466.10	0	466.62	0
466.11	0	466.63	0
466.12	0	466.64	0
466.13	0	466.65	0
466.14	0	466.66	0
466.15	0	466.67	0
466.16	0	466.68	0
466.17	0	466.69	0
466.18	0	466.70	0
466.19	0	466.71	0
466.20	0	466.72	0
466.21	0	466.73	0
466.22	0	466.74	0
466.23	0	466.75	0
466.24	0	466.76	0
466.25	0	466.77	0
466.26	0	466.78	0
466.27	0	466.79	0
466.28	0	466.80	0
466.29	0	466.81	0
466.30	0	466.82	0
466.31	0	466.83	0
466.32	0	466.84	0
466.33	0	466.85	0
466.34	0	466.86	0
466.35	0	466.87	0
466.36	0	466.88	0
466.37	0	466.89	0
466.38	0	466.90	0
466.39	0	466.91	0
466.40	0	466.92	0
466.41	0	466.93	0
466.42	0	466.94	0
466.43	0	466.95	0
466.44	0	466.96	0
466.45	0	466.97	0
466.46	0	466.98	0
466.47	0	466.99	0
466.48	0	467.00	0
466.49	0		
466.50	0		
466.51	0		

Summary for Pond LS B: Level Sreader

Inflow Area = 1.250 ac, 64.00% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 469.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	469.00'	**20.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=469.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond LS B: Level Sreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
469.00	**0**	469.52	0
469.01	0	469.53	0
469.02	0	469.54	0
469.03	0	469.55	0
469.04	0	469.56	0
469.05	0	469.57	0
469.06	0	469.58	0
469.07	0	469.59	0
469.08	0	469.60	0
469.09	0	469.61	0
469.10	0	469.62	0
469.11	0	469.63	0
469.12	0	469.64	0
469.13	0	469.65	0
469.14	0	469.66	0
469.15	0	469.67	0
469.16	0	469.68	0
469.17	0	469.69	0
469.18	0	469.70	0
469.19	0	469.71	0
469.20	0	469.72	0
469.21	0	469.73	0
469.22	0	469.74	0
469.23	0	469.75	0
469.24	0	469.76	0
469.25	0	469.77	0
469.26	0	469.78	0
469.27	0	469.79	0
469.28	0	469.80	0
469.29	0	469.81	0
469.30	0	469.82	0
469.31	0	469.83	0
469.32	0	469.84	0
469.33	0	469.85	0
469.34	0	469.86	0
469.35	0	469.87	0
469.36	0	469.88	0
469.37	0	469.89	0
469.38	0	469.90	0
469.39	0	469.91	0
469.40	0	469.92	0
469.41	0	469.93	0
469.42	0	469.94	0
469.43	0	469.95	0
469.44	0	469.96	0
469.45	0	469.97	0
469.46	0	469.98	0
469.47	0	469.99	0
469.48	0	470.00	0
469.49	0		
469.50	0		
469.51	0		

Summary for Pond LS C: Level Sreader

Inflow Area = 1.400 ac, 60.71% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 450.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	450.00'	**20.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=450.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond LS C: Level Sreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
450.00	**0**	450.52	0
450.01	0	450.53	0
450.02	0	450.54	0
450.03	0	450.55	0
450.04	0	450.56	0
450.05	0	450.57	0
450.06	0	450.58	0
450.07	0	450.59	0
450.08	0	450.60	0
450.09	0	450.61	0
450.10	0	450.62	0
450.11	0	450.63	0
450.12	0	450.64	0
450.13	0	450.65	0
450.14	0	450.66	0
450.15	0	450.67	0
450.16	0	450.68	0
450.17	0	450.69	0
450.18	0	450.70	0
450.19	0	450.71	0
450.20	0	450.72	0
450.21	0	450.73	0
450.22	0	450.74	0
450.23	0	450.75	0
450.24	0	450.76	0
450.25	0	450.77	0
450.26	0	450.78	0
450.27	0	450.79	0
450.28	0	450.80	0
450.29	0	450.81	0
450.30	0	450.82	0
450.31	0	450.83	0
450.32	0	450.84	0
450.33	0	450.85	0
450.34	0	450.86	0
450.35	0	450.87	0
450.36	0	450.88	0
450.37	0	450.89	0
450.38	0	450.90	0
450.39	0	450.91	0
450.40	0	450.92	0
450.41	0	450.93	0
450.42	0	450.94	0
450.43	0	450.95	0
450.44	0	450.96	0
450.45	0	450.97	0
450.46	0	450.98	0
450.47	0	450.99	0
450.48	0	451.00	0
450.49	0		
450.50	0		
450.51	0		

Summary for Link Link 1:

Inflow Area = 3.400 ac, 42.65% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 1.0S:

Runoff = 3.22 cfs @ 12.20 hrs, Volume= 0.375 af, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.200	58	Meadow, non-grazed, HSG B
4.100	55	Woods, Good, HSG B
4.300	55	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.1800	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.1	175	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.7	400	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.4	675	Total			

Summary for Subcatchment 1.1S:

Runoff = 5.45 cfs @ 12.10 hrs, Volume= 0.441 af, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	0.900	98	Solar Panels / Impervious
	1.100	58	Meadow, non-grazed, HSG B
	2.000	76	Weighted Average
	1.100		55.00% Pervious Area
	0.900		45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0700	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.3	130	0.1800	6.36		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.6	150	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.3	380	Total			

Summary for Subcatchment 1.2S:

Runoff = 5.46 cfs @ 12.08 hrs, Volume= 0.436 af, Depth= 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	1.000	98	Solar Panels
	0.500	58	Meadow, non-grazed, HSG B
	1.500	85	Weighted Average
	0.500		33.33% Pervious Area
	1.000		66.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.1	50	0.1600	6.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.2	240	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.6	390	Total			

Summary for Subcatchment 1.3S:

Runoff = 5.16 cfs @ 12.05 hrs, Volume= 0.373 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	0.850	98	Solar Panels
	0.550	58	Meadow, non-grazed, HSG B
	1.400	82	Weighted Average
	0.550		39.29% Pervious Area
	0.850		60.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.1500	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.5	240	Total			

Summary for Subcatchment 1.4S:

Runoff = 4.84 cfs @ 12.06 hrs, Volume= 0.353 af, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	0.800	98	Solar Panels
	0.450	58	Meadow, non-grazed, HSG B
	1.250	84	Weighted Average
	0.450		36.00% Pervious Area
	0.800		64.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.1400	0.26		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.4	100	0.1000	4.74		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.7	200	Total			

Summary for Subcatchment 1.5S:

Runoff = 1.39 cfs @ 12.08 hrs, Volume= 0.110 af, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.250	98	Paved parking, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.400	83	Weighted Average
0.150		37.50% Pervious Area
0.250		62.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.2	40	0.0600	3.67		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	75	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	215	Total			

Summary for Subcatchment 1.6 S: Existing Impervious

Runoff = 0.73 cfs @ 12.06 hrs, Volume= 0.061 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	300	Total			

Summary for Subcatchment 1.6S: New Impervious and Pervious Area

Runoff = 0.73 cfs @ 12.07 hrs, Volume= 0.060 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	300	Total			

Summary for Subcatchment 1.7 S: Existing Impervious

Runoff = 0.24 cfs @ 12.06 hrs, Volume= 0.020 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	410	Total			

Summary for Subcatchment 1.7S: New Impervious and Pervious Area

Runoff = 0.64 cfs @ 12.07 hrs, Volume= 0.051 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	410	Total			

Summary for Subcatchment 2.0S:

Runoff = 5.95 cfs @ 12.11 hrs, Volume= 0.496 af, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

Area (ac)	CN	Description
1.100	55	Woods, Good, HSG B
1.800	77	Woods, Good, HSG D
2.900	69	Weighted Average
2.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	90	0.1700	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.4	80	0.5000	3.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	40	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.6	300	Total			

Summary for Subcatchment 3.0S:

Runoff = 3.25 cfs @ 12.17 hrs, Volume= 0.336 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	0.100	98	Paved
	0.500	58	Meadow, non-grazed, HSG B
	2.500	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	3.250	58	Weighted Average
	3.150		96.92% Pervious Area
	0.100		3.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.1600	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
2.2	335	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	125	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	30	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	80	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.7	670	Total			

Summary for Reach DL 1: Design Line 1

Inflow Area = 6.950 ac, 23.74% Impervious, Inflow Depth = 0.65" for 10-yr event
Inflow = 3.22 cfs @ 12.20 hrs, Volume= 0.375 af
Outflow = 3.22 cfs @ 12.20 hrs, Volume= 0.375 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Reach DL 2: Design Line 2

Inflow Area = 4.400 ac, 22.73% Impervious, Inflow Depth = 1.35" for 10-yr event
Inflow = 5.95 cfs @ 12.11 hrs, Volume= 0.496 af
Outflow = 5.95 cfs @ 12.11 hrs, Volume= 0.496 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Reach DL 3: Design Line 3

Inflow Area = 6.650 ac, 23.31% Impervious, Inflow Depth = 0.66" for 10-yr event
Inflow = 4.37 cfs @ 12.12 hrs, Volume= 0.367 af
Outflow = 4.37 cfs @ 12.12 hrs, Volume= 0.367 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Pond 1.1P:

Inflow Area = 2.000 ac, 45.00% Impervious, Inflow Depth = 2.64" for 10-yr event
Inflow = 5.45 cfs @ 12.10 hrs, Volume= 0.441 af
Outflow = 3.03 cfs @ 12.26 hrs, Volume= 0.441 af, Atten= 45%, Lag= 9.7 min
Discarded = 3.03 cfs @ 12.26 hrs, Volume= 0.441 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 483.85' @ 12.26 hrs Surf.Area= 2,360 sf Storage= 1,765 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 2.6 min (852.4 - 849.7)

Volume	Invert	Avail.Storage	Storage Description
#1	483.00'	17,070 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
483.00	1,800	0	0
484.00	2,460	2,130	2,130
486.00	3,930	6,390	8,520
488.00	4,620	8,550	17,070

Device	Routing	Invert	Outlet Devices
#1	Discarded	483.00'	**55.400 in/hr Exfiltration over Horizontal area**
#2	Primary	483.00'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 483.00' / 469.50' S= 0.2077 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	485.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=3.02 cfs @ 12.26 hrs HW=483.84' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 3.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=483.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.1P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
483.00	1,800	1,800	0
483.10	1,866	1,866	183
483.20	1,932	1,932	373
483.30	1,998	1,998	570
483.40	2,064	2,064	773
483.50	2,130	2,130	983
483.60	2,196	2,196	1,199
483.70	2,262	2,262	1,422
483.80	2,328	2,328	1,651
483.90	2,394	2,394	1,887
484.00	2,460	2,460	2,130
484.10	2,534	2,534	2,380
484.20	2,607	2,607	2,637
484.30	2,681	2,681	2,901
484.40	2,754	2,754	3,173
484.50	2,828	2,828	3,452
484.60	2,901	2,901	3,738
484.70	2,974	2,974	4,032
484.80	3,048	3,048	4,333
484.90	3,121	3,121	4,642
485.00	3,195	3,195	4,958
485.10	3,269	3,269	5,281
485.20	3,342	3,342	5,611
485.30	3,416	3,416	5,949
485.40	3,489	3,489	6,294
485.50	3,563	3,563	6,647
485.60	3,636	3,636	7,007
485.70	3,709	3,709	7,374
485.80	3,783	3,783	7,749
485.90	3,856	3,856	8,131
486.00	3,930	3,930	8,520
486.10	3,965	3,965	8,915
486.20	3,999	3,999	9,313
486.30	4,034	4,034	9,715
486.40	4,068	4,068	10,120
486.50	4,103	4,103	10,528
486.60	4,137	4,137	10,940
486.70	4,171	4,171	11,356
486.80	4,206	4,206	11,774
486.90	4,240	4,240	12,197
487.00	4,275	4,275	12,623
487.10	4,310	4,310	13,052
487.20	4,344	4,344	13,484
487.30	4,379	4,379	13,921
487.40	4,413	4,413	14,360
487.50	4,448	4,448	14,803
487.60	4,482	4,482	15,250
487.70	4,516	4,516	15,700
487.80	4,551	4,551	16,153
487.90	4,585	4,585	16,610
488.00	**4,620**	**4,620**	**17,070**

Summary for Pond 1.2P:

Inflow Area = 1.500 ac, 66.67% Impervious, Inflow Depth = 3.49" for 10-yr event
Inflow = 5.46 cfs @ 12.08 hrs, Volume= 0.436 af
Outflow = 2.74 cfs @ 12.26 hrs, Volume= 0.436 af, Atten= 50%, Lag= 10.5 min
Discarded = 2.74 cfs @ 12.26 hrs, Volume= 0.436 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 494.61' @ 12.26 hrs Surf.Area= 1,975 sf Storage= 2,330 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.2 min (823.8 - 819.6)

Volume	Invert	Avail.Storage	Storage Description
#1	493.00'	13,210 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
493.00	960	0	0
494.00	1,560	1,260	1,260
496.00	2,930	4,490	5,750
498.00	4,530	7,460	13,210

Device	Routing	Invert	Outlet Devices
#1	Discarded	493.00'	**60.000 in/hr Exfiltration over Horizontal area**
#2	Primary	493.00'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 493.00' / 492.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	496.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.74 cfs @ 12.26 hrs HW=494.60' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 2.74 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=493.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.2P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
493.00	960	960	0
493.10	1,020	1,020	99
493.20	1,080	1,080	204
493.30	1,140	1,140	315
493.40	1,200	1,200	432
493.50	1,260	1,260	555
493.60	1,320	1,320	684
493.70	1,380	1,380	819
493.80	1,440	1,440	960
493.90	1,500	1,500	1,107
494.00	1,560	1,560	1,260
494.10	1,629	1,629	1,419
494.20	1,697	1,697	1,586
494.30	1,766	1,766	1,759
494.40	1,834	1,834	1,939
494.50	1,903	1,903	2,126
494.60	1,971	1,971	2,319
494.70	2,039	2,039	2,520
494.80	2,108	2,108	2,727
494.90	2,176	2,176	2,941
495.00	2,245	2,245	3,163
495.10	2,314	2,314	3,390
495.20	2,382	2,382	3,625
495.30	2,451	2,451	3,867
495.40	2,519	2,519	4,115
495.50	2,588	2,588	4,371
495.60	2,656	2,656	4,633
495.70	2,724	2,724	4,902
495.80	2,793	2,793	5,178
495.90	2,861	2,861	5,460
496.00	2,930	2,930	5,750
496.10	3,010	3,010	6,047
496.20	3,090	3,090	6,352
496.30	3,170	3,170	6,665
496.40	3,250	3,250	6,986
496.50	3,330	3,330	7,315
496.60	3,410	3,410	7,652
496.70	3,490	3,490	7,997
496.80	3,570	3,570	8,350
496.90	3,650	3,650	8,711
497.00	3,730	3,730	9,080
497.10	3,810	3,810	9,457
497.20	3,890	3,890	9,842
497.30	3,970	3,970	10,235
497.40	4,050	4,050	10,636
497.50	4,130	4,130	11,045
497.60	4,210	4,210	11,462
497.70	4,290	4,290	11,887
497.80	4,370	4,370	12,320
497.90	4,450	4,450	12,761
498.00	**4,530**	**4,530**	**13,210**

Summary for Pond 1.3P:

Inflow Area = 1.400 ac, 60.71% Impervious, Inflow Depth = 3.20" for 10-yr event
Inflow = 5.16 cfs @ 12.05 hrs, Volume= 0.373 af
Outflow = 0.33 cfs @ 13.71 hrs, Volume= 0.373 af, Atten= 94%, Lag= 99.6 min
Discarded = 0.33 cfs @ 13.71 hrs, Volume= 0.373 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 460.12' @ 13.71 hrs Surf.Area= 3,152 sf Storage= 7,228 cf

Plug-Flow detention time= 241.1 min calculated for 0.373 af (100% of inflow)
Center-of-Mass det. time= 241.0 min (1,069.2 - 828.1)

Volume	Invert	Avail.Storage	Storage Description
#1	457.00'	14,595 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
457.00	1,500	0	0
458.00	2,030	1,765	1,765
460.00	3,050	5,080	6,845
462.00	4,700	7,750	14,595

Device	Routing	Invert	Outlet Devices
#1	Discarded	457.00'	**4.500 in/hr Exfiltration over Horizontal area**
#2	Primary	457.00'	**12.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 457.00' / 450.00' S= 0.1750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	460.20'	**1.2' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.33 cfs @ 13.71 hrs HW=460.12' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.33 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=457.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.3P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
457.00	1,500	1,500	0
457.10	1,553	1,553	153
457.20	1,606	1,606	311
457.30	1,659	1,659	474
457.40	1,712	1,712	642
457.50	1,765	1,765	816
457.60	1,818	1,818	995
457.70	1,871	1,871	1,180
457.80	1,924	1,924	1,370
457.90	1,977	1,977	1,565
458.00	2,030	2,030	1,765
458.10	2,081	2,081	1,971
458.20	2,132	2,132	2,181
458.30	2,183	2,183	2,397
458.40	2,234	2,234	2,618
458.50	2,285	2,285	2,844
458.60	2,336	2,336	3,075
458.70	2,387	2,387	3,311
458.80	2,438	2,438	3,552
458.90	2,489	2,489	3,799
459.00	2,540	2,540	4,050
459.10	2,591	2,591	4,307
459.20	2,642	2,642	4,568
459.30	2,693	2,693	4,835
459.40	2,744	2,744	5,107
459.50	2,795	2,795	5,384
459.60	2,846	2,846	5,666
459.70	2,897	2,897	5,953
459.80	2,948	2,948	6,245
459.90	2,999	2,999	6,543
460.00	3,050	3,050	6,845
460.10	3,133	3,133	7,154
460.20	3,215	3,215	7,471
460.30	3,298	3,298	7,797
460.40	3,380	3,380	8,131
460.50	3,463	3,463	8,473
460.60	3,545	3,545	8,824
460.70	3,627	3,627	9,182
460.80	3,710	3,710	9,549
460.90	3,792	3,792	9,924
461.00	3,875	3,875	10,308
461.10	3,958	3,958	10,699
461.20	4,040	4,040	11,099
461.30	4,123	4,123	11,507
461.40	4,205	4,205	11,923
461.50	4,288	4,288	12,348
461.60	4,370	4,370	12,781
461.70	4,452	4,452	13,222
461.80	4,535	4,535	13,672
461.90	4,617	4,617	14,129
462.00	**4,700**	**4,700**	**14,595**

Summary for Pond 1.4P:

Inflow Area = 1.250 ac, 64.00% Impervious, Inflow Depth = 3.39" for 10-yr event
Inflow = 4.84 cfs @ 12.06 hrs, Volume= 0.353 af
Outflow = 3.11 cfs @ 12.17 hrs, Volume= 0.353 af, Atten= 36%, Lag= 6.8 min
Discarded = 3.11 cfs @ 12.17 hrs, Volume= 0.353 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 474.57' @ 12.17 hrs Surf.Area= 1,344 sf Storage= 1,343 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 2.2 min (823.6 - 821.5)

Volume	Invert	Avail.Storage	Storage Description
#1	473.00'	15,445 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
473.00	500	0	0
474.00	900	700	700
476.00	2,450	3,350	4,050
478.00	4,220	6,670	10,720
479.00	5,230	4,725	15,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	473.00'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	473.00'	**12.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 473.00' / 470.00' S= 0.0750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	476.80'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=3.08 cfs @ 12.17 hrs HW=474.56' (Free Discharge)
1=Exfiltration (Exfiltration Controls 3.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=473.00' (Free Discharge)
2=Culvert (Controls 0.00 cfs)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.4P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
473.00	500	500	0
473.20	580	580	108
473.40	660	660	232
473.60	740	740	372
473.80	820	820	528
474.00	900	900	700
474.20	1,055	1,055	895
474.40	1,210	1,210	1,122
474.60	1,365	1,365	1,380
474.80	1,520	1,520	1,668
475.00	1,675	1,675	1,988
475.20	1,830	1,830	2,338
475.40	1,985	1,985	2,719
475.60	2,140	2,140	3,132
475.80	2,295	2,295	3,576
476.00	2,450	2,450	4,050
476.20	2,627	2,627	4,558
476.40	2,804	2,804	5,101
476.60	2,981	2,981	5,679
476.80	3,158	3,158	6,293
477.00	3,335	3,335	6,943
477.20	3,512	3,512	7,627
477.40	3,689	3,689	8,347
477.60	3,866	3,866	9,103
477.80	4,043	4,043	9,894
478.00	4,220	4,220	10,720
478.20	4,422	4,422	11,584
478.40	4,624	4,624	12,489
478.60	4,826	4,826	13,434
478.80	5,028	5,028	14,419
479.00	**5,230**	**5,230**	**15,445**

Summary for Pond 1.5P:

Inflow Area = 0.400 ac, 62.50% Impervious, Inflow Depth = 3.10" for 10-yr event
Inflow = 0.90 cfs @ 12.08 hrs, Volume= 0.103 af
Outflow = 0.11 cfs @ 11.40 hrs, Volume= 0.103 af, Atten= 88%, Lag= 0.0 min
Discarded = 0.11 cfs @ 11.40 hrs, Volume= 0.103 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 468.69' @ 13.63 hrs Surf.Area= 0.026 ac Storage= 0.035 af

Plug-Flow detention time= 119.6 min calculated for 0.103 af (100% of inflow)
Center-of-Mass det. time= 119.5 min (952.3 - 832.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	466.70'	0.024 af	**25.25'W x 45.16'L x 3.50'H Field A** 0.092 af Overall - 0.032 af Embedded = 0.060 af x 40.0% Voids
#2A	467.20'	0.032 af	**ADS_StormTech SC-740** x 30 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		0.056 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	466.70'	**4.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	469.20'	**6.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 469.20' / 469.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.11 cfs @ 11.40 hrs HW=466.77' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=466.70' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.5P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
466.70	**0.026**	0.000
466.75	0.026	0.001
466.80	0.026	0.001
466.85	0.026	0.002
466.90	0.026	0.002
466.95	0.026	0.003
467.00	0.026	0.003
467.05	0.026	0.004
467.10	0.026	0.004
467.15	0.026	0.005
467.20	0.026	0.005
467.25	0.026	0.006
467.30	0.026	0.007
467.35	0.026	0.008
467.40	0.026	0.010
467.45	0.026	0.011
467.50	0.026	0.012
467.55	0.026	0.013
467.60	0.026	0.014
467.65	0.026	0.015
467.70	0.026	0.016
467.75	0.026	0.017
467.80	0.026	0.018
467.85	0.026	0.019
467.90	0.026	0.020
467.95	0.026	0.021
468.00	0.026	0.022
468.05	0.026	0.023
468.10	0.026	0.024
468.15	0.026	0.025
468.20	0.026	0.026
468.25	0.026	0.027
468.30	0.026	0.028
468.35	0.026	0.029
468.40	0.026	0.030
468.45	0.026	0.031
468.50	0.026	0.032
468.55	0.026	0.033
468.60	0.026	0.034
468.65	0.026	0.035
468.70	0.026	0.036
468.75	0.026	0.037
468.80	0.026	0.037
468.85	0.026	0.038
468.90	0.026	0.039
468.95	0.026	0.040
469.00	0.026	0.041
469.05	0.026	0.042
469.10	0.026	0.043
469.15	0.026	0.043
469.20	0.026	0.044
469.25	0.026	0.045
469.30	0.026	0.046
469.35	0.026	0.046
469.40	0.026	0.047
469.45	0.026	0.048
469.50	0.026	0.048
469.55	0.026	0.049
469.60	0.026	0.050
469.65	0.026	0.050
469.70	0.026	0.051
469.75	0.026	0.051
469.80	0.026	0.052
469.85	0.026	0.052
469.90	0.026	0.053
469.95	0.026	0.053
470.00	0.026	0.054
470.05	0.026	0.054
470.10	0.026	0.055
470.15	0.026	0.055
470.20	0.026	**0.056**

Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 2.20" for 10-yr event
Inflow = 0.71 cfs @ 12.07 hrs, Volume= 0.110 af
Outflow = 0.31 cfs @ 11.90 hrs, Volume= 0.110 af, Atten= 57%, Lag= 0.0 min
Discarded = 0.31 cfs @ 11.90 hrs, Volume= 0.110 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 419.26' @ 12.47 hrs Surf.Area= 0.013 ac Storage= 0.012 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 7.4 min (834.1 - 826.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	**11.00'W x 52.28'L x 3.50'H Field A** 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	**ADS_StormTech SC-740** x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 2 rows
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	**23.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	420.30'	**6.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 418.90' S= 0.0560 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 11.90 hrs HW=417.91' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.80' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	**0.013**	0.000
417.85	0.013	0.000
417.90	0.013	0.001
417.95	0.013	0.001
418.00	0.013	0.001
418.05	0.013	0.001
418.10	0.013	0.002
418.15	0.013	0.002
418.20	0.013	0.002
418.25	0.013	0.002
418.30	0.013	0.003
418.35	0.013	0.003
418.40	0.013	0.004
418.45	0.013	0.004
418.50	0.013	0.005
418.55	0.013	0.005
418.60	0.013	0.006
418.65	0.013	0.006
418.70	0.013	0.007
418.75	0.013	0.007
418.80	0.013	0.008
418.85	0.013	0.008
418.90	0.013	0.009
418.95	0.013	0.009
419.00	0.013	0.010
419.05	0.013	0.010
419.10	0.013	0.011
419.15	0.013	0.011
419.20	0.013	0.012
419.25	0.013	0.012
419.30	0.013	0.013
419.35	0.013	0.013
419.40	0.013	0.014
419.45	0.013	0.014
419.50	0.013	0.015
419.55	0.013	0.015
419.60	0.013	0.016
419.65	0.013	0.016
419.70	0.013	0.017
419.75	0.013	0.017
419.80	0.013	0.017
419.85	0.013	0.018
419.90	0.013	0.018
419.95	0.013	0.019
420.00	0.013	0.019
420.05	0.013	0.020
420.10	0.013	0.020
420.15	0.013	0.020
420.20	0.013	0.021
420.25	0.013	0.021
420.30	0.013	0.022
420.35	0.013	0.022
420.40	0.013	0.022
420.45	0.013	0.023
420.50	0.013	0.023
420.55	0.013	0.023
420.60	0.013	0.024
420.65	0.013	0.024
420.70	0.013	0.024
420.75	0.013	0.025
420.80	0.013	0.025
420.85	0.013	0.025
420.90	0.013	0.025
420.95	0.013	0.026
421.00	0.013	0.026
421.05	0.013	0.026
421.10	0.013	0.026
421.15	0.013	0.027
421.20	0.013	0.027
421.25	0.013	0.027
421.30	0.013	**0.027**

Summary for Pond 1.7P:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 1.98" for 10-yr event
Inflow = 0.51 cfs @ 12.07 hrs, Volume= 0.066 af
Outflow = 0.19 cfs @ 12.51 hrs, Volume= 0.066 af, Atten= 64%, Lag= 26.1 min
Discarded = 0.05 cfs @ 11.45 hrs, Volume= 0.057 af
Primary = 0.14 cfs @ 12.51 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 397.83' @ 12.51 hrs Surf.Area= 0.010 ac Storage= 0.017 af

Plug-Flow detention time= 120.7 min calculated for 0.066 af (100% of inflow)
Center-of-Mass det. time= 120.5 min (973.0 - 852.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	**11.00'W x 38.04'L x 3.50'H Field A** 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	**ADS_StormTech SC-740** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 2 rows
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	397.60'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 11.45 hrs HW=395.17' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.14 cfs @ 12.51 hrs HW=397.83' (Free Discharge)
↑**2=Culvert** (Barrel Controls 0.14 cfs @ 2.25 fps)

Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	**0.010**	0.000
395.15	0.010	0.000
395.20	0.010	0.000
395.25	0.010	0.001
395.30	0.010	0.001
395.35	0.010	0.001
395.40	0.010	0.001
395.45	0.010	0.001
395.50	0.010	0.002
395.55	0.010	0.002
395.60	0.010	0.002
395.65	0.010	0.002
395.70	0.010	0.003
395.75	0.010	0.003
395.80	0.010	0.003
395.85	0.010	0.004
395.90	0.010	0.004
395.95	0.010	0.005
396.00	0.010	0.005
396.05	0.010	0.005
396.10	0.010	0.006
396.15	0.010	0.006
396.20	0.010	0.006
396.25	0.010	0.007
396.30	0.010	0.007
396.35	0.010	0.007
396.40	0.010	0.008
396.45	0.010	0.008
396.50	0.010	0.009
396.55	0.010	0.009
396.60	0.010	0.009
396.65	0.010	0.010
396.70	0.010	0.010
396.75	0.010	0.010
396.80	0.010	0.011
396.85	0.010	0.011
396.90	0.010	0.011
396.95	0.010	0.012
397.00	0.010	0.012
397.05	0.010	0.012
397.10	0.010	0.013
397.15	0.010	0.013
397.20	0.010	0.013
397.25	0.010	0.014
397.30	0.010	0.014
397.35	0.010	0.014
397.40	0.010	0.014
397.45	0.010	0.015
397.50	0.010	0.015
397.55	0.010	0.015
397.60	0.010	0.016
397.65	0.010	0.016
397.70	0.010	0.016
397.75	0.010	0.016
397.80	0.010	0.017
397.85	0.010	0.017
397.90	0.010	0.017
397.95	0.010	0.017
398.00	0.010	0.018
398.05	0.010	0.018
398.10	0.010	0.018
398.15	0.010	0.018
398.20	0.010	0.018
398.25	0.010	0.019
398.30	0.010	0.019
398.35	0.010	0.019
398.40	0.010	0.019
398.45	0.010	0.019
398.50	0.010	0.019
398.55	0.010	0.020
398.60	0.010	**0.020**

Summary for Pond D: Flow Diffuser

Inflow Area = 1.500 ac, 66.67% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 480.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	480.00'	**15.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=480.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond D: Flow Diffuser

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
480.00	**0**	480.52	0
480.01	0	480.53	0
480.02	0	480.54	0
480.03	0	480.55	0
480.04	0	480.56	0
480.05	0	480.57	0
480.06	0	480.58	0
480.07	0	480.59	0
480.08	0	480.60	0
480.09	0	480.61	0
480.10	0	480.62	0
480.11	0	480.63	0
480.12	0	480.64	0
480.13	0	480.65	0
480.14	0	480.66	0
480.15	0	480.67	0
480.16	0	480.68	0
480.17	0	480.69	0
480.18	0	480.70	0
480.19	0	480.71	0
480.20	0	480.72	0
480.21	0	480.73	0
480.22	0	480.74	0
480.23	0	480.75	0
480.24	0	480.76	0
480.25	0	480.77	0
480.26	0	480.78	0
480.27	0	480.79	0
480.28	0	480.80	0
480.29	0	480.81	0
480.30	0	480.82	0
480.31	0	480.83	0
480.32	0	480.84	0
480.33	0	480.85	0
480.34	0	480.86	0
480.35	0	480.87	0
480.36	0	480.88	0
480.37	0	480.89	0
480.38	0	480.90	0
480.39	0	480.91	0
480.40	0	480.92	0
480.41	0	480.93	0
480.42	0	480.94	0
480.43	0	480.95	0
480.44	0	480.96	0
480.45	0	480.97	0
480.46	0	480.98	0
480.47	0	480.99	0
480.48	0	481.00	0
480.49	0		
480.50	0		
480.51	0		

Summary for Pond FS 1.5:

Inflow Area = 0.400 ac, 62.50% Impervious, Inflow Depth = 3.29" for 10-yr event
Inflow = 1.39 cfs @ 12.08 hrs, Volume= 0.110 af
Outflow = 1.39 cfs @ 12.08 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.08 hrs, Volume= 0.103 af
Secondary = 0.49 cfs @ 12.08 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 470.55' @ 12.08 hrs
Flood Elev= 472.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	469.40'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 469.40' / 469.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	470.20'	**12.0" Round Culvert** L= 70.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 470.20' / 469.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.89 cfs @ 12.08 hrs HW=470.54' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.89 cfs @ 4.55 fps)

Secondary OutFlow Max=0.47 cfs @ 12.08 hrs HW=470.54' (Free Discharge)
↑—**2=Culvert** (Barrel Controls 0.47 cfs @ 2.95 fps)

Stage-Area-Storage for Pond FS 1.5:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
469.40	**0**	472.00	0
469.45	0	472.05	0
469.50	0	472.10	0
469.55	0	472.15	0
469.60	0	472.20	0
469.65	0	472.25	0
469.70	0	472.30	0
469.75	0	472.35	0
469.80	0	472.40	0
469.85	0	472.45	0
469.90	0	472.50	0
469.95	0	472.55	0
470.00	0	472.60	0
470.05	0	472.65	0
470.10	0	472.70	0
470.15	0	472.75	0
470.20	0	472.80	0
470.25	0		
470.30	0		
470.35	0		
470.40	0		
470.45	0		
470.50	0		
470.55	0		
470.60	0		
470.65	0		
470.70	0		
470.75	0		
470.80	0		
470.85	0		
470.90	0		
470.95	0		
471.00	0		
471.05	0		
471.10	0		
471.15	0		
471.20	0		
471.25	0		
471.30	0		
471.35	0		
471.40	0		
471.45	0		
471.50	0		
471.55	0		
471.60	0		
471.65	0		
471.70	0		
471.75	0		
471.80	0		
471.85	0		
471.90	0		
471.95	0		

Summary for Pond FS 1.6:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 2.42" for 10-yr event
Inflow = 1.46 cfs @ 12.07 hrs, Volume= 0.121 af
Outflow = 1.46 cfs @ 12.07 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 0.71 cfs @ 12.07 hrs, Volume= 0.110 af
Secondary = 0.75 cfs @ 12.07 hrs, Volume= 0.011 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 421.36' @ 12.07 hrs
Flood Elev= 422.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.70 cfs @ 12.07 hrs HW=421.36' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.70 cfs @ 3.59 fps)

Secondary OutFlow Max=0.70 cfs @ 12.07 hrs HW=421.36' (Free Discharge)
└**2=Culvert** (Passes 0.70 cfs of 3.50 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 1.11 fps)

Stage-Area-Storage for Pond FS 1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	**0**	421.04	0
420.02	0	421.06	0
420.04	0	421.08	0
420.06	0	421.10	0
420.08	0	421.12	0
420.10	0	421.14	0
420.12	0	421.16	0
420.14	0	421.18	0
420.16	0	421.20	0
420.18	0	421.22	0
420.20	0	421.24	0
420.22	0	421.26	0
420.24	0	421.28	0
420.26	0	421.30	0
420.28	0	421.32	0
420.30	0	421.34	0
420.32	0	421.36	0
420.34	0	421.38	0
420.36	0	421.40	0
420.38	0	421.42	0
420.40	0	421.44	0
420.42	0	421.46	0
420.44	0	421.48	0
420.46	0	421.50	0
420.48	0	421.52	0
420.50	0	421.54	0
420.52	0	421.56	0
420.54	0	421.58	0
420.56	0	421.60	0
420.58	0	421.62	0
420.60	0	421.64	0
420.62	0	421.66	0
420.64	0	421.68	0
420.66	0	421.70	0
420.68	0	421.72	0
420.70	0	421.74	0
420.72	0	421.76	0
420.74	0	421.78	0
420.76	0	421.80	0
420.78	0	421.82	0
420.80	0	421.84	0
420.82	0	421.86	0
420.84	0	421.88	0
420.86	0	421.90	0
420.88	0	421.92	0
420.90	0	421.94	0
420.92	0	421.96	0
420.94	0	421.98	0
420.96	0	422.00	0
420.98	0		
421.00	0		
421.02	0		

Summary for Pond FS 1.7:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 2.13" for 10-yr event
Inflow = 0.88 cfs @ 12.07 hrs, Volume= 0.071 af
Outflow = 0.88 cfs @ 12.07 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.07 hrs, Volume= 0.066 af
Secondary = 0.37 cfs @ 12.07 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.54' @ 12.07 hrs
Flood Elev= 400.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.50 cfs @ 12.07 hrs HW=398.53' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.50 cfs @ 2.56 fps)

Secondary OutFlow Max=0.34 cfs @ 12.07 hrs HW=398.53' (Free Discharge)
└**2=Culvert** (Passes 0.34 cfs of 2.76 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.34 cfs @ 1.02 fps)

Stage-Area-Storage for Pond FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	**0**	398.54	0	399.58	0
397.52	0	398.56	0	399.60	0
397.54	0	398.58	0	399.62	0
397.56	0	398.60	0	399.64	0
397.58	0	398.62	0	399.66	0
397.60	0	398.64	0	399.68	0
397.62	0	398.66	0	399.70	0
397.64	0	398.68	0	399.72	0
397.66	0	398.70	0	399.74	0
397.68	0	398.72	0	399.76	0
397.70	0	398.74	0	399.78	0
397.72	0	398.76	0	399.80	0
397.74	0	398.78	0	399.82	0
397.76	0	398.80	0	399.84	0
397.78	0	398.82	0	399.86	0
397.80	0	398.84	0	399.88	0
397.82	0	398.86	0	399.90	0
397.84	0	398.88	0	399.92	0
397.86	0	398.90	0	399.94	0
397.88	0	398.92	0	399.96	0
397.90	0	398.94	0	399.98	0
397.92	0	398.96	0	400.00	0
397.94	0	398.98	0	400.02	0
397.96	0	399.00	0	400.04	0
397.98	0	399.02	0	400.06	0
398.00	0	399.04	0	400.08	0
398.02	0	399.06	0	400.10	0
398.04	0	399.08	0	400.12	0
398.06	0	399.10	0	400.14	0
398.08	0	399.12	0	400.16	0
398.10	0	399.14	0	400.18	0
398.12	0	399.16	0	400.20	0
398.14	0	399.18	0	400.22	0
398.16	0	399.20	0	400.24	0
398.18	0	399.22	0	400.26	0
398.20	0	399.24	0	400.28	0
398.22	0	399.26	0	400.30	0
398.24	0	399.28	0	400.32	0
398.26	0	399.30	0	400.34	0
398.28	0	399.32	0	400.36	0
398.30	0	399.34	0	400.38	0
398.32	0	399.36	0	400.40	0
398.34	0	399.38	0	400.42	0
398.36	0	399.40	0	400.44	0
398.38	0	399.42	0	400.46	0
398.40	0	399.44	0	400.48	0
398.42	0	399.46	0	400.50	0
398.44	0	399.48	0		
398.46	0	399.50	0		
398.48	0	399.52	0		
398.50	0	399.54	0		
398.52	0	399.56	0		

Summary for Pond LS A: Level Spreader

Inflow Area = 2.400 ac, 47.92% Impervious, Inflow Depth = 0.03" for 10-yr event
Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.006 af
Outflow = 0.49 cfs @ 12.08 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.08 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 466.07' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	466.00'	**10.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.47 cfs @ 12.08 hrs HW=466.07' (Free Discharge)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 0.47 cfs @ 0.69 fps)

Stage-Area-Storage for Pond LS A: Level Spreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
466.00	**0**	466.52	0
466.01	0	466.53	0
466.02	0	466.54	0
466.03	0	466.55	0
466.04	0	466.56	0
466.05	0	466.57	0
466.06	0	466.58	0
466.07	0	466.59	0
466.08	0	466.60	0
466.09	0	466.61	0
466.10	0	466.62	0
466.11	0	466.63	0
466.12	0	466.64	0
466.13	0	466.65	0
466.14	0	466.66	0
466.15	0	466.67	0
466.16	0	466.68	0
466.17	0	466.69	0
466.18	0	466.70	0
466.19	0	466.71	0
466.20	0	466.72	0
466.21	0	466.73	0
466.22	0	466.74	0
466.23	0	466.75	0
466.24	0	466.76	0
466.25	0	466.77	0
466.26	0	466.78	0
466.27	0	466.79	0
466.28	0	466.80	0
466.29	0	466.81	0
466.30	0	466.82	0
466.31	0	466.83	0
466.32	0	466.84	0
466.33	0	466.85	0
466.34	0	466.86	0
466.35	0	466.87	0
466.36	0	466.88	0
466.37	0	466.89	0
466.38	0	466.90	0
466.39	0	466.91	0
466.40	0	466.92	0
466.41	0	466.93	0
466.42	0	466.94	0
466.43	0	466.95	0
466.44	0	466.96	0
466.45	0	466.97	0
466.46	0	466.98	0
466.47	0	466.99	0
466.48	0	467.00	0
466.49	0		
466.50	0		
466.51	0		

Summary for Pond LS B: Level Sreader

Inflow Area = 1.250 ac, 64.00% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 469.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	469.00'	**20.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=469.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond LS B: Level Sreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
469.00	**0**	469.52	0
469.01	0	469.53	0
469.02	0	469.54	0
469.03	0	469.55	0
469.04	0	469.56	0
469.05	0	469.57	0
469.06	0	469.58	0
469.07	0	469.59	0
469.08	0	469.60	0
469.09	0	469.61	0
469.10	0	469.62	0
469.11	0	469.63	0
469.12	0	469.64	0
469.13	0	469.65	0
469.14	0	469.66	0
469.15	0	469.67	0
469.16	0	469.68	0
469.17	0	469.69	0
469.18	0	469.70	0
469.19	0	469.71	0
469.20	0	469.72	0
469.21	0	469.73	0
469.22	0	469.74	0
469.23	0	469.75	0
469.24	0	469.76	0
469.25	0	469.77	0
469.26	0	469.78	0
469.27	0	469.79	0
469.28	0	469.80	0
469.29	0	469.81	0
469.30	0	469.82	0
469.31	0	469.83	0
469.32	0	469.84	0
469.33	0	469.85	0
469.34	0	469.86	0
469.35	0	469.87	0
469.36	0	469.88	0
469.37	0	469.89	0
469.38	0	469.90	0
469.39	0	469.91	0
469.40	0	469.92	0
469.41	0	469.93	0
469.42	0	469.94	0
469.43	0	469.95	0
469.44	0	469.96	0
469.45	0	469.97	0
469.46	0	469.98	0
469.47	0	469.99	0
469.48	0	470.00	0
469.49	0		
469.50	0		
469.51	0		

Summary for Pond LS C: Level Sreader

Inflow Area = 1.400 ac, 60.71% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 450.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	450.00'	**20.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=450.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond LS C: Level Sreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
450.00	**0**	450.52	0
450.01	0	450.53	0
450.02	0	450.54	0
450.03	0	450.55	0
450.04	0	450.56	0
450.05	0	450.57	0
450.06	0	450.58	0
450.07	0	450.59	0
450.08	0	450.60	0
450.09	0	450.61	0
450.10	0	450.62	0
450.11	0	450.63	0
450.12	0	450.64	0
450.13	0	450.65	0
450.14	0	450.66	0
450.15	0	450.67	0
450.16	0	450.68	0
450.17	0	450.69	0
450.18	0	450.70	0
450.19	0	450.71	0
450.20	0	450.72	0
450.21	0	450.73	0
450.22	0	450.74	0
450.23	0	450.75	0
450.24	0	450.76	0
450.25	0	450.77	0
450.26	0	450.78	0
450.27	0	450.79	0
450.28	0	450.80	0
450.29	0	450.81	0
450.30	0	450.82	0
450.31	0	450.83	0
450.32	0	450.84	0
450.33	0	450.85	0
450.34	0	450.86	0
450.35	0	450.87	0
450.36	0	450.88	0
450.37	0	450.89	0
450.38	0	450.90	0
450.39	0	450.91	0
450.40	0	450.92	0
450.41	0	450.93	0
450.42	0	450.94	0
450.43	0	450.95	0
450.44	0	450.96	0
450.45	0	450.97	0
450.46	0	450.98	0
450.47	0	450.99	0
450.48	0	451.00	0
450.49	0		
450.50	0		
450.51	0		

Summary for Link Link 1:

Inflow Area = 3.400 ac, 42.65% Impervious, Inflow Depth = 0.11" for 10-yr event
Inflow = 1.62 cfs @ 12.07 hrs, Volume= 0.031 af
Primary = 1.62 cfs @ 12.07 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 1.0S:

Runoff = 11.72 cfs @ 12.18 hrs, Volume= 1.310 af, Depth= 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.200	58	Meadow, non-grazed, HSG B
4.100	55	Woods, Good, HSG B
4.300	55	Weighted Average
4.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.1800	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.1	175	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.7	400	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.4	675	Total			

Summary for Subcatchment 1.1S:

Runoff = 10.89 cfs @ 12.09 hrs, Volume= 1.048 af, Depth= 6.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (ac)	CN	Description
*	0.900	98	Solar Panels / Impervious
	1.100	58	Meadow, non-grazed, HSG B
	2.000	76	Weighted Average
	1.100		55.00% Pervious Area
	0.900		45.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0700	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.3	130	0.1800	6.36		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.6	150	0.0800	4.24		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
9.3	380	Total			

Summary for Subcatchment 1.2S:

Runoff = 9.46 cfs @ 12.08 hrs, Volume= 0.926 af, Depth= 7.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (ac)	CN	Description
*	1.000	98	Solar Panels
	0.500	58	Meadow, non-grazed, HSG B
	1.500	85	Weighted Average
	0.500		33.33% Pervious Area
	1.000		66.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.1	50	0.1600	6.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.2	240	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.6	390	Total			

Summary for Subcatchment 1.3S:

Runoff = 9.23 cfs @ 12.05 hrs, Volume= 0.821 af, Depth= 7.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (ac)	CN	Description
*	0.850	98	Solar Panels
	0.550	58	Meadow, non-grazed, HSG B
	1.400	82	Weighted Average
	0.550		39.29% Pervious Area
	0.850		60.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.1500	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.5	240	Total			

Summary for Subcatchment 1.4S:

Runoff = 8.42 cfs @ 12.05 hrs, Volume= 0.759 af, Depth= 7.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (ac)	CN	Description
*	0.800	98	Solar Panels
	0.450	58	Meadow, non-grazed, HSG B
	1.250	84	Weighted Average
	0.450		36.00% Pervious Area
	0.800		64.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.1400	0.26		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.4	100	0.1000	4.74		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.7	200	Total			

Summary for Subcatchment 1.5S:

Runoff = 2.52 cfs @ 12.07 hrs, Volume= 0.239 af, Depth= 7.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.250	98	Paved parking, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.400	83	Weighted Average
0.150		37.50% Pervious Area
0.250		62.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.41"
0.2	40	0.0600	3.67		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	75	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	215	Total			

Summary for Subcatchment 1.6 S: Existing Impervious

Runoff = 1.10 cfs @ 12.06 hrs, Volume= 0.112 af, Depth= 8.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	300	Total			

Summary for Subcatchment 1.6S: New Impervious and Pervious Area

Runoff = 1.95 cfs @ 12.07 hrs, Volume= 0.175 af, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	300	Total			

Summary for Subcatchment 1.7 S: Existing Impervious

Runoff = 0.37 cfs @ 12.06 hrs, Volume= 0.037 af, Depth= 8.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	410	Total			

Summary for Subcatchment 1.7S: New Impervious and Pervious Area

Runoff = 1.60 cfs @ 12.07 hrs, Volume= 0.143 af, Depth= 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	410	Total			

Summary for Subcatchment 2.0S:

Runoff = 13.62 cfs @ 12.10 hrs, Volume= 1.308 af, Depth= 5.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

Area (ac)	CN	Description
1.100	55	Woods, Good, HSG B
1.800	77	Woods, Good, HSG D
2.900	69	Weighted Average
2.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	90	0.1700	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
0.4	80	0.5000	3.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	40	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.6	300	Total			

Summary for Subcatchment 3.0S:

Runoff = 10.31 cfs @ 12.15 hrs, Volume= 1.092 af, Depth= 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (ac)	CN	Description
*	0.100	98	Paved
	0.500	58	Meadow, non-grazed, HSG B
	2.500	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	3.250	58	Weighted Average
	3.150		96.92% Pervious Area
	0.100		3.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.1600	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
2.2	335	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	125	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	30	0.4000	3.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	80	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.7	670	Total			

Summary for Reach DL 1: Design Line 1

Inflow Area = 6.950 ac, 23.74% Impervious, Inflow Depth = 2.75" for 100-yr event
Inflow = 15.77 cfs @ 12.19 hrs, Volume= 1.596 af
Outflow = 15.77 cfs @ 12.19 hrs, Volume= 1.596 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Reach DL 2: Design Line 2

Inflow Area = 4.400 ac, 22.73% Impervious, Inflow Depth = 3.57" for 100-yr event
Inflow = 13.62 cfs @ 12.10 hrs, Volume= 1.308 af
Outflow = 13.62 cfs @ 12.10 hrs, Volume= 1.308 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Reach DL 3: Design Line 3

Inflow Area = 6.650 ac, 23.31% Impervious, Inflow Depth = 2.41" for 100-yr event
Inflow = 15.00 cfs @ 12.12 hrs, Volume= 1.337 af
Outflow = 15.00 cfs @ 12.12 hrs, Volume= 1.337 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Pond 1.1P:

Inflow Area = 2.000 ac, 45.00% Impervious, Inflow Depth = 6.29" for 100-yr event
Inflow = 10.89 cfs @ 12.09 hrs, Volume= 1.048 af
Outflow = 4.53 cfs @ 12.33 hrs, Volume= 1.048 af, Atten= 58%, Lag= 14.4 min
Discarded = 4.53 cfs @ 12.33 hrs, Volume= 1.048 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 485.46' @ 12.33 hrs Surf.Area= 3,535 sf Storage= 6,512 cf

Plug-Flow detention time= 7.5 min calculated for 1.047 af (100% of inflow)
Center-of-Mass det. time= 7.5 min (828.5 - 821.0)

Volume	Invert	Avail.Storage	Storage Description
#1	483.00'	17,070 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
483.00	1,800	0	0
484.00	2,460	2,130	2,130
486.00	3,930	6,390	8,520
488.00	4,620	8,550	17,070

Device	Routing	Invert	Outlet Devices
#1	Discarded	483.00'	**55.400 in/hr Exfiltration over Horizontal area**
#2	Primary	483.00'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 483.00' / 469.50' S= 0.2077 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	485.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=4.53 cfs @ 12.33 hrs HW=485.46' (Free Discharge)
↑└**1=Exfiltration** (Exfiltration Controls 4.53 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=483.00' (Free Discharge)
↑└**2=Culvert** (Controls 0.00 cfs)
↑└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.1P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
483.00	1,800	1,800	0
483.10	1,866	1,866	183
483.20	1,932	1,932	373
483.30	1,998	1,998	570
483.40	2,064	2,064	773
483.50	2,130	2,130	983
483.60	2,196	2,196	1,199
483.70	2,262	2,262	1,422
483.80	2,328	2,328	1,651
483.90	2,394	2,394	1,887
484.00	2,460	2,460	2,130
484.10	2,534	2,534	2,380
484.20	2,607	2,607	2,637
484.30	2,681	2,681	2,901
484.40	2,754	2,754	3,173
484.50	2,828	2,828	3,452
484.60	2,901	2,901	3,738
484.70	2,974	2,974	4,032
484.80	3,048	3,048	4,333
484.90	3,121	3,121	4,642
485.00	3,195	3,195	4,958
485.10	3,269	3,269	5,281
485.20	3,342	3,342	5,611
485.30	3,416	3,416	5,949
485.40	3,489	3,489	6,294
485.50	3,563	3,563	6,647
485.60	3,636	3,636	7,007
485.70	3,709	3,709	7,374
485.80	3,783	3,783	7,749
485.90	3,856	3,856	8,131
486.00	3,930	3,930	8,520
486.10	3,965	3,965	8,915
486.20	3,999	3,999	9,313
486.30	4,034	4,034	9,715
486.40	4,068	4,068	10,120
486.50	4,103	4,103	10,528
486.60	4,137	4,137	10,940
486.70	4,171	4,171	11,356
486.80	4,206	4,206	11,774
486.90	4,240	4,240	12,197
487.00	4,275	4,275	12,623
487.10	4,310	4,310	13,052
487.20	4,344	4,344	13,484
487.30	4,379	4,379	13,921
487.40	4,413	4,413	14,360
487.50	4,448	4,448	14,803
487.60	4,482	4,482	15,250
487.70	4,516	4,516	15,700
487.80	4,551	4,551	16,153
487.90	4,585	4,585	16,610
488.00	**4,620**	**4,620**	**17,070**

Summary for Pond 1.2P:

Inflow Area = 1.500 ac, 66.67% Impervious, Inflow Depth = 7.40" for 100-yr event
Inflow = 9.46 cfs @ 12.08 hrs, Volume= 0.926 af
Outflow = 4.13 cfs @ 12.30 hrs, Volume= 0.926 af, Atten= 56%, Lag= 13.3 min
Discarded = 4.13 cfs @ 12.30 hrs, Volume= 0.926 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 496.05' @ 12.30 hrs Surf.Area= 2,971 sf Storage= 5,902 cf

Plug-Flow detention time= 7.9 min calculated for 0.925 af (100% of inflow)
Center-of-Mass det. time= 7.9 min (803.2 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	493.00'	13,210 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
493.00	960	0	0
494.00	1,560	1,260	1,260
496.00	2,930	4,490	5,750
498.00	4,530	7,460	13,210

Device	Routing	Invert	Outlet Devices
#1	Discarded	493.00'	**60.000 in/hr Exfiltration over Horizontal area**
#2	Primary	493.00'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 493.00' / 492.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	496.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=4.13 cfs @ 12.30 hrs HW=496.05' (Free Discharge)
↑└**1=Exfiltration** (Exfiltration Controls 4.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=493.00' (Free Discharge)
↑└**2=Culvert** (Controls 0.00 cfs)
↑└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.2P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
493.00	960	960	0
493.10	1,020	1,020	99
493.20	1,080	1,080	204
493.30	1,140	1,140	315
493.40	1,200	1,200	432
493.50	1,260	1,260	555
493.60	1,320	1,320	684
493.70	1,380	1,380	819
493.80	1,440	1,440	960
493.90	1,500	1,500	1,107
494.00	1,560	1,560	1,260
494.10	1,629	1,629	1,419
494.20	1,697	1,697	1,586
494.30	1,766	1,766	1,759
494.40	1,834	1,834	1,939
494.50	1,903	1,903	2,126
494.60	1,971	1,971	2,319
494.70	2,039	2,039	2,520
494.80	2,108	2,108	2,727
494.90	2,176	2,176	2,941
495.00	2,245	2,245	3,163
495.10	2,314	2,314	3,390
495.20	2,382	2,382	3,625
495.30	2,451	2,451	3,867
495.40	2,519	2,519	4,115
495.50	2,588	2,588	4,371
495.60	2,656	2,656	4,633
495.70	2,724	2,724	4,902
495.80	2,793	2,793	5,178
495.90	2,861	2,861	5,460
496.00	2,930	2,930	5,750
496.10	3,010	3,010	6,047
496.20	3,090	3,090	6,352
496.30	3,170	3,170	6,665
496.40	3,250	3,250	6,986
496.50	3,330	3,330	7,315
496.60	3,410	3,410	7,652
496.70	3,490	3,490	7,997
496.80	3,570	3,570	8,350
496.90	3,650	3,650	8,711
497.00	3,730	3,730	9,080
497.10	3,810	3,810	9,457
497.20	3,890	3,890	9,842
497.30	3,970	3,970	10,235
497.40	4,050	4,050	10,636
497.50	4,130	4,130	11,045
497.60	4,210	4,210	11,462
497.70	4,290	4,290	11,887
497.80	4,370	4,370	12,320
497.90	4,450	4,450	12,761
498.00	**4,530**	**4,530**	**13,210**

Summary for Pond 1.3P:

Inflow Area = 1.400 ac, 60.71% Impervious, Inflow Depth = 7.03" for 100-yr event
Inflow = 9.23 cfs @ 12.05 hrs, Volume= 0.821 af
Outflow = 4.60 cfs @ 12.22 hrs, Volume= 0.821 af, Atten= 50%, Lag= 10.2 min
Discarded = 0.42 cfs @ 12.22 hrs, Volume= 0.535 af
Primary = 4.18 cfs @ 12.22 hrs, Volume= 0.286 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 461.23' @ 12.22 hrs Surf.Area= 4,066 sf Storage= 11,228 cf

Plug-Flow detention time= 179.7 min calculated for 0.820 af (100% of inflow)
Center-of-Mass det. time= 179.8 min (982.0 - 802.2)

Volume	Invert	Avail.Storage	Storage Description
#1	457.00'	14,595 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
457.00	1,500	0	0
458.00	2,030	1,765	1,765
460.00	3,050	5,080	6,845
462.00	4,700	7,750	14,595

Device	Routing	Invert	Outlet Devices
#1	Discarded	457.00'	**4.500 in/hr Exfiltration over Horizontal area**
#2	Primary	457.00'	**12.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 457.00' / 450.00' S= 0.1750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	460.20'	**1.2' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.42 cfs @ 12.22 hrs HW=461.22' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.42 cfs)

Primary OutFlow Max=4.12 cfs @ 12.22 hrs HW=461.22' (Free Discharge)
↑—**2=Culvert** (Passes 4.12 cfs of 7.30 cfs potential flow)
↑—**3=Broad-Crested Rectangular Weir** (Weir Controls 4.12 cfs @ 3.36 fps)

Stage-Area-Storage for Pond 1.3P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
457.00	1,500	1,500	0
457.10	1,553	1,553	153
457.20	1,606	1,606	311
457.30	1,659	1,659	474
457.40	1,712	1,712	642
457.50	1,765	1,765	816
457.60	1,818	1,818	995
457.70	1,871	1,871	1,180
457.80	1,924	1,924	1,370
457.90	1,977	1,977	1,565
458.00	2,030	2,030	1,765
458.10	2,081	2,081	1,971
458.20	2,132	2,132	2,181
458.30	2,183	2,183	2,397
458.40	2,234	2,234	2,618
458.50	2,285	2,285	2,844
458.60	2,336	2,336	3,075
458.70	2,387	2,387	3,311
458.80	2,438	2,438	3,552
458.90	2,489	2,489	3,799
459.00	2,540	2,540	4,050
459.10	2,591	2,591	4,307
459.20	2,642	2,642	4,568
459.30	2,693	2,693	4,835
459.40	2,744	2,744	5,107
459.50	2,795	2,795	5,384
459.60	2,846	2,846	5,666
459.70	2,897	2,897	5,953
459.80	2,948	2,948	6,245
459.90	2,999	2,999	6,543
460.00	3,050	3,050	6,845
460.10	3,133	3,133	7,154
460.20	3,215	3,215	7,471
460.30	3,298	3,298	7,797
460.40	3,380	3,380	8,131
460.50	3,463	3,463	8,473
460.60	3,545	3,545	8,824
460.70	3,627	3,627	9,182
460.80	3,710	3,710	9,549
460.90	3,792	3,792	9,924
461.00	3,875	3,875	10,308
461.10	3,958	3,958	10,699
461.20	4,040	4,040	11,099
461.30	4,123	4,123	11,507
461.40	4,205	4,205	11,923
461.50	4,288	4,288	12,348
461.60	4,370	4,370	12,781
461.70	4,452	4,452	13,222
461.80	4,535	4,535	13,672
461.90	4,617	4,617	14,129
462.00	**4,700**	**4,700**	**14,595**

Summary for Pond 1.4P:

Inflow Area = 1.250 ac, 64.00% Impervious, Inflow Depth = 7.28" for 100-yr event
Inflow = 8.42 cfs @ 12.05 hrs, Volume= 0.759 af
Outflow = 5.04 cfs @ 12.19 hrs, Volume= 0.759 af, Atten= 40%, Lag= 8.2 min
Discarded = 5.04 cfs @ 12.19 hrs, Volume= 0.759 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 475.65' @ 12.19 hrs Surf.Area= 2,179 sf Storage= 3,241 cf

Plug-Flow detention time= 3.4 min calculated for 0.758 af (100% of inflow)
Center-of-Mass det. time= 3.4 min (800.0 - 796.5)

Volume	Invert	Avail.Storage	Storage Description
#1	473.00'	15,445 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
473.00	500	0	0
474.00	900	700	700
476.00	2,450	3,350	4,050
478.00	4,220	6,670	10,720
479.00	5,230	4,725	15,445

Device	Routing	Invert	Outlet Devices
#1	Discarded	473.00'	**100.000 in/hr Exfiltration over Horizontal area**
#2	Primary	473.00'	**12.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 473.00' / 470.00' S= 0.0750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	476.80'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=5.03 cfs @ 12.19 hrs HW=475.64' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 5.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=473.00' (Free Discharge)
└**2=Culvert** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 1.4P:

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
473.00	500	500	0
473.20	580	580	108
473.40	660	660	232
473.60	740	740	372
473.80	820	820	528
474.00	900	900	700
474.20	1,055	1,055	895
474.40	1,210	1,210	1,122
474.60	1,365	1,365	1,380
474.80	1,520	1,520	1,668
475.00	1,675	1,675	1,988
475.20	1,830	1,830	2,338
475.40	1,985	1,985	2,719
475.60	2,140	2,140	3,132
475.80	2,295	2,295	3,576
476.00	2,450	2,450	4,050
476.20	2,627	2,627	4,558
476.40	2,804	2,804	5,101
476.60	2,981	2,981	5,679
476.80	3,158	3,158	6,293
477.00	3,335	3,335	6,943
477.20	3,512	3,512	7,627
477.40	3,689	3,689	8,347
477.60	3,866	3,866	9,103
477.80	4,043	4,043	9,894
478.00	4,220	4,220	10,720
478.20	4,422	4,422	11,584
478.40	4,624	4,624	12,489
478.60	4,826	4,826	13,434
478.80	5,028	5,028	14,419
479.00	**5,230**	**5,230**	**15,445**

Summary for Pond 1.5P:

Inflow Area = 0.400 ac, 62.50% Impervious, Inflow Depth = 6.31" for 100-yr event
Inflow = 1.04 cfs @ 12.07 hrs, Volume= 0.210 af
Outflow = 0.69 cfs @ 12.42 hrs, Volume= 0.210 af, Atten= 34%, Lag= 20.8 min
Discarded = 0.11 cfs @ 9.90 hrs, Volume= 0.161 af
Primary = 0.58 cfs @ 12.42 hrs, Volume= 0.049 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 469.84' @ 12.42 hrs Surf.Area= 0.026 ac Storage= 0.052 af

Plug-Flow detention time= 142.0 min calculated for 0.210 af (100% of inflow)
Center-of-Mass det. time= 142.0 min (953.0 - 811.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	466.70'	0.024 af	**25.25'W x 45.16'L x 3.50'H Field A** 0.092 af Overall - 0.032 af Embedded = 0.060 af x 40.0% Voids
#2A	467.20'	0.032 af	**ADS_StormTech SC-740** x 30 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		0.056 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	466.70'	**4.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	469.20'	**6.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 469.20' / 469.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.11 cfs @ 9.90 hrs HW=466.77' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=0.59 cfs @ 12.42 hrs HW=469.83' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.59 cfs @ 2.99 fps)

Stage-Area-Storage for Pond 1.5P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
466.70	**0.026**	0.000
466.75	0.026	0.001
466.80	0.026	0.001
466.85	0.026	0.002
466.90	0.026	0.002
466.95	0.026	0.003
467.00	0.026	0.003
467.05	0.026	0.004
467.10	0.026	0.004
467.15	0.026	0.005
467.20	0.026	0.005
467.25	0.026	0.006
467.30	0.026	0.007
467.35	0.026	0.008
467.40	0.026	0.010
467.45	0.026	0.011
467.50	0.026	0.012
467.55	0.026	0.013
467.60	0.026	0.014
467.65	0.026	0.015
467.70	0.026	0.016
467.75	0.026	0.017
467.80	0.026	0.018
467.85	0.026	0.019
467.90	0.026	0.020
467.95	0.026	0.021
468.00	0.026	0.022
468.05	0.026	0.023
468.10	0.026	0.024
468.15	0.026	0.025
468.20	0.026	0.026
468.25	0.026	0.027
468.30	0.026	0.028
468.35	0.026	0.029
468.40	0.026	0.030
468.45	0.026	0.031
468.50	0.026	0.032
468.55	0.026	0.033
468.60	0.026	0.034
468.65	0.026	0.035
468.70	0.026	0.036
468.75	0.026	0.037
468.80	0.026	0.037
468.85	0.026	0.038
468.90	0.026	0.039
468.95	0.026	0.040
469.00	0.026	0.041
469.05	0.026	0.042
469.10	0.026	0.043
469.15	0.026	0.043
469.20	0.026	0.044
469.25	0.026	0.045
469.30	0.026	0.046
469.35	0.026	0.046
469.40	0.026	0.047
469.45	0.026	0.048
469.50	0.026	0.048
469.55	0.026	0.049
469.60	0.026	0.050
469.65	0.026	0.050
469.70	0.026	0.051
469.75	0.026	0.051
469.80	0.026	0.052
469.85	0.026	0.052
469.90	0.026	0.053
469.95	0.026	0.053
470.00	0.026	0.054
470.05	0.026	0.054
470.10	0.026	0.055
470.15	0.026	0.055
470.20	0.026	**0.056**

Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 4.72" for 100-yr event
Inflow = 0.83 cfs @ 12.07 hrs, Volume= 0.236 af
Outflow = 0.63 cfs @ 12.46 hrs, Volume= 0.236 af, Atten= 25%, Lag= 23.6 min
Discarded = 0.31 cfs @ 11.35 hrs, Volume= 0.218 af
Primary = 0.32 cfs @ 12.46 hrs, Volume= 0.017 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 420.67' @ 12.46 hrs Surf.Area= 0.013 ac Storage= 0.024 af

Plug-Flow detention time= 17.5 min calculated for 0.236 af (100% of inflow)
Center-of-Mass det. time= 17.5 min (843.3 - 825.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	**11.00'W x 52.28'L x 3.50'H Field A** 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	**ADS_StormTech SC-740** x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 2 rows
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	**23.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	420.30'	**6.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 418.90' S= 0.0560 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 11.35 hrs HW=417.87' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.32 cfs @ 12.46 hrs HW=420.67' (Free Discharge)
2=Culvert (Inlet Controls 0.32 cfs @ 2.06 fps)

Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	**0.013**	0.000
417.85	0.013	0.000
417.90	0.013	0.001
417.95	0.013	0.001
418.00	0.013	0.001
418.05	0.013	0.001
418.10	0.013	0.002
418.15	0.013	0.002
418.20	0.013	0.002
418.25	0.013	0.002
418.30	0.013	0.003
418.35	0.013	0.003
418.40	0.013	0.004
418.45	0.013	0.004
418.50	0.013	0.005
418.55	0.013	0.005
418.60	0.013	0.006
418.65	0.013	0.006
418.70	0.013	0.007
418.75	0.013	0.007
418.80	0.013	0.008
418.85	0.013	0.008
418.90	0.013	0.009
418.95	0.013	0.009
419.00	0.013	0.010
419.05	0.013	0.010
419.10	0.013	0.011
419.15	0.013	0.011
419.20	0.013	0.012
419.25	0.013	0.012
419.30	0.013	0.013
419.35	0.013	0.013
419.40	0.013	0.014
419.45	0.013	0.014
419.50	0.013	0.015
419.55	0.013	0.015
419.60	0.013	0.016
419.65	0.013	0.016
419.70	0.013	0.017
419.75	0.013	0.017
419.80	0.013	0.017
419.85	0.013	0.018
419.90	0.013	0.018
419.95	0.013	0.019
420.00	0.013	0.019
420.05	0.013	0.020
420.10	0.013	0.020
420.15	0.013	0.020
420.20	0.013	0.021
420.25	0.013	0.021
420.30	0.013	0.022
420.35	0.013	0.022
420.40	0.013	0.022
420.45	0.013	0.023
420.50	0.013	0.023
420.55	0.013	0.023
420.60	0.013	0.024
420.65	0.013	0.024
420.70	0.013	0.024
420.75	0.013	0.025
420.80	0.013	0.025
420.85	0.013	0.025
420.90	0.013	0.025
420.95	0.013	0.026
421.00	0.013	0.026
421.05	0.013	0.026
421.10	0.013	0.026
421.15	0.013	0.027
421.20	0.013	0.027
421.25	0.013	0.027
421.30	0.013	**0.027**

Summary for Pond 1.7P:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 4.53" for 100-yr event
Inflow = 0.65 cfs @ 12.07 hrs, Volume= 0.151 af
Outflow = 0.62 cfs @ 12.13 hrs, Volume= 0.151 af, Atten= 5%, Lag= 3.7 min
Discarded = 0.05 cfs @ 9.70 hrs, Volume= 0.081 af
Primary = 0.57 cfs @ 12.13 hrs, Volume= 0.070 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 4
Peak Elev= 398.23' @ 12.14 hrs Surf.Area= 0.010 ac Storage= 0.018 af

Plug-Flow detention time= 93.3 min calculated for 0.151 af (100% of inflow)
Center-of-Mass det. time= 93.3 min (937.0 - 843.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	**11.00'W x 38.04'L x 3.50'H Field A** 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	**ADS_StormTech SC-740** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 2 rows
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	397.60'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 9.70 hrs HW=395.17' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.57 cfs @ 12.13 hrs HW=398.22' (Free Discharge)
↑**2=Culvert** (Barrel Controls 0.57 cfs @ 2.99 fps)

Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	**0.010**	0.000
395.15	0.010	0.000
395.20	0.010	0.000
395.25	0.010	0.001
395.30	0.010	0.001
395.35	0.010	0.001
395.40	0.010	0.001
395.45	0.010	0.001
395.50	0.010	0.002
395.55	0.010	0.002
395.60	0.010	0.002
395.65	0.010	0.002
395.70	0.010	0.003
395.75	0.010	0.003
395.80	0.010	0.003
395.85	0.010	0.004
395.90	0.010	0.004
395.95	0.010	0.005
396.00	0.010	0.005
396.05	0.010	0.005
396.10	0.010	0.006
396.15	0.010	0.006
396.20	0.010	0.006
396.25	0.010	0.007
396.30	0.010	0.007
396.35	0.010	0.007
396.40	0.010	0.008
396.45	0.010	0.008
396.50	0.010	0.009
396.55	0.010	0.009
396.60	0.010	0.009
396.65	0.010	0.010
396.70	0.010	0.010
396.75	0.010	0.010
396.80	0.010	0.011
396.85	0.010	0.011
396.90	0.010	0.011
396.95	0.010	0.012
397.00	0.010	0.012
397.05	0.010	0.012
397.10	0.010	0.013
397.15	0.010	0.013
397.20	0.010	0.013
397.25	0.010	0.014
397.30	0.010	0.014
397.35	0.010	0.014
397.40	0.010	0.014
397.45	0.010	0.015
397.50	0.010	0.015
397.55	0.010	0.015
397.60	0.010	0.016
397.65	0.010	0.016
397.70	0.010	0.016
397.75	0.010	0.016
397.80	0.010	0.017
397.85	0.010	0.017
397.90	0.010	0.017
397.95	0.010	0.017
398.00	0.010	0.018
398.05	0.010	0.018
398.10	0.010	0.018
398.15	0.010	0.018
398.20	0.010	0.018
398.25	0.010	0.019
398.30	0.010	0.019
398.35	0.010	0.019
398.40	0.010	0.019
398.45	0.010	0.019
398.50	0.010	0.019
398.55	0.010	0.020
398.60	0.010	**0.020**

Summary for Pond D: Flow Diffuser

Inflow Area = 1.500 ac, 66.67% Impervious, Inflow Depth = 0.00" for 100-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 480.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	480.00'	**15.0' long x 2.0' breadth Broad-Crested Rectangular Weir** 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 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=480.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond D: Flow Diffuser

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
480.00	**0**	480.52	0
480.01	0	480.53	0
480.02	0	480.54	0
480.03	0	480.55	0
480.04	0	480.56	0
480.05	0	480.57	0
480.06	0	480.58	0
480.07	0	480.59	0
480.08	0	480.60	0
480.09	0	480.61	0
480.10	0	480.62	0
480.11	0	480.63	0
480.12	0	480.64	0
480.13	0	480.65	0
480.14	0	480.66	0
480.15	0	480.67	0
480.16	0	480.68	0
480.17	0	480.69	0
480.18	0	480.70	0
480.19	0	480.71	0
480.20	0	480.72	0
480.21	0	480.73	0
480.22	0	480.74	0
480.23	0	480.75	0
480.24	0	480.76	0
480.25	0	480.77	0
480.26	0	480.78	0
480.27	0	480.79	0
480.28	0	480.80	0
480.29	0	480.81	0
480.30	0	480.82	0
480.31	0	480.83	0
480.32	0	480.84	0
480.33	0	480.85	0
480.34	0	480.86	0
480.35	0	480.87	0
480.36	0	480.88	0
480.37	0	480.89	0
480.38	0	480.90	0
480.39	0	480.91	0
480.40	0	480.92	0
480.41	0	480.93	0
480.42	0	480.94	0
480.43	0	480.95	0
480.44	0	480.96	0
480.45	0	480.97	0
480.46	0	480.98	0
480.47	0	480.99	0
480.48	0	481.00	0
480.49	0		
480.50	0		
480.51	0		

Summary for Pond FS 1.5:

Inflow Area = 0.400 ac, 62.50% Impervious, Inflow Depth = 7.16" for 100-yr event
Inflow = 2.52 cfs @ 12.07 hrs, Volume= 0.239 af
Outflow = 2.52 cfs @ 12.07 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min
Primary = 1.04 cfs @ 12.07 hrs, Volume= 0.210 af
Secondary = 1.48 cfs @ 12.07 hrs, Volume= 0.028 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 470.85' @ 12.07 hrs
Flood Elev= 472.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	469.40'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 469.40' / 469.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	470.20'	**12.0" Round Culvert** L= 70.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 470.20' / 469.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.07 hrs HW=470.84' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.03 cfs @ 5.24 fps)

Secondary OutFlow Max=1.41 cfs @ 12.07 hrs HW=470.84' (Free Discharge)
↑—**2=Culvert** (Barrel Controls 1.41 cfs @ 3.82 fps)

Stage-Area-Storage for Pond FS 1.5:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
469.40	**0**	472.00	0
469.45	0	472.05	0
469.50	0	472.10	0
469.55	0	472.15	0
469.60	0	472.20	0
469.65	0	472.25	0
469.70	0	472.30	0
469.75	0	472.35	0
469.80	0	472.40	0
469.85	0	472.45	0
469.90	0	472.50	0
469.95	0	472.55	0
470.00	0	472.60	0
470.05	0	472.65	0
470.10	0	472.70	0
470.15	0	472.75	0
470.20	0	472.80	0
470.25	0		
470.30	0		
470.35	0		
470.40	0		
470.45	0		
470.50	0		
470.55	0		
470.60	0		
470.65	0		
470.70	0		
470.75	0		
470.80	0		
470.85	0		
470.90	0		
470.95	0		
471.00	0		
471.05	0		
471.10	0		
471.15	0		
471.20	0		
471.25	0		
471.30	0		
471.35	0		
471.40	0		
471.45	0		
471.50	0		
471.55	0		
471.60	0		
471.65	0		
471.70	0		
471.75	0		
471.80	0		
471.85	0		
471.90	0		
471.95	0		

Summary for Pond FS 1.6:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 5.74" for 100-yr event
Inflow = 3.04 cfs @ 12.07 hrs, Volume= 0.287 af
Outflow = 3.04 cfs @ 12.07 hrs, Volume= 0.287 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.07 hrs, Volume= 0.236 af
Secondary = 2.22 cfs @ 12.07 hrs, Volume= 0.051 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 421.53' @ 12.07 hrs
Flood Elev= 422.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.82 cfs @ 12.07 hrs HW=421.52' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.82 cfs @ 4.19 fps)

Secondary OutFlow Max=2.13 cfs @ 12.07 hrs HW=421.52' (Free Discharge)
└**2=Culvert** (Passes 2.13 cfs of 3.83 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 2.13 cfs @ 1.64 fps)

Stage-Area-Storage for Pond FS 1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	**0**	421.04	0
420.02	0	421.06	0
420.04	0	421.08	0
420.06	0	421.10	0
420.08	0	421.12	0
420.10	0	421.14	0
420.12	0	421.16	0
420.14	0	421.18	0
420.16	0	421.20	0
420.18	0	421.22	0
420.20	0	421.24	0
420.22	0	421.26	0
420.24	0	421.28	0
420.26	0	421.30	0
420.28	0	421.32	0
420.30	0	421.34	0
420.32	0	421.36	0
420.34	0	421.38	0
420.36	0	421.40	0
420.38	0	421.42	0
420.40	0	421.44	0
420.42	0	421.46	0
420.44	0	421.48	0
420.46	0	421.50	0
420.48	0	421.52	0
420.50	0	421.54	0
420.52	0	421.56	0
420.54	0	421.58	0
420.56	0	421.60	0
420.58	0	421.62	0
420.60	0	421.64	0
420.62	0	421.66	0
420.64	0	421.68	0
420.66	0	421.70	0
420.68	0	421.72	0
420.70	0	421.74	0
420.72	0	421.76	0
420.74	0	421.78	0
420.76	0	421.80	0
420.78	0	421.82	0
420.80	0	421.84	0
420.82	0	421.86	0
420.84	0	421.88	0
420.86	0	421.90	0
420.88	0	421.92	0
420.90	0	421.94	0
420.92	0	421.96	0
420.94	0	421.98	0
420.96	0	422.00	0
420.98	0		
421.00	0		
421.02	0		

Summary for Pond FS 1.7:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 5.42" for 100-yr event
Inflow = 1.97 cfs @ 12.07 hrs, Volume= 0.181 af
Outflow = 1.97 cfs @ 12.07 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min
Primary = 0.65 cfs @ 12.07 hrs, Volume= 0.151 af
Secondary = 1.32 cfs @ 12.07 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.72' @ 12.07 hrs
Flood Elev= 400.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	**6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.64 cfs @ 12.07 hrs HW=398.71' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.64 cfs @ 3.28 fps)

Secondary OutFlow Max=1.26 cfs @ 12.07 hrs HW=398.71' (Free Discharge)
└**2=Culvert** (Passes 1.26 cfs of 3.20 cfs potential flow)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 1.26 cfs @ 1.61 fps)

Stage-Area-Storage for Pond FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	**0**	398.54	0	399.58	0
397.52	0	398.56	0	399.60	0
397.54	0	398.58	0	399.62	0
397.56	0	398.60	0	399.64	0
397.58	0	398.62	0	399.66	0
397.60	0	398.64	0	399.68	0
397.62	0	398.66	0	399.70	0
397.64	0	398.68	0	399.72	0
397.66	0	398.70	0	399.74	0
397.68	0	398.72	0	399.76	0
397.70	0	398.74	0	399.78	0
397.72	0	398.76	0	399.80	0
397.74	0	398.78	0	399.82	0
397.76	0	398.80	0	399.84	0
397.78	0	398.82	0	399.86	0
397.80	0	398.84	0	399.88	0
397.82	0	398.86	0	399.90	0
397.84	0	398.88	0	399.92	0
397.86	0	398.90	0	399.94	0
397.88	0	398.92	0	399.96	0
397.90	0	398.94	0	399.98	0
397.92	0	398.96	0	400.00	0
397.94	0	398.98	0	400.02	0
397.96	0	399.00	0	400.04	0
397.98	0	399.02	0	400.06	0
398.00	0	399.04	0	400.08	0
398.02	0	399.06	0	400.10	0
398.04	0	399.08	0	400.12	0
398.06	0	399.10	0	400.14	0
398.08	0	399.12	0	400.16	0
398.10	0	399.14	0	400.18	0
398.12	0	399.16	0	400.20	0
398.14	0	399.18	0	400.22	0
398.16	0	399.20	0	400.24	0
398.18	0	399.22	0	400.26	0
398.20	0	399.24	0	400.28	0
398.22	0	399.26	0	400.30	0
398.24	0	399.28	0	400.32	0
398.26	0	399.30	0	400.34	0
398.28	0	399.32	0	400.36	0
398.30	0	399.34	0	400.38	0
398.32	0	399.36	0	400.40	0
398.34	0	399.38	0	400.42	0
398.36	0	399.40	0	400.44	0
398.38	0	399.42	0	400.46	0
398.40	0	399.44	0	400.48	0
398.42	0	399.46	0	400.50	0
398.44	0	399.48	0		
398.46	0	399.50	0		
398.48	0	399.52	0		
398.50	0	399.54	0		
398.52	0	399.56	0		

Summary for Pond LS A: Level Spreader

Inflow Area = 2.400 ac, 47.92% Impervious, Inflow Depth = 0.39" for 100-yr event
Inflow = 1.48 cfs @ 12.07 hrs, Volume= 0.077 af
Outflow = 1.48 cfs @ 12.07 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 12.07 hrs, Volume= 0.077 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 466.15' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	466.00'	**10.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=1.41 cfs @ 12.07 hrs HW=466.14' (Free Discharge)
↑**1=Broad-Crested Rectangular Weir** (Weir Controls 1.41 cfs @ 0.99 fps)

Stage-Area-Storage for Pond LS A: Level Spreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
466.00	**0**	466.52	0
466.01	0	466.53	0
466.02	0	466.54	0
466.03	0	466.55	0
466.04	0	466.56	0
466.05	0	466.57	0
466.06	0	466.58	0
466.07	0	466.59	0
466.08	0	466.60	0
466.09	0	466.61	0
466.10	0	466.62	0
466.11	0	466.63	0
466.12	0	466.64	0
466.13	0	466.65	0
466.14	0	466.66	0
466.15	0	466.67	0
466.16	0	466.68	0
466.17	0	466.69	0
466.18	0	466.70	0
466.19	0	466.71	0
466.20	0	466.72	0
466.21	0	466.73	0
466.22	0	466.74	0
466.23	0	466.75	0
466.24	0	466.76	0
466.25	0	466.77	0
466.26	0	466.78	0
466.27	0	466.79	0
466.28	0	466.80	0
466.29	0	466.81	0
466.30	0	466.82	0
466.31	0	466.83	0
466.32	0	466.84	0
466.33	0	466.85	0
466.34	0	466.86	0
466.35	0	466.87	0
466.36	0	466.88	0
466.37	0	466.89	0
466.38	0	466.90	0
466.39	0	466.91	0
466.40	0	466.92	0
466.41	0	466.93	0
466.42	0	466.94	0
466.43	0	466.95	0
466.44	0	466.96	0
466.45	0	466.97	0
466.46	0	466.98	0
466.47	0	466.99	0
466.48	0	467.00	0
466.49	0		
466.50	0		
466.51	0		

Summary for Pond LS B: Level Sreader

Inflow Area = 1.250 ac, 64.00% Impervious, Inflow Depth = 0.00" for 100-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 469.00' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	469.00'	**20.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=469.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond LS B: Level Sreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
469.00	**0**	469.52	0
469.01	0	469.53	0
469.02	0	469.54	0
469.03	0	469.55	0
469.04	0	469.56	0
469.05	0	469.57	0
469.06	0	469.58	0
469.07	0	469.59	0
469.08	0	469.60	0
469.09	0	469.61	0
469.10	0	469.62	0
469.11	0	469.63	0
469.12	0	469.64	0
469.13	0	469.65	0
469.14	0	469.66	0
469.15	0	469.67	0
469.16	0	469.68	0
469.17	0	469.69	0
469.18	0	469.70	0
469.19	0	469.71	0
469.20	0	469.72	0
469.21	0	469.73	0
469.22	0	469.74	0
469.23	0	469.75	0
469.24	0	469.76	0
469.25	0	469.77	0
469.26	0	469.78	0
469.27	0	469.79	0
469.28	0	469.80	0
469.29	0	469.81	0
469.30	0	469.82	0
469.31	0	469.83	0
469.32	0	469.84	0
469.33	0	469.85	0
469.34	0	469.86	0
469.35	0	469.87	0
469.36	0	469.88	0
469.37	0	469.89	0
469.38	0	469.90	0
469.39	0	469.91	0
469.40	0	469.92	0
469.41	0	469.93	0
469.42	0	469.94	0
469.43	0	469.95	0
469.44	0	469.96	0
469.45	0	469.97	0
469.46	0	469.98	0
469.47	0	469.99	0
469.48	0	470.00	0
469.49	0		
469.50	0		
469.51	0		

Summary for Pond LS C: Level Sreader

Inflow Area = 1.400 ac, 60.71% Impervious, Inflow Depth = 2.45" for 100-yr event
Inflow = 4.18 cfs @ 12.22 hrs, Volume= 0.286 af
Outflow = 4.18 cfs @ 12.22 hrs, Volume= 0.286 af, Atten= 0%, Lag= 0.0 min
Primary = 4.18 cfs @ 12.22 hrs, Volume= 0.286 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 450.19' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	450.00'	**20.0' long x 1.5' breadth Broad-Crested Rectangular Weir** 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) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32

Primary OutFlow Max=4.12 cfs @ 12.22 hrs HW=450.18' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 4.12 cfs @ 1.12 fps)

Stage-Area-Storage for Pond LS C: Level Sreader

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
450.00	**0**	450.52	0
450.01	0	450.53	0
450.02	0	450.54	0
450.03	0	450.55	0
450.04	0	450.56	0
450.05	0	450.57	0
450.06	0	450.58	0
450.07	0	450.59	0
450.08	0	450.60	0
450.09	0	450.61	0
450.10	0	450.62	0
450.11	0	450.63	0
450.12	0	450.64	0
450.13	0	450.65	0
450.14	0	450.66	0
450.15	0	450.67	0
450.16	0	450.68	0
450.17	0	450.69	0
450.18	0	450.70	0
450.19	0	450.71	0
450.20	0	450.72	0
450.21	0	450.73	0
450.22	0	450.74	0
450.23	0	450.75	0
450.24	0	450.76	0
450.25	0	450.77	0
450.26	0	450.78	0
450.27	0	450.79	0
450.28	0	450.80	0
450.29	0	450.81	0
450.30	0	450.82	0
450.31	0	450.83	0
450.32	0	450.84	0
450.33	0	450.85	0
450.34	0	450.86	0
450.35	0	450.87	0
450.36	0	450.88	0
450.37	0	450.89	0
450.38	0	450.90	0
450.39	0	450.91	0
450.40	0	450.92	0
450.41	0	450.93	0
450.42	0	450.94	0
450.43	0	450.95	0
450.44	0	450.96	0
450.45	0	450.97	0
450.46	0	450.98	0
450.47	0	450.99	0
450.48	0	451.00	0
450.49	0		
450.50	0		
450.51	0		

Summary for Link Link 1:

Inflow Area = 3.400 ac, 42.65% Impervious, Inflow Depth = 0.87" for 100-yr event
Inflow = 5.56 cfs @ 12.07 hrs, Volume= 0.245 af
Primary = 5.56 cfs @ 12.07 hrs, Volume= 0.245 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

APPENDIX D

NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX E

Project and Owner Information

Site Data:

180 South Bedford Road
Village of Mount Kisco, New York 10549
Area: 25.0 acres ±

Owner/Operator Information:

Skull Island Partners LLC
c/o David Seldin
1571 Oceanview Drive
Tierra Verde, Florida 33715

Applicant Information:

Sunrise Community Solar, LLC
Attn: Doug Hertz
510 N. State Road
Briarcliff Manor, New York 10510
914-762-7622
doug@sunrisesolarllc.com

Parties Responsible for Implementation of the Short and Long Term Maintenance Plan:

Sunrise Community Solar, LLC
Attn: Doug Hertz
510 N. State Road
Briarcliff Manor, New York 10510
914-762-7622
doug@sunrisesolarllc.com

and or the current owner(s) of the subject property.

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512
845-225-9690

APPENDIX F

NYSDEC Stormwater Management Practice Construction and Maintenance Checklists

Infiltration Trench Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock sufficient at depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Filter Fabric Placement		
Fabric specifications		
Placed on bottom, sides, and top		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
4. Aggregate Material		
Size as specified		
Clean / washed material		
Placed properly		
5. Observation Well		
Pipe size		
Removable cap / footplate		
Initial depth =_____feet		
6. Final Inspection		
Pretreatment facility in place		
Contributing watershed stabilized prior to flow diversion		
Outlet		

Comments:

Actions to be Taken:

Infiltration Basin Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the factility		

Comments:

Actions to be Taken:

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewaters between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		

Comments:

Actions to be Taken:

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project _____
Location: _____
Site Status: _____

Date: _____
Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6.Pond, toe & chimney drains clear and functioning		
7.Seeps/leaks on downstream face		
8.Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam “As-Built”		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ 1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
2. Complaints from residents		
3.Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

APPENDIX G

Hydrodynamic Separator Sizing and Maintenance

State of New Jersey

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Division of Water Quality
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Phone: (609) 633-7021 / Fax: (609) 777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CATHERINE R. McCABE
Acting Commissioner

March 27, 2018

Graham Bryant, M.Sc., P.E.
President
Hydroworks, LLC
136 Central Avenue
Clark, NJ 07066

Re: MTD Lab Certification
HydroStorm Hydrodynamic Separator by Hydroworks, LLC
Online Installation

TSS Removal Rate 50%

Dear Mr. Bryant:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7 (c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Hydroworks, LLC has requested an MTD Laboratory Certification for the Hydroworks HydroStorm Hydrodynamic Separator.

The project falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated February 2018) for this device is published online at http://www.njcat.org/verification-process/technology-verification-database.html.

The NJDEP certifies the use of the HydroStorm by Hydroworks, LLC at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.

2. The HydroStorm shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.

3. This HydroStorm cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual, which can be found online at www.njstormwater.org.

5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the Hydrostorm. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at http://www.hydroworks.com/hydrostormo&m.pdf for any changes to the maintenance requirements.

6. Sizing Requirement:

   The example below demonstrates the sizing procedure for the Hydrostorm:

   Example: A 0.25-acre impervious site is to be treated to 50% TSS removal using a HydroStorm. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

   Maximum Treatment Flow Rate (MTFR) Evaluation:

   The site runoff (Q) was based on the following:
   time of concentration = 10 minutes
   i = 3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)
   c = 0.99 (runoff coefficient for impervious)
   Q = ciA = 0.99 x 3.2 x 0.25 = 0.79 cfs

   Given the site runoff is 0.79 cfs and based on Table 1 below, the HydroStorm Model HS4 with a MTFR of 0.88 cfs could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

   The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1.

Table 1 HydroStorm Sizing Information

HydroStorm Model	NJDEP 50% TSS Maximum Treatment Flow Rate (cfs)	Treatment Area (ft^2)	Hydraulic Loading Rate (gpm/ft^2)	50% Maximum Sediment Storage (ft^3)
HS3	0.50	7.1	31.4	3.6
HS4	0.88	12.6	31.4	6.3
HS5	1.37	19.6	31.4	9.8
HS6	1.98	28.3	31.4	14.2
HS7	2.69	38.5	31.4	19.3
HS8	3.52	50.3	31.4	25.2
HS9	4.45	63.6	31.4	31.8
HS10	5.49	78.5	31.4	39.3
HS11	6.65	95.0	31.4	47.5
HS12	7.91	113.0	31.4	56.5

A detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in the Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Brian Salvo or Nick Grotts of my office at (609) 633-7021.

Sincerely,

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan

cc: Chron File
Richard Magee, NJCAT
Vince Mazzei, NJDEP - DLUR
Ravi Patraju, NJDEP - BES
Gabriel Mahon, NJDEP - BNPC
Brian Salvo, NJDEP – BNPC
Nick Grotts, NJDEP – BNPC

Hydroworks® HydroStorm

Operations & Maintenance Manual

Version 1.0

Please call Hydroworks at 888-290-7900 or email us at support@hydroworks.com if you have any questions regarding the Inspection Checklist. Please fax a copy of the completed checklist to Hydroworks at 888-783-7271 for our records.

Introduction

The HydroStorm is a state of the art hydrodynamic separator. Hydrodynamic separators remove solids, debris and lighter than water (oil, trash, floating debris) pollutants from stormwater. Hydrodynamic separators and other water quality measures are mandated by regulatory agencies (Town/City, State, Federal Government) to protect storm water quality from pollution generated by urban development (traffic, people) as part of new development permitting requirements.

As storm water treatment structures fill up with pollutants they become less and less effective in removing new pollution. Therefore, it is important that storm water treatment structures be maintained on a regular basis to ensure that they are operating at optimum performance. The HydroStorm is no different in this regard and this manual has been assembled to provide the owner/operator with the necessary information to inspect and coordinate maintenance of their HydroStorm.

Hydroworks® HydroStorm Operation

The Hydroworks HydroStorm (HS) separator is a unique hydrodynamic by-pass separator. It incorporates a protected submerged pretreatment zone to collect larger solids, a treatment tank to remove finer solids, and a dual set of weirs to create a high flow bypass. High flows are conveyed directly to the outlet and do not enter the treatment area, however, the submerged pretreatment area still allows removal of coarse solids during high flows.

Under normal or low flows, water enters an inlet area with a horizontal grate. The area underneath the grate is submerged with openings to the main treatment area of the separator. Coarse solids fall through the grate and are either trapped in the pretreatment area or conveyed into the main treatment area depending on the flow rate. Fines are transported into the main treatment area. Openings and weirs in the pretreatment area allow entry of water and solids into the main treatment area and cause water to rotate in the main treatment area creating a vortex motion. Water in the main treatment area is forced to rise along the walls of the separator to discharge from the treatment area to the downstream pipe.

The vortex motion forces solids and floatables to the middle of the inner chamber. Floatables are trapped since the inlet to the treatment area is submerged. The design maximizes the retention of settled solids since solids are forced to the center of the inner chamber by the vortex motion of water while water must flow up the walls of the separator to discharge into the downstream pipe.

A set of high flow weirs near the outlet pipe create a high flow bypass over both the pretreatment area and main treatment chamber. The rate of flow into the treatment area is regulated by the number and size of openings into the treatment chamber and the height of by-pass weirs. High flows flow over the weirs directly to the outlet pipe preventing the scour and resuspension of any fines collected in the treatment chamber.

A central access tube is located in the structure to provide access for cleaning. The arrangement of the inlet area and bypass weirs near the outlet pipe facilitate the use of multiple inlet pipes.

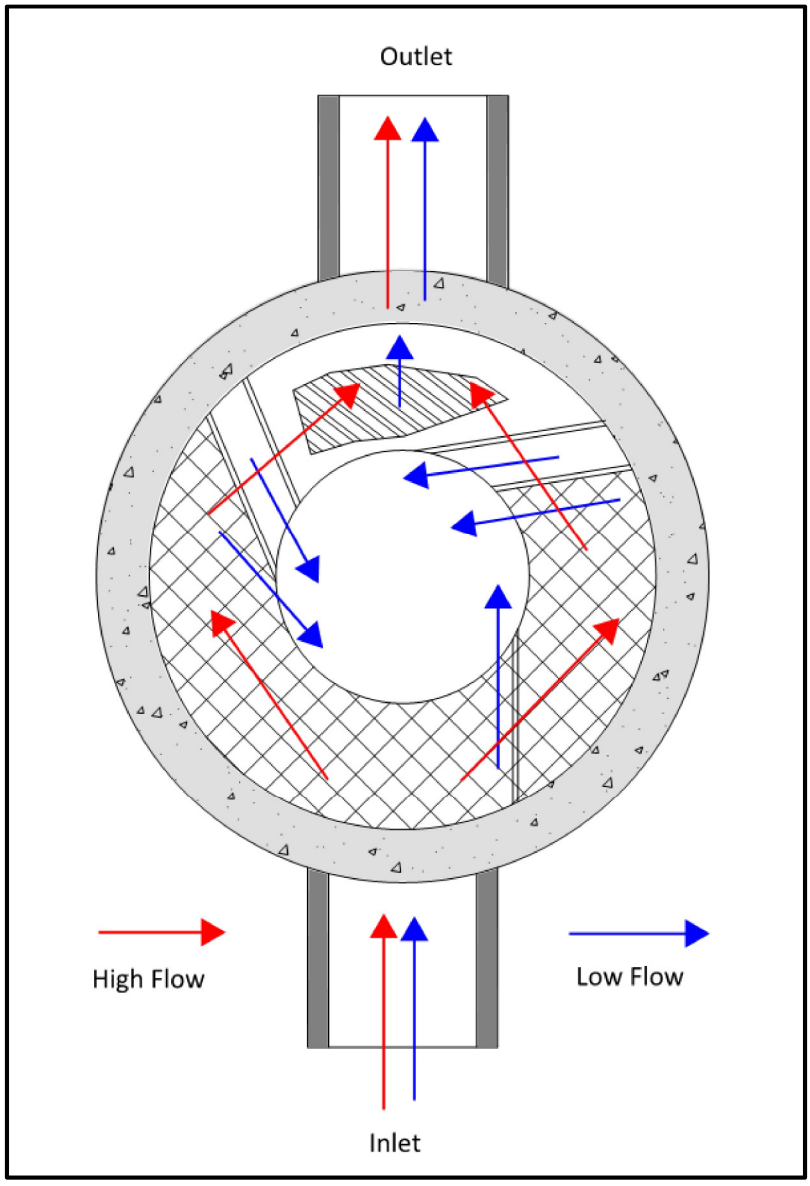


Figure 1. Hydroworks HydroStorm Operation – Plan View

Figure 2 is a profile view of the HydroStorm separator showing the flow patterns for low and high flows.

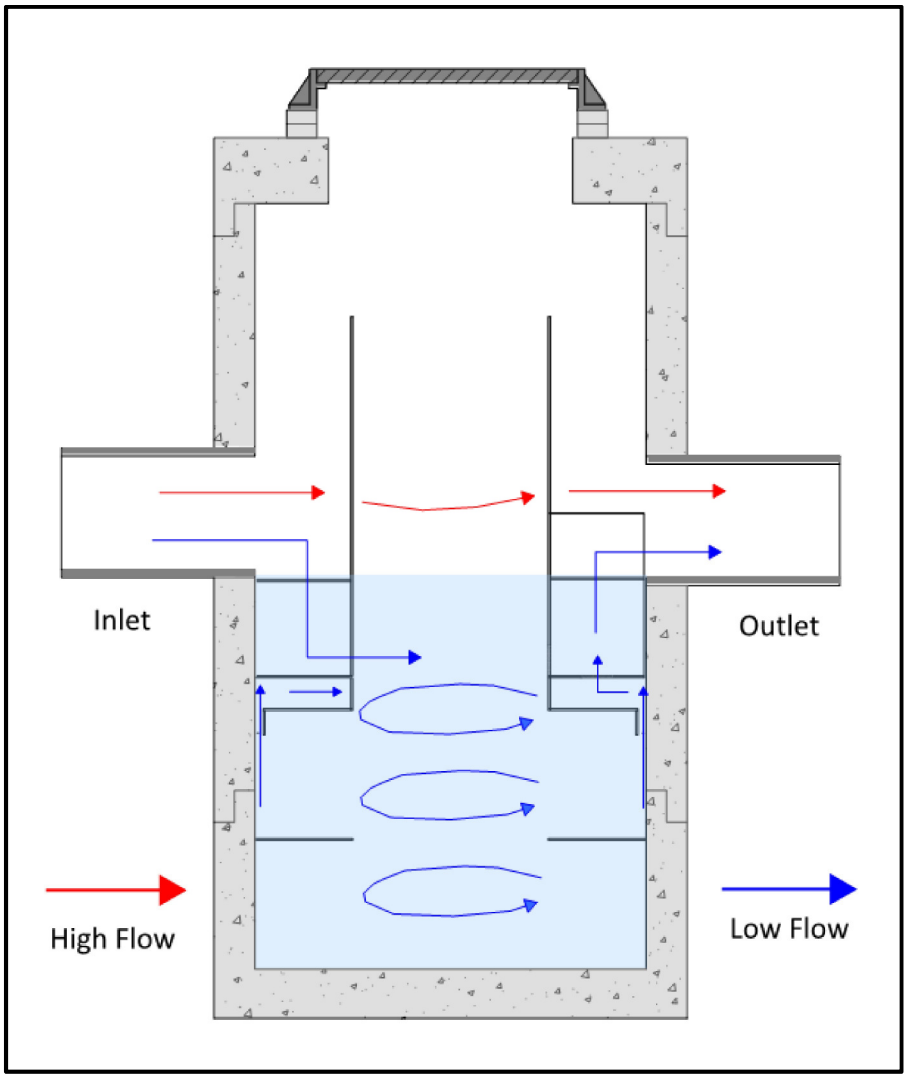


Figure 2. Hydroworks HydroStorm Operation – Profile View

The HS 4i is an inlet version of the HS 4 separator. There is a catch-basin grate on top of the HS 4i. A funnel sits sits underneath the grate on the frame and directs the water to the inlet side of the separator to ensure all lows flows are properly treated. The whole funnel is removed for inspection and cleaning.

Hydroworks

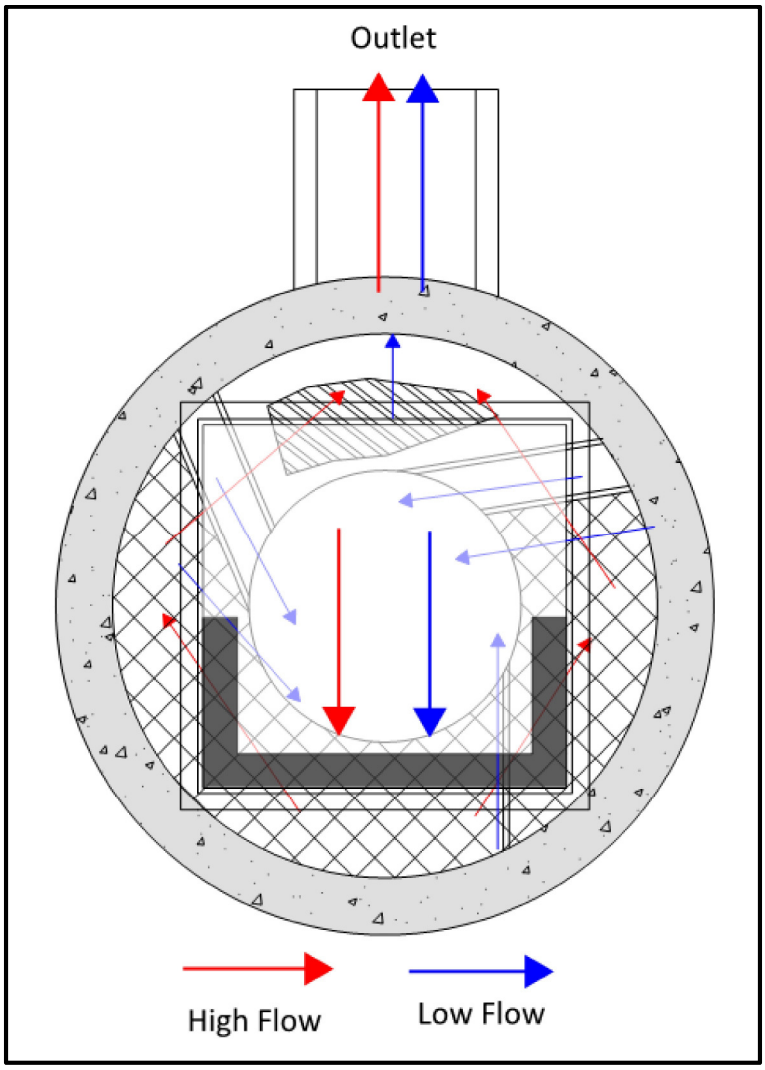


Figure 3. Hydroworks HS 4i Funnel

Inspection

Procedure

Floatables

A visual inspection can be conducted for floatables by removing the covers and looking down into the center access tube of the separator. Separators with an inlet grate (HS 4i or custom separator) will have a plastic funnel located under the grate that must be removed from the frame prior to inspection or maintenance. If you are missing a funnel please contact Hydroworks at the numbers provided at the end of this document.

TSS/Sediment

Inspection for TSS build-up can be conducted using a Sludge Judge®, Core Pro®, AccuSludge® or equivalent sampling device that allows the measurement of the depth of TSS/sediment in the unit. These devices typically have a ball valve at the bottom of the tube that allows water and TSS to flow into the tube when lowering the tube into the unit. Once the unit touches the bottom of the device, it is quickly pulled upward such that the water and TSS in the tube forces the ball valve closed allowing the user to see a full core of water/TSS in the unit. The unit should be inspected for TSS through each of the access covers. Several readings (2 or 3) should be made at each access cover to ensure that an accurate TSS depth measurement is recorded.

Frequency

Construction Period

The HydroStorm separator should be inspected every four weeks and after every large storm (over 0.5" (12.5 mm) of rain) during the construction period.

Post-Construction Period

The Hydroworks HydroStorm separator should be inspected during the first year of operation for normal stabilized sites (grassed or paved areas). If the unit is subject to oil spills or runoff from unstabilized (storage piles, exposed soils) areas the HydroStorm separator should be inspected more frequently (4 times per year). The initial annual inspection will indicate the required future frequency of inspection and maintenance if the unit was maintained after the construction period.

Reporting

Reports should be prepared as part of each inspection and include the following information:

1. Date of inspection
2. GPS coordinates of Hydroworks unit
3. Time since last rainfall
4. Date of last inspection
5. Installation deficiencies (missing parts, incorrect installation of parts)
6. Structural deficiencies (concrete cracks, broken parts)
7. Operational deficiencies (leaks, blockages)
8. Presence of oil sheen or depth of oil layer
9. Estimate of depth/volume of floatables (trash, leaves) captured
10. Sediment depth measured
11. Recommendations for any repairs and/or maintenance for the unit
12. Estimation of time before maintenance is required if not required at time of inspection

A sample inspection checklist is provided at the end of this manual.

Maintenance

Procedure

The Hydroworks HydroStorm unit is typically maintained using a vacuum truck. There are numerous companies that can maintain the HydroStorm separator. Maintenance with a vacuum truck involves removing all of the water and sediment together. The water is then separated from the sediment on the truck or at the disposal facility.

A central access opening (24" or greater) is provided to the gain access to the lower treatment tank of the unit. This is the primary location to maintain by vacuum truck. The pretreatment area can also be vacuumed and/or flushed into the lower treatment tank of the separator for cleaning via the central access once the water level is lowered below the pretreatment floor.

In instances where a vacuum truck is not available other maintenance methods (i.e. clamshell bucket) can be used, but they will be less effective. If a clamshell bucket is used the water must be decanted prior to cleaning since the sediment is under water and typically fine in nature. Disposal of the water will depend on local requirements. Disposal options for the decanted water may include:

1. Discharge into a nearby sanitary sewer manhole
2. Discharge into a nearby LID practice (grassed swale, bioretention)
3. Discharge through a filter bag into a downstream storm drain connection

The local municipality should be consulted for the allowable disposal options for both water and sediments prior to any maintenance operation. Once the water is decanted the sediment can be removed with the clamshell bucket.

Disposal of the contents of the separator depend on local requirements. Maintenance of a Hydroworks HydroStorm unit will typically take 1 to 2 hours based on a vacuum truck and longer for other cleaning methods (i.e. clamshell bucket).

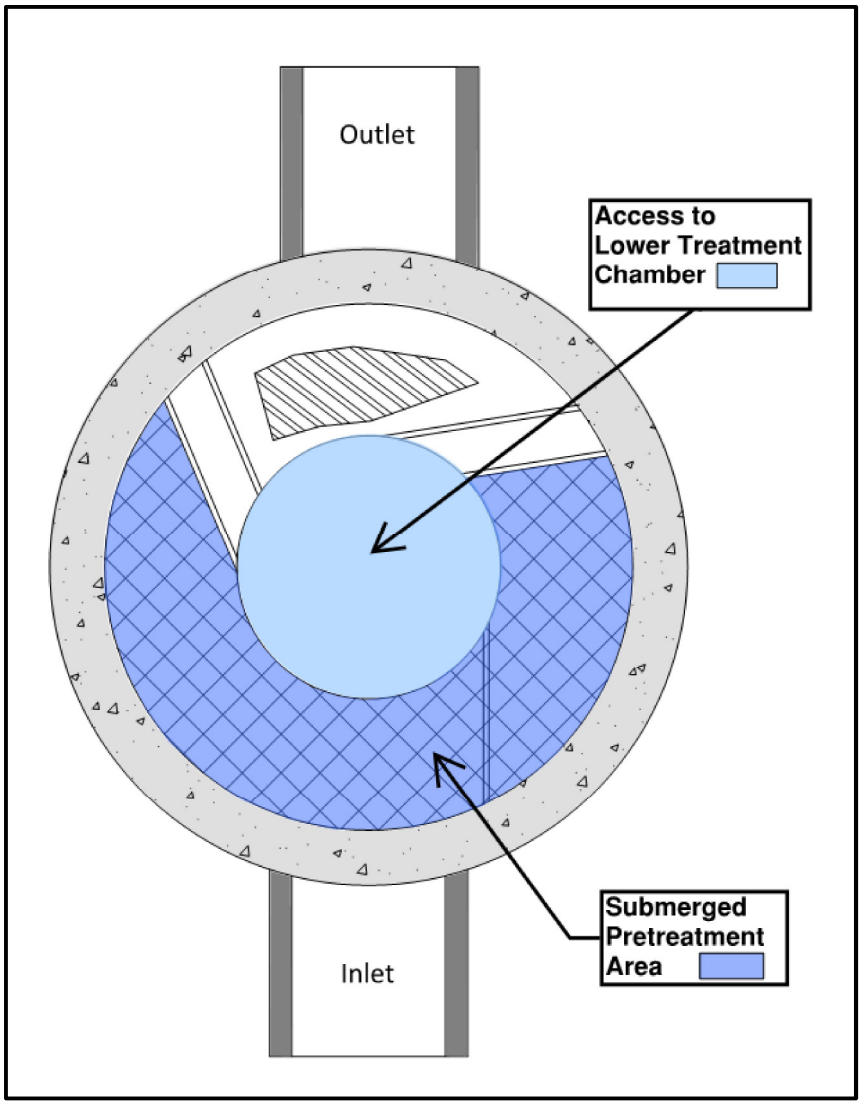


Figure 3. Maintenance Access

Frequency

Construction Period

A HydroStorm separator can fill with construction sediment quickly during the construction period. The HydroStorm must be maintained during the construction period when the depth of TSS/sediment reaches 24" (600 mm). It must also be maintained during the construction period if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the area of the separator

The HydroStorm separator should be maintained at the end of the construction period, prior to operation for the post-construction period.

Post-Construction Period

The HydroStorm was independently tested by Alden Research Laboratory in 2017. A HydroStorm HS 4 was tested for scour with a 50% sediment depth of 0.5 ft. Therefore, maintenance for sediment accumulation is required if the depth of sediment is 1 ft or greater in separators with standard water (sump) depths (Table 1).

There will be designs with increased sediment storage based on specifications or site-specific criteria. A measurement of the total water depth in the separator through the central access tube should be taken and compared to water depth given in Table 1. The standard water depth from Table 1 should be subtracted from the measured water depth and the resulting extra depth should be added to the 1 ft to determine the site-specific sediment maintenance depth for that separator.

For example, if the measured water depth in the HS-7 is 7 feet, then the sediment maintenance depth for that HS-7 is 2 ft (= 1 + 7 – 6) and the separator does not need to be cleaned for sediment accumulation until the measure sediment depth is 2 ft.

The HydroStorm separator must also be maintained if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the water surface of the separator.

Table 1 Standard Dimensions for Hydroworks HydroStorm Models

Model	Diameter (ft)	Total Water Depth (ft)	Sediment Maintenance Depth for Table 1 Total Water Depth(ft)
HS-3	3	3	1
HS-4	4	4	1
HS-5	5	4	1
HS-6	6	4	1
HS-7	7	6	1
HS-8	8	7	1
HS-9	9	7.5	1
HS-10	10	8	1
HS-11	11	9	1
HS-12	12	9.5	1

HYDROSTORM INSPECTION SHEET

Date _____
Date of Last Inspection _____

Site _____
City _____
State _____
Owner _____

GPS Coordinates _____

Date of last rainfall _____

Site Characteristics	**Yes**	**No**
Soil erosion evident	☐	☐
Exposed material storage on site	☐	☐
Large exposure to leaf litter (lots of trees)	☐	☐
High traffic (vehicle) area	☐	☐

HydroStorm	**Yes**	**No**
Obstructions in the inlet or outlet	☐ *	☐
Missing internal components	☐ **	☐
Improperly installed inlet or outlet pipes	☐ ***	☐
Internal component damage (cracked, broken, loose pieces)	☐ **	☐
Floating debris in the separator (oil, leaves, trash)	☐	☐
Large debris visible in the separator	☐ *	☐
Concrete cracks/deficiencies	☐ ***	☐
Exposed rebar	☐ **	☐
Water seepage (water level not at outlet pipe invert)	☐ ***	☐
Water level depth below outlet pipe invert _____"		

Routine Measurements

Floating debris depth	**< 0.5" (13mm)**	☐	**>0.5" 13mm)**	☐ *
Floating debris coverage	**< 50% of surface area**	☐	**> 50% surface area**	☐ *
Sludge depth	**< 12" (300mm)**	☐	**> 12" (300mm)**	☐ *

* Maintenance required
** Repairs required
*** Further investigation is required

Hydroworks

Other Comments:

Hydroworks

Hydroworks® HydroStorm

One Year Limited Warranty

Hydroworks, LLC warrants, to the purchaser and subsequent owner(s) during the warranty period subject to the terms and conditions hereof, the Hydroworks HydroStorm to be free from defects in material and workmanship under normal use and service, when properly installed, used, inspected and maintained in accordance with Hydroworks written instructions, for the period of the warranty. The standard warranty period is 1 year.

The warranty period begins once the separator has been manufactured and is available for delivery. Any components determined to be defective, either by failure or by inspection, in material and workmanship will be repaired, replaced or remanufactured at Hydroworks' option provided, however, that by doing so Hydroworks, LLC will not be obligated to replace an entire insert or concrete section, or the complete unit. This warranty does not cover shipping charges, damages, labor, any costs incurred to obtain access to the unit, any costs to repair/replace any surface treatment/cover after repair/replacement, or other charges that may occur due to product failure, repair or replacement.

This warranty does not apply to any material that has been disassembled or modified without prior approval of Hydroworks, LLC, that has been subjected to misuse, misapplication, neglect, alteration, accident or act of God, or that has not been installed, inspected, operated or maintained in accordance with Hydroworks, LLC instructions and is in lieu of all other warranties expressed or implied. Hydroworks, LLC does not authorize any representative or other person to expand or otherwise modify this limited warranty.

The owner shall provide Hydroworks, LLC with written notice of any alleged defect in material or workmanship including a detailed description of the alleged defect upon discovery of the defect. Hydroworks, LLC should be contacted at 136 Central Ave., Clark, NJ 07066 or any other address as supplied by Hydroworks, LLC. (888-290-7900).

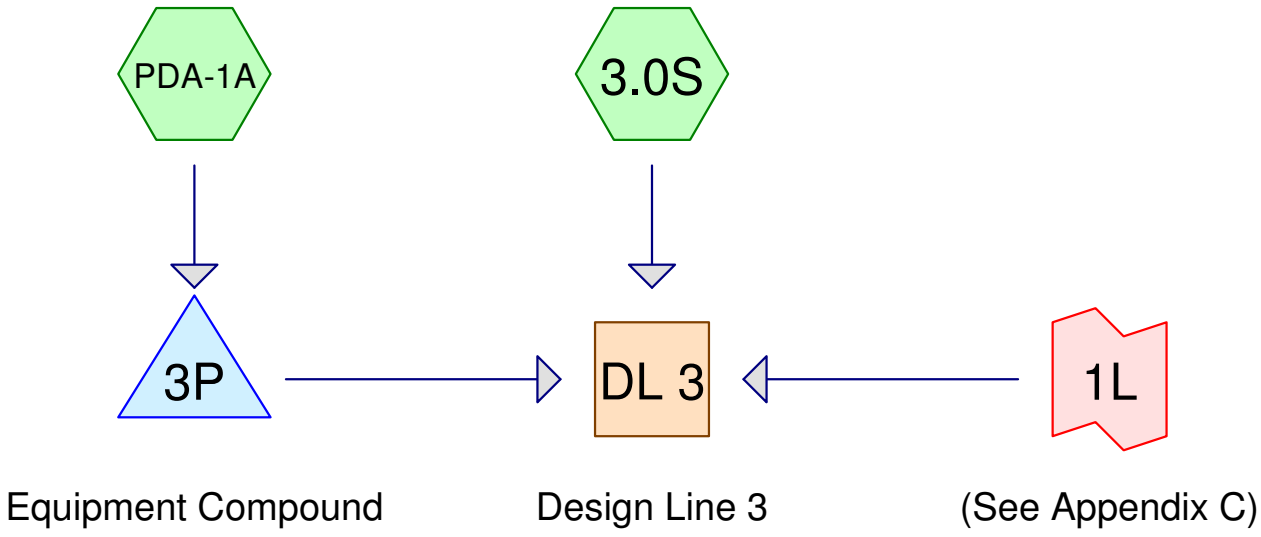
This limited warranty is exclusive. There are no other warranties, express or implied, or merchantability or fitness for a particular purpose and none shall be created whether under the uniform commercial code, custom or usage in the industry or the course of dealings between the parties. Hydroworks, LLC will replace any goods that are defective under this warranty as the sole and exclusive remedy for breach of this warranty.

Subject to the foregoing, all conditions, warranties, terms, undertakings or liabilities (including liability as to negligence), expressed or implied, and howsoever arising, as to the condition, suitability, fitness, safety, or title to the Hydroworks HydroStorm are hereby negated and excluded and Hydroworks, LLC gives and makes no such representation, warranty or undertaking except as expressly set forth herein. Under no circumstances shall Hydroworks, LLC be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the HydroStorm, or the cost of other goods or services related to the purchase and installation of the HydroStorm. For this Limited Warranty to apply, the HydroStorm must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Hydroworks' written installation instructions.

Hydroworks, LLC expressly disclaims liability for special, consequential or incidental damages (even if it has been advised of the possibility of the same) or breach of expressed or implied warranty. Hydroworks, LLC shall not be liable for penalties or liquidated damages, including loss of production and profits; labor and materials; overhead costs; or other loss or expense incurred by the purchaser or any third party. Specifically excluded from limited warranty coverage are damages to the HydroStorm arising from ordinary wear and tear; alteration, accident, misuse, abuse or neglect; improper maintenance, failure of the product due to improper installation of the concrete sections or improper sizing; or any other event not caused by Hydroworks, LLC. This limited warranty represents Hydroworks' sole liability to the purchaser for claims related to the HydroStorm, whether the claim is based upon contract, tort, or other legal basis.

APPENDIX H

Design Line 3 Combined Development Computer Data



Subcat Reach Pond Link

Routing Diagram for Post-Development - Combined Telecom Development

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 2/16/2021

Summary for Subcatchment 3.0S:

Runoff = 0.20 cfs @ 12.28 hrs, Volume= 0.053 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (ac)	CN	Description
*	0.100	98	Paved
	0.500	58	Meadow, non-grazed, HSG B
	2.300	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	3.050	58	Weighted Average
	2.950		96.72% Pervious Area
	0.100		3.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.1600	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.8	275	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	165	0.1000	4.74		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.6	90	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.2	655	Total			

Summary for Subcatchment PDA-1A:

Runoff = 0.27 cfs @ 12.05 hrs, Volume= 0.017 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 1-yr Rainfall=2.79"

	Area (sf)	CN	Description
*	7,948	80	Obtained from APT SMR
	7,948		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	154		0.46		**Direct Entry, Obtained from APT SMR**

Summary for Reach DL 3: Design Line 3

Inflow Area = 6.632 ac, 23.37% Impervious, Inflow Depth = 0.10" for 1-yr event
Inflow = 0.20 cfs @ 12.28 hrs, Volume= 0.053 af
Outflow = 0.20 cfs @ 12.28 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Pond 3P: Equipment Compound

Inflow Area = 0.182 ac, 0.00% Impervious, Inflow Depth = 1.09" for 1-yr event
Inflow = 0.27 cfs @ 12.05 hrs, Volume= 0.017 af
Outflow = 0.06 cfs @ 12.32 hrs, Volume= 0.017 af, Atten= 77%, Lag= 16.5 min
Discarded = 0.06 cfs @ 12.32 hrs, Volume= 0.017 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 425.15' @ 12.32 hrs Surf.Area= 0.058 ac Storage= 0.003 af

Plug-Flow detention time= 14.4 min calculated for 0.017 af (100% of inflow)
Center-of-Mass det. time= 14.4 min (880.2 - 865.9)

Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 12.32 hrs HW=425.15' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 3P: Equipment Compound

Elevation (feet)	Surface (acres)	Storage (acre-feet)
425.00	**0.058**	0.000
425.01	0.058	0.000
425.02	0.058	0.000
425.03	0.058	0.001
425.04	0.058	0.001
425.05	0.058	0.001
425.06	0.058	0.001
425.07	0.058	0.002
425.08	0.058	0.002
425.09	0.058	0.002
425.10	0.058	0.002
425.11	0.058	0.003
425.12	0.058	0.003
425.13	0.058	0.003
425.14	0.058	0.003
425.15	0.058	0.004
425.16	0.058	0.004
425.17	0.058	0.004
425.18	0.058	0.004
425.19	0.058	0.004
425.20	0.058	0.005
425.21	0.058	0.005
425.22	0.058	0.005
425.23	0.058	0.005
425.24	0.058	0.006
425.25	0.058	0.006
425.26	0.058	0.006
425.27	0.058	0.006
425.28	0.058	0.007
425.29	0.058	0.007
425.30	0.058	0.007
425.31	0.058	0.007
425.32	0.058	0.007
425.33	0.058	0.008
425.34	0.058	0.008
425.35	0.058	0.008
425.36	0.058	0.008
425.37	0.058	0.009
425.38	0.058	0.009
425.39	0.058	0.009
425.40	0.058	0.009
425.41	0.058	0.010
425.42	0.058	0.010
425.43	0.058	0.010
425.44	0.058	0.010
425.45	0.058	0.011
425.46	0.058	0.011
425.47	0.058	0.011
425.48	0.058	0.011
425.49	0.058	0.011
425.50	0.058	0.012
425.51	0.058	0.012
425.52	0.058	0.012
425.53	0.058	0.012
425.54	0.058	0.013
425.55	0.058	0.013
425.56	0.058	0.013
425.57	0.058	0.013
425.58	0.058	0.014
425.59	0.058	0.014
425.60	0.058	0.014
425.61	0.058	0.014
425.62	0.058	0.014
425.63	0.058	0.015
425.64	0.058	0.015
425.65	0.058	0.015
425.66	0.058	0.015
425.67	0.058	0.016
425.68	0.058	0.016
425.69	0.058	0.016
425.70	0.058	0.016
425.71	0.058	0.017
425.72	0.058	0.017
425.73	0.058	0.017
425.74	0.058	0.017
425.75	0.058	0.018
425.76	0.058	0.018
425.77	0.058	0.018
425.78	0.058	0.018
425.79	0.058	0.018
425.80	0.058	0.019
425.81	0.058	0.019
425.82	0.058	0.019
425.83	0.058	0.019
425.84	0.058	0.020
425.85	0.058	0.020
425.86	0.058	0.020
425.87	0.058	0.020
425.88	0.058	0.021
425.89	0.058	0.021
425.90	0.058	0.021
425.91	0.058	0.021
425.92	0.058	0.021
425.93	0.058	0.022
425.94	0.058	0.022
425.95	0.058	0.022
425.96	0.058	0.022
425.97	0.058	0.023
425.98	0.058	0.023
425.99	0.058	0.023
426.00	0.058	**0.023**

Summary for Link 1L: (See Appendix C)

Inflow Area = 3.400 ac, 42.65% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

1-yr Primary Outflow Imported from Post-Development~Link Link 1.hce

Summary for Subcatchment 3.0S:

Runoff = 3.10 cfs @ 12.16 hrs, Volume= 0.315 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
*	0.100	98	Paved
	0.500	58	Meadow, non-grazed, HSG B
	2.300	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	3.050	58	Weighted Average
	2.950		96.72% Pervious Area
	0.100		3.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.1600	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.8	275	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	165	0.1000	4.74		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.6	90	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.2	655	Total			

Summary for Subcatchment PDA-1A:

Runoff = 0.65 cfs @ 12.04 hrs, Volume= 0.046 af, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 10-yr Rainfall=5.13"

	Area (sf)	CN	Description
*	7,948	80	Obtained from APT SMR
	7,948		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	154		0.46		**Direct Entry, Obtained from APT SMR**

Summary for Reach DL 3: Design Line 3

Inflow Area = 6.632 ac, 23.37% Impervious, Inflow Depth = 0.63" for 10-yr event
Inflow = 4.28 cfs @ 12.12 hrs, Volume= 0.347 af
Outflow = 4.28 cfs @ 12.12 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Pond 3P: Equipment Compound

Inflow Area = 0.182 ac, 0.00% Impervious, Inflow Depth = 3.01" for 10-yr event
Inflow = 0.65 cfs @ 12.04 hrs, Volume= 0.046 af
Outflow = 0.07 cfs @ 12.93 hrs, Volume= 0.046 af, Atten= 90%, Lag= 53.1 min
Discarded = 0.07 cfs @ 12.93 hrs, Volume= 0.046 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 425.62' @ 12.93 hrs Surf.Area= 0.058 ac Storage= 0.015 af

Plug-Flow detention time= 73.8 min calculated for 0.046 af (100% of inflow)
Center-of-Mass det. time= 73.7 min (907.6 - 833.9)

Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.93 hrs HW=425.62' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 3P: Equipment Compound

Elevation (feet)	Surface (acres)	Storage (acre-feet)
425.00	**0.058**	0.000
425.01	0.058	0.000
425.02	0.058	0.000
425.03	0.058	0.001
425.04	0.058	0.001
425.05	0.058	0.001
425.06	0.058	0.001
425.07	0.058	0.002
425.08	0.058	0.002
425.09	0.058	0.002
425.10	0.058	0.002
425.11	0.058	0.003
425.12	0.058	0.003
425.13	0.058	0.003
425.14	0.058	0.003
425.15	0.058	0.004
425.16	0.058	0.004
425.17	0.058	0.004
425.18	0.058	0.004
425.19	0.058	0.004
425.20	0.058	0.005
425.21	0.058	0.005
425.22	0.058	0.005
425.23	0.058	0.005
425.24	0.058	0.006
425.25	0.058	0.006
425.26	0.058	0.006
425.27	0.058	0.006
425.28	0.058	0.007
425.29	0.058	0.007
425.30	0.058	0.007
425.31	0.058	0.007
425.32	0.058	0.007
425.33	0.058	0.008
425.34	0.058	0.008
425.35	0.058	0.008
425.36	0.058	0.008
425.37	0.058	0.009
425.38	0.058	0.009
425.39	0.058	0.009
425.40	0.058	0.009
425.41	0.058	0.010
425.42	0.058	0.010
425.43	0.058	0.010
425.44	0.058	0.010
425.45	0.058	0.011
425.46	0.058	0.011
425.47	0.058	0.011
425.48	0.058	0.011
425.49	0.058	0.011
425.50	0.058	0.012
425.51	0.058	0.012
425.52	0.058	0.012
425.53	0.058	0.012
425.54	0.058	0.013
425.55	0.058	0.013
425.56	0.058	0.013
425.57	0.058	0.013
425.58	0.058	0.014
425.59	0.058	0.014
425.60	0.058	0.014
425.61	0.058	0.014
425.62	0.058	0.014
425.63	0.058	0.015
425.64	0.058	0.015
425.65	0.058	0.015
425.66	0.058	0.015
425.67	0.058	0.016
425.68	0.058	0.016
425.69	0.058	0.016
425.70	0.058	0.016
425.71	0.058	0.017
425.72	0.058	0.017
425.73	0.058	0.017
425.74	0.058	0.017
425.75	0.058	0.018
425.76	0.058	0.018
425.77	0.058	0.018
425.78	0.058	0.018
425.79	0.058	0.018
425.80	0.058	0.019
425.81	0.058	0.019
425.82	0.058	0.019
425.83	0.058	0.019
425.84	0.058	0.020
425.85	0.058	0.020
425.86	0.058	0.020
425.87	0.058	0.020
425.88	0.058	0.021
425.89	0.058	0.021
425.90	0.058	0.021
425.91	0.058	0.021
425.92	0.058	0.021
425.93	0.058	0.022
425.94	0.058	0.022
425.95	0.058	0.022
425.96	0.058	0.022
425.97	0.058	0.023
425.98	0.058	0.023
425.99	0.058	0.023
426.00	0.058	**0.023**

Summary for Link 1L: (See Appendix C)

Inflow Area = 3.400 ac, 42.65% Impervious, Inflow Depth = 0.11" for 10-yr event
Inflow = 1.62 cfs @ 12.07 hrs, Volume= 0.031 af
Primary = 1.62 cfs @ 12.07 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

10-yr Primary Outflow Imported from Post-Development~Link Link 1.hce

Summary for Subcatchment 3.0S:

Runoff = 9.80 cfs @ 12.14 hrs, Volume= 1.024 af, Depth= 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (ac)	CN	Description
*	0.100	98	Paved
	0.500	58	Meadow, non-grazed, HSG B
	2.300	55	Woods, Good, HSG B
	0.150	77	Woods, Good, HSG D
	3.050	58	Weighted Average
	2.950		96.72% Pervious Area
	0.100		3.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	100	0.1600	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.41"
1.8	275	0.2500	2.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	165	0.1000	4.74		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.6	90	0.2800	2.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
12.2	655	Total			

Summary for Subcatchment PDA-1A:

Runoff = 1.19 cfs @ 12.04 hrs, Volume= 0.103 af, Depth= 6.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Sunrise Solar 24-hr S0P 100-yr Rainfall=9.23"

	Area (sf)	CN	Description
*	7,948	80	Obtained from APT SMR
	7,948		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	154		0.46		**Direct Entry, Obtained from APT SMR**

Summary for Reach DL 3: Design Line 3

Inflow Area = 6.632 ac, 23.37% Impervious, Inflow Depth = 2.34" for 100-yr event
Inflow = 15.44 cfs @ 12.12 hrs, Volume= 1.291 af
Outflow = 15.44 cfs @ 12.12 hrs, Volume= 1.291 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Pond 3P: Equipment Compound

Inflow Area = 0.182 ac, 0.00% Impervious, Inflow Depth = 6.79" for 100-yr event
Inflow = 1.19 cfs @ 12.04 hrs, Volume= 0.103 af
Outflow = 1.09 cfs @ 12.14 hrs, Volume= 0.103 af, Atten= 8%, Lag= 6.0 min
Discarded = 0.07 cfs @ 12.15 hrs, Volume= 0.082 af
Primary = 1.02 cfs @ 12.14 hrs, Volume= 0.022 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 426.03' @ 12.15 hrs Surf.Area= 0.058 ac Storage= 0.023 af

Plug-Flow detention time= 105.2 min calculated for 0.103 af (100% of inflow)
Center-of-Mass det. time= 105.1 min (912.0 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.15 hrs HW=426.03' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.93 cfs @ 12.14 hrs HW=426.03' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.93 cfs @ 0.54 fps)

Stage-Area-Storage for Pond 3P: Equipment Compound

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
425.00	**0.058**	0.000	425.52	0.058	0.012
425.01	0.058	0.000	425.53	0.058	0.012
425.02	0.058	0.000	425.54	0.058	0.013
425.03	0.058	0.001	425.55	0.058	0.013
425.04	0.058	0.001	425.56	0.058	0.013
425.05	0.058	0.001	425.57	0.058	0.013
425.06	0.058	0.001	425.58	0.058	0.014
425.07	0.058	0.002	425.59	0.058	0.014
425.08	0.058	0.002	425.60	0.058	0.014
425.09	0.058	0.002	425.61	0.058	0.014
425.10	0.058	0.002	425.62	0.058	0.014
425.11	0.058	0.003	425.63	0.058	0.015
425.12	0.058	0.003	425.64	0.058	0.015
425.13	0.058	0.003	425.65	0.058	0.015
425.14	0.058	0.003	425.66	0.058	0.015
425.15	0.058	0.004	425.67	0.058	0.016
425.16	0.058	0.004	425.68	0.058	0.016
425.17	0.058	0.004	425.69	0.058	0.016
425.18	0.058	0.004	425.70	0.058	0.016
425.19	0.058	0.004	425.71	0.058	0.017
425.20	0.058	0.005	425.72	0.058	0.017
425.21	0.058	0.005	425.73	0.058	0.017
425.22	0.058	0.005	425.74	0.058	0.017
425.23	0.058	0.005	425.75	0.058	0.018
425.24	0.058	0.006	425.76	0.058	0.018
425.25	0.058	0.006	425.77	0.058	0.018
425.26	0.058	0.006	425.78	0.058	0.018
425.27	0.058	0.006	425.79	0.058	0.018
425.28	0.058	0.007	425.80	0.058	0.019
425.29	0.058	0.007	425.81	0.058	0.019
425.30	0.058	0.007	425.82	0.058	0.019
425.31	0.058	0.007	425.83	0.058	0.019
425.32	0.058	0.007	425.84	0.058	0.020
425.33	0.058	0.008	425.85	0.058	0.020
425.34	0.058	0.008	425.86	0.058	0.020
425.35	0.058	0.008	425.87	0.058	0.020
425.36	0.058	0.008	425.88	0.058	0.021
425.37	0.058	0.009	425.89	0.058	0.021
425.38	0.058	0.009	425.90	0.058	0.021
425.39	0.058	0.009	425.91	0.058	0.021
425.40	0.058	0.009	425.92	0.058	0.021
425.41	0.058	0.010	425.93	0.058	0.022
425.42	0.058	0.010	425.94	0.058	0.022
425.43	0.058	0.010	425.95	0.058	0.022
425.44	0.058	0.010	425.96	0.058	0.022
425.45	0.058	0.011	425.97	0.058	0.023
425.46	0.058	0.011	425.98	0.058	0.023
425.47	0.058	0.011	425.99	0.058	0.023
425.48	0.058	0.011	426.00	0.058	**0.023**
425.49	0.058	0.011	426.01	0.058	0.023
425.50	0.058	0.012	426.02	0.058	0.023
425.51	0.058	0.012	426.03	0.058	0.023

Summary for Link 1L: (See Appendix C)

Inflow Area = 3.400 ac, 42.65% Impervious, Inflow Depth = 0.87" for 100-yr event
Inflow = 5.56 cfs @ 12.07 hrs, Volume= 0.245 af
Primary = 5.56 cfs @ 12.07 hrs, Volume= 0.245 af, Atten= 0%, Lag= 0.0 min

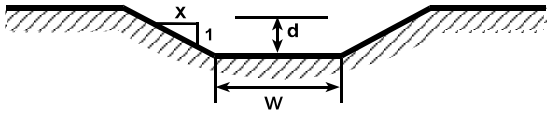
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

100-yr Primary Outflow Imported from Post-Development~Link Link 1.hce

APPENDIX I

Swale Sizing Calculations

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.



Appendix I
SWALE SIZING CALCULATIONS

Design Storm: 100-Year
Project: SCS Sarles Street Community Solar Farm
Job #: 19192.100
Date: 2/16/2021
By: EJP
Sheet: 1 of 1

SWALE TYPE	**Swale Type**	Q (cfs)	**w (ft)**	**d (ft)**	**x**	**n**	**S (%)**	A (ft^2)	W_p (ft)	R_h (ft)	V (ft/s)	Q (cfs)
		design flow	swale bottom width	depth of flow	swale side slope (x:1)	Manning's "n"	swale slope	swale area	wetted perimeter	hydraulic radius	swale velocity	swale capacity
1	Grass	0.6	1.00	0.6	3.00	0.350	3.00	1.59	4.67	0.34	0.4	**0.6**
1	Grass	0.6	1.00	0.4	3.00	0.350	22.00	0.80	3.37	0.24	0.8	**0.6**
2	Grass	1.0	2.00	0.6	3.00	0.350	5.00	2.01	5.48	0.37	0.5	**1.0**
2	Grass	1.0	2.00	0.3	3.00	0.350	35.00	0.99	4.09	0.24	1.0	**1.0**
3	Grass	2.7	3.00	1.0	3.00	0.350	2.00	6.00	9.32	0.64	0.4	**2.7**
3	Grass	2.7	3.00	0.5	3.00	0.350	25.00	2.43	6.35	0.38	1.1	**2.7**

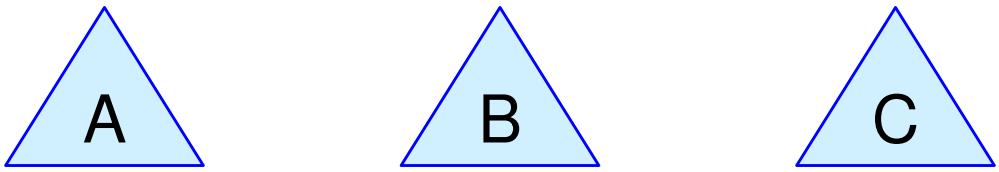
Swale A, C and G and as indicated on the project plans are a Type 1 Grass Swale.
Swale B and F as indicated on the project plans are a Type 2 Grass Swale.
Swale D and E as indicated on the project plans are a Type 3 Grass Swale.

APPENDIX J

Temporary Sediment Trap Sizing Calculations

3,600 CF minimum of storage required for each acre of contributing area

Sediment Trap #	Contributing Area (Acres)	Minimum Volume Required (cf)	Volume Provided (cf)
A	1.0	3,600	6,500
B	1.5	5,400	8,640
C	1.0	3,600	5,860



Subcat Reach Pond Link

Routing Diagram for App J - Temp Sediment Trap Sizing

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 2/16/2021

Summary for Pond A:

Volume	Invert	Avail.Storage	Storage Description
#1	490.00'	6,500 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
490.00	2,750	0	0
492.00	3,750	6,500	6,500

Summary for Pond B:

Volume	Invert	Avail.Storage	Storage Description
#1	498.00'	8,640 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

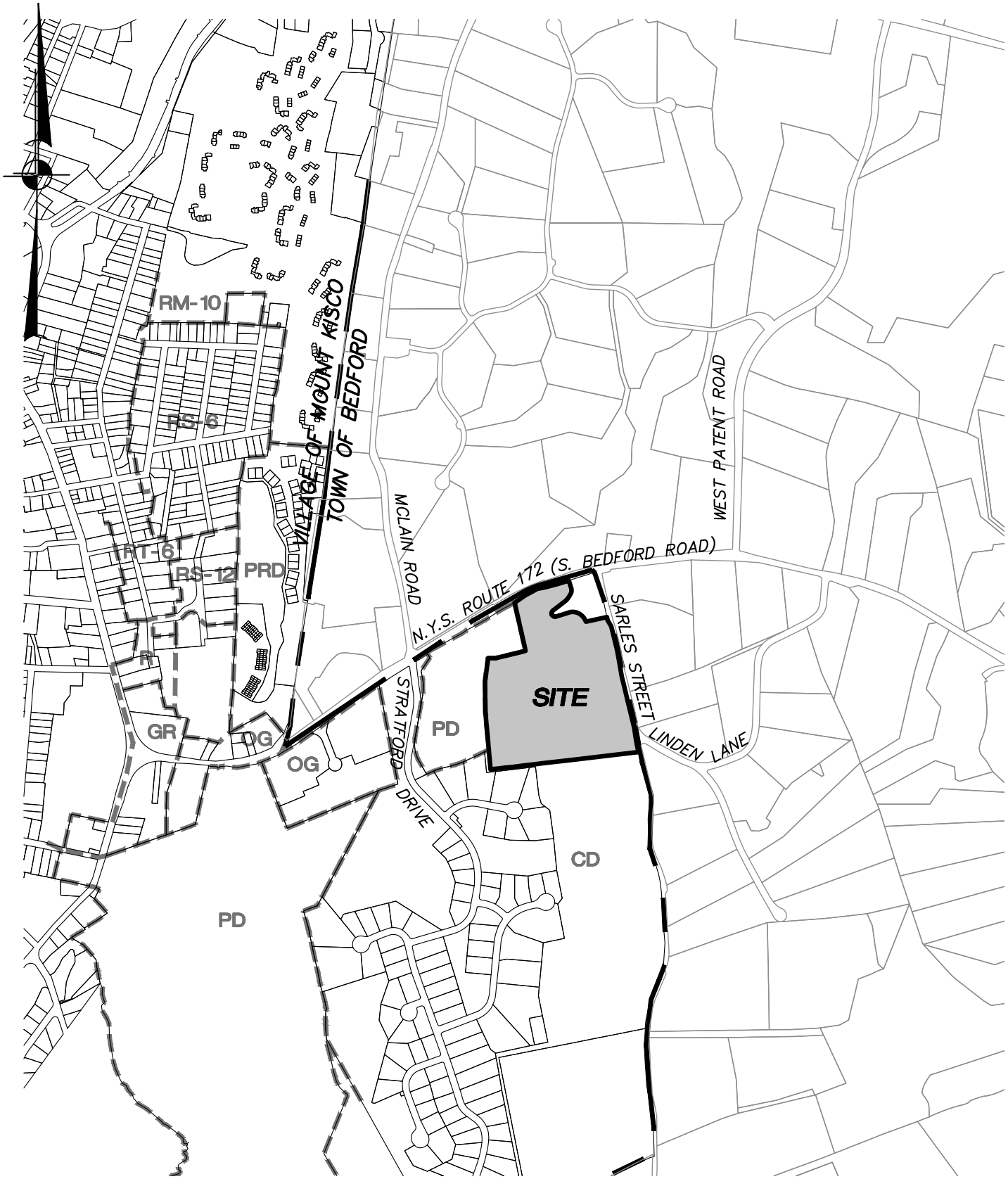
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
498.00	3,640	0	0
500.00	5,000	8,640	8,640

Summary for Pond C:

Volume	Invert	Avail.Storage	Storage Description
#1	478.00'	5,860 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
478.00	2,500	0	0
480.00	3,360	5,860	5,860

FIGURES



PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM 180 S. BEDFORD RD, TOWN OF MOUNT KISCO, WESTCHESTER CO., NY	PREPARED BY: INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. 3 Garrett Place • Carmel, New York 10512 Phone (845) 225-9690 • Fax (845) 225-9717 www.insite-eng.com
DRAWING: LOCATION MAP	DATE: 6-9-2020 SCALE: 1" = 1,000'± PROJECT NO.: 19192.100 FIGURE: 1

Z:\E\19192100 Sunrise Solar\Stormwater\Figures\Figure 1 - Location Map.dwg, 6/8/2020 5:31:41 AM, ependleton, 1:1

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChB	Charlton fine sandy loam, 3% to 8% slopes	B
ChC	Charlton fine sandy loam, 8% to 15% slopes	B
CrC	Charlton–Chatfield complex, 0% to 15% slopes, very rocky	B
CsD	Chatfield–Charlton complex, 15% to 35% slopes, very rocky	B
CuD	Chatfield–Hollis–Rock outcrop complex 15% to 35% slopes	D
Ff	Fluvaquetns–Udifluvents complex, frequently flooded	A/D
HrF	Hollis–Rock outcrop complex, 35% to 60% slopes	D
LcA	Leicester loam, 0% to 3% slopes, stony	A/D
LcB	Leicester loam, 3% to 8% slopes, stony	A/D
Soils Boundary		

LEGEND

PRE 1	SUBCATCHMENT
SF →	TIME OF CONCENTRATION SHEET FLOW
SCF →	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
DESIGN LINE	DESIGN LINE
	SUBCATCHMENT CONTRIBUTING AREA

GRAPHIC SCALE

0 15 30 60

(IN FEET)

1 inch = 60 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
1	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	EJP

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: PRE-DEVELOPMENT DRAINAGE MAP

PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.
DATE	6-9-20	DRAWN BY	E.J.P.
SCALE	1" = 60'	CHECKED BY	Z.M.P.

DRAWING NO. FIG-2

Z:\E\19192\00 Sunrise Solar\Stormwater\Figures\Figure 2 - Pre Development.dwg, 8/31/2020 7:45:49 AM, ejacobitter, 1:1

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChB	Charlton fine sandy loam, 3% to 8% slopes	B
ChC	Charlton fine sandy loam, 8% to 15% slopes	B
CrC	Charlton–Chatfield complex, 0% to 15% slopes, very rocky	B
CsD	Chatfield–Charlton complex, 15% to 35% slopes, very rocky	B
CuD	Chatfield–Hollis–Rock outcrop complex 15% to 35% slopes	D
Ff	Fluvaquetns–Udifluvents complex, frequently flooded	A/D
HrF	Hollis–Rock outcrop complex, 35% to 60% slopes	D
LcA	Leicester loam, 0% to 3% slopes, stony	A/D
LcB	Leicester loam, 3% to 8% slopes, stony	A/D
Soils Boundary		

LEGEND

- 1.1S — SUBCATCHMENT
- 1.1P — STORMWATER MANAGEMENT PRACTICE
- SF — TIME OF CONCENTRATION SHEET FLOW
- SCF — TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
- PF — TIME OF CONCENTRATION PIPE FLOW
- DESIGN LINE — DESIGN LINE
- SUBCATCHMENT CONTRIBUTING AREA
- STORMWATER MANAGEMENT / GREEN INFRASTRUCTURE PRACTICE AREA

GRAPHIC SCALE

0 15 30 60

(IN FEET)
1 inch = 60 ft.

NO.	DATE	REVISION	BY
1	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	EJP

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Carmel, NY 10512
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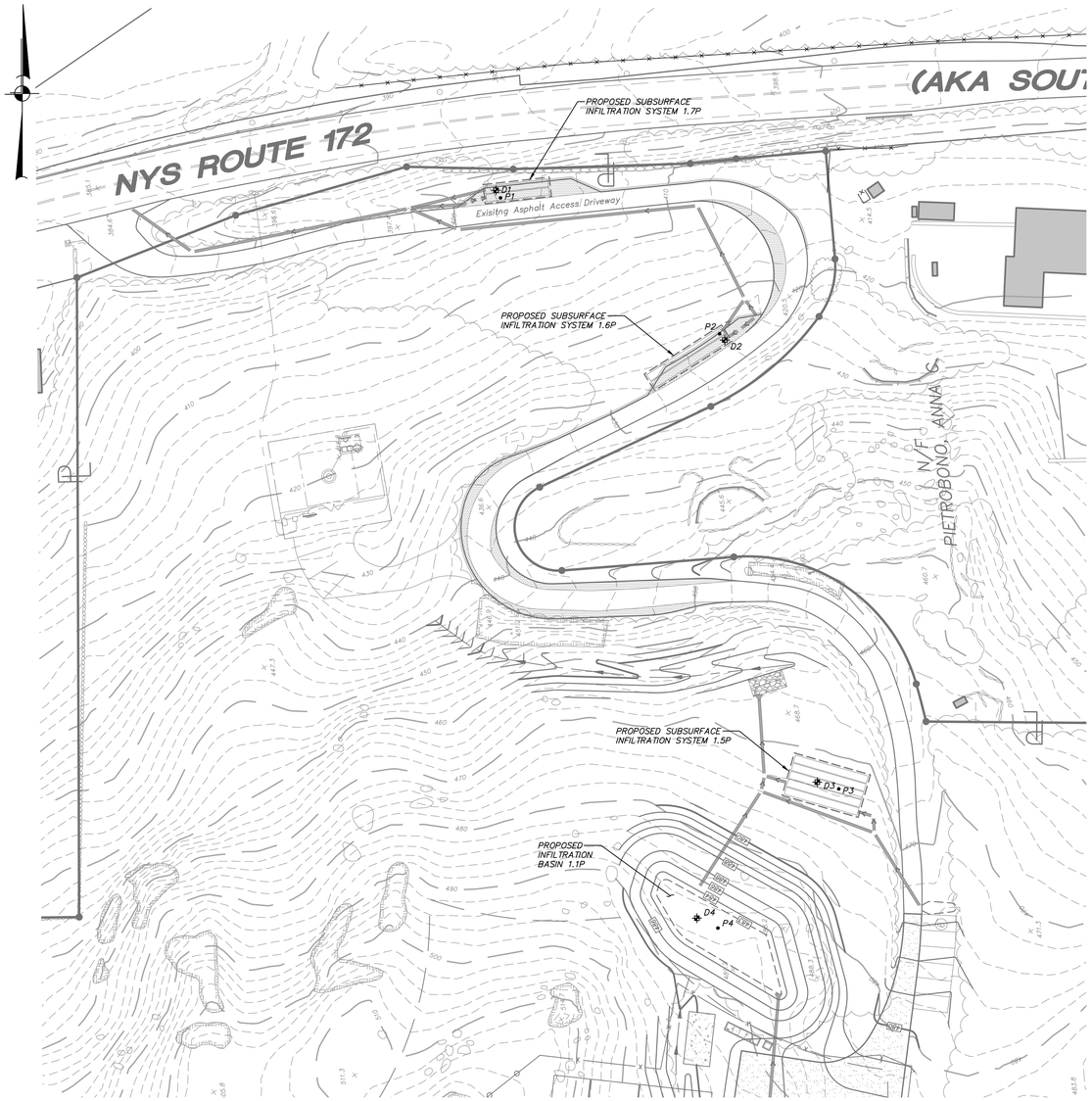
(845) 225-9717 fax
www.insite-eng.com

PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: POST-DEVELOPMENT DRAINAGE MAP

PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.
DATE	6-9-20	DRAWN BY	E.J.P.
SCALE	1" = 60'	CHECKED BY	Z.M.P.

DRAWING NO. FIG-3



STORMWATER MANAGEMENT PRACTICE
1.1P, 1.5P, 1.6P & 1.7P TESTING PLAN
SCALE: 1" = 40'

STORMWATER MANAGEMENT PRACTICE
1.2P, 1.3P & 1.4P TESTING PLAN
SCALE: 1" = 40'

DEEP HOLE TEST RESULTS:
DEEP TESTS PERFORMED: 6/9/20
DEEP TESTS WITNESSED BY:
EVAN PENDLETON (INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.) & ANDREEA ONCIOIU (NYCDEP)

NOTE: NO ROCK, GROUNDWATER, OR MOTTLING UNLESS OTHERWISE NOTED

D-1:	0"-6"	TOPSOIL
	6"-42"	LIGHT BROWN SANDS
	42"-120"+	DARK BROWN SANDS
		GROUNDWATER @ 117"
D-2:	0"-2"	TOPSOIL
	2"-116"+	LIGHT BROWN SANDS
D-3:	0"-4"	TOPSOIL
	4"-60"	LIGHT BROWN SANDS
	60"-96"+	DARK BROWN SANDS
D-4:	0"-6"	TOPSOIL
	6"-48"	LIGHT BROWN SANDS
	48"-92"+	DARK BROWN SANDS WITH COBBLES
D-5:	0"-6"	TOPSOIL
	6"-24"	GRAY SANDS
	24"-112"+	LIGHT BROWN SANDS WITH TRACES OF LOAM
D-6:	0"-4"	TOPSOIL
	4"-64"+	REDDISH BROWN LOAM WITH SANDS AND COBBLES
D-7:	0"-4"	TOPSOIL
	4"-36"	LIGHT REDDISH BROWN SAND WITH TRACES OF LOAM
	36"-84"+	DARK BROWN SANDY LOAM

INFILTRATION TEST RESULTS:
DEEP TESTS PERFORMED: 6/16/20
DEEP TESTS PERFORMED BY: EVAN PENDLETON & CHRIS ZAZZERO, (INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.)
WITNESSED BY: ANDREEA ONCIOIU (NYCDEP)

NOTE: P-1 WAS NOT TESTED AS THE PRESOAK FOR THE TEST HOLE DID NOT FULLY DEWATER PRIOR TO THE START OF TESTING. THE INFILTRATION TEST HOLE SHALL BE REINSTALLED AND TESTED AT A LATER DATE.

P-2:	23" IN./HR.
P-3:	4" IN./HR.
P-4:	55.4" IN./HR.
P-5:	60" IN./HR.
P-6:	100" IN./HR.
P-7:	4.5" IN./HR.

NO.	DATE	REVISION	BY
1	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	EJP

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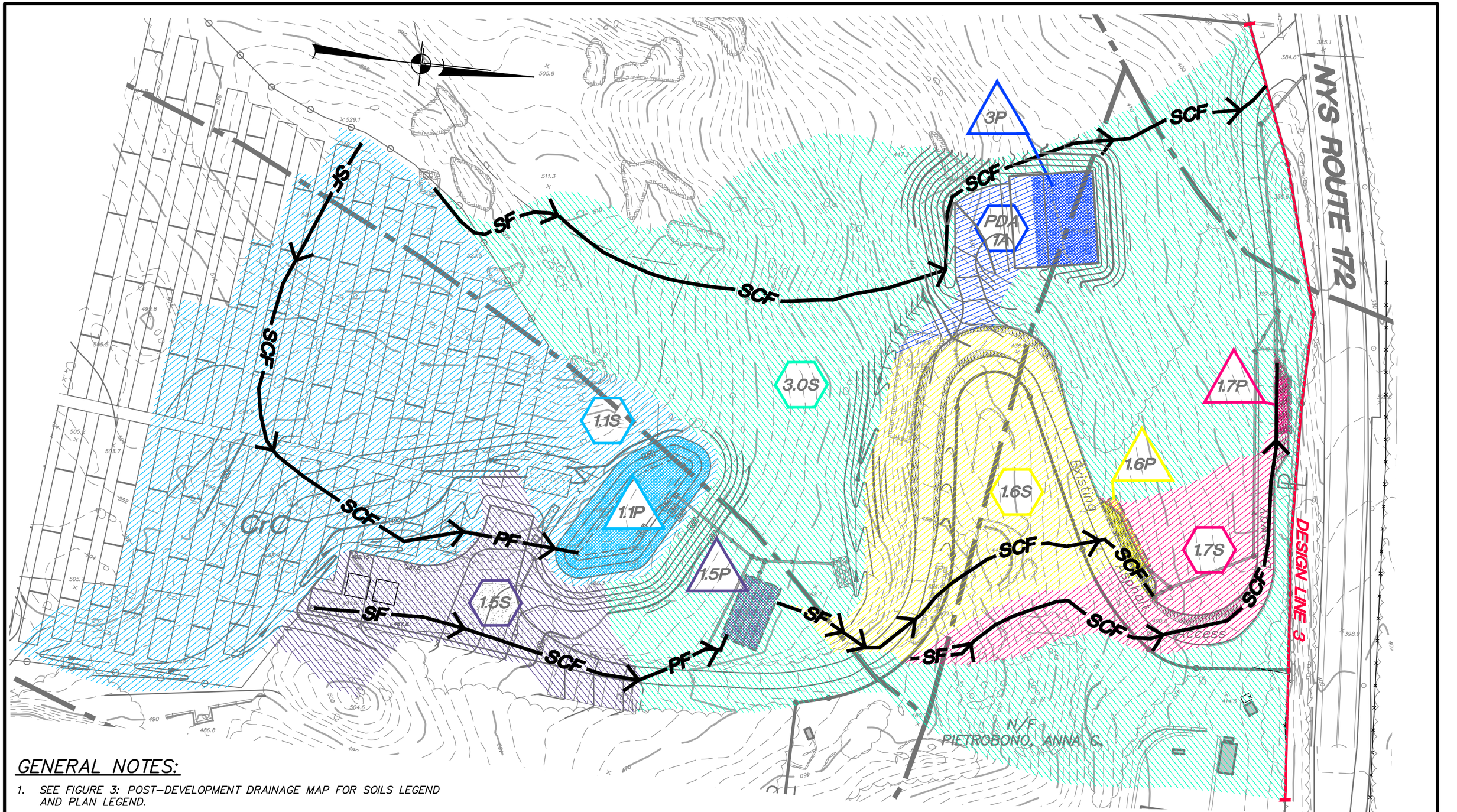
PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: TESTING PLAN

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.
DATE	6-23-20	DRAWN BY	E.J.P.
SCALE	1" = 40'	CHECKED BY	Z.M.P.

DRAWING NO. FIG-4

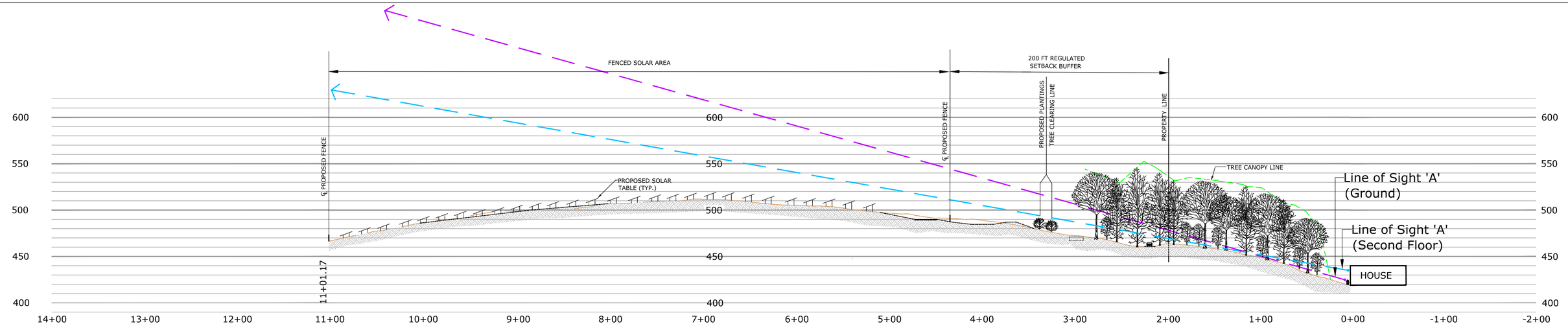


GENERAL NOTES:

1. SEE FIGURE 3: POST-DEVELOPMENT DRAINAGE MAP FOR SOILS LEGEND AND PLAN LEGEND.

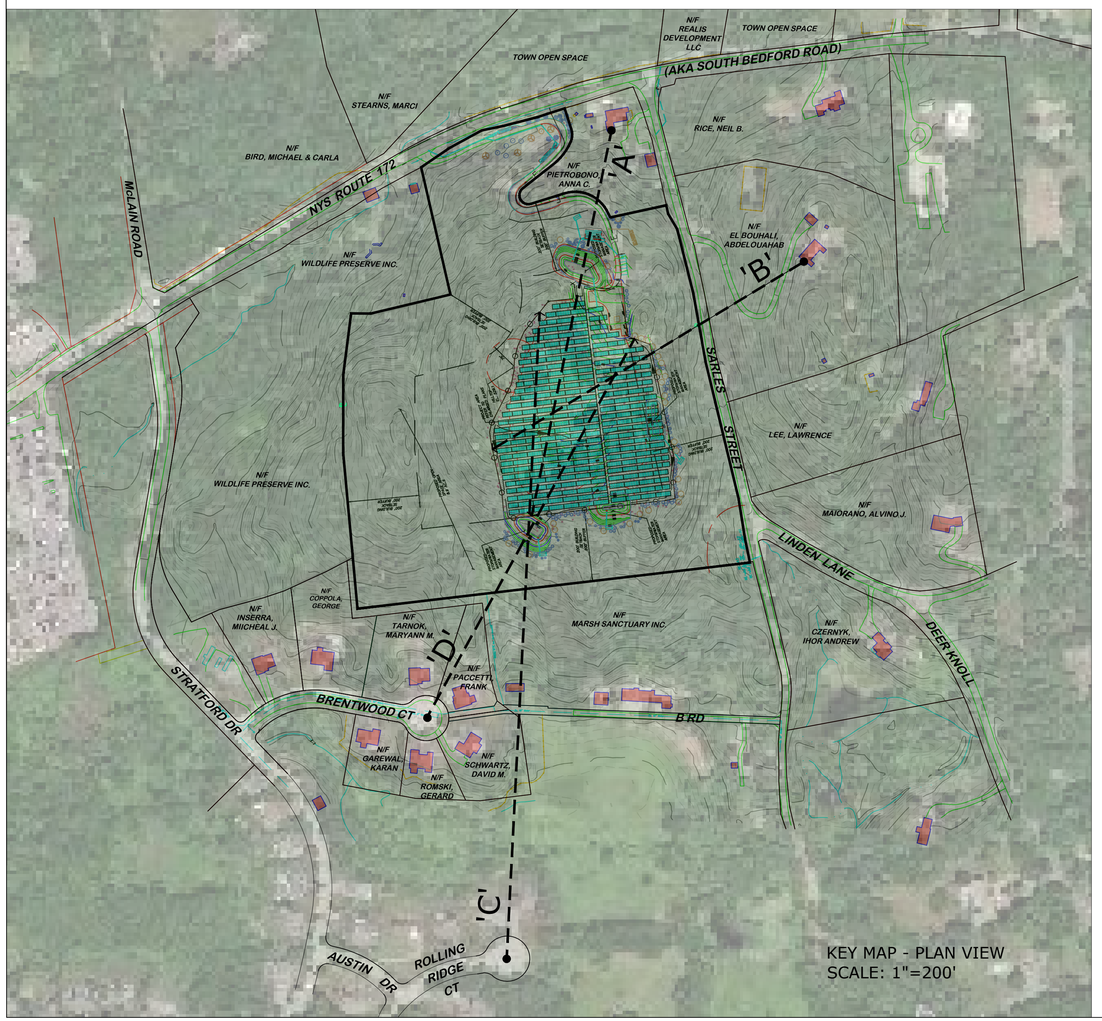
PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM 180 S. BEDFORD ROAD, TOWN OF MOUNT KISCO, WESTCHESTER COUNTY, NEW YORK	PREPARED BY: INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. 3 Garrett Place • Carmel, New York 10512 Phone (845) 225-9690 • Fax (845) 225-9717 www.insite-eng.com	GRAPHIC SCALE 0 30 60 120 (IN FEET) 1 inch = 60 ft.	DATE: 1-19-2021 SCALE: 1" = 60' PROJECT NO.: 19192.100 FIGURE: 5
DRAWING: DESIGN LINE 3 COMBINED POST-DEVELOPMENT DRAINAGE MAP			

Z:\E\19192100 Sunrise Solar\Stormwater\Figures\Figure 5 - Combined Post Development.dwg, 2/16/2021 7:51:51 AM, ependleton, 1:1

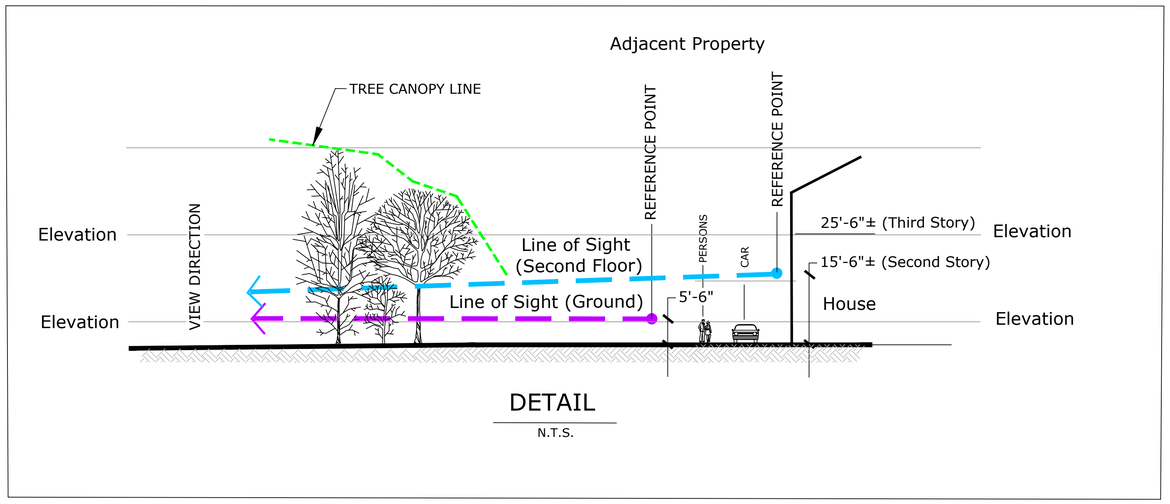


LINE OF SIGHT 'A'
CROSS SECTION PROFILE

Scale: 1"=50' (Horizontal and Vertical)



KEY MAP - PLAN VIEW
SCALE: 1"=200'



DETAIL

N.T.S.

LINE OF SIGHT - CROSS SECTION PROFILE PLAN FOR SCS SARLES STREET COMMUNITY SOLAR FARM

180 S. Bedford Rd., Village of Mt. Kisco, NY

Tax Lot Designation: 80.44-1-1

510 N. State Rd.
Briarcliff Manor, NY
914.762.7622
sunrisesolarllc.com

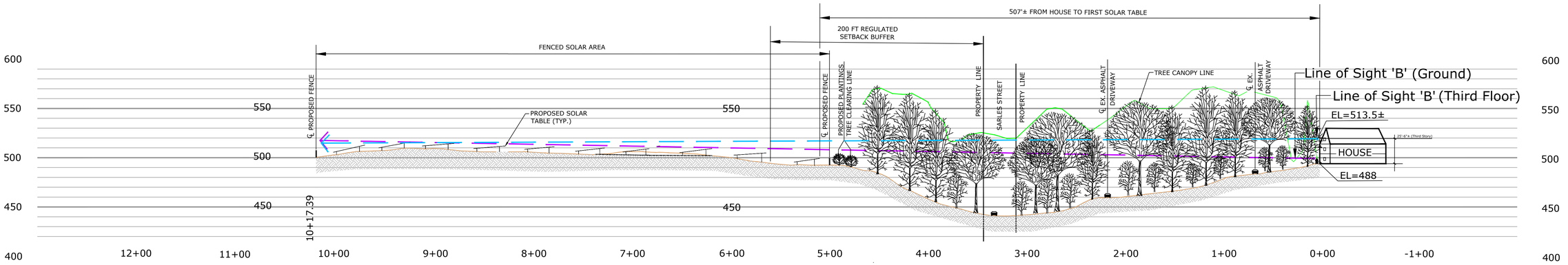
DATE	VER.	DRAWN BY	CHECKED BY	REMARKS
6-12-2020	V1	CCW	DH	
8-28-2020	R1	CCW	DH	REVISIONS AS REQUESTED FROM TOWN
2-15-2021	R2	CCW		ADDITIONAL DETAIL - LINE OF SIGHT 'B'

JOB #19-0058

Reference:

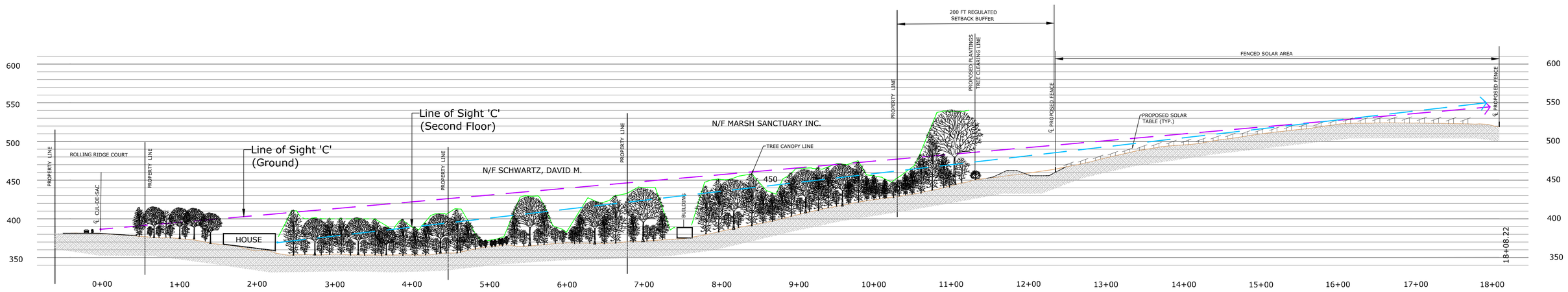
1. Topography and base map supplied by Insite Engineering, Surveying & Landscape Architecture, P.C.
2. Ground and Tree Canopy Surfaces supplied by Geomaps Inc.
3. Additional Pictures on sheet 3 of 3, taken from 3rd floor window (view from looking outside *) supplied by Town of Bedford, Conservation Board's report dated September 21, 2020.

Horizontal Datum: NAD83 (New York State Plane Coord. System, East Zone)
Vertical Datum: NAVD88



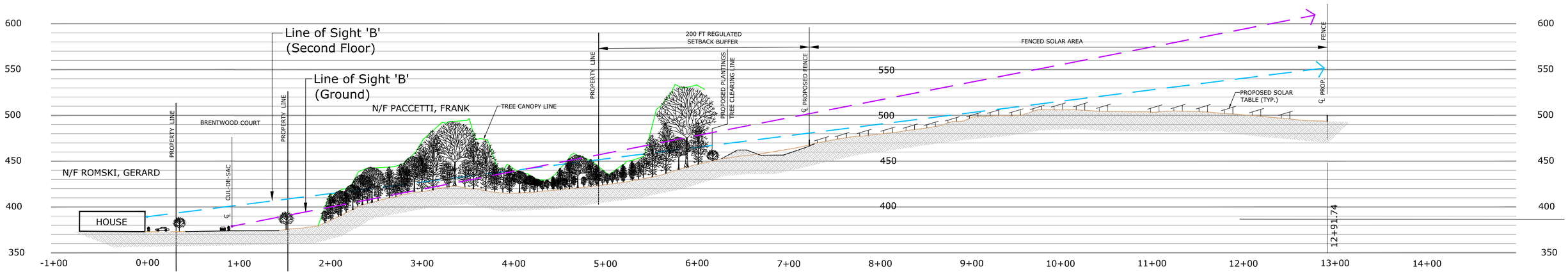
LINE OF SIGHT 'B'
CROSS SECTION PROFILE

Scale: 1"=50' (Horizontal and Vertical)



LINE OF SIGHT 'C'
CROSS SECTION PROFILE

Scale: 1"=60' (Horizontal and Vertical)



LINE OF SIGHT 'D'
CROSS SECTION PROFILE

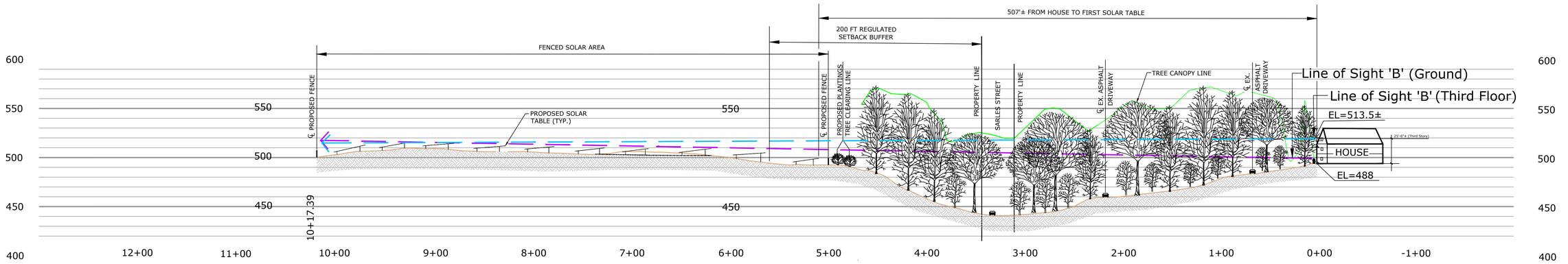
Scale: 1"=50' (Horizontal and Vertical)

510 N. State Rd.
Briarcliff Manor, NY
914.762.7622
sunrisesolarllc.com

Sunrise Solar SOLUTIONS

DATE	VER.	DRAWN BY	CHECKED BY	REMARKS
6-12-2020	V1	CCW	DH	
8-28-2020	R1	CCW	DH	REVISIONS AS REQUESTED FROM TOWN
2-15-2021	R2	CCW		ADDITIONAL DETAIL - LINE OF SIGHT "B"

JOB #19-0058



LINE OF SIGHT 'B'
CROSS SECTION PROFILE

Scale: 1"=50' (Horizontal and Vertical)

LINE OF SIGHT 'B'

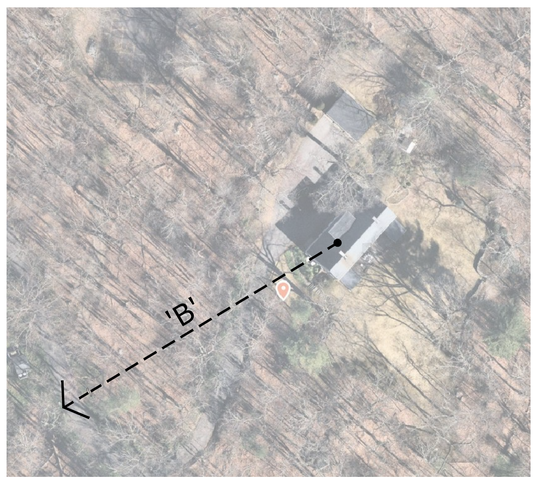
* El Bouhali Residence, looking northeast
1st Floor – basement and entry stair to house
2nd Floor – Living space, kitchen, den
3rd Floor – Bedrooms (bathrooms have a porthole between them)

* 3rd Floor El Bouhali Residence Facing northwest

VIEW FROM 3RD FLOOR WINDOW

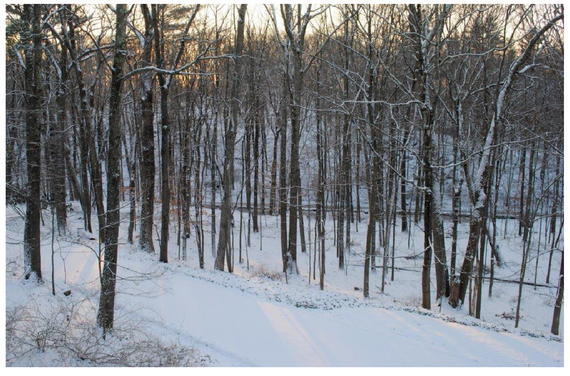
OVERHEAD VIEW FROM NORTH-WESTERLY DIRECTION

LINE OF SIGHT 'B'



AERIAL OF TREES W/O LEAVES

AERIAL OF TREES WITH LEAVES



* 3rd Floor El Bouhali Residence Facing west

VIEW FROM 3RD FLOOR WINDOW

* 3rd Floor El Bouhali Residence Facing southwest

VIEW FROM 3RD FLOOR WINDOW

510 N. State Rd.
Briarcliff Manor, NY
914.762.7622
sunrisesolarllc.com
Sunrise Solar SOLUTIONS

DATE	VER.	DRAWN BY	CHECKED BY	REMARKS
6-12-2020	V1	CCW	DH	
8-28-2020	R1	CCW	DH	REVISIONS AS REQUESTED FROM TOWN
2-15-2021	R2	CCW		ADDITIONAL DETAIL - LINE OF SIGHT "B"

JOB #19-0058

Reference:

1. Topography and base map supplied by Insite Engineering, Surveying & Landscape Architecture, P.C.
2. Ground and Tree Canopy Surfaces supplied by Geomaps Inc.
3. Additional Pictures on sheet 3 of 3, denoted with "*" supplied by Town of Bedford, Conservation Board's report dated September 21, 2020.

EL POUHALI RESIDENCE
PHOTO EXHIBIT
AND
LINE OF SIGHT -
CROSS SECTION PROFILE PLAN

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING DIRT TRAIL
- EXISTING EDGE OF PAVEMENT
- X — EXISTING FENCE
- WL-A2 WL-A3 — EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- 520 — EXISTING 10' CONTOUR
- X — PROPOSED CHAIN LINK FENCE
- PROPOSED CHAIN LINK FENCE WITH WILDLIFE ACCESS

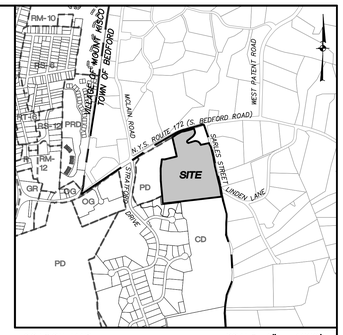
NET LOT AREA CALCULATIONS
(PER SECTION 110-33.1 OF THE VILLAGE OF MT. KISCO ZONING CODE)

Gross Lot Area:	1,089,000 s.f.± (25.0 AC.±)
Deduct Steep Slopes:	
– 50% of Steep Slopes Greater Than 25% 414,162 s.f. X 0.50 =	207,081 s.f.±
– 25% of Steep Slopes 20%-25% 147,681 s.f. X 0.25 =	36,920.25 s.f.±
Deduct 50% of Area of Wetlands: – 774 s.f. X 0.50 =	387 s.f.±
Net Lot Area:	844,611.75 s.f.± (19.4 AC.±)

TIER 3 SOLAR ZONING REQUIREMENTS [1]
(WITHIN CD CONSERVATION DEVELOPMENT DISTRICT)

	REQUIRED/PERMITTED:	EXISTING:	PROPOSED:
Min. Size of Lot[2]	25 ACRES	25.0 ACRES	No Change
Min. Building Setbacks Per Code			
Front	200'	n/a	n/a
Side	200'	n/a	n/a
Rear	200'	n/a	n/a
Min. Buffers			
From Street	200'	n/a	151'±
From Property Line	200'	n/a	141'± [5]
Max. Structure Height	15'	n/a	< 15'
Max. Structure Coverage	1% of Net Lot Area	n/a	n/a
Max. Development Coverage[3]	35% (6.79 AC)	2%	19.2%± (3.72 AC)
Min. Open Space Area[4]	35% (Min. 8.75 Ac.)	n/a	52.6%± (13.15 ACs.)

1. Per Section 110-33.2 and 110-7 CD Conservation Development District "Solar Energy Law" of the Village of Mount Kisco Code.
2. Shall meet requirements of underlying zoning district.
3. Based on Net Lot Area – See Net Lot Area calculations on this sheet.
4. Per Section 110-7.C.(3)(f.) of the Village Code, minimum open space area shall be 35% of the gross site area.
5. 59' Variance required from Zoning Board of Appeals.



LOCATION MAP SCALE: 1" = 1000'±

APPLICANT/LESSEE:

SCS Sarles St., LLC.
Attn: Doug Hertz
510 N. State Road
Briarcliff Manor, NY 10510

OWNER:

Skull Island Partners LLC
c/o David Seidin
1571 Oceanview Drive
Tierra Verde, FL 33715

SITE DATA:

Zone: CD-CONSERVATION DISTRICT
Total Acreage 25.0 AC.
Tax Map No.: 80.44-1-1

GENERAL NOTES:

1. Property line and existing conditions for site plans taken from a survey prepared by H. Stanley Johnson and Company Land Surveyors, P.C.
2. For drawing OP-1, ortho-imagery shown hereon is taken from NYS GIS Clearinghouse Mount Kisco data-base dated 2016. Topography shown hereon is taken from the Westchester County 2' contour, 1"=100' scale GIS data set dated 2004. Elevations reference the North American Vertical Datum of 1988 (NAVD 88).
3. Wetland boundaries shown hereon delineated by Evans Associates Environmental Consulting, Inc. on October 11, 2013 and survey located by H. Stanley Johnson and company surveyors, P.C.
4. For site plans, topography shown hereon provided by Geomaps International, based on aerial photographs dated April 10, 2017. Vertical datum: NAVD-88.
5. Existing conditions and topography for entrance driveway site plans based on field work performed by Insite Engineering, Surveying, and Landscape Architecture P.C.
6. Trees as shown on site plans based on field work performed by Insite Engineering, Surveying, and Landscape Architecture P.C, completed January 2020 and updated to identify dead and specimen trees per field work conducted by Insite Engineering, Surveying, and Landscape Architecture P.C., completed August 28, 2020.
7. Proposed limits of disturbance shall be staked in the field prior to start of construction.
8. A pre-construction meeting shall be conducted with the applicant, contractor, Project Engineer, Building Inspector, Village Engineer and Village Planner.

TIER 3 SOLAR SYSTEM PERMITTING & SAFETY NOTES:

1. All Solar Energy Systems shall be designed, erected, and installed in accordance with all applicable codes, regulations, and industry standards as referenced in the NYS Uniform Fire Prevention and Building Code ("Building Code"), the NYS Energy Conservation Code ("Energy Code") and the Code of the Village/Town of Mount Kisco ("Village Code").
2. All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility, with the exception of the main service connection at the utility company right-of-way and any new interconnection equipment.
3. No signage or graphic content shall be displayed on the Solar Energy Systems except the manufacturer's name, equipment specification information, safety information, and 24-hour emergency contact information. Said information shall be depicted on the smallest sign feasible and in no case shall the sign be of an area greater than 6 square feet.
4. As required by National Electric Code (NEC), disconnect and other emergency shutoff information shall be clearly displayed on a light reflective surface. A clearly visible warning sign concerning voltage shall be placed at the base of all pad-mounted transformers and substations.
5. All Solar Panels shall have anti-reflective coating(s).
6. Lighting of the Solar Energy Systems shall be limited to that minimally required for safety and operational purposes and shall be reasonably shielded and downcast from abutting properties.
7. Solar Energy Systems that have been abandoned and/or not producing electricity for a period of 1 year shall be removed at the Owner and/or Operator's expense.
8. All mechanical equipment, including any structure for storage batteries, shall be enclosed and secured as required by NEC and the Planning Board, with a self-locking gate to prevent unauthorized access.
9. Solar Energy Systems and Solar Energy Equipment shall be certified under the applicable electrical and/or building codes as required.
10. Solar Energy Systems, and access to same, shall be maintained in good working order, in accordance with industry standards, and as may be specified or required by the Planning Board.
11. If Storage Batteries are included as part of the Solar Energy System, they shall meet the requirements of any applicable fire prevention and building code when in use and when no longer used shall be disposed of in accordance with the laws and regulations of the Village and any applicable federal, state, or county laws or regulations.
12. The Special Use Permit and site plan approval for a Solar Energy System shall be subject to commencement of construction within 12 months from the date of site plan approval. In the event construction is not completed in accordance with the final site plan, as may have been amended and approved, as required by the Planning Board, within 12 months after commencement of construction, the Planning Board, upon prior written application of the applicant may extend the time to complete construction for an additional 6 months. If the applicant fails to achieve substantial completion after 24 months, the approvals shall expire.
13. Upon cessation of electricity generation of a Solar Energy System on a continuous basis for 12 months, the Village may notify and instruct the property owner and operator of the Solar Energy System to implement the decommissioning plan. The decommissioning plan must be completed within 360 days of notification.
14. If the owner and/or operator fails to comply with decommissioning upon any abandonment, the Village may remove of the Solar Energy System, restore the site in accordance with the decommissioning plan and place a lien on the property for the cost of such undertaking.
15. If, at the time of decommissioning, the property owner desires to pursue a utilization of the area different from the restoration set forth in the decommissioning plan, said owner shall pursue a site plan amendment in a timely fashion so that the application, approval and implementation may all be completed before the expiration of the 360 day period referenced in Note #13. Said application shall comply with then existing zoning regulations.

SCS Sarles Street / Homeland Towers Cumulative Tree Removal & Site / Steep Slope Disturbance Total

LIMITS OF DISTURBANCE	
Community Solar Farm	331,459 SF
Homeland Towers Cell Tower	18,570 SF
Access Drive	14,269 SF
STEEP SLOPES DISTURBANCE	
Community Solar Farm	
15% – 20%	59,590 SF
20% – 25%	39,810 SF
25% +	44,259 SF
Homeland Towers Cell Tower	
15% – 20%	5,787 SF
20% – 25%	2,346 SF
25% +	5,090 SF
Access Drive	
15% – 20%	4,031 SF
20% – 25%	1,595 SF
25% +	1,035 SF
TREES TO BE REMOVED	
Community Solar Farm	612 TREES
Homeland Towers Cell Tower	46 TREES
Access Drive	7 TREES

Notes:
1. This table is intended to show the cumulative effect on the overall property with respect to site disturbance, steep slopes disturbance, and tree removal for the SCS Sarles Street and Homeland Towers site plan applications as both applications are being processed concurrently.
2. The access drive area as shown hereon requires the same improvements for either the SCS Sarles Street or Homeland Towers applications with the exception of the electric line and utility pole (as identified via call-out in the plan view on Drawing D-1) which is specifically required for the SCS Sarles Street Application.

NO.	DATE	REVISION	BY
5	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
4	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
3	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
2	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP
1	6-9-20	REVISIONS PER VILLAGE COMMENTS	MEU

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Carmel, NY 10512
(845) 225-9690
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www.insite-erg.com

PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: OVERALL PLAN

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.
DATE	2-4-20	DRAWN BY	J.F.R.
SCALE	1" = 80'	CHECKED BY	D.L.M.

DRAWING NO. OP-1 SHEET 1 / 11

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 inch = 80 ft.

Z:\SCS\19200 Sarles Road\OP-1.dwg, 7/21/2021 8:09:00 AM, agoodhue, 1:1

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING DIRT TRAIL
- EXISTING FENCE
- EXISTING WETLAND FLAG (WL-A3)
- EXISTING WETLAND BUFFER
- EXISTING INDIVIDUAL TREE
- EXISTING TREE TO BE REMOVED
- EXISTING DEAD TREE TO BE REMOVED
- EXISTING SPECIMEN TREE TO BE REMOVED
- EXISTING TREE LINE
- EXISTING ROCK OUTCROP
- PROPOSED CHAIN LINK FENCE
- PROPOSED CHAIN LINK FENCE WITH WILDLIFE ACCESS
- 200' BUILDING SETBACK
- PROPOSED GRASS SWALE
- PROPOSED LANDSCAPING

SITE PLAN FOR PHOTOVOLTAIC SOLAR FARM

SYSTEM DESCRIPTION:
6,056 Photovoltaic Panels
Hanwha Qpeak Duo G6.3-G8.2 series
415-425 Watt Panels

Table	Amount	Count
4x6 (24)	217x24	5,208
4x5 (20)	13x20	260
4x4 (16)	27x16	432
4X3 (12)	13x12	156
Total		6,056

TABLES
-AZIMUTH 273 °
-TILT 20°

rev 8-25-2020 CCW
6-9-2020 CCW

SITE SEEDING NOTES:

1. For all disturbed areas to be re-seeded, soil amendments and fertilizer application rates shall be determined based on specific testing of soil material.
2. Upon final grading and placement of any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
   - select seed mixture per drawings and seeding notes.
   - fertilizer shall only be applied at recommendation of a certified soil laboratory based on specific testing of soil material for the intended use.
   - mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000 s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005.
   - If the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
3. The seed mixes as specified on these drawings are as follows:

A. SEED MIX A – Northeast Solar Pollinator 4' Mix (ERNMX-611) as manufactured by Ernst Conservation Seeds of Meadville, PA (or approved equal) for areas within solar farm and outside fence around stumps of cut trees and new plantings within temporary disturbance areas at a rate of 30 lbs/acre with a cover crop of either grain oats (Jan 1 to Jul 31) or grain rye (Aug 1 to Dec 31) at a rate of 30 lbs/acre. Refer to "Planting and Seeding Notes for Native Pollinator Establishment".

B. SEED MIX B – Meadow seed mix for seeding berms of stormwater basins as shown on plans at a rate of 60 lbs. per acre:
Native Steep Slope Mix with Annual Ryegrass (ERNMX-181) from Ernst Conservation Seeds of Meadville, PA.

C. SEED MIX C – Seed Mix for Bottom of stormwater basins at a rate of 40 lbs. per acre: Native Detention Area Mix (ERNMX-183) from Ernst Conservation Seeds of Meadville, PA.

D. For the first growing season, the meadow should be cut down to a height of 8" when the vegetation reaches 18 to 24", using a string trimmer or a brush hog. This will reduce competition by fast-growing weeds for sunlight, water and nutrients. The last mowing of the season should be completed no later than mid-September. Hand pulling and spot treating of invasive weeds may be utilized in the pollinator seeding area in conjunction with mowing to control invasive species.

E. For the second and subsequent growing seasons, early in the spring, prior to new spring growth reaching a height of 2', any standing material from the previous season should be trimmed close to the ground (approximately 2"height), which will allow the soil to warm and stimulate growth of native seedlings. This is also a good time to introduce additional seeding, if needed. Hand pulling and spot treating of invasive weeds may be utilized in the pollinator seeding area in conjunction with mowing to control invasive species.

GENERAL PLANTING NOTES:

1. All proposed planting beds to receive a 12" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
3. All plant material to be nursery grown.
4. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
5. Plant material shall be taken from healthy nursery stock.
6. All plants shall be grown under climate conditions similar to those in the locality of the project.
7. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
8. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
9. Provide a 3" layer of shredded bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
10. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.

PLANTING AND SEEDING NOTES FOR NATIVE POLLINATOR ESTABLISHMENT:

1. The existing site groundcover vegetation will be retained to the greatest extent practical throughout installation of the solar panel tables and construction of the site.
2. For seeding areas disturbed during construction due to regrading, tree clearing, stump removal and installation of the earth screw table legs:
   a. Seeding should begin immediately upon completion of finish grading and seed bed preparation while soil is still friable and before weeds can emerge. If seeding area is crusted or compacted, it should be loosened by discing or tilling. If weeds are present, they should be mowed short and removed before seed is applied.
   b. Seeds of native pollinator species will be broadcast and provided with a quick germinating nurse cover crop seed as specified in the seeding notes on the site plan.
   c. A layer of straw mulch will be applied in accordance with the seeding notes and erosion and sediment control notes on the site plans.
   d. Erosion control fabric will be installed on the areas as designated on the site plans.
3. For seeding in the locations for native / pollinator establishment including undisturbed areas outside fence where trees will be cut and stumps will remain, and areas of temporary disturbance inside fence:
   a. The existing groundcover vegetation will be mown low to the ground (to ½" height) in preparation and area shall be scarified to loosen soil. Loose vegetation shall be removed.
   b. Seeds of native pollinator species will be broadcast and provided with a quick germinating nurse cover crop seed as specified in the seeding notes on the site plan.
   c. A layer of straw mulch will be applied in accordance with the seeding notes and erosion and sediment control notes on the site plans.
   d. Erosion control fabric will be installed on the areas as designated on the site plans.

PLANT LIST *INCLUDES PROPOSED PLANTINGS ON SHEET D-1

KEY	QTY	BOTANICAL/COMMON NAME	SIZE	ROOT
		EVERGREEN TREES		
IO	4	Ilex opaca / American Holly	7' HT.	B & B
JV	19	Juniperus virginiana / Eastern Red Cedar	7' HT.	B & B
PG	3	Picea glauca / White Spruce	7' HT.	B & B
PS	3	Pinus strobus / Eastern White Pine	7' HT.	B & B
TP	3	Thuja plicata "Steeplechase" / Steeplechase Arborvitae	7' HT.	B & B
		SHADE TREES		
AR	1	Acer rubrum / Red Maple	4" CAL.	B & B
AS	1	Acer saccharum / Sugar Maple	4" CAL.	B & B
BN	1	Betula nigra / River Birch	12'-14" MULTI	B & B
CO	1	Carya ovata / Shagbark Hickory	4" CAL.	B & B
NS	5	Nyssa sylvatica / Black Gum	4" CAL.	B & B
QR	1	Quercus rubra / Red Oak	4" CAL.	B & B
		UNDERSTORY TREES		
AC	7	Amelanchier canadensis / Shadblow Serviceberry	2.5" CAL.	B & B
BP	3	Betula populifolia / Grey Birch	2.5" CAL.	B & B
CH	3	Carpinus caroliniana / American Hornbeam	2.5" CAL.	B & B
CC	2	Cercis canadensis / Eastern Redbud	2.5" CAL.	B & B
CF	4	Cornus florida / Flowering Dogwood	2.5" CAL.	B & B
RT	3	Rhus typhina / Staghorn Sumac	2.5" CAL.	B & B
SA	5	Sorbus americana / American Mountain Ash	2.5" CAL.	B & B
		SHRUBS		
AA	11	Aronia arbutifolia / Red Chokeberry	1.5-2' HT.	CONT.
AM	13	Aronia melanocarpa / Black Chokeberry	1.5-2' HT.	CONT.
HV	6	Hamamelis vernalis / Vernal Witchhazel	3'-4' HT.	CONT.
HW	6	Hamamelis virginiana / Common Witchhazel	3'-4' HT.	CONT.
KL	19	Kalmia latifolia / Mountain Laurel	2'-3' HT.	CONT.
KA	3	Kolkwitzia amabilis 'Pink Cloud' / Pink Cloud Beauty Bush	2'-3' HT.	CONT.
PO	18	Physocarpus opulifolius / Eastern Ninebark	2'-3' HT.	B & B
RC	16	Rhododendron calendulaceum / Flame Azalea	2'-3' HT.	CONT.
SC	6	Sambucus canadensis / Black Elderberry	2'-3' HT.	CONT.
VA	10	Viburnum acerifolium / Mapleleaf Viburnum	1.5-2' HT.	CONT.
VP	21	Viburnum prunifolium / Blackhaw Viburnum	3'-4' HT.	B & B

* REFER TO DRAWING OP-1 FOR GENERAL NOTES *

TREE LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE

AS	ASH
BB	BLACK BIRCH
BE	BEECH
BR	BIRCH
CH	CHERRY
DG	DOGWOOD
EL	ELM
HK	HICKORY
HM	HEMLOCK
IR	IRONWOOD
LO	LOCUST
MA	MAPLE
OA	OAK
PN	PINE
PO	POPLAR
SAS	SASSAFRAS
TR	UNKNOWN SPECIES
TRI	TRIPLE
TW	TWIN

SOLAR PANEL TABLE CHART

GRAPHIC SYMBOL	DESCRIPTION	TABLE COUNT
	24 PANEL TABLE (4 UP BY 6 ACROSS)	217 (217x24=5,208)
	20 PANEL TABLE (4 UP BY 5 ACROSS)	13 (13x20=260)
	16 PANEL TABLE (4 UP BY 4 ACROSS)	27 (27x16=432)
	12 PANEL TABLE (4 UP BY 3 ACROSS)	13 (13x12=156)
TOTAL NUMBER OF TABLES = 270 TOTAL NUMBER OF PANELS = (6,056)		

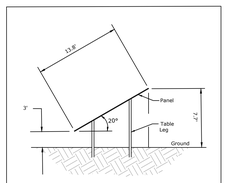

TABLE CROSS SECTION 'A'
From Panel Detail
N.T.S.

TABLE IMAGES
N.T.S.

CALCULATION FOR REPLACEMENT TREES:

(Per Section 99-10 "Tree Preservation" & Section 110-33.2 "Solar Energy Law" of the Village Zoning Code).

Required
1 tree planted/ 2,500 sf of permanent disturbance*
216,075 sf of permanent disturbance/2,500 sf = 87 trees

1 additional tree (**) planted for each tree to be removed from slopes 25% or greater = 132 trees
Total = 219 trees

To be provided onsite: (32) 7' HT. evergreen trees
(10) 4" cal. (or equivalent) shade trees
(27) 2.5" cal. understory trees
(69) Total (****)

* Refer to Table of Proposed Ground Disturbance on Drawing SP-3
** For two (2) total trees to be planted for each tree to be removed from slopes 25% or greater, per section 99-10.D.(4).
*** Per section 99-10.D.(4).
**** Balance of replacement trees to be planted on an alternate Village of Mount Kisco site or a contribution made to the Village tree fund.

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

NO.	DATE	REVISION	BY
5	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
4	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
3	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
2	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP
1	6-9-20	REVISIONS PER VILLAGE COMMENTS	MEU

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PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY.

DRAWING: LAYOUT PLAN

STATE OF NEW YORK — CHRISTOPHER D. WILLIAMS — 082808 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET
DATE	2-4-20	DRAWN BY	J.F.R.	SP-1	2 / 11
SCALE	1" = 30'	CHECKED BY	D.L.M.		

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING DIRT TRAIL
- EXISTING FENCE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING WATERCOURSE
- EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CHAIN LINK FENCE
- PROPOSED CHAIN LINK FENCE WITH WIDLIFE ACCESS
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED DRAINAGE PIPE
- PROPOSED GRASS SWALE
- 200' BUILDING SETBACK
- PROPOSED UNDERGROUND ELECTRIC LINE

* REFER TO DRAWING OP-1 FOR GENERAL NOTES *

NO.	DATE	REVISION	BY
5	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
4	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
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PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: GRADING & UTILITIES PLAN

GRAPHIC SCALE
0 30 60 120
(IN FEET)
1 inch = 30 ft.

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.
DATE	2-4-20	DRAWN BY	J.F.R.
SCALE	1" = 30'	CHECKED BY	D.L.M.

DRAWING NO. SP-2
SHEET 3 / 11

Z:\19192\SCS\Sarles Solar\SD #7 Aug_21\19192-SUTILITY.dwg, 2/16/2021 12:25:13 PM, eparkhurst, 1:1

EARTHWORK SUMMARY

CUT	FILL	NET FILL
4,500 cy	5,350 cy	850 cy (fill)*

* Net includes the importation of topsoil & gravel surface material.

TABLE OF PROPOSED GROUND DISTURBANCE FOR SCS SARLES STREET

Permanent Ground Disturbance	Amount of Disturbance
Table Legs (1,084 legs x .265 SF/leg)	287 SF±
Equipment Area, Stormwater Basins, Drainage, Earthwork & Driveway/Parking Area	205,288 SF±
Stump Removal	10,500 SF±
Total Permanent Disturbance:	**216,075 SF±**
Temporary Ground Disturbance	
Trenching for Underground Electric	2,180 SF±
Native Grass/Pollinator Seeding	105,545 SF±
Plantings Along Fence, Basins & Entrance	10,400 SF±
Silt Fence	12,000 SF±
Total Temporary Disturbance:	**130,125 SF±**
TOTAL PROPOSED GROUND DISTURBANCE:	**346,200 SF±**

* Permanent ground disturbance per Section 99 "Tree Preservation" and Section 110-33.2 "Solar Energy Law".

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING DIRT TRAIL
- EXISTING FENCE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING WATERCOURSE
- EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING INDIVIDUAL TREE
- EXISTING TREE TO BE REMOVED
- EXISTING DEAD TREE TO BE REMOVED
- EXISTING SPECIMEN TREE TO BE REMOVED
- PROPOSED CHAIN LINK FENCE
- PROPOSED CHAIN LINK FENCE WITH WOLFE ACCESS
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED DRAINAGE PIPE
- PROPOSED GRASS SWALE
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION FENCE
- PROPOSED STONE RIP-RAP
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED TEMPORARY STONE CHECK DAM
- PROPOSED TEMPORARY DIVERSION SWALE
- PROPOSED TEMPORARY SOIL STOCKPILE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED EROSION CONTROL BLANKET
- 200' BUILDING SETBACK
- PROPOSED UNDERGROUND ELECTRIC LINE
- PROPOSED PHASING LINE
- PROPOSED PHASING NUMBER

EROSION & SEDIMENT CONTROL NOTES:

1. The NYSDEC Trained Contractor will be responsible for the implementation and maintenance of erosion and sediment control measures on this site prior to and during construction.
2. All construction activities involving the removal or disposition of soil are to be provided with appropriate protective measures to minimize erosion and contain sediment disposition within. Minimum soil erosion and sediment control measures shall be implemented as shown on the plans and shall be installed in accordance with "New York Standards and Specifications For Erosion and Sediment Control," latest edition.
3. Wherever feasible, natural vegetation should be retained and protected. Disturbance shall be minimized in the areas required to perform construction. No more than 5 acres of unprotected soil shall be exposed at any one time.
4. When land is exposed during development, the exposure shall be kept to the shortest practical period of time. In the areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. Disturbance shall be minimized to the areas required to perform construction.
5. Silt fence shall be installed as shown on the plans prior to beginning any clearing, grubbing or earthwork.
6. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded for temporary stabilization. Ryegrass (annual or perennial) at a rate of 30 lbs. per acre shall be used for temporary seeding in spring, summer or early fall. "Aristook" Winter Rye (cereal rye) shall be used for temporary seeding in late fall and winter.
7. Any disturbed areas not subject to further disturbance or construction traffic, permanent or temporary, shall have soil stabilization measures initiated for permanent vegetation cover in combination with a suitable mulch within 1 business day of final grading. All seeded areas to receive a minimum 4" topsoil (from stockpile area) and be seeded and mulched as follows:
   - Seed mixture to be planted between March 21 and May 20, or between August 15 and October 15 or as directed by project representative at a rate of 100 pounds per acre in the following proportions:

Kentucky Bluegrass	20%
Creeping Red Fescue	40%
Perennial Ryegrass	20%
Annual Ryegrass	20%

   - Mulch: Salt hay or small grain straw applied at a rate of 90 lbs./1000 S.F. or 2 tons/acre, to be applied and anchored according to "New York Standards and Specification For Erosion and Sediment Control," latest edition.
8. Grass seed mix may be applied by either mechanical or hydroseeding methods. Seeding shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1". Hydroseeding shall be performed using materials and methods as approved by the site engineer.
9. Cut or fill slopes steeper than 3:1 shall be stabilized immediately after grading with Curlex I Single Net Erosion Control Blanket, or approved equal.
10. Paved roadways shall be kept clean at all times.
11. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
12. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
13. Stormwater from disturbed areas must be passed through erosion control barriers before discharge beyond disturbed areas or discharged into other drainage systems.
14. Erosion and sediment control measures shall be inspected and maintained on a daily basis by the NYSDEC Trained Contractor to insure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of erosion and sediment control measures shall be immediately repaired by the contractor and inspected for approval by the NYSDEC Trained Contractor and/or site engineer.
15. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the NYSDEC Trained Contractor.
16. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
17. All fills shall be placed and compacted in 6" lifts to provide stability of material and to prevent settlement.
18. The NYSDEC Trained Contractor shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms.
19. As warranted by field conditions, special additional erosion and sediment control measures, as specified by the site engineer and/or the Village Engineer shall be installed by the contractor.
20. Erosion and sediment control measures shall remain in place until all disturbed areas are suitably stabilized.

OVERALL CONSTRUCTION SEQUENCE:

PHASE 1: (Total Disturbance 3.56 Ac. ±)
TOTAL DISTURBANCE INCLUDES PROJECT AREA BY HOMELAND TOWERS, LLC (0.43 Ac. ±)

1A PHASE 1A:
1. Install stabilized construction entrance.
2. Clear trees within the overall project limit of disturbance. Trees to be cut down and removed from project site. Stumps to be grubbed in later phase of project.

1B PHASE 1B (Driveway improvements associated with both SCS Sarles Street and Homeland Towers applications):
1. Begin earthwork associated with the proposed entrance road and gravel parking area improvements.
2. Install gravel turn around area.
3. Install proposed electric service line.
4. Final pavement surfaces and landscaping along the entrance drive shall be installed in Phase 3.

1C PHASE 1C:
1. Install erosion control measures shown on the plan in accordance with the details. Install construction fence around the proposed subsurface infiltration systems and infiltration basins.
2. Grub stumps.
3. Construct infiltration basin (1.1P) and subsurface infiltration systems (1.5P, 1.6P, and 1.7P). Cordon infiltration practices off with orange construction fence.
4. Install drainage collection and conveyance system, including grass swales, drainage structures and drainage pipe. Plug the primary outlet pipe from FS 1.5, FS 1.6, and FS 1.7 to the downstream infiltration practices. All stormwater runoff shall be diverted from infiltration basin 1.1P until the contributing area is stabilized.

1D PHASE 1D:
1. Construct the proposed infiltration basins (1.2P, 1.3P, and 1.4P) and associated drainage. All stormwater runoff shall be diverted away from the proposed infiltration basins until the contributing areas are stabilized.
2. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the sedimentation and erosion control notes. All disturbed areas in Phase 1 must achieve temporary stabilization to the satisfaction of the Village of of Mount Kisco and the New York City Department of Environmental Protection (NYCDEP) prior to the commencement of Phase 2. Temporary stabilization is achieved when all exposed soil within the phase boundary has been covered with material(s) in accordance with the "New York Standards and Specification for Erosion and Sediment Control" to prevent the exposed soil from eroding.

2 PHASE 2: (Total Disturbance 4.5 Ac. ±)
(NOTE: Since the project by Homeland Towers, LLC. is 0.43 Ac. ±, the two projects can occur simultaneously)
1. Install erosion and sediment control measures shown on the plan in accordance with the details.
2. Construct temporary sediment traps and temporary diversion swales.
3. Begin mass earthwork.
4. Install grass swales.
5. Install electrical conduit.
6. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the sedimentation and erosion control notes.
7. Upon stabilization of the contributing areas, remove the temporary sediment basins and temporary swales, topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the sedimentation and erosion control notes. All disturbed areas in Phase 2 must achieve temporary stabilization to the satisfaction of the Village of Mount Kisco and the NYCDEP prior to the commencement of Phase 3.

3 PHASE 3: (Total Disturbance 0.3 Ac. ±)
1. Install landscaping outside the perimeter of the fence.
2. Install chain link fence.
3. Install table legs for solar panel tables.
4. Continue assembly of the solar panel tables including racking, panels and electrical work. No disturbance is proposed for the solar panel assembly in this phase.
5. Install remaining landscaping along the entrance road.
6. Install final paved surfaces.
7. Upon completion of all disturbance topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the sedimentation and erosion control notes.
8. Once all disturbed areas have achieved final stabilization, remove all temporary erosion and sediment control facilities. Remove plug in primary outlet of flow splitter upstream of the subsurface infiltration systems (1.5P, 1.6P, and 1.7P)

NOTE:
The total disturbance for Phase 3 was calculated as follows:

Landscaping:	10,400 sf
Table legs:	287 sf
Fence Posts:	724 sf
Total:	11,411 sf

The disturbance associated with the solar panel table leg and landscaping installation was taken from the Table of Proposed Ground Disturbance on Drawing SP-3. The disturbance for the fence post installation was conservatively calculated to be twice the development cover for the concrete foundations for the fence posts as calculated on the Development Coverage Break Down table on Drawing DV-1.

* REFER TO DRAWING OP-1 FOR GENERAL NOTES *

NO.	DATE	REVISION	BY
5	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
4	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
3	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
2	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP
1	6-9-20	REVISIONS PER VILLAGE COMMENTS	MEU

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PROJECT:
SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING:
EROSION & SEDIMENT CONTROL PLAN

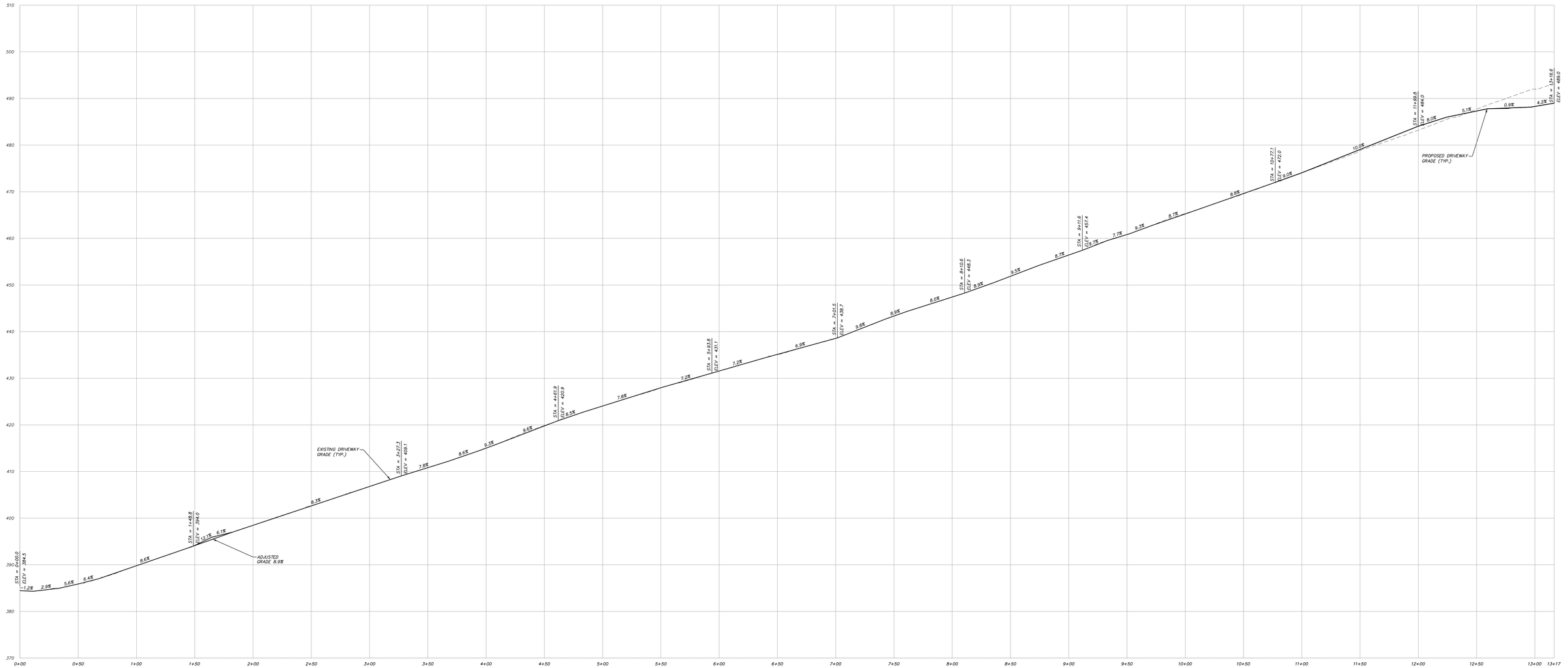
STATE OF NEW YORK — RICHARD D. WILLIAMS — 092815 — LICENSED PROFESSIONAL ENGINEER

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 inch = 40 ft.

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.
DATE	2-4-20	DRAWN BY	J.F.R.
SCALE	1" = 40'	CHECKED BY	D.L.M.

DRAWING NO. SP-3 SHEET 4 / 11

Z:\19192\100 Sarles Solar\SP-3.dwg, 2/16/2021 11:29:55 PM, ejpalitsch, 1:1



EXISTING ROAD PROFILE

SCALE: HORIZ. 1" = 30'
VER. 1" = 8'

GRAPHIC SCALE

0 30 60 120

(IN FEET)
1 inch = 30 ft.

NO.	DATE	REVISION	BY
4	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
3	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
2	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	TMB
1	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP

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PROJECT:
SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING:
ROAD PROFILES

STATE OF NEW YORK
CHRISTOPHER D. WILLITS
085866
LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.
DATE	6-9-20	DRAWN BY	J.F.R.
SCALE	AS NOTED	CHECKED BY	D.L.M.

DRAWING NO. PR-1
SHEET 5 / 11

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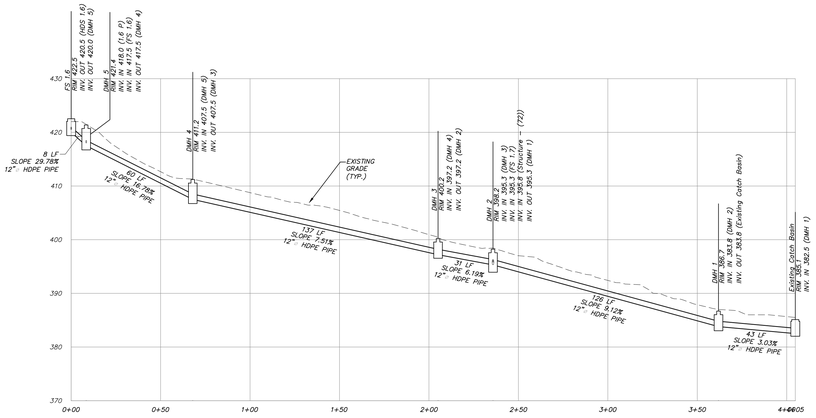
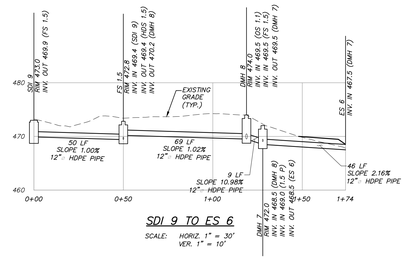


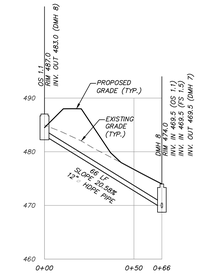
FS 1.6 TO EXISTING CATCH BASIN

SCALE: HORIZ. 1" = 30'
VER. 1" = 10'



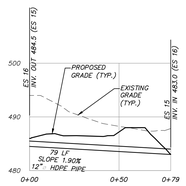
SDI 9 TO FS 6

SCALE: HORIZ. 1" = 30'
VER. 1" = 10'



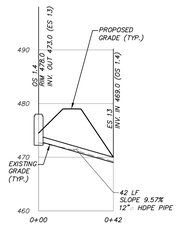
OS 1.1 TO DMH 8

SCALE: HORIZ. 1" = 30'
VER. 1" = 10'



ES 16 TO ES 15

SCALE: HORIZ. 1" = 30'
VER. 1" = 10'



OS 1.4 TO ES 13

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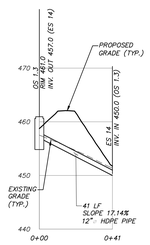
VER. 1" = 10'



OS 1.3 TO ES 14

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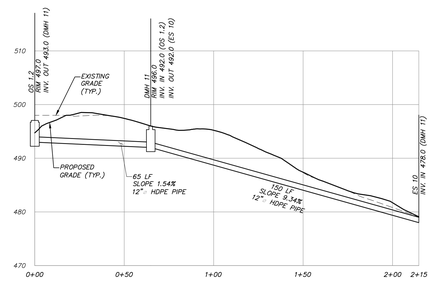
VER. 1" = 10'



OS 1.2 TO ES 10

SCALE: HORIZ. 1" = 30'
VER. 1" = 10'

GRAPHIC SCALE

0 30 60 120

(IN FEET)
1 inch = 30 ft.

NO.	DATE	REVISION	BY

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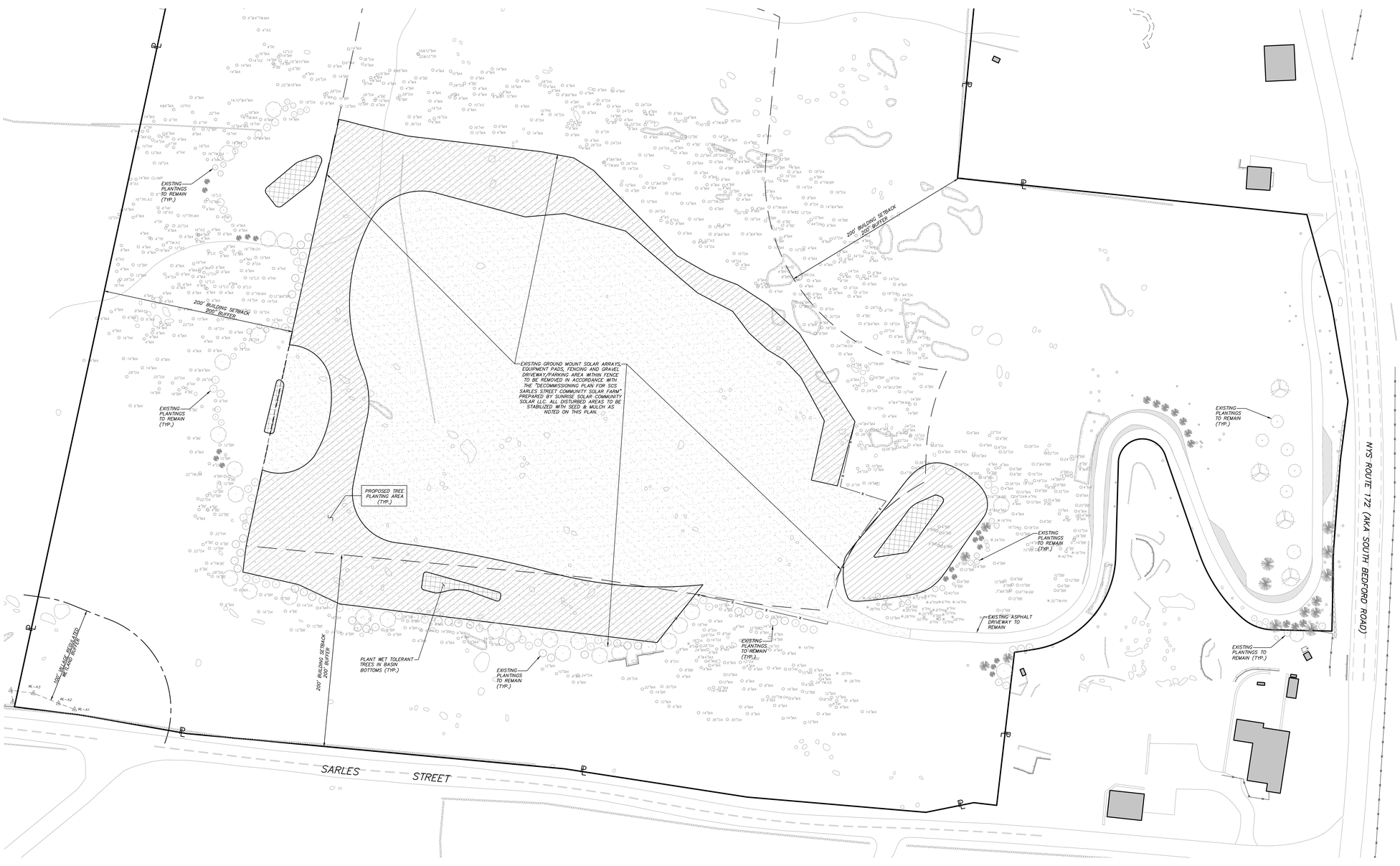
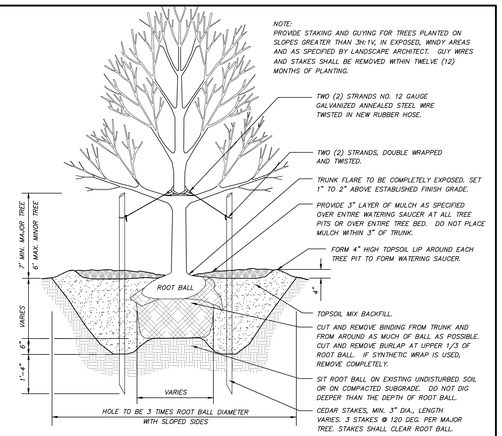
PROJECT:
SCS SARLES STREET
COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING:
DRAINAGE PROFILES

STATE OF NEW YORK — RICHARD D. WILLIAMS — 25515 — PROFESSIONAL ENGINEER

PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.	DRAWING NO.	SHEET
DATE	2-16-21	DRAWN BY	J.F.R.	PR-2	6 / 11
SCALE	AS NOTED	CHECKED BY	D.L.M.		





TREE PLANTING DETAIL
(N.T.S.)

SCHEMATIC PLANT LIST FOR RESTORATION

BOTANICAL/COMMON NAME	SIZE	ROOT
SHADE TREES		
Acer rubrum / Red Maple	1" CAL.	B & B
Acer saccharum / Sugar Maple	1" CAL.	B & B
Carya cordiformis / Bitternut	1" CAL.	B & B
Carya ovata / Shagbark Hickory	1" CAL.	B & B
Juglans nigra / Black Walnut	1" CAL.	B & B
Liriodendron tulipifera / Tulip Tree	1" CAL.	B & B
Nyssa sylvatica / Black Tupelo	1" CAL.	B & B
Quercus rubra / Red Oak	1" CAL.	B & B
Quercus palustris / Pin Oak	1" CAL.	B & B
Sassafra albidum / Sassafras	1" CAL.	B & B
UNDERSTORY TREES		
Amelanchier canadensis / Serviceberry	1" CAL.	B & B
Cercis canadensis / Redbud	1" CAL.	B & B
Cornus florida / White Dogwood	1" CAL.	B & B
EVERGREEN TREES		
Juniperus virginiana / Eastern Red Cedar	6' HT.	B & B
Pinus strobus / Eastern White Pine	6' HT.	B & B
Pice abies / White Spruce	6' HT.	B & B
Ilex opaca / American Holly	6' HT.	B & B

NOTE: FINAL QUANTITIES AND LOCATIONS TO BE DETERMINED BASED ON DISCUSSIONS WITH PLANNING BOARD.

GENERAL PLANTING NOTES:

1. Trees shall be planted per the Tree Planting Detail. Soil amendments for topsoil mix for backfilling and fertilizer application rates shall be determined based on specific testing of on-sote soils topsoil material.
2. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
3. All plant material to be nursery grown.
4. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
5. Plant material shall be taken from healthy nursery stock.
6. All plants shall be grown under climate conditions similar to those in the locality of the project.
7. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
8. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
9. Provide a 3" layer of shredded bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
10. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.

SEEDING NOTES:

1. All areas disturbed during decommissioning to be scarified. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Upon scarifying and any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
   - select seed mixture per drawings and seeding notes.
   - mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000 s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005.
   - If the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
3. The seed mixes as specified on these drawings are as follows:

   A. Seed Mix for areas disturbed during decommissioning shall be Northeast Solar Pollinator 4' Mix (ERNMX-611) as manufactured by Ernst Conservation Seeds of Meadville, PA (or approved equal) at a rate of 30 lbs/acre with a cover crop of either grain oats (Jan 1 to Jul 31) or grain rye (Aug 1 to Dec 31) at a rate of 30 lbs/acre.

   B. For the first growing season, the meadow should be cut down to a height of 8" when the vegetation reaches 18" to 24", using a string trimmer or a brush hog. This will reduce competition by fast-growing weeds for sunlight, water and nutrients. The last mowing of the season should be completed no later than mid-September. Hand pulling and spot treating of invasive weeds may be utilized in the pollinator seeding area in conjunction with mowing to control invasive species.

   C. For the second and subsequent growing seasons, early in the spring, prior to new spring growth reaching a height of 2", any standing material from the previous season should be trimmed close to the ground (approximately 2"height), which will allow the soil to warm and stimulate growth of native seedlings. This is also a good time to introduce additional seeding, if needed. Hand pulling and spot treating of invasive weeds may be utilized in the pollinator seeding area in conjunction with mowing to control invasive species.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING DIRT TRAIL
- EXISTING FENCE
- EXISTING WETLAND FLAG (WL-A3)
- EXISTING WETLAND BUFFER
- EXISTING INDIVIDUAL TREE
- EXISTING INDIVIDUAL SHRUB
- PROPOSED TREE PLANTING AREA

TREE LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE

AS	ASH
BB	BLACK BIRCH
BE	BEECH
BR	BIRCH
CH	CHERRY
DG	DOGWOOD
EL	ELM
HK	HICKORY
HM	HEMLOCK
IR	IRONWOOD
LO	LOCUST
MA	MAPLE
OA	OAK
PN	PINE
PO	POPLAR
SAS	SASSAFRAS
TR	UNKNOWN SPECIES
TRI	TRIPLE
TW	TWIN

SEEDING LEGEND
(REFER TO SEEDING NOTES FOR ADDITIONAL INFORMATION)

Establish Native/Pollinator Seed Mix in areas disturbed during decommissioning

GRAPHIC SCALE
0 20 40 80
(IN FEET)
1 inch = 40 ft.

NO.	DATE	REVISION	BY
4	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
3	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
2	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
1	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP

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PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: DECOMMISSION/RESTORATION PLAN

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.
DATE	6-9-20	DRAWN BY	J.F.R.
SCALE	1" = 40'	CHECKED BY	D.L.M.

DRAWING NO. DRP-1
SHEET 7 / 11

Z:\DWG\2020\Sarles Solar\DP DRP.dwg, 7/14/2020 8:49:45 AM, eparkhurst, 1:1

REQUIRED EROSION CONTROL SWPPP CONTENTS:

Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1a-l of General Permit GP-0-20-001:

a. *Background information: The subject project consists of the construction of a solar farm.*

b. *Site map / construction drawing: These plans serve to satisfy this SWPPP requirement.*

c. *Description of the soils present at the site: Onsite soils located within the proposed limits of disturbance consist of Charlton fine sandy loam (CrC), Hollis-Rock outcrop complex (HrF), Chatfield-Charlton complex (CgD), as identified on the Soil Conservation Service Web Soil Survey. These soil types belong to the Hydrologic Soil Group "B" and "D."*

d. *Construction phasing plan / sequence of operations: The Construction Sequence and phasing found on these plans provide the required phasing. A Construction Sequence and Erosion and Sediment Control Maintenance Schedule has been provided. The Erosion and Sediment Control Notes contained hereon outline a general sequence of operations for the proposed project. In general all erosion and sediment control facilities shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time as practicable.*

e. *Description of erosion and sediment control practices: This plan, and details / notes shown hereon serve to satisfy this SWPPP requirement.*

f. *Temporary and permanent soil stabilization plan: The Sedimentation and Erosion Control Notes and Details provided heron identify temporary and permanent stabilization measures to be employed with respect to specific elements of the project, and at the various stages of development.*

g. *Site map / construction drawing: This plan serves to satisfy this SWPPP requirement.*

h. *The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The details, Erosion and Sediment Control Notes, and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.*

i. *An inspection schedule: Inspections are to be performed twice weekly and by a qualified professional as required by the General Permit GP-0-20-001. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Sedimentation and Erosion Control Notes.*

j. *A description of pollution prevention measures that will be used to control litter, construction chemicals and construction debris: In general, all construction litter / debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpster for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be disposed of onsite, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), material inventory, and emergency contact numbers shall be maintained by the general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.*

k. *A description and location of any stormwater discharges associated with industrial activity other than construction at the site: There are no known industrial stormwater discharges present or proposed at the site.*

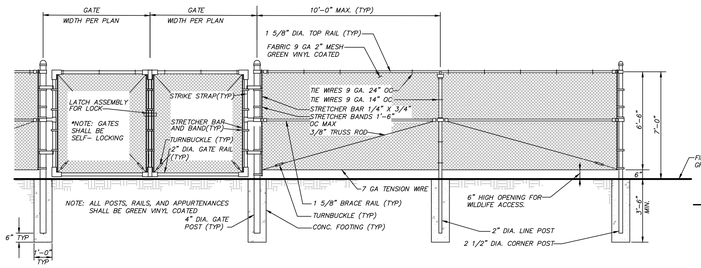
l. *Identification of any elements of the design that are not in conformance with the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." All proposed elements of this SWPPP have been designed in accordance with the "New York Standards and Specifications for Erosion and Sediment Control."*

EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE

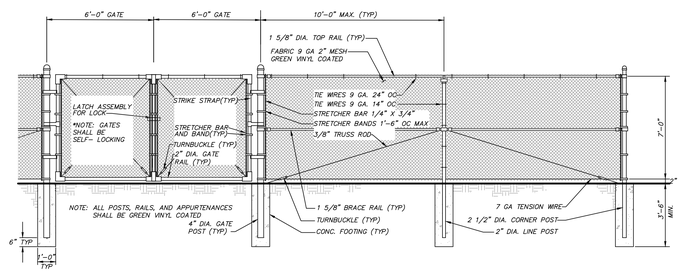
MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER RAINFALL	DURING CONSTRUCTION	AFTER CONSTRUCTION
SILT FENCE BARRIER	–	Inspect	Inspect	Clean/Replace	Remove
STABILIZED CONSTRUCTION ENTRANCE	Inspect	–	Inspect	Clean/Replace Stone and Fabric	Remove
DUST CONTROL	Inspect	–	Inspect	Mulching/ Spraying Water	N/A
*VEGETATIVE ESTABLISHMENT	–	Inspect	Inspect	Water/Reseed/ Remulch	Reseed to 80% Coverage
INLET PROTECTION	–	Inspect	Inspect	Clean/Repair/ Replace	Remove
SOIL STOCKPILES	–	Inspect	Inspect	Mulching/ Silt Fence Repair	Remove
SWALES	–	Inspect	Inspect	Clean/Mulch/ Repair	Mow Permanent Grass/Replace/ Repair Rip Rap
CHECK DAMS	–	Inspect	Inspect	Clean/Replace Stones/Repair	Clean/Replace Stones/Repair
CONCRETE DRAINAGE STRUCTURES	–	Inspect	Inspect	Clean Sumps/ Remove Debris/ Repair/Replace	Clean Sumps/ Remove Debris/ Repair/Replace
DRAINAGE PIPES	–	Inspect	Inspect	Clean/Repair	Clean/Repair
ROAD & PAVEMENT	–	Inspect	Inspect	Clean	Clean
*STORMWATER TRAP/BASIN	–	Inspect	Inspect	Clean/Mulch/ Repair/Reseed	See Permanent Stormwater Facilities Maintenance Schedule

** Permanent vegetation is considered stabilized when 80% of the plant density is established. Erosion control measures shall remain in place until all disturbed areas area permanently stabilized.*

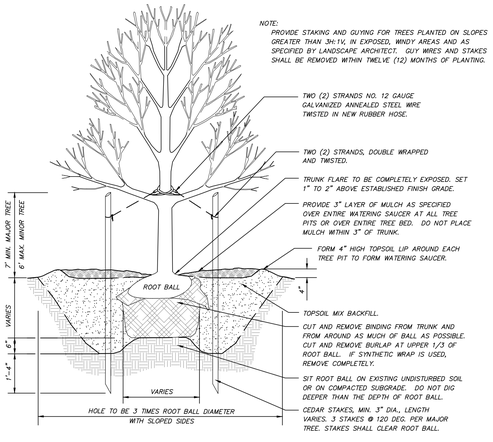
Note: The party responsible for implementation of the maintenance schedule during and after construction is:
SUNRISE COMMUNITY SOLAR, LLC
ATTN: DOUG HERTZ
510 N. STATE ROAD
BRIARCLIFF MANOR, NY 10510
and/or the current owner(s) of the subject property.



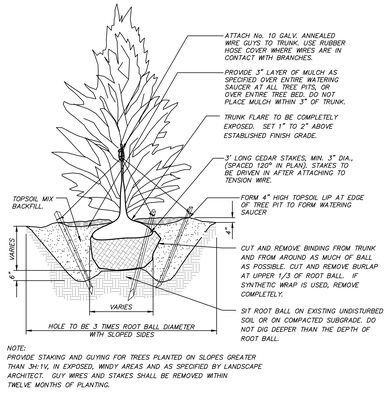
CHAIN LINK FENCE WITH WILDLIFE ACCESS DETAIL
(N.T.S.)



CHAIN LINK FENCE DETAIL
(N.T.S.)

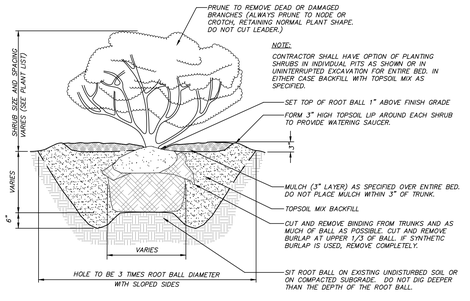


TREE PLANTING DETAIL
(N.T.S.)

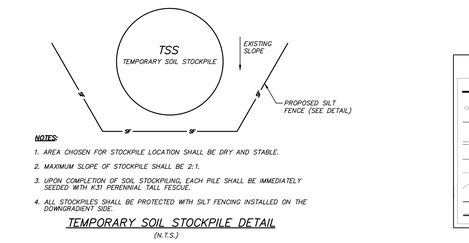


NOTE:
PROVIDE STAKING AND GUYING FOR TREES PLANTED ON SLOPES GREATER THAN 3H:1V, IN EXPOSED, WINDY AREAS AND AS SPECIFIED BY LANDSCAPE ARCHITECT. GUY WIRES AND STAKES SHALL BE REMOVED WITHIN TWELVE MONTHS OF PLANTING.

EVERGREEN TREE PLANTING DETAIL
(N.T.S.)

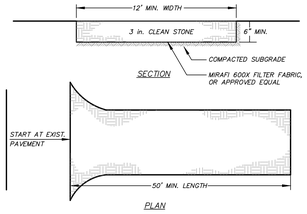


SHRUB PLANTING DETAIL
(N.T.S.)



NOTES:
1. *AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.*
2. *MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.*
3. *UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH K31 PERENNIAL TALL FESCUE.*
4. *ALL STOCKPILES SHALL BE PROTECTED WITH SILT FENCING INSTALLED ON THE DOWNGRADIENT SIDE.*

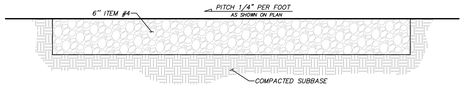
TEMPORARY SOIL STOCKPILE DETAIL
(N.T.S.)



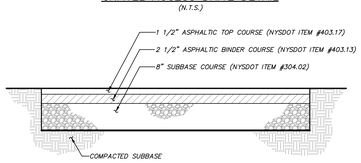
PLAN
SECTION

INSTALLATION NOTES
1. *STONE SIZE – USE 3" STONE*
2. *LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.)*
3. *THICKNESS – NOT LESS THAN SIX (6) INCHES.*
4. *WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.*
5. *FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.*
6. *SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.*
7. *MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.*
8. *WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.*
9. *PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.*

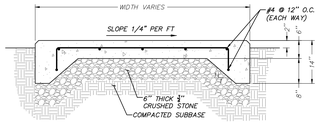
STABILIZED CONSTRUCTION ENTRANCE DETAIL
(N.T.S.)



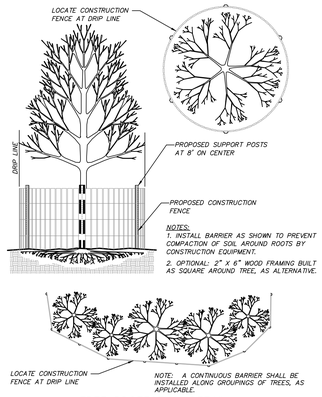
GRAVEL ACCESS DRIVE DETAIL
(N.T.S.)



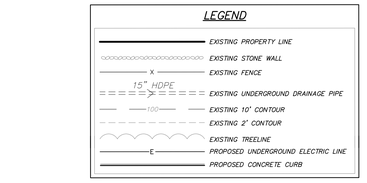
ASPHALT PAVEMENT DETAIL
FOR DRIVEWAY WIDENING & PULL OFFS
(N.T.S.)

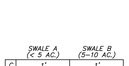


CONCRETE PAD DETAIL
(N.T.S.)



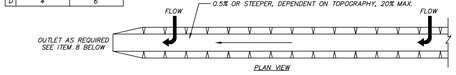
TREE PROTECTION DETAIL
(N.T.S.)





CROSS SECTION

	SWALE A (< 5 AC.)	SWALE B (5–10 AC.)
C	1'	1'
D	4"	6'



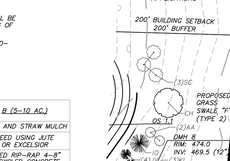
PLAN VIEW

CONSTRUCTION SPECIFICATIONS
1. *ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.*
2. *DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.*
3. *DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.*
4. *ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.*
5. *THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.*
6. *FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.*
7. *ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.*
8. *PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.*
9. *STABILIZATION SHALL BE AS PER THE CHART BELOW.*

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC. OR LESS)	B (5–10 AC.)
1	0.5–3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1–5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1–8.0%	SEED WITH JUTE OR EXCELSIOR; 500	LINED RIP-RAP 4–8" RECYCLED CONCRETE EQUIVALENT
4	8.1–20%	LINED 4–8" RIP-RAP	ENGINEERED DESIGN

TEMPORARY SWALE DETAIL
(N.T.S.)



CONCRETE CURB DETAIL
(N.T.S.)

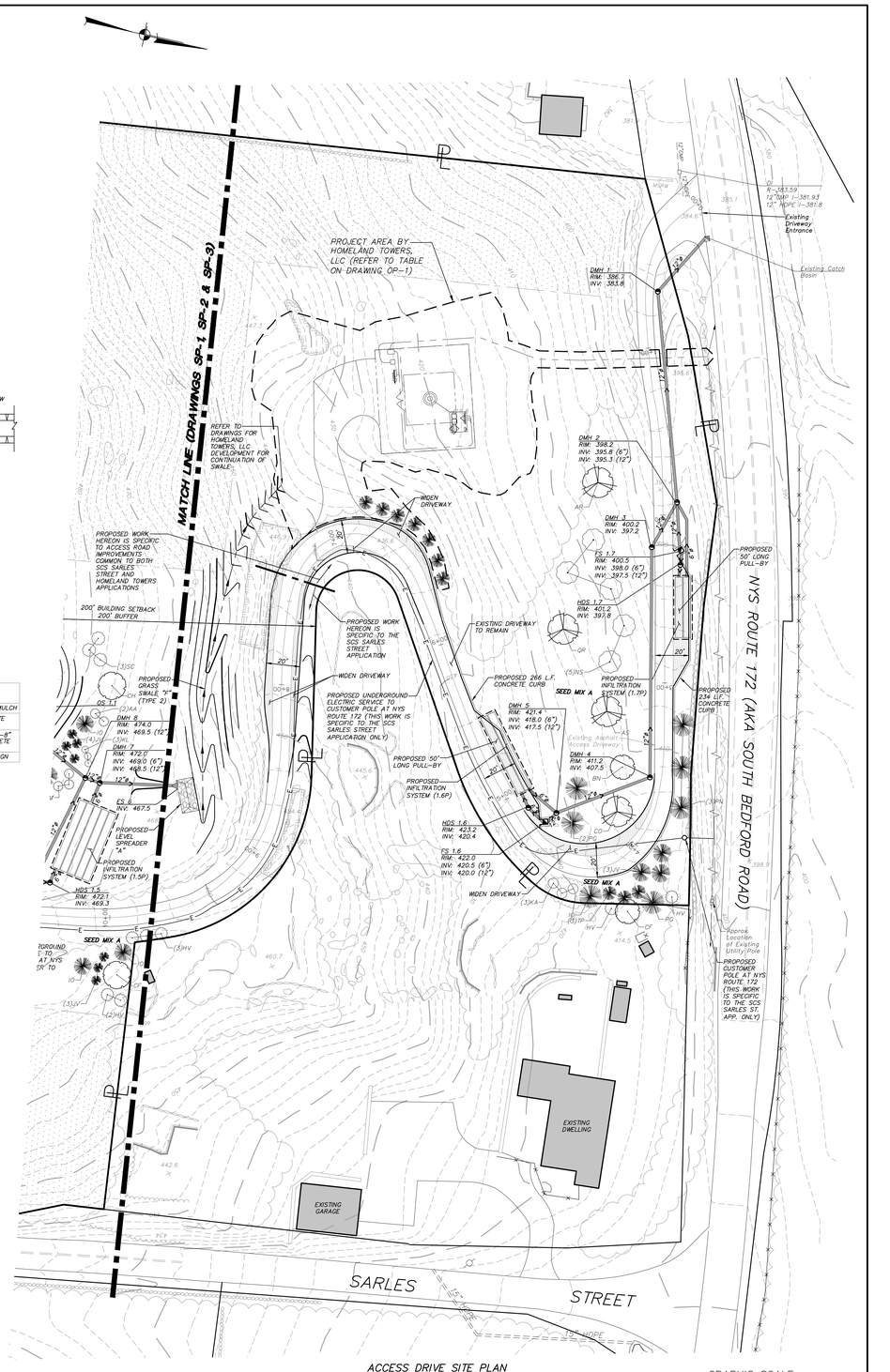
PERSPECTIVE VIEW

SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
1. *FILTER CLOTH TO BE FASTENED SECURELY TO POSTS AT TOP AND MID SECTION.*
2. *WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.*
3. *MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.*

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

SILT FENCE DETAIL
(N.T.S.)



ACCESS DRIVE SITE PLAN
SCALE: 1" = 30'

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 inch = 30 ft.

** REFER TO DRAWING OP-1 FOR GENERAL NOTES **
** REFER TO DRAWING SP-1 FOR PLANT LIST AND PLANTING & SEEDING NOTES **

NO.	DATE	REVISION	BY
6	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
5	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
4	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
3	7-21-20	REVISED FOR VILLAGE COMMENTS	JFR
2	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP
1	6-9-20	REVISIONS PER VILLAGE COMMENTS	MEU

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY.

DRAWING: DETAILS

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.
DATE	2-4-20	DRAWN BY	J.F.R.
SCALE	AS NOTED	CHECKED BY	D.L.M.

DRAWING NO. D-1
SHEET 8 / 11

STATE OF NEW YORK — DOUGLAS D. WILLIAMS — 085866 — LICENSED PROFESSIONAL ENGINEER

Z:\DWG\19192\Current Build\SWPPP\19192-SWPPP.dwg, 2/16/2021 12:30:20 PM, epeckham, 1:1

REQUIRED POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICE COMPONENTS:

1. *Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all construction projects needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post-construction stormwater management practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of SWPPP components is provided in accordance with Part III.B.2a-f and III.B.3:*
   a. *Identification of all post-construction stormwater management practices to be constructed as part of the project; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.*
   b. *A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.*
   c. *A Stormwater Modeling and Analysis Report including pre-development conditions, post-development conditions, the results of the stormwater modeling, a summary table demonstrating that each practice has been designed in conformance with the sizing criteria, identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required. The required analysis is provided in the report titled Stormwater Pollution Prevention Plan for SCS Sarles Street Community Solar Farm.*
   d. *Soil testing results and locations. This SWPPP requirement is provided in the report titled Stormwater Pollution Prevention Plan for SCS Sarles Street Community Solar Farm.*
   e. *Infiltration testing results. This SWPPP requirement is provided in the report titled Stormwater Pollution Prevention Plan for SCS Sarles Street.*
   f. *An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice. The Permanent Stormwater Facilities Maintenance Schedule provided on these plans serves to satisfy this requirement.*
2. *Enhanced Phosphorus Removal Standards – Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York Stormwater Management Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include Items 2.a – 2.f above. The permanent stormwater practices for this project have been sized according to chapter 10 of the Design Manual Enhanced Phosphorus Removal Standards. Please see 2.a – 2.f above.*

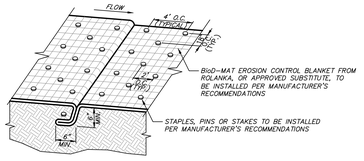
PERMANENT STORMWATER FACILITIES MAINTENANCE SCHEDULE

PRACTICE/FACILITY	MONTHLY	AFTER MAJOR STORM EVENTS	BI-ANNUALLY	YEARLY	EVERY 5 to 10 YEARS
GRASS & RIP RAP SWALES	Ensure contributing areas clean of debris, no evidence of erosion, & mowing performed.	Inspect for erosion, soil permeability & evidence of flow going around structures.	–	Inspect & clean accumulated sediment.	–
INFILTRATION BASIN	Inspect first few months after construction for eroding soils & slumpage & repair immediately	Inspect for eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately.	Mow berms and exterior embankments Remove debris & litter from basins & outlet structures. Remove Sediment if accumulated greater than an 1"	–	Inspect for & remove accumulated sediment
INFILTRATION UNITS	–	Confirm infiltrators dewater within 40 hours	Inspect & clean	Inspect outlet structures & remove accumulated sediment.	Clean isolator row per manufactures recommendations
SUBSURFACE STORMWATER COLLECTION SYSTEMS	–	–	Inspect & clean	Inspect, clean, repair and/or replace structures. Remove debris.	–

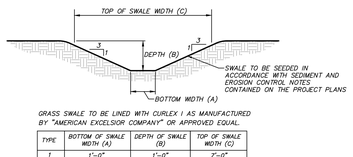
Note: *The party responsible for implementation of the maintenance schedule during and after construction is:*

SUNRISE COMMUNITY SOLAR, LLC
ATTN: DOUG HERTZ
310 N. STATE ROAD
BRIARCLIFF MANOR, NY 10510

and/or the current owner(s) of the subject property.



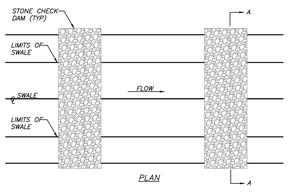
TYPICAL EROSION CONTROL BLANKET ANCHORING DETAIL
(N.T.S)



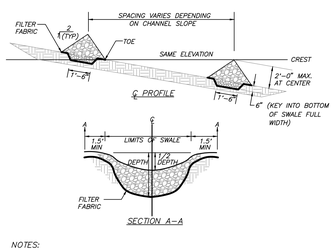
GRASS SWALE TO BE LINED WITH CURLEX I AS MANUFACTURED BY "AMERICAN EXCELSIOR COMPANY" OR APPROVED EQUAL.

TYPE	BOTTOM OF SWALE WIDTH (A)	DEPTH OF SWALE (B)	TOP OF SWALE WIDTH (C)
1	1'-0"	1'-0"	7'-0"
2	2'-0"	1'-0"	8'-0"
3	3'-0"	1'-0"	12'-0"

GRASS SWALE DETAIL
(N.T.S.)



PLAN

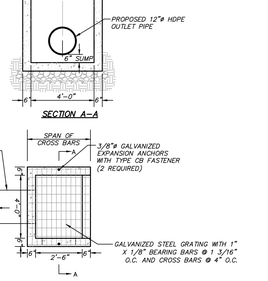


C PROFILE

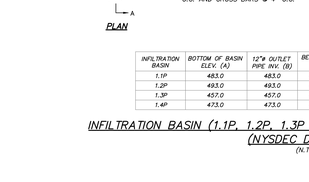
SECTION A-A

NOTES:
1. STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

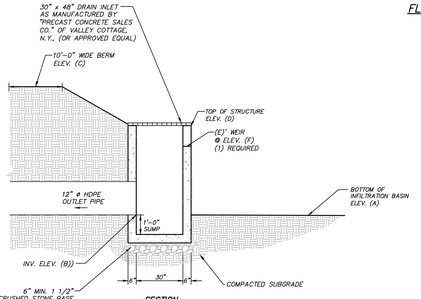
TEMPORARY STONE CHECK DAM DETAIL
(N.T.S.)



SECTION A-A



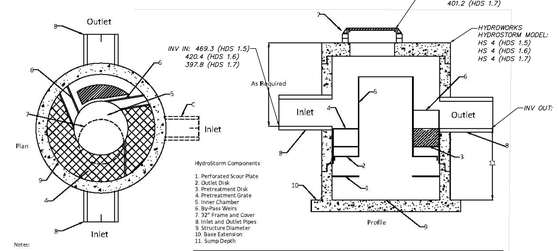
PLAN



SECTION

INFILTRATION BASIN	BOTTOM OF BASIN ELEV. (A)	12"ø OUTLET PIPE INV. (B)	BERM ELEV. (C)	TOP OF STRUCTURE ELEV. (D)	WEIR WIDTH (E)	WEIR ELEV. (F)
1.1P	483.0	483.0	488.5	489.0	4'-0"	485.7
1.2P	493.0	493.0	498.5	497.0	4'-0"	496.7
1.3P	457.0	457.0	462.5	461.0	1'-2"	460.2
1.4P	473.0	473.0	479.5	478.0	4'-0"	476.8

INFILTRATION BASIN (1.1P, 1.2P, 1.3P AND 1.4P) OUTLET STRUCTURE DETAIL (NYSDEC DESIGN I-2)
(N.T.S.)



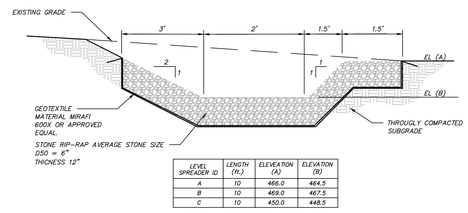
HydroStorm Components
1. Perforated Scour Plate
2. Outlet Disk
3. Pretreatment Disk
4. Pretreatment Grate
5. Inlet Chamber
6. Baffled Weirs
7. 72" Frame and Cover
8. Inlet and Outlet Pipes
9. Structure Diameter
10. Base Extension
11. Sump Depth

Notes:
A. Use a headloss K factor of 1.04 for hydraulic gradeline calculations.
B. Sump depths shown are minimums. Additional depth can be added for site specific capacities
C. Multiple inlet pipes allowed
D. Drops allowed
E. Inlet invert elevations should be the same or higher than the outlet invert elevation. Inlet can be up to 12" lower than outlet if pretreatment area is omitted but 12" must be added to sump depth to maintain overall treatment volume
F. Solid Cover shown. HydroStorm can be designed with an inlet grate if required.
G. Oil capacities given are spill capacities. Oil should be removed from the device once an oil depth of 2" or more is measured in the inner chamber.
H. Sediment depths are maximum holding capacities and not recommended capacities for regular maintenance. Maintenance is recommended annually or once every 2 years.
I. Capacities are rounded down to nearest 5 gal or ft3.

HydroStorm by Hydroworks, LLC
Patent Pending
www.hydroworks.com
888-290-7500

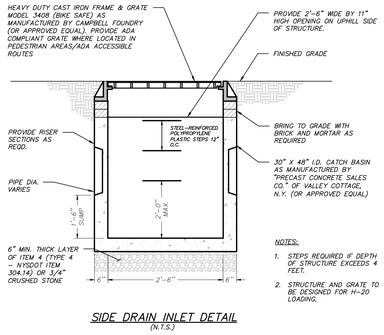
HydroStorm Dimensions / Capacities							
Model	Diameter (ft) (9)	Sump Depth (ft) (11)	Inner Chamber (ft) (5)	Max. Pipe (in) (8)	Volume (gal)	Oil (gal)	Sediment (ft3)
HS 4	4	4	2	24	375	95	30
HS 5	5	4	2.5	30	585	155	45
HS 6	6	4	3	36	845	220	65

HYDROWORKS HYDROSTORM HYDRODYNAMIC SEPARATOR DETAIL
(N.T.S.)



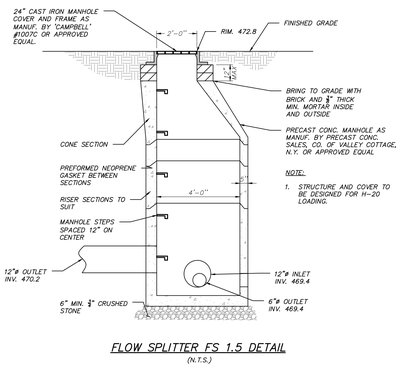
LEVEL SPREADER ID	LENGTH (ft.)	ELEVEATION (A)	ELEVATION (B)
A	10	466.0	464.5
B	10	469.0	467.5
C	10	450.0	448.5

LEVEL SPREADER DETAIL
(N.T.S.)

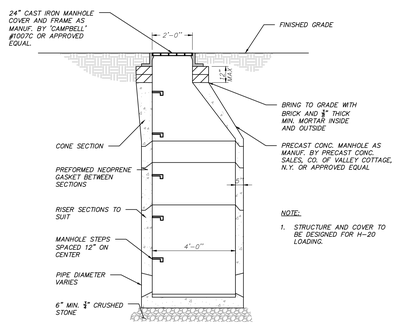


NOTES:
1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.

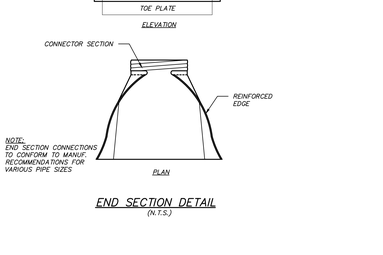
SIDE DRAIN INLET DETAIL
(N.T.S.)



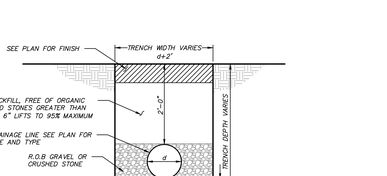
FLOW SPLITTER FS 1.5 DETAIL
(N.T.S.)



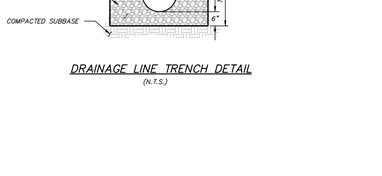
DRAINAGE MANHOLE DETAIL
(N.T.S.)



SECTION



ELEVATION



NOTE:
END SECTION CONNECTIONS TO CONFORM TO MANUF. RECOMMENDATIONS FOR VARIOUS PIPE SIZES

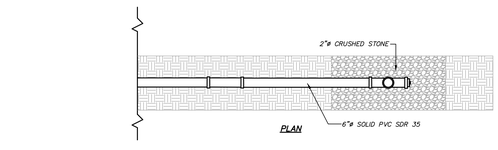
PLAN

END SECTION DETAIL
(N.T.S.)

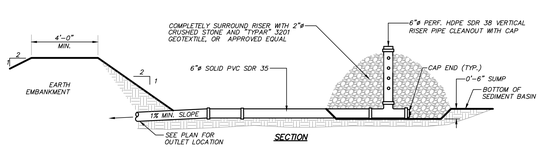
NOTES:
1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.

FLOW SPLITTER FS 1.6 DETAIL
(N.T.S.)

DRAINAGE LINE TRENCH DETAIL
(N.T.S.)

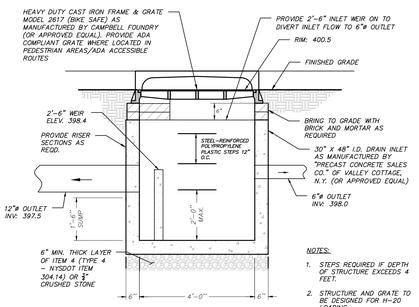


PLAN



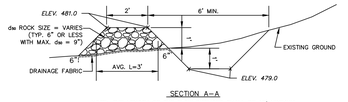
SECTION

TEMPORARY SEDIMENT BASIN OUTLET DETAIL
(N.T.S.)



NOTES:
1. STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
2. STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.

FLOW SPLITTER FS 1.7 DETAIL
(N.T.S.)



SECTION A-A

NOTE: THE LENGTH OF THE FLOW DIFFUSER SHALL BE 15' MINIMUM.

FLOW DIFFUSER DETAIL
(N.T.S.)

NO.	DATE	REVISION	BY
4	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
3	1-19-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
2	9-1-20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
1	6-23-20	REVISED FOR NYCDEP SUBMISSION	EJP

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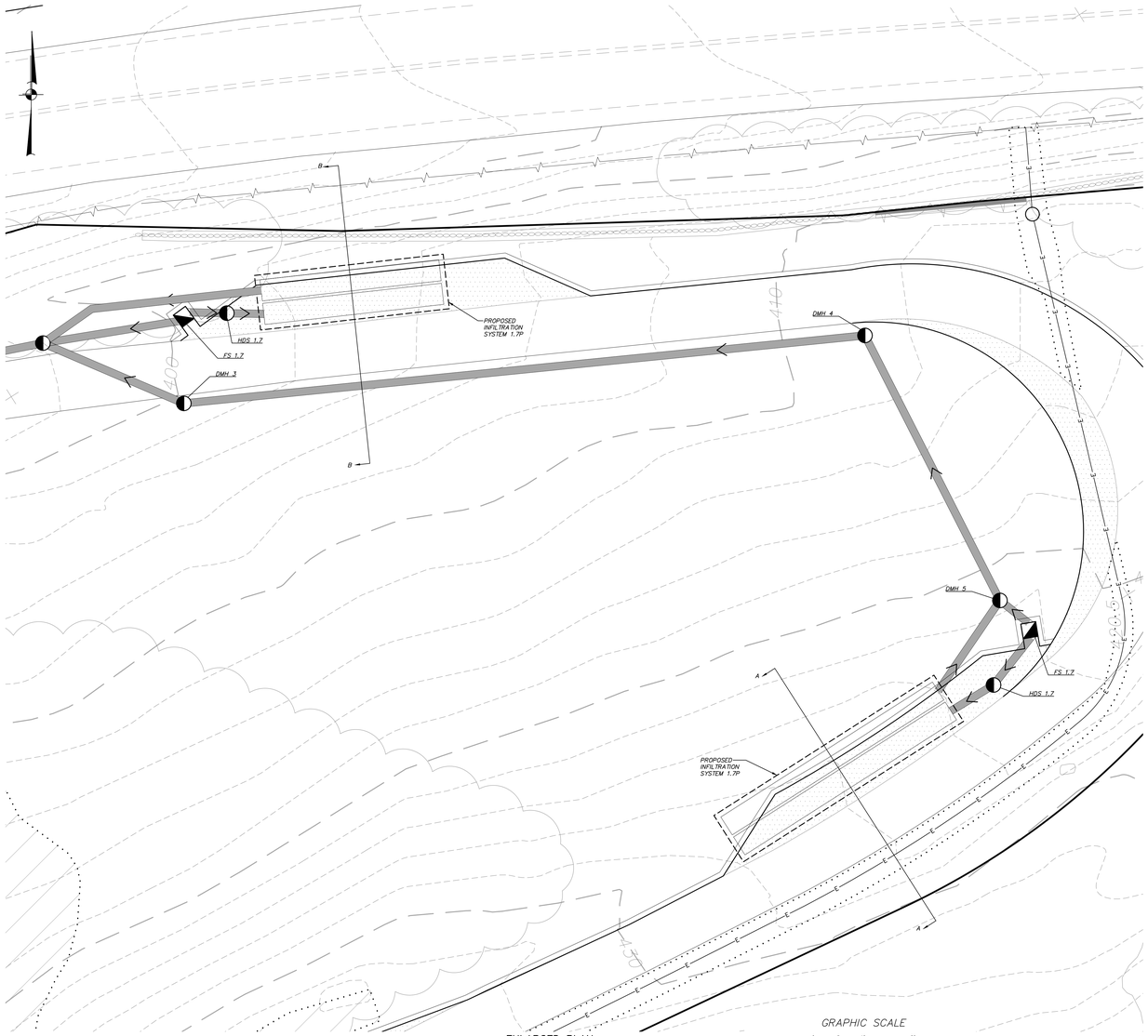
PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: DETAILS

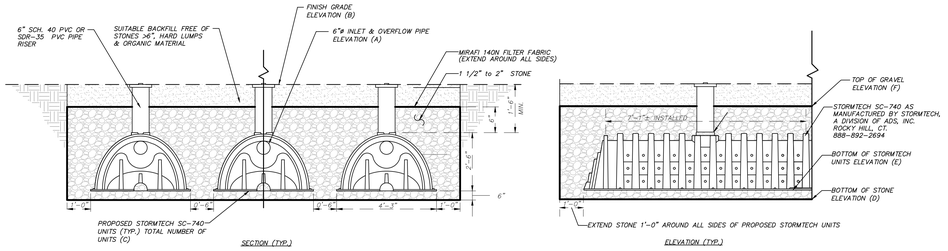
PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.
DATE	6-9-20	DRAWN BY	J.F.R.
SCALE	AS NOTED	CHECKED BY	D.L.M.

DRAWING NO. D-2 SHEET 9/11

Z:\DWG\2020 Sunrise Solar\SB 2-1.5 dwg, 2/24/2021 12:25:19 PM, eyeofadmin, 1:1



ENLARGED PLAN
SCALE: 1" = 10'

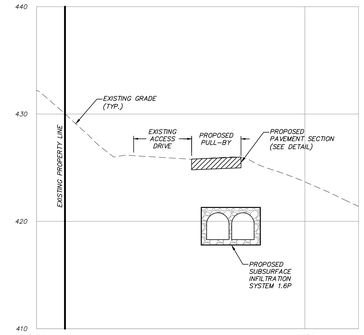


SECTION (TYP.)

ELEVATION (TYP.)

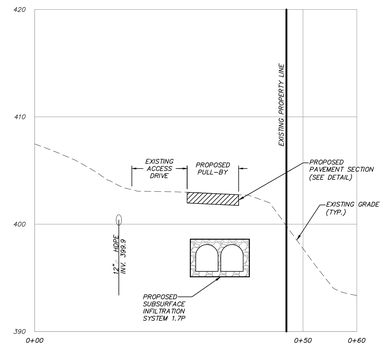
INFILTRATION SYSTEM	INLET/OVERFLOW PIPE ELEV. (A)	FINISHED GRADE ELEV. (B)	NUMBER OF UNITS (C)	BOTTOM OF STONE ELEV. (D)	BOTTOM OF UNIT ELEV. (E)	TOP OF GRAVEL ELEV. (F)
1.5P	469.2	471.5 – 474.0	30	466.7	467.2	470.2
1.6P	420.3	424.0 – 428.0	14	417.8	418.3	421.3
1.7P	397.6	402.0 – 404.5	10	395.1	395.6	398.6

STORMWATER INFILTRATION SYSTEM (NYSDEC DESIGN 1-4) DETAIL
(N.T.S.)



INFILTRATION SYSTEM 1.6P SCHEMATIC SECTION A-A

SCALE: HORIZ. 1" = 10'
VER. 1" = 5'



INFILTRATION SYSTEM 1.7P SCHEMATIC SECTION B-B

SCALE: HORIZ. 1" = 10'
VER. 1" = 5'

NO.	DATE	REVISION	BY

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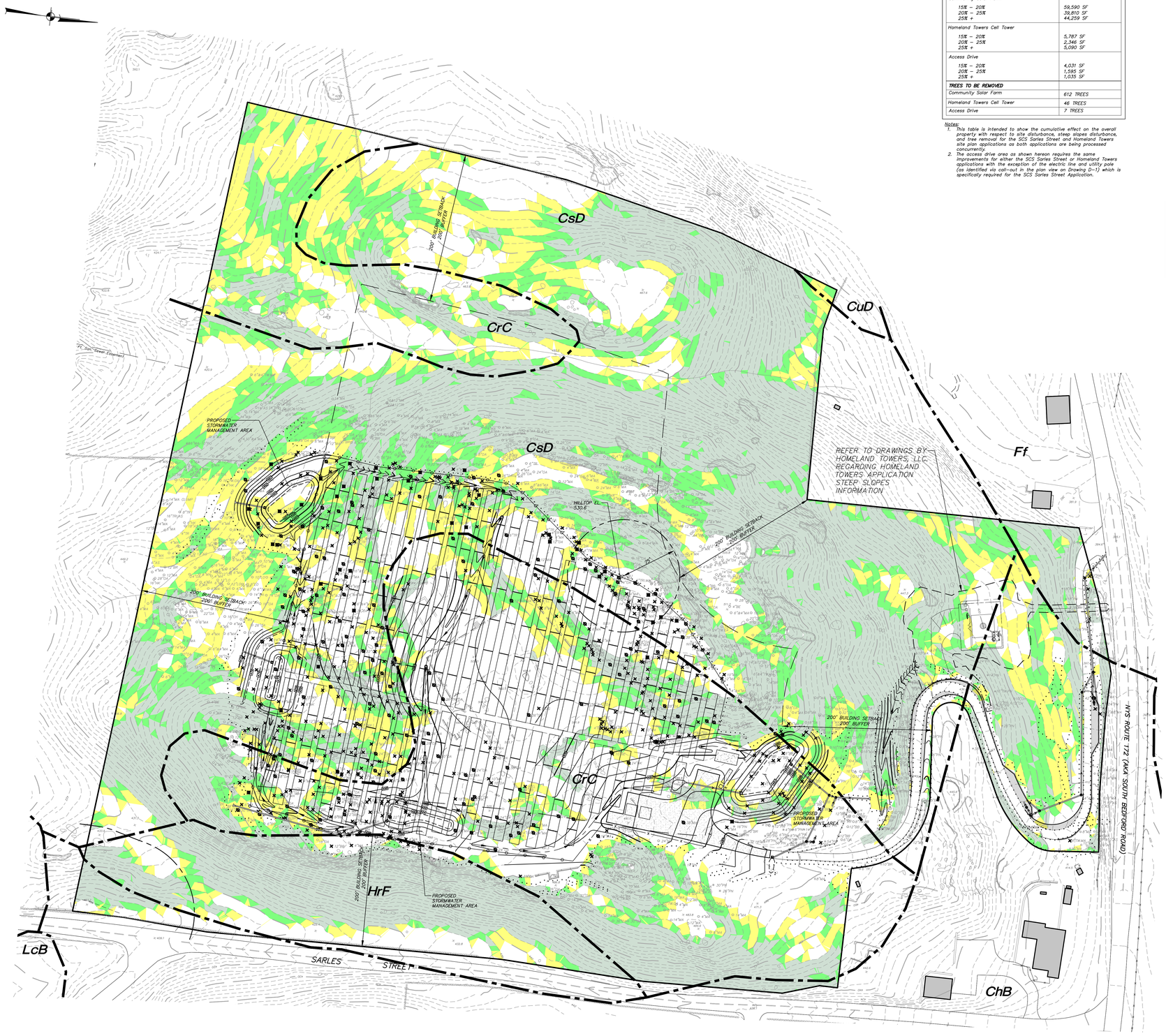
PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: DETAILS

PROJECT NUMBER	19192.100	PROJECT MANAGER	S.W.B.
DATE	2-16-21	DRAWN BY	J.F.R.
SCALE	AS NOTED	CHECKED BY	D.L.M.

DRAWING NO. D-3
SHEET 10 / 11



SCS Sarles Street / Homeland Towers Cumulative Tree Removal & Site / Steep Slope Disturbance Total

LIMITS OF DISTURBANCE	
Community Solar Farm	331,459 SF
Homeland Towers Cell Tower	18,570 SF
Access Drive	14,269 SF
STEEP SLOPES DISTURBANCE	
Community Solar Farm	
15% – 20%	59,590 SF
20% – 25%	39,810 SF
25% +	44,259 SF
Homeland Towers Cell Tower	
15% – 20%	5,787 SF
20% – 25%	2,346 SF
25% +	5,090 SF
Access Drive	
15% – 20%	4,031 SF
20% – 25%	1,595 SF
25% +	1,035 SF
TREES TO BE REMOVED	
Community Solar Farm	612 TREES
Homeland Towers Cell Tower	46 TREES
Access Drive	7 TREES

Notes:
1. This table is intended to show the cumulative effect on the overall property with respect to site disturbance, steep slopes disturbance, and tree removal for the SCS Sarles Street and Homeland Towers site plan applications as both applications are being processed concurrently.
2. The access drive area as shown hereon requires the same improvements for either the SCS Sarles Street or Homeland Towers applications with the exception of the electric line and utility pole (as identified via-call-out in the plan view on Drawing D–1) which is specifically required for the SCS Sarles Street Application.

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChB	Charlton fine sandy loam, 3% to 8% slopes	B
ChC	Charlton fine sandy loam, 8% to 15% slopes	B
CrC	Charlton–Chatfield complex, 0% to 15% slopes, very rocky	B
CsD	Chatfield–Charlton complex, 15% to 35% slopes, very rocky	B
CuD	Chatfield–Hollis–Rock outcrop complex 15% to 35% slopes	D
Ff	Fluvaquents–Udifluvents complex, frequently flooded	A/D
HrF	Hollis–Rock outcrop complex, 35% to 60% slopes	D
LcA	Leicester loam, 0% to 3% slopes, stony	A/D
LcB	Leicester loam, 3% to 8% slopes, stony	A/D
Soils Boundary		

Slopes Table for SCS Sarles Street

Number	Minimum Slope	Maximum Slope	Color	Area (sf)	Disturbance Area (sf)
1	0%	15%		345,231	194,791
2	15%	20%		181,848	63,621
3	20%	25%		147,681	41,405
4	25%	Vertical		414,162	45,294

TREE REMOVAL TABLE BY SLOPES CATEGORY FOR SCS SARLES STREET

SLOPES CATAGORY	NUMBER OF TREES
0–15%	263
15% – 25%	224*
25% OR GREATER	132*
TOTAL TREES TO BE REMOVED	619

* REFER TO GENERAL NOTES 7 AND 8 ON THIS SHEET

GENERAL NOTES:

1. Property line and existing conditions for site plans taken from a survey prepared by H. Stanley Johnson and Company Land Surveyors, P.C.
2. Wetland boundaries shown hereon delineated by Evans Associates Environmental Consulting, Inc. on October 11, 2013 and survey located by H. Stanley Johnson and company surveyors, P.C.
3. For site plans, topography shown hereon provided by Geomaps International, based on aerial photographs dated April 10, 2017. Vertical datum: NAVD–88.
4. Existing conditions and topography for entrance driveway site plans based on field work performed by Insite Engineering, Surveying, and Landscape Architecture P.C.
5. Trees as shown on site plans based on field work performed by Insite Engineering, Surveying, and Landscape Architecture P.C., completed January 2020.
6. Proposed limits of disturbance shall be staked in the field prior to start of construction.
7. 11 of the trees proposed to be cut on slopes of 25% or greater will have the stumps remain in place.
8. 17 of the trees proposed to be cut on slopes of 15% to 25% will have the stumps remain in place.

STEEP SLOPE STANDARDS FOR DEVELOPMENT COMPLIANCE NOTES:

1. Disturbance on very steep slopes has been kept to the minimum extent practicable. The majority of the project is proposed within the flatter portions of the site.
2.a. The design of the ground mount solar farm has been designed to work with the natural topography and the solar panels have been sited to work with the solar orientation and natural terrain of the site to the maximum extent practicable.
2.b. Some regrading is proposed within the solar field to provide more efficient solar layout by borrowing from existing berm areas to fill the north facing valley, to even out the south facing slope, to construct the stormwater management practices, to level out the equipment pad areas, and to balance earthwork for the site. Trenching for underground electric lines is proposed as well. Disturbed steep slope areas will be restored to pre–existing elevations to the greatest extent practical.
2.c. The proposed access to the ground mount solar farm will utilize the existing onsite access drive from Route 172. Portions of the driveway will be widened to accommodate firetruck access and pull–byes will be added in flatter areas as required by the fire department. An approximately 150 foot section of the driveway will be relocated and a small gravel parking area / firetruck turnaround will be established adjacent to the equipment pad area. No other roads or driveways are proposed to be installed.
2.d. A planting plan has been developed with indigenous woody and herbaceous vegetation and native / pollinator seed mix for stabilization. Customary landscaping in the form of tree, shrub and reseeding with a native / pollinator seed mix is proposed on steep slope areas with no regrading.
2.e. No solar tables are proposed on hilltops or ridge lines. The crest of the hilltop and the tree line of the hilltop will remain uninterrupted. The solar panel tables and fence in the vicinity of the hilltop will be located significantly below the elevation of the natural tree line.
2.f. Some regrading is proposed within the solar field to provide more efficient solar layout by borrowing from existing berm areas to fill the north facing valley, to even out the south facing slope. These areas will be graded similar to the natural undulating of the land. Stormwater management basins area located at low areas of the solar field and utilize swales to take advantage of the undulating land to direct stormwater runoff to infiltration practices. Trenching for underground electric lines are proposed as well. Disturbed steep slope areas will be restored to pre–existing elevations to the greatest extent practical, similar to the natural undulating of the land. Disturbance for installation of electrical trenches and ground mount table leg screws in slope areas will be restored to existing grades to the greatest extent possible.
2.g. Proposed grading will have smooth, rounded transitions at top, bottom and sides of slopes.
2.h. Graded slopes will not exceed 2H:1V. graded slopes 3H:1V or steeper will be provided with erosion control netting.
2.i. The equipment pad area is set back from the bottom of the cut slope and the regrading will not cause failure or collapse of the cut slope. The proposed cut slope is designed to be a 3H:1V slope and is proposed to be stabilized with an erosion control fabric, topsoil and seed.
2.j. Any disturbance to rock outcrops or bedrock shall be by means of explosives only if labor and machines are not effective and will be done in accordance with Mt. Kisco and New York State regulations.
2.k. All proposed disturbance on steep slopes shall be undertaken in workable units, in which the disturbance can be completed and stabilized in one construction season.
2.l. As noted on the site plans and in the project SWPPP, existing vegetation will be retained to the greatest extent practical and disturbance to existing vegetative cover shall not take place more than 15 days prior to grading and construction.
2.m. Temporary soil stabilization will be accomplished as noted on the Sediment and Erosion Control Notes in accordance with Village regulations.
2.n. Soil stabilization will be applied within 2 days of disturbance if the final grade is not expected to be stabilized within 21 days.
2.o. Topsoil shall be stripped from all areas of disturbance, stockpiled and stabilized as noted on the Erosion Control Plan. Stockpiling will not be permitted on slopes greater than 10%.
2.p. No organic material or rock with a size that will not allow appropriate compaction or cover by topsoil shall be used as fill material.
2.q. Compaction of backfill materials in trench area, in north–facing and south–facing fill areas, and for stormwater basin berms shall be such to ensure stabilization for intended uses.
2.r. The solar tables are mounted with ground mount screws and legs of varying heights to generally follow the terrain. The equipment pad area has been designed with the pads stepping with the grade.
2.s. The proposed ground mount solar farm has been sited within the least sensitive portions of the site to the greatest extent practical and will generally following the undulating terrain, utilizing ground mount screws for the table legs to preserve the natural landforms and existing vegetation.
2.t. The existing onsite soils provide suitable conditions for proposed improvements and suitability of the soils is not anticipated to be a problem.
2.u. Impacts from the solar installation activities or other disturbances on bedrock outcrops has been minimized to the greatest extent practical.
2.v. All erosion control measures shall be undertaken in accordance with Westchester County Soil and Water Conservation Districts Best Management Practices Manual for Erosion and Sediment Control, the New York State Department of Environmental Conservation Guidelines and Village of Mt. Kisco Requirements.
2.w. All proposed disturbance of steep slopes will be undertaken based on the existing soils conditions. Based on review of the Westchester County Soil Survey, it is not anticipated that the onsite soils will have issues during construction.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft.

NO.	DATE	REVISION	BY
5	2–16–21	REVISED FOR PLANNING BOARD SUBMISSION	EJP
4	1–19–21	REVISED FOR PLANNING BOARD SUBMISSION	JFR
3	9–1–20	REVISED FOR PLANNING BOARD SUBMISSION	ERA
2	6–23–20	REVISED FOR NYCDEP SUBMISSION	EJP
1	6–9–20	REVISIONS PER VILLAGE COMMENTS	MEU

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PROJECT: SCS SARLES STREET COMMUNITY SOLAR FARM
GROUND MOUNT SOLAR ARRAY
180 S. BEDFORD RD., TOWN OF MOUNT KISCO, WESTCHESTER CO., NY

DRAWING: SOILS & SLOPES MAP

STATE OF NEW YORK — RICHARD D. WILTSEK — 035815 — LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19192.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET 11 / 11
DATE	2–4–20	DRAWN BY	G.A.M.	SS–1	
SCALE	1" = 50'	CHECKED BY	D.L.M.		

Z:\CWP2020\Sarles_Solar\DP-SA1.dwg, 2/16/2021 8:17:20 AM, gpeckham, 1:1

Mount Kisco Volunteer Fire Department

P.O. Box 91 Mount Kisco, NY 10549-0091
Phone: (914) 666-4692 Fax: (914) 666-5794 MKFDChiefs@gmail.com

David J. Hughes
Chief of Department

John M. Hochstein
First Assistant Chief

Matthew R. Hollis
Second Assistant Chief

March 5, 2021

Honorable Acting Chairman
and Members of the Planning Board
Village of Mount Kisco
104 E. Main Street
Mount Kisco, New York 10549

RE: Fire Department Access
180 S. Bedford Road
Public Utility Wireless Telecommunications Facility
Homeland Towers, LLC

Dear Honorable Acting Chairman and
Members of the Planning Board:

The Mount Kisco Fire Department reviewed the revised site plan submission – specifically sheet No. FD-1 "Fire Truck Turning Plan" (revised on 1/25/21) for the proposed Public Utility Wireless Telecommunications Facility ("cell tower") specifically, as it pertains to Fire Department access, staging/positioning of apparatuses/equipment, and parking for arriving firefighters. The revision(s) to FD-1 appear to have occurred prior to the Fire Department – Homeland meeting on February 4th at 1:00 pm.

We note the following:

Original January 19, 2021 comment:

1. Proposed ingress to the site is designed to arrive from "one direction." As proposed, fire trucks are only able to access site while heading east on S. Bedford Road. In the event of a road closure due to a storm, or in the event that mutual aid is requested from a neighboring fire department, the applicant should demonstrate that fire apparatuses are able gain access to the site coming from either direction on Rt. 172, both east and west. Please note* The New York State Fire Code permits the authority having jurisdiction to require two – separate access roads (refer to 2020 NYSFC 503.1.2

"Additional access." *The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.*) Having only one proposed access road that leads to the proposed facility site, access to site, should not be further reduced. If access is limited to arriving emergency crews to only one direction, plan should be revised to include a second emergency access road off of Sarles Street.

Comment: Access road has not been modified to provide access to site from both directions

Original January 19, 2021 comment:

2. Proposed access road appears too narrow and the turns appear to be too sharp. Proposed should be able to demonstrate that all Mount Kisco Fire Trucks are able to access site to – or within a reasonable distance from the compound without blocking the only access road.

Comment: Access road has not been modified to include the Truck Schematic that was provided to Homeland. Ariel Truck utilized on drawing is too small

Original January 19, 2021 comment:

3. The proposed supply pools location should not be staged directly within the compound. Proposed should include an area away from the compound that is large enough for two 15 X 15 ft. supply pools located in close proximity however, far enough away from the actual compound which would be the anticipated origin of a fire. The area for the supply pools should be large enough for a pumper truck can be located next to the pool, and enough additional area should be provided for a tanker truck to access the pools and fill them with water, leave site to refill tank, and return to fill on a rotating basis.

Comment: We agreed that the pool location(s) can remain however, Homeland must demonstrate that a Pumper Truck can stage adjacent to the pool and provide enough room to enable Tanker Trucks to dump water into the pool (either by side drop or rear drop) and then be able to swap out so that the water supply remains continuous. Proposed turnaround plan is acceptable however, it needs to be revised demonstrating that the Ariel Truck can perform the same maneuver

Original January 19, 2021 comment:

4. The proposed area for arriving fire fighters is located too close to the compound and in an area that will be necessary for fire truck access and positioning. Parking for arriving fire fighters should be located further away from the compound.

   Comment: No changes have been made to the drawings. As discussed during the 2/4/2021 meeting, parking for arriving personnel should be relocated

Original January 19, 2021 comment:

5. Applicant should demonstrate that the access roads and staging areas are designed to support multiple types of fire apparatuses.

   Comment: We defer to the Village Engineer

Original January 19, 2021 comment:

6. The Aerial Fire Truck (43.00 ft.) utilized to demonstrate access and turnaround on site is too small. The Mount Kisco Fire Department utilizes a Tower Ladder that is in excess of 56 feet long.

   Comment: Truck template and dimensions were provided to Homeland, no changes have been made to the drawings

Original January 19, 2021 comment:

7. Applicant should demonstrate on the drawing FD-1 that "pass-by" lanes along the access road are adequately sized for fire trucks to pass one another.

   Comment: Truck template and dimensions were provided to Homeland, no changes have been made to the drawings

If you have any questions, please don't hesitate to contact me.

Sincerely,

David Hughes by P.J.M.

David Hughes
Chief of Department

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REPLY TO:
TARRYTOWN OFFICE

February 16, 2021

Honorable Chairman Bonforte
and Members of the Planning Board
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

Re: 180 S. Bedford Road
Public Utility Wireless Telecommunications Facility
Homeland Towers, LLC & Verizon Wireless

Honorable Chairman Bonforte and
Members of the Planning Board:

As you are aware, we are the attorneys for Homeland Towers, LLC ("Homeland Towers") and Verizon Wireless (together "Applicants") in connection with their application to place a public utility wireless telecommunications facility ("Facility") at the above referenced property ("Property").

In furtherance of the foregoing, enclosed please find 14 copies the following:

1) Letter from New York City Department of Environmental Protection dated January 25, 2021, confirming that "DEP review and approval of a Stormwater Pollution Prevention Plan (SWPPP) is not required."

2) Letter from EBI Consulting with supporting documentation dated January 25, 2021, responding to comments received from the Conservation Advisory Committee, and confirming that the Facility is not within a designated critical habitat.

3) Supplemental Report from Lane Appraisals, Inc. responding to public comments, and confirming that the data included in the Lane Appraisals Report, does in fact include studies on homes within close proximity to a wireless telecommunications tower. Additionally, the broker letters submitted in opposition are "so unsupported and so extreme, and lack any validation or methodology, that they should be given no credence."

4) Supplemental Site Justification Report from Klaus Wimmer of Homeland Towers dated February 12, 2021.

5) APT Engineering Revision Letter dated February 9, 2021 listing the revisions made to the engineering documents submitted herewith.

6) Revised Steep Slope Letter dated February 1, 2021 signed and sealed by Scott M. Chasse, P.E. confirming that the Applicants have met the criteria under the Village Code for issuance of the Steep Slope Permit.

7) Revised Stormwater Management Report dated January, 2021 and signed and sealed by Kevin A. McCaffery, P.E., confirming that "the post-development peak discharges to the waters of the State of New York for the 2-, 5-, 10-, and 25- year storm events are less than the pre-development peak discharges. As a result, the proposed telecommunications facility will not result in any adverse condition to the surrounding areas and properties."

8) Revised Zoning Drawings including the information received from the Solar Farm application, as requested by the Village.

On February 5, 2021 the Village provided consultant invoices for the first time demanding $45,908.50 from the Applicants in order to replenish the escrow account and pay for past charges from the Village's consultants dating back to September, 2020. Please note that the Applicants hereby object to these illegal fees and are filing an audit request with the Village Board of Trustees in accordance with state law. In addition, the suspension of the review of the application by the Planning Board at the February 9, 2021 work session is an unreasonable delay of the Application and in violation of 47 U.S.C. §332(c)(7)(B)(ii).

We thank you for your consideration, and look forward to discussing this matter with the Planning Board at the next available public hearing. If you have any questions or require any additional documentation, please do not hesitate to contact me at 914-333-0700.

Snyder & Snyder, LLP

By: _____
Robert D. Gaudioso

RDG/djk
Enclosures
cc: Zoning Board (10 copies, under separate cover letter)
Applicants
Z:\SSDATA\WPDATA\SS3\RDG\Homelandtowers\Mount Kisco\NY172\PB Letter 2.12.21 (DEP, EBI, Lane).rtf

NYC
Environmental
Protection

/incent Sapienza, P.E.
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
Bureau of Water Supply
prush@dep.nyc.gov

465 Columbus Ave.
Valhalla, New York 10595
T: (845) 340-7800
F: (845) 334-7175

January 25, 2021

Mr. Klaus Wimmer
Regional Manager
Homeland Towers, LLC
9 Harmony Street, 2nd Floor
Danbury, CT 06810

Via email: kw@homelandtowers.us

Re: Homeland Tower - Proposed Cell Tower
180 S. Bedford Road
(V) Mount Kisco; (C) Westchester
Tax Map ID: 80.44-1-1
New Croton Reservoir Basin
DEP Log# 2020-CNC-0798.OT.1

Dear Mr. Wimmer:

The New York City Department of Environmental Protection (DEP) reviewed the latest submission for the above captioned project received on October 29, 2020. Based on the site visit conducted on October 21, 2020, our review, and pursuant to regulatory thresholds detailed in Section §18-39 of the *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources (Watershed Regulations)*, it appears that DEP review and approval of a Stormwater Pollution Prevention Plan (SWPPP) is not required for the project as proposed. **This project may still require regulatory approval from other agencies.**

This Determination is based on the set of plans prepared by Scott Chasse, P.E. of APT Engineering, PLLC titled: Homeland Towers, LLC - Wireless Telecommunications Facility, 180 S. Bedford Rd., Mount Kisco, NY 10549, dated August 13, 2020, last revised on December 22, 2020. Please note that should the site plan change, this determination must be reconsidered.

DEP strongly encourages the project sponsor to implement temporary best management practices (BMP's), including erosion and sediment controls (ESC) as necessary, for the duration of the project. Prior to the start of the construction activities, DEP requests the applicant to contact the undersigned since the project is in the New Croton Reservoir Basin.

If you have any questions or require any further assistance, please do not hesitate to contact me at (914) 749-5356 or at *aoncioiu@dep.nyc.gov*.

Sincerely,

Andreea A. Oncioiu
Associate Project Manager II
EOH Project Review Group
Regulatory & Engineering Programs

c: (V) Mount Kisco Planning Board - *planning@mountkisco.org*
Anthony Oliveri, P.E., Dolph Rotfeld Engineering PC - *anthony@drepc.com*
Natalie S. Browne, NYS DEC - *natalie.browne@dec.ny.gov*

EBI Consulting
environmental | engineering | due diligence

21 B Street
Burlington, MA 01803
Tel: (781) 273-2500
Fax: (781) 273-3311
www.ebiconsulting.com

January 25, 2021

Honorable Chairman
and Members of the Planning Board
Village/Town of Mount Kisco
104 Main Street
Mount Kisco, NY 10549

RE: Proposed Communications Facility
Site Identifier: Mt Kisco / NY172
Site Address: 180 South Bedford Road, Mt Kisco, Westchester County, New York
EBI Project No. 6120007971

Dear Honorable Chairman and Members of the Planning Board:

We are writing in response to comments received from the CAC in connection with the proposed Homeland Towers and Verizon Wireless facility ("Facility") at the above captioned property. The proposed project consists of the construction of a new wireless communications Facility. Specifically, the proposed installation will consist of an approximately 140-foot monopine tower (145-foot at the top of branches) and associated support equipment, located within a 41-foot by 62-foot fenced compound within a 56-foot by 62-foot lease area. Access will be gained via the construction of a proposed 12-foot wide gravel access road, emanating approximately 100-feet west/northwest from an existing dirt road which emanates south from Bedford Road and has a variable width. Utility conduits are proposed to extend underground approximately 190 feet to the north to an existing utility pole located on the south side of South Bedford Road.

USFWS

EBI reviewed online resources maintained by the USFWS (http://ecos.fws.gov/ipac) to identify any species that are federally-listed under the Endangered Species Act (ESA) as either endangered or threatened, and that are known to occur within the project vicinity. Based on EBI's research of online files maintained by the USFWS, two non-aquatic, federally-listed (i.e. endangered or threatened) species are known to occur within the project vicinity, the Indiana Bat (Myotis sodalist) and the Bog Turtle (Clemmys muhlenbergii). EBI recommended tree clearing only between October 31 and March 31 to avoid disturbance of the Indiana Bat (Myotis sodalist), to which the USFWS concurred on December 29, 2020.

The Project Site does not consist of suitable habitat for the Bog Turtle, as no wetlands were observed in the area of the telecommunications compound, and the topography is not appropriate for the bog turtle habitat. Bog turtles prefer (i.e. slow, shallow, muck-bottomed rivulets of sphagnum bogs, calcareous fens, marshy/sedge-tussock meadows, spring seeps, wet cow pastures, and shrub swamps) capable of supporting the listed species, which are not present in the areas of the proposed Facility. Therefore the proposed Facility will have "no effect" on the Bog Turtle. The USFWS "acknowledges this determination".

Additionally, EBI utilized the USFWS online Critical Habitat Portal online mapping tool, and determined that the proposed Facility location is not within a designated critical habitat

NYS DEC Review

EBI also reviewed online resources maintained by the New York State Department of Environmental Conservation

(NYDEC, https://gisservices.dec.ny.gov/gis/erm/) to identify any state-protected rare species that are known to occur within proximity of the proposed Project Site. Based on EBI's review of these resources, the Project Site is not located within the vicinity of "Significant Natural Communities" or within the immediate vicinity of "Rare Plants or Animals". Additionally, EBI utilized the USFWS online Critical Habitat Portal online mapping tool, and determined that the proposed Facility location is not within a designated critical habitat. Therefore, no additional consultation was needed.

Additionally, it should be noted according to a the T&E Wildlife Habitat Assessment Report (T&E Assessment), revised September 1, 2020, prepared by ECO correspondence with the New York Natural Heritage Program found no listing of rare or state listed species in the vicinity of the Project Site. Additionally, there were no state listed significant natural communities or other significant habitats. It should be noted the T&E Assessment included the entire parcel. Please see attached supporting documents.

Migratory Birds (including song birds)

According to the Migratory Bird Treaty Act (MBTA) and ESA, the tower is to be constructed utilizing "*Recommended Best Practices for Communications Tower Design, Siting, Construction, Operation, Maintenance and Decommissioning*" (https://www.fws.gov/migratorybirds/pdf/management/usfwscommtowerguidance.pdf), which includes the tower to be constructed as a monopole (no guyed lines), at 145 feet to the top of the branches (under 200 feet), and with no lighting. Further, based on a species review dated October 1, 2020 completed by EBI Consulting, EBI recommended tree clearing only between October 31 and March 31 to avoid disturbance of the Indiana Bat (*Myotis sodalist*) which would also avoid tree clearing during a majority of the nesting season for all avian species. As such, the proposed tower meets most of the USFWS's tower siting and design recommendations (height < 200 ft, no guyed lines, no lighting), and further will avoid tree clearing during avian nesting season. Therefore, the proposed facility is not anticipated to adversely affect migratory birds.

Please note that the majority of avian species classified as "song birds" are passerine species, and almost all of them are classified as migratory birds by the MBTA. As noted above, the proposed installation of the facility is **unlikely** to Adversely Affect migratory birds, which includes a majority of migratory species of "song birds".

Additionally, although the proposed installation will remove trees that may be utilized by resident bird species during the over-wintering season, the Project Site installation will occur on a small portion of the Subject Property in close vicinity to an existing access road and local road. Note that many of the resident avian species (including song birds) that do not migrate are habitat generalist; and although trees will be impacted, the remaining habitat on the Subject Property, and within the immediate vicinity of the Subject Property, is composed of the same generalist habitat being impacted.

Therefore, due to the tower design, (no guy wires, height, no lighting), and based on tree clearing restrictions to be implemented, it is considered **unlikely** the proposed installation will have an Adverse Effect on migratory bird species.

Noise Impacts

Typically, noise from communications towers occur from generators and air-conditioning units. Generators are cycled on a limited basis. However, all proposed equipment, will be outdoors, and therefore no air conditioning units are proposed, thus limiting noise. Therefore with the exception of limited generator cycling and use during an emergency, noise from the proposed communications tower will be negligible, and impacts of noise to species will be minimal.

Sincerely,

Ms. Elaine Langer
Program Manager/ Biologist

Attachments: Supporting Documentation

SUPPORTING DOCUMENTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, New York 13045

December 29, 2020

Mr. Jason Stayer
Biologist II
EBI Consulting
21 B Street
Burlington, MA 01803

Dear Mr. Stayer:

This letter is in response to your October 1, 2020, letter regarding a telecommunications facility proposed at 180 South Bedford Road in the Village of Mount Kisco, Westchester County, New York. As you are aware, Federal agencies, such as the Federal Communications Commission (FCC), have responsibilities under Section 7(a)(2) of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to consult with the U.S. Fish and Wildlife Service (Service) regarding projects that may affect federally listed species or designated critical habitat, and confer with the Service regarding projects that are likely to jeopardize federally proposed species or adversely modify proposed critical habitat. We understand that all FCC licensees, applicants, tower companies, and their representatives have been designated as the FCC's non-federal representatives for the purposes of completing informal consultation pursuant to Section 7(a)(2) of the ESA.

On behalf of the FCC, EBI Consulting determined that the proposed project "may affect, but is not likely to adversely affect," the federally listed Indiana bat (*Myotis sodalis*; Endangered). Given the amount of tree removal and conservation measures described in your October 1, 2020, letter (*e.g.*, conducting tree removal between October 31 and March 31), the Service concurs with your determination.

EBI consulting also determined that the project will result in "no effect" to the federally listed bog turtle (*Clemmys* [=*Glyptemys*] *muhlenbergii*; Threatened) as no suitable habitat was present for this species. The Service acknowledges this determination.

No further coordination under the ESA is required with the Service at this time. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of federally listed and proposed endangered and threatened species in New York is available for your information. Until the proposed projects are complete, we recommend that you check our website regularly to ensure that listed species presence/probable absence information for the proposed projects are current.*

Any additional information regarding the proposed projects and their potential to impact listed species should be coordinated with both this office and with the New York State Department of Environmental Conservation.

Thank you for your time. If you require additional information or assistance please contact Noelle Rayman-Metcalf at 607-753-9334. Future correspondence with us on these projects should reference project file 20I4463.

Sincerely,

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at: http://www.fws.gov/northeast/nyfo/es/section 7.htm

cc: NYSDEC, New Paltz, NY (Env. Permits)

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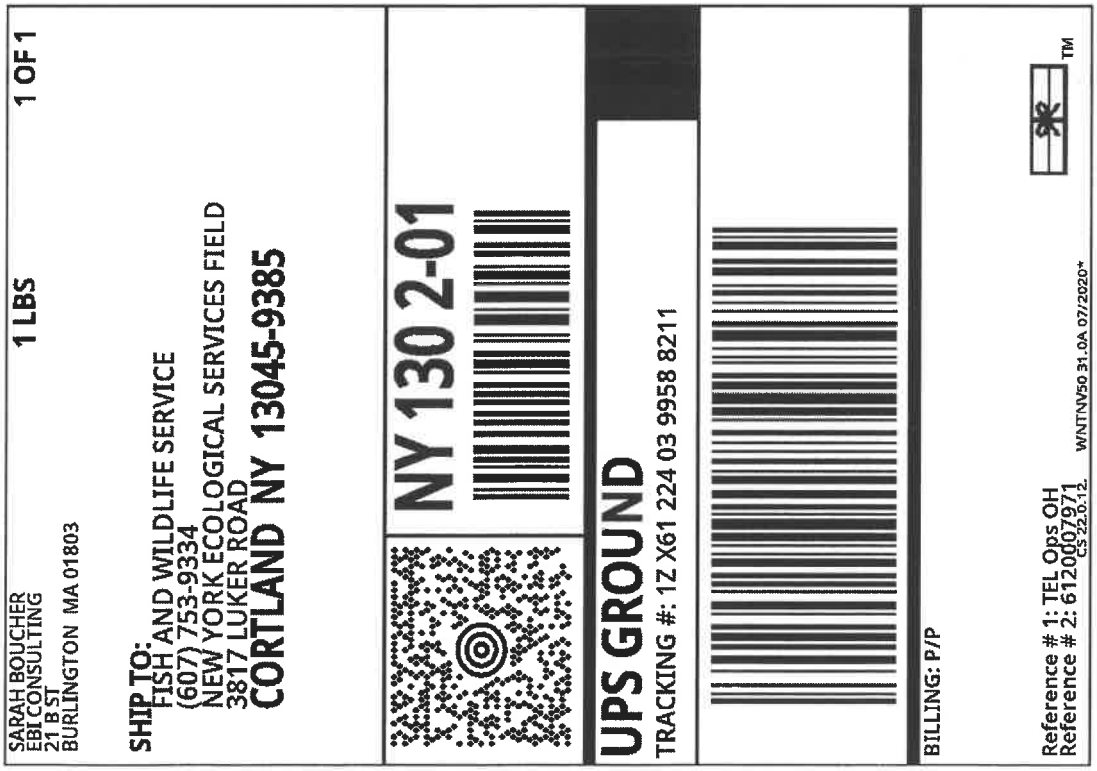


Critical Habitat for Threatened & Endangered Species [USFWS]

Final Linear Features

Final Polygon Features

Proposed Linear Features

Proposed Polygon Features

A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

U.S. Fish and Wildlife Service | The data found in this file were developed by the U.S. Fish & Wildlife Service field offices. For more information please refer to the species level metadata found with the individual shapefiles. The ECOS Joint Development Team is responsible for creating and serving this conglomerate file. No data alterations are made by ECOS. | Westchester County GIS, USDA FSA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To:
Consultation Code: 05E1NY00-2020-SLI-4463
Event Code: 05E1NY00-2020-E-13376
Project Name: Mt Kisco

September 25, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967-2258
(631) 286-0485

Project Summary

Consultation Code: 05E1NY00-2020-SLI-4463

Event Code: 05E1NY00-2020-E-13376

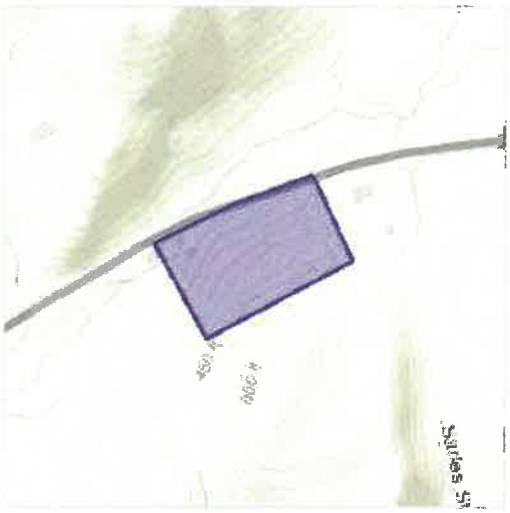
Project Name: Mt Kisco

Project Type: COMMUNICATIONS TOWER

Project Description: Construction of a 140-foot monopine tower (145-foot at the top of branches) and associated support equipment located within a fenced 41-foot by 62-foot fenced compound on a 56-foot by 62-foot lease area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.19965691895215N73.71337498271814W



Counties: Westchester, NY

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered

Reptiles

NAME	STATUS
Bog Turtle *Clemmys muhlenbergii* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

EBI Consulting
environmental | engineering | due diligence

Jason Stayer
Biologist II
11445 East Via Linda, Suite 2#472
Scottsdale, AZ 85259
480-661-0051
jstayer@ebiconsulting.com

SUMMARY OF EXPERIENCE

Mr. Stayer received his BS in the Management of Information Systems from the University of Texas at Arlington with an emphasis in database managment. Mr. Stayer also received a MS in Wildlife Ecology from Texas State University with an emphasis on avian species, specifically a Master's Thesis on raptor species. He has spent 5 years working for the U.S. Fish and Wildlife Service (USFWS) responsible for conducting numerous wildlife and habitat assessments, understanding and implementing all sections of the Endangered Species Act (ESA), responsible for reviewing National Environmental Policy Act (NEPA) documents, writing and reviewing grant proposals, writing and reviewing biological reports, and publication of numerous documents related to the Endangered Species Act.

RELEVANT PROJECT EXPERIENCE

Mr. Stayer has worked with EBI Consulting as a Biologist II since January of 2014. Prior to working with EBI, Mr. Stayer worked as a wildlife biologist for the USFWS Carlsbad Field Office. Mr. Stayer worked closely with the U.S. Navy and National Park Service to establish a habitat monitoring program for the Federally threatened island night lizard. He has also worked with numerous water districts to assess project impacts, develop project alternatives, and propose mitigation for numerous Federally listed threatened and endangered species in complice with the ESA and NEPA. As a USFWS fish and wildlife biologist Jason has conducted numerous species and habitat assessments and developed ESA Section 4 documents for the Cocachella Valley Fringe-toed Lizard, Island Night Lizard, Coastal California Gnatcatcher, Santa Ana Sucker, and Southwestern Willow Flycatcher. Jason has also drafted Section 7 Consultation documents for 30 different state and federally listed species.

EDUCATION

Bachelor of Science, Management of Information Systems, December 2002
University of Texas at Arlington, Arlington, TX

Master of Science, Wildlife Ecology, August 2008
Texas State University, San Marcos, TX

PROFESSIONAL REGISTRATIONS

Seabird Assessment Oil Spill Response, March 2009
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Listing and Candidate Assessment (Section 4 - ESA), March 2010
Lakewood Fish and Wildlife Office, Lakewood, CO

Habitat Conservation Plan Development (Section 10 - ESA), March 2011
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Recovery Planning Implementation (Section 4 - ESA), April 2011
National Convention Training Center, Shepherdstown, WV

EBI Consulting
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Jason Stayer
Biologist II
11445 East Via Linda, Suite 2#472
Scottsdale, AZ 85259
480-661-0051
jstayer@ebiconsulting.com

Interagency Consultation (Section 7 - ESA), April 2012
Carlsbad Fish and Wildlife Office, Carlsbad, CA

Critical Writing and Critical Thinking, June 2012
National Convention Training Center, Shepherdstown, WV

24 hour HAZWOPER Certification, March 2013
Carlsbad Fish and Wildlife Office, Carlsbad, CA

PUBLICATIONS

USFWS Publication	5-year review on the Coachella Valley fringe-toed lizard (August 10, 2010)
Federal Register	Proposed revised critical habitat for the southwestern willow flycatcher – assist Arizona Fish and Wildlife Office (Carlsbad Field Office lead) (August 15, 2011)
Federal Register	90-day finding on the coastal California gnatcatcher (October 26, 2011)
USFWS Publication	5-year review on the island night lizard (October 10, 2012)
Federal Register	Final revised critical habitat for the southwestern willow flycatcher – assist Arizona Fish and Wildlife Office (Carlsbad Field Office lead) (January 03, 2013)
Federal Register	Island night lizard proposed delisting rule (February 04, 2013)
Federal Register	Draft post-delisting monitoring plan for the night lizard (February 04, 2013)
Federal Register	Island night lizard final delisting rule (April, 01 2014)
Federal Register	Final post-delisting monitoring plan for the night lizard (April, 01 2014)

EBI Consulting
environmental | engineering | due diligence

Elaine Langer
Program Manager
21 B Street
Burlington, MA 01803
Office: 617.715.0000 Mobile: 617.308.0000
Home: 781.200.7000

SUMMARY OF EXPERIENCE

Elaine Langer, Program Manager has extensive experience in environmental investigations and site assessments since 2007. In addition, Ms. Langer has extensive experience conducting NEPA land use survery and asbestos and lead paint assessments and sampling.

RELEVANT PROJECT EXPERIENCE

Environmental Site Assessments. Ms. Langer has conducted and managed ASTM Phase I Environmental Site Assessments, Environmental Impact Assessments, ACM and LBP Surveys, and NEPA compliance reports for various clients for a variety of properties located in the northeastern United States. These properties have included industrial, commercial, retail and multi-family residential properties, as well as telecommunications sites.

MOBILE TELECOMMUNICATION SITE ASSESSMENTS. In addition to environmental assessments, Ms. Langer has prepared NEPA land use surveys and Environmental Assessments for telecommunications sites throughout the northeastern United States. Environmental reviews include analysis of historic properties, wetlands, endangered/threatened species, critical habitat, floodplains and other areas of environmental concern and the possible impacts of cellular installations on these sensitive areas.

WETLAND INVESTIGATIONS. Ms. Langer has experience with wetland surveys and permitting for telecommunications sites. Ms. Langer is formally trained in performing wetland delineations and identifying key wetland vegetation and soils. Additionally, Ms. Langer has performed long term mitigation of Wetland communities in the area of telecommunications towers.

EDUCATION

B.S., SUNY Environmental Science and Forestry (Environmental Forest Biology)

PROFESSIONAL AFFILIATIONS

NYS Licensed Asbestos Building Inspector
Wetland Delineation Certification, Rutgers University

PROFESSIONAL REGISTRATIONS

PUBLICATIONS

Wildlife Habitat Assessment for New York State or Federally Listed Threatened or Endangered Species And Species of Special Concern

Project:

SUNRISE COMMUNITY SOLAR

Village of Mount Kisco
Westchester County, NY

Prepared By:

Bruce Friedmann

ECOLOGICAL ANALYSIS, LLC
633 Route 211 East
Suite 4 Box 4
Middletown, New York 10941
(845) 495-0123

Revised September 1, 2020

Introduction

The proposed Sunrise Community Solar field project (SCS) site is located on an approximately 24.5 acres parcel situated generally to the southwest of the intersection of NYS Route 172 (South Bedford Road) and Sarles Road within the Village of Mount Kisco. As part of this project's review requirements, Ecological Analysis, LLC, (EA) completed a wildlife habitat assessment of the property, which included observations of resident wildlife, as well as the potential for the site to support certain "target" species that are listed as "endangered", "threatened" or "species of special concern" by the New York State Department of Conservation (NYSDEC) and/or by the federal government's United States Fish and Wildlife Service (USFWS).

The list of target species used throughout this report was additionally refined by querying both the New York State office of the Natural Heritage Program (NHP) of the NYSDEC and the USFWS IPaC[1] website. Copies of the communications with the NYSDEC and of the USFWS IPaC report are provided in Appendices A and B of this report.

While the staff of the NHP responded to our request, we did not receive a response from the Region 3 office of the NYSDEC as our request was made at the onset of a time when Region 3 staff were working from home due to state work restrictions in place to address Covid-19. The NHP response stated that they have "no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity" and therefor no additional target species were considered as a result of our inquiries.

The online generated IPaC report listed two endangered species (Indiana bat and bog turtle) that may be present on or near the project area, however IPaC reports are automatically generated using data that is neither site-specific nor project- specific and thus any potential effects of any project would be modified by project and site specific details. The IPaC report stated that the project area lies outside of critical habitat for the Indiana bat. The expected potential for project impacts to these two species is discussed in the impacts section below.

The subject site is located in the coterminous jurisdictions of the Town and Village of Mount Kisco in central Westchester County, New York. The property is generally wooded, with upland woods on well drained soils on most of the property (Photo 1), an abandoned residential property and open fields within 3.4 acres near the center of the parcel (Photo 2), exposed bedrock ledges, knobs and talus slopes (Photo 3), and a small, 0.2 acres roadside wetland on the southeast edge of the parcel (Photo 4). The present fragmented nature of this site and other nearby off-site areas, influenced by both natural and anthropogenic factors, is reflective of the existing environment of central Westchester County, which includes many urban, suburban, and exurban neighborhoods interspersed within patches of second-growth forests that are on privately or publicly held lands. Elevations above sea level across the property range from approximately 400 feet around the periphery of the site, to approximately 530 feet at the highest point. The property is in the watershed of the Kisco River. A vegetation survey of the property was also initiated for the property and a list of the 102 taxa of vegetation observed during the current late Winter and late Spring site visits is attached to this report (Appendix C).

The site features five major habitat/ecosystem variants[2] that were observed and evaluated (Figure 1):

1. Uplands – Southern hardwoods;
2. Uplands – Hemlock northern hardwoods;
3. Uplands – Successional old field/meadows/cultural;
4. Uplands – Acidic talus slope woodlands;
5. Wetland – Palustrine shrub swamp.

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[1] Information for Planning and Consultation (IPaC), a project planning tool of the USFWS.

[2] Adapted from: Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Of these five, the one that predominates across the property is the southern hardwood variant which is largely present as an oak-birch-maple forest. The other four habitats are smaller in scale and relatively confined in their presence. These include: an area of Norway spruce and Eastern white pine along the existing access driveway onto the property;

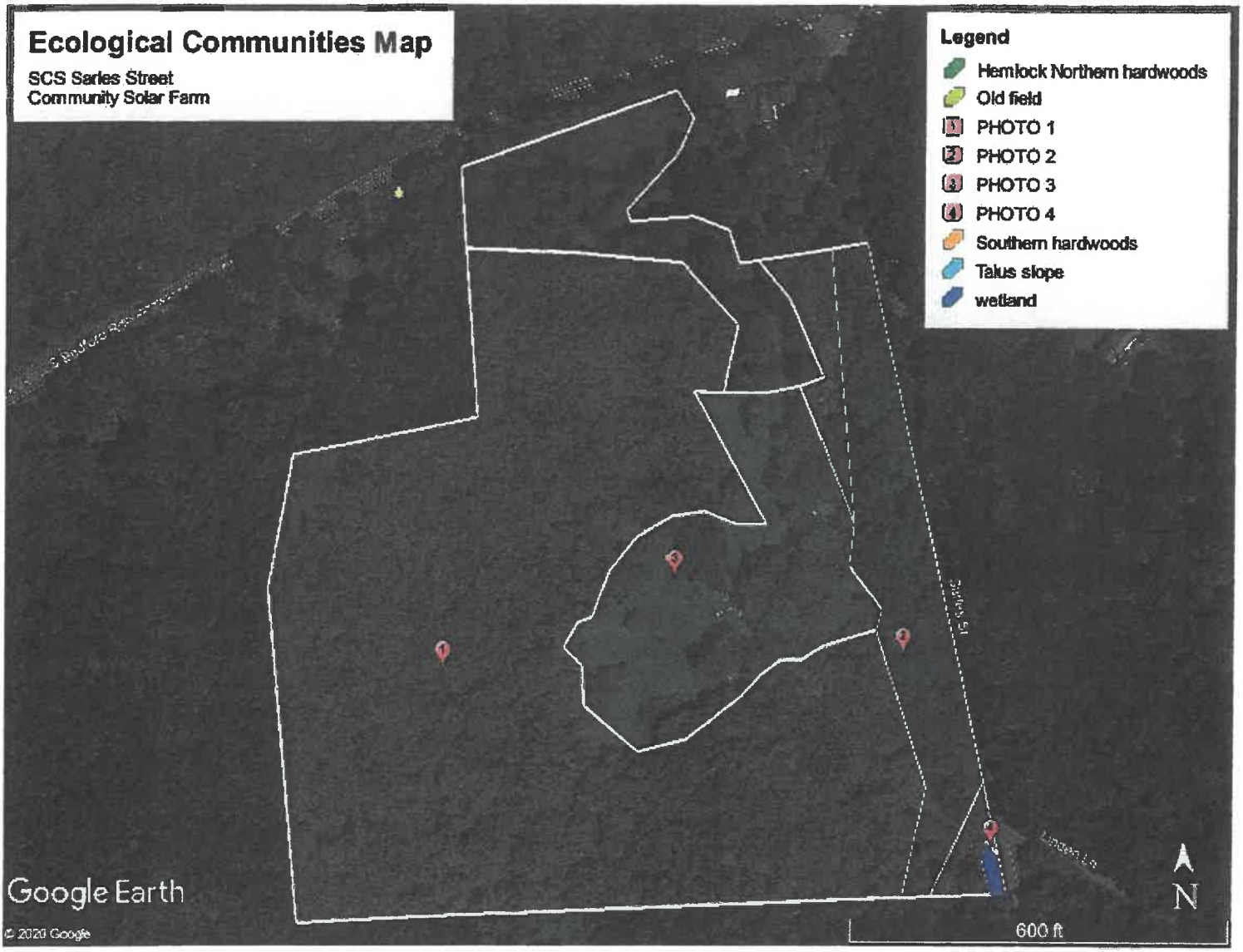
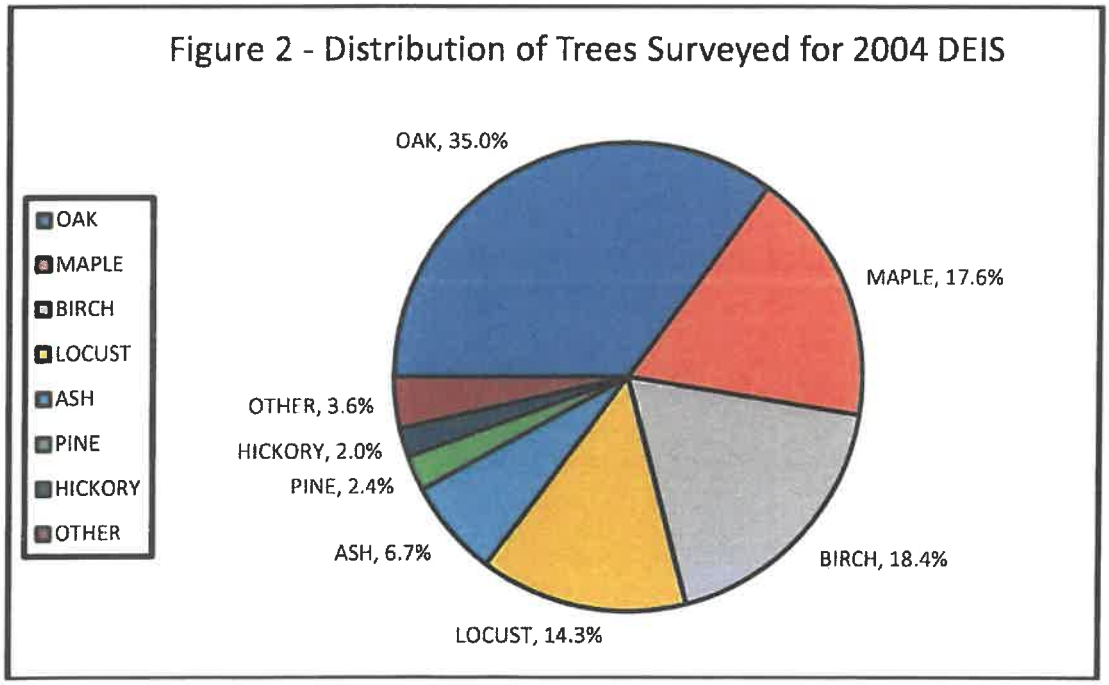


Figure 1 – Locations of major ecological communities across the site.

a hilltop area of abandoned and overgrown successional field where an estate residence was once located; and the small wetland that has developed alongside Sarles Road.

Earlier site surveys and investigations of the habitats, wildlife, and vegetation across this parcel were conducted in the Spring and Summer of 2001 as part of a SEQRA study conducted for a previous landowner by the environmental firm of Tim Miller Associates. The relevant section of the draft environmental impact statement (DEIS) for that SEQRA project (Chapter/Section 3.3 Terrestrial and Aquatic Ecology[3]) is presented in the appendices to this report (Appendix D). As part of that SEQRA study, an inventory was made of all trees on the property that were of a size equal to or greater than 8 inches in diameter (diameter at breast height, or DBH), and each of these trees was identified to taxa, surveyed to location on the parcel, and tagged in a sequence of serially numbered metal disk tags. The complete inventory of these data is presented in the 2004 DEIS document. Approximately 1,620 trees were included in that survey, of which approximately 1,069 were considered to be "specimen trees" as defined by the Mounty Kisco Tree Preservation ordinance. That ordinance, Chapter 99 of Mount Kisco's general legislation, defines a "specimen tree" as one which has a minimum circumference of 36 inches (approximately 11.5" DBH), and/or a minimum crown spread of 15 feet, or is otherwise identified significant by the Village's Naturalist.

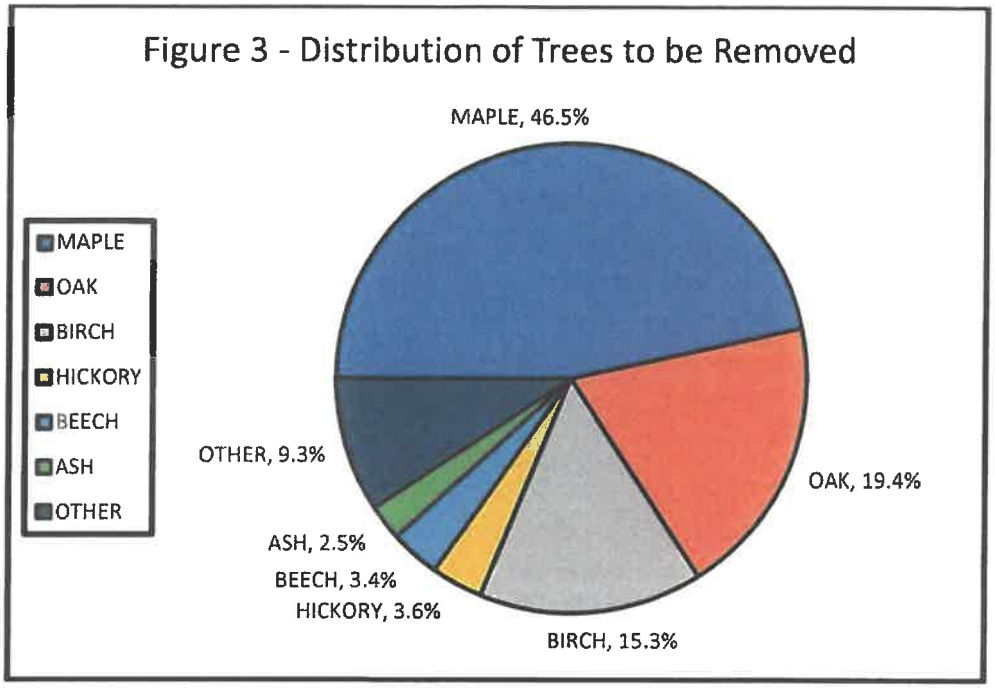
The most prevalent trees identified in the DEIS tree survey were oaks and maples of several species, sweet birch, black locust, ashes, Eastern white pine, and hickories of various species. Several other tree species were noted in lesser numbers, including American beech, tulip poplar, black walnut, Eastern hemlock, Eastern red cedar, apples, cherries, sassafras, and sycamore.



While the taxa distribution shown in Figure 2 is dated to 2004, a more recent survey of living trees within the footprint of the proposed solar field demonstrates that the characterization of the predominant wooded community on the site remains one dominated by various oaks, maples, and birches. For the currently proposed project, a field survey was performed in August, 2020, to provide a count of trees that would be removed in order to clear the property to the Limits of Disturbance (LOD) required for this project's needs. The most prevalent species of trees found within the Project's LOD were various species of maples, oaks, and birches (Figure 3). A count of the total number of live trees to be

[3] Tim Miller Associates. 2004. Sarles Estates Draft Environmental Impact Statement.

removed (TBR's), the number of Town designated "specimen trees" TBR, and the number of "Dead" TBR's (the latter category is based on a visual assessment by the field surveyors that, in August of 2020, a tree appeared to be dead).



Those counts were: 462 live TBR, 141 specimen TBR, and 44 dead TBR, for a total count of 603 live trees and 44 dead trees to be removed within the Limits of Disturbance. Those trees that are identified as "dead" were assessed visually by Insite in August of 2020 and appeared to be dead or to have been knocked down following an episode of high winds on August 4 associated with the passage of a downgraded extratropical depression (Hurricane Isaias). There are no time-of-year restrictions imposed by state or federal regulatory agencies in regard to the felling or removal of trees on this property.

The area within the project's proposed LOD is 7.4 acres, of which approximately 3.18 acres is southern hardwood habitat, 0.87 is hemlock northern hardwood habitat, and 3.35 is old field habitat.

On-site observations and assessments were conducted by Mr. Bruce Friedmann, a Senior Environmental Scientist with EA, LLC. A total of 9 ¼ hours of on-site walks and observations occurred over two days during the months of March and May, 2020. During the site walks EA employed a series of random, zig-zag transects with observations, listening, and/or ground searches being conducted as site specific features changed along the walking transect routes (e.g. through upland hardwood forested slopes, to successional fields, to the talus slope, and through the wetland).

The site visits were focused on observing wildlife habitat present on the property. The random nature of these transects allowed the investigator to observe and actively investigate landscape features of interest encountered. This tactic also allowed data to be collected from a greater variety of micro-habitats than would be encountered by more rigid transect procedures. During these transects, incidental observations of wildlife and vegetation were made and are noted in this report.

Many of the understory and groundstory shrubs and forbs observed to be dominant within both the forested and the open meadow areas of the property are plant species that are listed by the NYSDEC as either prohibited or regulated[4].

[4] In New York State, listed prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce or propagate. Regulated invasive species are species which cannot be knowingly

These include: garlic mustard, mugwort, Japanese barberry, oriental bittersweet, cypress spurge, privets, bush honeysuckles, Japanese honeysuckle, Nepalese browntop (stiltgrass), wineberry, multiflora rose, burning bush, Norway maple, and black locust.

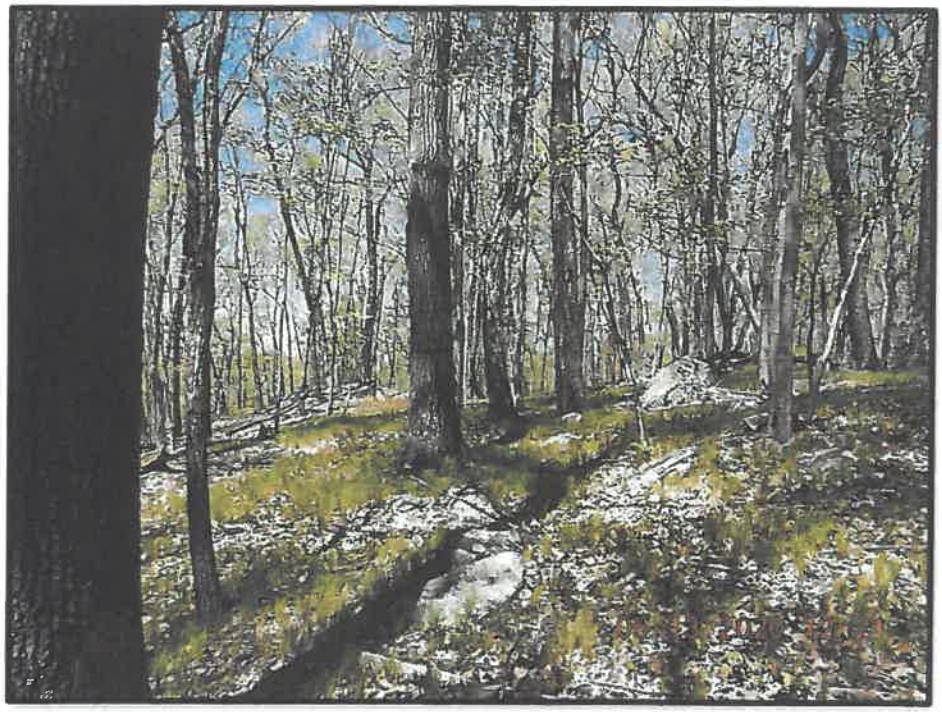
Upland Communities

The upland areas on the subject property range from second growth Southern hardwood forested areas to small stands of Northern hardwood evergreen trees, to several areas of bedrock exposures, to an area of cleared forest land that had been developed as a residential estate property, but has reverted to a shrubby field dominated by multiflora rose, brambles (several *Rubus* spp.) and a variety of herbaceous plants and grasses.

The majority of the property is an upland forested community that is primarily dominated by several species of oak (chestnut, white, and pin oaks) that are co-dominant with any one or more of the following: maples (sugar and red maples), sweet birch, and ashes (white and green ashes) in the overstory (Photo 1). Photo 1 was taken in the larger, western portion of the Southern Hardwoods Forest polygon of Figure 1.

PHOTO 1

View, looking north, of typical hardwood forested areas traversed by remnants of pastoral era stone walls.



Black locusts are present within the developed areas and along the roads that border the parcel. Underneath the dense and closed canopy of the overstory trees, there is a very open understory shrub and sapling layer over a sparse herbaceous ground layer of vegetation that is reflective of the low light intensities that reach the forest floor during most of the growing season. These strata were primarily comprised of saplings of the overstory trees in the understory layer while garlic mustard, wood ferns, and bedstraws were found in the herbaceous ground layer. This type of forest habitat within the project site provides habitat for wildlife species that require forest interior conditions, such as wood thrush, veery, Eastern wood pewee, red-eyed vireo, black-capped chickadee, rose-breasted grosbeak, wild turkey, nuthatches, and pileated woodpecker. Regionally common mammals that would utilize this forested habitat would include whitetail

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introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction. Adapted from: 6 CRR-NY Part 575 Prohibited and Regulated Invasive Species. Current through January 31, 2020

deer, red fox, raccoon, striped skunk, porcupine, opossum, and many of the terrestrial or arboreal rodent species, including gray squirrel, red squirrel, and Eastern chipmunk.

Areas of denser evergreen tree canopies are uncommon on this parcel and are generally confined to the edges of the abandoned access driveway where much of these trees have been felled and harvested since the hilltop residence was abandoned (approximately 40-45 years prior). These areas (q.v. Figure 1 – Hemlock Northern Hardwoods polygon), though presently limited, may be used as cover by many of the same species that utilize the more open deciduous woodlands of the site. Some specialist species that prefer this cover type and may also utilize the site include black throated green warbler, pine warbler, pileated woodpecker and Acadian flycatcher.

As shown in Photo 2, much of the eastern edge of the parcel consists of steep gradient slopes that present bedrock exposures along the upper edge of the slopes above a strongly sloping area of both embedded and loose talus. Photo 2 was taken of the upslope elevations within the Talus Slope polygon demarked on Figure 1.

PHOTO *2*

View, looking northwest, of top of talus slopes bordering Sarles Road on eastern edge of parcel.

The upland areas of abandoned residential foundations, yards, and fields (Photo 3) on this property are dominated by multiflora roses (frequently showing evidence of damage caused by rose rosette viral infection), American red raspberry, various grasses, goldenrods, and clovers. Saplings of white pine and Eastern red cedar are colonizing these fields. White tail deer, mourning dove, American robin, gray catbird, and blue jay were observed in these more open areas of the site. Photo 3 was taken in the center portion of the Successional Old Field/Meadows/Cultural polygon of Figure 1. Extensive beds of plantings of pachysandra still remain in several areas around the abandoned residential foundations and this plant has spread into adjacent areas of woodland, to the exclusion of other native ground vegetation.

The ecological values of unoccupied, abandoned, or razed cultural habitats can differ widely in association with site specific details for the types of remaining structures, landscaping plantings or pioneering vegetation present. At this site, an undisturbed successional meadow around several abandoned concrete foundations has developed into a diverse plant community of grasses, forbs and shrubs, and may support an array of wildlife, including invertebrates,

reptiles, mammals, and birds. Upland meadows such as is present here, often have large populations of small mammals and can be used as hunting grounds for fox, coyote, and raptors.

PHOTO 3

View, to south, of rubble and successional old fields around hilltop abandoned residential areas.

Wetland Community

The single small wetland on the property (PHOTO 4) would be classified as either a wooded or scrub/shrub habitat. Photo 4 was taken within the Wetlands 'A' polygon of Figure 1. This small pocket, of less than 800 square footage, is dominated by skunk cabbage, spotted jewelweed, sensitive fern, and stinging nettle. Although it was dry during our initial visit in March, it held a shallow pool of standing water during our visit in May. There is a 12" corrugated steel culvert underneath Sarles Road that carries any discharge from this wetland. The overstory vegetation shading this localized wetland area consists of ashes and red maples, as both saplings and mature trees, within a surrounding sparse understory of multiflora rose, wineberry, and tangles of oriental bittersweet vines.

The only wetland inhabitants observed during our visit were aquatic insect larvae and green frogs. However other, larger, fauna may utilize these areas in transit and smaller, omnivorous, mammals such as raccoons and skunks would forage within and around the wetland, consuming smaller vertebrate and invertebrate aquatic prey species.

There were no streams nor vernal pools of water identified on the property during the wildlife study field investigations. There is, however, one small headwater tributary that is included within the NYSDEC Environmental Resource Mapper (Mapper) GIS database, as shown on the Mapper display for the project site (Appendix E). Although the feature is shown on the Mapper output, we were unable, during either of our site visits, to find any evidence of streamflow, or stream or wetland vegetation, when exploring the area of the natural hillside swale where this mapped stream resource has been depicted.

PHOTO 4

View, to south, of the small wetland located along Sarles Road on eastern edge of parcel.

The Natural Heritage Program (NHP) of the NYSDEC publishes mapping resources that provide evaluations of the ecological condition of forested lands throughout the state for general planning purposes. The wooded lands on the project parcel and on adjacent terrains are either unrated by the NHP or are forests fragments that are assigned to some of the lower statewide rating classifications (see NHP Forest Resource Condition Indices figure in Appendix E). The project's fenced-in solar enclosure (blue-outlined polygon shown on the figure) and the entire, larger, project parcel are in an unrated area adjacent to urban and residential developments that serve to separate it from any more extensive tracts of nearby forest. The forested areas nearest to this site are ranked by the NYSDEC NHP with Forest Condition Indices that indicate that each of them is compromised by one or several of the metrics applied by NHP to evaluate their ecological condition. As shown on the figure, the site was not evaluated to include any core forest areas (shown on the figure as areas of black cross-hatching). Core forests, where present, as on some of the nearby forested lands shown on the figure, contain sufficient undisturbed interior forest habitat to be of greater importance for those many species of wildlife and forest songbirds which typically avoid areas of human disturbance. While not intended solely as a wildlife impact mitigation measure, the landscape plantings to be utilized on the site will be directed towards the use of native species of bushes and trees that will offer wildlife values associated with shelter and forage opportunities.

Wildlife Use of the Site

The site provides several different types of habitats and their associated localized ecotones for use by wildlife species. The wooded uplands provide acorns and hickory nuts (mast) from trees in addition to producing various berries, fruits, twigs, and winter buds for wildlife browsing on the various shrubs. The site is bordered in part by the ecologically more diverse lands of the Marsh Sanctuary that also supports a diversity of mast and browse producing plant species supporting local wildlife populations (Appendix F). Dead wood, including fallen trunks and limbs and decaying stumps, was observed throughout the site, providing shelter for smaller animals and producing invertebrate food sources for many predatory species of mammals, reptiles, amphibians, and birds. Some of the standing, but stressed, ash trees show extensive bark stripping, or blonding, by woodpeckers as a result of bark peeling by pileated woodpeckers (a species that was observed on site), and insect exit hole evidence was observed on these trees that would be related to infestations of emerald ash borer beetle larvae.

In the context of the parcel's overall landscape, a number of bird species, which require either open meadow or closed canopy woodlands to thrive, are likely to use this site, either as a stopover during seasonal migrations or for feeding or nesting activities. Such species might include: vireos, ovenbirds, thrushes, and woodpeckers as well as some of the owl species and some of the migratory warblers. While these species are not specifically state protected, they are of concern as areas of woodlands are cleared for development. The presence of wooded areas and undeveloped parcels extending for several miles in all directions within numerous regional preserves, parklands and undeveloped portions of this and other parcels results in continuous woodland corridors that may be used by these species if displaced either temporarily or permanently from the hilltop areas of the site proposed for this development.

Potential for Use by Threatened or Endangered Species or Species of Special Concern

The site was examined for potential use by a number of threatened or endangered species which are given statutory protection by Section 182.2g of 6 NYCRR Part 182. Based strictly on the characteristics of the property including its single, roadside, wetland area, habitat potential was analyzed for the following species that are either New York State threatened or endangered:

- Bog turtle - Endangered
- Mud turtle - Endangered
- Tiger salamander - Endangered
- Northern cricket frog – Endangered
- Indiana bat – Endangered
- Northern long-eared bat – Threatened
- Northern fence lizard - Threatened
- Timber rattlesnake – Threatened

Habitat potential was also evaluated for the following species of special concern, a category of protected animals that is also listed by 6 NYCRR Part 182:

- Eastern box turtle
- Wood turtle
- Spotted turtle
- Eastern hognose snake
- Worm snake
- Mole salamanders:
    - Marbled salamander
    - Blue spotted salamander
    - Jefferson salamander

Several of the species from these listings of protected animals were eliminated from consideration due to the lack of known populations within the range of central Westchester County generally, including:

- Bog turtle – outside of known range for bog turtles, lack of suitable habitat. Neither of the requests to either the USFWS or the NYSDEC NHP returned any known concern for this species at this site.
- Mud turtle - north of its known range of Long Island, lack of open field areas, lack of suitable open water.
- Tiger salamander - north of its known range, confined to eastern Long Island.
- Northern cricket frog - requires sunlit pond habitat, within New York State known only in the Hudson Highlands and areas of Orange, Ulster, and Dutchess Counties. There are no known populations in Westchester County.
- Indiana bat – the NYSDEC NHP does not list any critical habitat or any known populations at or near this site.

- Northern long-eared bat – Neither request to either the USFWS or the NYSDEC NHP returned any known concern for this species at or near this site.
- Northern fence lizard and timber rattlesnake – While both have populations in the Hudson Highlands to the north of Westchester County (and the fence lizard has a known population to the east, bordering Connecticut), these two species have specific requirements for exposed rock and ledge terrain for denning and basking that are not present on this site.
- Worm snake – requires moist woody areas with sandy or rock substrate. Known from the Peekskill area in upper Westchester County and from Long Island.

Habitat conditions available on the site (forested uplands, meadows, and a small, intermittently flooded wetland) were then considered, and several further of these species were eliminated from consideration.

- Spotted turtle - the habitat for the spotted turtle is flooded wetlands, ponded areas and adjacent wooded areas. The requirement for flooded, ponded areas is not met by this site.
- Mole salamanders - Mole salamanders include the three species listed: marbled salamanders, blue-spotted salamanders, and Jefferson salamanders. While the blue-spotted and Jefferson salamanders are known to have populations in areas of northern Westchester County, only the marbled salamander has populations generally located throughout the county. All of the mole salamanders are terrestrial as adults and spend most of their lifespan utilizing inground burrows within upland, wooded areas. But they do require the isolated features of vernal pool wetlands for breeding purposes and the single site wetland does not persist as a vernal pool habitat that could be exploited for the successful breeding of any of these species.

Of the remaining species from the above listings, each of their range and habitat requirements may be met in part within portions of the proposed project site. Each of these species and their general habitat requirements are listed in the following table and then discussed individually below.

General habitat requirements for state listed "Species of Special Concern" potentially present on the SCS property

Common Name	Scientific Name	Habitat requirements met on the SCS property
Eastern box turtle	*Terrapene carolina*	Upland woods, wooded wetland corridors
Wood turtle	*Glyptemys insculpta*	Upland woods, wooded wetland corridors
Eastern hognose snake	*Heterodon platyrhinos*	Wooded areas with stone walls or rocky surface

Eastern Box Turtle and Wood Turtle

Based on site reconnaissance, there are densely wooded areas of the property that may be used by both the Eastern box turtle and the wood turtle. These two species are listed by New York State as species of special concern.

These are primarily terrestrial turtles, although, if present, they may make seasonal movements to any offsite stream beds or shallow ponds that would serve as refugia for them during the hotter months of summer. The major threats to terrestrial turtles appear to be pesticide poisoning, collection as pets and natural predation in areas where predators such as raccoons may be increasing.

On this property, these turtles would potentially utilize any of the wooded areas on the parcel, along with the Sarles Road wetland.

Eastern Hognose Snake

There is the possibility that habitat on-site could support the Eastern hognose snake. This species is listed by NYSDEC as being a species of special concern, although it has also described as being locally common. It is a highly secretive species that may utilize the stone walls and wooded areas of the site for cover and feeding. Since this species is also adaptable to new fields, pastures and suburban areas, the proposed development of the property should not result in a significant adverse impact to the hognose snake, if in fact it is present on this site. No hognose snakes were observed on the site.

Potential Impacts to "Species of Special Concern"

Following the use of the range and habitat assessments discussed above to eliminate many of the target species from further consideration, the currently proposed development plan was reviewed to determine what if any impact the proposed structures, access roadways and other site plan features may have on the local populations of the three listed species remaining under consideration. The potentially impacted "species of special concern" identified above include the following three species, that if present, are likely to utilize the upland or wetland portions of this site during at least some portion of their life phases:

The Eastern box turtle and the wood turtle both make extensive overland movements for foraging and may use any portion of this property. While construction at any time on a portion of the site may temporarily alter some patterns of movement, there will be areas of undisturbed land for turtle foraging movements to occur. The temporary disturbance of portions of the site at any time could potentially impact individuals in the development area, but is unlikely to impact the population as a whole. Long term impacts are not expected unless visitors to this site proceed to capture and collect individuals. The planned provision of a 6" gap between the bottom of the security cyclone fence and the ground would allow all small terrestrial animals such as these turtles to freely move throughout the property.

The hognose snake is known to be adaptable to new developments in rural and suburban areas. Thus, the proposed development should not result in a significant adverse impact to the hognose snake population, if in fact the species has a presence on this site.

Conclusion

There were no protected wildlife species identified for this location by state or federal agencies. The site remains predominately an area of southern hardwood forest, dominated by oaks, maples, and birches, with a limited development of understory tiers, as it was also described in a previous analysis of the terrestrial and aquatic ecology of the site that was conducted by others over 2001-2004 (reference to Tim Miller Associates DEIS report of 2004, Appendix D). A section of demolished residential foundations remains with the property, and has developed into an open meadow. This part of the site has been designated as the main focus for the proposed project. As this area is located within the highest elevations of the property, and is centrally located, surrounded by the forested lands, the impacts of the project on the site woods has been significantly reduced. In addition to avoiding the removal of existing live trees to the extent practicable, the project proposes to establish a landscaped border/buffer around much of the perimeter of the project installation, using native shrub and tree species. Many of these plantings provide mitigation for some impacts to both resident and transient wildlife through the enhanced provision of nesting, shelter, browse, and foraging opportunities. An estimated 7.4 acres of the existing vegetative communities will be removed by the project and replaced with the proposed surrounding landscaping plantings as well as by pollinator seedings made across the site. All of the old field/meadow would be disturbed, and replanted. Approximately 3.18 acres of the southern hardwood forest and 0.87 acres of the hemlock northern hardwood area would be cleared, resulting in the removal of 603 existing

live trees. Tree loss would be offset in accordance with re-plantings made in compliance with applicable Town tree conservation measures.

As stated earlier, it can be expected that a temporary displacement of many of the different wildlife species on the property might occur during development of the property, and permanent displacement of some species would occur within the fenced confines of the proposed projects where an estimated 603 trees would be removed. However, any pre-existing corridors for wildlife movement will remain around all sides of the centrally located solar field. These local wildlife corridors would still connect to adjacent offsite undeveloped tracts of land. These features will allow for the continued relatively unobstructed movement of species through the site as well as onto adjacent lands. Therefore, it is our professional opinion that none of the wildlife species identified within this report should be adversely affected by the proposed development plan.

Appendices:

- APPENDIX A – Correspondence with NYSDEC
  - EA letter to request Jurisdictional Determination of NYSDEC, dated March 12, 2020
  - EA letter to NYSDEC Natural Heritage Program, dated March 13, 2020
  - NYSDEC Natural Heritage Program response, dated March 27, 2020
- APPENDIX B – USFWS IPaC resource list, generated online on March 12, 2020
- APPENDIX C – List of observed vegetation, March- May, 2020
- APPENDIX D – Chapter 3.3, Terrestrial and Aquatic Ecology. from Sarles Estates DEIS, 2004.
- APPENDIX E – NYSDEC Environmental Resources map, generated online on June 8, 2020
- APPENDIX F – Miscellaneous plant lists and observations
- APPENDIX G – Work resume of field investigator

Appendix A

Correspondence with NYSDEC

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

12 March 2020

Mr. John Petronella, Regional Permit Administrator
NYSDEC Region 3
21 South Putt Corner Road
New Paltz, NY 12561-1620

Re: Jurisdictional Determination Request
180 South Bedford Road
Sunrise Community Solar project
Town of Mount Kisco, Westchester County

Dear Mr. Petronella:

Ecological Analysis, LLC, has been retained to perform the environmental work for the proposed commercial development project identified above and located within the enclosed area highlighted on a copy of the USGS 1:24,000 Mount Kisco Quadrangle map.

At present, the parcel is undeveloped.

At this time, the site plan for this community solar farm is in the review phase and an exact site plan has not been done. To aid us in this process, we are trying to identify all of the environmental and ecological constraints associated with this property. So for that purpose we are requesting a Jurisdictional Determination from your office for this approximately 25 acres site. This information will then be used throughout the subsequent planning stages of this commercial development project.

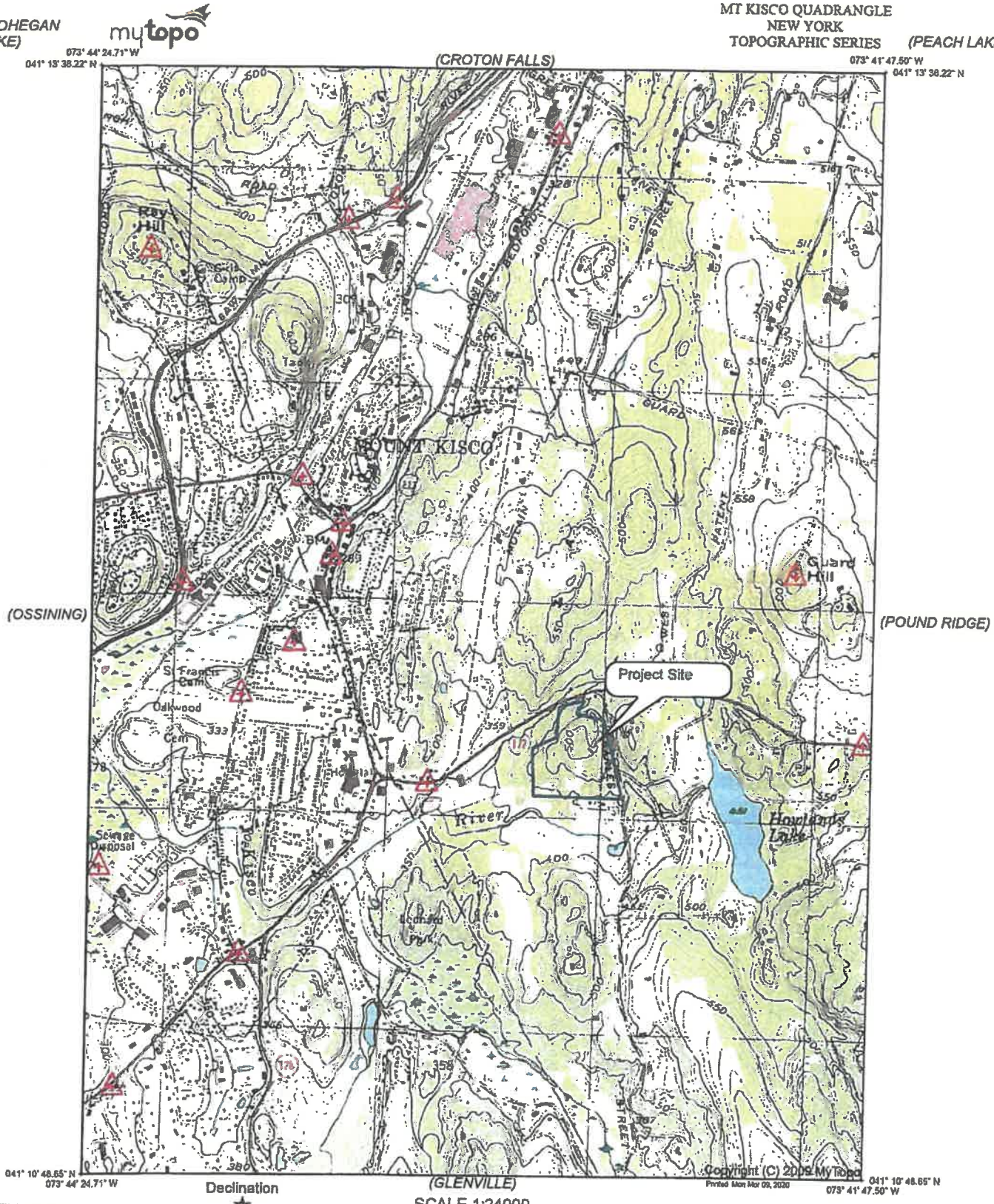
If you have any questions, please do not hesitate to contact me. Thank you for your time.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachment: USGS location map, Mount Kisco Quad



Produced by MyTopo Terrain Navigator
Topography based on USGS 1:24,000 Maps

North American 1983 Datum (NAD83)
Transverse Mercator Projection

To place on the predicted North American 1927 move the projection lines 11M N and 35M E

MT KISCO, NY
1998

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

March 13, 2020

Ms. Jean Pietrusiak
NYS Natural Heritage Program
Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757

Re: Jurisdictional Determination Request
180 South Bedford Road
Sunrise Community Solar project
S/B/L 80.44-1-1
Village of Mount Kisco, Westchester County

Dear Ms. Pietrusiak:

Ecological Analysis, LLC, has been retained to perform the environmental work for the proposed commercial development project identified above and located within the enclosed area highlighted on a copy of the USGS 1:24,000 Mount Kisco Quadrangle map.

At present, the parcel is mostly forested and undeveloped, outside of clearings around the abandoned foundations of a previous inhabitation.

At this time, the site plan for this community solar farm is in the Planning Board review phase and an exact site plan has not been done. To aid us in this process, we are trying to identify all of the environmental and ecological constraints associated with this property. We are requesting any information in regards to threatened and/or endangered species or ecologically significant communities on or adjacent to the referenced property. This information will then be used throughout the subsequent planning stages of this commercial development project.

If you have any questions, please email me at bfriedmann@4ecological.com or call me at (845) 495-0123. Thank you for your time and attention.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachment: USGS location map, Mount Kisco Quad

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

March 27, 2020

Bruce R. Friedmann
Ecological Analysis, LLC
633 Route 211 East, Suite 4
Middletown, NY 10941

Re: Sunrise Community Solar Project, 180 South Bedford Road
County: Westchester Town/City: Mount Kisco

Dear Mr. Friedmann:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

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Appendix B

USFWS IPaC resource list

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Westchester County, New York

Local offices

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967-2258

New York Ecological Services Field Office

(607) 753-9334

(607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

http://www.fws.gov/northeast/nyfo/es/section7.htm

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered

Reptiles

NAME	STATUS
Bog Turtle Clemmys muhlenbergii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

Canada Warbler Cardellina canadensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects,

and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

List of observed vegetation, March and May, 2020

List of vegetation observed in March and May, 2020, across the Sunrise Community Solar property

COMMON NAME	SCIENTIFIC NAME
Norway maple	*Acer platanoides*
Red maple	*Acer rubrum*
Sugar maple	*Acer saccharum*
Tree of heaven	*Ailanthus altissima*
Garlic mustard	*Alliaria petiolata*
Wild leek	*Allium tricoccum*
Field garlic	*Allium vineale*
Wild columbine	*Aquilegia canadensis*
Smooth rock cress	*Arabis laevigata*
Jack in the pulpit	*Arisaema triphyllum*
Common wormwood	*Artemisia vulgaris*
Ebony spleenwort	*Asplenium platyneuron*
Japanese barberry	*Berberis thunbergii*
Yellow birch	*Betula alleghaniensis*
Sweet birch	*Betula lenta*
Smooth brome grass	*Bromus inermis*
Pennsylvania sedge	*Carex pensylvanica*
Bitternut hickory	*Carya cordiformis*
Pignut hickory	*Carya glabra*
Shagbark hickory	*Carya ovata*
Oriental bittersweet	*Celastrus orbiculatus*
Mouse-ear chickweed	*Cerastium fontanum*
Celandine	*Chelidonium majus*
Spotted wintergreen	*Chimaphila maculata*
Wild basil	*Clinopodium vulgare*
Flowering dogwood	*Cornus florida*
Deer-tongue grass	*Dichanthelium clandestinum*
Spinulose wood fern	*Dryopteris carthusiana*
Marginal woodfern	*Dryopteris marginalis*
Field horsetail	*Equisetum arvense*
Philadelphia fleabane	*Erigeron philadelphicus*
Dogtooth violet	*Erythronium americanum*
Winged euonymus	*Euonymus alata*
Cypress spurge	*Euphorbia cyparissias*

COMMON NAME	SCIENTIFIC NAME
White wood aster	*Eurybia divaricata*
American beech	*Fagus grandifolia*
White ash with blonding	*Fraxinus americana*
Catchweed bedstraw	*Galium aparine*
Bedstraw	*Galium spp.*
Spotted geranium	*Geranium maculatum*
Virginia stickseed	*Hackelia virginiana*
Witchhazel	*Hamamelis virginiana*
Jewelweed	*Impatiens capensis*
Eastern red cedar	*Juniperus virginiana*
Hairy bushclover	*Lespedeza hirta*
Privet	*Ligustrum spp.*
Tulip poplar	*Liriodendron tulipifera*
Japanese honeysuckle	*Lonicera japonica*
Bush honeysuckle	*Lonicera spp.*
Common woodrush	*Luzula multiflora*
Canada mayflower	*Maianthemum canadense*
Nepalese browntop	*Microstegium vimineum*
Indian pipe	*Monotropa uniflora*
Daffodil	*Narcissus pseudonarcissus*
Sensitive fern	*Onoclea sensibilis*
Japanese pachysandra	*Pachysandra terminalis*
Virginia creeper	*Parthenocissus quinquefolia*
Pokeweed	*Phytolacca americana*
Norway spruce	*Picea abies*
Eastern white pine	*Pinus strobus*
Common plantain	*Plantago major*
Mayapple	*Podophyllum peltatum*
Hairy solomon's seal	*Polygonatum pubescens*
Jumpseed	*Polygonum virginianum*
Rock polypody	*Polypodium virginianum*
Christmas fern	*Polystichum acrostichoides*
Common cinquefoil	*Potentilla simplex*
Black cherry	*Prunus serotina*
Waxflower shinleaf	*Pyrola elliptica*
White oak	*Quercus alba*
Chestnut oak	*Quercus prinus*
Red oak	*Quercus rubra*

COMMON NAME	SCIENTIFIC NAME
Littleleaf buttercup	*Ranunculus abortivus*
Great laurel	*Rhododendron maximum*
Black locust	*Robinia pseudoacacia*
Multiflora rose	*Rosa multiflora*
Allegheny blackberry	*Rubus allegheniensis*
American red raspberry	*Rubus idaeus*
Wineberry	*Rubus phoenicolasius*
Bloodroot	*Sanguinaria canadensis*
Little bluestem	*Schizachyrium scoparium*
Japanese bristlegrass	*Setaria faberi*
Yellow foxtail	*Setaria pumila*
Roundleaf greenbriar	*Smilax rotundifolia*
Greenbrier	*Smilax spp.*
Horsenettle	*Solanum carolinense*
Canada goldenrod	*Solidago canadensis*
Goldenrods	*Solidago spp.*
Lamb's ear	*Stachys byzantina*
Common chickweed	*Stellaria media*
Skunk cabbage	*Symplocarpus foetidus*
Common dandelion	*Taraxacum officinale*
Japanese yew	*Taxus cuspidata*
Eastern poison ivy	*Toxicodendron radicans*
Eastern hemlock	*Tsuga canadensis*
American elm	*Ulmus americana*
Stinging nettle	*Urtica dioica*
Lowbush blueberry	*Vaccinium angustifolium*
Common mullein	*Verbascum thapsus*
Common gypsyweed	*Veronica officinalis*
Common blue violet	*Viola sororia*
Grape	*Vitis spp.*
This list represents species that were observed during field surveys in March and May, 2020, and therefore is not reported as an exhaustive list of all of those species that are present on the property.	

Appendix D

Chapter 3.3 Terrestrial and Aquatic Ecology from Sarles Estates DEIS
September 24, 2004

3.3 Terrestrial and Aquatic Ecology

3.3.1 Existing Conditions

Vegetation

Most of the project site consists of second growth upland woods vegetative cover. Also located on the site is a disturbed area associated with a former estate residence. Vegetation in this portion of the site includes a mixture of old field successional species as well as a grove of large evergreen trees. In addition, a small pocket of wetland vegetation was observed in the southeastern corner of the project site adjacent to Sarles Street. Figure 3.3-1 is an aerial photograph of the project site that shows the extent of the woodlands on the site and on adjacent properties. Also indicated on Figure 3.3-1 is the location of the former residence in the central portion of the site and the small wetland area in the southeastern corner of the site.

The three vegetative community types on the project site are described in the following paragraphs. Data was compiled by field surveys conducted by environmental consultants from Tim Miller Associates, Inc. A list of observed plant species on the project site, indicating common and botanical names, is included in Table 3.3-1.

Upland Woodlands

The majority of the subject site is vegetated with a second-growth hardwood forest with a generally closed canopy. The primary tree species in this community type include sugar maple, red maple, white oak, pignut hickory, beech and occasionally hemlock. The majority of the trees on the site range from 10 to 16 inches diameter at breast height (dbh) (approximately 30 - 50 years old.) Understory trees and shrubs include flowering dogwood, witch hazel, barberry, and seedlings and saplings of the overstory trees. Common ground cover species include poison ivy, Virginia creeper, garlic mustard, blackberry and Christmas fern. A tree survey was conducted on the project site to identify and map all trees with a diameter of eight inches or greater at breast height (dbh) and all specimen trees with a minimum circumference of 36 inches and a minimum crown spread of 15 feet. The results of the tree survey are described further below.

Former House Site/Mixed Evergreens

This portion of the subject site was formerly used for residential use, and includes large cleared areas, old foundations and retaining walls, and landscape plantings. On both the south and north end of this area, vegetation is dominated by large evergreens that were introduced and have gotten large since the site was abandoned. On the north end of the site this is particularly true from the edge of the clearing to Route 172, where a mix of white pine and Norway spruce dominate the vegetation and form a dense canopy. Abandonment of the residential use occurred 25-30 years ago. The remaining areas of the clearing support introduced grasses, successional old-field herbaceous plants and blackberry canes, with much of this area remaining as bare earth.

Wetland Area and its Functions

A small pocket of wetland vegetation occurs in the southeast corner of the site adjacent to Sarles Street. This area is approximately 500 square feet in size and is drained by an existing

Figure 3.3-1. Aerial photograph of the project site, is not available.

culvert that drains to the east side of Sarles Street. Vegetation in this wetland area consists primarily of skunk cabbage, water plantain, sensitive fern and poison ivy. This area has a moist substrate but no standing water. This area does not support any fish populations, but may provide habitat opportunities for some amphibians and reptiles. However, no vertebrate species or wildlife indicators were observed in the wetland area. This wet area appears to have developed from the accumulation of sediment and road debris at the culvert pipe inlet. Functional attributes of this wetland pocket are associated with stormwater functions (water detention, pollutant filtering, nutrient trapping), and possibly small animal habitat. The small size of the wetland area (approximately 500 square feet) and its proximity to Sarles Street diminish the habitat value of this wetland area.

Protected Species

Correspondence from the New York State Department of Environmental Conservation Natural Heritage Program indicates that there are no known occurrences of rare or unusual habitat types on this property. The Natural Heritage Program's database identified one historical record of a protected plant species within the vicinity of the project site. The state records indicate a rattlebox (*Crotalaria sagittalis*) plant was last sighted in 1915 at a location simply identified as "Mount Kisco". The exact coordinates of the sighting of this endangered species were not provided. However, according to the Natural Heritage records and *Necomb's Wildflower Guide* (1977), this herbaceous specie occurs in sandy soils. Sandy soil conditions do not occur within the project site as previously described in Chapter 3.1. This plant species has not been identified on the project site and is not expected to be encountered due to the existing soil conditions at the project site. Because the Natural Heritage Program considers its database findings to be sensitive information and specifically indicates that it may not be released to the public, this correspondence is not included in this document.

No rare, endangered or threatened plant species were identified on the project site or are expected to be encountered as described above. The value of the existing vegetative community types for wildlife is discussed below. The vegetative communities on the project site do not represent unique habitat types and are typical to other woodland areas in the area. The existing on-site vegetation appears to be in a generally healthy and productive state. Species abundance and distribution was typical within each community type.

A list of plants observed or expected to reside on the project site is provided below. Some of the ferns listed are protected in New York State, as noted. Federal and New York State laws provide protections against the "taking" of plant species that have been identified as "endangered", "threatened", "rare", and in New York, "exploitably vulnerable". The protected ferns are considered exploitably vulnerable under State law, meaning they may be vulnerable to collection that could make them rare. These are not rare, endangered or threatened species under Federal or State law. Since the protection afforded by State law applies to takings without the consent of the property owner, the disturbance of any State protected species on this site as a result of this project development and with the consent of the property owner is legal.

Table 3.3-1
Project Site Vegetation

Common Name (Scientific Name)	Community Type		
TREES	U	W	HS
American beech (*Fagus grandifolia*)	X		
Red oak (*Quercus rubra*)	X		
White oak (*Quercus alba*)	X		
Chestnut oak (*Quercus prinus*)	X		
Red maple (*Acer rubrum*)	X	X	
Sugar maple (*Acer saccharum*)	X		
Pignut hickory (*Carya glabra*)	X		
Shagbark hickory (*Carya ovata*)	X		
Bitternut hickory (*Carya cordiformis*)	X		
American elm (*Ulmus americana*)	X		
Tulip poplar (*Liriodendron tulipifera*)	X		
Hop hornbeam (*Ostrya virginiana*)	X		
Sassafras (*Sassafras albidum*)	X		
Black cherry (*Prunus serotina*)	X		X
Black locust (*Robinia pseudoacacia*)	X		X
Flowering dogwood (*Cornus florida*)	X		
White ash (*Fraxinus americana*)	X		
Black Birch (*Betula lenta*)	X		
White pine (*Pinus strobus*)	X		X
Eastern hemlock (*Tsuga canadensis*)	X		
Spruce (*Picea sp.*)	X		X
SHRUBS			
Arrowwood (*Viburnum dentatum*)	X		
Rhododendron (*Rhododendron sp.*)	X		X
Witch hazel (*Hamamelis virgininiana*)	X		
Spicebush (*Lindera benzoin*)	X		
Tartarian honeysuckle (*Lonicera tartarica*)	X		X
Japanese barberry (*Berberis thungergii*)	X		
Multiflora rose (*Rosa multiflora*)	X		X
Staghorn sumac (*Rhus typhina*)	X		
Winged euonymus (*Euonymus alata*)	X		X
HERBACEOUS PLANTS, CANES AND VINES	U	W	HS
Asters (*Aster spp.*)			X
Wood nettle (*Laportea canadensis*)			X
Smartweed (*Polygonum spp.*)			X
Mullein (*Verbascum blattaria*)			X
Deptford pink (*Dianthus armeria*)			X
Spotted knapweed (*Centaurea maculosa*)			X
Canada thistle (*Cirisium arvense*)			X
Wild carrot (*Daucus carote*)			X
Bladder campion (*Silene cucubalis*)			X
Ragweed (*Ambrosia spp.*)			X
Garlic mustard (*Alliaria petiolata*)	X		X
Pachysandra (*Pachysandra sp.*)	X		X
Skunk cabbage (*Symplocarpus foetidus*)	X	X	
Jack in the pulpit (*Arisaema triphyllum.*)	X		

Table 3.3-1 continued on Next Page

Table 3.3-1 - Continued
Project Site Vegetation

Common Name (Scientific Name)	Community Type		
HERBACEOUS PLANTS, CANES AND VINES	U	W	HS
Blood root (*Sanguinaria canadensis*)	X		
Daisy Fleabane (*Erigeron annuus*)			X
Milkweed (*Asclepias syriaca*)	X		X
Clover (*Trifolium spp.*)			X
Thistle (*Cirsium spp.*)			X
Indian Pipe (*Monotropa uniflora*)	X		
Spotted wintergreen (*Chimaphila maculata*)	X		X
Water Plantain (*Alisma plantago*)		X	
Blackberry (*Rubus allegheniensis*)	X		X
Poison ivy (*Toxicodendron radicans*)	X	X	X
Virginia creeper (*Parthenocissus quinquefolia*)	X	X	X
Common greenbriar (*Smilax rotundifloia*)	X		
Grape (*Vitis spp.*)	X		
FERNS	X		
Bracken fern (*Pteridium aquilinum*)*	X		
Marginal woodfern (*Dryopteris marginalis*)	X		
Hayscented fern (*Dennstaedtia punctilobula*)*	X		
Christmas fern (*Polystichum acrostichoides*)	X		
New York fern (*Dryopteris noveboracensis*)	X		
Sensitive fern (*Onoclea sensibilis*)*	X	X	

*Note: All ferns listed above are protected in New York State with the exception of those followed by an asterisk. The protected ferns are considered "exploitably vulnerable" under State law, meaning they may be vulnerable to collection that could make them rare. The protection afforded by State law applies to takings without the consent of the property owner; these are not "rare", "endangered" or "threatened" species. No attempt was made to inventory plants other than the tree survey.
U = upland woods, W = wetland, HS = former house site
Source: Tim Miller Associates, Field Investigations: 4/10/01, 4/12/01, 7/11/01

Tree Survey

A tree survey was conducted on the project site to identify and map all trees with a diameter at breast height (dbh) of eight inches or greater. A map of the surveyed trees is provided in the rear of the document. A tree schedule which lists the total number of surveyed trees by tag number, species and size is provided on the full-size Details sheet in the rear of the document. The tree survey identified approximately 1,620 trees with a minimum dbh of eight inches on the project site. Of these, 66 percent are defined as specimen trees by the Mount Kisco Tree Preservation Ordinance. According to the ordinance, a specimen tree has minimum circumference of 36 inches and a minimum crown spread of 15 feet. Approximately 1,069 of the surveyed trees meet the Mount Kisco definition of a specimen tree.

Buffer Locations and Adjacent Uses

The project site is bounded by developed areas to the east and north, and undeveloped land to the south and west. The eastern edge of the project site is adjacent to Sarles Street. The east side of Sarles Street supports single family low density "estate" homes in the Town of Bedford. To the north, the project site is bounded by Route 172. A residence and law office is currently located at the corner of Sarles Street and Route 172 to the northeast of the project site. The project site is primarily wooded along the northern and eastern borders.

To the south and west of the project site is the Marsh Memorial Sanctuary, which is an undeveloped wooded area. The project site woodlands are contiguous to the woodlands on the Sanctuary property.

Fish and Wildlife Habitat

The habitat types on this site are described below. Vegetative cover of these areas is described above. None of these habitat types are unique to the area.

Upland Woodlands / Stone Walls

The canopy in the areas of successional forest is not as dense as would be found in older forest areas, and invading sunlight promotes the growth of shrub and herbaceous plants. Indicators of higher predatory species (red fox) have been found on the site. Deer, which are common within Westchester County have also been observed on the site.

A number of loose stone walls are located along portions of the property line and one in the interior of the property, and are indicated on the sealed land survey prepared by H. Stanley Johnson LS that has been provided to the Village Building Inspector. These are low, loosely constructed rubble walls that are typical of abandoned farm lands in Westchester County. These stone walls offer nesting and cover area for a variety of species, including snakes, small mammals (chipmunks, mice, rabbits, voles, etc.) and various amphibian species. Insect populations that are likely to live within the walls provide a food base for many of these creatures.

The stone walls appear on the engineer's base drawings used to design the project. They can be seen in half-tone on all of the full size drawings and in the DEIS Figures, specifically in Figure 3.1-2.

Former House Site/Mixed Evergreens

The presence of this area adds to the habitat diversity of the project site. The open successional old-field area allows ample solar penetration which, in turn supports a number of flowering herbaceous plants and associated insects. Numerous song birds were present in this area. The building remains may also provide habitat opportunities for smaller mammal and reptile species.

Wetland

As described above, there is one small wetland area on the site. This area has a moist substrate but no standing water. This area does not support any fish populations, but may provide habitat opportunities for some amphibians and reptiles. However, no vertebrate species or wildlife indicators were observed in the wetland area. The small size of the wetland area (approximately 500 square feet) and its proximity to Sarles Street diminish the habitat value of this wetland area.

Table 3.3-2 includes a list of actual observations and expected occurrences of wildlife species on the project site in each habitat type, including the "edge habitat" which comprise the boundary areas between the habitats described above.

Table 3.3-2
Wildlife List

Common Name	Scientific Name	Habitat Type				
Mammals		U	W	HS	Ed	SW
white-tail deer*	*Odocoileus virginianus*	X	X	X	X	
raccoon*	*Procyon lotor*	X	X		X	
red fox*	*Vulpes vulpes*	X	X		X	
gray fox	*Urocyon cinereoargenteus*	X			X	
opossum	*Didelphis virginiana*	X	X			
eastern chipmunk	*Eutamias sp.*	X			X	X
gray squirrel*	*Sciurus carolinensis*	X	X			
flying squirrel	*Glaucomys volans*	X	X			
cottontail rabbit	*Sylvilagus floridanus*	X			X	
striped skunk	*Mephitis mephitis*	X		X	X	
white-footed mouse	*Peromyscus leucopus*	X		X	X	X
deer mouse	*Peromyscus maniculatus*	X		X	X	X
house mouse	*Mus musculus*			X	X	
meadow vole	*Microtus pennsylvanicum*			X	X	X
starnosed mole	*Codylura cristata*	X		X	X	
eastern mole	*Scalopus aquaticus*	X		X		
woodchuck	*Marmota monax*	X				
short-tailed shrew	*Blarina brevicanda*	X		X	X	X
common shrew	*Sorex cinereus*	X		X	X	
little brown bat	*Myotis lucifugus*	X	X		X	
red bat	*Lasiurus borealis*	X	X		X	
Reptiles						
garter snake	*Thamnophis sirtalis*	X	X	X	X	X
milk snake	*Lampropeltis triangulum*	X		X	X	
hognose snake**	*Heterodon pletyrhinos*	X	X		X	
brown snake	*Storeria dekayi*	X	X	X	X	X
ringneck snake	*Diadophis punctatus*	X	X			X
eastern racer	*Coluber constrictor*	X			X	X
copperhead	*Agkistrodon contortrix*	X	X		X	
box turtle	*Terrapene carolina*	X	X		X	
Amphibians						
red-backed salamander	*Plethodon cinereus*	X	X		X	
newt	*Notophthalmus virdescens*	X	X		X	X
American toad	*Bufo americanus*	X			X	X
gray treefrog	*Hyla versicolor*	X	X			
wood frog	*Rana sylvatica*	X	X			X
Birds		U	W	HS	Ed	SW
turkey	*Meleagris gallopavo*	X	X			
wood thrush	*Hylocichla mustelina*	X	X			
pileated woodpecker	*Dryocopus pileatus*	X	X			
hairy woodpecker*	*Picoides villosus*	X	X			
downy woodpecker	*Picoides pubescens*	X	X			
northern flicker*	*Colaptes auratus*	X	X			
ovenbird	*Seiurus aurocapillus*	X	X			
sharp shinned hawk	*Accipiter striatus*	X	X		X	

Table 3.3-2 Continued on Next Page

Table 3.3-2 - Continued
Wildlife List

Common Name	Scientific Name	Habitat Type				
Birds		U	W	HS	Ed	SW
red-tailed hawk	*Buteo jamaicensis*	X	X	X	X	
robin*	*Turdus migratorius*	X	X	X	X	
catbird	*Dumetella carolinensis*	X		X	X	
mockingbird*	*Mimus polyglottos*	X	X	X	X	
flycatchers	*Empidonax sp.*	X	X		X	
eastern phoebe	*Sayornis phoebe*	X	X		X	
common yellowthroat	*Geothlypis trichas*				X	
American redstart	*Setophaga ruticella*	X	X	X	X	
red-eyed vireo*	*Vireo olivaceus*	X	X			
crow*	*Corvus brachyrhynchos*	X	X	X	X	
blue jay*	*Cyanocitta cristata*	X	X	X	X	
scarlet tanager	*Piranga olivacae*	X	X			
American goldfinch	*Carduelis tristis*	X	X	X		
cardinal	*Cardinalis cardinalis*			X	X	
veery*	*Hylocicla fuscescens*	X				
eastern bluebird*	*Sialia sialis*	X				
chipping sparrow	*Spizella passerina*			X	X	
towhee	*Pipilo erythrophthalmus*	X	X			
tufted titmouse	*Parus bicolor**	X		X	X	
warbler	*Dendroica spp.*	X	X			
wren	*Troglodytes spp.*	X	X	X	X	
eastern wood pewee	*Contopus virens*	X	X			
junco	*Junco hyemalis*	X	X			
mourning dove*	*Zenaida macroura*			X	X	
chickadee*	*Parus spp.*	X	X	X	X	
nuthatch*	*Sitta spp.*	X	X	X	X	
northern oriole	*Icterus galbula*	X			X	
finch	*Carpodacus spp.*	X		X	X	
evening grosbeak	*Hesperiphona vespertina*	X			X	
brown thrasher	*Toxostoma rufum*				X	
turkey vulture	*Cathartes aura*	X	X		X	
eastern screech owl	*Otus asio*	X	X	X	X	
great horned owl*	*Bubo virginianus*	X	X	X	X	

U = upland woods, W = wetland, HS = former house site, Ed = edge habitat, SW = stone walls
* - Species or indicators observed during field surveys
** - New York State species of special concern
Source: Tim Miller Associates, Inc., 2001, Westchester County, 1987
Field Investigation dates: 4/10/01, 4/12/01, 7/11/01

Recent in-field surveys for wildlife were conducted by Steve Marino and Andrew Mavian of Tim Miller Associates. Mr. Marino is a certified Professional Wetland Scientist and field biologist with over 15 years' experience working in New York, Rhode Island and Connecticut. Mr. Mavian is a Senior Environmental Planner with over seven years' of experience working in New York, Maryland and Virginia.

The wildlife surveys were conducted primarily during Spring and Summer, however, observations during site visits at other times of the year were also incorporated. The surveys were conducted at different times of the day and under varying weather conditions. Visual observations of individuals or groups of species were noted as well as other indicators such as vocalizations, foot prints and scat. No wildlife species were collected or trapped during the on-site field investigations.

The wildlife field surveys did not attempt to estimate wildlife populations on site. Based on the field survey and experience in the area, dominant mammalian and avian species on site are those typically found in northern Westchester County. Dominant mammals include white-tailed deer, gray squirrel, eastern chipmunk, raccoon, opossum, deer mouse, and woodchuck. Dominant avian species include resident songbirds (chickadee, nuthatch, vireos, cardinals, warblers, etc.), downy woodpecker, blue jay, crow, mourning dove, mockingbird and wild turkey. The wildlife species observed on-site appear to be healthy and productive.

No unique, rare or endangered species were observed on the site during recent field investigations. Correspondence from the New York State Department of Environmental Conservation Natural Heritage Program indicates that there are no known occurrences of rare or protected wildlife species on the subject property. The Natural Heritage Program records do indicate one historical record of a protected wildlife specie in the vicinity of the project site. A bog turtle (*Clemmys muhlenbergii*) was last sighted in 1950 at a location identified as "Byram Lake Road Wetland". The exact coordinates of the sighting were not provided. However, Byram Lake Road is more than one mile to the south of the project site. The bog turtle is a semi-aquatic species that inhabit specialized subclimax open canopy areas within large dynamic wetland systems with standing water (Klemens, Amphibians and Reptiles of Connecticut, 2000). The one small wetland area on the project site contains no standing water, therefore suitable habitat for the bog turtle does not exist at the project site.

The composition of species that utilize the project site are expected to be similar to those species found in the upland habitats of the adjacent Marsh Memorial Sanctuary and other similar nearby wooded areas. Resident wildlife is likely to migrate between the adjacent Sanctuary and the project site. It is also likely that some wildlife species may travel between the project site and nearby woodlands on the opposite side of Route 172 and Sarles Street.

3.3.2 Potential Impacts

Vegetation

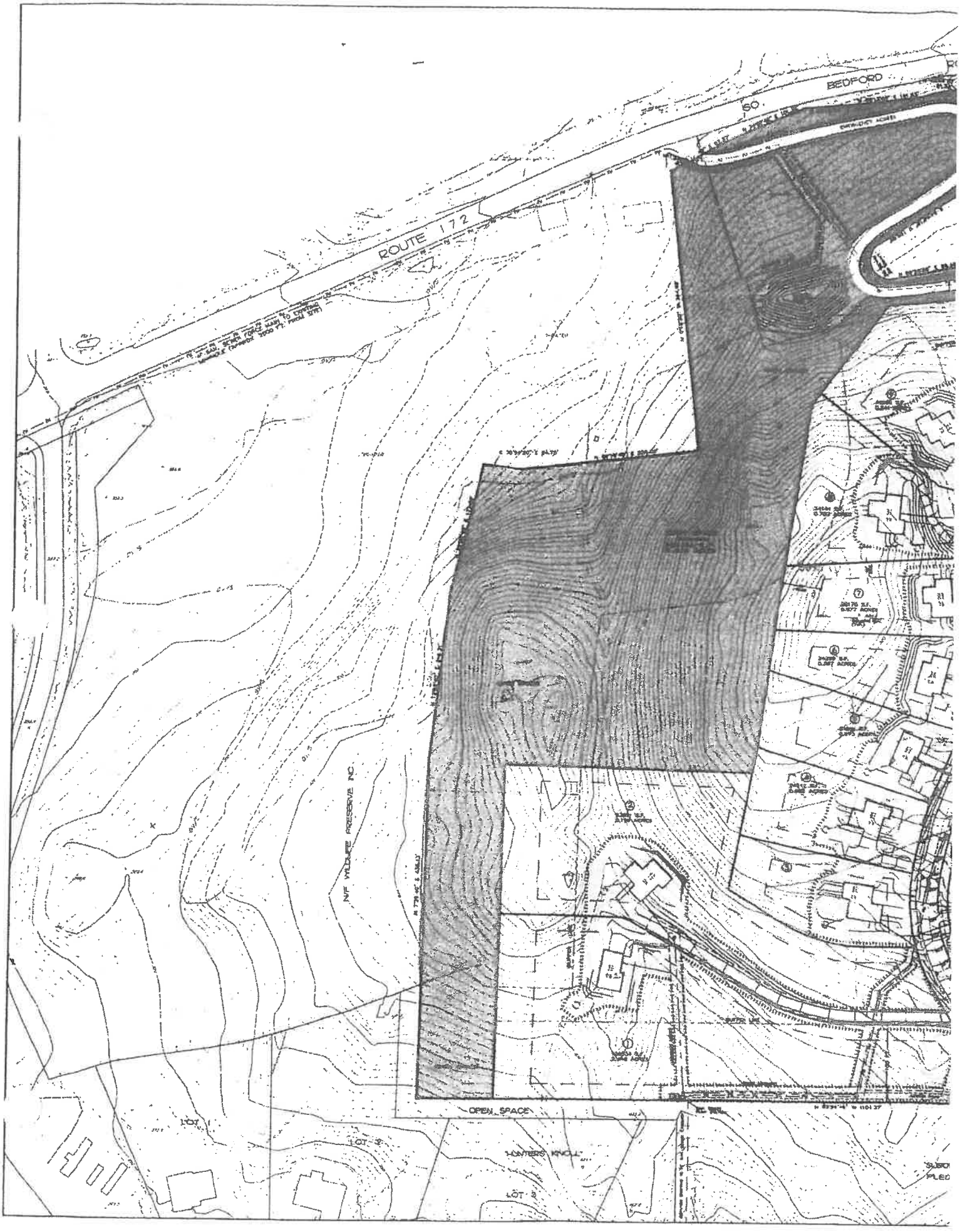
With the proposed site plan, the applicant has attempted to minimize clearing of wooded areas to the extent possible to achieve 16 single family residences on the property. The project engineer estimates that approximately 8.89 acres would be disturbed by the proposed development, including 0.24 acres of existing impervious areas at the abandoned residence, driveway and pool. The project will preserve approximately 64.4 percent of the site. The proposed areas of disturbance are summarized in Table 3.3-3. Most of the disturbed vegetation is comprised of upland woodland species.

Figure 3.3-2 illustrates the land cover on the project site with the proposed development.

A significant portion of the project site is proposed to be protected by designation as open space and offered for dedication to the Village, in two lots:

- an open space lot 0.7 acres in size at the southeast corner of the site
- an open space lot 8.8 acres in size around the remaining perimeter of the property

In addition, proposed easements totaling approximately 3.4 acres will protect additional land located within individual house lots from further development or tree clearing. Dedicated open space on the current plan accounts for 38 percent (9.5 acres) of the project site. In total, all


BEDFORD
ROUTE 172
NYE WILDLIFE PRESERVE INC.
OPEN SPACE
HUNTERS KNOLL
LOT 1
LOT 2
LOT 3

open space areas provided on the current plan accounts for nearly 52 percent (12.9 acres) of the project site.

As previously discussed, no plant species were identified on the project site that would be subject to legal protection under Federal or State law in association with this development project. A historical record of a protected rattlebox plant indicates this species was last sighted in Mount Kisco in 1915. This species inhabits sandy soils, which are not present on the project site. Therefore, this species is not expected to be encountered on the project site.

The proposed disturbance to the existing vegetation would result in a loss of wildlife habitat where disturbance is proposed and has the potential to result in increased erosion and sedimentation. The potential for impacts associated with erosion and sedimentation are described in Chapter 3.1 of the DEIS. As previously discussed, erosion and sedimentation controls are proposed as part of the proposed project to minimize or avoid impacts.

Table 3.3-3
Changes in Surface Cover (Acres)

	Existing	Disturbance	Proposed
Woods (upland)	24.58	8.64	15.94
Wetlands	0.01	0.01	0.02
Impervious/pavement	0.34	0.17	1.76
Impervious/buildings	0.07	0.07	0.65
Lawn/landscaping	0.00	0.00	6.63
TOTAL	25.00	8.89	25.00

Wetlands

A small pocket of wetland vegetation approximately 500 square feet in size will be eliminated in the southeast corner of the site adjacent to Sarles Street and replaced by an engineered subsurface water quality structure. The vegetation removal will effect the skunk cabbage, water plantain, sensitive fern and poison ivy that exist in this area. In turn, some amphibians and reptiles that may utilize this area would be affected by its removal. As previously stated, however, this site provides no unique habitat for unique, rare or endangered vegetative or wildlife species. Functional attributes identified for this wetland pocket associated with stormwater (water detention, pollutant filtering, and nutrient trapping) will actually be enhanced by the engineered stormwater management facilities proposed within the project under post-development conditions, as described in DEIS Section 3.2.

Tree Survey

The proposed development is anticipated to result in the loss of approximately 511 of the 1,620 surveyed trees on the project site. Approximately 68 percent of the total number of surveyed trees on the project site will be preserved by the proposed subdivision. Of the impacted trees, approximately 357 are considered specimen trees under the Mount Kisco Tree Preservation Ordinance.

Removal of trees will occur in some areas of steep slopes. An estimated 21 percent of the total number of surveyed trees on the site will be removed from steep slopes for the proposed subdivision. As cited in the project description, a steep slopes permit is required to cut any tree greater than 4 inches diameter on any steep slope, hilltop or ridgeline [§110-33.1.B.(1)].

Proposed tree protection measures are described further below that will be implemented where practicable to save individual trees near proposed development activity.

Fish and Wildlife

Loss of wildlife habitat will result from the proposed development as described in the above section. Portions of the on-site woodlands will be cleared to provide building envelopes for the proposed road, driveways, residences and lawn areas. There are no fish or aquatic species on the project site that would be affected by the proposed development. Removal of a portion of the wooded area on this site will result in some fragmentation of habitat that now comprises the site and adjoining land to the immediate south and west. The proposed plan is intended to minimize this effect by preservation of buffers and open space areas in their natural state to the maximum extent practicable.

All areas where residences, roads and driveways are proposed will no longer function as wildlife habitat or be available for wildlife use. The level of traffic generated by 16 residences is not expected to significantly impede the movements of larger vertebrate species (see Chapter 3.5 for trip generation information). No road curbs are proposed that would impede the movements of smaller vertebrate species.

While not as valuable as the existing forested habitat, the lawns and landscaping will still be used as forage by deer and other plant-eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for songbirds and other avian species.

In general, as a project site is developed, some species will temporarily relocate to similar habitats off-site. Because less than half of this site is scheduled for alteration, not all of the on-site wildlife will relocate to off-site areas permanently. The composition of the wildlife population on the project site may be slightly altered immediately adjacent to developed areas, as species able to adapt to a suburban environment (such as raccoons, opossum, woodchucks, mice, songbirds, etc.) will have a greater ecological advantage, while species less tolerant of human activity (such as wood thrush, oven bird, sharp shinned hawk, veery, eastern wood pewee) may utilize these portions of the project site less.

With the implementation of the proposed stormwater and erosion control measures (see Section 3.1 and 3.2 description), the proposed project would not result in adverse impacts related to surface water. In fact, the proposed project would result in reductions in the existing levels of sediment, phosphorous, nitrogen, and Biochemical Oxygen Demand (BOD) in stormwater runoff from the project site following the treatment of stormwater runoff by a variety of proposed stormwater best management practices (see Section 3.2).

No protected wildlife species have been identified or observed on the project site. The project site does not meet the habitat requirements of the bog turtle, a protected species last sighted in 1950 over one mile from the site. Therefore, the project site would not support this protected species. Thus, no significant adverse impacts to wildlife are projected to occur. The proposed project will preclude future use of the developed portions of the property by wildlife species. This loss of habitat is an unavoidable adverse impact of the proposed development, but is not considered to be significant since there are no wildlife species that are protected under Federal or State law that would be impacted by this project.

No fencing is proposed as part of the project other than temporary fencing around equipment and material during the construction process. As shown in Figure 3.3-2, an undisturbed wooded buffer would remain along most of the perimeter of the project site, with the exception of the site access road and stormwater control structures in the southeastern corner, a 20 foot wide sewer easement in the southwestern side, a stormwater basin in the western side, a drainage easement in the northwestern corner and the existing driveway in the northern portion.

Existing stone walls found on portions of the property line will remain largely undisturbed by the proposal. The entrance roadway would displace approximately 70 lineal feet of the wall along Sarles Street, which would be reconstructed along the edges of the new subdivision road. Approximately 15 lineal feet of a wall in the southwestern corner of the property would be removed for construction of a sewer line, and approximately 20 feet of a wall in the northwestern corner would be removed to accommodate drainage. These stones would be incorporated into the adjacent walls to remain. The interior stone wall would be largely displaced by proposed site features. This wall would be rebuilt as landscape features within individual building lots, where possible.

Cumulative Impacts

From a cumulative perspective, the disturbance and loss of wildlife habitat on the project site contributes to overall losses of wildlife habitat in the region resulting from human activity and development. The proposed project site would result in a net reduction of open space available as wildlife habitat. The importance of existing park land and woodlands in the surrounding area would increase as existing habitat areas are eliminated by development on this site and elsewhere in the Village.

With the current project proposal for Sarles Estates to preserve land in its natural condition, including woodland located within 200 feet of the Marsh Sanctuary lands to the west of the site, the amount of land within the Village that is permanently dedicated for open space and wildlife habitat will be expanded.

3.3.3 Proposed Mitigation

Marsh Memorial Sanctuary

None of the proposed residential lots would abut the adjacent Marsh Memorial Sanctuary. Dedicated open space is proposed adjacent to the Sanctuary. The proposed project retains an undisturbed wooded buffer 200-feet wide along the western property border adjacent to the Sanctuary, which will be preserved in its natural condition via an open space lot to be offered for dedication to the Village.

Tree Protection Measures

Tree protection on the site will take several forms. First, limits of disturbance will be established in the field. No trees beyond these limits will be disturbed. These limits will be marked with erosion control fencing as noted in Westchester County's *Best Management Practices* handbook.

Secondly, trees that will definitely be removed will be marked. No large trees that are not marked will be removed unless during the construction it is determined that those trees cannot be saved.

Thirdly, where practicable, large trees will be saved through the use of tree wells. These wells will typically be constructed with excess rock from on site excavation activities. The walls of the wells will be dry laid, with provision for positive drainage out of the wells.

Vegetated Buffer and Neighboring Uses

As previously indicated and as illustrated in Figure 3.3-2, an undisturbed wooded buffer will be maintained around the perimeter of the project site. Buffer areas shown on the project plans that fall on house lots and will be protected by conservation easements consist of an area 100 feet deep along the south side of the project site (primarily in Lot 1), an area 200 feet deep (which include small portions of Lots 1, 2, 7, 8 and 9), and an area 100 feet deep on the rear of Lots 9 through 15. The buffer areas within house lots will be owned by the individual lot owners and will be protected by open space conservation easements as well as the existing environmental protection afforded by the Village Code. Other portions of the vegetated buffers occur within the designated open space lots.

Adjacent land is primarily undeveloped to the west and south and developed to the north and east. The proposed wooded perimeter buffers will help to visually screen the project from all off-site areas.

Compliance with Zoning Code

A discussion of the proposed project's compliance with the Mount Kisco Zoning Code is provided in Chapter 3.5.

Tree Maintenance Provisions

Maintenance for trees on individual private lots will be the responsibility of those respective property owners. Maintenance of any street trees planted along the proposed roadways will be the responsibility of the Village. Any street trees along the proposed roadway will be selected and planted in accordance with Mount Kisco regulations. Street tree species will be selected later in the approval process with consultation from the Village officials. Street tree selections are anticipated to be ornamental and/or native trees that require minimal maintenance. Tax revenues generated by the proposed development can be used by the Village to fund any future maintenance costs associated with street trees.

Landscape Plantings

The project includes approximately 6.65 acres of lawn and landscape plantings. The landscape plantings would consist of a mixture of native and ornamental species. While not as valuable as the existing forested habitat, the lawns and landscaped areas created by the proposed development will still be used as forage by deer and other plant eating wildlife, and many species of trees and shrubs commonly chosen for home landscaping will provide both food and nesting sites for squirrels, songbirds and other avian species. A conceptual landscaping plan has been developed for the project site. Table 3.3-4 lists typical landscaping species likely to be

included in the Sarles Estates project. A full size conceptual landscape plan is included at the rear of this document.

Table 3.3-4
Typical Landscape Plants
Sarles Estates

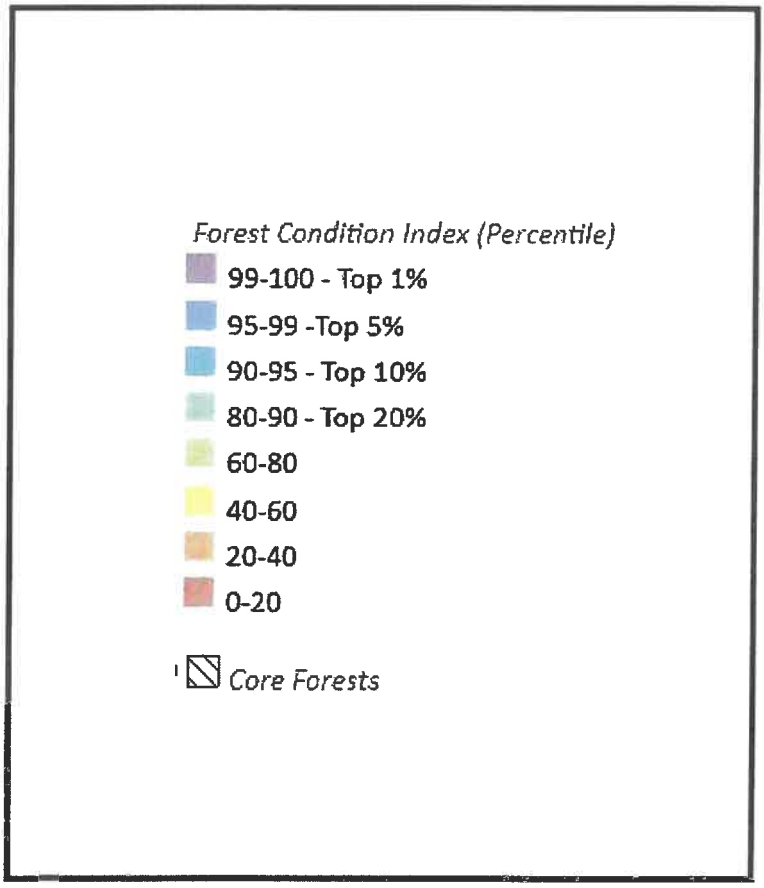
Trees	Shrubs
Deciduous Trees - Major	Deciduous Shrubs
horse chestnut (*Aesculus hippocastanum*)	bottlebrush buckeye (*Aesculus parviflora*)
red maple (*Acer rubrum*)	oak leaf hydrangea (*Hydrangea quercifolia*)
American beech (*Fagus grandifolia*)	witchhazel (*Hamamelis virginiana*)
white oak (*Quercus alba*)	staghorn sumac (*Rhus typhina*)
pin oak (*Quercus rubra*)	beautybush (*Myrica pensylvanica*)
little leaf linden (*Tilia cordata*)	viburnum (*Viburnum sp.*)
American elm (*Ulmus americana*)	Evergreen shrubs
Deciduous Tees - Minor	inkberry (*Ilex glabra*)
shadblow (*Amelanchier canadensis*)	Virginia red cedar (*Juniperus virginiana*)
paperbark birch (*Betula papyrifera*)	mountain laurel (*Kalmia latifolia*)
flowering dogwood (*Cornus florida*)	rosebay rhododendron (*Rhododendron maximum*)
crabapple (*Malus sp.*)	white rhododendron (*Rhododendron album*)
cherry (*Prunus sp.*)	leatherleaf viburnum (*Viburnum rhytidophyllum*)
plum (*Prunus sp.*)	
Coniferous Trees	
white fir (*Abies concolor*)	
Colorado spruce (*Picea pungens*)	
Norway spruce (*Picea abies*)	
douglas fir (*Pseudotsuga mensiesii*)	
white pine (*Pinus strobus*)	
red pine (*Pinus resinosa*)	
SOURCE: Tim Miller Associates, Inc.	

In addition, certain invasive species such as multi-flora rose and barberry will be eliminated where encountered on the project site. The removal of these invasive species is beneficial to wildlife.

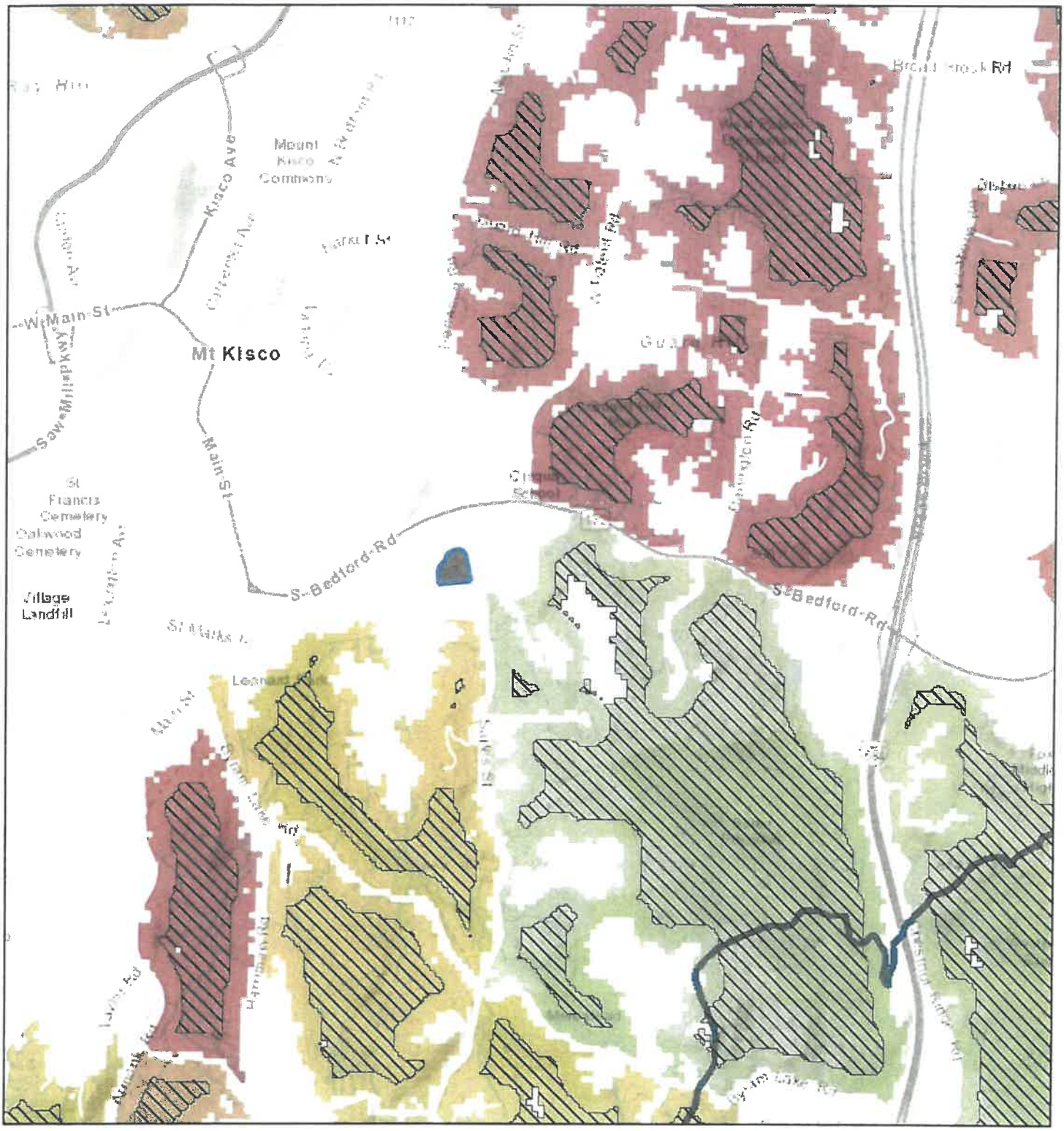
Appendix E

NYSDEC Environmental Resource Map

Layers and Legend for NYSDEC Environmental Resources Maps



NHP Forest Resource Condition Indices



September 1, 2020

1:36,112

0 0.23 0.45 0.9 mi

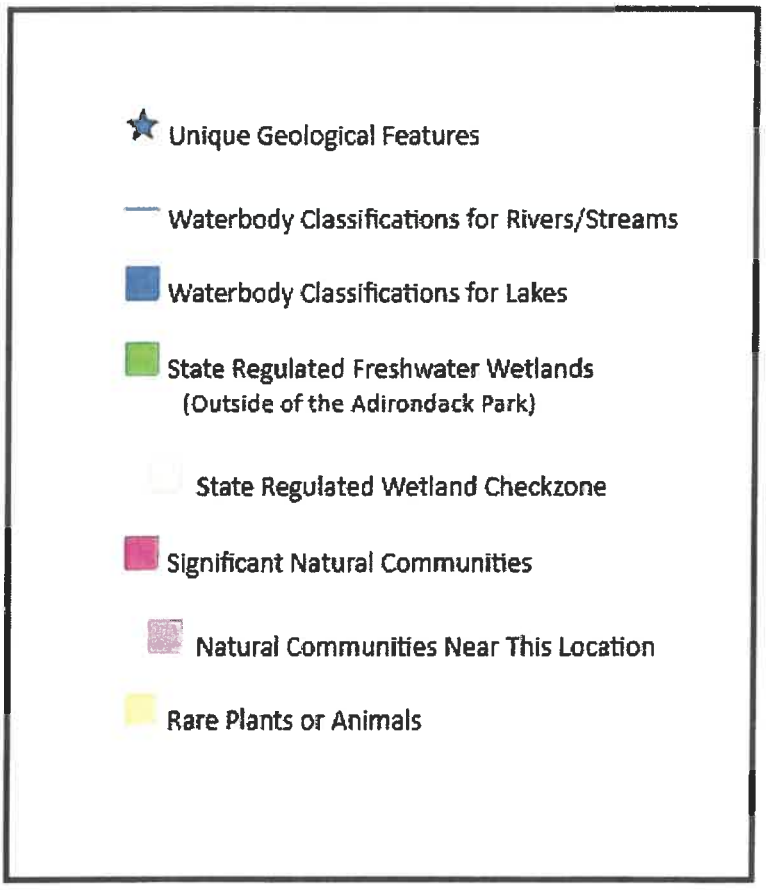
0 0.35 0.7 1.4 km

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

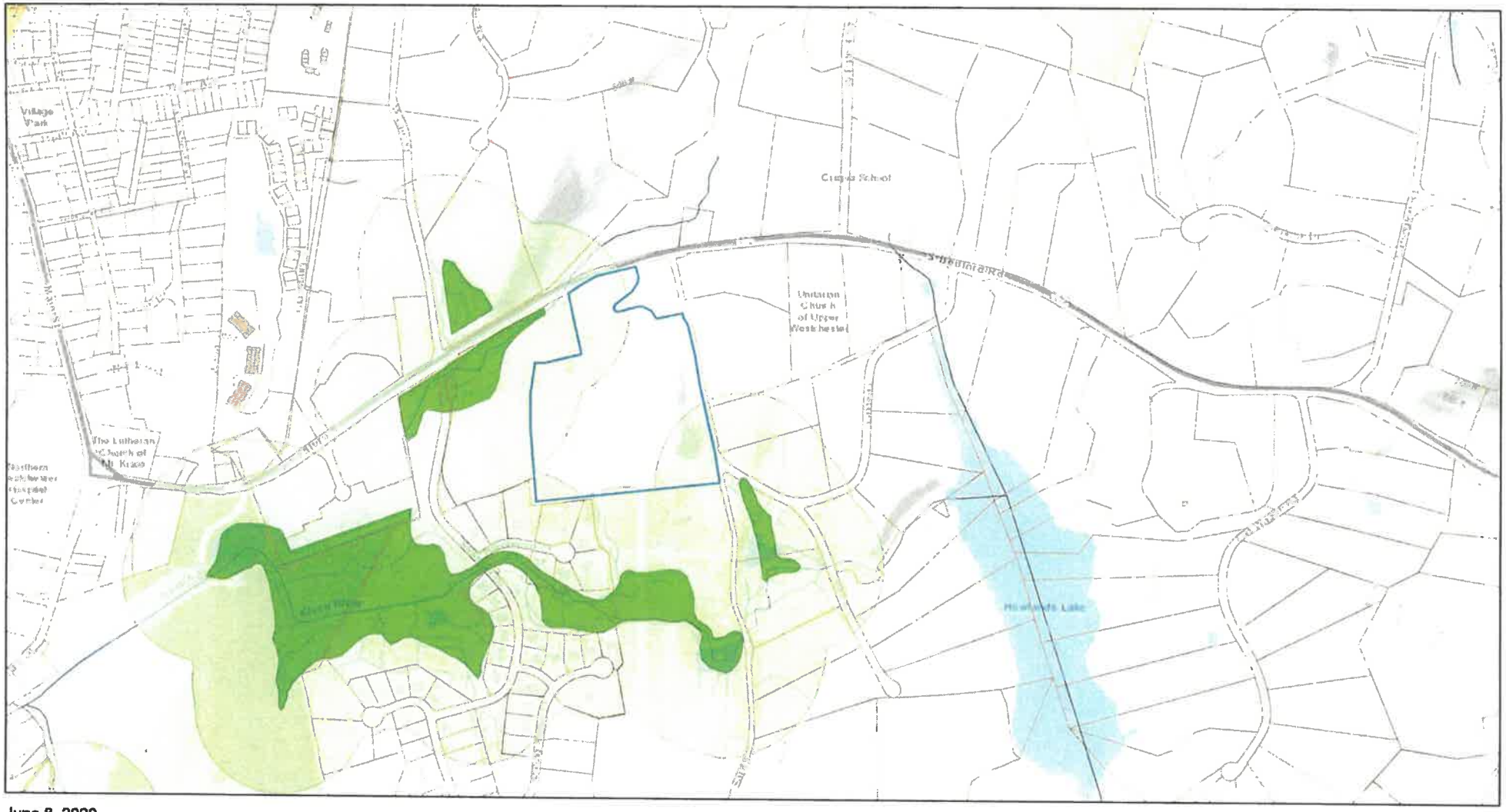
Author: NYSDEC Hudson Valley Natural Resource Mapper

Not a legal document

Layers and Legend for NYSDEC Environmental Resources Maps



Mount Kisco - Parcel 80.44-1-1



June 8, 2020

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Appendix F

Miscellaneous plant lists and observations

Trip Report from the Torrey Botanical Society
CORNELIA VAN RENSSELAER MARSH MEMORIAL WILD SANCTUARY
Mt. Kisco
September 9, 1967
A group of 21 members hiked through a part of the Cornelia Van Rensselaer marsh memorial Wildlife Sanctuary in Mt. Kisco, New York. The sanctuary comprises substantial acreage of marshland, woods, and fields, in addition to the 18-acre Brookside tract of upland deciduous woods visited by the group.
Flowering plants included Solidago bicolor, graminifolia and canadensis, Lobelia siphilitica, and several asters from the largest-leaved Aster macrophyllus to one of the smallest-leaved species Aster ericoides. Two violets were seen in bloom, of an undetermined species.
Participants were treated to sandwiches and cooling drink by Mrs. Marsh, after the walk. The leader was Leona T. Rem, Kitchawan Research Laboratory of the Brooklyn Botanic Garden.

A detailed summary of a visit by local botanist Patrick L. Cooney, Ph.D. has been posted on the NY/NJ/CTBotany Online wesbite along with his Plant List for the Marsh Sanctuary. He also found record of a group visit to the Sanctuary by regional botanists in 1967!

PLANT LIST:
Patrick L. Cooney, Ph. d.
* = blooming on the day of the field trip, May 15, 2008

Trees:
Acer sp. (Japanese maple) planted
Acer negundo (box elder)
Acer rubrum (red maple)
Acer saccharum (sugar maple)
Betula lenta (black birch)
Carpinus caroliniana (musclewood)
Carya (shagbark hickory)
Carya spp. (hickory trees)
Cercis canadensis (red bud) *
Cornus florida (flowering dogwood)
Fagus grandifolia (American beech)
Fraxinus americana (white ash)
Juniperus virginiana (red cedar)
Picea abies (Norway spruce)
Pinus rigida (pitch pine)
Pinus strobus (white pine)
Prunus serotina (black cherry)
Pyrus sp. (malus probably) (apple)
Quercus alba (white oak)
Quercus palustris (pin oak)
Quercus prinus (chestnut oak)
Quercus rubra (red oak)
Quercus velutina (black oak)
Robinia pseudoacacia (black locust)

Salix sp. (willow)
Taxus sp. (yew)
Tsuga canadensis (eastern hemlock)
Ulmus americana (American elm)

Shrubs and sub-shrubs:

Alnus serrulata (smooth alder)
Berberis thunbergii (Japanese barberry) waning blooms
Euonymus alatus (winged euonymus) *
Forsythia sp. (forsythia) *waning
Gaylussacia baccata (black huckleberry
Hamamelis virginiana (witch hazel)
Lonicera morrowii (Morrow's honeysuckle) *
Pachysandra terminalis (pachysandra) *one in bloom
Rhododendron maximum (rosebay rhododendron) *
Rhododendron sp. (white rhododendron) * hort.
Rosa multiflora (multi-flora rose)
Rubus phoenicolasius (wineberry)
Rubus sp. (blackberry)
Viburnum sieboldii (Siebold's viburnum)

Vines:

Celastrus orbiculatus (Asiatic bittersweet)
Lonicera japonica (Japanese honeysuckle)
Parthenocissus quinquefolia (Virginia creeper)
Smilax sp. (greenbrier)
Toxicodendron radicans (poison ivy)
Vitis sp. (grape)
Wisteria sp. (wisteria)

Herbs:

Achillea millefolium (common yarrow)
Ajuga sp. (bugleweed) *
Alliaria petiolata (garlic mustard) *
Allium tricoccum (wild leek or ramps)
Allium vineale (garlic onion (hollow stem)
Apocynum sp. (dogbane)
Aquilegia canadensis (yellow columbine) * hort.
Arctium sp. (burdock)
Arisaema triphyllum v. triphyllum (jack in the pulpit)
Artemisia vulgaris (common mugwort)
Asclepias syriaca (common milkweed)
Aster spp. (asters)
Barbarea vulgaris (common wintercress) *
Chelidonium majus (celandine) *
Chenopodium album (pigweed)
Convallaria majalis (lily of the valley) *
Dicentra cucullaria (Dutchman's breeches)
Erythronium americanum (trout lily)

Euphorbia cyparissias (cypress spurge) *
Fragaria virginiana (common strawberry) *
Gaillardia aristata (common blanket flower) *
Galium sp. (galium)
Geranium maculatum (wild geranium) *
Geum canadense (white avens)
Hemerocallis fulva (tawny day lily)
Impatiens sp. (capensis probably) (jewelweed)
Myosotis scorpioides (forget me not) *
Plantago lanceolata (English plantain) *
Podophyllum peltatum (mayapple)
Polygonum cuspidatum (Japanese knotweed)
Polygonum virginianum (jumpseed)
Symplocarpus foetidus (skunk caggage)
Taraxacum officinale (dandelion) *
Tridens sp. (red clover, probably)
Typhus sp. (cattail)
Urtica dioica v. dioica (stinging nettle)
Verbascum thapsus (common mullein)
Viola sororia (common blue violet) *

Rushes:

Sedges:

Carex laxiflora type (sedge)
Carex pensylvanica (Pennsylvania sedge)
Carex stricta (tussock sedge)

Grasses:

Anthoxanthum odoratum (sweet vernal grass) *
Dactylis glomerata (orchard grass)
Microstegium vimineum (Japanese stilt grass)
Panicum clandestinum (deer-tongue grass)
Poa annua (annual bluegrass)
Schizachyrium scoparium (little blue stem grass)

Ferns and fern Allies:

Equisetum arvense (field horsetail)
Dennstaedtia punctilobula (hay-scented fern)
Onoclea sensibilis (sensitive fern)
Osmunda claytoniana (interrupted fern)
Polystichum acrostichoides (Christmas fern)
Thelypteris noveboracensis (New York fern)

Appendix G

Work resume of field investigator

Ecological Analysis LLC

BRUCE R. FRIEDMANN
SENIOR ENVIRONMENTAL SCIENTIST

EDUCATION/TRAINING

- University of California, B.A. Zoology
- Southern Maine Vocational Technical Institute, Marine Science, and Engineering
- Army Corps of Engineers, Wetland Delineation Training Program

PROFESSIONAL AFFILIATIONS

- New York State Wetlands Forum
  Orange County Land Trust
  New York Flora Association

SELECTED PUBLICATIONS AND PRESENTATIONS

- VanHeukelem, W.F., R.M. Harrel, S.G. Hughes, S. Lindell and B. Friedmann. 2001. Optimal conditions for swim bladder inflation in striped bass larvae reared in intensive systems. Northeastern Regional Aquaculture Center. NRAC Pub. No. 00-006. Univ. Ma North Dartmouth, Ma 5pp.
- Friedmann, B. R., and K. M. Shutty 1999. Effect of timing of oil film removal and first feeding on swim bladder inflation success among intensively cultured striped bass larvae. N. Am. J. Aquaculture.61 (1):43-46.
- Friedmann, B.R. 1995. Culture techniques for the large-scale production of intensively-cultured striped bass, *Morone saxatilis*, fry and fingerlings. Presented at Aquaculture '95 San Diego, California
- Friedmann, B.R. 1995. Comparative aspects of the larviculture of North American temperate basses (Percichthyidae) and their hybrids. Presented at Aquaculture '95 San Diego, California

PROFESSIONAL EXPERIENCE

- **Senior Environmental Scientist**
  Ecological Analysis, LLC, Middletown, New York

  Collected environmental field data and prepared documentation for environmental impact analyses, including vegetation and/or wildlife surveys, habitat assessments, and wetland delineations for projects in NYS, from St. Lawrence County upstate, to Westchester County downstate.
  Provided support in the operation of a 900,000 sq. ft., indoor, 2 acres hydroponic commercial grow-out facility for tilapia aquaculture.

- **Environmental Scientist**
  Tim Miller Associates, Inc., Cold Spring, New York

→ Collected environmental field data and prepared documentation for environmental impact analyses, including vegetation and wildlife field survey, habitat assessments, and wetland delineations. Conducted stormwater runoff monitoring at construction sites. Project field sites were located within the lower Hudson River valley in towns of Westchester, Putnam, Duchess, Rockland, Orange, Ulster, and Sullivan Counties.

- **Aquaculture Research Supervisor**
  Aquafuture, Inc., Turners Falls, Massachusetts

→ Directly responsible for operations research hatchery and staff at a 600,000-gallon indoor commercial culture facility for hybrid striped bass.
→ Supervised research projects under the aegis of NOAA, USDA (NRCS and SBIR) programs, and the US-Israel Science and Technology Commission.

- **Biology Laboratory Manager**
  EA Engineering, Science, and Technology, Inc., Alexandria, Egypt

→ Directly responsible for daily operations of the environmental field and laboratory staff of the Alexandria, Egypt, Wastewater Treatment Program for a USAID EIS. Supervised a field and laboratory staff of 12 in-country scientific professionals and technicians.
→ Designed and directed the development of related environmental database and co-authored input to quarterly and annual program reports.

- **Biologist**
  EA Engineering, Science, and Technology, Inc., Newburgh, New York
  and
  Texas Instruments Ecological Services, Verplanck, New York

→ Conducted aquatic and terrestrial field surveys in New York, New Jersey, Florida, and Puerto Rico. Supervised design, construction and operational phases for various freshwater and saltwater aquaculture and bioassay testing facilities.
→ Designed, constructed, and supervised a toxicology laboratory for the testing of freshwater bioassay organisms in accordance with the standard protocols of U. S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC). Conducted Rapid Bioassessment Protocol (RBP) field stream surveys according to EPA RBP protocols. Field tested and conducted environmental risk assessment stream surveys according to NYSDEC Biothreat Model protocols.
→ Developed and applied relational database programs to integrate and track information for samples processed concurrently in multiple labs. Queried, extracted, and condensed data for presentation in quarterly and annual operating reports.
→

Ecological Analysis LLC

BRUCE R. FRIEDMANN
SENIOR ENVIRONMENTAL SCIENTIST

SELECTED PUBLICATIONS AND PRESENTATIONS-continued

- Friedmann B.R., W.P. Dey, and S. M. Jinks. 1995. Use of oleophilic pads to achieve high swimbladder inflation percentages among intensively-cultured striped bass, *Morone saxatilis*. Poster session at Aquaculture '95 San Diego California
- Friedmann, B. R. 1994. Larviculture techniques for the large-scale production of intensively cultured striped bass fry and fingerlings. Presented at the 1994 Striped Bass Workshop of the Atlantic States Marine Fisheries Commission. Washington, D.C. *1994*
- Friedmann, B. R. 1990. Intensive culture techniques for striped bass fingerlings. Pgs. 49-55 In: Proceedings of a Workshop on Biology and Culture of Striped Bass. R.H. Peterson, Ed. Can. Tech. Rpt. Fish. Aquat. Sci. No. 1832.
- Dunning, D.J., Q.E. Ross, B. R. Friedmann, and K.C. Marcellus. 1990. Coded wire tag retention by, and tagging mortality of, striped bass reared at the Hudson River Hatchery. Am. Fish. Soc. Sym. 7:262-266.
- Mattson, M.T., B. R. Friedmann, D.J. Dunning, and Q.E. Ross. 1990. Magnetic tag detection efficiency for Hudson River striped bass. Am. Fish. soc. sym. 7:267-271.
- Kreamer, Q. L., B. R. Friedmann, and W.P. Dey 1988. Larval striped bass (*Morone saxatilis*) mortality under intensive culture conditions Evidence of the role of water composition and nutrition from tissue monitoring and diet-related phenomena. International Fish Health Conference Vancouver, B.C.

PROFESSIONAL EXPERIENCE- (*continued*)

→ Prepared courtroom exhibits as staff biologist during FERC 316(*b*) adjudicatory hearings for Hudson River utility companies. Co-authored related multi-plant impact reports for regional electric utilities, and provided data documentation and technical librarian research services as supporting functions for staff witnesses.

→ Responsible for hiring, training, daily scheduling, and tasking of up to 25 scientific professionals and technicians.

- **INDUSTRIAL EXPERIENCE**

- **Chemical Plant Operator**
  BASF Corporation, Peekskill, New York

→ Conducted plant operations at a coated-mica manufacturing facility utilizing gas-fired belt furnaces, belt filters, bag houses, centrifugal separators, product conveyors, and tray dryers for a 10 metric ton (MT) daily production of specialty effects pigments for use in automotive, cosmetics, and plastics industries. Process operator at the facility's combined demineralized water plant and industrial pretreatment wastewater plant.

- **Chemical Plant Operator**
  Nepera, Inc. Harriman, New York

→ Conducted plant operations at a vitamin B_3 manufacturing plant, a SCADA controlled, FDA-regulated manufacturing facility utilizing high pressure/ temperature reactors, crystallizers, centrifuges, compactors, mills, and packaging equipment for a 10 MT daily production of packaged product.

- **Chemical Treatment Plant Operator**
  LMS Engineers, LLC. Pearl River, New York

→ Responsible for operational SPDES compliance of a SCADA-controlled waste metals removal pre-treatment system at an IBM computer chip manufacturing facility.

LANE APPRAISALS, INC.

Real Estate Valuation Consultants

EDWARD J. FERRARONE, MAI
PAUL A. ALFIERI, III, MAI
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E Mail : lane.app@verizon.net

JOHN W. LANE, MAI (1907-1993)

January 28, 2021

Honorable Chairman and
Members of the Planning Board
Town/Village of Mount Kisco
104 East Main Street
Mount Kisco, NY 10549

Re: Proposed Wireless Telecommunications Facility
180 South Bedford Road, Mount Kisco, NY

Dear Chairman and
Members of the Planning Board:

We are in receipt of a Memo in Opposition from Rex Pietrobono, dated January 19, 2021 ("Pietrobono Letter"), in connection with the proposed public utility wireless telecommunications facility ("Facility") by Homeland Towers, LLC ("Homeland") at 180 South Bedford Road, Mt. Kisco, New York ("Property"). The Pietrobono Letter states that it is in response to Lane Appraisals Inc.'s report ("Lane Report"), previously submitted to this Planning Board.

The Lane Report analyzed property values near cell towers in similar areas to the Property. Based upon such data, the Lane Report concluded that the proposed Facility will not result in the diminution of property values or reduce the marketability of properties in the immediate area. New York courts have upheld our analyses in connection with wireless facilities in locations throughout the state (similar to the Facility), finding that they present substantial evidence to establish that these facilities will not reduce the value of nearby property. *See, e.g.*, Sprint Spectrum LP v. Cestone, N.Y.L.J. 2/5/01 p. 21 (S.D.N.Y. 2001); T–Mobile Northeast LLC v. Town of Ramapo, 701 F.Supp.2d 446, 463 (S.D.N.Y.2009); Orange County-Poughkeepsie Limited Partnership v. Town of East Fishkill, 61 Communications Reg. (P & F) 1433, 2015 WL 409260 (S.D. N.Y. 2015).

Importantly, reports from Lane Appraisals are not influenced by guess work or unsupported opinions. Our firm's method is to obtain the sale price of neighborhood homes ((i) those with a view of an existing cell tower, and (ii) those without a view of the cell tower) in the same neighborhood a/k/a geographic area, during a limited period

of time, and compare price per square foot with regard to same. Sales are obtained from the local Multiple Listing Service and from the NYS sales recording service, and they are plotted on a map. The neighborhood is visited, mostly in the fall and winter, and properties are visited to ascertain if the tower can or can not be seen from the property. Our basis for comparison is a winter view from the property not necessarily the dwelling. Google Earth and topographical maps are used to judge topography and sight lines. In rare cases, these resources are used to reasonably judge if a property can or can not see a tower, if the property driveway extends a distance from the street.

In the Lane Report, I analyzed numerous properties both with and without a view of a cell tower. The large number of comparables and the average they provide negates the need to account for the smaller differences. Simply put, because the sample size is larger, the minor differences tend to average themselves out. Moreover, as noted above, the comparables for each of the existing cell towers reviewed in the Lane Report are from a small geographical area, specifically, near an existing cell tower, which also limits the differences in amenities that are likely to exist. Homes within the same geographical area a/k/a neighborhood, tend to have similar characteristics/amenities, further negating the need to seek out and adjust for minor differences.

Our firm's method also negates the possibility that the samples were cherry picked to conveniently support a theory. The large sample size of homes that are within the same small geographic area (near an existing cell tower) and sold during a finite amount of time, limits the pool of comparables to choose from, negating any ability to "cherry pick" to support a theory. We included virtually all sales within an area during a certain time period, excepting only sales of non-typical dwellings such as uninhabited dwellings, tear downs or of estate quality property out of the area norm.

Despite the misstatements of Mr. Pietrobono, the Lane report evaluated five towers in the northern Westchester areas of Pound Ridge, Lewisboro, Somers and New Castle. There are no more similar areas. The remaining studies are meant to illustrate the fact that in differing communities, homes fall within similar price ranges and are subject to similar conditions. In each case, no subjective adjustments are made, and the actual price per square foot for each dwelling in the area is utilized. In each of these communities, we used every or virtually every sale within a certain radius, determined by the situation in each community. Within these areas there are homes both near and relatively far, that are within sight distance. All or virtually all home sales are included. Each included study, plus dozens of others over a 20 year period in several counties, reach the same conclusion.

Mr. Pietrobono claims that none of our studies include sales within close proximity to the tower. We include three studies, two of which were included in the original document and one that is a former study on a location in Pound Ridge. Each study includes a sale or two within 500 feet of the tower. In study 3A, 87 Westchester Avenue is next door to the tower, and within 500 feet. This sale had the highest price per square foot of any sale in the study. In study 7, the sales at 28 and 31 Wright Avenue are within 500 feet of the tower and have among the highest price per square foot values in the study. In study 10, on Sky Lane in Phillipstown, 19 Sky Lane is within 250 feet of the tower. Once again, this is the highest price per square foot value in the study.

Finally, Mr. Pietrobono relies soley on real estate broker letters which are unsupported opinions absolutely devoid of any data or objective proof what so ever, and his own opinions which suffer the same lack of evidence. Such broker letters also fail to state the methodology used to form the broker's opinion. Such opinions are so unsupported and so extreme, and lack any validation or methodology, that they should be given no credence.

In conclusion, the Lane Report uses actual data from known properties near cell towers sold on specific dates to demonstrate that sales within sight of a tower facility fall within similar average price per square foot ranges as other sales in the neighborhood, and that there has not been a diminution of the value due to the construction of similar facilities in the Westchester County area. The Lane Report is based on accepted methodology and includes the underlying data. The Lane Report provides substantial evidence to sustain its finding that "the installation, presence, and/or operation of the proposed Facility will not result in diminution of property values or reduce the marketability of properties in the immediate area."

Sincerely,

Paul A. Alfieri III, MAI
Certified General Appraiser
State of New York #46-9780
January 28, 2021

Exhibit 3A, Pound Ridge, Westchester County, NY

A 130' monopole located on a Town site at 89 Westchester Avenue in Pound Ridge, NY visited in April 2017. The following sales have a view of the communications tower:

2014 - 2017 STUDY

These properties have a view of the communications tower.

Address	Sales Price	Sale Date	Living Area	Price/SF
17 Trinity Pass Rd	$885,000	8-10-2016	2,850	$311
97 Westchester Av	$2,100,000	7-12-2016	3,853	$545
24 Pine Dr	$640,000	12-2-2016	3,112	$206
32 Pine Dr	$795,000	7-15-2016	3,456	$230
10 Trinity Ln	$640,000	7-18-2014	2,152	$297
12 Hemlock Hill Dr	$1,050,000	8-17-2016	3,205	$328
	Average Sales Price per Square Foot:			$320
	Average sales price for properties without 97 Westchester Av			$274

The following properties are in the same neighborhood but have no view of the communications tower:

Address	Sales Price	Sale Date	Living Area	Price/SF
57 Upper Shad Rd	$575,000	7-31-2014	2,040	$282
49 Upper Shad Rd	$617,500	6-15-2016	3,234	$191
17 Bayberry Way	$750,000	9-29-2015	3,408	$220
140 Westchester Av	$985,000	5-08-2014	2,838	$347
33 Hemlock Hill Dr	$1,200,000	3-24-2016	4,023	$298
33 Hemlock Hill Dr	$1,162,500	7-28-2014	4,023	$289
34 Hemlock Hill Dr	$568,000	7-30-2014	2,102	$270
	Average Sales Price per Square Foot:			$271

Study indicates higher prices for homes with a view of a communications tower if the property next door to the Tower is considered. If the sale at 97 Westchester Avenue is withheld from the average calculation, then the average price per square is virtually the same for properties with and without a view of the Tower.

Exhibit 7, 55 McAplin Avenue, Mahopac, Putnam County, NY

A 120' flagpole type tower located at 55 McAlpin Avenue, at the corner of See Avenue and east of Route 6, in the Town of Carmel, Mahopac P.O., NY visited in February 2019. The following sales are located on the surrounding streets and are within sight of the tower:

2016 - 2018 STUDY

Address	Sales Price	Sale Date	Area	Price/SF
20 Front St	$ 300,000	6-14-2017	1,512	$198
10 Miller Av	$ 179,900	5-10-2017	840	$214
5 Baldwin St	$ 260,000	7-12-2016	1,100	$236
3 Baldwin St	$ 235,500	6-26-2017	1,200	$196
1 Baldwin St	$ 332,000	12-19-2016	1,798	$185
160 See Av	$ 250,000	7-27-2016	1,576	$159
143 See Av	$ 357,000	9-16-2016	1,762	$203
31 Wright Av	$ 240,000	8-01-2018	974	$246
28 Wright Av	$ 310,000	1-03-2018	1,324	$234
20 McAlpin Av	$ 310,000	8-16-2017	1,824	$170
12 McAlpin Av	$ 447,500	11-28-2018	1,798	$249
18 McAlpin Av	$ 372,000	11-3-2016	2,122	$175

Average Sales Price per Square Foot: $205

The following properties are in the same neighborhood but have no view of the tower:

Address	Sales Price	Sale Date	Area	Price/SF
21 M & M Ln	$ 284,900	10-11-2017	2,052	$139
27 Tanager Rd	$ 345,000	1-12-2017	2,210	$156
45 Tanager Rd	$ 400,000	1-15-2016	2,745	$146
45 Lakeview Terr	$ 250,500	6-30-2016	1,856	$135
4 Olympus Dr	$ 450,000	8-01-2016	2,602	$173
535 Kennicut Hill Rd	$ 312,000	8-14-2018	1,204	$259
254 Dahlia Dr	$ 295,000	5-15-2016	1,708	$173
17 Mt Hope Rd	$ 277,900	8-29-2016	1,118	$248
40 Mt Hope Rd	$ 231,450	1-06-2016	1,732	$134
43 Mt Hope Rd	$ 185,000	9-14-2019	1,320	$140
7 Lakeview Dr	$ 360,000	5-31-2018	1,843	$195
2 Lakeview Dr	$ 342,000	3-03-2016	1,184	$289
10 Lakeview Dr	$ 365,000	7-20-2018	2,593	$141
54 Lakeview Dr	$ 235,000	6-26-2018	1,824	$129
107 Lakeview Dr	$ 315,000	12-29-2018	1,920	$164
17 Highridge Rd	$ 360,000	11-5-2016	1,667	$216
45 Highridge Rd	$ 439,000	9-01-2018	2,476	$177
30 Greenfield Rd	$ 364,950	7-24-2017	1,512	$241
33 Greenfield Rd	$ 460,000	7-31-2018	2,940	$156
30 Mayfair Ln	$ 360,000	1-30-2017	1,686	$214
60 N Ridge Rd	$ 681,106	11-7-2018	2,568	$265
14 Overhill Rd	$ 329,900	9-05-2016	1,476	$224
70 Heather Dr	$ 225,000	9-29-2016	1,200	$188
32 Overlook Dr	$ 404,000	6-23-2018	2,350	$172
7 Odessa Rd	$ 412,500	6-17-2018	2,276	$181
14 Longdale Rd	$ 403,500	12-20-2018	2,372	$170
24 Baxter Ct	$ 425,000	1-22-2018	1,976	$215
28 Baxter Ct	$ 392,080	1-22-2017	1,976	$198
23 Baxter Ct	$ 295,000	1-22-2016	1,336	$221
31 Strawberry Fields Ln	$ 639,000	6-01-2018	3,694	$173

Average Sales Price per Square Foot: $188

Study indicates that the properties with views of a communications tower have a greater average price per square foot than those without a view of a communications tower.

Exhibit 10, Sky Lane, Philipstown, Putnam County, NY

A 400' former radio guyed tower located at the top of Sky Lane, east of Ridge Road, in the Town of Philipstown, NY visited in October, November and December 2017. The following sales are located on the surrounding streets and are within sight of the tower:

2015 - 2017 STUDY

Address	Sales Price	Sale Date	Area	Price/SF
20 Steuben Rd	$ 227,000	1-06-2016	1,316	$172
15 Steuben Rd	$ 268,000	8-21-2017	1,384	$194
7 Steuben Rd	$ 210,000	9-02-2015	1,124	$187
21 Valley Ln	$ 215,000	3-21-2016	1,168	$184
420 Sprout Brook Rd	$ 307,500	6-23-2015	1,728	$178
418 Sprout Brook Rd	$ 379,000	8-03-2016	2,420	$157
384 Sprout Brook Rd	$ 135,000	2-21-2017	768	$176
338 Sprout Brook Rd	$ 352,000	6-22-2017	1,808	$195
334 Sprout Brook Rd	$ 269,000	2-09-2015	1,816	$148
326 Sprout Brook Rd	$ 300,000	2-01-2017	1,200	$250
322 Sprout Brook Rd	$ 419,800	5-13-2015	2,671	$157
319 Sprout Brook Rd	$ 235,000	4-20-2017	1,159	$203
308 Sprout Brook Rd	$ 300,000	10-18-2017	1,660	$181
303 Sprout Brook Rd	$ 325,000	1-14-2015	1,414	$230
19 Sky Ln	$ 687,000	6-29-2017	2,741	$251
39 Mountain Dr	$ 447,500	7-22-2015	2,400	$186
		Average Sales Price per Square Foot:		$190

The following properties are in the same neighborhood but have no view of the tower:

Address	Sales Price	Sale Date	Area	Price/SF
159 Old Albany Post	$ 210,000	11-30-2015	1,100	$191
200 Old Albany Post	$ 370,000	8-19-2016	1,868	$198
196 Old Albany Post	$ 370,000	5-19-2017	1,776	$208
180 Old Albany Post	$ 480,000	12-18-2014	3,517	$136
20 Old Albany Post	$ 289,000	6-12-2015	1,554	$186
516 Sprout Brook Rd	$ 335,000	1-29-2017	1,503	$223
504 Sprout Brook Rd	$ 315,000	8-05-2016	1,750	$180
495 Sprout Brook Rd	$ 520,000	4-27-2016	2,904	$179
492 Sprout Brook Rd	$ 325,000	12-11-2015	2,188	$149
471 Sprout Brook Rd	$ 365,000	3-15-2015	1,860	$196
54 Steuben Rd	$ 270,000	3-27-2015	1,512	$179
90 Steuben Rd	$ 289,000	6-09-2017	1,456	$198
60 Steuben Rd	$ 300,000	6-06-2016	1,260	$238
62 Steuben Rd	$ 330,000	9-27-2017	1,823	$181
72 Steuben Rd	$ 300,000	2-23-2015	1,700	$176
		Average Sales Price per Square Foot:		$188

Study indicates that the properties with views of a radio tower and properties without a view of a radio tower have virtually equal average price per square feet, in this specific neighborhood.

HOMELAND TOWERS

Supplemental Site Justification Report

for

Wireless Facility, 180 S Bedford Rd, Mount Kisco, NY

Prepared by:
Klaus Wimmer
Homeland Towers, LLC

February 12, 2021

Honorable Chairman Bonforte and
Members of the Planning Board
Village of Mount Kisco
104 Main St
Mount Kisco, NY 10549

RE: Supplemental Site Justification Report

Hon. Chairman Bonforte and Members of the Planning Board:

I am the Regional Manager for Homeland Towers, LLC. I was responsible for identifying a suitable location for a telecommunications facility that would remedy Verizon Wireless' significant gap in reliable wireless service throughout this area of Mount Kisco specifically in the area of downtown Mount Kisco, Route 117, along Route 172, and adjoining commercial and residential areas including the southern portion of the Village (the "Coverage Area"). It is important to note that Route 172 is a main artery for access to the Northern Westchester Hospital for most of the surrounding communities and a vital corridor for first responders and the public. In fact, the Fire Department has insisted on access to the property from the east because of mutual aid calls coming from municipalities to the east.

I have prepared this report to provide additional background on the work that has gone into this project and also provide the history and context to the selection of the proposed location and the character of the area.

I have been working in the wireless telecommunications industry since 1996 and can confirm through personal knowledge that all the carriers have been trying to provide reliable coverage connecting I-684 along Route 172 into the Village of Mount Kisco since then in order to remedy gaps in service. I was personally involved in the siting of several facilities in the area and have unsuccessfully searched for suitable locations along Rt 172, including the properties submitted in my prior Alternate Site Analysis as part of this application. I am reiterating this because there has been testimony that coverage is sufficient, that a site is not needed and that we arbitrarily decided to locate a site in this residentially zoned area. Such testimony is false. Moreover, statements that I personally selected the location on the property for the facility are incorrect and intentionally mischaracterize my prior testimony. As has been amply demonstrated, including by the letter submitted to the Board from the owner of the property, the location of the facility on the property was dictated by the owner of the property, not Homeland Towers or Verizon Wireless. As the site plan demonstrates, it would be more cost effective for Homeland Towers to construct the facility in the location of the proposed Solar Farm. Homeland Towers has no fundamental objection to locating the facility on top of the hill other than that such location is not available to Homeland Towers from the owner of the property, similar to the fact that multiple Village owned properties are not available to Homeland Towers because the Village Board has refused to lease space at such locations to

Homeland Towers (despite extraordinary and time-consuming efforts by Homeland Towers to obtain such lease approvals).

As part of our effort in 2018/2019 Homeland Towers proposed to re-build and combine the existing communications towers on Guard Hill, Bedford, NY. There are currently 2 communications towers on Guard Hill, which are utilized by NY State, Westchester County and the Town of Bedford emergency communications systems. In 2018 Westchester County proposed to replace one of the towers with a new 120' tower for shared use with the Town of Bedford. The County tower project was to be fully funded through residents' tax revenue. Homeland Towers proposed a public-private partnership and would provide all the funding and capital for the new tower for shared use by NY State, Westchester County, the Town of Bedford and wireless carriers. That would have eliminated the 2nd tower at Guard Hill, thereby preventing a "tower farm" and save the residents' tax dollars. This tower would have eliminated the need for a tower along Route 172.

Representatives of Westchester County and the Town of Bedford strongly supported our proposal and were in favor of this solution. Unfortunately, the underlying Guard Hill Park property is co-owned by the Town and "The Bedford Historical Society." As a result, this project subsequently failed to proceed, as the Town of Bedford was not in a position to enter into a lease without the co-owner's agreement. Mr. Stockbridge, who has been vocal in opposing our proposed site, is the Bedford Town Historian and is probably familiar with the events of the time.

As the coverage gap and the need for a site is well known and documented, the inability to place a facility for wireless carriers at Guard Hill or Leonard Park solely because those property owners refused to allow it, results in a facility being placed elsewhere. As stated by Mayor Picinich: "*With all that said, there is still a gap in coverage that needs to be addressed.* (VB meeting 1/28/19 at Page 26)[1]. The carriers must provide reliable service within their FCC licensed coverage areas and the Telecommunications Act of 1996 makes it clear that municipalities may not prohibit or effectively prohibit service. This is particularly true in an area along a major State road (Route 172) that connects Interstate Route 684 with a major regional hospital, and carriers approximately 20,000 vehicles a day.

The need for a site in this area is well documented and on the record. The Village Board entertained our lease proposal. During those meetings the need for better coverage in the Village was openly acknowledged. As Mayor Picinich stated at the 1/28/19 Village Board meeting: "*... where the holes are right now are more around Leonard Park, stretching out back that way*" and "*with all that said, there is still a gap in coverage that needs to be addressed.*" (VB meeting 1/28/19 at Page 4, Page 26). Trustee Schleimer at the same meeting stated that "*the biggest gap in coverage seems to be on the Rt. 172 corridor.*" (VB meeting 1/28/19 at Page 6).

[1] References to VB meeting refer to Village Board meeting minutes, relevant portions of which are attached hereto in Exhibit J.

Statements documenting the need for coverage were also made at the Village Board Meeting for the Special Permit for the Mountain Ave site in June 17, 2019. At the time Trustee Schleimer stated: *"We were looking at putting in cell towers in other areas of the Village, we did an informal survey to find out where the gaps were, and the feedback that she received was that the lack of service or gap was on the Rt. 172 corridor for Verizon. She needed to justify for herself and the residents that there is indeed a need to increase the coverage, and why"*....(VB meeting 6/17/19 at Page 3)

The facility was sited to be at the least intrusive location available. By being on a 25-acre parcel, the facility is distant form a large number of residential uses. The fact that the Village just recently passed a zoning amendment to expressly allow a large Solar Farm on the property is further evidence that this parcel is appropriate for public utility uses. Only one truly residential property is in proximity of the facility, which is remarkable given the density of Mount Kisco. Moreover, this property at 2 Sarles Street is not a purely residential use. In fact, this property is already used as a commercial law office. The existing office/house is located directly at an intersection, about 50' feet from a heavily traveled, major state thoroughfare of Route 172 (see Exhibit A). In fact, there are no residential properties for approximately a quarter mile to the west, and there are none to the east of the 2 Sarles Street property along Route 172. The 2 Sarles Street property is being used for a commercial purpose, as it appears that the owner has converted the 2 Sarles Street property from a residential use to a commercial use as evidenced by the signs on Rt 172 including parking for about 10 cars (see Exhibit A), and as it is documented in the assessment roll (see Exhibit B). The sign for his Law Office appears to be of similar size as the signs for the major office buildings at the "Corporate Center" at 90, 100 & 110 S Bedford Rd and the "Northern Westchester Professional Park" at 103, 105 S Bedford Rd. (see Exhibit A)

Further, there is not a single residential property along this stretch of Rt 172 from Linden Lane in the Town of Bedford into the Village of Mt Kisco which is approximately a one (1) mile stretch. Adjacent to the 2 Sarles Street property, going east towards Mt Kisco, the Marsh Sanctuary is not a residential property. It is a preserve which offers community gardens, hosts educational programs and even an Annual Octoberfest and Music Festival (see Exhibit C). The need for reliable wireless communications in times of emergencies is critical in areas where large parcels are used to attract the general public in connection with "paid" events such as music festivals where food and alcohol are served to paying customers. The same is true going west towards Bedford where a large community center is being constructed and adjacent to that is the "Unitarian Fellowship of Northern Westchester" and "A Kids World" pre-school and Daycare. (see Exhibit D). Up the street from 2 Sarles Street is the large compound of the former Rippowam Cisqua School, which is certainly also not a residentially used property. Clearly this stretch of Rt 172 is being used for commercial and nonresidential uses by many different entities.

As documented in the Setback Analysis I previously submitted as part of this application, it is not possible to locate a wireless facility anywhere in the Village that complies to the setback requirements of the code and provides the necessary service. The proposed facility is

388' from the office/residence at 2 Sarles Street. Wireless facilities are routinely placed in residential districts in proximity to residences. (see Exhibit E).

Homeland Towers strives to locate facilities that are "least intrusive to the area and impact the least residents." This is why we spent considerable time and effort to locate the facility at Leonard Park. To document the respective impact on the surrounding area of our proposed location as compared to the wireless facility on Mountain Avenue, which is a Village owned property that was recently approved, I have prepared comparable maps that show residences and commercial buildings within a ¼ mile radius to the respective locations (see Exhibit F). The proposed location has only 8 residences within a ¼ mile radius compared to approximately 42 residences, 12 commercial uses, and 7 multifamily buildings from the Mountain Ave Site. For comparison purposes only, I also prepared the same map for the suggested other location at the "Tennis-court". As is shown, about 18 residences would be within a ¼ mile radius. (see Exhibit F).

Recently, on January 26, 2021 we received correspondence from Attorney Cassese regarding the possible availability of 21 Linden Lane, Bedford, NY as a possible alternate location for the proposed facility. Mr. Cassese failed to return two calls from Homeland Tower's counsel. On January 27, I called and emailed Mr. Cassese and again on February 1, I emailed Mr. Cassese requesting more detailed information about the proposed location on the property and received a markup of the tax-map indicating the proposed location from Mr. Cassese limiting the locations at 21 Linden Lane where his undisclosed client would be willing to entertain a facility. (see Exhibit G). Obviously, landlords do not simply make entire parcels available for the siting of wireless facilities. I spoke with Mr. Cassese on January 2, 2021 wherein we discussed the proposed location and agreed to perform a feasibility analysis and due diligence of the location.

The Bedford Zoning Code requires a setback of 110% of the height of the Tower and has a 150-foot height limit, as well as a priority list that requires Town or Municipal property to be used as the first priority location for a "large wireless facility." Given the location on the property proposed by Mr. Cassese on behalf of his undisclosed client, it appears that the setback will not be met. Moreover, the property is not a Town or Municipal property and therefore is not permitted as the top priority in Bedford.

As is evident, further zoning and due diligence analysis is required to establish the requirements under the Bedford code and determine the feasibility of the proposed alternate location at 21 Linden Lane, Bedford, NY. A preliminary review of the proposed location indicates that the setback requirement under the code cannot be met.

To compare the potential impact of this speculative alternate location in Bedford, I have also attached a ¼ mile radius map that shows that 16 residences and 3 commercial buildings are within a ¼ mile radius to the respective location that would be impacted (see Exhibit I). This compares to 180 S Bedford Rd where 8 residences are within a ¼ mile radius (see Exhibit F).

In conclusion, the above narrative and the attached exhibits demonstrate that the proposed location has been thoroughly researched, took many years of effort to secure and is the least intrusive available location for the proposed facility. The need has been well known to the community and well documented. The commercial and non-residential neighborhood and character of the surrounding properties not only justify that this facility be located on the large 25-acre property. The Visual Resource Analysis demonstrates the proposed location results in visibility from the least number of resources and residences, and is less intrusive than any alternatives presented.

Respectfully

Klaus Wimmer

Klaus Wimmer
Regional Manager
Homeland Towers, LLC

EXHIBIT A

2 Sarles St distance to Route 172 and Parking lot for office

Sign for Law Offices at 2 Sarles Street & South Bedford Rd, Mt Kisco NY

Sign for Corporate Center 90, 100, 110 Route S Bedford Rd, Mt Kisco, NY

Sign for Northern Westchester Professional Park 103, 105 S Bedford Rd, Mt Kisco, NY

EXHIBIT B

Copy of assessment roll for 2 Sarles St, documenting "483 Converted Re".
Note owners are actually Anna C. and John G. Pietrobono

The property category number of 483 indicates a converted residence

TAX MAP PARCEL NUMBER CURRENT OWNERS NAME CURRENT OWNERS ADDRESS	PROPERTY LOCATION & CLASS SCHOOL DISTRICT PARCEL SIZE/GRID COORD	ASSESSMENT LAND TOTAL	EXEMPTION CODE----------VILLAGE------ TAX DESCRIPTION SPECIAL DISTRICTS	TAXABLE VALUE	ACCOUNT NO
	2 Sarles St				049800
80.44-1-2	483 Converted Re		VILLAGE TAXABLE VALUE	59,500	
Pietrobono Anna C	Bedford Cent #2 552002	15,000			
Pietrobono John G	002 24	59,500			
2 Sarles St	Annexation				
Mt Kisco, NY 10549	ACRES 1.91				
	EAST-0670810 NRTH-0437710				
	DEED BOOK 47353 PG-477				
	FULL MARKET VALUE	798,658			

EXHIBIT C

Commercial activities at Marsh Sanctuary

Events

Events

Email or Phone

English (US)
Français (France)

Password

Privacy
Cookies
Facebook

Forgot account?

Do you want to join Facebook?

OCT 4

10th Annual Oktoberfest & Fall Music Festival at the Marsh Sanctuary

Public · Hosted by The Marsh Sanctuary

Saturday, October 4, 2014 at 2:00 PM – 9:00 PM EDT
More than a year ago

The Marsh Sanctuary
114 South Bedford Road, Mount Kisco, NY 10549

Show Map

0 Went · 0 Interested
Share this event with your friends

Details

Please join us for the annual Oktoberfest and Fall Music Festival at Marsh Memorial Sanctuary!

Food and Captain Lawrence Brewing Company beer will be provided with a $20 donation. We will accept a $10 donation by the non-drinkers.

There will be live musical performances. If there are any bands that are interested in performing a set, please feel free to contact us.

Parking will be at 90 South Bedford (MKMG) and 71 Sarles Street. Walk to Stratford Drive from MKMG and follow the signs to the trail. From 71 Sarles Street, follow the trail to Brookside Amphitheater.

Post on our Facebook page or call (914) 241-2806 with any questions.

Please bring a flashlight to follow the trail back after dark.

Hope to see you there!

Please feel free to share this invite with your friends and family.

See Less

Hosted by

The Marsh Sanctuary

Rewilding School

Marsh Sanctuary is host to a environmental education program coordinated by The Rewilding School. The Rewilding School is a Westchester based organization that provides educational and personal growth programs focusing on connecting with nature and the environment. They offer programs for individuals of all ages. The three programs offered by The Rewilding School at Marsh Sanctuary are the Homeschool series, the Afterschool series, and the Wild Summer and Winter Camp series.

The Homeschooling program offered by The Rewilding School is held on weekday afternoons from 1:30 to 3:30 with a different emphasis area each day of the week. Some of the areas the program explores are foods that can be found in nature, making things using resources found in nature, basic survival techniques, outdoor games, and plant and animal indentification. The program is designed for kids ages 5 to 14.

The Afterschool program is held on Tuesdays and Wednesdays from 3:45 to 5:00 with Tuesdays focusing on crafting using natural materials and Wednesdays focusing on survival skills. This program is designed for kids 7 to 14.

The Wild Summer program are week long day camps built around different themes (ship wrecked pirates, stone aged tinkerers, legends of the shire, school of woodland wizardry, etc.). Activities are designed to encourage thinking, imagination, relationship building, and awareness of the environment. This program is for students from grades 1 to 6.

We believe The Rewilding Schools mission of providing young people a place to explore and learn in a natural environment coincides with our mission of providing a place of sanctuary. As the world has become more technology based it is easy to loose sight of how important the natural world around us. Providing young people a place to play, explore, imagine, cooperate in relationships with friends, and learn about the importance of the natural world, will provide a sanctuary from the world of technology and build citizens that value the natural world for years to come.

The Rewilding School offers a variety of other programs for both kids and adults at other sites in the area. To get more information about The Rewilding School or to sign up for a program please visit their website at www.rewildingschool.com.

Email - info@rewildingschool.com Phone 914-849-9143

Exploring and learning about nature

Imagina

EXHIBIT D

Community Center construction on South Bedford Rd adjacent to 2 Sarles St.

Exhibit E

Please find below a sample list of existing telecommunications infrastructure that is located in close proximity to residences or residential areas. A satellite image of each site is shown with the distance in red.

1. 150 ft Monopole, 20 Vervalen Rd, Poughkeepsie, NY
   Distance to closest Residence appr. 140 ft

2. 170 ft Lattice Tower, 30 Morning View Ct, Chappaqua, NY
   Distance to closest Residence appr. 150 ft

3. 195 ft Latice Tower, Crest Dr, Mahopac, NY
   Distance to closest Residence appr. 110 ft

4. 2580 Route 35, Somers, NY 130 ft Lattice Tower
   Distance to closest Residence appr. 200 ft

5. 90' Monopine*, 183 Soundview Lane, New Canaan, CT
   Distance to closest Residence appr. 175 ft

*recently constructed tower, areal image is not yet available

6. 100' Monopole, Hermits Rd, Irvington, NY
   Distance to closest Residence appr. 360 ft

7. 120' Monopole*, Dartantra Dr, East Fishkill, NY
   Distance to closest Residence appr. 380 ft

*recently constructed tower, areal image is not yet available

8. 145' proposed Monopine*, 180 S Bedford Rd, Mt Kisco, NY
   Distance to closest Residence appr. 388 ft

*proposed monopine, areal image is not available

EXHIBIT F

Below is an aerial image of the proposed facility location, the red circle represents a ¼ mile radius. There are approximately 8 homes located within ¼ mile.

A. 180 S Bedford Rd, Mount Kisco, NY; about 8 residences are within a ¼ mile radius

Below is an aerial image of the Mountain Ave Cell Tower location, the red circle represents a ¼ mile radius. There are approximately 42 homes, 12 commercial buildings and 7 multifamily buildings located within ¼ mile.

B. Mountain Ave, Mount Kisco, NY; about 42 residences, 12 commercial buildings and 7 multifamily buildings located within ¼ mile radius

Below is an aerial image of the Alternate "Tennis Court" Location proposed by the Planning Board, the red circle represents a ¼ mile radius. There would be approximately 18 homes located within ¼ mile.

C. Alternate ("Tennis Court") Location proposed by Planning Board, 180 S Bedford Rd, Mt Kisco, NY. About 18 residences would be within a ¼ mile radius

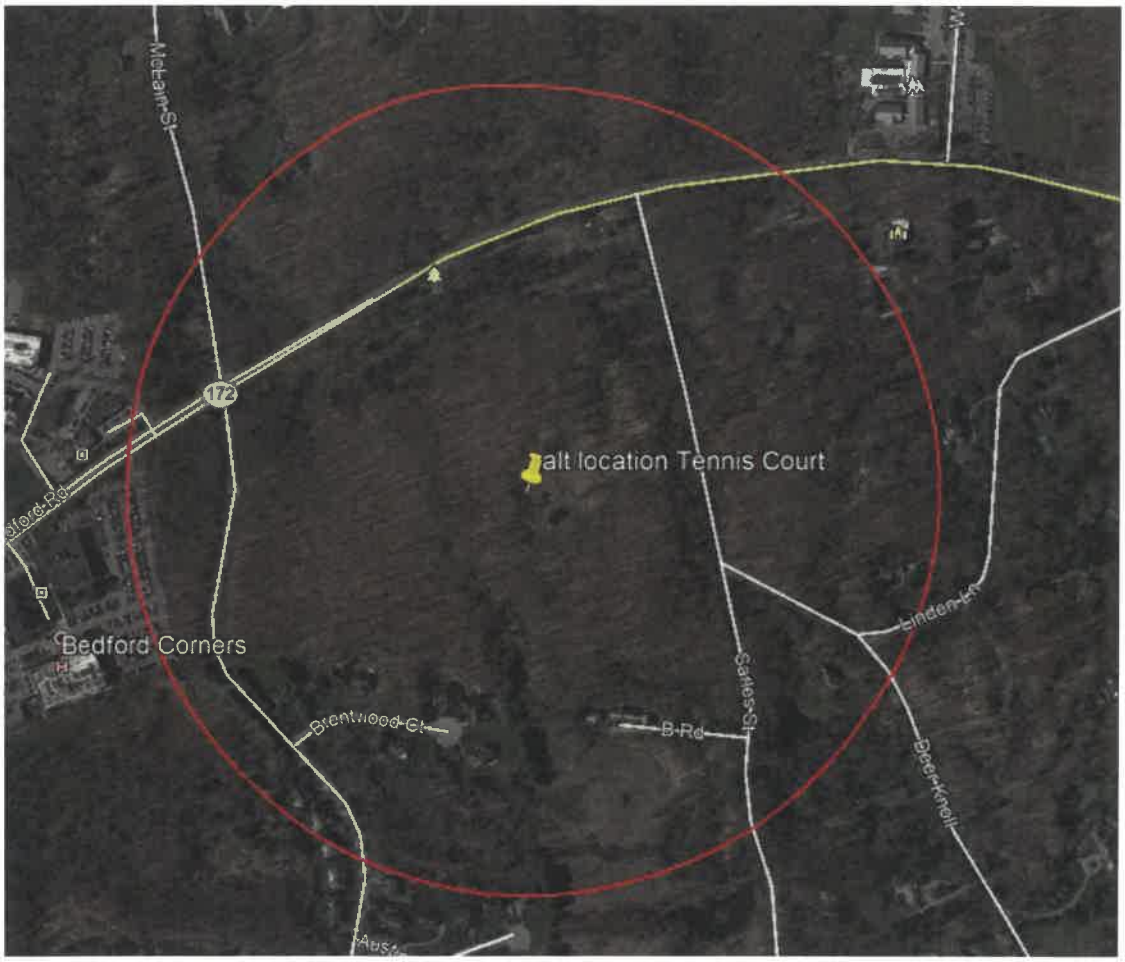

EXHIBIT G

Copy of correspondence with Attorney Cassese regarding 21 Linden Ln, Bedford, NY

Wed 1/27/2021 3:23 PM
Klaus Wimmer
21 Linden Lane Bedford / Mt Kisco
To 'anthony@casseselaw.com'
You forwarded this message on 2/1/2021 1:34 PM.

21 Linden Lane Bedford 1-26-21.pdf
128 KB

21 Linden Ln Tax map.pdf
2 MB

Good Afternoon Mr. Cassese,

I am responding to the fax you sent to attorney Robert Gaudioso regarding 21 Linden Lane, Bedford and the owner's interest to lease us space for a cell tower. We will certainly evaluate your client's property as a possible location. As part of our site due diligence we'll have to perform a coverage analysis. I have attached a tax map of the property. Kindly mark off where the owner would like to locate the site and email it back to me.

Please contact me with any questions or to discuss. I look forward to hear back from you.

Thanks

Klaus Wimmer
Regional Manager
HOMELAND TOWERS
9 Harmony Street, 2nd Floor
Danbury, CT 06810
Office: (203) 297-6345 | Cell: (845) 242-3814
Email: kw@homelandtowers.us

Mon 2/1/2021 1:34 PM
Klaus Wimmer
FW: 21 Linden Lane Bedford / Mt Kisco
To 'anthony@casseselaw.com'
Cc 'Robert Gaudioso'

21 Linden Lane Bedford 1-26-21.pdf
128 KB

21 Linden Ln Tax map.pdf
2 MB

Mr. Cassese,

I am following up on the attached letter you sent to attorney Robert Gaudioso (copied) regarding a wireless facility at 21 Linden Lane. Please indicate where on the property this facility should be placed so we can evaluate this location. I look forward to hear back from you at your earliest convenience.

Klaus Wimmer
Regional Manager
HOMELAND TOWERS
9 Harmony Street, 2nd Floor
Danbury, CT 06810
Office: (203) 297-6345 | **Cell**: (845) 242-3814
Email: kw@homelandtowers.us

Proposed location of wireless facility at 21 Linden Ln, indicated by circles by Mr. Cassese

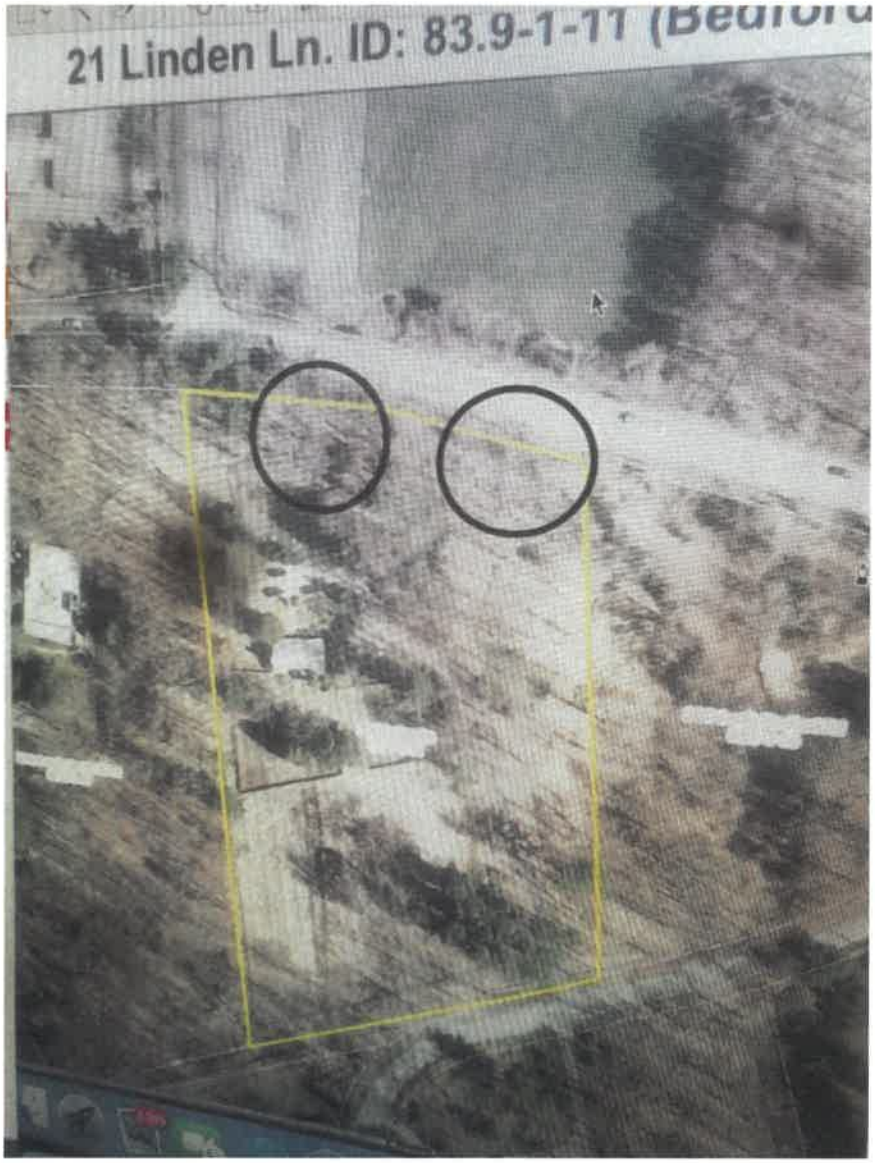

EXHIBIT I

Below is an aerial image of the alternat location proposed at 21 Linden Lane, Bedford, NY location. The red circle represents a ¼ mile radius. There are approximately 16 homes and 3 commercial buildings located within a ¼ mile.

21 Linden Ln, Bedford, NY; about 16 residences and 3 commercial buildings are located within ¼ mile radius

EXHIBIT J

Copies of relevant pages of Village Board meetings of 1/28/19 and 6/17/19 in order of reference

saying that the Board offered up property owned by the Village meaning the Village would maintain control over that property and reap the benefit of the revenue generated. When we were approached on where the gap in coverage was, we then looked for what properties were owned by the Village leading them to these locations. Mayor Picinich stated that there is nothing bad about looking for revenue that doesn't come from taxes. With reference to a cell tower in a residential area, she wanted to make everyone aware of the cell tower located in a Conservation Development (CD) zone on Captain Merritt's Hill within 700 feet of a house and has been there for twenty (20) years. This would not be a precedent, having said that, from her own view, she believes because this is much closer to a home, the negative impact as it relates to the home value is the primary negative impact. Mayor Picinich continued to say that she believes the visuals from the higher levels have been mitigated specifically to the site of the water tower. She doesn't believe, after the research that she's read, that the waves coming from this tower are any greater than your persistent cellphone use all day every day, nor the microwave in your home, nor the WIFI that we are using in our homes. When we have a problem and concerns are raised, her view is to try and mitigate the issue. The one challenge that she believes cannot be mitigated with reference to the water tower location is the decrease in property values for the people who are closest to it, therefore it is not a viable location in her opinion. As far as Leonard Park, the Village asked Homeland Towers to look at a property, a space in the park, that was away from the pool, that was elevated, and we asked for them to try and reduce environmental impact, and she is concerned with the visual impact on the lower end and was concerned about the impact of the road. She is also concerned that this location in the park would add something industrial to a space that is meant to be natural. With all that said, there is still a gap in coverage that needs to be addressed. From what she heard from the Board, it sounds like neither one of these locations solves the problem at this moment in time. She apologized to Homeland Towers for the time, resources, and information and said that they would table the discussion for now and continue to work on it; intensification of use is going to create less viable service. She let the public know that she would be attending a meeting with the Supervisors of some of the surrounding towns to discuss this issue and try to make some recommendations on some new locations. Private property owners will also have the opportunity to come forward and request the tower be put on their property granting

couple years. Technology is always evolving and so things are left to change as that evolves with usage. Trustee Schleimer then stated that the biggest gap in coverage seems to be on the Rt. 172 corridor. At some point Mount Kisco ends and Bedford begins along that road and there has been feedback stating that the dropped calls are actually taking place on the Bedford side not in Mount Kisco, so she wanted to know if their research showed the same thing. Mr. Gaudioso said they provided maps at both 700 MHz, which is much larger and covers more bandwidth and 2100 MHz which is smaller, but the gaps are bigger. Some of the statistics the engineers came up with were in the 700 MHz gap, the residents within that gap area are 1,308; 347 were in Mount Kisco, 687 were in Bedford and 274 in New Castle. But when you look at the 2100 MHz gap there is 6,820 residents of which 5,367 residents are in Mount Kisco. Those numbers tell the story that the 2100 MHz gap is not only along the Rt. 172 corridor, but also residential areas in Mount Kisco and those statistics do prove that. So while Bedford has a tower right off of I-684 that tower does not cover the Rt. 172 corridor towards Mount Kisco and that is where the biggest problem area is currently with respect to Verizon, but we know that all the carriers that people are using are all located on the same or similar sites in this area and they are all going to have similar type of needs.

Mayor Picinich started by saying that looking at the tests that were done, the ground was staked in both locations. The staking in Leonard Park was much larger than the staking at the water tank location, and she wanted an explanation on why that was the case. Mr. Gaudioso said that the park was the original location and when they have a larger area they try to provide as much space as possible to allow for other carriers, all the emergency services, and to allow for more equipment if needed for any future technology. When looking at the water tank location, rather than saying there is not enough space, they designed something using the property to its best potential for the need stating that the water tower is not the most ideal location.

Trustee Schleimer wanted to know if there had been a request from emergency services that they needed more coverage. Mr. Gaudioso stated that Homeland Towers has not been in direct contact with them, but as mentioned before, they make emergency services available for free on the towers. Whether they need it now or in the future we know that they are all going in that direction and they too will want systems for data transmissions. A lot of emergency services are on FirstNet, a national broadband emergency service network, which will run on the AT&T system called Band 14. Trustee

the Village. Mr. Gaudioso replied that it is his understanding that Verizon is on all the locations except for one, but are in the process of co-locating on that tower. Trustee Grunthal then asked if this was a little premature; asking for new towers when there are other locations are still possible. Mr. Gaudioso said that the co-location on that tower will not provide the service in the downtown southern district of the Village. Mayor Picinich wanted to offer clarification on what is considered the southern district of the Village and the location of the other towers. The tower on the mountain that Verizon is currently looking to co-locate on will meet the need of Central Business Districts 1 & 2 and the northern end of the Village. Where the holes are right now are more around Leonard Park, stretching out back that way. Trustee Grunthal then asked about 5G; his understanding on 5G is that it is transmitted by much smaller towers from point to point and that one does not necessarily have to have a large tower to provide that service. Mr. Gaudioso replied that these facilities are designed to provide the current technology which is 4G LTE service which provides data and voice service. The need for the macro site towers that are in discussion here will not go away with 5G service. The 5G service is a different type of technology using, most likely but not necessarily, higher frequency that travel shorter distances, more densifying networks, but 5G is not set in stone at the moment. One of the things that PierCom spelled out in their report is that all these carriers have a different frequency band and they are all using different technology but they are all going in a certain direction. It's not just the coverage, it is the whole footprint of where the signal will be, and it is also the bandwidth of what they have in each frequency band to be able to handle the day to day usage of phone calls and other day to day uses. Those two different coverages and capacities have to be balanced. He believes that at the end of the day the Village will need this infrastructure is needed.

Trustee Grunthal wanted some clarification on the gap of coverage; was that specific to Verizon. Mr. Gaudioso stated that Verizon is the one that Homeland Towers is working on behalf of specifically but Homeland Towers does provide the infrastructure for all the carriers to use and that it is typical that when a tower is built all the carriers will come. The report that PierCon Solutions prepared is based on the surrounding sites that Verizon is on and based on the two (2) frequency bands that are specific to Verizon. Trustee Grunthal wanted to make sure that Mr. Gaudioso was not saying that there is a total gap in coverage; that no other carriers can have their radio frequencies in these holes that are referred to. Mr. Gaudioso stated that the maps submitted were exclusive to Verizon coverage.

the information that was reviewed and all the supplemental information that was requested. They had a project meeting on May 8, 2019, and was happy to see the responsiveness with the questions that we asked as well as the questions posed by others including the Village planning consultant and others on the Planning Board. The tech memo is based on the background history of the Village owned property and that it is an existing cell site. It accommodates two (2) of the four (4) carriers that service the area, T-Mobile and AT&T, on an 86-foot tall pole. There is a height increase that is being proposed as part of this action, replacing the current pole that is 86 feet in height with a new pole that is 109 feet in height with the MTA sitting on top of the new pole. One of the key things that they looked at is coverage and capacity or service from the commercial carriers as well as the MTA. They looked at the testimonies provided by MTA and determined that their radio frequency needs are unique. They found that raising the height and having the MTA antennas on top is reasonable and appropriate. They then looked at the commercial carriers, AT&T which is up there now would slide over to the new pole at the same height; T-Mobile is looking to increase their height on the new pole. They received, requested, and reviewed a lot of information from T-Mobile and they feel that the height increase is justified for T-Mobile. They also reviewed the coverage from other towers and were able to determine that this tower will provide new service and new coverage for the carriers. The coverage that exists for T-Mobile now is optimistic at best, with the tree line it is extremely hard to find a signal. They also looked at Verizon, which would be new to this site, and would be placed in between T-Mobile and AT&T on the new tower. In looking at all of that information, Crown Castle has addressed all the concerns that the public and the Board have had, and they feel there is a need for these carriers and the height is appropriate.

Deputy Mayor Farber asked if Mr. Musso was comfortable with this plan. Mr. Musso replied that he did, the Village has a unique way of monitoring this site being that it is on Village owned property.

Trustee Schleimer stated that she had trouble determining coverage due to her maps not being in color, but from what she understands part of the review is subject to the applicant demonstrating that the facility is needed to provide coverage to an area of the Village that currently has inadequate coverage. We were looking at putting in cell towers in other areas of the Village, we did an informal survey to find out where the gaps were, and the feedback that she received was that the lack of service or gap was on the Rt. 172 corridor for Verizon. She needed to justify for herself and the residents that there is indeed a need to increase the coverage, and why, especially in light of the fact that the technology is now moving to 5G.

Mayor Picinich replied that Mr. Musso's report provides all that information in detail.

Mr. Musso replied that surveys could be deceiving sometimes so they may be skewed where people have coverage or not. The other thing about these maps is that capacity is just as much of an issue as coverage. Things have changed in the last five (5) years, so it's not just about coverage it is also about providing the service that people need in terms of data and apps. Looking at the demographics that are put into these coverage maps, it is all about boosting up service as well. We see the 5G being advertised, it is not rolled out in our region, but it will be, and if any of these frequencies that were put into these coverage maps or the radio frequency emission report, 5G may introduce new frequencies; so they would be subject to return for modification and review prior to any updates. Mr. Musso continued to say that with all the technical information that was provided there is justification for this tower.

APT ENGINEERING

February 9, 2021

Honorable Chairman
and Members of the Planning Board
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

RE: Homeland Towers Site Name: Mt. Kisco NY172
180 S. Bedford Road
Mt. Kisco, NY 10594
Revised Submission

Honorable Chairmen and Members of the Board,

As part of the proposed Wireless Telecommunications Facility application at the above referenced address currently before the Planning Board, please find attached the following:

- Updated Zoning Drawings (with coordination with Solar Farm application incorporated)
- Updated Stormwater Report
- Steep Slope Letter signed a NY Licensed Professional Engineer (Scott M. Chasse, PE)

The comment letter from the Mount Kisco Volunteer Fire Department signed by David Hughes (Chief of Department) dated January 19, 2021 is currently being reviewed and revised material will be submitted at a future date.

Please do not hesitate to contact me should you have any questions or comments.

Sincerely,

APT Engineering

Robert C. Burns
Program Manager

APT ENGINEERING

February 1, 2021

Honorable Chairman
and Members of the Planning Board
Village of Mount Kisco
104 Main Street
Mount Kisco, New York 10549

RE: 180 S. Bedford Road
Public Utility Wireless Telecommunications Facility
Homeland Towers, LLC

Dear Honorable Chairman and
Members of the Planning Board:

I am Scott M. Chasse, with APT Engineering, the Professional Engineer for the above referenced project to construct a public utility wireless telecommunications facility ("Facility") at the above referenced property ("Property"). As you are aware, the application ("Application") filed by Homeland Towers and Verizon Wireless ("Applicants") also includes a request for a Steep Slope Permit in accordance with §110-33.1(A) of the Zoning Code. In reviewing the Application, the following factors are offered for consideration in accordance with the Steep Slope Permit requirements contained in the Village Zoning Code. Please note that the following sections in **bold** face type are the actual quotes from the Zoning Code, and the response to each section is noted below.

A. Steep slopes.
(1) Development limitations. To protect environmentally sensitive lands, preserve the Village's natural resources, and promote the orderly development of land, development on parcels that contain excessively steep slope areas, which parcel on the effective date of this chapter is in excess of 40,000 square feet and is in single, undivided ownership, shall be limited by deducting the following from the gross lot area of such parcels to determine the net lot area [in conjunction with § 110-33.1B(1) herein]:
(a) Fifty percent of the area of steep slopes greater than 25%.
(b) Twenty-five percent of the area of steep slopes greater than 20% but not greater than 25%.
Please see below the following slope information for the Property:
111,614 SF slopes 20%-25%;
381,778 SF slopes over 25%;
10% of the existing property has slopes over 20% but not greater than 25%; and
45% of the existing property has slopes over 20%.

(2) Steep slopes protection regulations.
(a) Purpose. For the purpose of preventing erosion, preventing stormwater runoff and flooding, providing safe building sites, preventing landslides and soil instability, protecting the quantity and quality of the Village's surface and groundwater resources, protecting important scenic views and

vistas, preserving areas of wildlife habitat, minimizing the area of land disturbance related to site development and protecting the Village's character and property values, it is the intent of these steep slope regulations to minimize disturbance on steep slopes and to avoid disturbance and construction activities on very steep slopes. Further, it is the intent of these steep slope regulations to minimize the development of hilltops and ridgelines. The Village Board, the Planning Board, the Zoning Board of Appeals, the Building Inspector and the Village Engineer shall take these objectives into consideration in reviewing and acting on any plans submitted pursuant to the provisions of this chapter.

(b) Exempt and regulated activities.

[1] Regulated activities.

[a] It shall be unlawful to create any disturbance greater than 100 square feet in aggregate, or to cut any tree with a diameter greater than four inches when measured from 1 1/2 feet from ground level, on any steep slope, hilltop, or ridgeline, other than an exempt activity as defined herein, without a Steep Slopes Permit issued in conformance with these regulations.

The proposed project involves 7,436 SF (2,346 sf of 20-25% slope and 5,090 sf of over 25% slope) of disturbance on slopes over 20% and trees larger than 4" diameter. Therefore, as the project involves land disturbance in areas with slopes over 20%, a Steep Slope Permit will be required, and the Applicants respectfully request that the Planning Board issue the Steep Slope Permit.

[b] In order to protect the stability of slopes and to ensure the safety of residents, construction activities on steep slopes shall be minimized and shall follow the standards for grading set forth herein.

The grading plan included with the Site Plan follows the standards set by the Village code.

[c] Construction activities shall not be permitted on very steep slopes unless there is no viable alternative.

The proposed plan has 5,090 sf of disturbance on very steep slopes, however due to the location of the Facility and slope of the Property there are no other viable alternatives.

[2] Exempt activities. The following activities shall be exempt from provisions of this chapter:

[a] Any customary landscaping, provided that any such activity conforms to all other applicable laws of the Village of Mt. Kisco.

[b] Repair of existing structures with no increase in any physical dimension.

The project does not qualify as an exempt activity, therefore; a Steep Slope Permit has been requested.

(c) Standards for development approval. In denying, granting, or granting with modifications any application for a steep slopes permit, the Planning Board shall consider the consistency of the proposed activity with the following standards:

[1] Disturbance and construction activities on very steep slopes shall not be permitted unless there is no viable alternative.

Given the Facility's proposed location, there are no viable options that avoid disturbance of very steep slopes.

[2] Disturbance of areas with steep slopes shall be in conformance with the following provisions:

[a] The planning, design and development of buildings shall provide the maximum in structural safety and slope stability while adapting the affected site to, and taking advantage of, the best use of the natural terrain and aesthetic character.
The compound has been designed to minimize the disturbance in the area of development.

[b] The terracing of building sites shall be kept to an absolute minimum. The construction of retaining walls greater than six feet in height or 60 feet in length shall not be permitted unless there is no viable alternative.
The proposed facility is not terraced and there are no retaining walls currently proposed.

[c] Roads and driveways shall follow the natural topography to the greatest extent possible in order to minimize the potential for erosion and shall be consistent with other applicable regulations of the Village of Mt. Kisco and current engineering practices.
The proposed access drive to the compound extends off the existing access drive and follows the natural terrain in the most feasible way possible to reduce land disturbance and meet current engineering practices.

[d] Replanting shall consist of vegetation intended to further slope stabilization with a preference for indigenous woody and herbaceous vegetation.
Currently the proposed slopes are to be seeded with NYSDEC permanent construction area planting mixture #1 from the New York State Standards and Specifications for Erosion and Sediment control (Blue Book), latest edition and covered with Erosion Control Blankets to allow the turf to be established.

[e] When development activities are proposed to occur on hilltops or ridgelines, the plans submitted for review shall demonstrate that the impacts on the functions, aesthetics and essential characteristics of such areas are effectively minimized and mitigated. The natural elevations and vegetative cover of ridgelines shall be disturbed only if the crest of a ridge and the tree line at the crest of the ridge remains uninterrupted and shall not be permitted unless there is no viable alternative. This may be accomplished either by positioning buildings and areas of disturbance below a ridgeline or hilltop or by positioning buildings and areas of disturbance at a ridgeline or hilltop so that the elevation of the roof line of the building is no greater than the elevation of the natural tree line. However, under no circumstances shall more than 50 feet along a ridgeline, to a width of 50 feet generally centered on a ridgeline, be disturbed.
The Facility is not located on a hilltop or ridgeline.

[f] Any regrading shall blend in with the natural contours and undulations of the land.
All proposed grading will be blended into the existing natural contours.

[g] Cuts and fills shall be rounded off to eliminate sharp angles at the top, bottom, and sides of regraded slopes.
All proposed cuts and fill contours are shown rounded off on the Site Plan.

[h] The angle of cut and fill slopes shall not exceed a slope of one vertical to two horizontal except where retaining walls, structural stabilization, or other methods acceptable to the Village Engineer are used, in which case the angle shall not exceed a slope of one vertical to three horizontal.

The cut and fill slopes do not exceed a 2:1 slope.

[i]Tops and bottoms of cut and fill slopes shall be set back from structures a distance that will ensure the safety of the structures in the event of the collapse of the cut or fill slopes. Generally, such distance shall be considered to be six feet plus 1/2 the height of the cut or fill.
The Facility is set back from the edge of the slope by 26' and the foundation of the tower will be designed so that it will not be sitting on any of the proposed fill required for construction of the equipment compound. There are no other structures proposed other than a concrete equipment pad located approximately 5' from the edge of the slope.

[j] Disturbance of rock outcrops shall be by means of explosives only if labor and machines are not effective and only if rock blasting is conducted in accordance with all applicable regulations of the Village of Mt. Kisco and the State of New York.
There are no rock outcroppings observed within the proposed area of disturbance. It is not known if there is any ledge in the area because a Geotechnical Exploration has not been performed yet. The Applicants do not anticipate the need for blasting to construct the proposed Facility. If ledge is encountered, chipping is the preferred method to blasting. If blasting were required, the appropriate protocols would be followed in accordance with State, County and municipal regulations.

[k] Disturbance of steep slopes shall be undertaken in workable units in which the disturbance can be completed and stabilized in one construction season so that areas are not left bare and exposed during the winter and spring thaw periods (December 15 to April 15).
The total construction time is anticipated to take 12 weeks and no disturbance to any steep slopes will occur between December 15 and April 15.

[l] Disturbance of existing vegetative ground cover shall not take place more than 15 days prior to grading and construction.
The Applicants will comply with this requirement.

[m] Temporary soil stabilization, including, if appropriate, temporary stabilization measures such as netting or mulching to secure soil during the grow-in period, must be applied to an area of disturbance within two days of establishing the final grade, and permanent stabilization must be applied within 15 days of establishing the final grade.
Erosion control blankets are proposed on all graded slopes with a 3:1 slope or steeper.

[n] Soil stabilization must be applied within two days of disturbance if the final grade is not expected to be established within 21 days. In locations where construction activities have temporarily ceased, temporary soil stabilization measures must be applied within one week.
The Erosion Control notes (Site Plan Sheet- EC-1) on the Site Plan comply with this criteria.

[o] Topsoil shall be stripped from all areas of disturbance, stockpiled and stabilized in a manner to minimize erosion and sedimentation, and replaced elsewhere on the site at the time of final grading. Stockpiling shall not be permitted on slopes of greater than 10%.
Soil Stockpiling as shown on the Site Plan is not proposed on any slopes greater than 10% and that a note has been added to the Temporary Stockpile Detail (See Site Plan Sheet EC-2).

[p] No organic material or rock with a size that will not allow appropriate compaction or cover by topsoil shall be used as fill material. Fill material shall be no less granular than the soil upon which it is placed, and shall drain readily.
All fill material will be in accordance with the NY State licensed Professional Geotechnical Engineer's recommendations once the Geotechnical Exploration and Report have been completed and prepared for this project.

[q] Compaction of fill materials in fill areas shall be such to ensure support of proposed structures and stabilization for intended uses.
All compaction of fill material will be in accordance with the NY State Licensed Professional Geotechnical Engineer's and proposed Tower and Tower Foundation Structural Engineer's recommendations once the Geotechnical Exploration and Report and tower/tower foundation design have been completed and prepared for the project.

[r] Structures shall be designed to fit into the hillside rather than altering the hillside to fit the structure. (Among the methods that may be employed to achieve this goal are reduced footprint design, "step-down" structures, stilt houses, minimization of grading outside the building footprint, placement of structures at minimum street setback requirements to preserve natural terrain, etc.).
There are no "buildings" being proposed as part of the Facility.

[s] Development shall be sited on the least sensitive portions of the site to preserve the natural landforms, geological features, and vegetation.
The current facility location on site was designed to not adversely affect natural land forms and geological features and to minimize any necessary tree clearing.

[t] The stability of slopes and the erodibility of soils on slopes is a function of various physical soil properties and underlying bedrock conditions. Where site surveys indicate the presence of soils or underlying bedrock conditions the physical properties of which might present limitations on construction practices or high erodibility that may result in unstable slopes, the Planning Board may limit the type and extent of construction activities or disturbance to these areas as necessary to ensure public health, safety, and welfare.
The project is designed such that the proposed slopes are stable and will not be impacted by erosion. This will be further evaluated once the Geotechnical Exploration and Report have been prepared.

[u] Impacts from construction activities or other disturbance on bedrock outcrops and glacial erratics shall be minimized.
There were no outcroppings or glacial erratics visible in the area of the development area.

[v] All measures for the control of erosion and sedimentation shall be undertaken consistent with this chapter and with the Westchester County Soil and Water Conservation District's "Best Management Practices Manual for Erosion and Sediment Control," and New York State Department of Environmental Conservation "Guidelines for Urban Erosion and Sediment Control", as amended, or its equivalent satisfactory to the Planning Board, whichever requires the higher standards.
All erosion control measures have been designed in accordance with NYSDEC guidelines.

[w] All proposed disturbance of steep slopes shall be undertaken with consideration of the soils limitations characteristics contained in the Identification Legend, Westchester County Soils Survey, 1989, as prepared by the Westchester County Soil and Water Conservation District, in terms of recognition of limitation of soils on steep slopes for development and application of all mitigating measures, and as deemed necessary by the Planning Board.
According to the Westchester County Soils Survey, CsD soils which are a B soil are located in the proposed area of disturbance.

(d) Permit procedures.
[1] Application for permit. An application for a steep slopes permit shall be filed with the Planning Board, and shall contain the following information and such other information as required by it, except when waived by the Planning Board as not pertinent or necessary for the proposed disturbance:
[a] Name, post office address and telephone number of the owner and applicant.
Property Owner is Skull Island Partners LLC,
c/o David Seldin, 1571 Oceanview Drive, Tierra Verde, Florida 33715
(646) 932-3628

Applicants are Homeland Towers, LLC and New York SMSA Limited Partnership d/b/a Verizon Wireless, c/o Snyder & Snyder, LLP 94 White Plains Road, Tarrytown, New York 10591
(914) 333-0700

[b] Street address and Tax Map designation of property covered by the application.
The Property is identified as 180 South Bedford Road - SBL 80.44-1-1

[c] Statement of authority from owner for any agent making application.
A letter of authorization from the Property Owner has been included with the Application.

[d] Listing of property owners adjacent to, across streets from, and downslope within 500 feet of the property, and any additional property owners deemed appropriate by the Planning Board.
A map and list of adjacent property owners has been included on Sheet R-1 of the Site Plan.

[e] Statement of proposed work and purpose thereof.
A statement of proposed work and purpose of application has been included in the Application materials submitted. The Application is for a public utility wireless telecommunications facility to address a significant gap in Verizon Wireless's network.

[f] A statement prepared by a licensed architect, registered landscape architect, or engineer, that describes:
[i] The methods to be used in overcoming foundation and other structural problems created by slope conditions, in preserving the natural watershed and in preventing soil erosion; and
[ii] The methods to be used to eliminate or mitigate water runoff on all adjacent properties and any other property that will be naturally affected by increased water runoff.
The proposed equipment compound is designed with clean broken stone with 40% voids that will allow the increase in runoff to be held within the voids and infiltrated back into the ground. A swale has been

designed on the south side of the driveway to convey the existing stormwater runoff from the uphill areas south of the proposed development area around the proposed compound and driveway and discharge through a riprap energy dissipator, slowing down the runoff where it will naturally drain down the hill towards S. Bedford Road as it does in existing conditions.

[g] A statement made under the seal of a licensed professional engineer certifying that:
[i] The proposed activity will disturb the steep slope area to the minimum extent practicable; and
[ii] The proposed mitigation measures will prevent, to the maximum extent practicable, the adverse effect of any disturbance of the steep slope area on the environment and any neighboring properties.
The proposed development has been designed to minimize the disturbance on steep slope areas as much as possible and that disturbance will not adversely effect the neighboring properties.

[h] Eleven copies of plans for the proposed regulated activities drawn to a scale of not less than one inch equals 50 feet (unless otherwise specified by the Planning Board). Such plans shall be sealed and show the following:
[i] Location of proposed construction or disturbance and its relationship to property lines, easements, buildings, roads, walls, sewage disposal systems, wells, and wetlands within 100 feet of the proposed construction or disturbance, unless a greater distance is deemed appropriate by the Planning Board.
This has been included on the Site Plan.

[ii] Estimated material quantities of excavation/fill.
465 CY of excavation, 780 CY of fill required and 215 CY of gravel import.

[iii] Location and size of areas of soils by soils types in the area of proposed disturbance and to a distance of 100 feet surrounding the area of disturbance.
Soil boundaries and soil types are included on the Site Plan.

[iv] Existing and proposed contours (NGVD, National Geodetic Vertical Datum) at two-foot intervals in the area of proposed disturbance and to a distance of 100 feet beyond.
This information has been provided on the Site Plan.

[v] Slope categories for the entire project site itself showing at minimum the steep slope and very steep slope categories. Slope is to be determined from on-site topographic surveys prepared with a two-foot contour interval. The vertical rise is to be measured, on the basis of two-foot contours, in a ten-foot horizontal length.
This information has been provided on the Site Plan.

[vi] Cross sections of steep slope areas proposed to be disturbed.
A Cross section through the steep slope area has been provided on the Site Plan.

[vii] Retaining walls or like constructions, with details of construction.
There are no retaining walls or like construction proposed.

[viii] Erosion and sedimentation control plan prepared in accordance with the requirements listed above in Subsection A(2)(c)[2][k] through [o]. These plans must be submitted under the seal of a licensed professional engineer and must show and certify the following:
[A] All existing and proposed natural and artificial drainage courses and other features for the control of drainage, erosion and water.
[B] The calculated volume of water runoff from the slope(s) and from the lot in question, as unimproved.
[C] The calculated volume of water runoff from the slope(s) and from the lot in question, as improved.
[D] The existence, location and capacity of all natural and artificial drainage courses and facilities within 500 feet of the lot, which are or will be used to carry or contain water runoff to and from the slopes(s) and the lot.
The sediment and erosion control plans contain these requirements except addressing all natural and artificial drainage courses and facilities within 500' of the lot. The proposed design is decreasing the runoff and therefore analysis of those areas is not necessary. The Property drains into S. Bedford Road and per this requirement is shown on the Site Plan.

[j] A list of all applicable county, state or federal permits that are required for such work or improvements.
There are no applicable county, state or federal permits required. The approvals required for the Facility have been noted on the EAF filed with the Application.

[k] An application fee in the amount set forth in a fee schedule established by the Village Board.
The Applicants have filed the necessary application fees with the Planning Board.

Conclusion

Based on the aforementioned it is respectfully submitted that the Applicants have met the criteria for issuance of the Steep Slope Permit.

Sincerely,

APT Engineering

Scott M. Chasse, P.E.
Principal

STORMWATER MANAGEMENT REPORT

PROPOSED WIRELESS
TELECOMMUNICATIONS FACILITY

MOUNT KISCO
180 S. BEDFORD ROAD
MOUNT KISCO, NEW YORK 10594

Prepared for:

Homeland Towers, LLC
9 Harmony Street, 9th Floor
Danbury, CT

Prepared by:

APT Engineering, P.C.
567 Vauxhall Street Extension, Suite 311
Waterford, CT 06385

November 2020
Revised:
January 2021

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Appendices

Introduction

At the request of Homeland Towers, LLC, APT Engineering, P.C. ("APT") has undertaken analysis of and design to address stormwater impacts resulting from development of a proposed wireless telecommunications facility at 180 S. Bedford Road in Mount Kisco, New York (the "Project"). The Project, known as Mount Kisco, involves the installation of a fenced 2,542 SF gravel telecommunications equipment compound with a 140' AGL Monopine and associated utilities off an existing gravel/paved driveway at 180 S. Bedford Road in Mount Kisco, New York ("Site").

The purpose of this report is to provide an analysis of the potential stormwater drainage impacts associated with the Project, as well as a description of the design to mitigate such potential stormwater drainage impacts. The design is intended to be in full compliance with the State and Town regulations while taking prevailing site conditions and practical factors into account.

Existing Site Conditions

The Site is a privately-owned irregular shaped parcel located at 180 S. Bedford Road in Mount Kisco, New York, that consists of approximately 25± acres of mostly undeveloped forested land. The center of the lot has a cleared area where a former camp ground was located.

The Site's existing topography generally slopes downward in all directions from high points in the middle of the parcel. Within the project area, the topography slopes downward to the north from a high point to the south and includes slopes that range from approximately 0 to 50 percent throughout. Elevations within the Site range from approximately 530 feet AMSL in the middle portion of the site to approximately 402 feet AMSL in the southeast corner, 408 in the southwest corner and 386 feet AMSL in the northwest corner of the site. Elevations within the project area range from approximately 446 feet AMSL to the south of the project area to approximately 414 feet AMSL on the north side of the project area.

Developed Site Conditions

The Project will be constructed off an existing gravel/paved access drive in the northwestern area of the Site in an existing forested area. Access to the Site will be provided via an existing gravel/paved access drive off S. Bedford Road. The Project includes the installation of 41'x62' (2,542± SF) fenced gravel equipment compound with a 140' AGL Monopine and associated utilities. The project will be located in an existing wooded area to the west of the existing access drive. 50 trees will need to be removed within the project area.

Stormwater Management

Analysis Methodology

The hydrologic analysis was performed using the HydroCAD stormwater modeling system computer program developed by HydroCAD Software Solutions, LLC.

Hydrographs for each watershed were developed using the SCS Synthetic Unit Hydrograph Method with a Type III rainfall distribution. Hydrographs were developed for the NOAA Atlas 14, Volume 10, Version 2 Precipitation 2-, 5-, 10-, and 25-year storm event with rainfall depths of 3.50, 4.51, 5.36 and 6.52 inches respectively.

The existing and proposed drainage areas used in the calculations are illustrated on the Existing and Proposed Drainage Area Plans (EDA-1 & PDA-1). These maps and the corresponding HydroCAD output are attached.

Existing Drainage Patterns

The proposed Project area drains from the south of the project area overland through existing woodland to the north of the project area and eventually to the existing gravel/paved access drive. The access drive eventually drains to the S. Bedford Road drainage system.

The Site was modeled at one (1) Analysis Point ("AP-1"). AP-1 is the top of the existing slope above the existing access drive to the north of the Project area. Peak discharges have been computed at the point of study for the 2-, 25-, 50-, and 100-year storm events.

The project site soils identified by the United States Department of Agriculture (USDA) Natural Resources Conservation Service consist of Map Unit Symbol ChB, named "Charlton fine sandy loam, 3 to 8 percent slopes," CsD, named "Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky" and CrC, named "Chatfield-Charlton complex, 0 to 15 percent slopes, very rocky". Map Unit Symbol ChB, CsD and CrC are classified in the HSG rating of "B".

The pre-developed discharges at the Analysis Point are tabulated in Table 1-1.

Table 1-1

Analysis Point	**Pre-developed Peak Storm Runoff (Q), cubic feet per second (cfs)**			
	2-year	**5-year**	**10-year**	**25-year**
AP-1	0.19	0.58	1.03	1.76

Proposed Drainage Patterns

The Project will require the removal of an existing grass area and the installation of 41'x62' (2,542± SF) fenced gravel equipment compound with a 140' AGL Monopine and associated utilities.

To manage the increase in post-development runoff due to the change in cover type associated with converting woodland to grass, gravel and concrete equipment pads, the gravel equipment compound has been designed to be 12" thick crushed stone with 40% voids. The crushed stone gravel compound will store the increased runoff created by the change in ground cover and allow the increased runoff to infiltrate into the ground.

The infiltration rate for the crushed stone equipment compound is modeled with a rate of 1.00 inch/hour. The infiltration rate were determined from the Saturated Hydraulic Conductivity Maps by the United States Department of Agriculture (USDA) Natural Resources Conservation Service. The infiltration rates for the ChB, CrC and CsD was shown to be 1.45 inches/hour but was reduced to 1.00 inch/hour for this analysis.

Since the proposed development mimics the existing conditions, the post-development condition was modeled using the same Analysis Point. Peak discharges have been computed at the point of study for the 2-year, 5-year, 10-year, and 25-year storm events. The post-development discharges at each point of study are tabulated in Table 1-2.

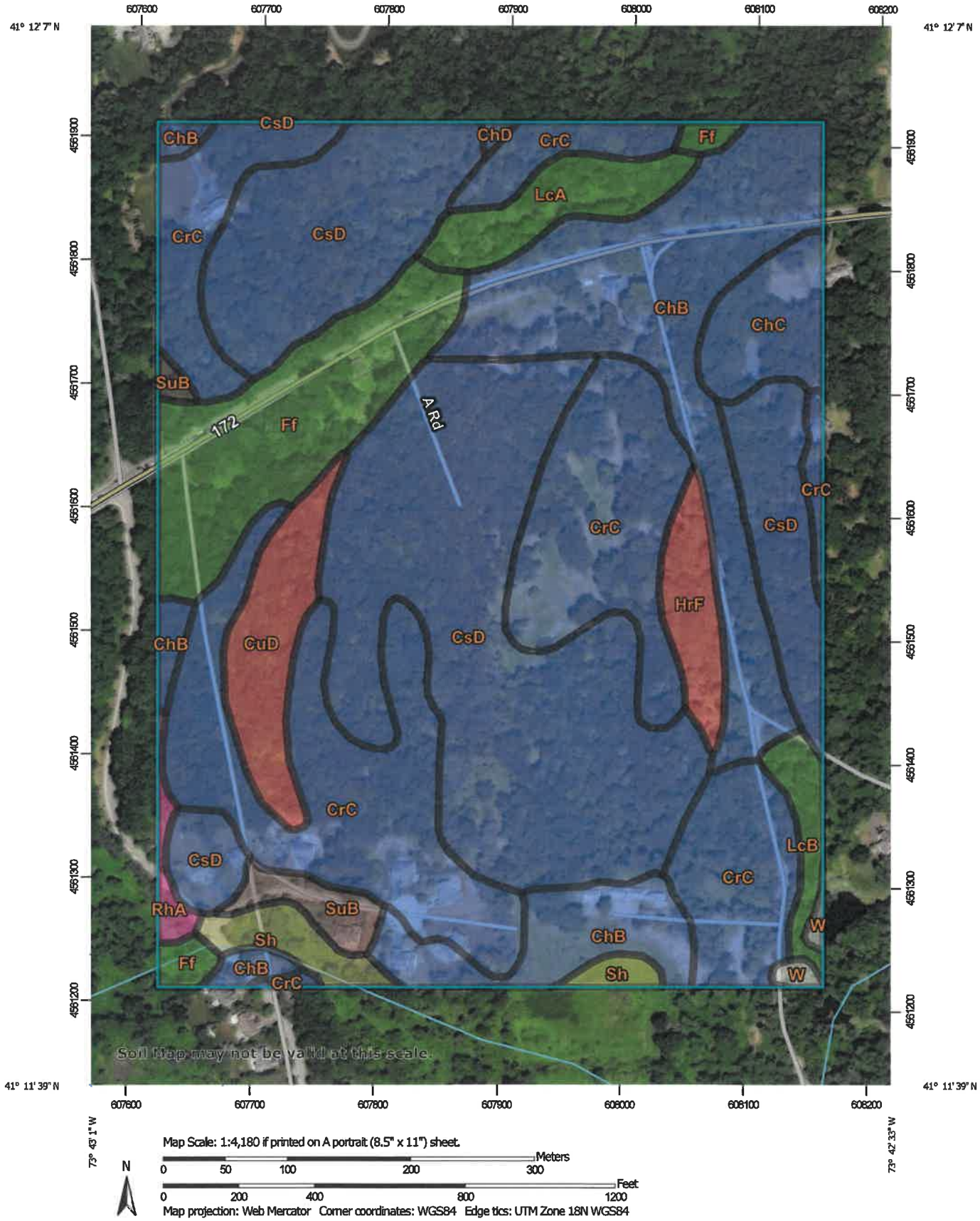
Table 1-2

Analysis Point	**Post-developed Peak Storm Runoff (Q), cubic feet per second (cfs)**			
	2-year	**5-year**	**10-year**	**25-year**
AP-1	0.17	0.51	0.90	1.54

Conclusion

The stormwater management for the proposed site has been designed such that the post-development peak discharges to the waters of the State of New York for the 2-, 5-, 10-, and 25-year storm events are less than the pre-development peak discharges. As a result, the proposed telecommunication facility will not result in any adverse conditions to the surrounding areas and properties.

APPENDIX A: NRCS SOIL SURVEY


73° 43' 1" W
73° 42' 33" W
41° 12' 7" N
41° 11' 39" N
607600
607700
607800
607900
608000
608100
608200
4561900
4561800
4561700
4561600
4561500
4561400
4561300
4561200
ChB
CsD
ChD
CrC
Ff
LcA
CrC
CsD
ChB
ChC
SuB
172
Ff
A Rd
CrC
CrC
CsD
HrF
ChB
CuD
CsD
CrC
LcB
CsD
CrC
RhA
SuB
W
Sh
ChB
Ff
ChB
Sh
W
CrC
Soil Map may not be valid at this scale.
Map Scale: 1:4,180 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

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

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: 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
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B	15.5	16.5%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	B	2.5	2.7%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	B	0.1	0.1%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	25.3	27.0%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	B	30.1	32.2%
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	D	3.2	3.4%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	A/D	7.7	8.2%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	D	1.9	2.0%
LcA	Leicester loam, 0 to 3 percent slopes, stony	A/D	2.5	2.6%
LcB	Leicester loam, 3 to 8 percent slopes, stony	A/D	1.2	1.2%
RhA	Riverhead loam, 0 to 3 percent slopes	A	0.6	0.6%
Sh	Sun loam	C/D	1.7	1.8%
SuB	Sutton loam, 3 to 8 percent slopes	B/D	1.3	1.4%
W	Water		0.3	0.3%
Totals for Area of Interest			**93.7**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

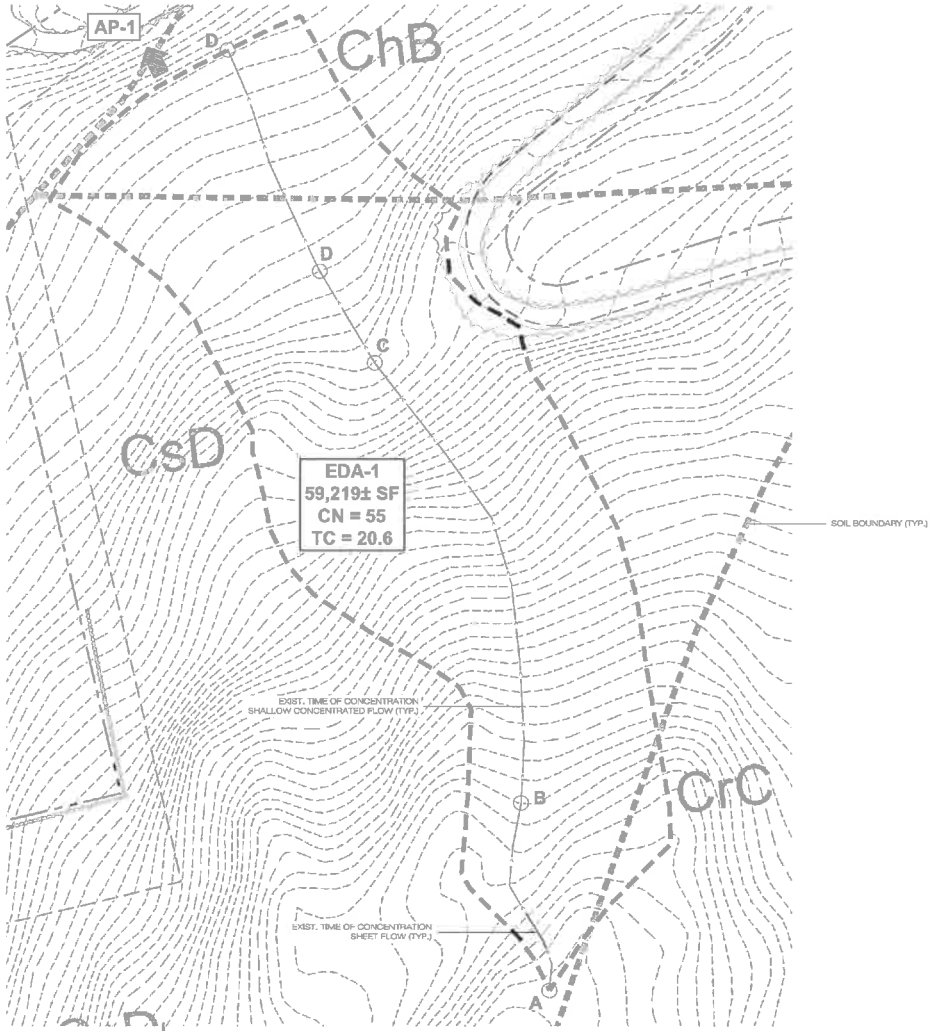
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX B: EXISTING DRAINAGE AREA MAP (EDA-1) & HYDROLOGIC COMPUTATION (HYDROCAD)

EXISTING DRAINAGE AREAS

	TOTAL AREA (SF)	COMPOSITE CN	TC (MINS.)
EDA-1	59,219	55	20.6



1 EDA-1 **EXISTING DRAINAGE AREA MAP**
SCALE : 1" = 30'-0"

(IN FEET) 1 inch = 30 ft.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
587 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-2935

PERMITTING DOCUMENTS

NO.	DATE	REVISION
0	11/11/20	FOR REVIEW: RCB

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 587 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HOMELAND TOWERS
MOUNT KISCO

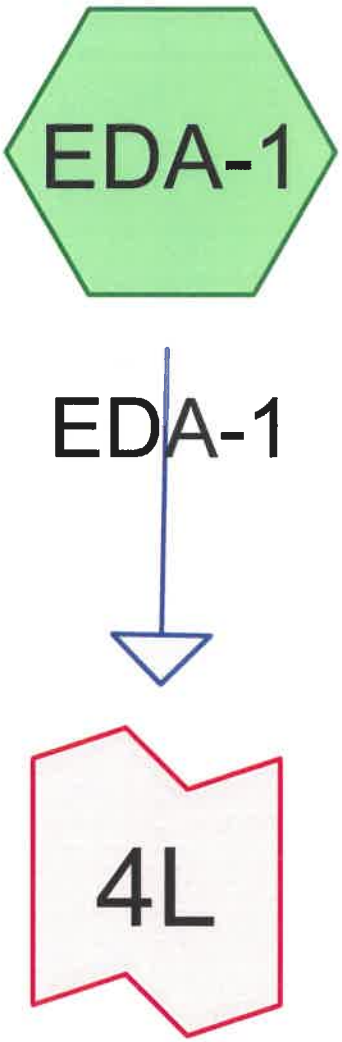
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10594

APT FILING NUMBER: NY25383D

DATE: 11/11/20	DRAWN BY: CSH
	CHECKED BY: RCB

SHEET TITLE:
EXISTING DRAINAGE AREA MAP

SHEET NUMBER:
EDA-1



Subcat Reach Pond Link

Routing Diagram for Mount Kisco
Prepared by APT ENGINEERING, Printed 11/10/2020
HydroCAD® 10.00-22 s/n 07402 © 2018 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.359	55	Woods, Good, HSG B (EDA-1)
1.359	**55**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.359	HSG B	EDA-1
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.359		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.359	0.000	0.000	0.000	1.359	Woods, Good	EDA-1
0.000	**1.359**	**0.000**	**0.000**	**0.000**	**1.359**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=0.35"
Flow Length=513' Tc=20.6 min CN=55 Runoff=0.19 cfs 0.039 af

Link 4L: AP 1 Inflow=0.19 cfs 0.039 af
Primary=0.19 cfs 0.039 af

Total Runoff Area = 1.359 ac Runoff Volume = 0.039 af Average Runoff Depth = 0.35"
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

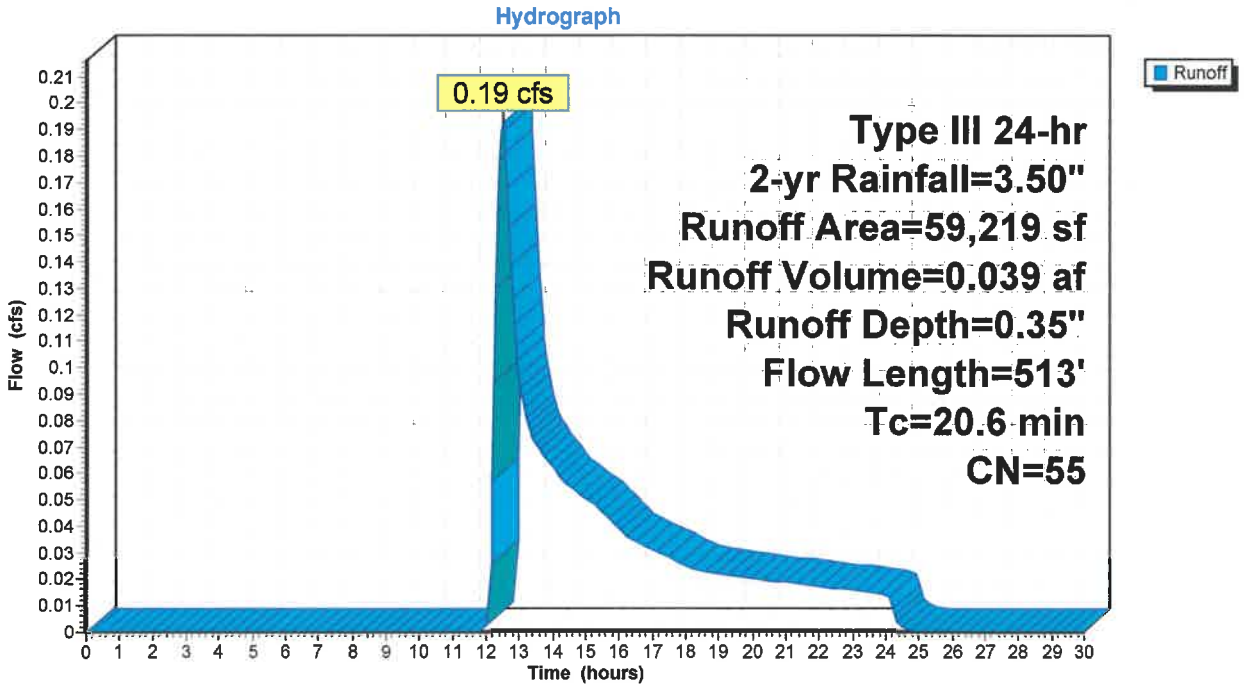
Runoff = 0.19 cfs @ 12.50 hrs, Volume= 0.039 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.50"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		**Shallow Concentrated Flow, C-D** Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

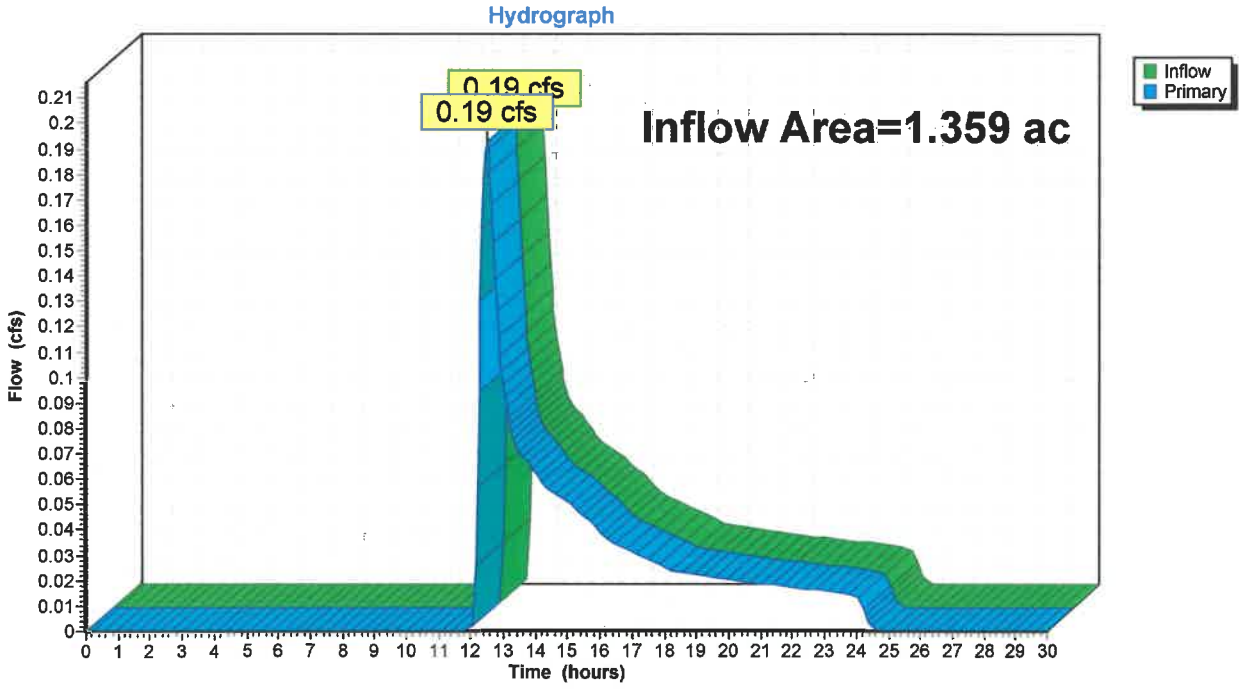


Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 0.35" for 2-yr event
Inflow = 0.19 cfs @ 12.50 hrs, Volume= 0.039 af
Primary = 0.19 cfs @ 12.50 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=0.75"
Flow Length=513' Tc=20.6 min CN=55 Runoff=0.58 cfs 0.085 af

Link 4L: AP 1 Inflow=0.58 cfs 0.085 af
Primary=0.58 cfs 0.085 af

Total Runoff Area = 1.359 ac Runoff Volume = 0.085 af Average Runoff Depth = 0.75"
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

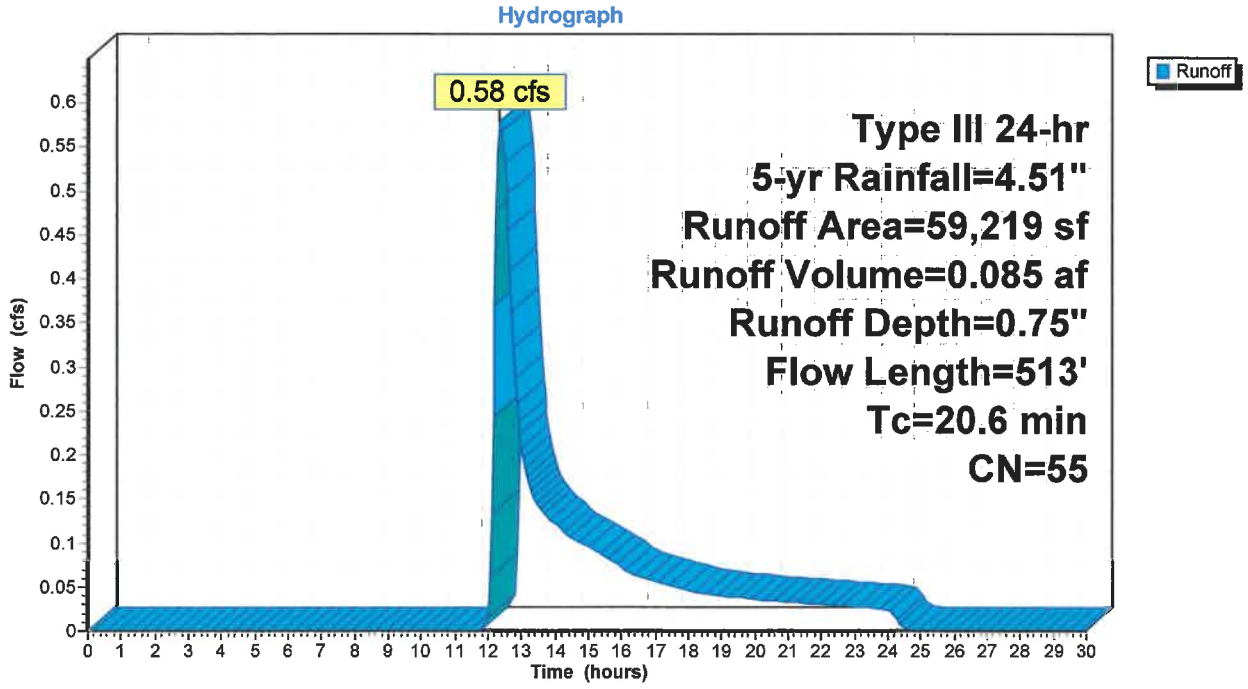
Runoff = 0.58 cfs @ 12.37 hrs, Volume= 0.085 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.51"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		**Shallow Concentrated Flow, C-D** Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

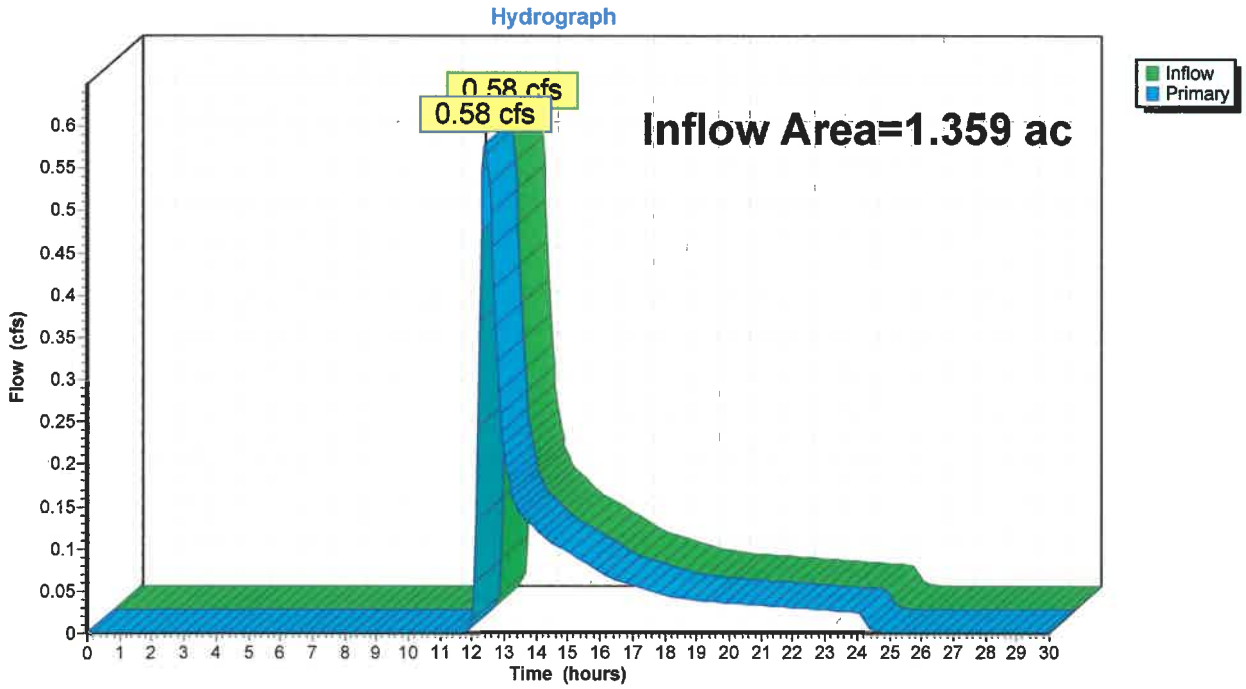


Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 0.75" for 5-yr event
Inflow = 0.58 cfs @ 12.37 hrs, Volume= 0.085 af
Primary = 0.58 cfs @ 12.37 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=1.16"
Flow Length=513' Tc=20.6 min CN=55 Runoff=1.03 cfs 0.132 af

Link 4L: AP 1 Inflow=1.03 cfs 0.132 af
Primary=1.03 cfs 0.132 af

Total Runoff Area = 1.359 ac Runoff Volume = 0.132 af Average Runoff Depth = 1.16"
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

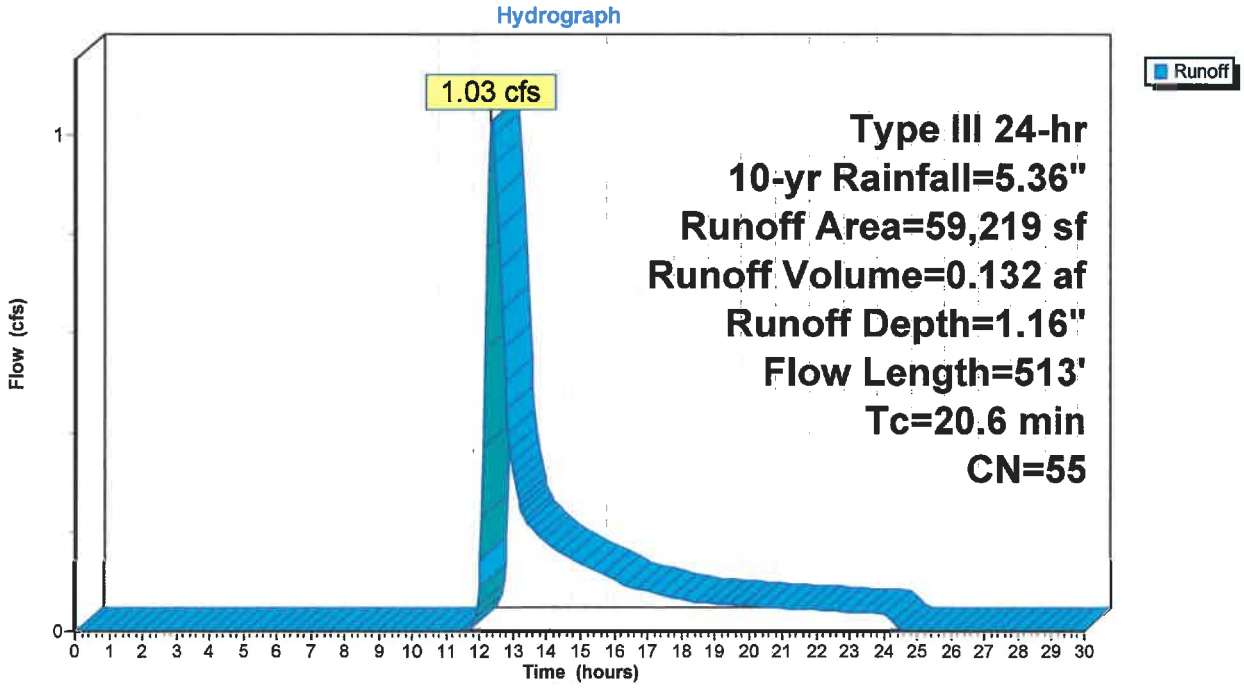
Runoff = 1.03 cfs @ 12.34 hrs, Volume= 0.132 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.36"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		**Shallow Concentrated Flow, C-D** Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

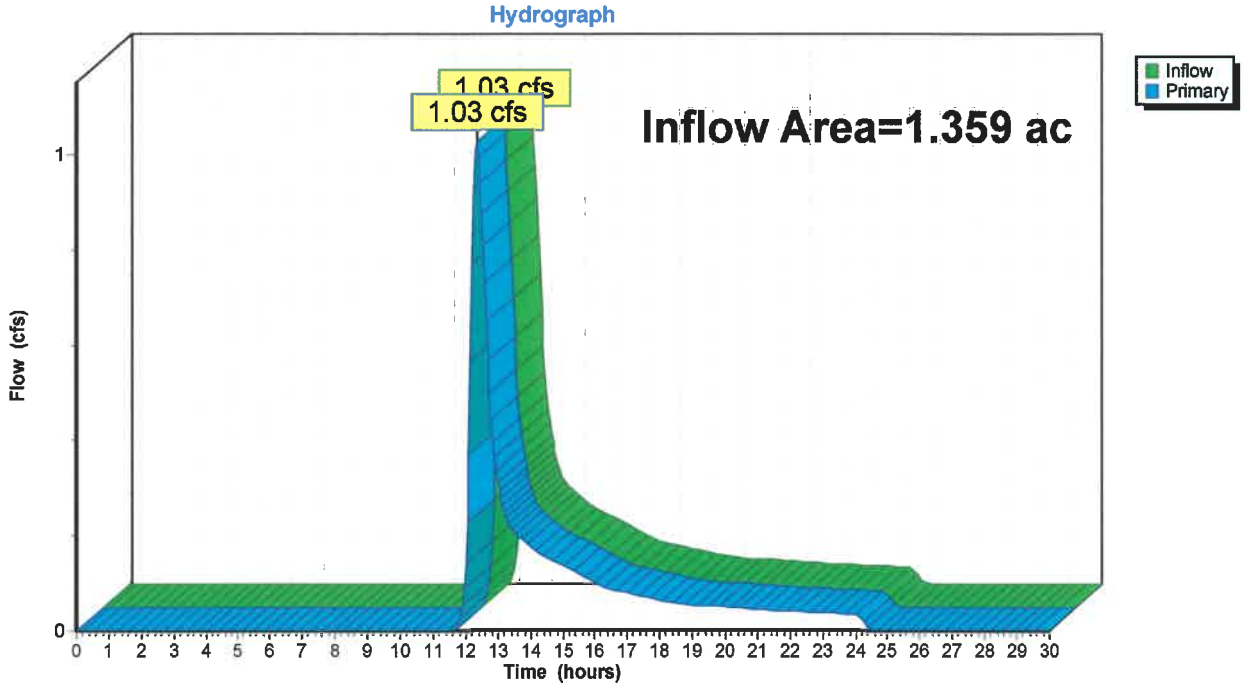


Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 1.16" for 10-yr event
Inflow = 1.03 cfs @ 12.34 hrs, Volume= 0.132 af
Primary = 1.03 cfs @ 12.34 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 4L: AP 1



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=59,219 sf 0.00% Impervious Runoff Depth=1.83"
Flow Length=513' Tc=20.6 min CN=55 Runoff=1.76 cfs 0.207 af

Link 4L: AP 1 Inflow=1.76 cfs 0.207 af
Primary=1.76 cfs 0.207 af

Total Runoff Area = 1.359 ac Runoff Volume = 0.207 af Average Runoff Depth = 1.83"
100.00% Pervious = 1.359 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

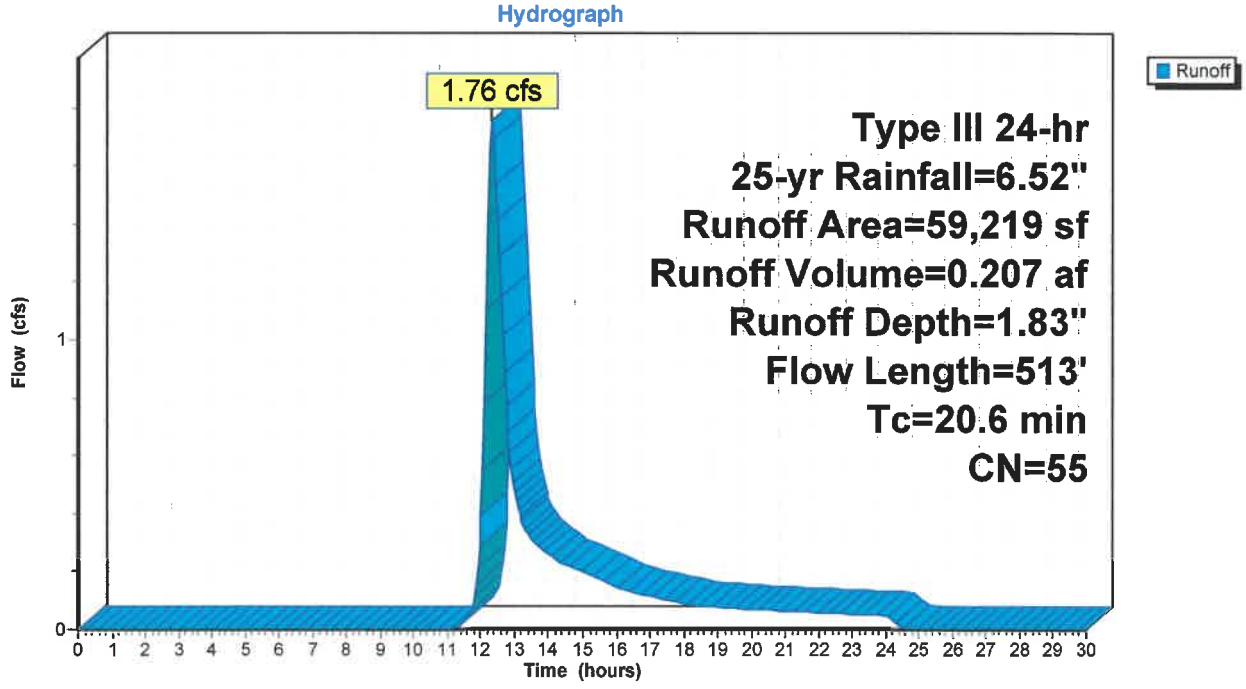
Runoff = 1.76 cfs @ 12.32 hrs, Volume= 0.207 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.52"

Area (sf)	CN	Description
59,219	55	Woods, Good, HSG B
59,219		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.8	53	0.1887	1.09		**Shallow Concentrated Flow, C-D** Forest w/Heavy Litter Kv= 2.5 fps
2.1	120	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
20.6	513	Total			

Subcatchment EDA-1: EDA-1

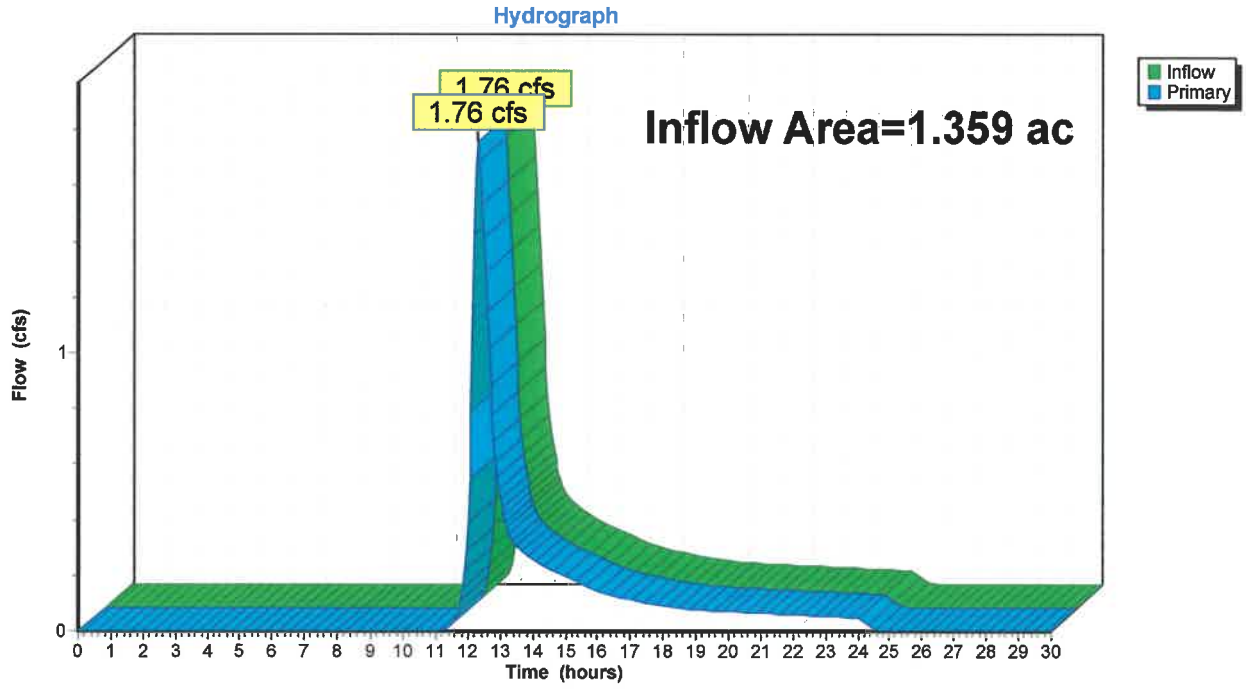


Summary for Link 4L: AP 1

Inflow Area = 1.359 ac, 0.00% Impervious, Inflow Depth = 1.83" for 25-yr event
Inflow = 1.76 cfs @ 12.32 hrs, Volume= 0.207 af
Primary = 1.76 cfs @ 12.32 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

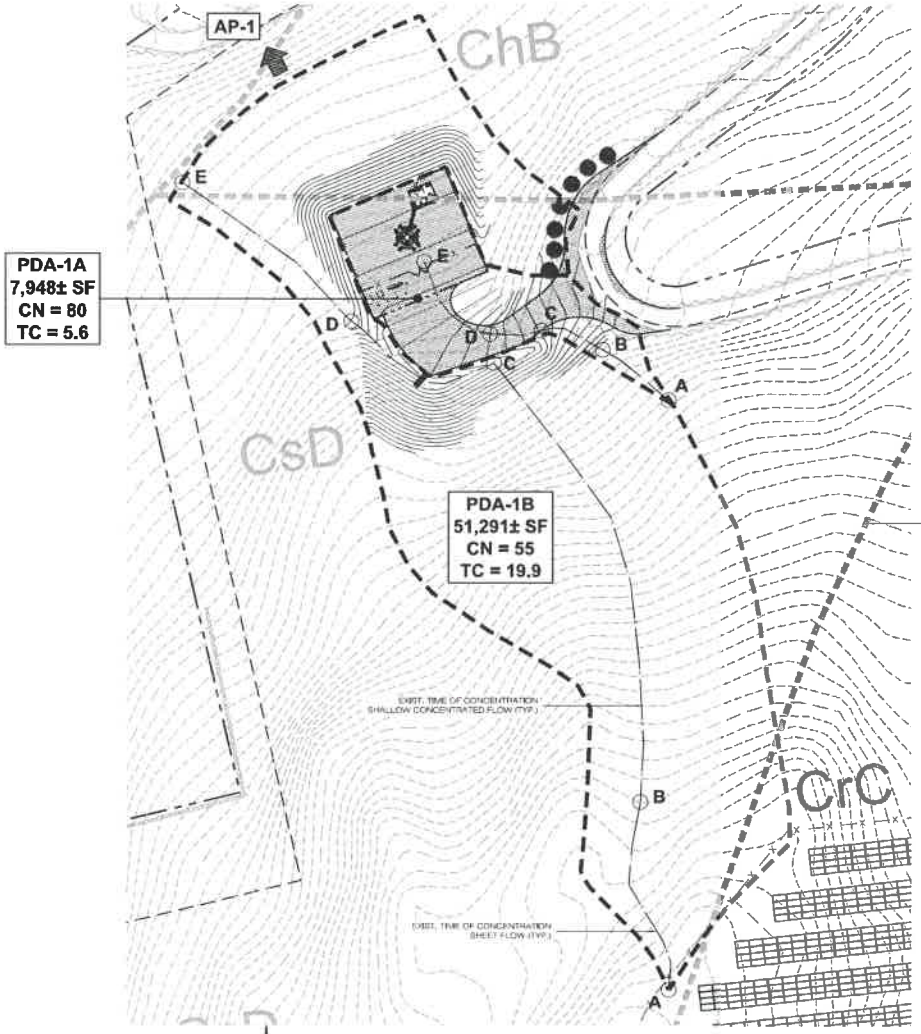
Link 4L: AP 1



APPENDIX C: PROPOSED DRAINAGE AREA MAP (PDA-1) & HYDROLOGIC COMPUTATION (HYDROCAD)

PROPOSED DRAINAGE AREAS

	TOTAL AREA (SF)	COMPOSITE CN	TC (MINS.)
PDA-1A	7,948	80	5.6
PDA-1B	51,291	55	19.9



1 PDA-1 **PROPOSED DRAINAGE AREA MAP**
SCALE: 1" = 30'-0"

(IN FEET) 1 inch = 30 ft.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	11/11/20	FOR REVIEW: RCB

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HOMELAND TOWERS
MOUNT KISCO

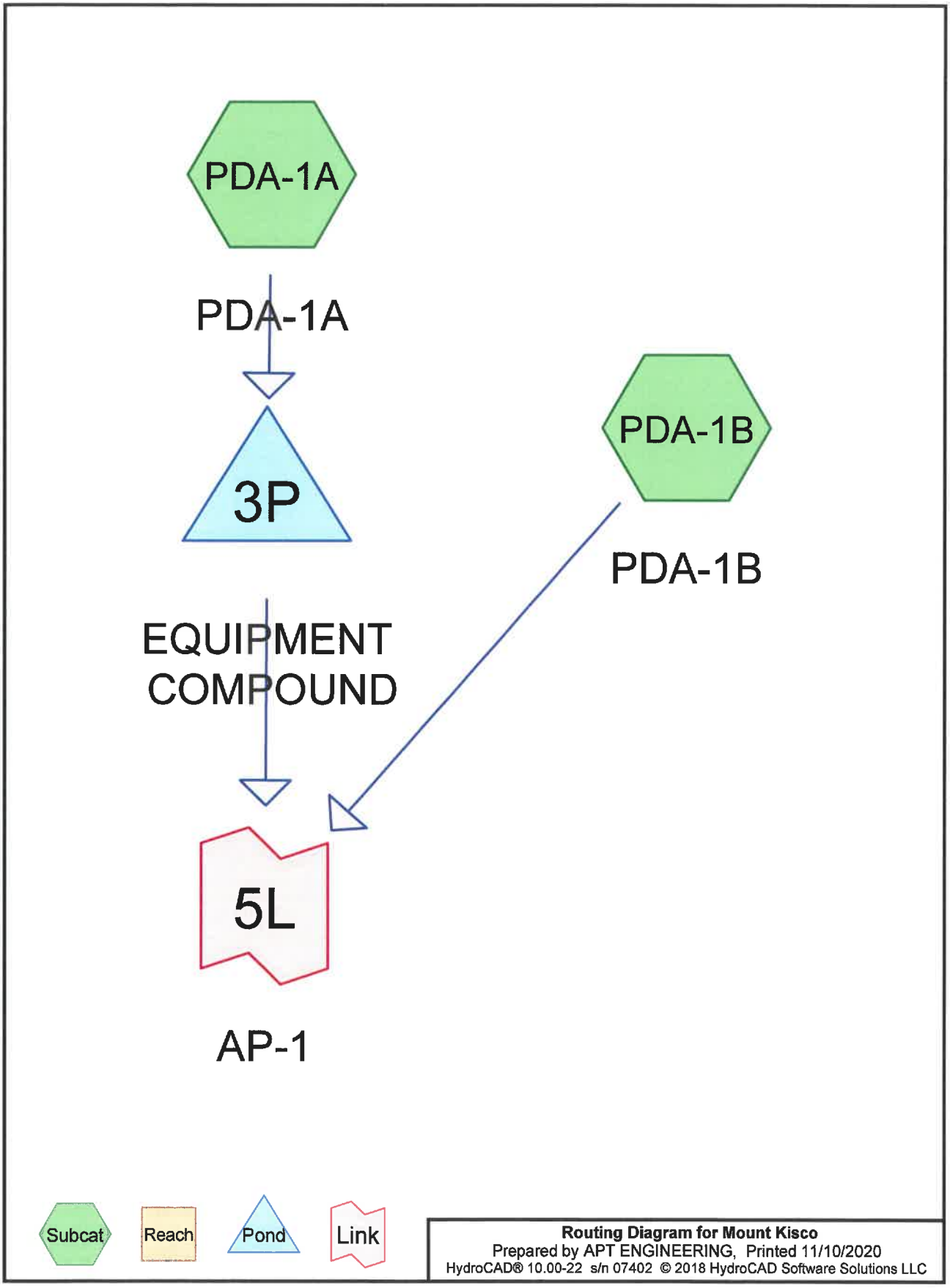
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10594

APT FILING NUMBER: NY283830

DATE: 11/11/20	DRAWN BY: CSH
	CHECKED BY: RCB

SHEET TITLE:
PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:
PDA-1



Routing Diagram for Mount Kisco
Prepared by APT ENGINEERING, Printed 11/10/2020

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.036	61	>75% Grass cover, Good, HSG B (PDA-1A)
0.115	85	Gravel roads, HSG B (PDA-1A)
0.021	98	Unconnected pavement, HSG B (PDA-1A)
1.189	55	Woods, Good, HSG B (PDA-1A, PDA-1B)
1.360	**58**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.360	HSG B	PDA-1A, PDA-1B
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.360		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.036	0.000	0.000	0.000	0.036	>75% Grass cover, Good	PDA-1A
0.000	0.115	0.000	0.000	0.000	0.115	Gravel roads	PDA-1A
0.000	0.021	0.000	0.000	0.000	0.021	Unconnected pavement	PDA-1A
0.000	1.189	0.000	0.000	0.000	1.189	Woods, Good	PDA-1A, PDA-1B
0.000	**1.360**	**0.000**	**0.000**	**0.000**	**1.360**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA-1A: PDA-1A Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=1.57"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.33 cfs 0.024 af

Subcatchment PDA-1B: PDA-1B Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=0.35"
Flow Length=535' Tc=19.9 min CN=55 Runoff=0.17 cfs 0.034 af

Pond 3P: EQUIPMENT COMPOUND Peak Elev=425.28' Storage=0.006 af Inflow=0.33 cfs 0.024 af
Discarded=0.06 cfs 0.024 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.024 af

Link 5L: AP-1 Inflow=0.17 cfs 0.034 af
Primary=0.17 cfs 0.034 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.058 af Average Runoff Depth = 0.51"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

Summary for Subcatchment PDA-1A: PDA-1A

[49] Hint: Tc<2dt may require smaller dt

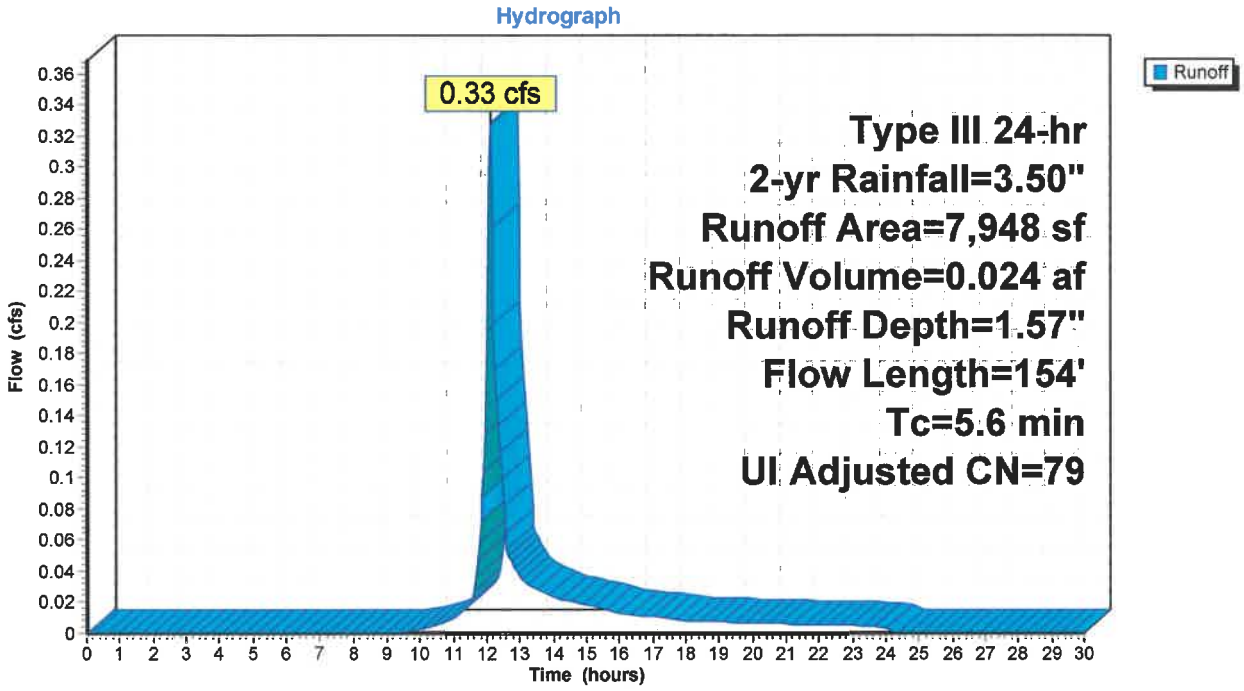
Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.50"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.50"
2.0	34	0.2647	0.28		**Sheet Flow, B-C** Grass: Dense n= 0.240 P2= 3.50"
0.2	26	0.1153	2.21		**Sheet Flow, C-D** Smooth surfaces n= 0.011 P2= 3.50"
0.2	52	0.1154	5.47		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

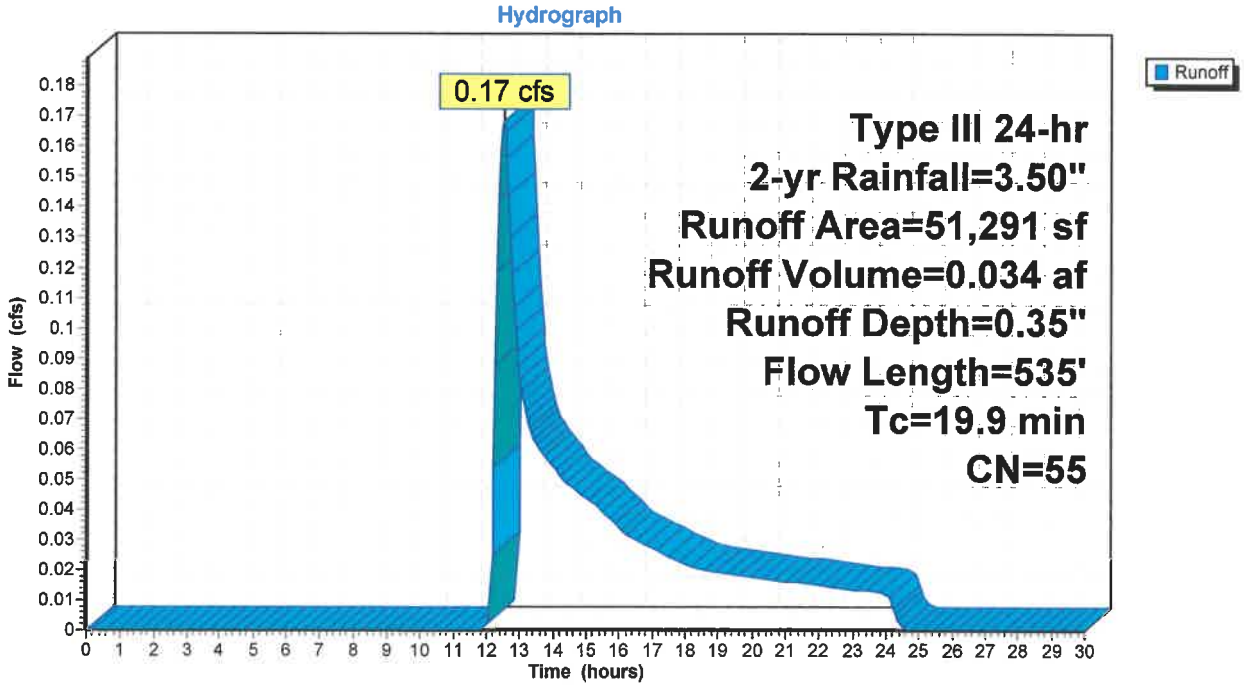
Runoff = 0.17 cfs @ 12.49 hrs, Volume= 0.034 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.50"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Pond 3P: EQUIPMENT COMPOUND

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 1.57" for 2-yr event
Inflow = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af
Outflow = 0.06 cfs @ 12.57 hrs, Volume= 0.024 af, Atten= 81%, Lag= 28.6 min
Discarded = 0.06 cfs @ 12.57 hrs, Volume= 0.024 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 425.28' @ 12.57 hrs Surf.Area= 0.058 ac Storage= 0.006 af

Plug-Flow detention time= 30.5 min calculated for 0.024 af (100% of inflow)
Center-of-Mass det. time= 30.5 min (871.4 - 840.9)

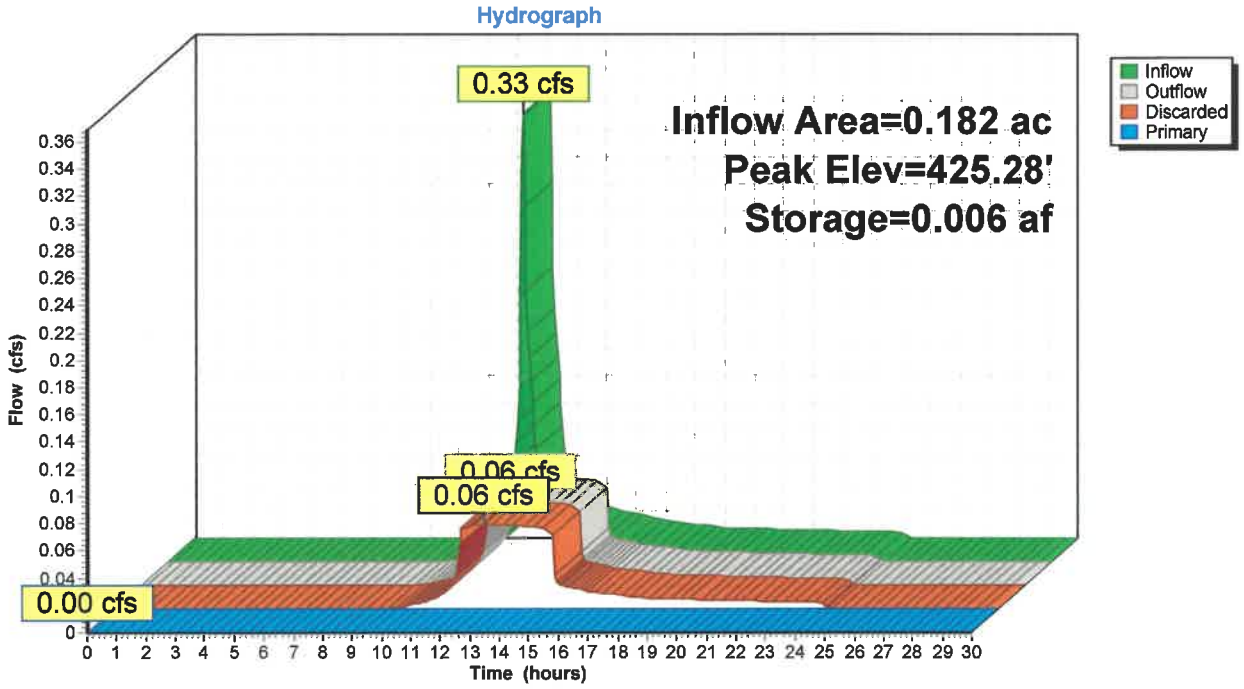
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 12.57 hrs HW=425.28' (Free Discharge)
↑**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
↑**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: EQUIPMENT COMPOUND

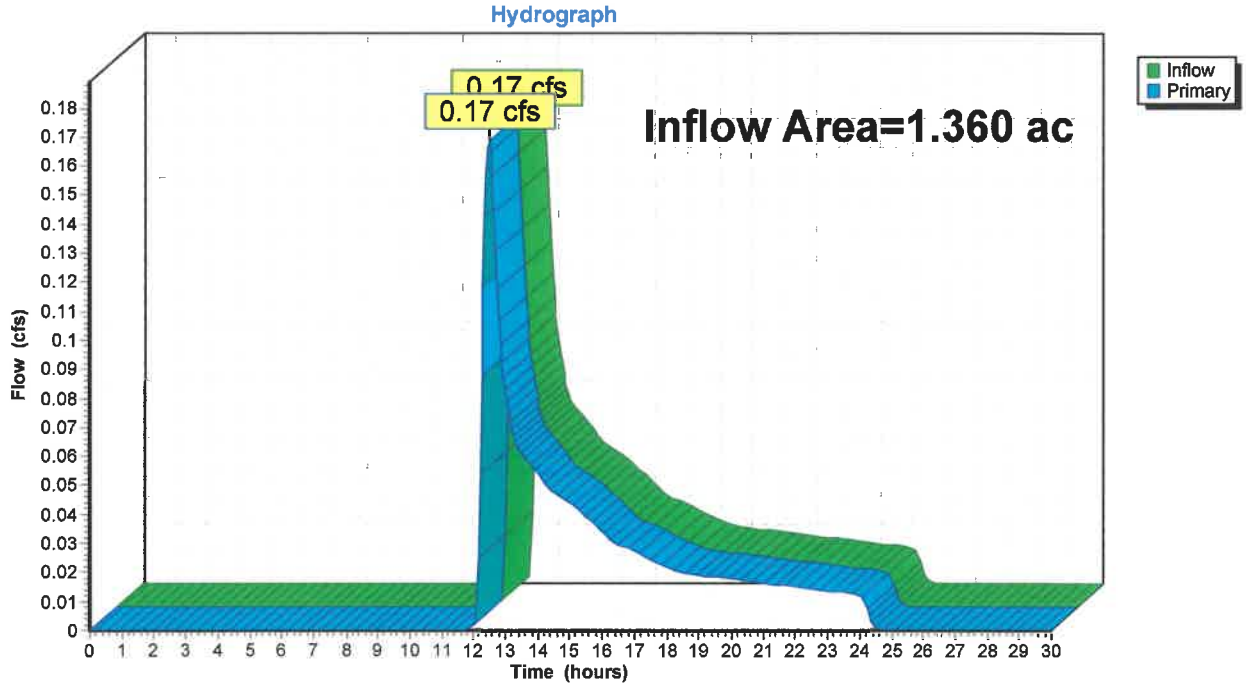


Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 0.30" for 2-yr event
Inflow = 0.17 cfs @ 12.49 hrs, Volume= 0.034 af
Primary = 0.17 cfs @ 12.49 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA-1A: PDA-1A Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=2.38"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.50 cfs 0.036 af

Subcatchment PDA-1B: PDA-1B Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=0.75"
Flow Length=535' Tc=19.9 min CN=55 Runoff=0.51 cfs 0.073 af

Pond 3P: EQUIPMENT COMPOUND Peak Elev=425.52' Storage=0.012 af Inflow=0.50 cfs 0.036 af
Discarded=0.07 cfs 0.036 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.036 af

Link 5L: AP-1 Inflow=0.51 cfs 0.073 af
Primary=0.51 cfs 0.073 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.110 af Average Runoff Depth = 0.97"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

Summary for Subcatchment PDA-1A: PDA-1A

[49] Hint: Tc<2dt may require smaller dt

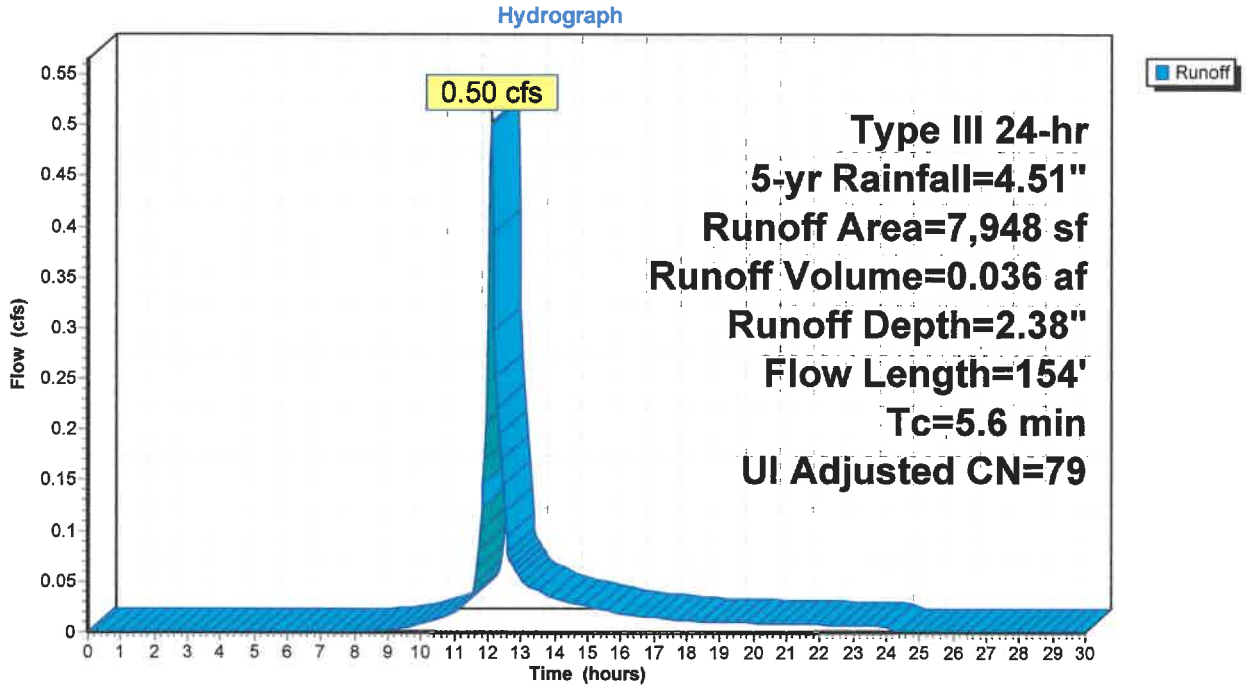
Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.51"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.50"
2.0	34	0.2647	0.28		**Sheet Flow, B-C** Grass: Dense n= 0.240 P2= 3.50"
0.2	26	0.1153	2.21		**Sheet Flow, C-D** Smooth surfaces n= 0.011 P2= 3.50"
0.2	52	0.1154	5.47		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

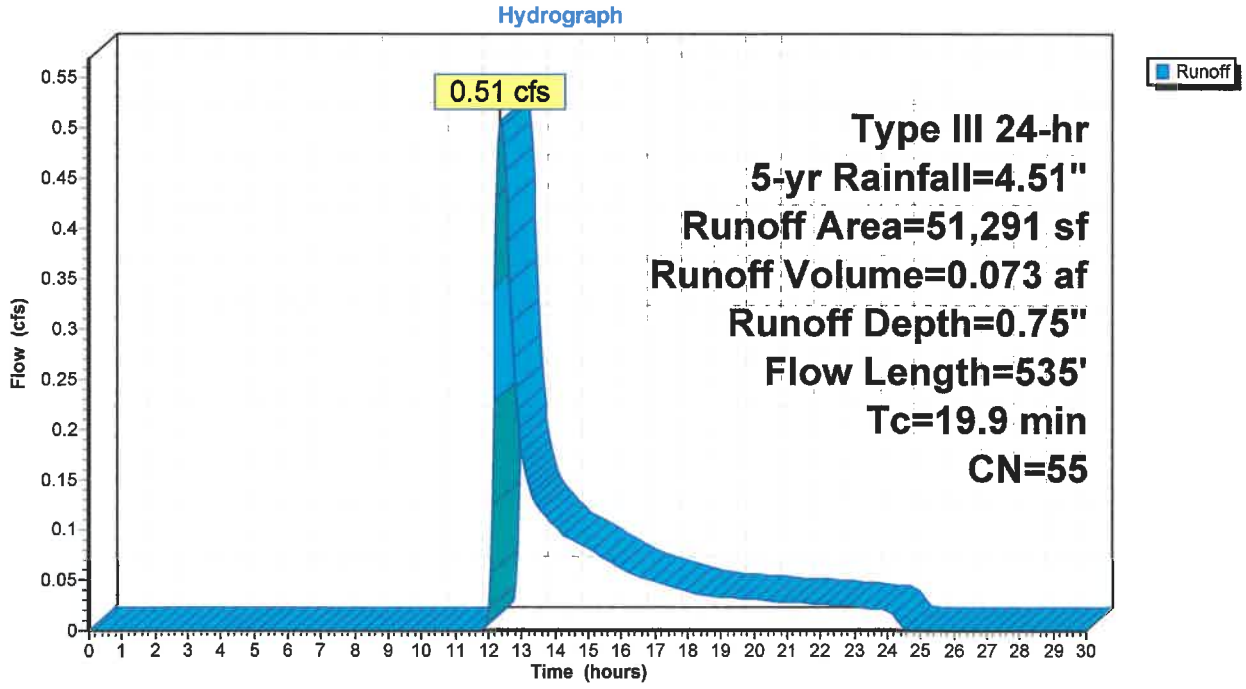
Runoff = 0.51 cfs @ 12.36 hrs, Volume= 0.073 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.51"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Pond 3P: EQUIPMENT COMPOUND

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 2.38" for 5-yr event
Inflow = 0.50 cfs @ 12.09 hrs, Volume= 0.036 af
Outflow = 0.07 cfs @ 12.75 hrs, Volume= 0.036 af, Atten= 87%, Lag= 40.0 min
Discarded = 0.07 cfs @ 12.75 hrs, Volume= 0.036 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 425.52' @ 12.75 hrs Surf.Area= 0.058 ac Storage= 0.012 af

Plug-Flow detention time= 64.8 min calculated for 0.036 af (100% of inflow)
Center-of-Mass det. time= 64.7 min (893.4 - 828.7)

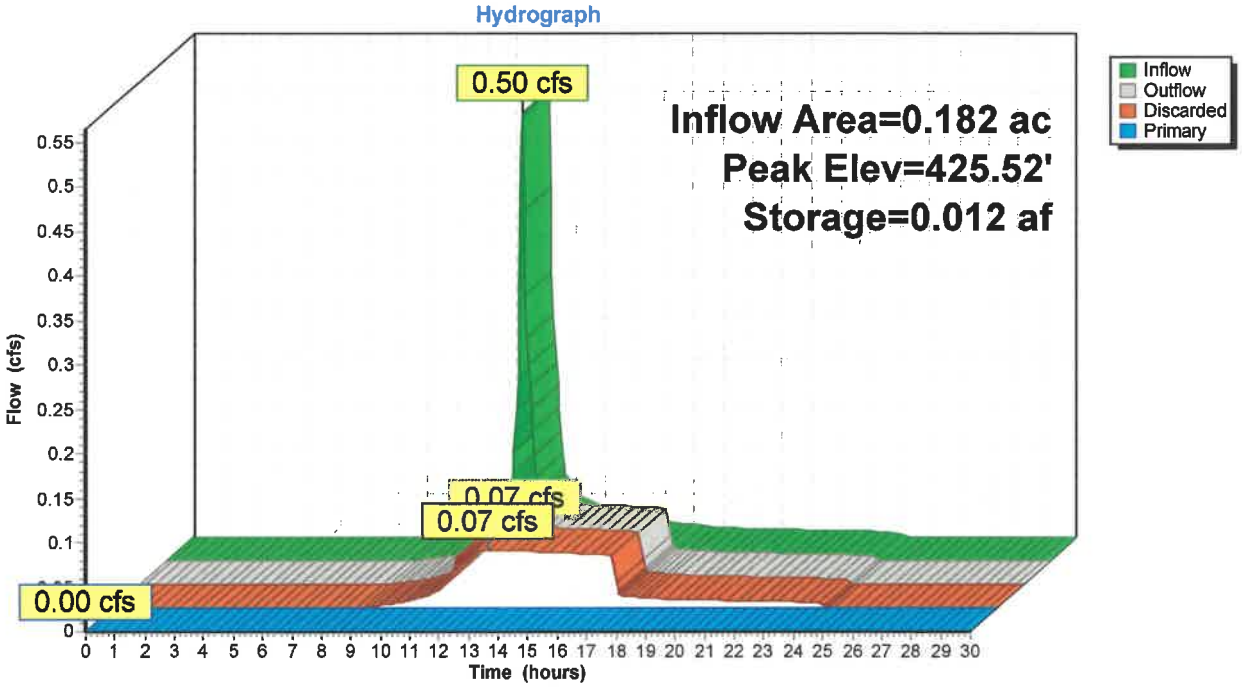
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.75 hrs HW=425.52' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: EQUIPMENT COMPOUND



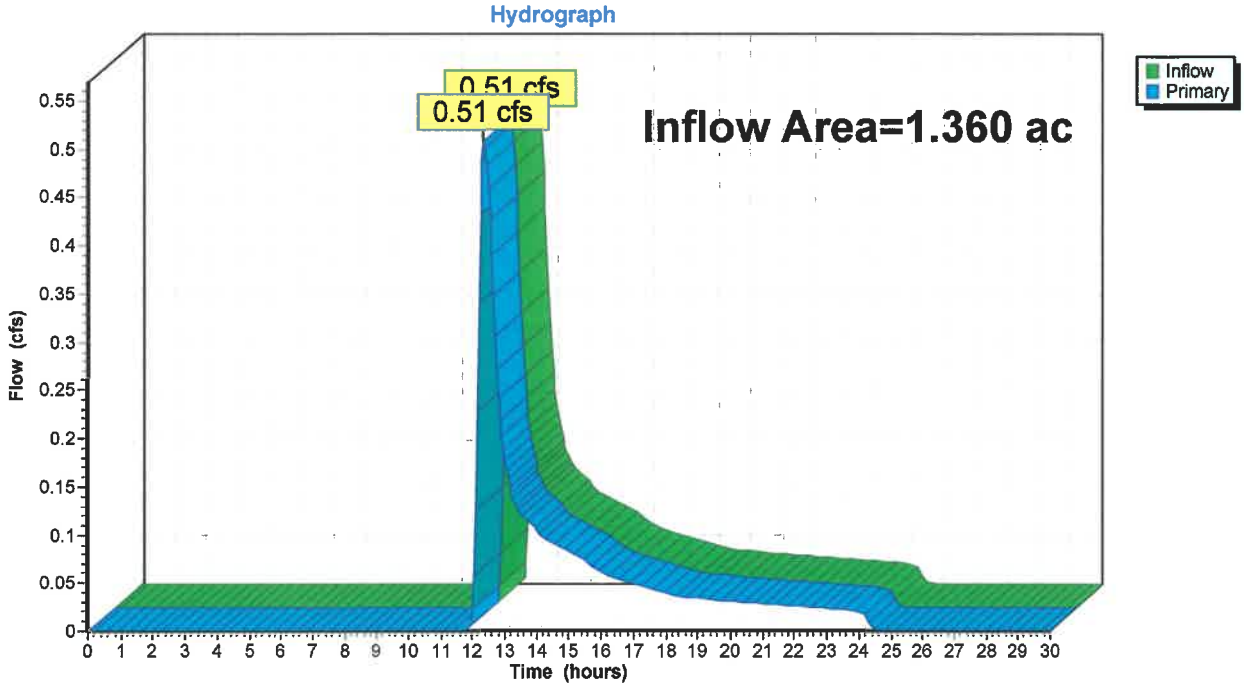
Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 0.65" for 5-yr event
Inflow = 0.51 cfs @ 12.36 hrs, Volume= 0.073 af
Primary = 0.51 cfs @ 12.36 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1

Hydrograph



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA-1A: PDA-1A Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=3.11"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.66 cfs 0.047 af

Subcatchment PDA-1B: PDA-1B Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=1.16"
Flow Length=535' Tc=19.9 min CN=55 Runoff=0.90 cfs 0.114 af

Pond 3P: EQUIPMENT COMPOUND Peak Elev=425.76' Storage=0.018 af Inflow=0.66 cfs 0.047 af
Discarded=0.07 cfs 0.047 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.047 af

Link 5L: AP-1 Inflow=0.90 cfs 0.114 af
Primary=0.90 cfs 0.114 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.162 af Average Runoff Depth = 1.43"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

Summary for Subcatchment PDA-1A: PDA-1A

[49] Hint: Tc<2dt may require smaller dt

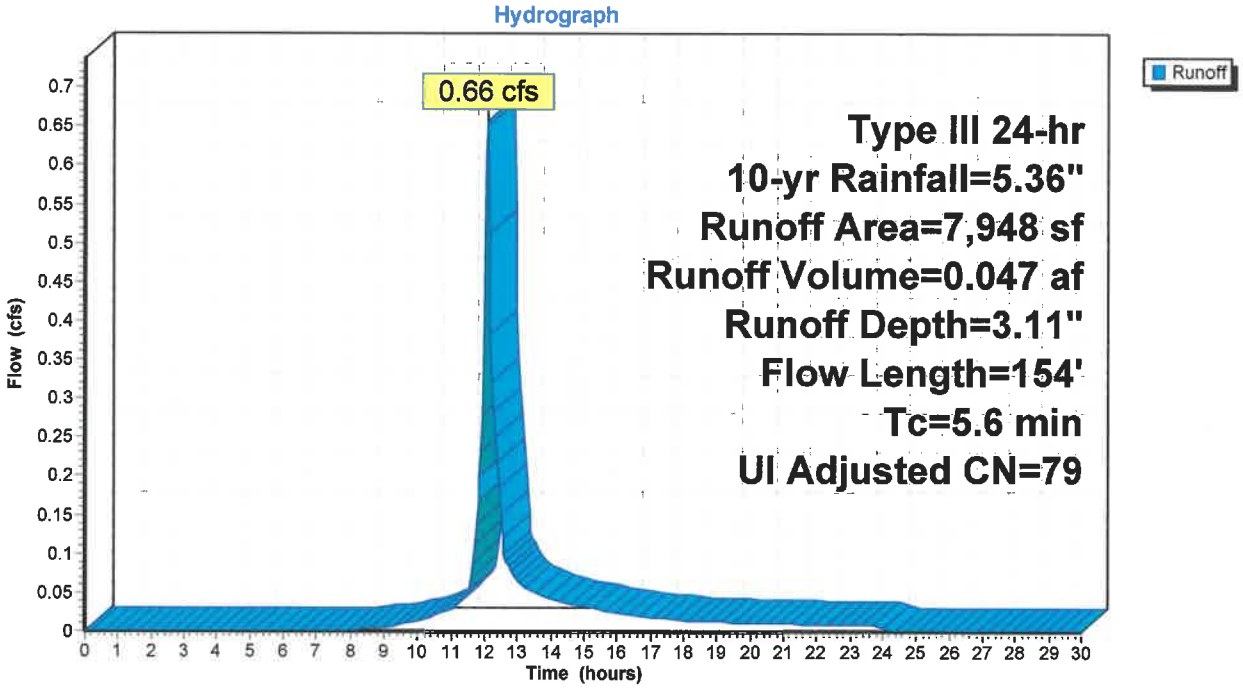
Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.36"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.50"
2.0	34	0.2647	0.28		**Sheet Flow, B-C** Grass: Dense n= 0.240 P2= 3.50"
0.2	26	0.1153	2.21		**Sheet Flow, C-D** Smooth surfaces n= 0.011 P2= 3.50"
0.2	52	0.1154	5.47		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

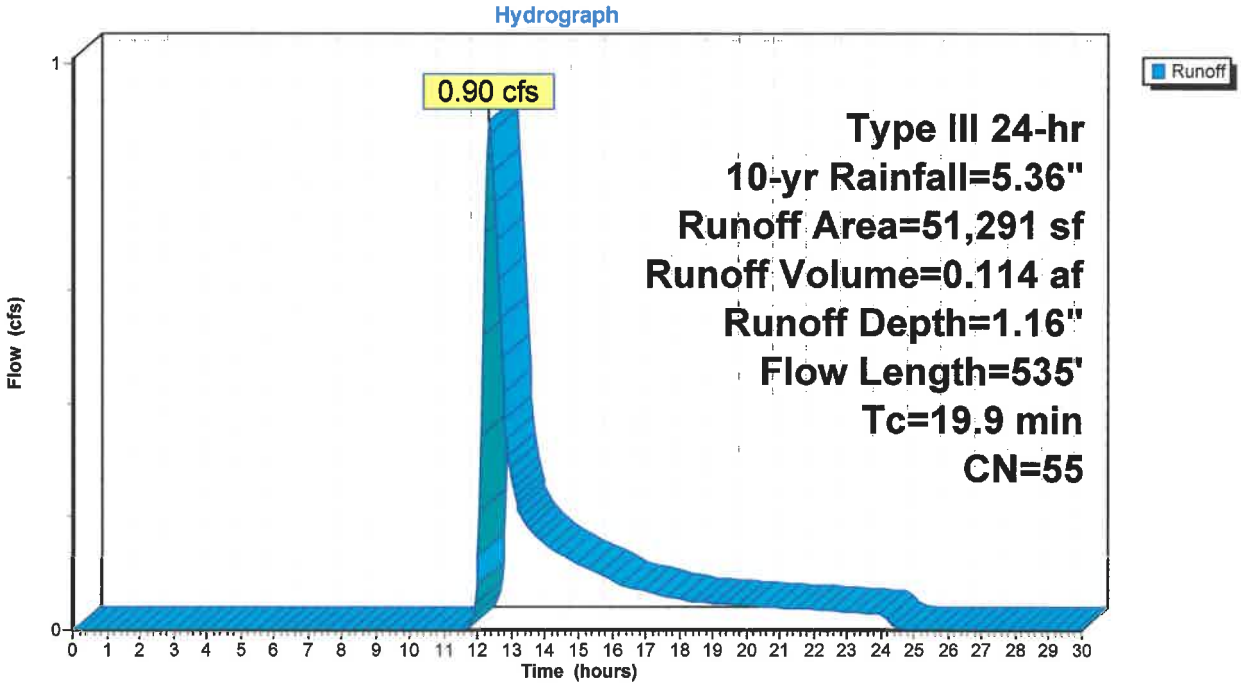
Runoff = 0.90 cfs @ 12.33 hrs, Volume= 0.114 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.36"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Pond 3P: EQUIPMENT COMPOUND

Inflow Area = 0.182 ac, 11.32% Impervious, Inflow Depth = 3.11" for 10-yr event
Inflow = 0.66 cfs @ 12.09 hrs, Volume= 0.047 af
Outflow = 0.07 cfs @ 12.96 hrs, Volume= 0.047 af, Atten= 90%, Lag= 52.2 min
Discarded = 0.07 cfs @ 12.96 hrs, Volume= 0.047 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 425.76' @ 12.96 hrs Surf.Area= 0.058 ac Storage= 0.018 af

Plug-Flow detention time= 97.1 min calculated for 0.047 af (100% of inflow)
Center-of-Mass det. time= 97.0 min (918.0 - 821.1)

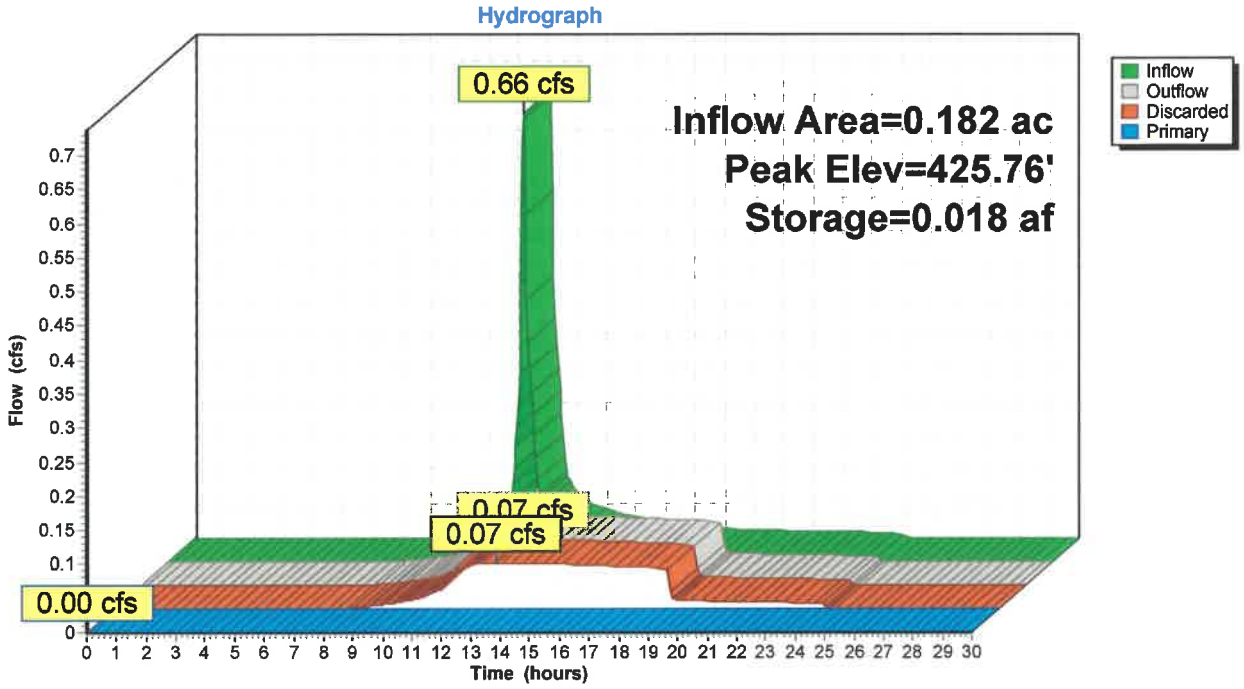
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.96 hrs HW=425.76' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=425.00' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: EQUIPMENT COMPOUND

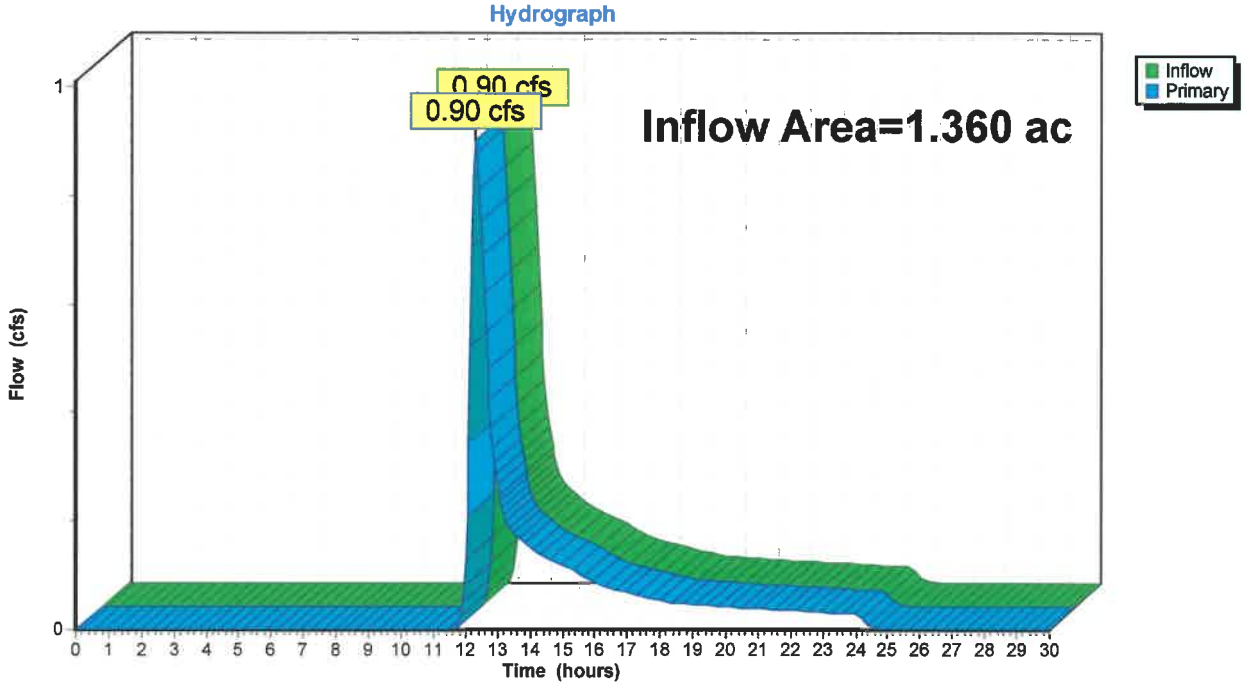


Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 1.01" for 10-yr event
Inflow = 0.90 cfs @ 12.33 hrs, Volume= 0.114 af
Primary = 0.90 cfs @ 12.33 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA-1A: PDA-1A Runoff Area=7,948 sf 11.32% Impervious Runoff Depth=4.15"
Flow Length=154' Tc=5.6 min UI Adjusted CN=79 Runoff=0.87 cfs 0.063 af

Subcatchment PDA-1B: PDA-1B Runoff Area=51,291 sf 0.00% Impervious Runoff Depth=1.83"
Flow Length=535' Tc=19.9 min CN=55 Runoff=1.54 cfs 0.179 af

Pond 3P: EQUIPMENT COMPOUND Peak Elev=426.01' Storage=0.023 af Inflow=0.87 cfs 0.063 af
Discarded=0.07 cfs 0.060 af Primary=0.23 cfs 0.003 af Outflow=0.30 cfs 0.063 af

Link 5L: AP-1 Inflow=1.54 cfs 0.182 af
Primary=1.54 cfs 0.182 af

Total Runoff Area = 1.360 ac Runoff Volume = 0.242 af Average Runoff Depth = 2.14"
98.48% Pervious = 1.339 ac 1.52% Impervious = 0.021 ac

Summary for Subcatchment PDA-1A: PDA-1A

[49] Hint: Tc<2dt may require smaller dt

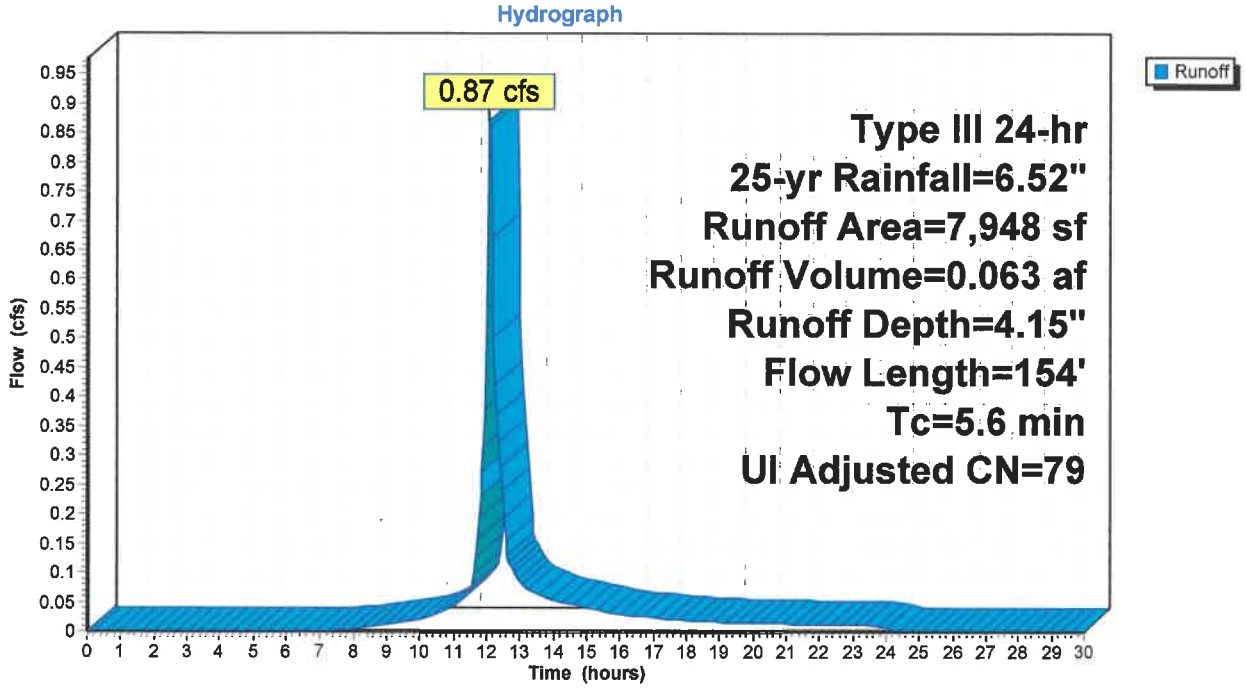
Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.52"

Area (sf)	CN	Adj	Description
5,008	85		Gravel roads, HSG B
1,547	61		>75% Grass cover, Good, HSG B
493	55		Woods, Good, HSG B
900	98		Unconnected pavement, HSG B
7,948	80	79	Weighted Average, UI Adjusted
7,048			88.68% Pervious Area
900			11.32% Impervious Area
900			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	42	0.3810	0.22		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.50"
2.0	34	0.2647	0.28		**Sheet Flow, B-C** Grass: Dense n= 0.240 P2= 3.50"
0.2	26	0.1153	2.21		**Sheet Flow, C-D** Smooth surfaces n= 0.011 P2= 3.50"
0.2	52	0.1154	5.47		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
5.6	154	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

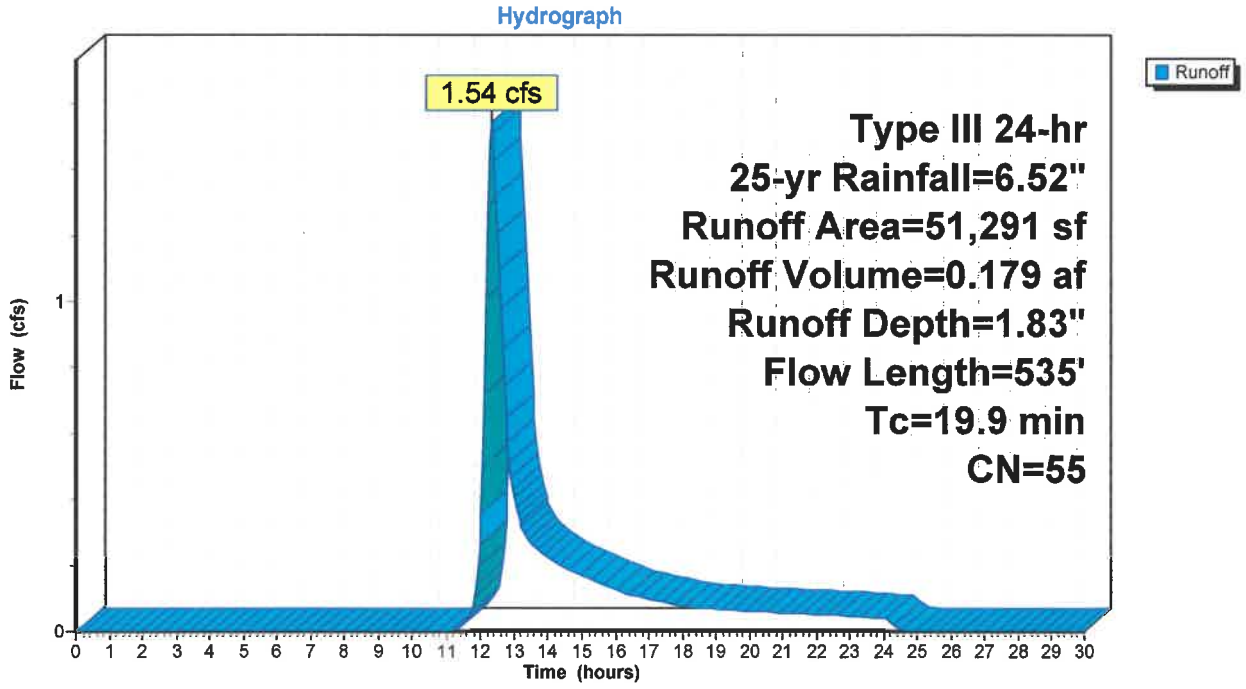
Runoff = 1.54 cfs @ 12.31 hrs, Volume= 0.179 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.52"

Area (sf)	CN	Description
51,291	55	Woods, Good, HSG B
51,291		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.1900	0.11		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.50"
3.2	240	0.2534	1.26		**Shallow Concentrated Flow, B-C** Forest w/Heavy Litter Kv= 2.5 fps
0.3	85	0.0800	4.24		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
1.9	110	0.1500	0.97		**Shallow Concentrated Flow, D-E** Forest w/Heavy Litter Kv= 2.5 fps
19.9	535	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Pond 3P: EQUIPMENT COMPOUND

[93] Warning: Storage range exceeded by 0.01'
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=5)

Inflow Area =	0.182 ac,	11.32% Impervious,	Inflow Depth =	4.15"	for 25-yr event
Inflow =	0.87 cfs @	12.09 hrs,	Volume=	0.063 af	
Outflow =	0.30 cfs @	12.50 hrs,	Volume=	0.063 af,	Atten= 65%, Lag= 24.6 min
Discarded =	0.07 cfs @	12.49 hrs,	Volume=	0.060 af	
Primary =	0.23 cfs @	12.50 hrs,	Volume=	0.003 af	

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 426.01' @ 12.49 hrs Surf.Area= 0.058 ac Storage= 0.023 af

Plug-Flow detention time= 125.4 min calculated for 0.063 af (100% of inflow)
Center-of-Mass det. time= 125.2 min (938.1 - 812.9)

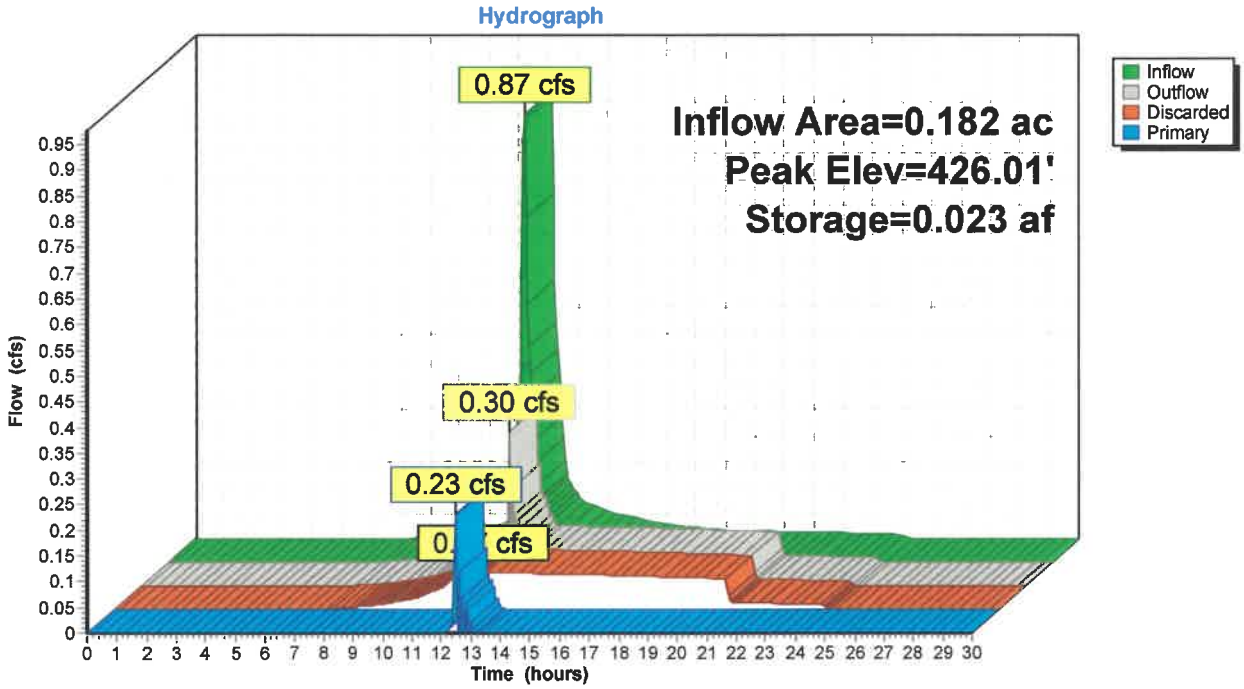
Volume	Invert	Avail.Storage	Storage Description
#1	425.00'	0.023 af	**62.00'W x 41.00'L x 1.00'H Prismatoid** 0.058 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	425.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 420.00'
#2	Primary	426.00'	**62.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.07 cfs @ 12.49 hrs HW=426.01' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.21 cfs @ 12.50 hrs HW=426.01' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.21 cfs @ 0.33 fps)

Pond 3P: EQUIPMENT COMPOUND

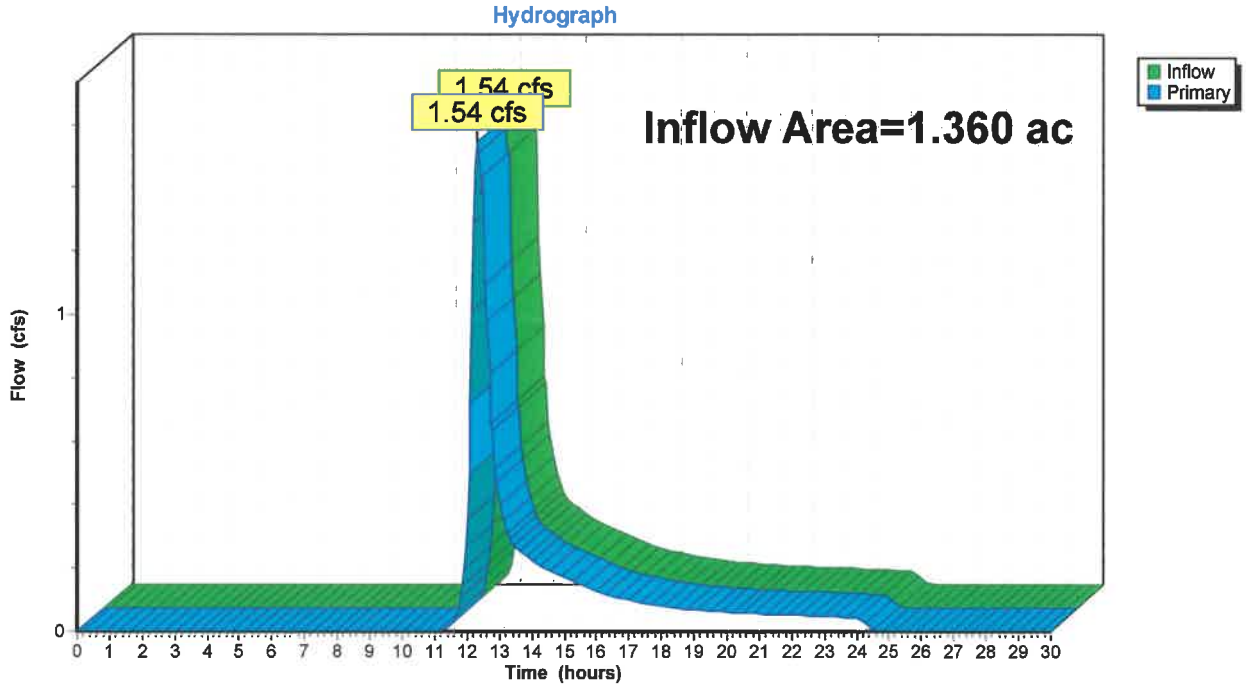


Summary for Link 5L: AP-1

Inflow Area = 1.360 ac, 1.52% Impervious, Inflow Depth = 1.60" for 25-yr event
Inflow = 1.54 cfs @ 12.31 hrs, Volume= 0.182 af
Primary = 1.54 cfs @ 12.31 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link 5L: AP-1



APPENDIX D: NOAA ATLAS 14 PRECIPITATION FREQUENCY TABLE

NOAA Atlas 14, Volume 10, Version 3
Location name: Mount Kisco, New York, USA*
Latitude: 41.1981°, Longitude: -73.7128°
Elevation: 509.72 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.357 (0.280-0.446)	0.417 (0.327-0.522)	0.515 (0.402-0.647)	0.596 (0.463-0.752)	0.708 (0.531-0.926)	0.793 (0.583-1.06)	0.881 (0.625-1.21)	0.975 (0.659-1.37)	1.10 (0.717-1.60)	1.21 (0.764-1.78)
10-min	0.505 (0.397-0.632)	0.590 (0.463-0.739)	0.729 (0.570-0.916)	0.844 (0.656-1.07)	1.00 (0.753-1.31)	1.12 (0.825-1.50)	1.25 (0.886-1.71)	1.38 (0.933-1.94)	1.57 (1.02-2.27)	1.71 (1.08-2.53)
15-min	0.594 (0.467-0.744)	0.694 (0.545-0.870)	0.858 (0.671-1.08)	0.993 (0.772-1.25)	1.18 (0.886-1.54)	1.32 (0.971-1.76)	1.47 (1.04-2.01)	1.62 (1.10-2.29)	1.84 (1.20-2.67)	2.01 (1.27-2.97)
30-min	0.840 (0.660-1.05)	0.980 (0.769-1.23)	1.21 (0.945-1.52)	1.40 (1.09-1.77)	1.66 (1.25-2.17)	1.86 (1.37-2.48)	2.07 (1.46-2.83)	2.28 (1.54-3.20)	2.56 (1.67-3.72)	2.78 (1.76-4.12)
60-min	1.09 (0.853-1.36)	1.27 (0.993-1.59)	1.56 (1.22-1.96)	1.81 (1.40-2.28)	2.14 (1.61-2.80)	2.40 (1.76-3.19)	2.66 (1.88-3.64)	2.93 (1.98-4.12)	3.29 (2.13-4.77)	3.56 (2.25-5.26)
2-hr	1.42 (1.13-1.77)	1.65 (1.31-2.06)	2.03 (1.60-2.54)	2.34 (1.83-2.94)	2.77 (2.09-3.60)	3.10 (2.29-4.10)	3.44 (2.44-4.67)	3.78 (2.57-5.29)	4.25 (2.77-6.13)	4.62 (2.93-6.78)
3-hr	1.64 (1.30-2.04)	1.91 (1.52-2.37)	2.36 (1.86-2.93)	2.72 (2.13-3.40)	3.22 (2.44-4.17)	3.61 (2.67-4.75)	4.00 (2.86-5.42)	4.41 (3.00-6.14)	4.99 (3.26-7.16)	5.43 (3.46-7.95)
6-hr	2.05 (1.64-2.52)	2.41 (1.92-2.97)	3.00 (2.39-3.71)	3.50 (2.76-4.34)	4.17 (3.18-5.37)	4.68 (3.49-6.14)	5.21 (3.76-7.06)	5.80 (3.96-8.02)	6.64 (4.34-9.47)	7.31 (4.67-10.6)
12-hr	2.48 (1.99-3.03)	2.97 (2.38-3.63)	3.77 (3.01-4.62)	4.43 (3.52-5.46)	5.34 (4.10-6.86)	6.03 (4.53-7.89)	6.75 (4.91-9.14)	7.58 (5.19-10.4)	8.81 (5.78-12.5)	9.82 (6.29-14.2)
24-hr	2.88 (2.33-3.49)	3.50 (2.83-4.25)	4.51 (3.63-5.50)	5.36 (4.28-6.56)	6.52 (5.04-8.32)	7.38 (5.58-9.62)	8.30 (6.10-11.2)	9.40 (6.46-12.8)	11.0 (7.27-15.6)	12.4 (7.98-17.8)
2-day	3.24 (2.64-3.91)	3.98 (3.23-4.80)	5.17 (4.19-6.26)	6.17 (4.96-7.50)	7.53 (5.86-9.57)	8.55 (6.51-11.1)	9.64 (7.13-13.0)	11.0 (7.56-14.9)	13.0 (8.56-18.1)	14.7 (9.45-20.9)
3-day	3.52 (2.88-4.23)	4.31 (3.52-5.18)	5.61 (4.56-6.76)	6.69 (5.40-8.10)	8.17 (6.38-10.3)	9.26 (7.08-12.0)	10.4 (7.75-14.0)	11.9 (8.21-16.1)	14.1 (9.30-19.6)	15.9 (10.3-22.6)
4-day	3.77 (3.09-4.52)	4.61 (3.77-5.52)	5.97 (4.87-7.18)	7.11 (5.76-8.58)	8.66 (6.78-10.9)	9.82 (7.52-12.6)	11.1 (8.22-14.8)	12.6 (8.70-17.0)	14.9 (9.84-20.6)	16.8 (10.9-23.8)
7-day	4.48 (3.69-5.33)	5.39 (4.44-6.43)	6.89 (5.65-8.23)	8.13 (6.62-9.76)	9.83 (7.73-12.3)	11.1 (8.53-14.2)	12.5 (9.27-16.5)	14.1 (9.78-18.9)	16.5 (11.0-22.8)	18.5 (12.0-26.1)
10-day	5.17 (4.28-6.13)	6.13 (5.07-7.26)	7.71 (6.35-9.19)	9.02 (7.38-10.8)	10.8 (8.53-13.5)	12.2 (9.37-15.5)	13.6 (10.1-17.9)	15.3 (10.6-20.4)	17.7 (11.8-24.4)	19.8 (12.8-27.7)
20-day	7.29 (6.07-8.59)	8.38 (6.97-9.88)	10.2 (8.41-12.0)	11.6 (9.56-13.8)	13.7 (10.8-16.8)	15.2 (11.7-19.0)	16.8 (12.4-21.7)	18.5 (13.0-24.5)	20.8 (14.0-28.5)	22.7 (14.8-31.6)
30-day	9.09 (7.60-10.7)	10.3 (8.57-12.1)	12.2 (10.1-14.4)	13.8 (11.4-16.3)	16.0 (12.7-19.5)	17.7 (13.6-22.0)	19.4 (14.3-24.8)	21.1 (14.8-27.8)	23.4 (15.7-31.8)	25.2 (16.4-34.9)
45-day	11.3 (9.53-13.3)	12.6 (10.6-14.8)	14.7 (12.3-17.3)	16.5 (13.7-19.4)	18.9 (15.0-23.0)	20.8 (16.1-25.7)	22.6 (16.7-28.7)	24.4 (17.2-32.0)	26.7 (18.0-36.1)	28.4 (18.5-39.2)
60-day	13.3 (11.2-15.4)	14.6 (12.3-17.1)	16.9 (14.2-19.8)	18.8 (15.6-22.1)	21.4 (17.0-25.9)	23.4 (18.1-28.8)	25.4 (18.8-32.0)	27.3 (19.3-35.6)	29.6 (20.0-39.9)	31.2 (20.4-43.0)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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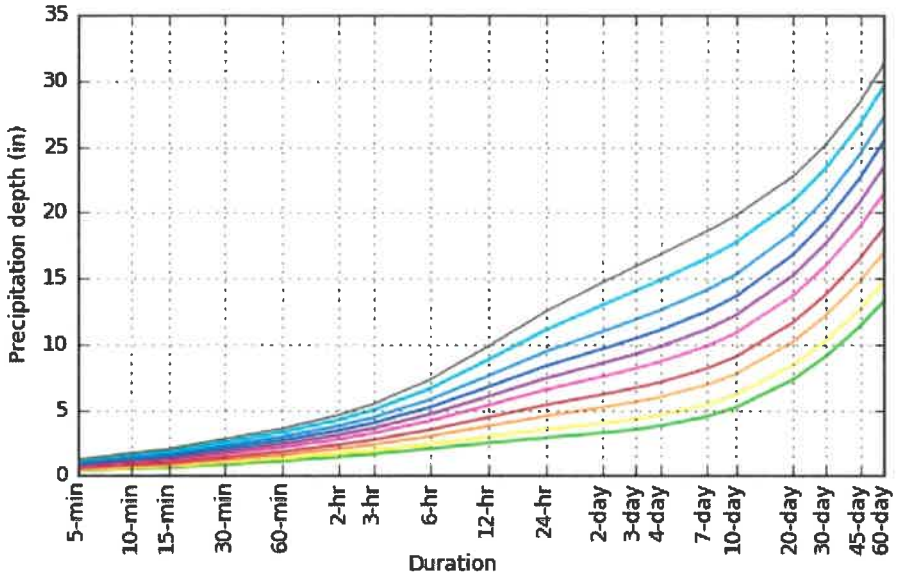
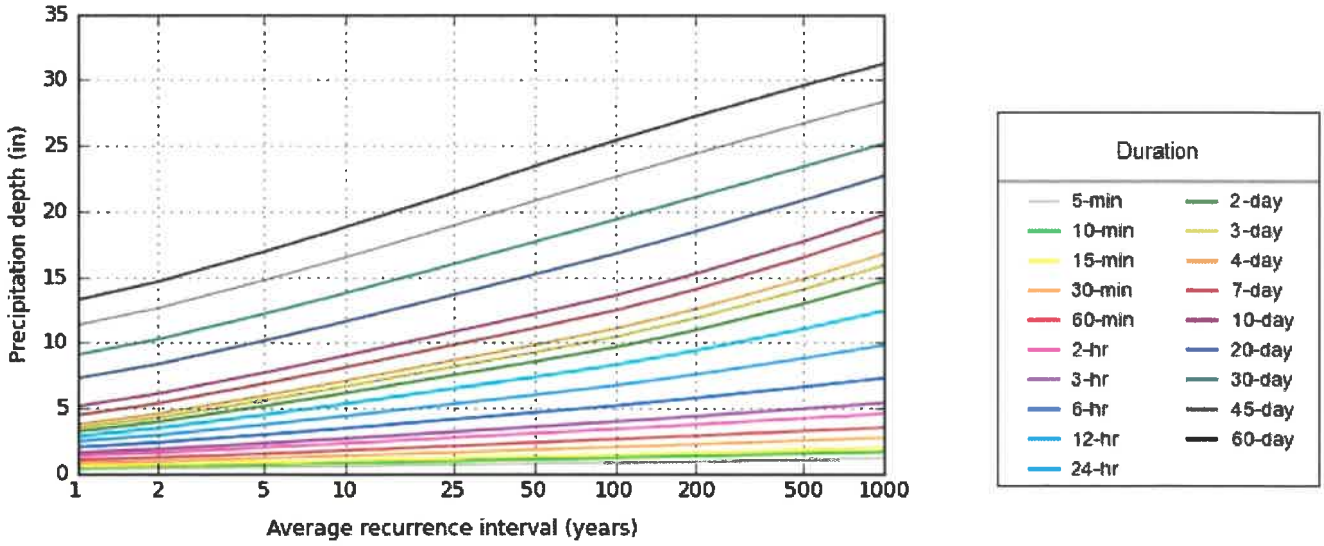
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.1981°, Longitude: -73.7128°





NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Mon Sep 14 16:18:54 2020

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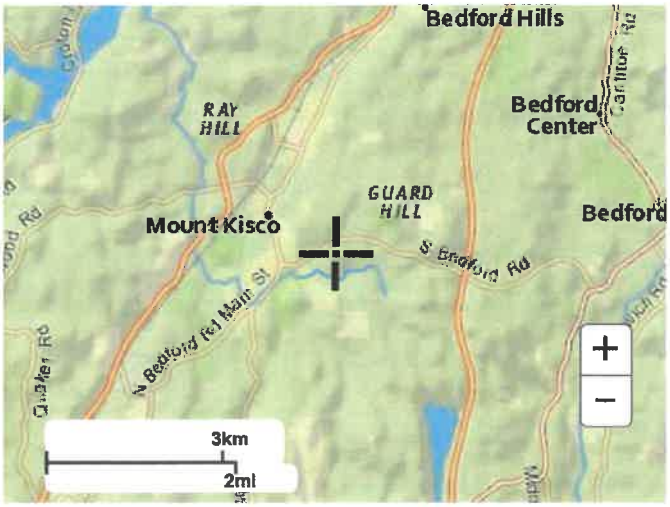
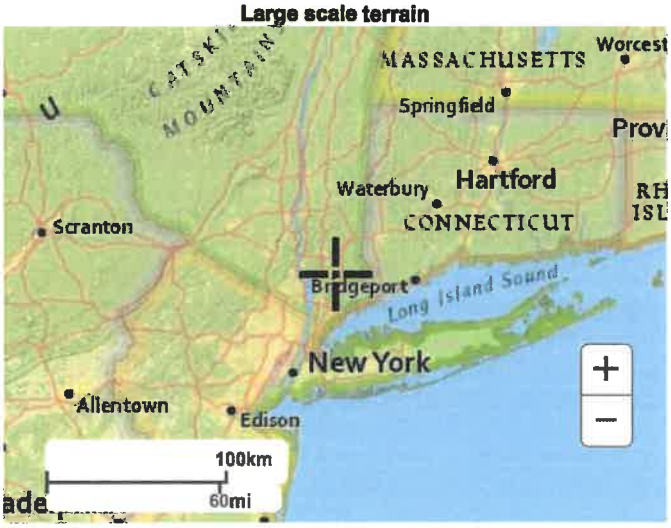
Maps & aerials

Small scale terrain

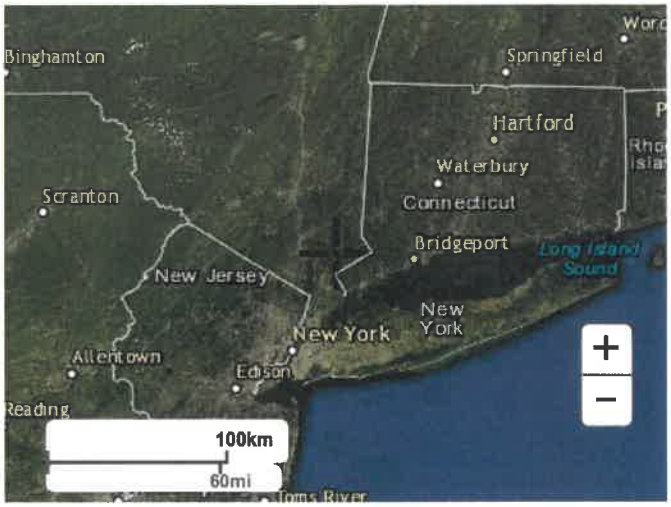


Large scale terrain



Large scale map

Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

APPENDIX E: NRCS SATURATED HYDRAULIC CONDUCTIVITY

Saturated Hydraulic Conductivity (Ksat)—Westchester County, New York
(Mount Kisco)

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- <= 2.1341
- > 2.1341 and <= 13.0322
- > 13.0322 and <= 51.2895
- > 51.2895 and <= 70.7458
- > 70.7458 and <= 84.5000
- Not rated or not available

Soil Rating Lines

- <= 2.1341
- > 2.1341 and <= 13.0322
- > 13.0322 and <= 51.2895
- > 51.2895 and <= 70.7458
- > 70.7458 and <= 84.5000
- Not rated or not available

Soil Rating Points

- <= 2.1341
- > 2.1341 and <= 13.0322
- > 13.0322 and <= 51.2895
- > 51.2895 and <= 70.7458
- > 70.7458 and <= 84.5000
- 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.

Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	10.0000	15.5	16.5%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	10.0000	2.5	2.7%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	10.0000	0.1	0.1%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	12.1818	25.3	27.0%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	10.1993	30.1	32.2%
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	10.1993	3.2	3.4%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	70.7458	7.7	8.2%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	13.0322	1.9	2.0%
LcA	Leicester loam, 0 to 3 percent slopes, stony	51.2895	2.5	2.6%
LcB	Leicester loam, 3 to 8 percent slopes, stony	51.2895	1.2	1.2%
RhA	Riverhead loam, 0 to 3 percent slopes	84.5000	0.6	0.6%
Sh	Sun loam	2.1341	1.7	1.8%
SuB	Sutton loam, 3 to 8 percent slopes	10.0000	1.3	1.4%
W	Water		0.3	0.3%
Totals for Area of Interest			**93.7**	**100.0%**

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

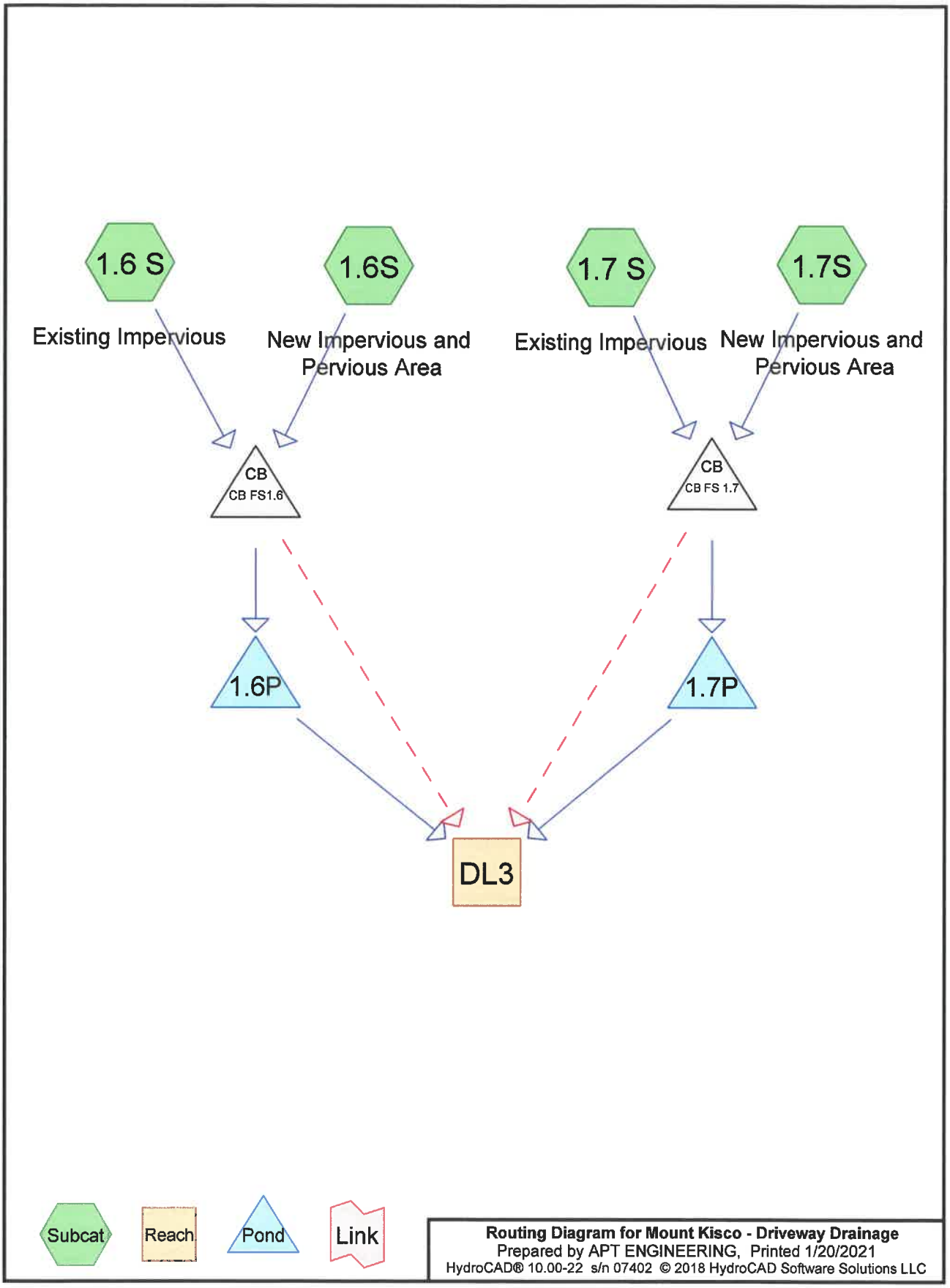
Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): All Layers (Weighted Average)

APPENDIX F: PROPOSED DRIVEWAY DRAINAGE HYDROLOGIC COMPUTATION (HYDROCAD)



Routing Diagram for Mount Kisco - Driveway Drainage
Prepared by APT ENGINEERING, Printed 1/20/2021

Summary for Subcatchment 1.6 S: Existing Impervious

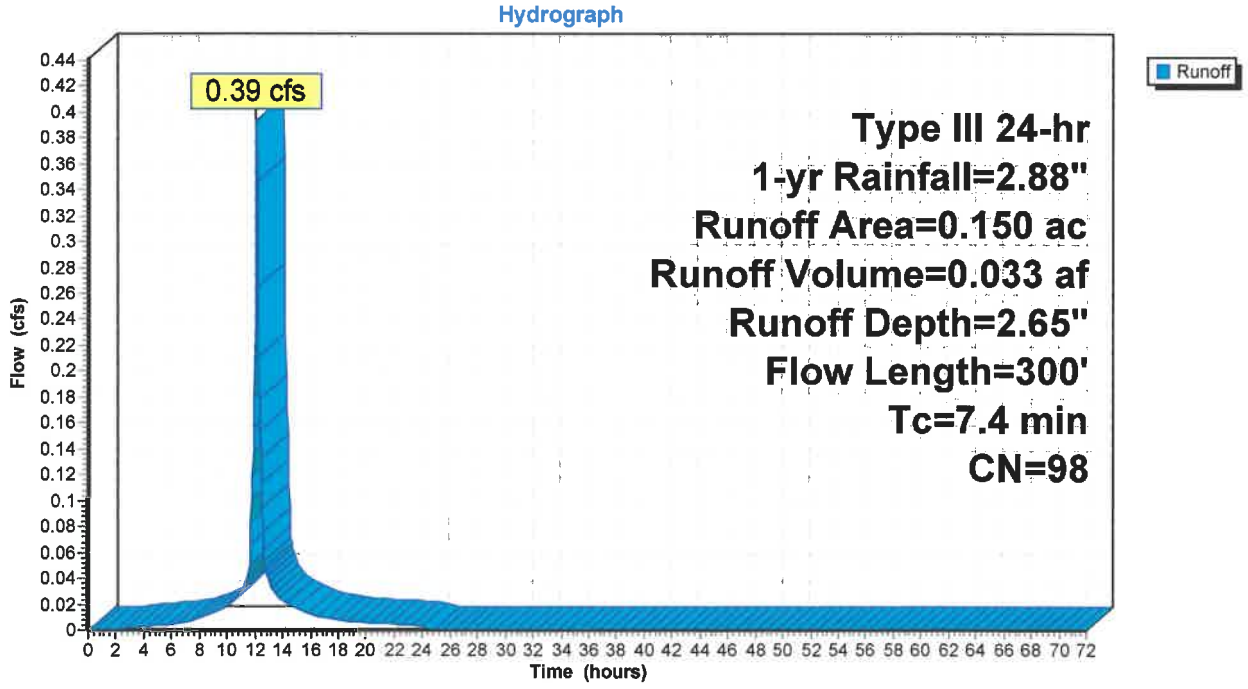
Runoff = 0.39 cfs @ 12.10 hrs, Volume= 0.033 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6 S: Existing Impervious



Summary for Subcatchment 1.6S: New Impervious and Pervious Area

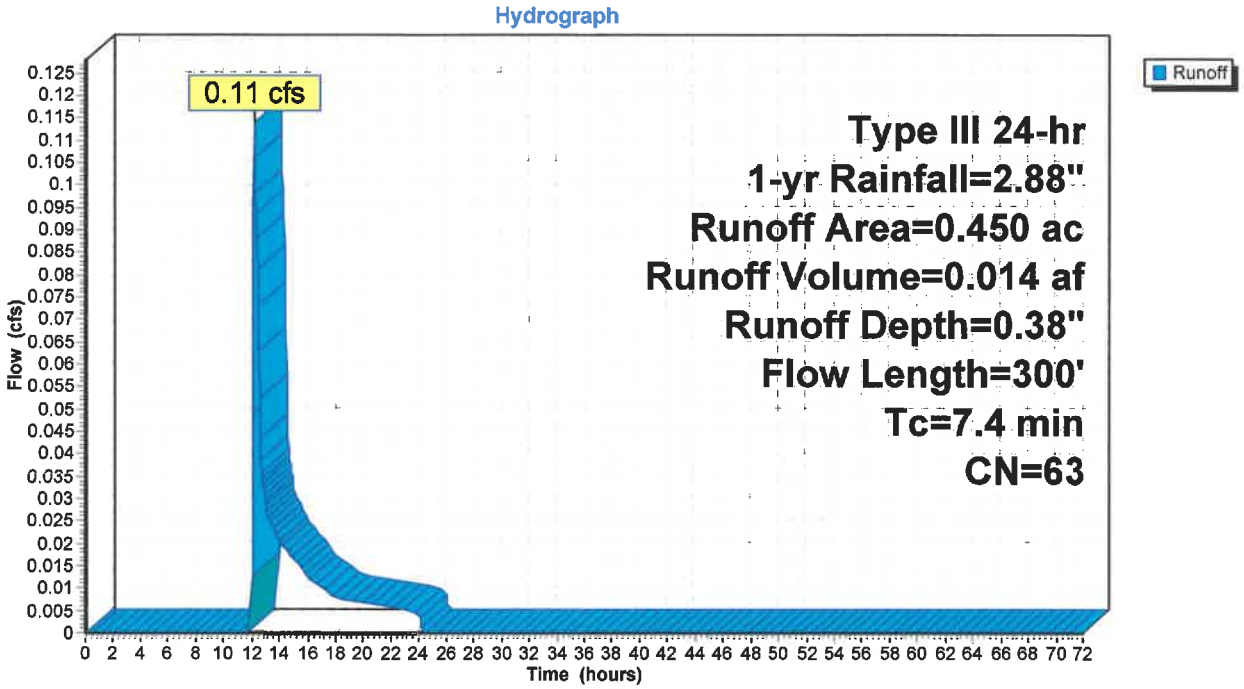
Runoff = 0.11 cfs @ 12.16 hrs, Volume= 0.014 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6S: New Impervious and Pervious Area



Summary for Subcatchment 1.7 S: Existing Impervious

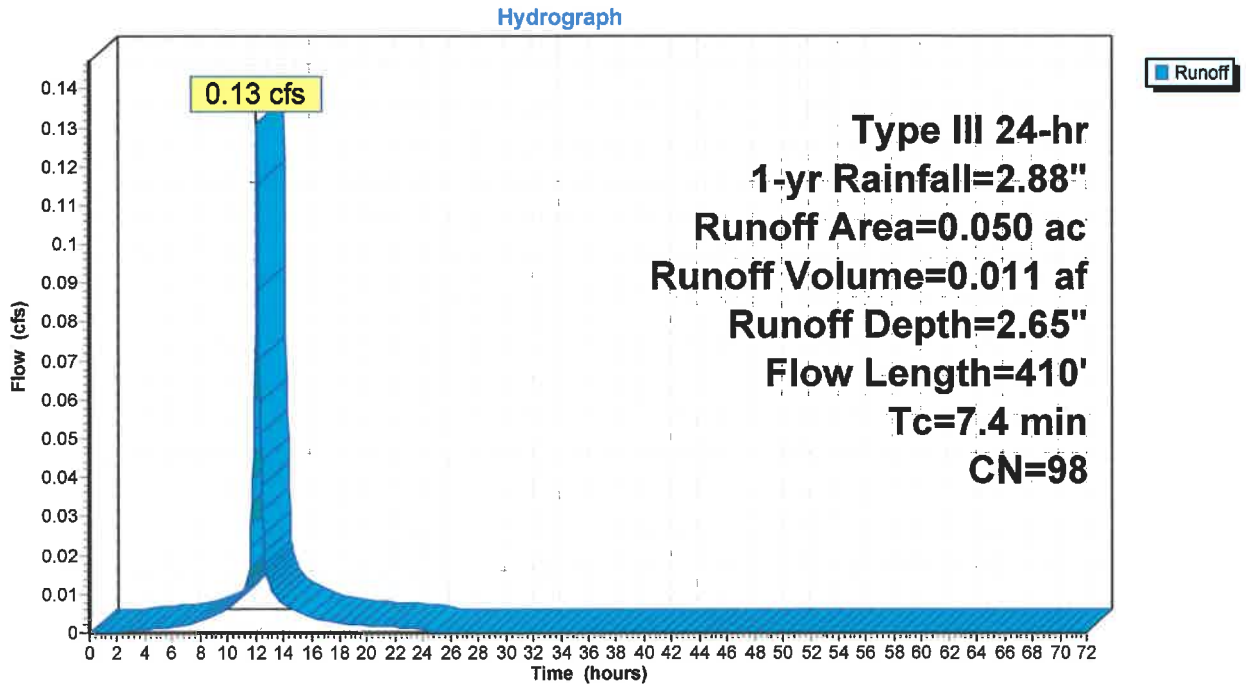
Runoff = 0.13 cfs @ 12.10 hrs, Volume= 0.011 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7 S: Existing Impervious



Summary for Subcatchment 1.7S: New Impervious and Pervious Area

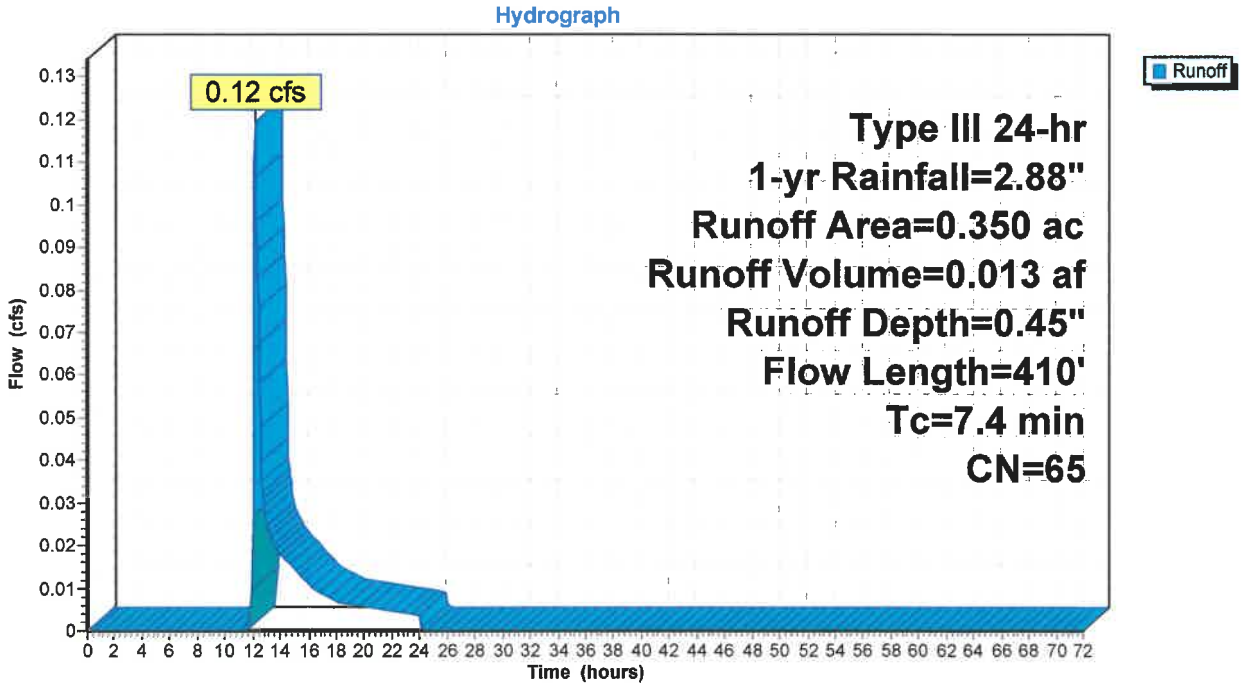
Runoff = 0.12 cfs @ 12.15 hrs, Volume= 0.013 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-yr Rainfall=2.88"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7S: New Impervious and Pervious Area



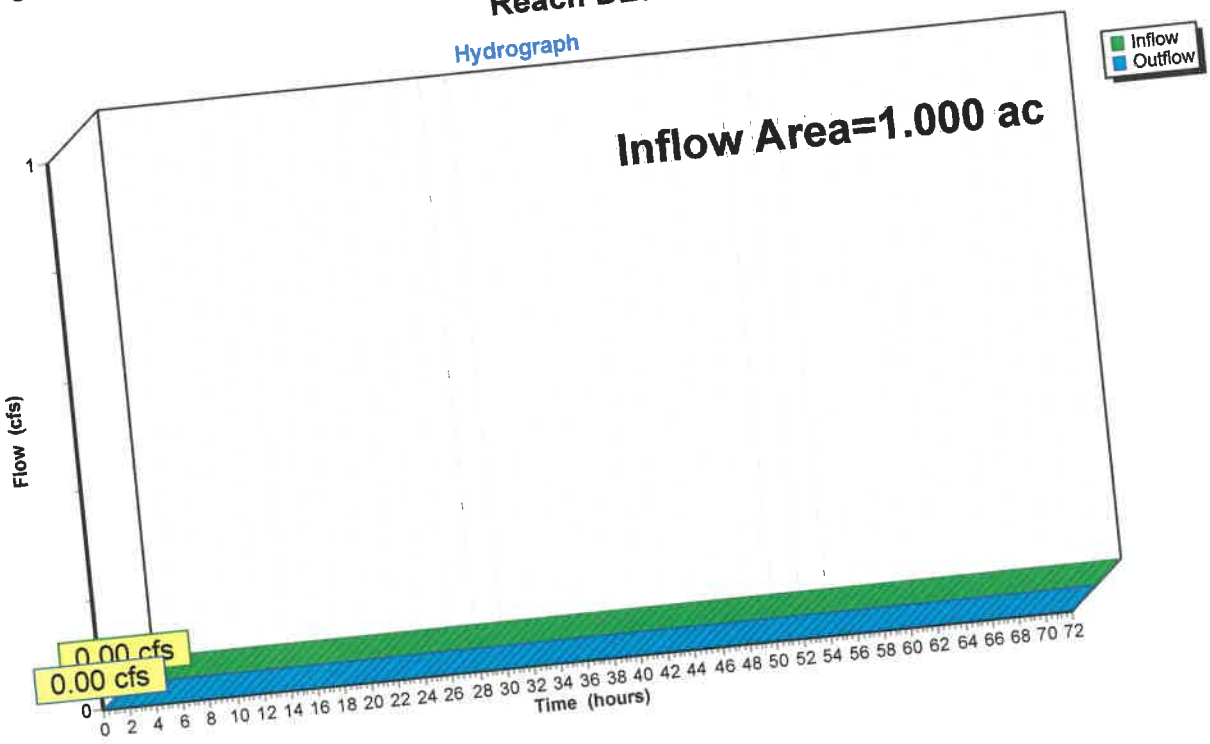
Summary for Reach DL3:

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

Inflow Area =	1.000 ac,	30.00% Impervious,	Inflow Depth =	0.00" for 1-yr event
Inflow =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	
Outflow =	0.00 cfs @	0.00 hrs, Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL3:



Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 0.95" for 1-yr event
Inflow = 0.50 cfs @ 12.11 hrs, Volume= 0.048 af
Outflow = 0.31 cfs @ 12.05 hrs, Volume= 0.048 af, Atten= 38%, Lag= 0.0 min
Discarded = 0.31 cfs @ 12.05 hrs, Volume= 0.048 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 418.22' @ 12.26 hrs Surf.Area= 0.013 ac Storage= 0.002 af

Plug-Flow detention time= 1.4 min calculated for 0.047 af (100% of inflow)
Center-of-Mass det. time= 1.4 min (809.5 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	**11.00'W x 52.29'L x 3.50'H Field A** 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	**ADS_StormTech SC-740 +Cap** x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 7 Chambers
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	**23.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	420.30'	**6.0" Round 6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 419.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 12.05 hrs HW=417.88' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.80' (Free Discharge)
↑—**2=6.0" Round Culvert** (Controls 0.00 cfs)

Pond 1.6P: - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

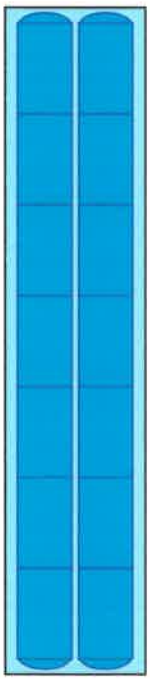
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +5.0" End Stone x 2 = 52.29' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

14 Chambers x 45.9 cf = 643.2 cf Chamber Storage

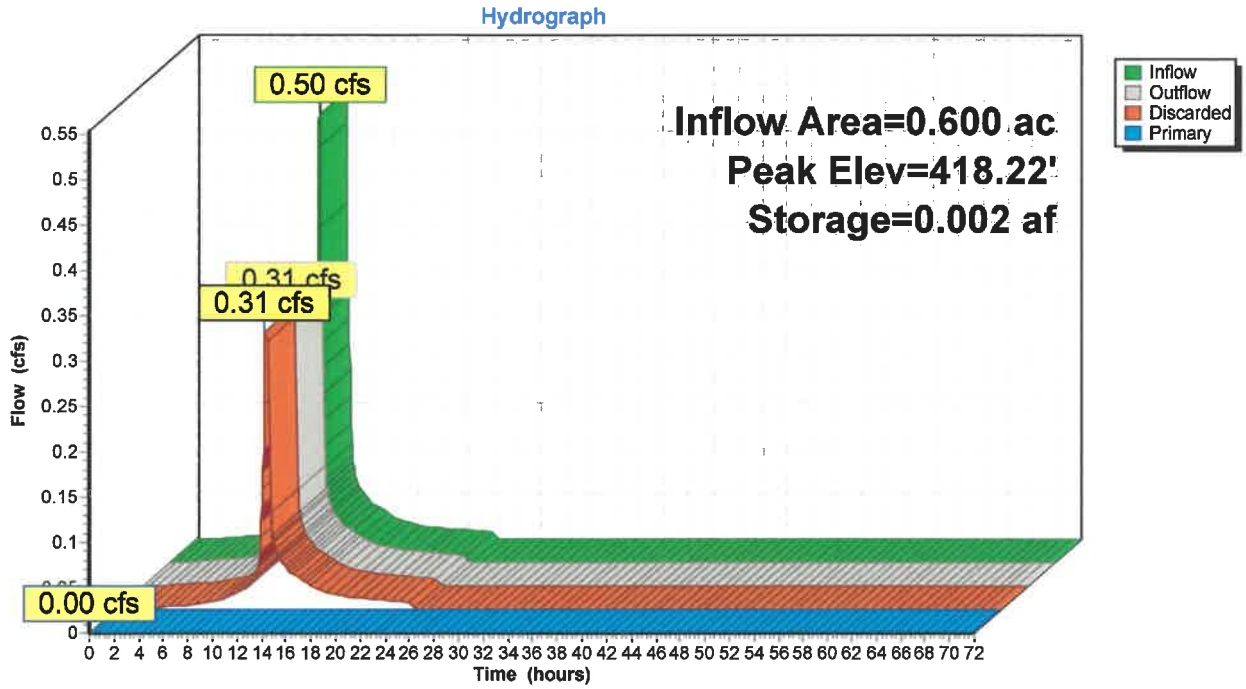
2,013.2 cf Field - 643.2 cf Chambers = 1,370.0 cf Stone x 40.0% Voids = 548.0 cf Stone Storage

Chamber Storage + Stone Storage = 1,191.2 cf = 0.027 af
Overall Storage Efficiency = 59.2%
Overall System Size = 52.29' x 11.00' x 3.50'

14 Chambers
74.6 cy Field
50.7 cy Stone



Pond 1.6P:


Hydrograph
0.50 cfs
0.31 cfs
0.31 cfs
0.00 cfs
Inflow Area=0.600 ac
Peak Elev=418.22'
Storage=0.002 af
Inflow
Outflow
Discarded
Primary
Flow (cfs)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	**0.013**	0.000
417.85	0.013	0.000
417.90	0.013	0.001
417.95	0.013	0.001
418.00	0.013	0.001
418.05	0.013	0.001
418.10	0.013	0.002
418.15	0.013	0.002
418.20	0.013	0.002
418.25	0.013	0.002
418.30	0.013	0.003
418.35	0.013	0.003
418.40	0.013	0.004
418.45	0.013	0.004
418.50	0.013	0.005
418.55	0.013	0.005
418.60	0.013	0.006
418.65	0.013	0.006
418.70	0.013	0.007
418.75	0.013	0.007
418.80	0.013	0.008
418.85	0.013	0.008
418.90	0.013	0.009
418.95	0.013	0.009
419.00	0.013	0.010
419.05	0.013	0.010
419.10	0.013	0.011
419.15	0.013	0.011
419.20	0.013	0.012
419.25	0.013	0.012
419.30	0.013	0.013
419.35	0.013	0.013
419.40	0.013	0.014
419.45	0.013	0.014
419.50	0.013	0.015
419.55	0.013	0.015
419.60	0.013	0.016
419.65	0.013	0.016
419.70	0.013	0.016
419.75	0.013	0.017
419.80	0.013	0.017
419.85	0.013	0.018
419.90	0.013	0.018
419.95	0.013	0.019
420.00	0.013	0.019
420.05	0.013	0.020
420.10	0.013	0.020
420.15	0.013	0.020
420.20	0.013	0.021
420.25	0.013	0.021
420.30	0.013	0.022
420.35	0.013	0.022
420.40	0.013	0.022
420.45	0.013	0.023
420.50	0.013	0.023
420.55	0.013	0.023
420.60	0.013	0.024
420.65	0.013	0.024
420.70	0.013	0.024
420.75	0.013	0.024
420.80	0.013	0.025
420.85	0.013	0.025
420.90	0.013	0.025
420.95	0.013	0.025
421.00	0.013	0.026
421.05	0.013	0.026
421.10	0.013	0.026
421.15	0.013	0.027
421.20	0.013	0.027
421.25	0.013	0.027
421.30	0.013	**0.027**

Summary for Pond 1.7P:

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 0.73" for 1-yr event
Inflow = 0.25 cfs @ 12.12 hrs, Volume= 0.024 af
Outflow = 0.05 cfs @ 11.95 hrs, Volume= 0.024 af, Atten= 80%, Lag= 0.0 min
Discarded = 0.05 cfs @ 11.95 hrs, Volume= 0.024 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 396.07' @ 12.72 hrs Surf.Area= 0.010 ac Storage= 0.005 af

Plug-Flow detention time= 31.1 min calculated for 0.024 af (100% of inflow)
Center-of-Mass det. time= 31.1 min (871.7 - 840.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	**11.00'W x 38.05'L x 3.50'H Field A** 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	**ADS_StormTech SC-740 +Cap** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 5 Chambers
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	397.60'	**6.0" Round 6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 11.95 hrs HW=395.17' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=395.10' (Free Discharge)
↑—**2=6.0" Round Culvert** (Controls 0.00 cfs)

Pond 1.7P: - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +5.0" End Stone x 2 = 38.05' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

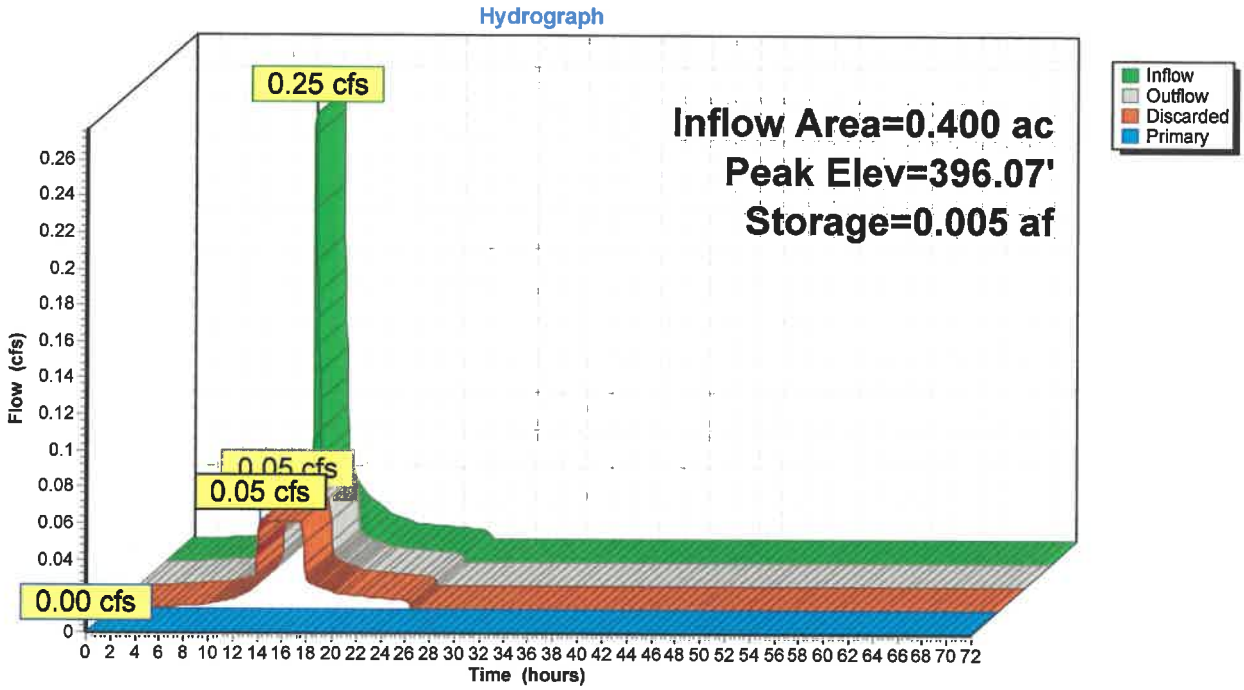
10 Chambers x 45.9 cf = 459.4 cf Chamber Storage

1,464.9 cf Field - 459.4 cf Chambers = 1,005.5 cf Stone x 40.0% Voids = 402.2 cf Stone Storage

Chamber Storage + Stone Storage = 861.6 cf = 0.020 af
Overall Storage Efficiency = 58.8%
Overall System Size = 38.05' x 11.00' x 3.50'

10 Chambers
54.3 cy Field
37.2 cy Stone

Pond 1.7P:


Hydrograph
Inflow
Outflow
Discarded
Primary
0.25 cfs
Inflow Area=0.400 ac
Peak Elev=396.07'
Storage=0.005 af
0.05 cfs
0.05 cfs
0.00 cfs
Flow (cfs)
0 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	**0.010**	0.000
395.15	0.010	0.000
395.20	0.010	0.000
395.25	0.010	0.001
395.30	0.010	0.001
395.35	0.010	0.001
395.40	0.010	0.001
395.45	0.010	0.001
395.50	0.010	0.002
395.55	0.010	0.002
395.60	0.010	0.002
395.65	0.010	0.002
395.70	0.010	0.003
395.75	0.010	0.003
395.80	0.010	0.003
395.85	0.010	0.004
395.90	0.010	0.004
395.95	0.010	0.005
396.00	0.010	0.005
396.05	0.010	0.005
396.10	0.010	0.006
396.15	0.010	0.006
396.20	0.010	0.006
396.25	0.010	0.007
396.30	0.010	0.007
396.35	0.010	0.007
396.40	0.010	0.008
396.45	0.010	0.008
396.50	0.010	0.008
396.55	0.010	0.009
396.60	0.010	0.009
396.65	0.010	0.010
396.70	0.010	0.010
396.75	0.010	0.010
396.80	0.010	0.011
396.85	0.010	0.011
396.90	0.010	0.011
396.95	0.010	0.012
397.00	0.010	0.012
397.05	0.010	0.012
397.10	0.010	0.013
397.15	0.010	0.013
397.20	0.010	0.013
397.25	0.010	0.013
397.30	0.010	0.014
397.35	0.010	0.014
397.40	0.010	0.014
397.45	0.010	0.015
397.50	0.010	0.015
397.55	0.010	0.015
397.60	0.010	0.016
397.65	0.010	0.016
397.70	0.010	0.016
397.75	0.010	0.016
397.80	0.010	0.017
397.85	0.010	0.017
397.90	0.010	0.017
397.95	0.010	0.017
398.00	0.010	0.017
398.05	0.010	0.018
398.10	0.010	0.018
398.15	0.010	0.018
398.20	0.010	0.018
398.25	0.010	0.018
398.30	0.010	0.019
398.35	0.010	0.019
398.40	0.010	0.019
398.45	0.010	0.019
398.50	0.010	0.019
398.55	0.010	0.020
398.60	0.010	**0.020**

Summary for Pond CB FS 1.7:

[57] Hint: Peaked at 398.31' (Flood elevation advised)

Inflow Area =	0.400 ac,	25.00% Impervious,	Inflow Depth =	0.73"	for 1-yr event
Inflow =	0.25 cfs @	12.12 hrs,	Volume=	0.024 af	
Outflow =	0.25 cfs @	12.12 hrs,	Volume=	0.024 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.25 cfs @	12.12 hrs,	Volume=	0.024 af	
Secondary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

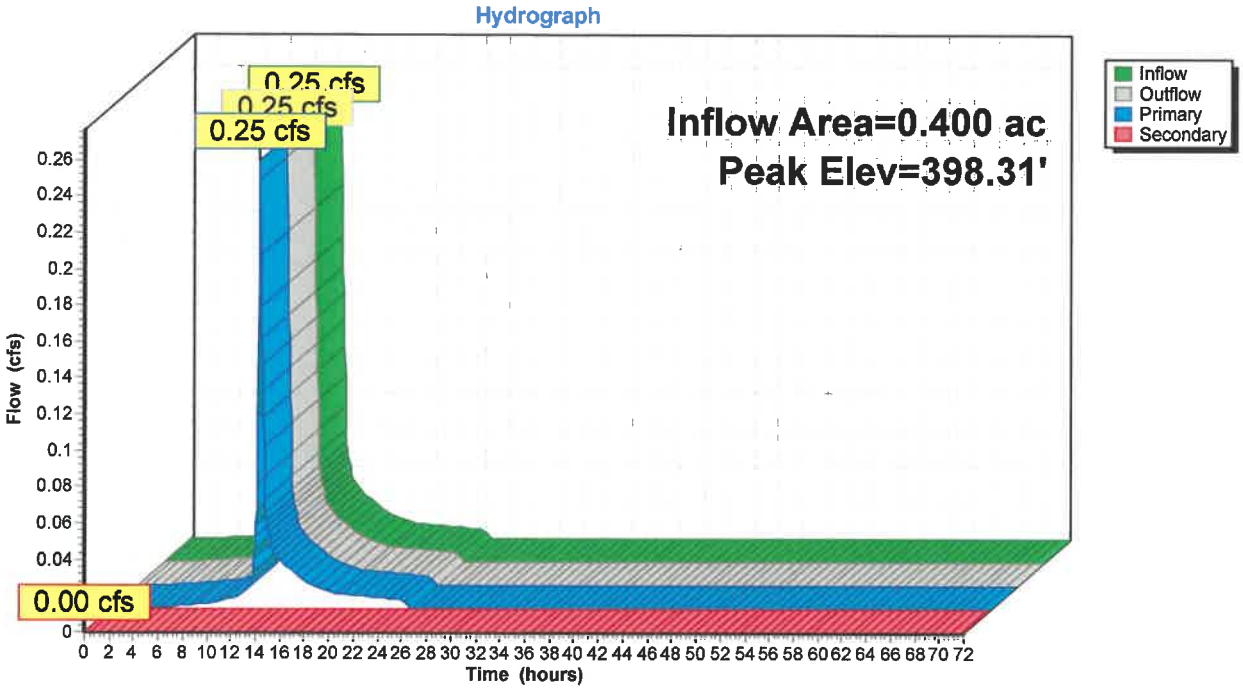
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.31' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	**6.0" Round 6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.24 cfs @ 12.12 hrs HW=398.31' (Free Discharge)
↑—**1=6.0" Round Culvert** (Inlet Controls 0.24 cfs @ 1.89 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=397.50' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond CB FS 1.7:


Hydrograph
Inflow Area=0.400 ac
Peak Elev=398.31'
0.25 cfs
0.25 cfs
0.25 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
0 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond CB FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	**0**	398.03	0
397.51	0	398.04	0
397.52	0	398.05	0
397.53	0	398.06	0
397.54	0	398.07	0
397.55	0	398.08	0
397.56	0	398.09	0
397.57	0	398.10	0
397.58	0	398.11	0
397.59	0	398.12	0
397.60	0	398.13	0
397.61	0	398.14	0
397.62	0	398.15	0
397.63	0	398.16	0
397.64	0	398.17	0
397.65	0	398.18	0
397.66	0	398.19	0
397.67	0	398.20	0
397.68	0	398.21	0
397.69	0	398.22	0
397.70	0	398.23	0
397.71	0	398.24	0
397.72	0	398.25	0
397.73	0	398.26	0
397.74	0	398.27	0
397.75	0	398.28	0
397.76	0	398.29	0
397.77	0	398.30	0
397.78	0	398.31	0
397.79	0	398.32	0
397.80	0	398.33	0
397.81	0	398.34	0
397.82	0	398.35	0
397.83	0	398.36	0
397.84	0	398.37	0
397.85	0	398.38	0
397.86	0	398.39	0
397.87	0	398.40	0
397.88	0	398.41	0
397.89	0	398.42	0
397.90	0	398.43	0
397.91	0	398.44	0
397.92	0	398.45	0
397.93	0	398.46	0
397.94	0	398.47	0
397.95	0	398.48	0
397.96	0	398.49	0
397.97	0	398.50	0
397.98	0		
397.99	0		
398.00	0		
398.01	0		
398.02	0		

Summary for Pond CB FS1.6:

[57] Hint: Peaked at 421.20' (Flood elevation advised)

Inflow Area =	0.600 ac,	33.33% Impervious,	Inflow Depth =	0.95" for 1-yr event
Inflow =	0.50 cfs @	12.11 hrs, Volume=	0.048 af	
Outflow =	0.50 cfs @	12.11 hrs, Volume=	0.048 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.50 cfs @	12.11 hrs, Volume=	0.048 af	
Secondary =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

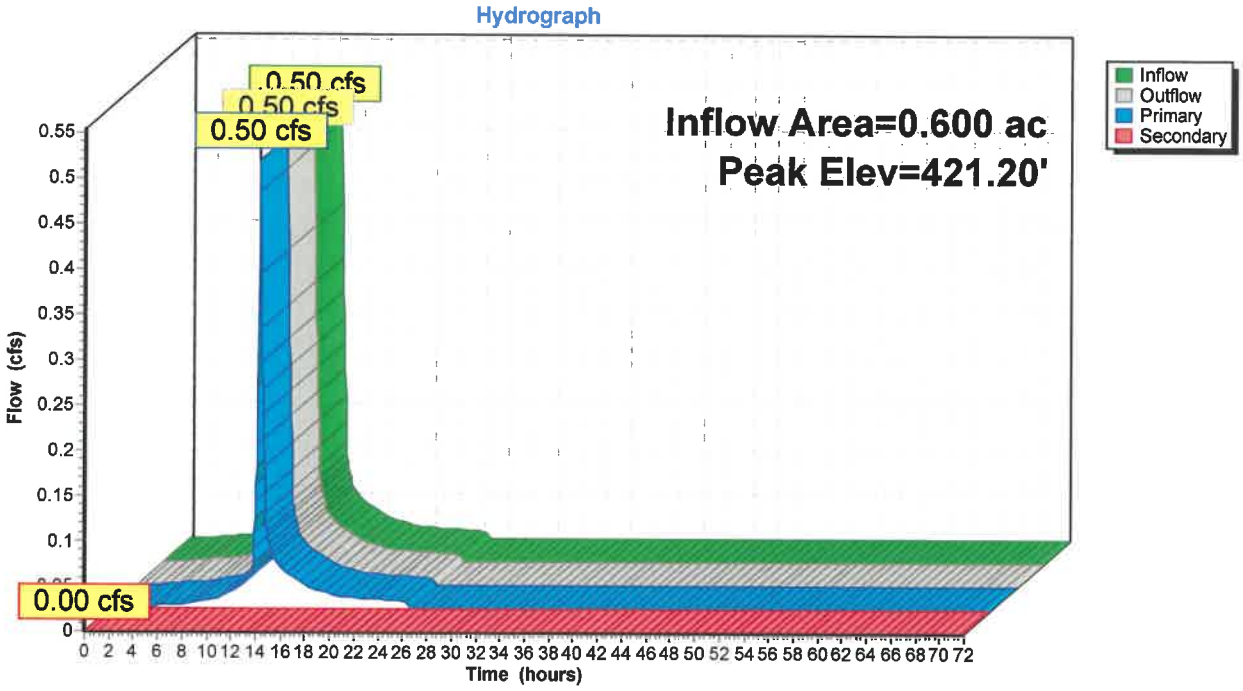
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 421.20' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	**6.0" Round 6.0" Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.47 cfs @ 12.11 hrs HW=421.17' (Free Discharge)
↑—**1=6.0" Culvert** (Barrel Controls 0.47 cfs @ 2.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=420.00' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond CB FS1.6:


Hydrograph
Inflow Area=0.600 ac
Peak Elev=421.20'
0.50 cfs
0.50 cfs
0.50 cfs
0.00 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond CB FS1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	0	420.53	0	421.06	0
420.01	0	420.54	0	421.07	0
420.02	0	420.55	0	421.08	0
420.03	0	420.56	0	421.09	0
420.04	0	420.57	0	421.10	0
420.05	0	420.58	0	421.11	0
420.06	0	420.59	0	421.12	0
420.07	0	420.60	0	421.13	0
420.08	0	420.61	0	421.14	0
420.09	0	420.62	0	421.15	0
420.10	0	420.63	0	421.16	0
420.11	0	420.64	0	421.17	0
420.12	0	420.65	0	421.18	0
420.13	0	420.66	0	421.19	0
420.14	0	420.67	0	421.20	0
420.15	0	420.68	0		
420.16	0	420.69	0		
420.17	0	420.70	0		
420.18	0	420.71	0		
420.19	0	420.72	0		
420.20	0	420.73	0		
420.21	0	420.74	0		
420.22	0	420.75	0		
420.23	0	420.76	0		
420.24	0	420.77	0		
420.25	0	420.78	0		
420.26	0	420.79	0		
420.27	0	420.80	0		
420.28	0	420.81	0		
420.29	0	420.82	0		
420.30	0	420.83	0		
420.31	0	420.84	0		
420.32	0	420.85	0		
420.33	0	420.86	0		
420.34	0	420.87	0		
420.35	0	420.88	0		
420.36	0	420.89	0		
420.37	0	420.90	0		
420.38	0	420.91	0		
420.39	0	420.92	0		
420.40	0	420.93	0		
420.41	0	420.94	0		
420.42	0	420.95	0		
420.43	0	420.96	0		
420.44	0	420.97	0		
420.45	0	420.98	0		
420.46	0	420.99	0		
420.47	0	421.00	0		
420.48	0	421.01	0		
420.49	0	421.02	0		
420.50	0	421.03	0		
420.51	0	421.04	0		
420.52	0	421.05	0		

Summary for Subcatchment 1.6 S: Existing Impervious

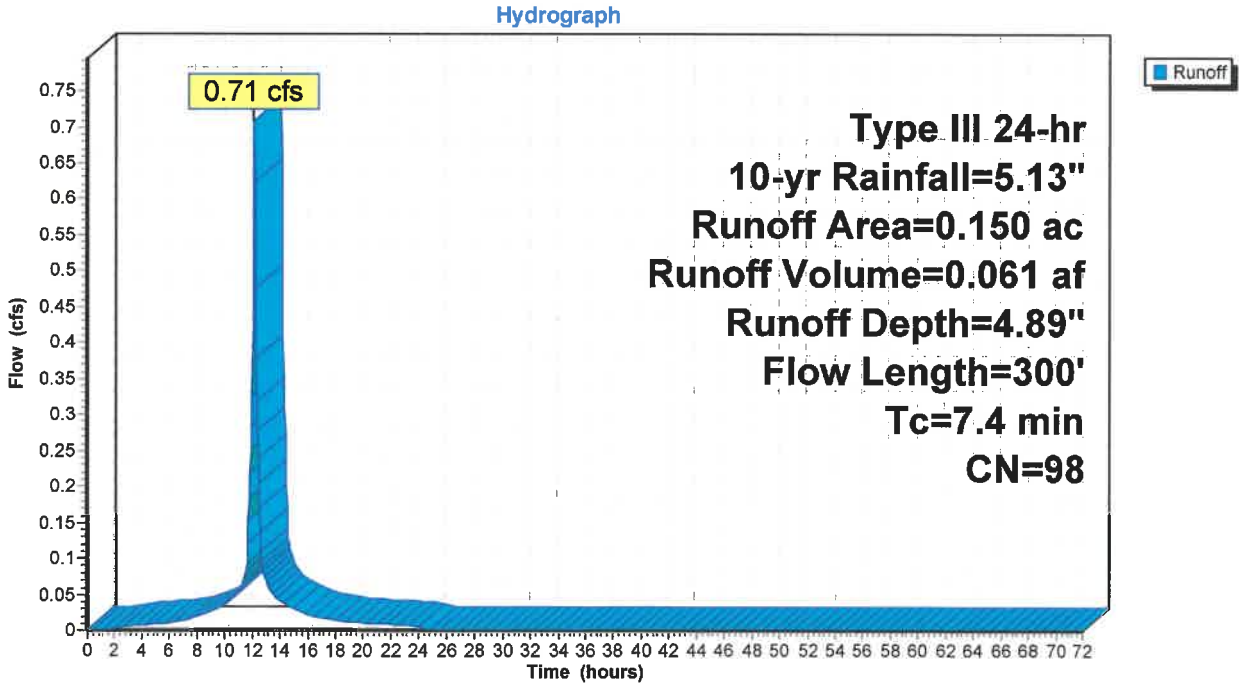
Runoff = 0.71 cfs @ 12.10 hrs, Volume= 0.061 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6 S: Existing Impervious



Summary for Subcatchment 1.6S: New Impervious and Pervious Area

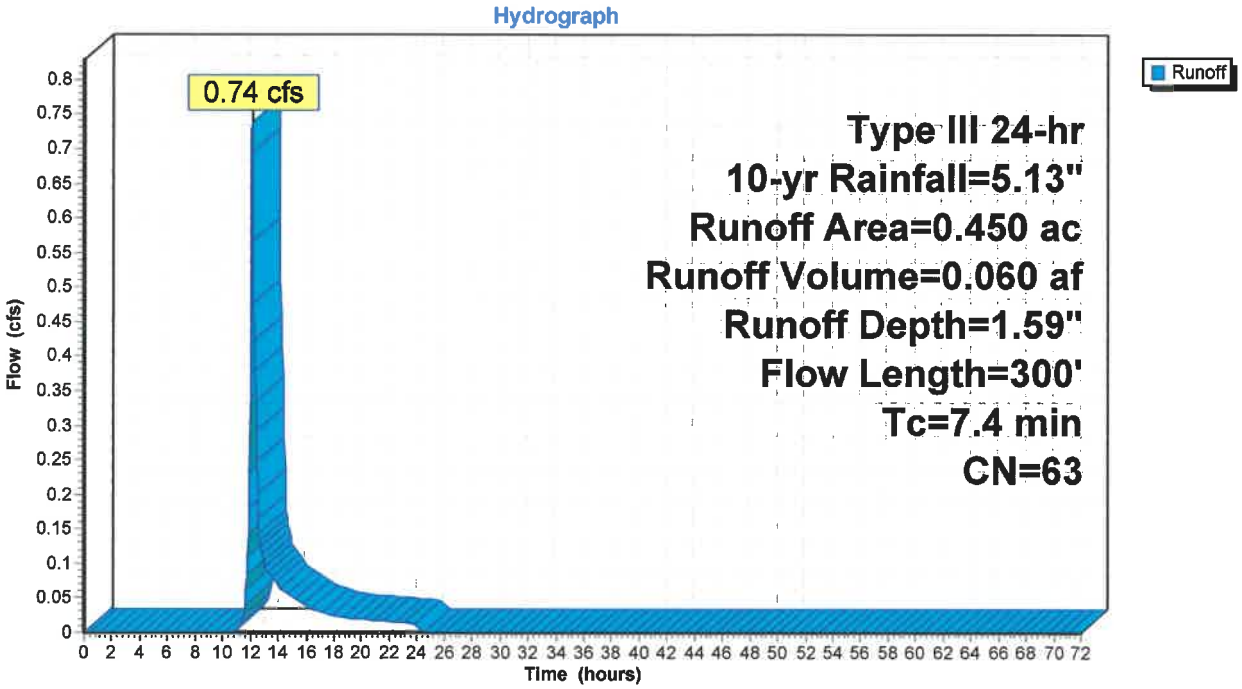
Runoff = 0.74 cfs @ 12.12 hrs, Volume= 0.060 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6S: New Impervious and Pervious Area



Summary for Subcatchment 1.7 S: Existing Impervious

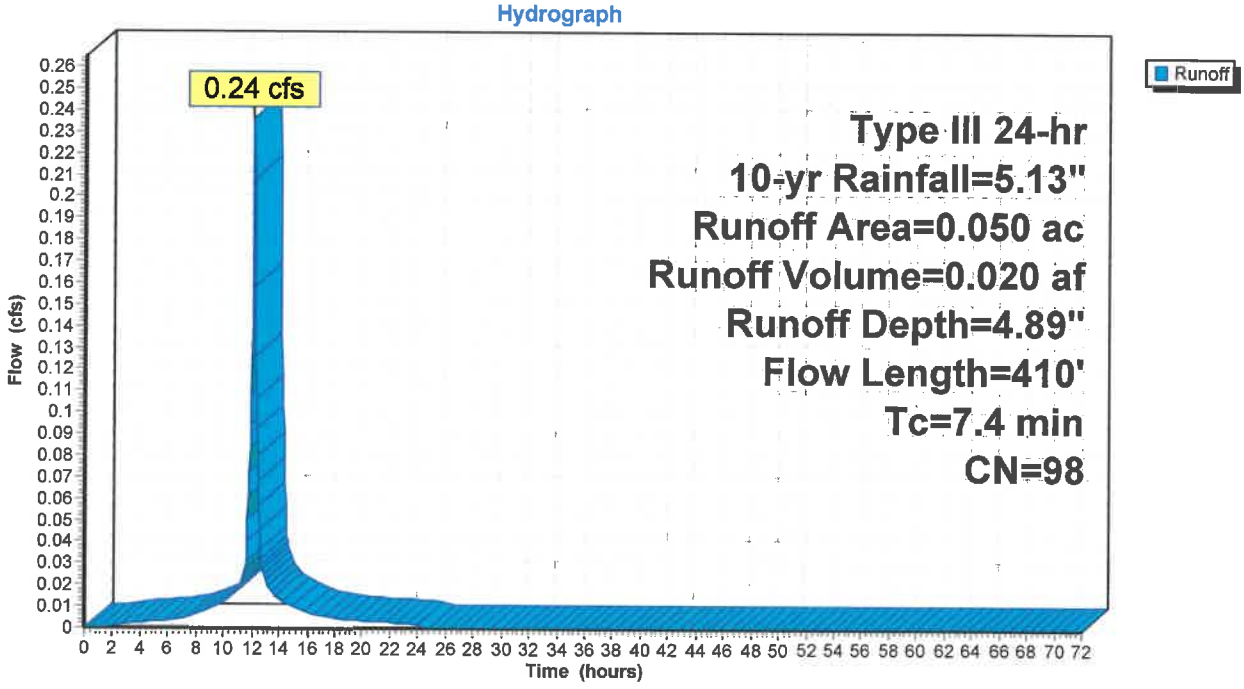
Runoff = 0.24 cfs @ 12.10 hrs, Volume= 0.020 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7 S: Existing Impervious



Summary for Subcatchment 1.7S: New Impervious and Pervious Area

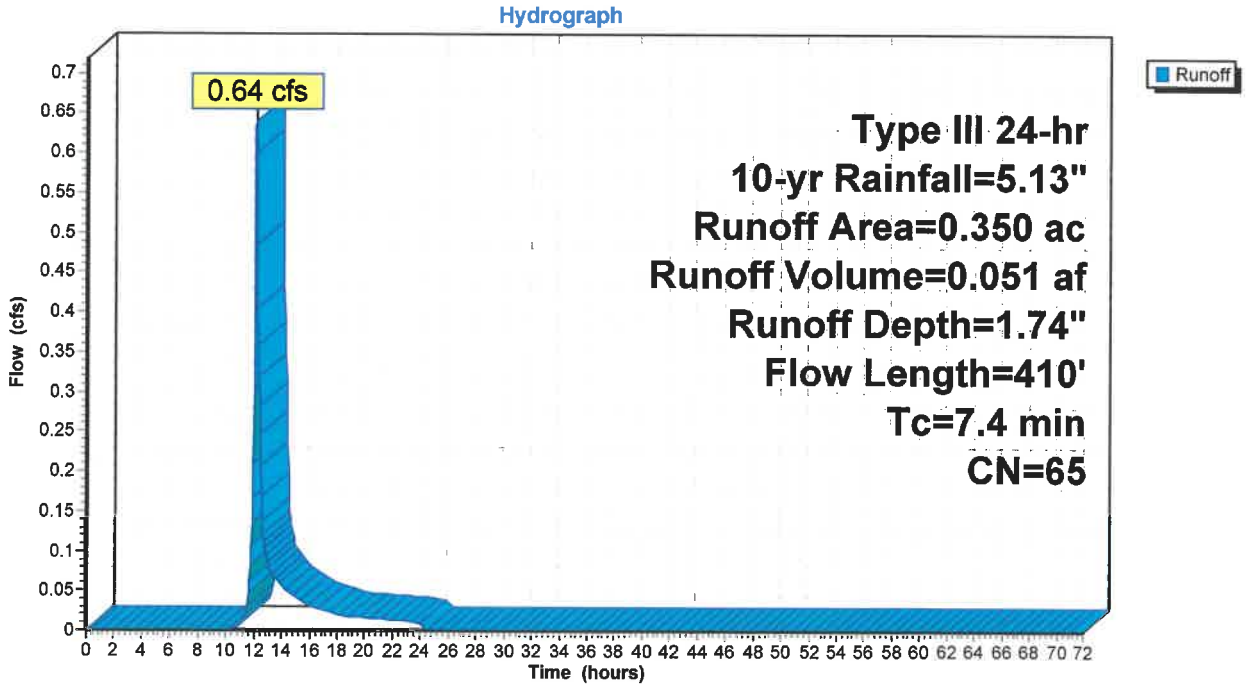
Runoff = 0.64 cfs @ 12.12 hrs, Volume= 0.051 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7S: New Impervious and Pervious Area



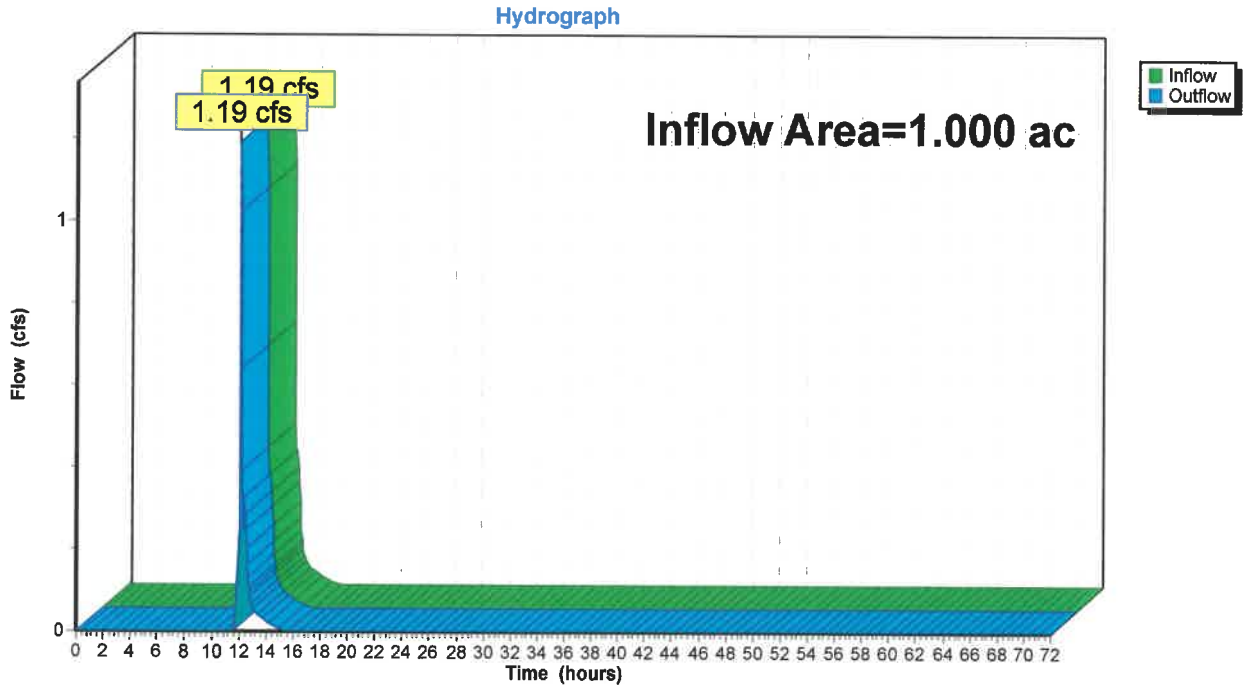
Summary for Reach DL3:

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

Inflow Area = 1.000 ac, 30.00% Impervious, Inflow Depth = 0.39" for 10-yr event
Inflow = 1.19 cfs @ 12.11 hrs, Volume= 0.033 af
Outflow = 1.19 cfs @ 12.11 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL3:



Summary for Pond 1.6P:

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 2.13" for 10-yr event
Inflow = 0.62 cfs @ 12.11 hrs, Volume= 0.106 af
Outflow = 0.31 cfs @ 11.85 hrs, Volume= 0.106 af, Atten= 51%, Lag= 0.0 min
Discarded = 0.31 cfs @ 11.85 hrs, Volume= 0.106 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 419.36' @ 12.58 hrs Surf.Area= 0.013 ac Storage= 0.013 af

Plug-Flow detention time= 8.3 min calculated for 0.106 af (100% of inflow)
Center-of-Mass det. time= 8.3 min (825.7 - 817.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	**11.00'W x 52.29'L x 3.50'H Field A** 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	**ADS_StormTech SC-740 +Cap** x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 7 Chambers
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	**23.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	420.30'	**6.0" Round 6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 419.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 11.85 hrs HW=417.91' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=417.80' (Free Discharge)
└**2=6.0" Round Culvert** (Controls 0.00 cfs)

Pond 1.6P: - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +5.0" End Stone x 2 = 52.29' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

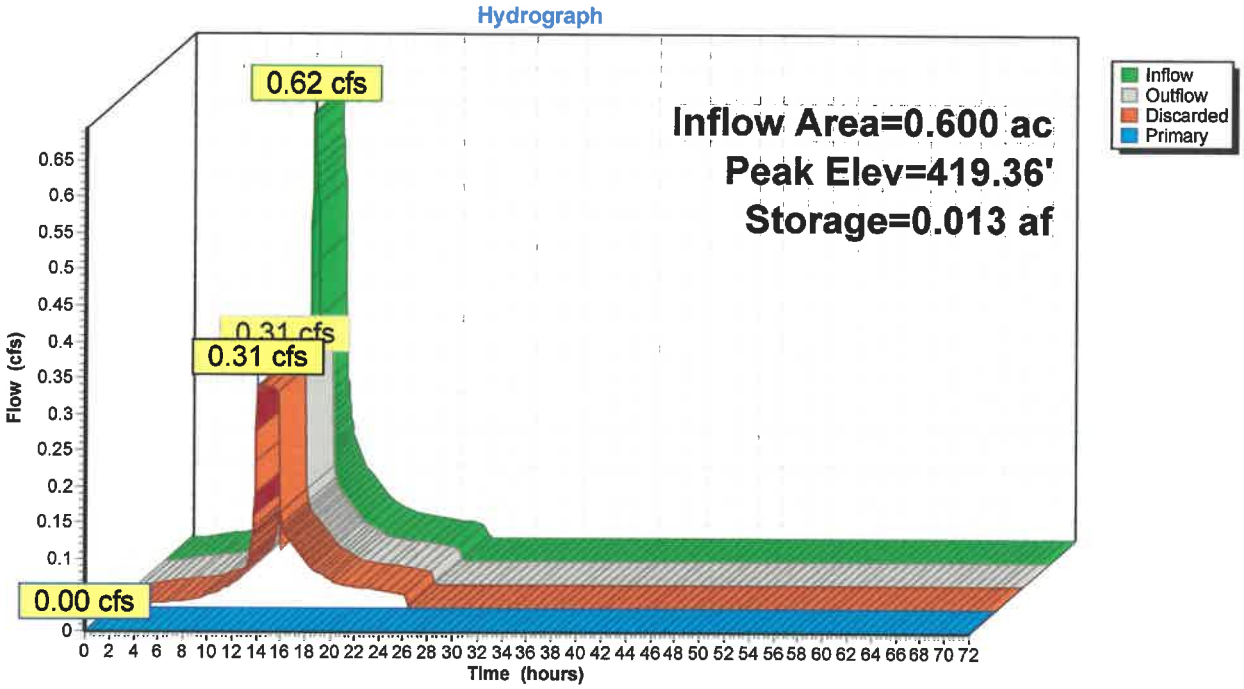
14 Chambers x 45.9 cf = 643.2 cf Chamber Storage

2,013.2 cf Field - 643.2 cf Chambers = 1,370.0 cf Stone x 40.0% Voids = 548.0 cf Stone Storage

Chamber Storage + Stone Storage = 1,191.2 cf = 0.027 af
Overall Storage Efficiency = 59.2%
Overall System Size = 52.29' x 11.00' x 3.50'

14 Chambers
74.6 cy Field
50.7 cy Stone

Pond 1.6P:


Hydrograph
0.62 cfs
0.31 cfs
0.31 cfs
0.00 cfs
Inflow Area=0.600 ac
Peak Elev=419.36'
Storage=0.013 af
Inflow
Outflow
Discarded
Primary
Flow (cfs)
0 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	**0.013**	0.000
417.85	0.013	0.000
417.90	0.013	0.001
417.95	0.013	0.001
418.00	0.013	0.001
418.05	0.013	0.001
418.10	0.013	0.002
418.15	0.013	0.002
418.20	0.013	0.002
418.25	0.013	0.002
418.30	0.013	0.003
418.35	0.013	0.003
418.40	0.013	0.004
418.45	0.013	0.004
418.50	0.013	0.005
418.55	0.013	0.005
418.60	0.013	0.006
418.65	0.013	0.006
418.70	0.013	0.007
418.75	0.013	0.007
418.80	0.013	0.008
418.85	0.013	0.008
418.90	0.013	0.009
418.95	0.013	0.009
419.00	0.013	0.010
419.05	0.013	0.010
419.10	0.013	0.011
419.15	0.013	0.011
419.20	0.013	0.012
419.25	0.013	0.012
419.30	0.013	0.013
419.35	0.013	0.013
419.40	0.013	0.014
419.45	0.013	0.014
419.50	0.013	0.015
419.55	0.013	0.015
419.60	0.013	0.016
419.65	0.013	0.016
419.70	0.013	0.016
419.75	0.013	0.017
419.80	0.013	0.017
419.85	0.013	0.018
419.90	0.013	0.018
419.95	0.013	0.019
420.00	0.013	0.019
420.05	0.013	0.020
420.10	0.013	0.020
420.15	0.013	0.020
420.20	0.013	0.021
420.25	0.013	0.021
420.30	0.013	0.022
420.35	0.013	0.022
420.40	0.013	0.022
420.45	0.013	0.023
420.50	0.013	0.023
420.55	0.013	0.023
420.60	0.013	0.024
420.65	0.013	0.024
420.70	0.013	0.024
420.75	0.013	0.024
420.80	0.013	0.025
420.85	0.013	0.025
420.90	0.013	0.025
420.95	0.013	0.025
421.00	0.013	0.026
421.05	0.013	0.026
421.10	0.013	0.026
421.15	0.013	0.027
421.20	0.013	0.027
421.25	0.013	0.027
421.30	0.013	**0.027**

Summary for Pond 1.7P:

[79] Warning: Submerged Pond CB FS 1.7 Primary device # 1 OUTLET by 0.15'

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 1.98" for 10-yr event
Inflow = 0.51 cfs @ 12.11 hrs, Volume= 0.066 af
Outflow = 0.33 cfs @ 12.44 hrs, Volume= 0.066 af, Atten= 35%, Lag= 19.8 min
Discarded = 0.05 cfs @ 11.55 hrs, Volume= 0.053 af
Primary = 0.28 cfs @ 12.44 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 397.95' @ 12.44 hrs Surf.Area= 0.010 ac Storage= 0.017 af

Plug-Flow detention time= 113.5 min calculated for 0.066 af (100% of inflow)
Center-of-Mass det. time= 113.5 min (950.2 - 836.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	**11.00'W x 38.05'L x 3.50'H Field A** 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	**ADS_StormTech SC-740 +Cap** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 5 Chambers
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	397.60'	**6.0" Round 6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 11.55 hrs HW=395.17' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.28 cfs @ 12.44 hrs HW=397.95' (Free Discharge)
↑—**2=6.0" Round Culvert** (Barrel Controls 0.28 cfs @ 2.68 fps)

Pond 1.7P: - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +5.0" End Stone x 2 = 38.05' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

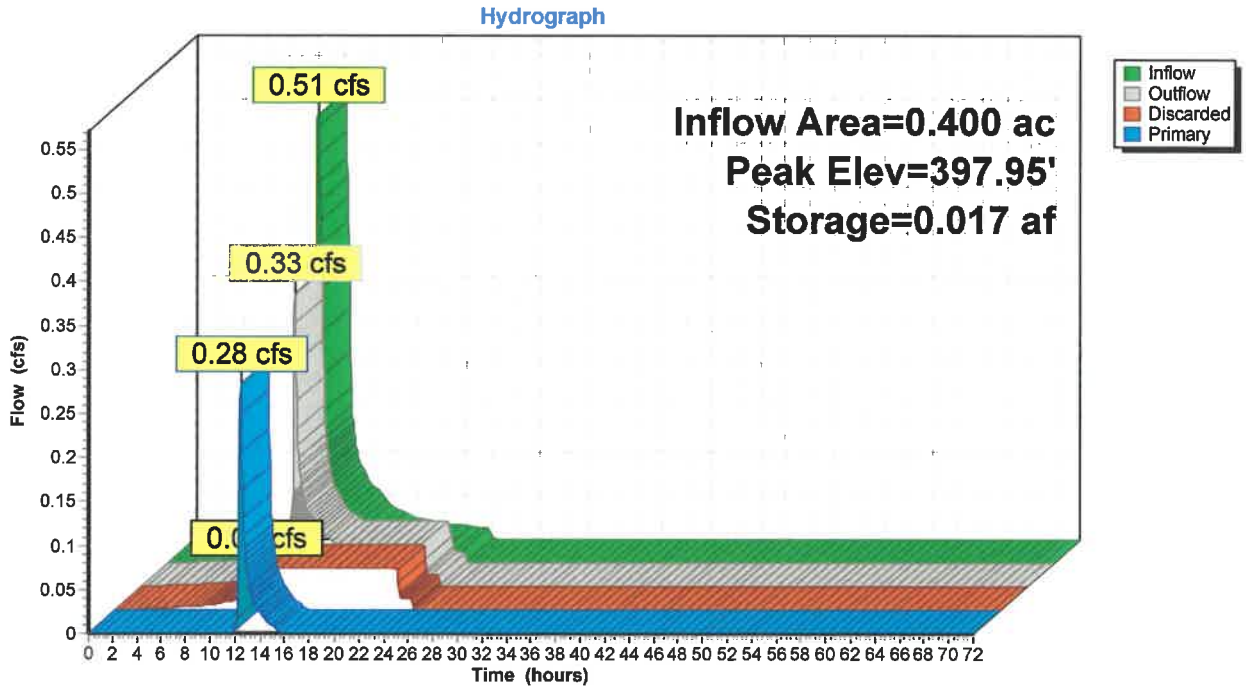
10 Chambers x 45.9 cf = 459.4 cf Chamber Storage

1,464.9 cf Field - 459.4 cf Chambers = 1,005.5 cf Stone x 40.0% Voids = 402.2 cf Stone Storage

Chamber Storage + Stone Storage = 861.6 cf = 0.020 af
Overall Storage Efficiency = 58.8%
Overall System Size = 38.05' x 11.00' x 3.50'

10 Chambers
54.3 cy Field
37.2 cy Stone

Pond 1.7P:


Hydrograph
0.51 cfs
0.33 cfs
0.28 cfs
Inflow Area=0.400 ac
Peak Elev=397.95'
Storage=0.017 af
Inflow
Outflow
Discarded
Primary
Flow (cfs)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	**0.010**	0.000
395.15	0.010	0.000
395.20	0.010	0.000
395.25	0.010	0.001
395.30	0.010	0.001
395.35	0.010	0.001
395.40	0.010	0.001
395.45	0.010	0.001
395.50	0.010	0.002
395.55	0.010	0.002
395.60	0.010	0.002
395.65	0.010	0.002
395.70	0.010	0.003
395.75	0.010	0.003
395.80	0.010	0.003
395.85	0.010	0.004
395.90	0.010	0.004
395.95	0.010	0.005
396.00	0.010	0.005
396.05	0.010	0.005
396.10	0.010	0.006
396.15	0.010	0.006
396.20	0.010	0.006
396.25	0.010	0.007
396.30	0.010	0.007
396.35	0.010	0.007
396.40	0.010	0.008
396.45	0.010	0.008
396.50	0.010	0.008
396.55	0.010	0.009
396.60	0.010	0.009
396.65	0.010	0.010
396.70	0.010	0.010
396.75	0.010	0.010
396.80	0.010	0.011
396.85	0.010	0.011
396.90	0.010	0.011
396.95	0.010	0.012
397.00	0.010	0.012
397.05	0.010	0.012
397.10	0.010	0.013
397.15	0.010	0.013
397.20	0.010	0.013
397.25	0.010	0.013
397.30	0.010	0.014
397.35	0.010	0.014
397.40	0.010	0.014
397.45	0.010	0.015
397.50	0.010	0.015
397.55	0.010	0.015
397.60	0.010	0.016
397.65	0.010	0.016
397.70	0.010	0.016
397.75	0.010	0.016
397.80	0.010	0.017
397.85	0.010	0.017
397.90	0.010	0.017
397.95	0.010	0.017
398.00	0.010	0.017
398.05	0.010	0.018
398.10	0.010	0.018
398.15	0.010	0.018
398.20	0.010	0.018
398.25	0.010	0.018
398.30	0.010	0.019
398.35	0.010	0.019
398.40	0.010	0.019
398.45	0.010	0.019
398.50	0.010	0.019
398.55	0.010	0.020
398.60	0.010	**0.020**

Summary for Pond CB FS 1.7:

[57] Hint: Peaked at 398.54' (Flood elevation advised)

Inflow Area =	0.400 ac,	25.00% Impervious,	Inflow Depth =	2.13"	for 10-yr event
Inflow =	0.88 cfs @	12.11 hrs,	Volume=	0.071 af	
Outflow =	0.88 cfs @	12.11 hrs,	Volume=	0.071 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.51 cfs @	12.11 hrs,	Volume=	0.066 af	
Secondary =	0.37 cfs @	12.11 hrs,	Volume=	0.005 af	

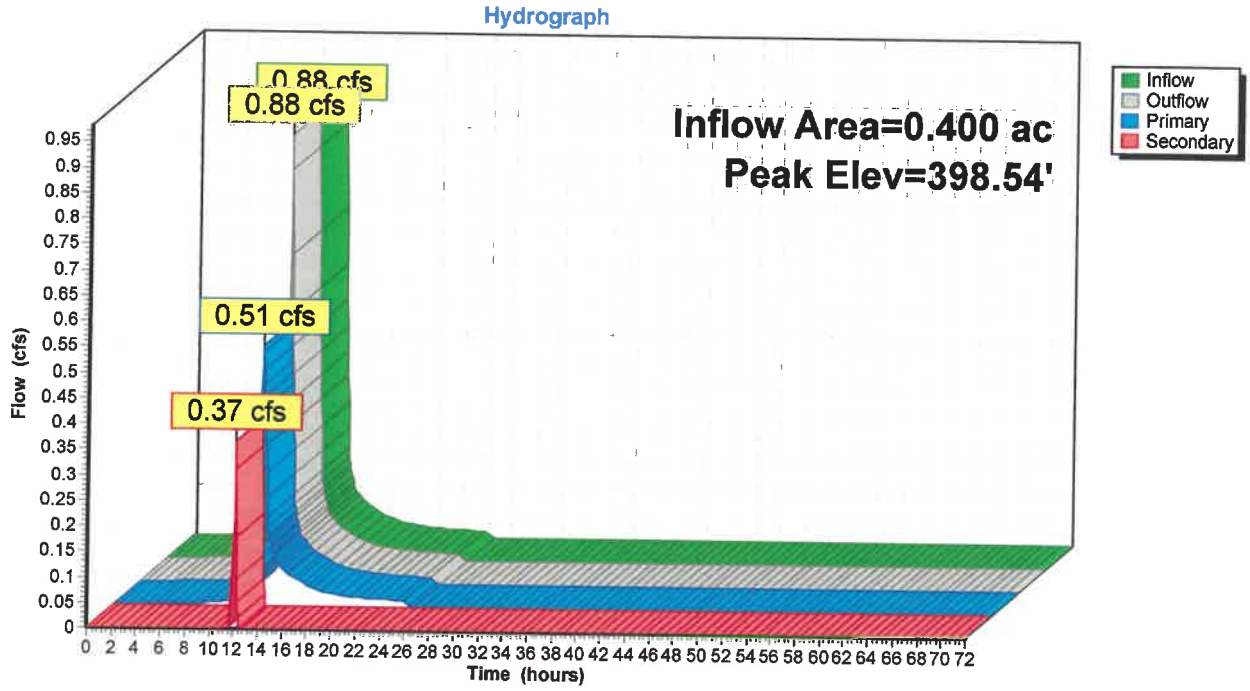
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.54' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	**6.0" Round 6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.50 cfs @ 12.11 hrs HW=398.54' (Free Discharge)
↑—**1=6.0" Round Culvert** (Inlet Controls 0.50 cfs @ 2.57 fps)

Secondary OutFlow Max=0.35 cfs @ 12.11 hrs HW=398.54' (Free Discharge)
↑—**2=Culvert** (Passes 0.35 cfs of 2.77 cfs potential flow)
↑—**3=Broad-Crested Rectangular Weir** (Weir Controls 0.35 cfs @ 1.03 fps)

Pond CB FS 1.7:


Hydrograph
0.88 cfs
0.88 cfs
0.51 cfs
0.37 cfs
Inflow Area=0.400 ac
Peak Elev=398.54'
Inflow
Outflow
Primary
Secondary
Flow (cfs)
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond CB FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	**0**	398.03	0
397.51	0	398.04	0
397.52	0	398.05	0
397.53	0	398.06	0
397.54	0	398.07	0
397.55	0	398.08	0
397.56	0	398.09	0
397.57	0	398.10	0
397.58	0	398.11	0
397.59	0	398.12	0
397.60	0	398.13	0
397.61	0	398.14	0
397.62	0	398.15	0
397.63	0	398.16	0
397.64	0	398.17	0
397.65	0	398.18	0
397.66	0	398.19	0
397.67	0	398.20	0
397.68	0	398.21	0
397.69	0	398.22	0
397.70	0	398.23	0
397.71	0	398.24	0
397.72	0	398.25	0
397.73	0	398.26	0
397.74	0	398.27	0
397.75	0	398.28	0
397.76	0	398.29	0
397.77	0	398.30	0
397.78	0	398.31	0
397.79	0	398.32	0
397.80	0	398.33	0
397.81	0	398.34	0
397.82	0	398.35	0
397.83	0	398.36	0
397.84	0	398.37	0
397.85	0	398.38	0
397.86	0	398.39	0
397.87	0	398.40	0
397.88	0	398.41	0
397.89	0	398.42	0
397.90	0	398.43	0
397.91	0	398.44	0
397.92	0	398.45	0
397.93	0	398.46	0
397.94	0	398.47	0
397.95	0	398.48	0
397.96	0	398.49	0
397.97	0	398.50	0
397.98	0	398.51	0
397.99	0	398.52	0
398.00	0	398.53	0
398.01	0	398.54	0
398.02	0		

Summary for Pond CB FS1.6:

[57] Hint: Peaked at 421.38' (Flood elevation advised)

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 2.42" for 10-yr event
Inflow = 1.45 cfs @ 12.11 hrs, Volume= 0.121 af
Outflow = 1.45 cfs @ 12.11 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.11 hrs, Volume= 0.106 af
Secondary = 0.83 cfs @ 12.11 hrs, Volume= 0.014 af

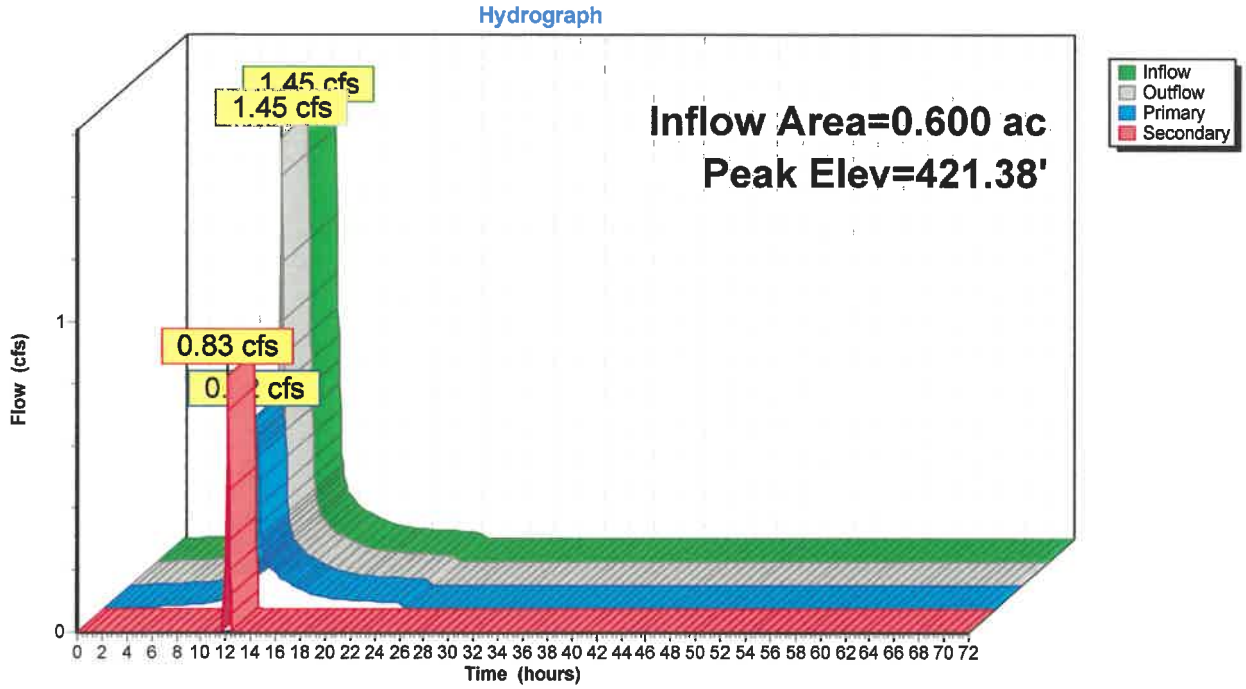
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 421.38' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	**6.0" Round 6.0" Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.62 cfs @ 12.11 hrs HW=421.37' (Free Discharge)
↑—**1=6.0" Culvert** (Barrel Controls 0.62 cfs @ 3.14 fps)

Secondary OutFlow Max=0.80 cfs @ 12.11 hrs HW=421.37' (Free Discharge)
↑—**2=Culvert** (Passes 0.80 cfs of 3.53 cfs potential flow)
↑—**3=Broad-Crested Rectangular Weir** (Weir Controls 0.80 cfs @ 1.16 fps)

Pond CB FS1.6:


Hydrograph
1.45 cfs
1.45 cfs
Inflow Area=0.600 ac
Peak Elev=421.38'
0.83 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond CB FS1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	0	420.53	0	421.06	0
420.01	0	420.54	0	421.07	0
420.02	0	420.55	0	421.08	0
420.03	0	420.56	0	421.09	0
420.04	0	420.57	0	421.10	0
420.05	0	420.58	0	421.11	0
420.06	0	420.59	0	421.12	0
420.07	0	420.60	0	421.13	0
420.08	0	420.61	0	421.14	0
420.09	0	420.62	0	421.15	0
420.10	0	420.63	0	421.16	0
420.11	0	420.64	0	421.17	0
420.12	0	420.65	0	421.18	0
420.13	0	420.66	0	421.19	0
420.14	0	420.67	0	421.20	0
420.15	0	420.68	0	421.21	0
420.16	0	420.69	0	421.22	0
420.17	0	420.70	0	421.23	0
420.18	0	420.71	0	421.24	0
420.19	0	420.72	0	421.25	0
420.20	0	420.73	0	421.26	0
420.21	0	420.74	0	421.27	0
420.22	0	420.75	0	421.28	0
420.23	0	420.76	0	421.29	0
420.24	0	420.77	0	421.30	0
420.25	0	420.78	0	421.31	0
420.26	0	420.79	0	421.32	0
420.27	0	420.80	0	421.33	0
420.28	0	420.81	0	421.34	0
420.29	0	420.82	0	421.35	0
420.30	0	420.83	0	421.36	0
420.31	0	420.84	0	421.37	0
420.32	0	420.85	0	421.38	0
420.33	0	420.86	0		
420.34	0	420.87	0		
420.35	0	420.88	0		
420.36	0	420.89	0		
420.37	0	420.90	0		
420.38	0	420.91	0		
420.39	0	420.92	0		
420.40	0	420.93	0		
420.41	0	420.94	0		
420.42	0	420.95	0		
420.43	0	420.96	0		
420.44	0	420.97	0		
420.45	0	420.98	0		
420.46	0	420.99	0		
420.47	0	421.00	0		
420.48	0	421.01	0		
420.49	0	421.02	0		
420.50	0	421.03	0		
420.51	0	421.04	0		
420.52	0	421.05	0		

Summary for Subcatchment 1.6 S: Existing Impervious

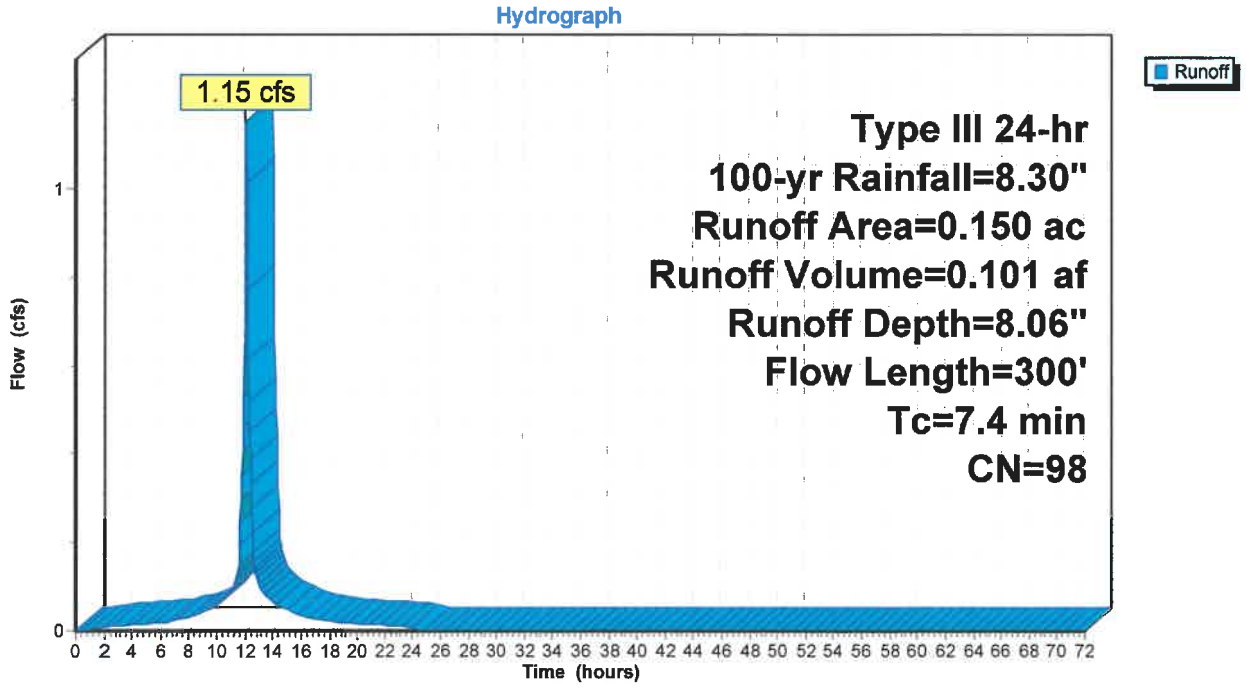
Runoff = 1.15 cfs @ 12.10 hrs, Volume= 0.101 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.150	98	Paved parking, HSG B
0.150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6 S: Existing Impervious



Summary for Subcatchment 1.6S: New Impervious and Pervious Area

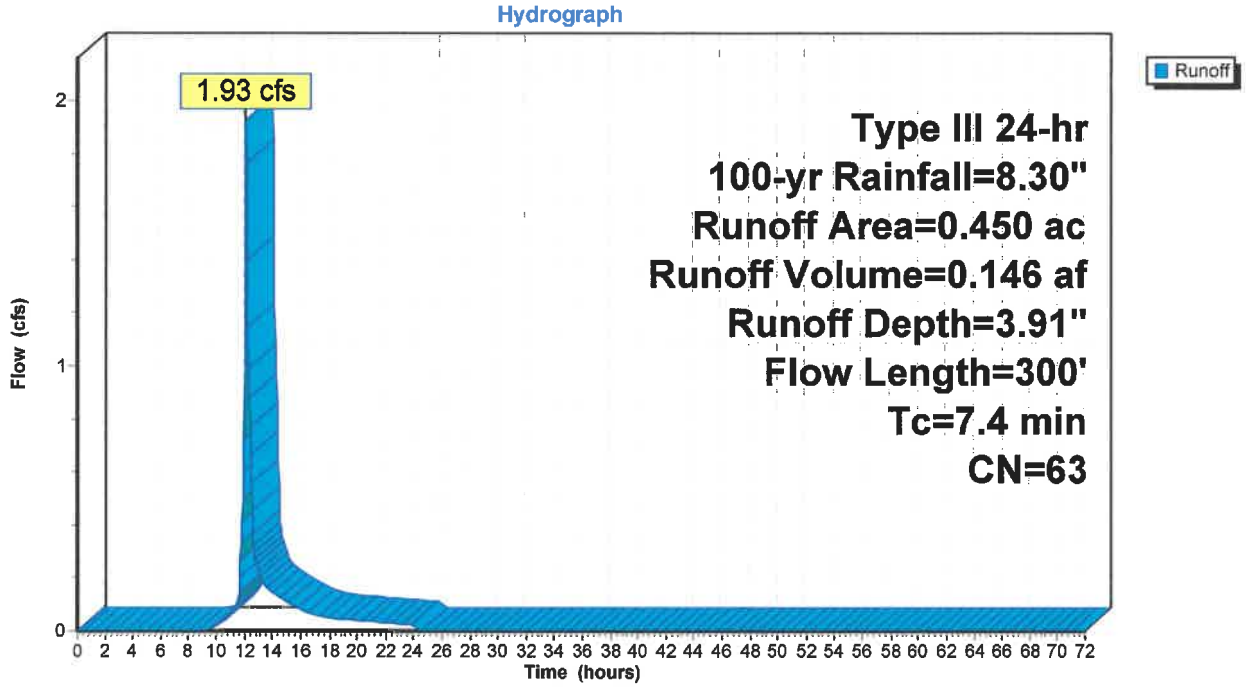
Runoff = 1.93 cfs @ 12.11 hrs, Volume= 0.146 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	55	Woods, Good, HSG B
0.250	61	>75% Grass cover, Good, HSG B
0.450	63	Weighted Average
0.400		88.89% Pervious Area
0.050		11.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	20	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	40	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	140	0.2000	6.71		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	300	Total			

Subcatchment 1.6S: New Impervious and Pervious Area



Summary for Subcatchment 1.7 S: Existing Impervious

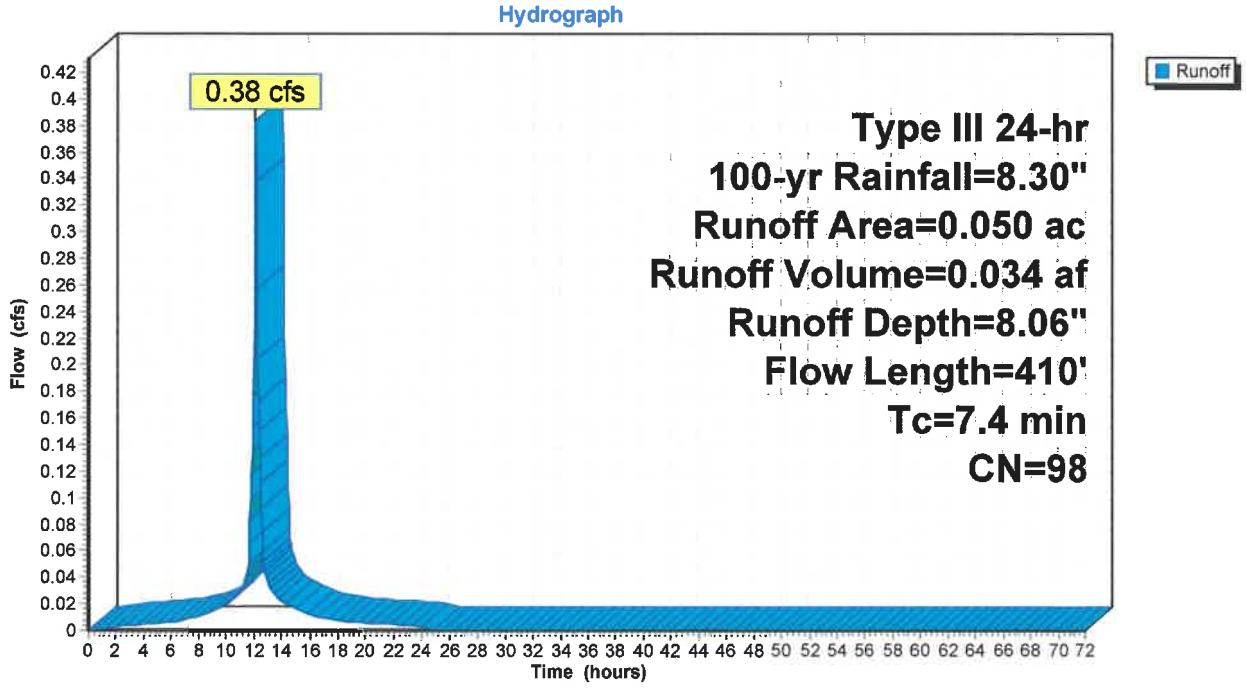
Runoff = 0.38 cfs @ 12.10 hrs, Volume= 0.034 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.050		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7 S: Existing Impervious



Summary for Subcatchment 1.7S: New Impervious and Pervious Area

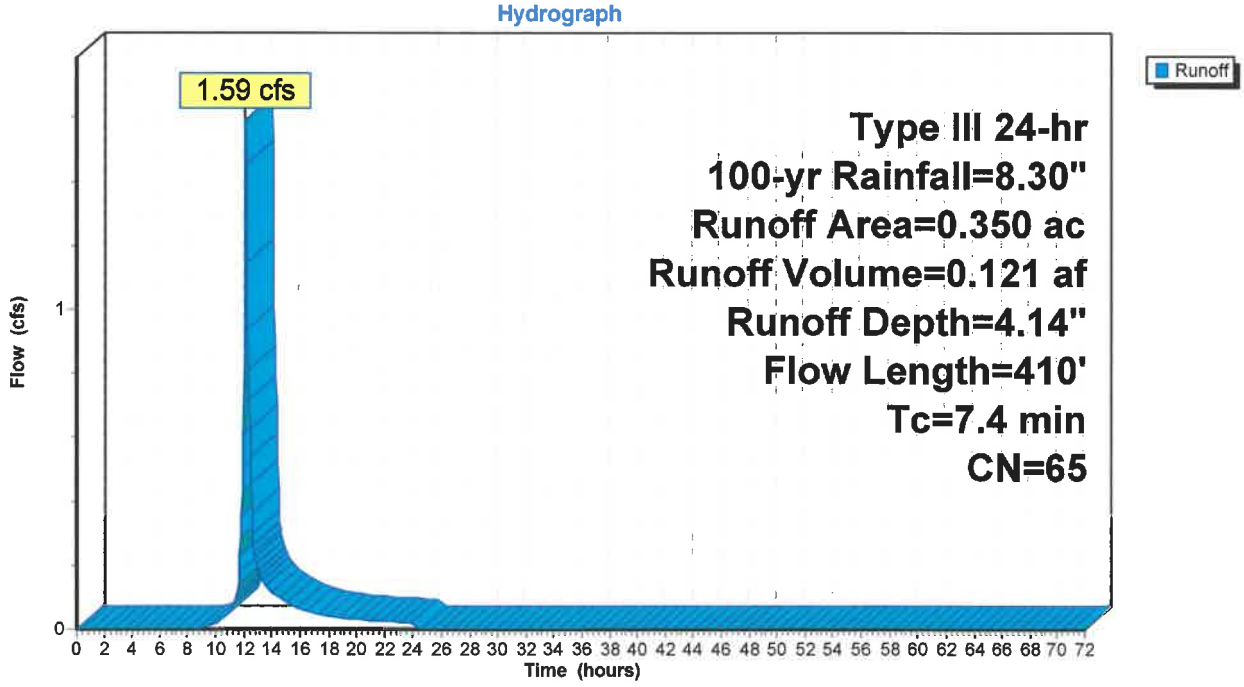
Runoff = 1.59 cfs @ 12.11 hrs, Volume= 0.121 af, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.30"

Area (ac)	CN	Description
0.050	98	Paved parking, HSG B
0.150	61	>75% Grass cover, Good, HSG B
0.150	58	Meadow, non-grazed, HSG B
0.350	65	Weighted Average
0.300		85.71% Pervious Area
0.050		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	45	0.1000	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.0	140	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	225	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.4	410	Total			

Subcatchment 1.7S: New Impervious and Pervious Area



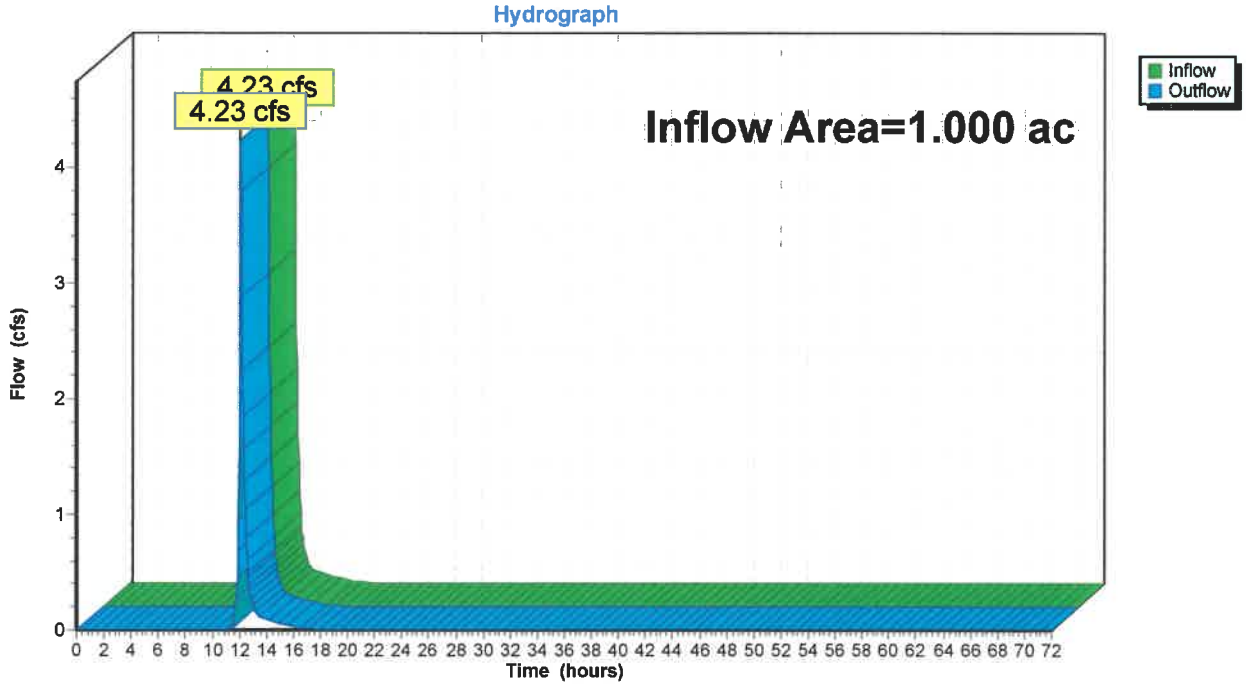
Summary for Reach DL3:

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

Inflow Area = 1.000 ac, 30.00% Impervious, Inflow Depth = 1.79" for 100-yr event
Inflow = 4.23 cfs @ 12.11 hrs, Volume= 0.149 af
Outflow = 4.23 cfs @ 12.11 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL3:



Summary for Pond 1.6P:

[79] Warning: Submerged Pond CB FS1.6 Primary device # 1 INLET by 0.05'

Inflow Area = 0.600 ac, 33.33% Impervious, Inflow Depth = 3.72" for 100-yr event
Inflow = 0.72 cfs @ 12.11 hrs, Volume= 0.186 af
Outflow = 0.46 cfs @ 12.68 hrs, Volume= 0.186 af, Atten= 36%, Lag= 34.1 min
Discarded = 0.31 cfs @ 11.65 hrs, Volume= 0.182 af
Primary = 0.15 cfs @ 12.68 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 420.55' @ 12.68 hrs Surf.Area= 0.013 ac Storage= 0.023 af

Plug-Flow detention time= 18.4 min calculated for 0.186 af (100% of inflow)
Center-of-Mass det. time= 18.3 min (841.1 - 822.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	417.80'	0.013 af	**11.00'W x 52.29'L x 3.50'H Field A** 0.046 af Overall - 0.015 af Embedded = 0.031 af x 40.0% Voids
#2A	418.30'	0.015 af	**ADS_StormTech SC-740 +Cap** x 14 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 7 Chambers
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	417.80'	**23.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	420.30'	**6.0" Round 6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.30' / 419.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.31 cfs @ 11.65 hrs HW=417.91' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.15 cfs @ 12.68 hrs HW=420.55' (Free Discharge)
↑—**2=6.0" Round Culvert** (Barrel Controls 0.15 cfs @ 2.31 fps)

Pond 1.6P: - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +5.0" End Stone x 2 = 52.29' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

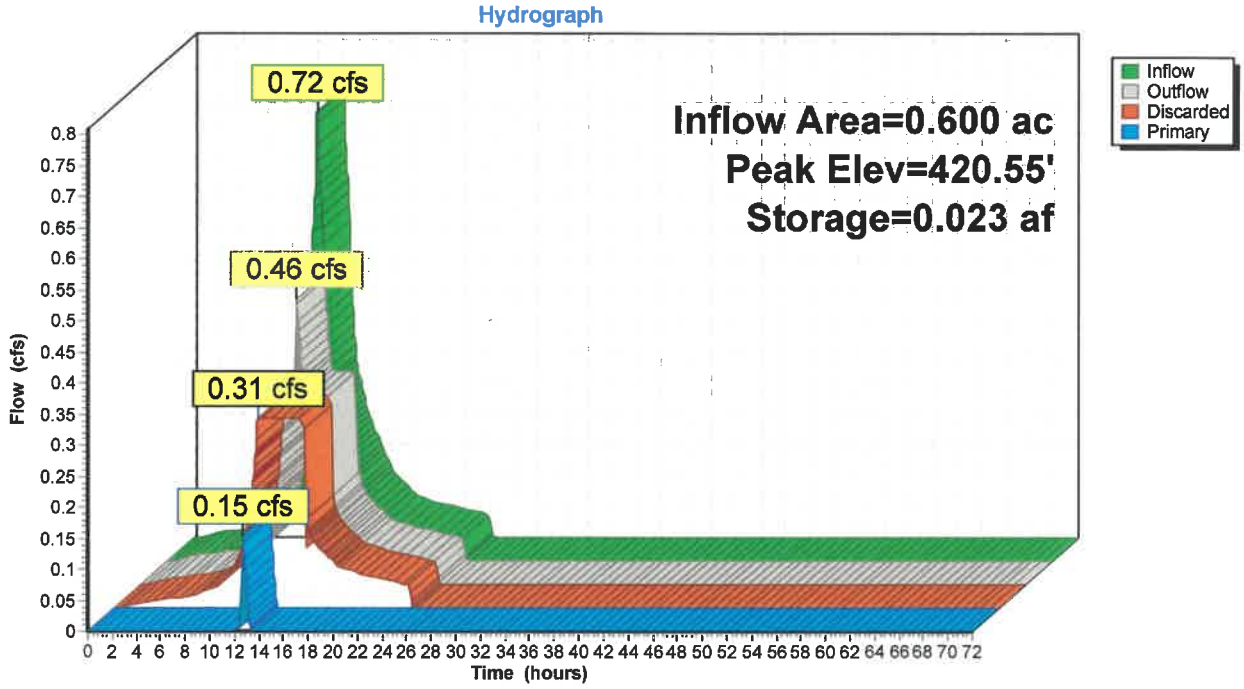
14 Chambers x 45.9 cf = 643.2 cf Chamber Storage

2,013.2 cf Field - 643.2 cf Chambers = 1,370.0 cf Stone x 40.0% Voids = 548.0 cf Stone Storage

Chamber Storage + Stone Storage = 1,191.2 cf = 0.027 af
Overall Storage Efficiency = 59.2%
Overall System Size = 52.29' x 11.00' x 3.50'

14 Chambers
74.6 cy Field
50.7 cy Stone

Pond 1.6P:


Hydrograph
0.72 cfs
0.46 cfs
0.31 cfs
0.15 cfs
Inflow Area=0.600 ac
Peak Elev=420.55'
Storage=0.023 af
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)

Stage-Area-Storage for Pond 1.6P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
417.80	**0.013**	0.000
417.85	0.013	0.000
417.90	0.013	0.001
417.95	0.013	0.001
418.00	0.013	0.001
418.05	0.013	0.001
418.10	0.013	0.002
418.15	0.013	0.002
418.20	0.013	0.002
418.25	0.013	0.002
418.30	0.013	0.003
418.35	0.013	0.003
418.40	0.013	0.004
418.45	0.013	0.004
418.50	0.013	0.005
418.55	0.013	0.005
418.60	0.013	0.006
418.65	0.013	0.006
418.70	0.013	0.007
418.75	0.013	0.007
418.80	0.013	0.008
418.85	0.013	0.008
418.90	0.013	0.009
418.95	0.013	0.009
419.00	0.013	0.010
419.05	0.013	0.010
419.10	0.013	0.011
419.15	0.013	0.011
419.20	0.013	0.012
419.25	0.013	0.012
419.30	0.013	0.013
419.35	0.013	0.013
419.40	0.013	0.014
419.45	0.013	0.014
419.50	0.013	0.015
419.55	0.013	0.015
419.60	0.013	0.016
419.65	0.013	0.016
419.70	0.013	0.016
419.75	0.013	0.017
419.80	0.013	0.017
419.85	0.013	0.018
419.90	0.013	0.018
419.95	0.013	0.019
420.00	0.013	0.019
420.05	0.013	0.020
420.10	0.013	0.020
420.15	0.013	0.020
420.20	0.013	0.021
420.25	0.013	0.021
420.30	0.013	0.022
420.35	0.013	0.022
420.40	0.013	0.022
420.45	0.013	0.023
420.50	0.013	0.023
420.55	0.013	0.023
420.60	0.013	0.024
420.65	0.013	0.024
420.70	0.013	0.024
420.75	0.013	0.024
420.80	0.013	0.025
420.85	0.013	0.025
420.90	0.013	0.025
420.95	0.013	0.025
421.00	0.013	0.026
421.05	0.013	0.026
421.10	0.013	0.026
421.15	0.013	0.027
421.20	0.013	0.027
421.25	0.013	0.027
421.30	0.013	**0.027**

Summary for Pond 1.7P:

[79] Warning: Submerged Pond CB FS 1.7 Primary device # 1 INLET by 0.21'

Inflow Area = 0.400 ac, 25.00% Impervious, Inflow Depth = 3.70" for 100-yr event
Inflow = 0.65 cfs @ 12.11 hrs, Volume= 0.123 af
Outflow = 0.62 cfs @ 12.17 hrs, Volume= 0.123 af, Atten= 5%, Lag= 3.8 min
Discarded = 0.05 cfs @ 10.40 hrs, Volume= 0.071 af
Primary = 0.57 cfs @ 12.17 hrs, Volume= 0.052 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.22' @ 12.17 hrs Surf.Area= 0.010 ac Storage= 0.018 af

Plug-Flow detention time= 93.2 min calculated for 0.123 af (100% of inflow)
Center-of-Mass det. time= 93.2 min (929.4 - 836.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	395.10'	0.009 af	**11.00'W x 38.05'L x 3.50'H Field A** 0.034 af Overall - 0.011 af Embedded = 0.023 af x 40.0% Voids
#2A	395.60'	0.011 af	**ADS_StormTech SC-740 +Cap** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 2 Rows of 5 Chambers
		0.020 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	395.10'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.05'
#2	Primary	397.60'	**6.0" Round 6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.60' / 397.10' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.05 cfs @ 10.40 hrs HW=395.18' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.57 cfs @ 12.17 hrs HW=398.21' (Free Discharge)
↑**2=6.0" Round Culvert** (Barrel Controls 0.57 cfs @ 3.00 fps)

Pond 1.7P: - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

5 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 37.22' Row Length +5.0" End Stone x 2 = 38.05' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

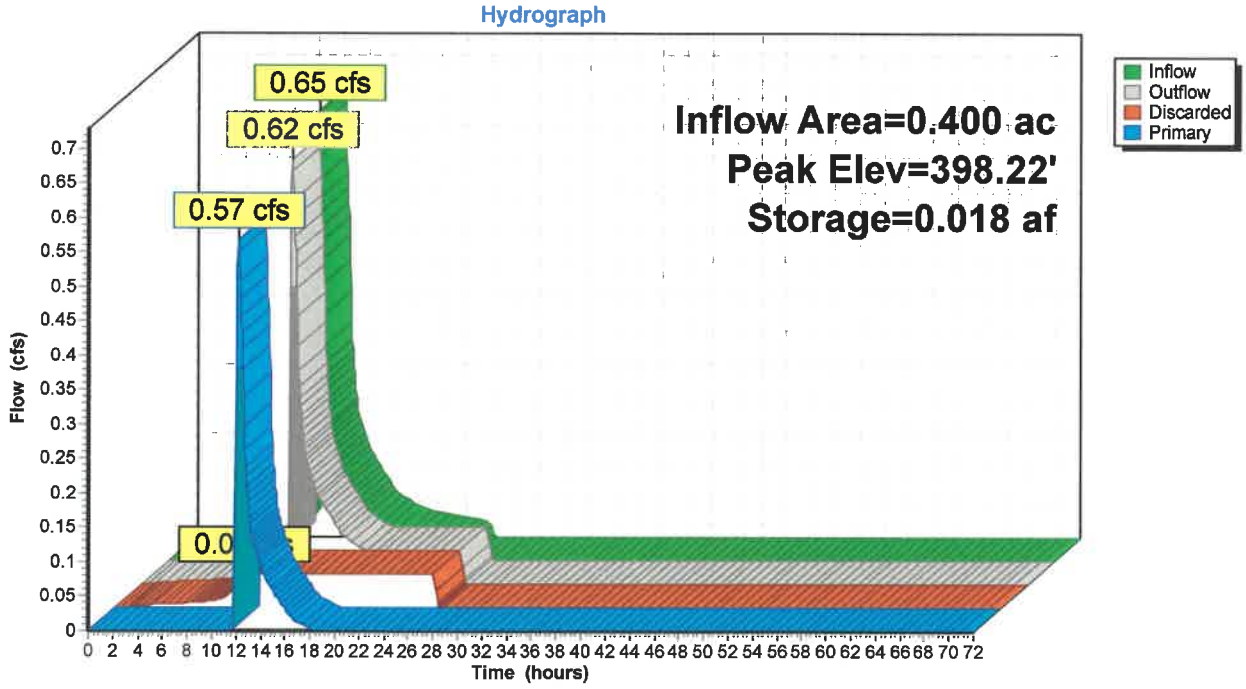
10 Chambers x 45.9 cf = 459.4 cf Chamber Storage

1,464.9 cf Field - 459.4 cf Chambers = 1,005.5 cf Stone x 40.0% Voids = 402.2 cf Stone Storage

Chamber Storage + Stone Storage = 861.6 cf = 0.020 af
Overall Storage Efficiency = 58.8%
Overall System Size = 38.05' x 11.00' x 3.50'

10 Chambers
54.3 cy Field
37.2 cy Stone

Pond 1.7P:


Hydrograph
0.65 cfs
0.62 cfs
0.57 cfs
Inflow Area=0.400 ac
Peak Elev=398.22'
Storage=0.018 af
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)

Stage-Area-Storage for Pond 1.7P:

Elevation (feet)	Horizontal (acres)	Storage (acre-feet)
395.10	**0.010**	0.000
395.15	0.010	0.000
395.20	0.010	0.000
395.25	0.010	0.001
395.30	0.010	0.001
395.35	0.010	0.001
395.40	0.010	0.001
395.45	0.010	0.001
395.50	0.010	0.002
395.55	0.010	0.002
395.60	0.010	0.002
395.65	0.010	0.002
395.70	0.010	0.003
395.75	0.010	0.003
395.80	0.010	0.003
395.85	0.010	0.004
395.90	0.010	0.004
395.95	0.010	0.005
396.00	0.010	0.005
396.05	0.010	0.005
396.10	0.010	0.006
396.15	0.010	0.006
396.20	0.010	0.006
396.25	0.010	0.007
396.30	0.010	0.007
396.35	0.010	0.007
396.40	0.010	0.008
396.45	0.010	0.008
396.50	0.010	0.008
396.55	0.010	0.009
396.60	0.010	0.009
396.65	0.010	0.010
396.70	0.010	0.010
396.75	0.010	0.010
396.80	0.010	0.011
396.85	0.010	0.011
396.90	0.010	0.011
396.95	0.010	0.012
397.00	0.010	0.012
397.05	0.010	0.012
397.10	0.010	0.013
397.15	0.010	0.013
397.20	0.010	0.013
397.25	0.010	0.013
397.30	0.010	0.014
397.35	0.010	0.014
397.40	0.010	0.014
397.45	0.010	0.015
397.50	0.010	0.015
397.55	0.010	0.015
397.60	0.010	0.016
397.65	0.010	0.016
397.70	0.010	0.016
397.75	0.010	0.016
397.80	0.010	0.017
397.85	0.010	0.017
397.90	0.010	0.017
397.95	0.010	0.017
398.00	0.010	0.017
398.05	0.010	0.018
398.10	0.010	0.018
398.15	0.010	0.018
398.20	0.010	0.018
398.25	0.010	0.018
398.30	0.010	0.019
398.35	0.010	0.019
398.40	0.010	0.019
398.45	0.010	0.019
398.50	0.010	0.019
398.55	0.010	0.020
398.60	0.010	**0.020**

Summary for Pond CB FS 1.7:

[57] Hint: Peaked at 398.72' (Flood elevation advised)

Inflow Area =	0.400 ac,	25.00% Impervious,	Inflow Depth =	4.63"	for 100-yr event
Inflow =	1.98 cfs @	12.11 hrs,	Volume=	0.154 af	
Outflow =	1.98 cfs @	12.11 hrs,	Volume=	0.154 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.65 cfs @	12.11 hrs,	Volume=	0.123 af	
Secondary =	1.33 cfs @	12.11 hrs,	Volume=	0.031 af	

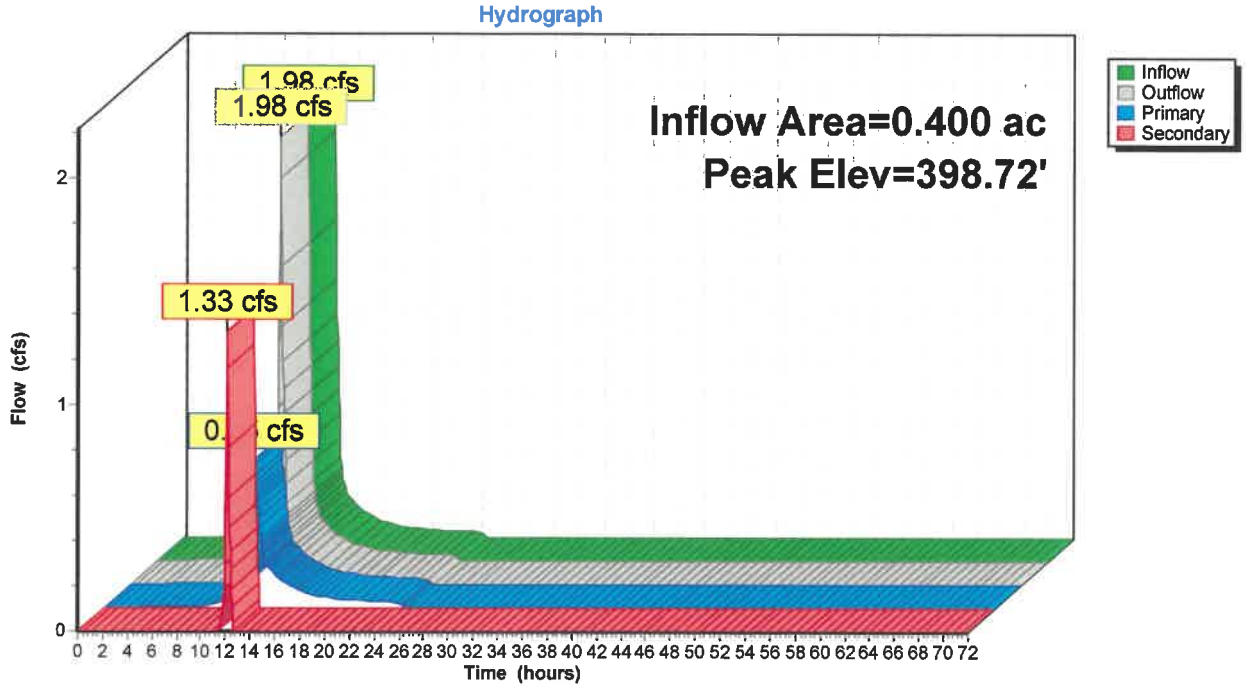
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 398.72' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	398.00'	**6.0" Round 6.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 398.00' / 397.80' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	397.50'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 397.50' / 397.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	398.40'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.65 cfs @ 12.11 hrs HW=398.72' (Free Discharge)
↑—**1=6.0" Round Culvert** (Inlet Controls 0.65 cfs @ 3.30 fps)

Secondary OutFlow Max=1.29 cfs @ 12.11 hrs HW=398.72' (Free Discharge)
↑—**2=Culvert** (Passes 1.29 cfs of 3.21 cfs potential flow)
↑—**3=Broad-Crested Rectangular Weir** (Weir Controls 1.29 cfs @ 1.62 fps)

Pond CB FS 1.7:


Hydrograph
Inflow Area=0.400 ac
Peak Elev=398.72'
1.98 cfs
1.98 cfs
1.33 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0 1 2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Stage-Area-Storage for Pond CB FS 1.7:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
397.50	0	398.03	0	398.56	0
397.51	0	398.04	0	398.57	0
397.52	0	398.05	0	398.58	0
397.53	0	398.06	0	398.59	0
397.54	0	398.07	0	398.60	0
397.55	0	398.08	0	398.61	0
397.56	0	398.09	0	398.62	0
397.57	0	398.10	0	398.63	0
397.58	0	398.11	0	398.64	0
397.59	0	398.12	0	398.65	0
397.60	0	398.13	0	398.66	0
397.61	0	398.14	0	398.67	0
397.62	0	398.15	0	398.68	0
397.63	0	398.16	0	398.69	0
397.64	0	398.17	0	398.70	0
397.65	0	398.18	0	398.71	0
397.66	0	398.19	0	398.72	0
397.67	0	398.20	0	398.73	0
397.68	0	398.21	0		
397.69	0	398.22	0		
397.70	0	398.23	0		
397.71	0	398.24	0		
397.72	0	398.25	0		
397.73	0	398.26	0		
397.74	0	398.27	0		
397.75	0	398.28	0		
397.76	0	398.29	0		
397.77	0	398.30	0		
397.78	0	398.31	0		
397.79	0	398.32	0		
397.80	0	398.33	0		
397.81	0	398.34	0		
397.82	0	398.35	0		
397.83	0	398.36	0		
397.84	0	398.37	0		
397.85	0	398.38	0		
397.86	0	398.39	0		
397.87	0	398.40	0		
397.88	0	398.41	0		
397.89	0	398.42	0		
397.90	0	398.43	0		
397.91	0	398.44	0		
397.92	0	398.45	0		
397.93	0	398.46	0		
397.94	0	398.47	0		
397.95	0	398.48	0		
397.96	0	398.49	0		
397.97	0	398.50	0		
397.98	0	398.51	0		
397.99	0	398.52	0		
398.00	0	398.53	0		
398.01	0	398.54	0		
398.02	0	398.55	0		

Summary for Pond CB FS1.6:

[57] Hint: Peaked at 421.55' (Flood elevation advised)

Inflow Area =	0.600 ac,	33.33% Impervious,	Inflow Depth =	4.94" for 100-yr event
Inflow =	3.08 cfs @	12.11 hrs, Volume=	0.247 af	
Outflow =	3.08 cfs @	12.11 hrs, Volume=	0.247 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.72 cfs @	12.11 hrs, Volume=	0.186 af	
Secondary =	2.36 cfs @	12.11 hrs, Volume=	0.061 af	

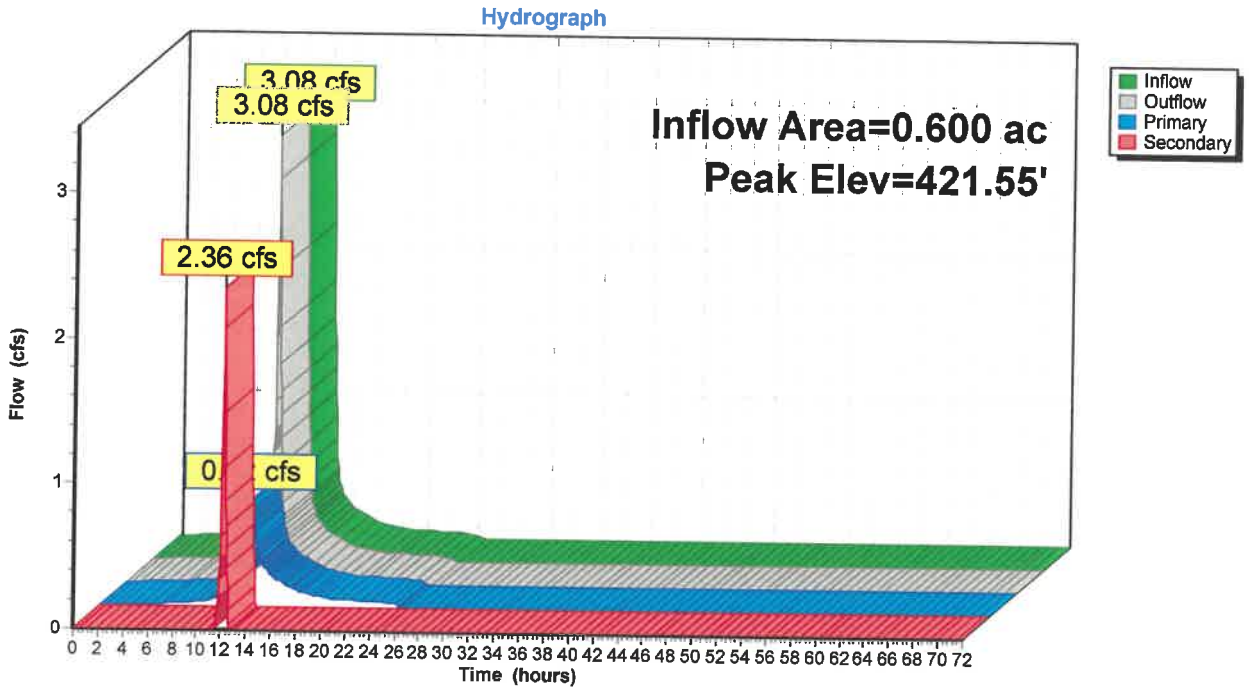
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 421.55' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	420.50'	**6.0" Round 6.0" Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.50' / 420.40' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	420.00'	**12.0" Round Culvert** L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 420.00' / 419.00' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	421.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.72 cfs @ 12.11 hrs HW=421.54' (Free Discharge)
↑—**1=6.0" Culvert** (Barrel Controls 0.72 cfs @ 3.66 fps)

Secondary OutFlow Max=2.30 cfs @ 12.11 hrs HW=421.54' (Free Discharge)
↑—**2=Culvert** (Passes 2.30 cfs of 3.86 cfs potential flow)
↑—**3=Broad-Crested Rectangular Weir** (Weir Controls 2.30 cfs @ 1.69 fps)

Pond CB FS1.6:


Hydrograph
3.08 cfs
3.08 cfs
Inflow Area=0.600 ac
Peak Elev=421.55'
2.36 cfs
0. cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
0
1
2
3
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Stage-Area-Storage for Pond CB FS1.6:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
420.00	0	420.53	0	421.06	0
420.01	0	420.54	0	421.07	0
420.02	0	420.55	0	421.08	0
420.03	0	420.56	0	421.09	0
420.04	0	420.57	0	421.10	0
420.05	0	420.58	0	421.11	0
420.06	0	420.59	0	421.12	0
420.07	0	420.60	0	421.13	0
420.08	0	420.61	0	421.14	0
420.09	0	420.62	0	421.15	0
420.10	0	420.63	0	421.16	0
420.11	0	420.64	0	421.17	0
420.12	0	420.65	0	421.18	0
420.13	0	420.66	0	421.19	0
420.14	0	420.67	0	421.20	0
420.15	0	420.68	0	421.21	0
420.16	0	420.69	0	421.22	0
420.17	0	420.70	0	421.23	0
420.18	0	420.71	0	421.24	0
420.19	0	420.72	0	421.25	0
420.20	0	420.73	0	421.26	0
420.21	0	420.74	0	421.27	0
420.22	0	420.75	0	421.28	0
420.23	0	420.76	0	421.29	0
420.24	0	420.77	0	421.30	0
420.25	0	420.78	0	421.31	0
420.26	0	420.79	0	421.32	0
420.27	0	420.80	0	421.33	0
420.28	0	420.81	0	421.34	0
420.29	0	420.82	0	421.35	0
420.30	0	420.83	0	421.36	0
420.31	0	420.84	0	421.37	0
420.32	0	420.85	0	421.38	0
420.33	0	420.86	0	421.39	0
420.34	0	420.87	0	421.40	0
420.35	0	420.88	0	421.41	0
420.36	0	420.89	0	421.42	0
420.37	0	420.90	0	421.43	0
420.38	0	420.91	0	421.44	0
420.39	0	420.92	0	421.45	0
420.40	0	420.93	0	421.46	0
420.41	0	420.94	0	421.47	0
420.42	0	420.95	0	421.48	0
420.43	0	420.96	0	421.49	0
420.44	0	420.97	0	421.50	0
420.45	0	420.98	0	421.51	0
420.46	0	420.99	0	421.52	0
420.47	0	421.00	0	421.53	0
420.48	0	421.01	0	421.54	0
420.49	0	421.02	0	421.55	0
420.50	0	421.03	0		
420.51	0	421.04	0		
420.52	0	421.05	0		

APPENDIX G: HYDRODYNAMICS SEPARATOR SIZING AND MAINTENANCE

State of New Jersey

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code – 401-02B
Division of Water Quality
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Phone: (609) 633-7021 / Fax: (609) 777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CATHERINE R. McCABE
Acting Commissioner

March 27, 2018

Graham Bryant, M.Sc., P.E.
President
Hydroworks, LLC
136 Central Avenue
Clark, NJ 07066

Re: MTD Lab Certification
HydroStorm Hydrodynamic Separator by Hydroworks, LLC
Online Installation

TSS Removal Rate 50%

Dear Mr. Bryant:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7 (c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Hydroworks, LLC has requested an MTD Laboratory Certification for the Hydroworks HydroStorm Hydrodynamic Separator.

The project falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated February 2018) for this device is published online at http://www.njcat.org/verification-process/technology-verification-database.html.

The NJDEP certifies the use of the HydroStorm by Hydroworks, LLC at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.

2. The HydroStorm shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.

3. This HydroStorm cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual, which can be found online at www.njstormwater.org.

5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the Hydrostorm. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at http://www.hydroworks.com/hydrostormo&m.pdf for any changes to the maintenance requirements.

6. Sizing Requirement:

   The example below demonstrates the sizing procedure for the Hydrostorm:

   Example: A 0.25-acre impervious site is to be treated to 50% TSS removal using a HydroStorm. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

   Maximum Treatment Flow Rate (MTFR) Evaluation:

   The site runoff (Q) was based on the following:
   time of concentration = 10 minutes
   i = 3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)
   c = 0.99 (runoff coefficient for impervious)
   Q = ciA = 0.99 x 3.2 x 0.25 = 0.79 cfs

   Given the site runoff is 0.79 cfs and based on Table 1 below, the HydroStorm Model HS4 with a MTFR of 0.88 cfs could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

   The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1.

Table 1 HydroStorm Sizing Information

HydroStorm Model	NJDEP 50% TSS Maximum Treatment Flow Rate (cfs)	Treatment Area (ft^2)	Hydraulic Loading Rate (gpm/ft^2)	50% Maximum Sediment Storage (ft^3)
HS3	0.50	7.1	31.4	3.6
HS4	0.88	12.6	31.4	6.3
HS5	1.37	19.6	31.4	9.8
HS6	1.98	28.3	31.4	14.2
HS7	2.69	38.5	31.4	19.3
HS8	3.52	50.3	31.4	25.2
HS9	4.45	63.6	31.4	31.8
HS10	5.49	78.5	31.4	39.3
HS11	6.65	95.0	31.4	47.5
HS12	7.91	113.0	31.4	56.5

A detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in the Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Brian Salvo or Nick Grotts of my office at (609) 633-7021.

Sincerely,

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan

cc: Chron File
Richard Magee, NJCAT
Vince Mazzei, NJDEP - DLUR
Ravi Patraju, NJDEP - BES
Gabriel Mahon, NJDEP - BNPC
Brian Salvo, NJDEP – BNPC
Nick Grotts, NJDEP – BNPC

Hydroworks® HydroStorm

Operations & Maintenance Manual

Version 1.0

Please call Hydroworks at 888-290-7900 or email us at support@hydroworks.com if you have any questions regarding the Inspection Checklist. Please fax a copy of the completed checklist to Hydroworks at 888-783-7271 for our records.

Introduction

The HydroStorm is a state of the art hydrodynamic separator. Hydrodynamic separators remove solids, debris and lighter than water (oil, trash, floating debris) pollutants from stormwater. Hydrodynamic separators and other water quality measures are mandated by regulatory agencies (Town/City, State, Federal Government) to protect storm water quality from pollution generated by urban development (traffic, people) as part of new development permitting requirements.

As storm water treatment structures fill up with pollutants they become less and less effective in removing new pollution. Therefore, it is important that storm water treatment structures be maintained on a regular basis to ensure that they are operating at optimum performance. The HydroStorm is no different in this regard and this manual has been assembled to provide the owner/operator with the necessary information to inspect and coordinate maintenance of their HydroStorm.

Hydroworks® HydroStorm Operation

The Hydroworks HydroStorm (HS) separator is a unique hydrodynamic by-pass separator. It incorporates a protected submerged pretreatment zone to collect larger solids, a treatment tank to remove finer solids, and a dual set of weirs to create a high flow bypass. High flows are conveyed directly to the outlet and do not enter the treatment area, however, the submerged pretreatment area still allows removal of coarse solids during high flows.

Under normal or low flows, water enters an inlet area with a horizontal grate. The area underneath the grate is submerged with openings to the main treatment area of the separator. Coarse solids fall through the grate and are either trapped in the pretreatment area or conveyed into the main treatment area depending on the flow rate. Fines are transported into the main treatment area. Openings and weirs in the pretreatment area allow entry of water and solids into the main treatment area and cause water to rotate in the main treatment area creating a vortex motion. Water in the main treatment area is forced to rise along the walls of the separator to discharge from the treatment area to the downstream pipe.

The vortex motion forces solids and floatables to the middle of the inner chamber. Floatables are trapped since the inlet to the treatment area is submerged. The design maximizes the retention of settled solids since solids are forced to the center of the inner chamber by the vortex motion of water while water must flow up the walls of the separator to discharge into the downstream pipe.

A set of high flow weirs near the outlet pipe create a high flow bypass over both the pretreatment area and main treatment chamber. The rate of flow into the treatment area is regulated by the number and size of openings into the treatment chamber and the height of by-pass weirs. High flows flow over the weirs directly to the outlet pipe preventing the scour and resuspension of any fines collected in the treatment chamber.

A central access tube is located in the structure to provide access for cleaning. The arrangement of the inlet area and bypass weirs near the outlet pipe facilitate the use of multiple inlet pipes.

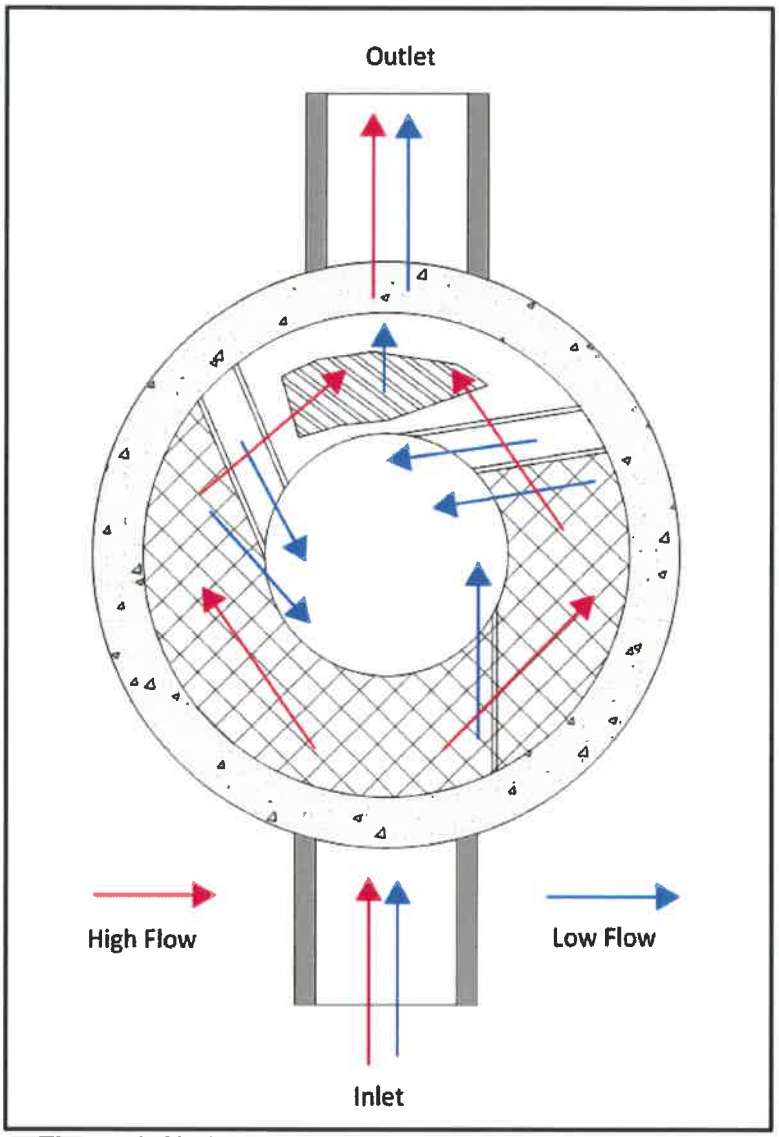


Figure 1. Hydroworks HydroStorm Operation – Plan View

Figure 2 is a profile view of the HydroStorm separator showing the flow patterns for low and high flows.

Hydroworks

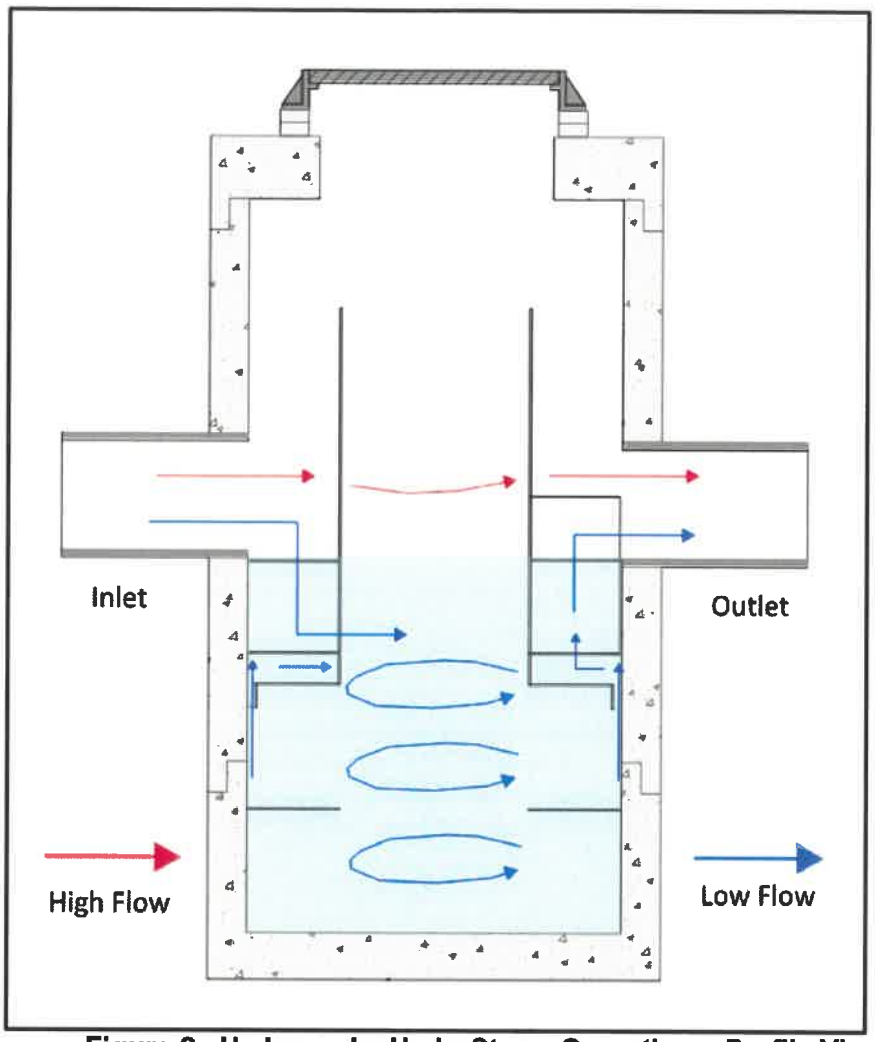


Figure 2. Hydroworks HydroStorm Operation – Profile View

The HS 4i is an inlet version of the HS 4 separator. There is a catch-basin grate on top of the HS 4i. A funnel sits sits underneath the grate on the frame and directs the water to the inlet side of the separator to ensure all lows flows are properly treated. The whole funnel is removed for inspection and cleaning.

Hydroworks

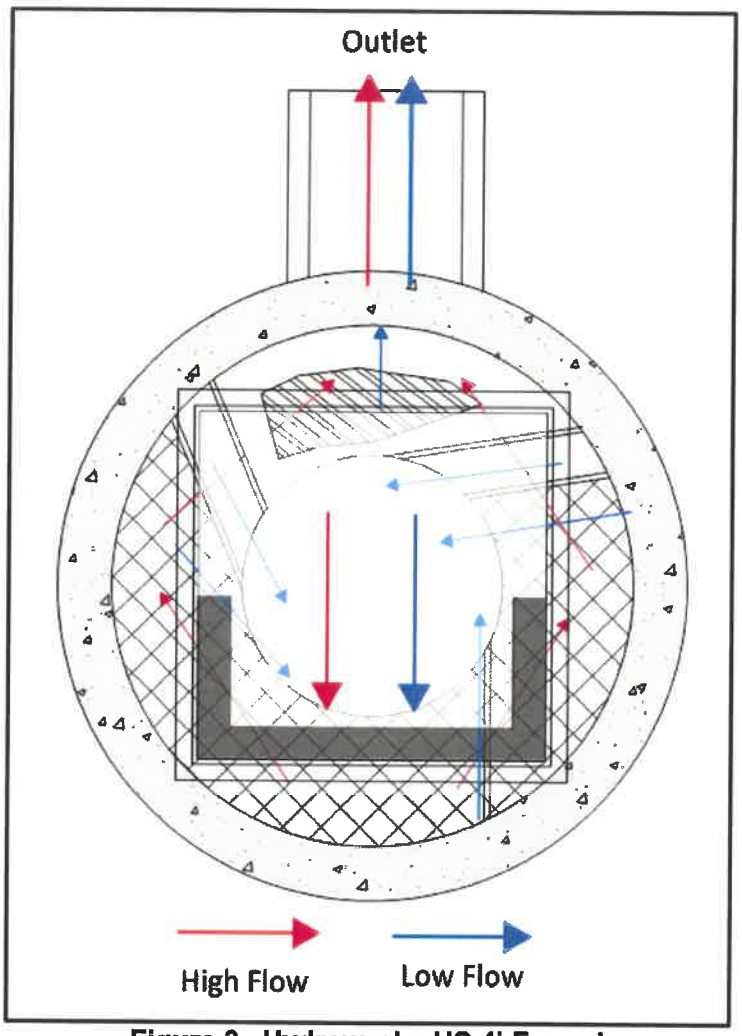


Figure 3. Hydroworks HS 4i Funnel

Inspection

Procedure

Floatables

A visual inspection can be conducted for floatables by removing the covers and looking down into the center access tube of the separator. Separators with an inlet grate (HS 4i or custom separator) will have a plastic funnel located under the grate that must be removed from the frame prior to inspection or maintenance. If you are missing a funnel please contact Hydroworks at the numbers provided at the end of this document.

Hydroworks

TSS/Sediment

Inspection for TSS build-up can be conducted using a Sludge Judge®, Core Pro®, AccuSludge® or equivalent sampling device that allows the measurement of the depth of TSS/sediment in the unit. These devices typically have a ball valve at the bottom of the tube that allows water and TSS to flow into the tube when lowering the tube into the unit. Once the unit touches the bottom of the device, it is quickly pulled upward such that the water and TSS in the tube forces the ball valve closed allowing the user to see a full core of water/TSS in the unit. The unit should be inspected for TSS through each of the access covers. Several readings (2 or 3) should be made at each access cover to ensure that an accurate TSS depth measurement is recorded.

Frequency

Construction Period

The HydroStorm separator should be inspected every four weeks and after every large storm (over 0.5" (12.5 mm) of rain) during the construction period.

Post-Construction Period

The Hydroworks HydroStorm separator should be inspected during the first year of operation for normal stabilized sites (grassed or paved areas). If the unit is subject to oil spills or runoff from unstabilized (storage piles, exposed soils) areas the HydroStorm separator should be inspected more frequently (4 times per year). The initial annual inspection will indicate the required future frequency of inspection and maintenance if the unit was maintained after the construction period.

Reporting

Reports should be prepared as part of each inspection and include the following information:

1. Date of inspection
2. GPS coordinates of Hydroworks unit
3. Time since last rainfall
4. Date of last inspection
5. Installation deficiencies (missing parts, incorrect installation of parts)
6. Structural deficiencies (concrete cracks, broken parts)
7. Operational deficiencies (leaks, blockages)
8. Presence of oil sheen or depth of oil layer
9. Estimate of depth/volume of floatables (trash, leaves) captured
10. Sediment depth measured
11. Recommendations for any repairs and/or maintenance for the unit
12. Estimation of time before maintenance is required if not required at time of inspection

A sample inspection checklist is provided at the end of this manual.

Maintenance

Procedure

The Hydroworks HydroStorm unit is typically maintained using a vacuum truck. There are numerous companies that can maintain the HydroStorm separator. Maintenance with a vacuum truck involves removing all of the water and sediment together. The water is then separated from the sediment on the truck or at the disposal facility.

A central access opening (24" or greater) is provided to the gain access to the lower treatment tank of the unit. This is the primary location to maintain by vacuum truck. The pretreatment area can also be vacuumed and/or flushed into the lower treatment tank of the separator for cleaning via the central access once the water level is lowered below the pretreatment floor.

In instances where a vacuum truck is not available other maintenance methods (i.e. clamshell bucket) can be used, but they will be less effective. If a clamshell bucket is used the water must be decanted prior to cleaning since the sediment is under water and typically fine in nature. Disposal of the water will depend on local requirements. Disposal options for the decanted water may include:

1. Discharge into a nearby sanitary sewer manhole
2. Discharge into a nearby LID practice (grassed swale, bioretention)
3. Discharge through a filter bag into a downstream storm drain connection

The local municipality should be consulted for the allowable disposal options for both water and sediments prior to any maintenance operation. Once the water is decanted the sediment can be removed with the clamshell bucket.

Disposal of the contents of the separator depend on local requirements. Maintenance of a Hydroworks HydroStorm unit will typically take 1 to 2 hours based on a vacuum truck and longer for other cleaning methods (i.e. clamshell bucket).

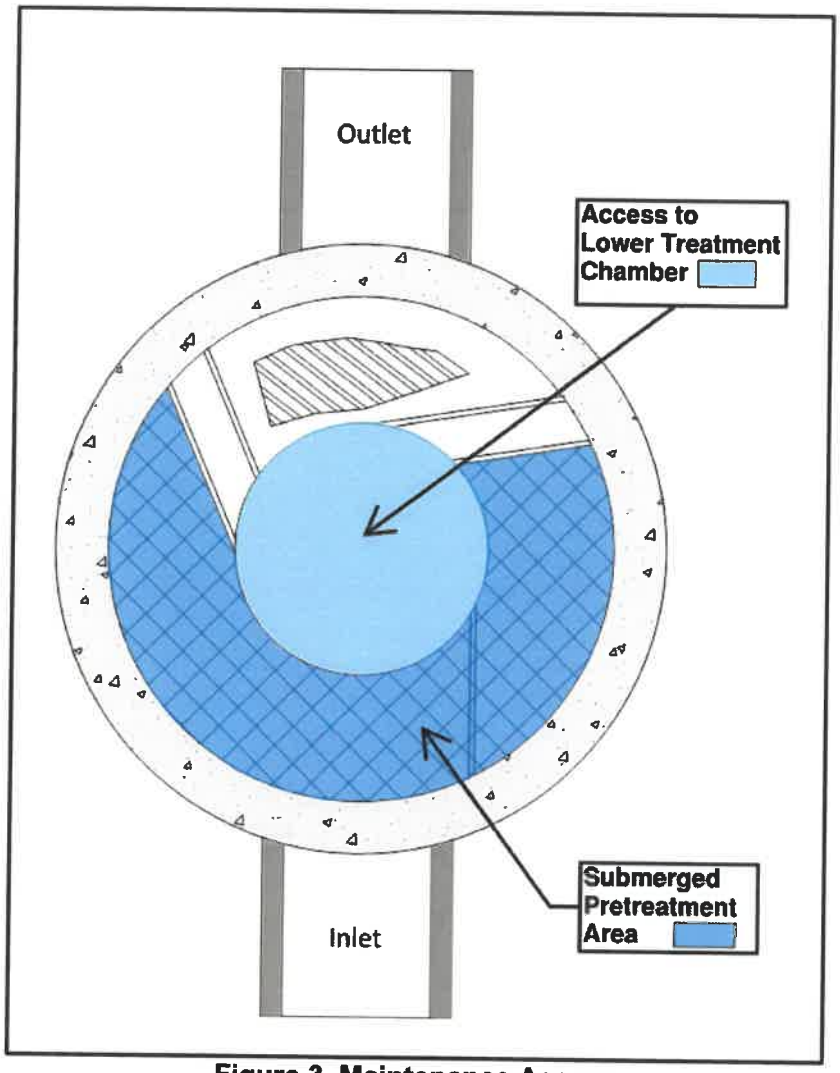


Figure 3. Maintenance Access

Frequency

Construction Period

A HydroStorm separator can fill with construction sediment quickly during the construction period. The HydroStorm must be maintained during the construction period when the depth of TSS/sediment reaches 24" (600 mm). It must also be maintained during the construction period if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the area of the separator

The HydroStorm separator should be maintained at the end of the construction period, prior to operation for the post-construction period.

Hydroworks

Post-Construction Period

The HydroStorm was independently tested by Alden Research Laboratory in 2017. A HydroStorm HS 4 was tested for scour with a 50% sediment depth of 0.5 ft. Therefore, maintenance for sediment accumulation is required if the depth of sediment is 1 ft or greater in separators with standard water (sump) depths (Table 1).

There will be designs with increased sediment storage based on specifications or site-specific criteria. A measurement of the total water depth in the separator through the central access tube should be taken and compared to water depth given in Table 1. The standard water depth from Table 1 should be subtracted from the measured water depth and the resulting extra depth should be added to the 1 ft to determine the site-specific sediment maintenance depth for that separator.

For example, if the measured water depth in the HS-7 is 7 feet, then the sediment maintenance depth for that HS-7 is 2 ft (= 1 + 7 – 6) and the separator does not need to be cleaned for sediment accumulation until the measure sediment depth is 2 ft.

The HydroStorm separator must also be maintained if there is an appreciable depth of oil in the unit (more than a sheen) or if floatables other than oil cover over 50% of the water surface of the separator.

Table 1 Standard Dimensions for Hydroworks HydroStorm Models

Model	Diameter (ft)	Total Water Depth (ft)	Sediment Maintenance Depth for Table 1 Total Water Depth(ft)
HS-3	3	3	1
HS-4	4	4	1
HS-5	5	4	1
HS-6	6	4	1
HS-7	7	6	1
HS-8	8	7	1
HS-9	9	7.5	1
HS-10	10	8	1
HS-11	11	9	1
HS-12	12	9.5	1

Hydroworks

HYDROSTORM INSPECTION SHEET

Date _____
Date of Last Inspection _____

Site _____
City _____
State _____
Owner _____

GPS Coordinates _____

Date of last rainfall _____

Site Characteristics	**Yes**	**No**
Soil erosion evident	☐	☐
Exposed material storage on site	☐	☐
Large exposure to leaf litter (lots of trees)	☐	☐
High traffic (vehicle) area	☐	☐

HydroStorm	**Yes**	**No**
Obstructions in the inlet or outlet	☐ *	☐
Missing internal components	☐ **	☐
Improperly installed inlet or outlet pipes	☐ ***	☐
Internal component damage (cracked, broken, loose pieces)	☐ **	☐
Floating debris in the separator (oil, leaves, trash)	☐	☐
Large debris visible in the separator	☐ *	☐
Concrete cracks/deficiencies	☐ ***	☐
Exposed rebar	☐ **	☐
Water seepage (water level not at outlet pipe invert)	☐ ***	☐
Water level depth below outlet pipe invert	_____"	

Routine Measurements				
Floating debris depth	**< 0.5" (13mm)**	☐	**>0.5" 13mm)**	☐ *
Floating debris coverage	**< 50% of surface area**	☐	**> 50% surface area**	☐ *
Sludge depth	**< 12" (300mm)**	☐	**> 12" (300mm)**	☐ *

* Maintenance required
** Repairs required
*** Further investigation is required

Hydroworks

Other Comments:

Hydroworks

Hydroworks® HydroStorm

One Year Limited Warranty

Hydroworks, LLC warrants, to the purchaser and subsequent owner(s) during the warranty period subject to the terms and conditions hereof, the Hydroworks HydroStorm to be free from defects in material and workmanship under normal use and service, when properly installed, used, inspected and maintained in accordance with Hydroworks written instructions, for the period of the warranty. The standard warranty period is 1 year.

The warranty period begins once the separator has been manufactured and is available for delivery. Any components determined to be defective, either by failure or by inspection, in material and workmanship will be repaired, replaced or remanufactured at Hydroworks' option provided, however, that by doing so Hydroworks, LLC will not be obligated to replace an entire insert or concrete section, or the complete unit. This warranty does not cover shipping charges, damages, labor, any costs incurred to obtain access to the unit, any costs to repair/replace any surface treatment/cover after repair/replacement, or other charges that may occur due to product failure, repair or replacement.

This warranty does not apply to any material that has been disassembled or modified without prior approval of Hydroworks, LLC, that has been subjected to misuse, misapplication, neglect, alteration, accident or act of God, or that has not been installed, inspected, operated or maintained in accordance with Hydroworks, LLC instructions and is in lieu of all other warranties expressed or implied. Hydroworks, LLC does not authorize any representative or other person to expand or otherwise modify this limited warranty.

The owner shall provide Hydroworks, LLC with written notice of any alleged defect in material or workmanship including a detailed description of the alleged defect upon discovery of the defect. Hydroworks, LLC should be contacted at 136 Central Ave., Clark, NJ 07066 or any other address as supplied by Hydroworks, LLC. (888-290-7900).

This limited warranty is exclusive. There are no other warranties, express or implied, or merchantability or fitness for a particular purpose and none shall be created whether under the uniform commercial code, custom or usage in the industry or the course of dealings between the parties. Hydroworks, LLC will replace any goods that are defective under this warranty as the sole and exclusive remedy for breach of this warranty.

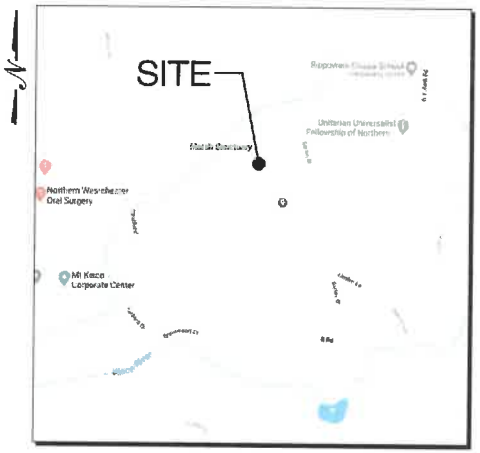
Subject to the foregoing, all conditions, warranties, terms, undertakings or liabilities (including liability as to negligence), expressed or implied, and howsoever arising, as to the condition, suitability, fitness, safety, or title to the Hydroworks HydroStorm are hereby negated and excluded and Hydroworks, LLC gives and makes no such representation, warranty or undertaking except as expressly set forth herein. Under no circumstances shall Hydroworks, LLC be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the HydroStorm, or the cost of other goods or services related to the purchase and installation of the HydroStorm. For this Limited Warranty to apply, the HydroStorm must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Hydroworks' written installation instructions.

Hydroworks, LLC expressly disclaims liability for special, consequential or incidental damages (even if it has been advised of the possibility of the same) or breach of expressed or implied warranty. Hydroworks, LLC shall not be liable for penalties or liquidated damages, including loss of production and profits; labor and materials; overhead costs; or other loss or expense incurred by the purchaser or any third party. Specifically excluded from limited warranty coverage are damages to the HydroStorm arising from ordinary wear and tear; alteration, accident, misuse, abuse or neglect; improper maintenance, failure of the product due to improper installation of the concrete sections or improper sizing; or any other event not caused by Hydroworks, LLC. This limited warranty represents Hydroworks' sole liability to the purchaser for claims related to the HydroStorm, whether the claim is based upon contract, tort, or other legal basis.

HOMELAND TOWERS, LLC

WIRELESS TELECOMMUNICATIONS FACILITY

MOUNT KISCO
180 S. BEDFORD RD.
MT. KISCO, NY 10594



LOCATION MAP
SCALE: 1" = 800'

DRAWING INDEX

SITE INFORMATION

PROJECT LOCATION: 180 S. BEDFORD RD.
MT. KISCO, NY 10594

PROJECT DESCRIPTION: RAWLAND SITE W/ GROUND EQUIPMENT WITHIN 2,542± SF TELECOMMUNICATIONS COMPOUND W/ NEW 140'± AGL MONOPINE.

PROPERTY DEVELOPER: HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810

DEVELOPER CONTACT: KLAUS WIMMER
(203) 297-6345

ENGINEER CONTACT: ROBERT C. BURNS, P.E.
(860) 663-1697 x206

LATITUDE: 41° 11' 56.66"N
LONGITUDE: 73° 42' 48.55"W
ELEVATION: 426'± AMSL

SECTION: 80.44
BLOCK: 1
LOT: 1
ZONE: CD -CONSERVATION DEVELOPMENT DISTRICT

OWNER:
SKULL ISLAND PARTNERS LLC
C/O DAVID SELDIN
1571 OCEANVIEW DRIVE
TIERRA VERDE, FL 33715-2536

APPLICANTS:
HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810
KLAUS WIMMER
(203) 297-6345

VERIZON
4 CENTEROCK RD.
WEST NYACK, NY 10994

HOMELAND PROJECT ATTORNEY:
SNYDER & SNYDER, LLP
94 WHITE PLAINS ROAD
TARRYTOWN, NY 10591
(914) 333-0700

POWER PROVIDER:
CONEDISON: (800) 752-6633

TELCO PROVIDER:
VERIZON (914) 890-0200

DIG SAFELY NEW YORK:
(800) 962-7962

GOVERNING CODES:
2020 NEW YORK STATE UNIFORM FIRE PREVENTION & BUILDING CODE
NATIONAL ELECTRIC CODE
TIA-222-H

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
587 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860) 663-1697
WWW.ALLPOINTSTECH.COM FAX: (860) 663-0935

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	09/13/20	FOR REVIEW: RCB
1	09/14/20	CLIENT REVS: RCB
2	11/03/20	TOWN COMMENTS: RCB
3	12/23/20	TOWN COMMENTS: RCB
4	01/05/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 587 VAUXHALL STREET
EXTENSION - SUITE 311
WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

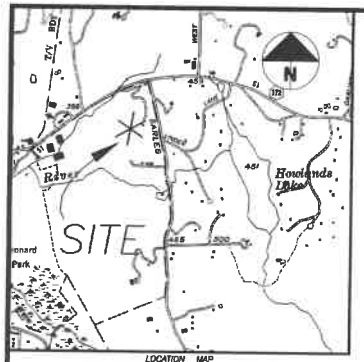
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10594

APT FILING NUMBER: NY203830

DATE: 09/13/20 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
TITLE SHEET & INDEX

SHEET NUMBER:
T-1



LOCATION MAP
Source: N.Y.S.D.G.T. Quadrangle Sheet – Mt. Kisco, NY

"Copies from the original of this survey map not inked with an original of the land surveyor's inked seal or embossed seal shall not be considered to be a valid true copy."

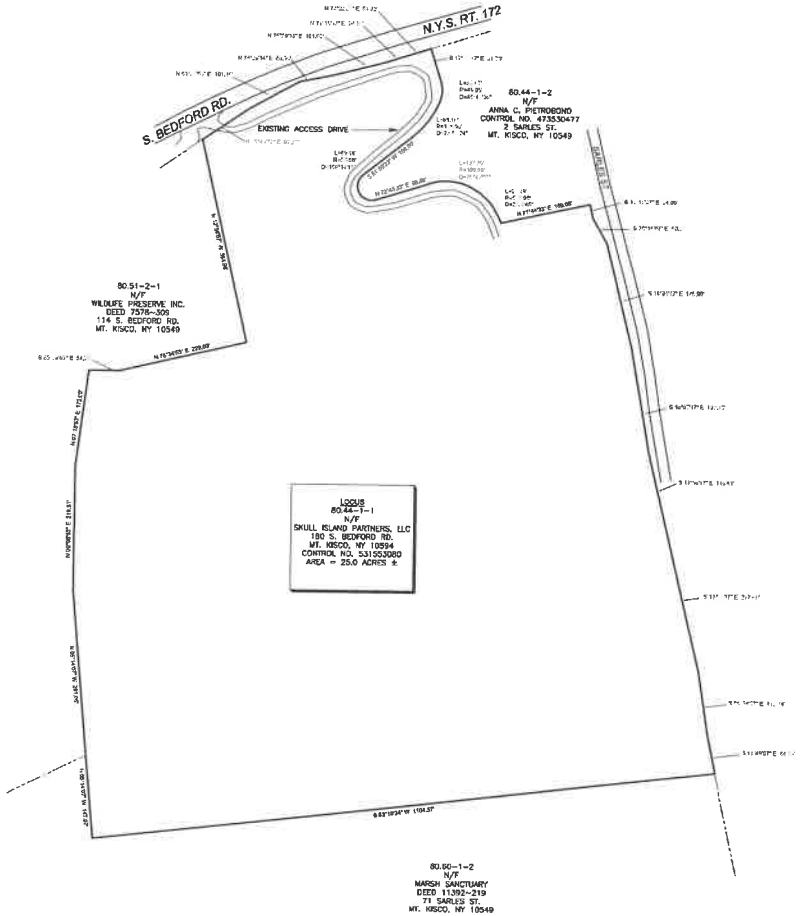
Alterations not conforming to section 7209, subdivision 2, of the State Education Law, are prohibited.

SURVEY NOTES

1. ALL TITLE REFERENCES REFERENCED FOR THIS SURVEY.
2. AREA = 25.0 ± ACRES
3. SUBJECT TO THE RIGHTS OF THE PUBLIC OVER SOUTH BEDFORD RD.
4. BASIS OF BEARINGS = TRUE NORTH @ 74°39' WEST LONGITUDE.
5. UNDERGROUND UTILITIES (i.e. SANITARY, STORM, WATER AND UTILITIES MAY BE BOTH ABOVE AND BELOW GROUND) SHOWN HEREON WERE DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY SITE WORK. CALL DIGSAFELY NEW YORK 1-800-962-7962 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY. ANY UNKNOWN, ABANDONED, OR OTHER UNDERGROUND UTILITIES THAT ARE ENCOUNTERED SHALL BE THE CLIENTS RESPONSIBILITY TO LOCATE AND/OR REMOVE. APPROXIMATE, THERE MAY BE OTHER UNDERGROUND LINES, PIPES, STRUCTURES AND UTILITIES THE LOCATION OR EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN. LOCATION OF UNDERGROUND FEATURES, FACILITIES AND STRUCTURES ARE NOT CERTIFIED.
6. IN THE EVENT THERE IS A DISCREPANCY BETWEEN THE COORDINATES OF THE HEREON AND REVISED HYDROP. DRAWING AS THE OWNER CLOSING DESK WILL FILE THE HYDROP. AT WITH WITHDRAWN, STAMP AND SIGN. WORK SHALL BE THE CLIENTS RESPONSIBILITY TO CONFIRM THAT THE DESCRIPTIONS REFERENCED IN THIS DIGITAL FILE.
7. THIS DRAWING HAS BEEN PREPARED FOR A SPECIFIC EVENT, DO NOT SCALE THIS DRAWING IF PLOTTED ON ANY OTHER FORMAT.
8. VERTICAL DATUM: NAVD 88.
9. CONTOUR INTERVAL: 1 FOOT.

LEGEND

- Evidence Found, Lobbert
- Boundary Line
- County Tax Parcel Line
- 80.44–1–1 — County Tax Map Parcel I.D. Number



0 100 200 300
SCALE 1"=100'

SITE SPECIFIC NOTES:

1. FIELD SURVEY DATE: AUGUST 6, 2020
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
4. OWNER: SKULL ISLAND PARTNERS, LLC 293 13TH AVE. SOUTH SUITE 340 ST. PETERSBURG, FL. 33701
5. SITE NUMBER: NY172
6. SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10594
7. APPLICANT: HOMELAND TOWERS
8. JURISDICTION: VILLAGE OF MT. KISCO WESTCHESTER COUNTY, NY
9. TAX ID: 80.44–1–1
10. DEED REFERENCE: CONTROL NO. 531553080
11. ZONING DISTRICT: CD CONSERVATION DEVELOPMENT DISTRICT
12. THE HORIZONTAL DATUM AND VERTICAL DATUM WERE DERIVED FROM A DUAL FREQUENCY GPS SURVEY.
13. ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ALL SITE WORK. CALL DIGSAFELY NEW YORK 1–800–962–7962 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.
14. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, THE PROPOSED IMPROVEMENTS ON THIS PROPERTY ARE LOCATED IN AN AREA DESIGNATED AS ZONE X (UNSHADED), AREA OF MINIMAL FLOODING. COMMUNITY PANEL NO. 36119 C 0154 F EFFECTIVE DATE: SEPTEMBER 28, 2007.
15. FIELD SURVEY BY EDM TOTAL STATION.
16. **THIS IS NOT A BOUNDARY SURVEY. METES AND BOUNDS SHOWN HEREON ARE COMPILED FROM THE SUBJECT REFERENCED SITE PLAN. DIRECTIONS HAVE BEEN ROTATED INTO MAP DATUM (NAD 83) BASED ON FOUND EVIDENCE AS NOTED. NO BOUNDARY SURVEY WAS PERFORMED.**
17. ALL PROPERTY LINES SHOWN ARE FROM DEEDS, PLANS OF RECORD AND WESTCHESTER COUNTY, NY GIS DATABASE AND ARE APPROXIMATE ONLY.
18. ABUTTING PROPERTY LINES AND STREET LINES ARE TAKEN FROM THE REFERENCE PLANS AND THE WESTCHESTER COUNTY, NY GIS DATABASE AND ARE APPROXIMATE ONLY.

Abutters Plan
Premises of

Skull Island Partners, LLC

Control No. 531553080

Village of Mount Kisco, County of Westchester
State of New York

No.	Date	REVISIONS Description

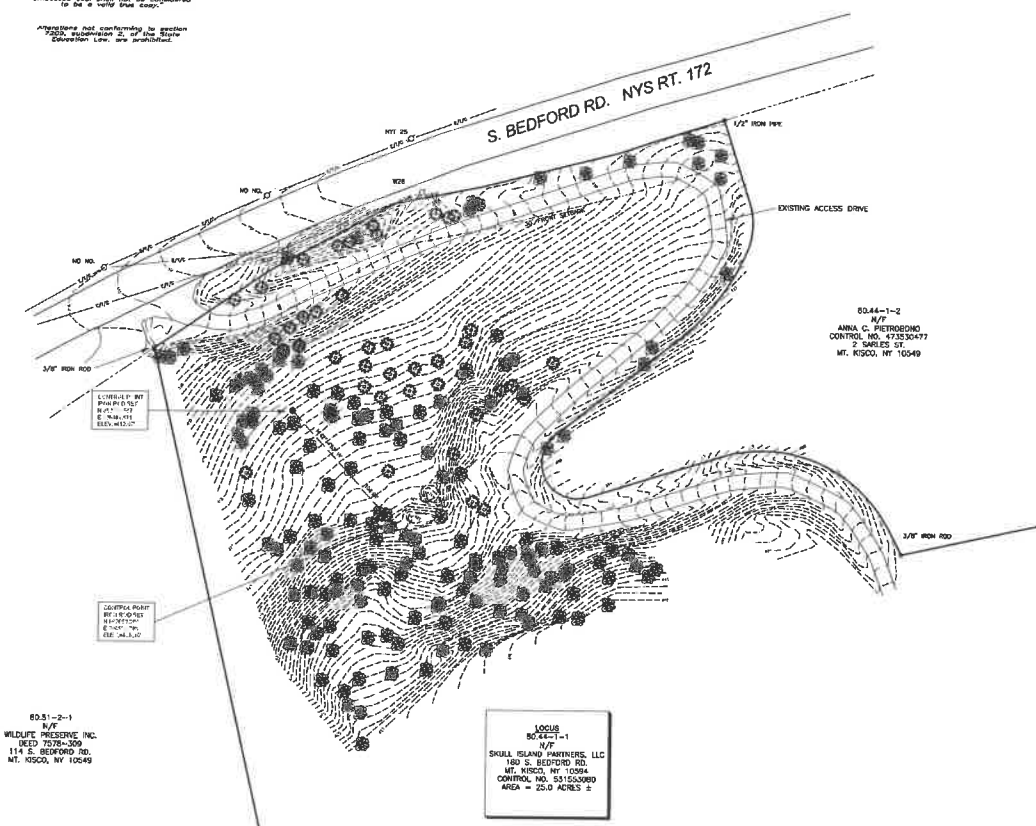
LSM
LAWSON SURVEYING & MAPPING
Boundary ~ Topographic ~ Control ~ Deformation ~ Construction ~ G.I.S. ~ Subdivision ~ C.P.S.
2989 County Route 8 @ Claverack, New York 12534
Phone: (518) 851-3448 Fax: (518) 851-3449
Poughkeepsie (845) 452-5319
www.lawsonsurvey.com

Robert J. Lawson, L.S.
N.Y.S. License No.: 050086

DATE: August 6, 2020
W.O. No.: 5958
SCALE: 1 Inch = 100 feet
DRAWN BY: J.D.J.
CHECKED BY: R.J.L.
FIELD CHECKED BY: J.D.J.
DWG FILE: 5958.DWG
MAP No.: M 24-1241
SHEET No.: 1 of 2

"Copies from the original of this survey map not marked with an original of the land surveyor's inked seal or embossed seal shall not be considered to be a valid true copy."

Alterations not conforming to section 7209, subdivision 2, of the State Education Law, are prohibited.



SURVEY NOTES

1. NO TITLE REPORT WAS REFERENCED FOR THIS SURVEY.
2. AREA = 1 PLACE
3. SUBJECT TO THE RIGHTS OF THE PUBLIC OVER S. BEDFORD RD.
4. BASIS OF BEARINGS = TRUE NORTH @ 74°30'00" EAST LONGITUDE.
5. UNDERGROUND FEATURES, IF SHOWN, STRUCTURES AND UTILITIES HAVE BEEN LOCATED FROM AVAILABLE RECORDS. FIELD LOCATIONS OF ABOVE GROUND STRUCTURES, CITY CONNECTIONS ARE NOT GUARANTEED BY THE CLIENT THEREFORE, THESE LOCATIONS SHOULD BE CONFIRMED BY THE CLIENT THEREFORE, THESE LOCATIONS SHOULD BE CONFIRMED BY THE APPROPRIATE UTILITIES. THERE MAY BE OTHER UNDERGROUND FEATURES, FACILITIES, STRUCTURES AND UTILITIES THE LOCATIONS OF WHICH IS NOT PRESENTLY KNOWN. LOCATION OF UNDERGROUND FEATURES, FACILITIES AND UTILITIES ARE NOT CERTIFIED.
6. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE CONTENTS OF THE SIGNED AND SEALED HARD COPY OF THIS SURVEY AND THE CONTENTS OF THE DIGITAL DRAWING FILE, THE HARD COPY SHALL PREVAIL. ANY OR ALL REVISIONS TO THIS SURVEY SHALL BE THE RESPONSIBILITY OF THE PARTY REQUESTING SUCH REVISIONS. IN THE EVENT THAT THE DIGITAL DRAWING FILE IS TO BE USED FOR ANY PURPOSE, IT SHALL BE THE RESPONSIBILITY OF THE PARTY REQUESTING SUCH USE TO REMOVE ALL SURVEY NOTES AND OTHER DOCUMENTS BEFORE USING THE DRAWING FILE.
7. THIS DRAWING HAS BEEN PREPARED FOR A 24"x36" FORMAT. DUE TO SCALE THIS DRAWING IF PLOTTED ON ANY OTHER FORMAT.
8. DATUM = NAVD 88.
9. CONTOUR INTERVAL 1 FOOT.

LEGEND

- Evidence Found, Labled
- Boundary Line
- County Tax Parcel Line
- Utility Pole
- Guy Anchor
- E/T/C — Utility Line, Electric/Telephone/Cable T.V.
- 80.44-1-1 — County Tax Map Parcel I.D. Number
- Deciduous Tree
- Coniferous Tree

0 40 80 120

SCALE 1"=40'

Existing Conditions Survey
Portion of
Premises of

Skull Island Partners, LLC

~

Control No. 531553080

Village of Mount Kisco, County of Westchester
State of New York

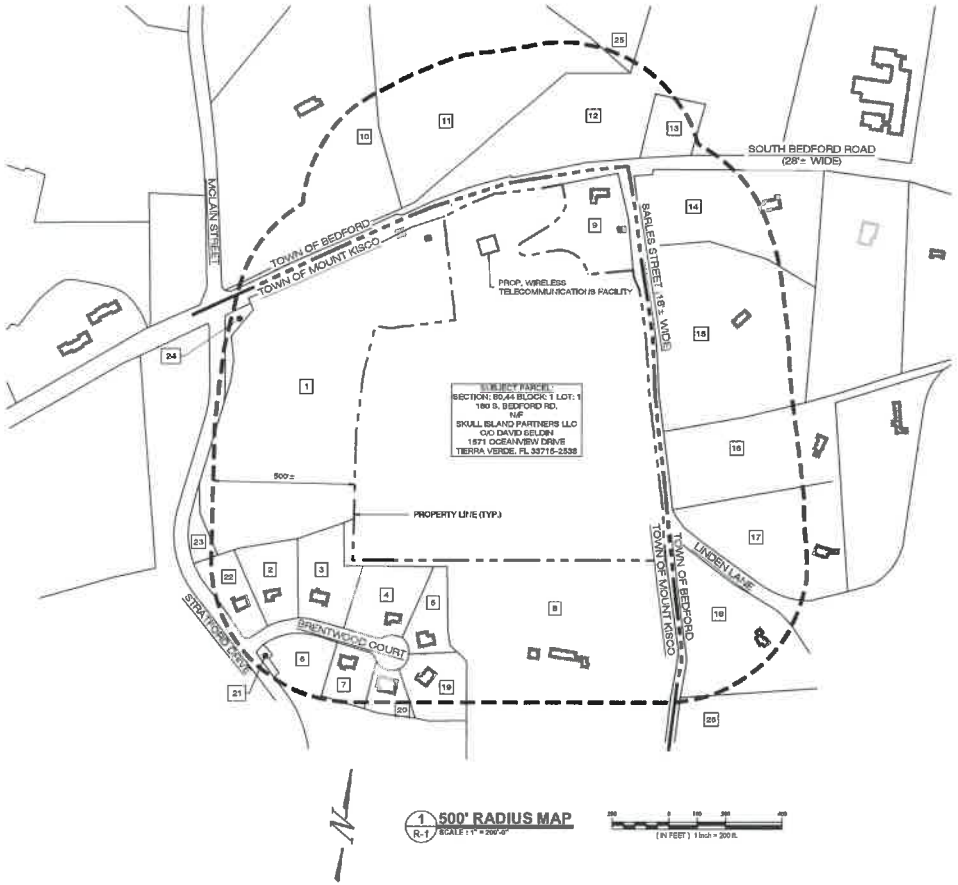
No.	Date	Description
		REVISIONS

LSM
LAWSON SURVEYING & MAPPING
Boundary ~ Topographic ~ Control ~ Information ~ Construction ~ G.I.S. ~ Subdivision ~ G.P.S.
2909 Crossy Route 6 & Glenville, New York 12325
Phone: (800) 434-8500
Facsimile: (800) 434-8511
www.lawsonsurvey.com

LAND SURVEYOR
STATE OF NEW YORK

Robert J. Lawson, L.S.
N.Y.S. License No.: 050086

DATE:	August 5, 2020
W.O. No.:	8060
SCALE:	1 Inch = 40 feet
DRAWN BY:	J.D.J.
CHECKED BY:	R.J.L.
FIELD CHECKED BY:	J.D.J.
DWG FILE:	8060.DWG
MAP No.:	M 24-1241
SHEET No.:	2 of 2



1 / R-1 **500' RADIUS MAP**
SCALE: 1" = 200'-0"

(IN FEET) 1 inch = 200 ft.

VILLAGE OF MOUNT KISCO
WESTCHESTER COUNTY
500' RADIUS PROPERTY OWNERS

MAP ID	SECTION	BLOCK	LOT	PROPERTY ADDRESS	OWNER NAME	OWNER ADDRESS
1	80.51	2	1	114 S. BEDFORD RD, MOUNT KISCO, NY 10549	WILDLIFE PRESERVE INC.	71 SARLES ST, MOUNT KISCO, NY 10549
2	80.51	2	3	3 BRENTWOOD CT, MOUNT KISCO, NY 10549	MICHAEL J. INSERRA & MADLYN INSERRA	3 BRENTWOOD CT, MOUNT KISCO, NY 10549
3	80.51	2	4	5 BRENTWOOD CT, MOUNT KISCO, NY 10549	GEORGE COPPOLA III ELLEN MOLLOY	5 BRENTWOOD CT, MOUNT KISCO, NY 10549
4	80.51	2	5	7 BRENTWOOD CT, MOUNT KISCO, NY 10549	MARYANN M. TANNOK	7 BRENTWOOD CT, MOUNT KISCO, NY 10549
5	80.51	2	6	9 BRENTWOOD CT, MOUNT KISCO, NY 10549	FRANK PACCETTI & BARBARA PACCETTI	9 BRENTWOOD CT, MOUNT KISCO, NY 10549
6	80.59	1	1.17	STRATFORD DR, MOUNT KISCO, NY 10549	MT. KISCO CHASE HOA INC	P.O. BOX 255, SOMERS, NY 10589
7	80.51	2	9	6 BRENTWOOD CT, MOUNT KISCO, NY 10549	KARAN GAREWAL & PRATIBHA GAREWAL	6 BRENTWOOD CT, MOUNT KISCO, NY 10549
8	80.60	1	2	71 SARLES ST, MOUNT KISCO, NY 10549	MARSH SANCTUARY INC	71 SARLES ST, MOUNT KISCO, NY 10549
9	80.44	1	2	2 SARLES ST, MOUNT KISCO, NY 10549	ANNA C. PIETROBONO & JOHN G. PIETROBONO	2 SARLES ST, MOUNT KISCO, NY 10549
19	80.51	2	7	10 BRENTWOOD CT, MOUNT KISCO, NY 10549	DAVID M. SCHWARTZ & HOLLY Y. SCHWARTZ	10 BRENTWOOD CT, MOUNT KISCO, NY 10549
20	80.51	2	8	8 BRENTWOOD CT, MOUNT KISCO, NY 10549	GERARD ROMSIG & BETH ROMSIG	8 BRENTWOOD CT, MOUNT KISCO, NY 10549
21	N/A	N/A	N/A	N/A	N/A	N/A
22	80.51	2	2	1 BRENTWOOD CT, MOUNT KISCO, NY 10549	ELIZABETH JACOBS	1 BRENTWOOD CT, MOUNT KISCO, NY 10549
23	N/A	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A	N/A

TOWN OF BEDFORD
WESTCHESTER COUNTY
500' RADIUS PROPERTY OWNERS

MAP ID	SECTION	BLOCK	LOT	PROPERTY ADDRESS	OWNER NAME	OWNER ADDRESS
10	82.12	2	2	35 TUCKER RD, MOUNT KISCO, NY 10549	MICHAEL & CARLA BIRD	35 TUCKER RD, BEDFORD CORNERS, NY 10549
11	82.12	2	1	25 TUCKER RD, MOUNT KISCO, NY 10549	MARCI STEARNS & STEVEN MCCORMICK	25 TUCKER RD, BEDFORD CORNERS, NY 10549
12	83.05	1	6	OPEN SPACE	TOWN OF BEDFORD	321 BEDFORD RD, BEDFORD HILLS, NY 10507
13	83.90	1	1	201 SOUTH BEDFORD RD, MOUNT KISCO, NY 10549	REALIS DEVELOPMENT LLC	356 MANVILLE RD, PLEASANTVILLE, NY 10570
14	83.90	1	19	220 SOUTH BEDFORD RD, MOUNT KISCO, NY 10549	CHABAD OF BEDFORD INC	133 RAILROAD AVE, BEDFORD HILLS, NY 10507
15	83.90	1	18	22 SARLES ST, MOUNT KISCO, NY 10549	ABDELOUAHAB EL BOUHALI & NANCY EL BOUHALI	P.O. BOX 667, BEDFORD HILLS, NY 10507
16	83.90	1	16	48 LINDEN LN, MOUNT KISCO, NY 10549	LAWRENCE LEE & DAISY LEE	48 LINDEN LN, BEDFORD, CORNERS, NY 10549
17	83.90	1	15	68 LINDEN LN, MOUNT KISCO, NY 10549	ROSEMARIE A MAIORANO & VALERI HEDGES	68 LINDEN LN, BEDFORD CORNERS, NY 10549
18	83.13	1	1	72 LINDEN LN, MOUNT KISCO, NY 10549	IHOR ANDREW CZERNYK & NATALIA M CZERNYK	108 SECOND AVE, NEW YORK, NY 10003
25	83.05	1	4	N/A	N/A	N/A
26	83.13	1	17	21 DEER KNL, BEDFORD CORNERS, NY 10549	EDWARD FEINBERG & HARRIET FEINBERG	701 D. BEDFORD RD, BEDFORD HILLS, NY 10549

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
557 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALPOINTTECH.COM FAX: (860)-663-1935

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/13/20	FOR REVIEW: RCB
1	08/14/20	CLIENT REVS: RCB
2	11/03/20	TOWN COMMENTS: RCB
3	12/23/20	TOWN COMMENTS: RCB
4	01/28/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 557 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HOMELAND TOWERS
MOUNT KISCO

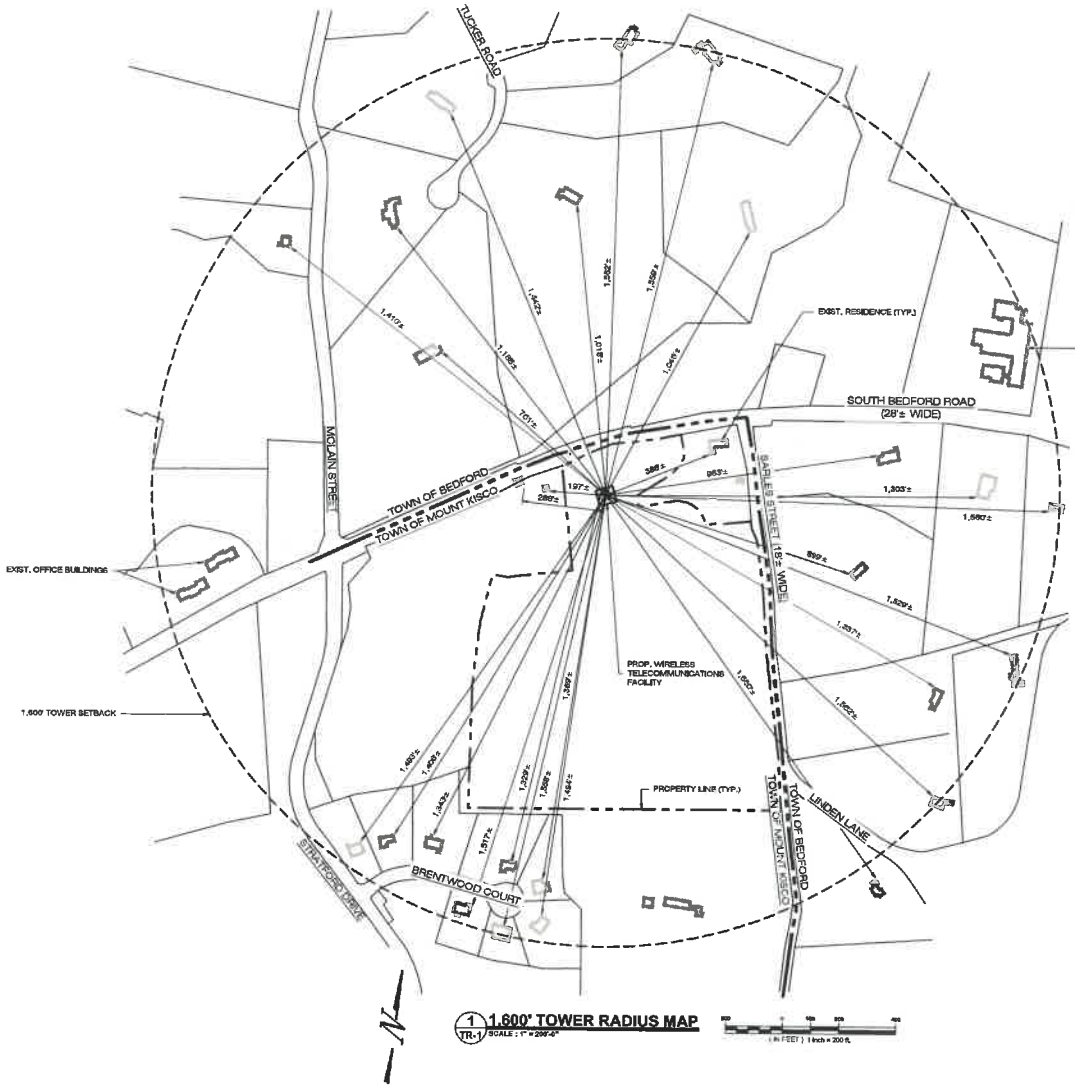
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY153030

DATE: 08/13/20 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE
500' RADIUS MAP & PROPERTY OWNERS

SHEET NUMBER:
R-1



1 TR-1 **1,600' TOWER RADIUS MAP**
SCALE : 1" = 200'-0"

(IN FEET) 1 inch = 200 ft.

HOMELAND TOWERS, LLC
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2nd FLOOR
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(203) 297-6345

verizon

4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860) 663-1697
WWW.ALLPOINTSTECH.COM FAX: (860) 663-0935

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/13/20	FOR REVIEW: RCB
1	08/14/20	CLIENT REVS: RCB
2	11/5/20	TOWN COMMENTS: RCB
3	12/23/20	TOWN COMMENTS: RCB
4	01/25/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF. SCOTT M. CHASSE P.E.
COMP. APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
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HOMELAND TOWERS
MOUNT KISCO

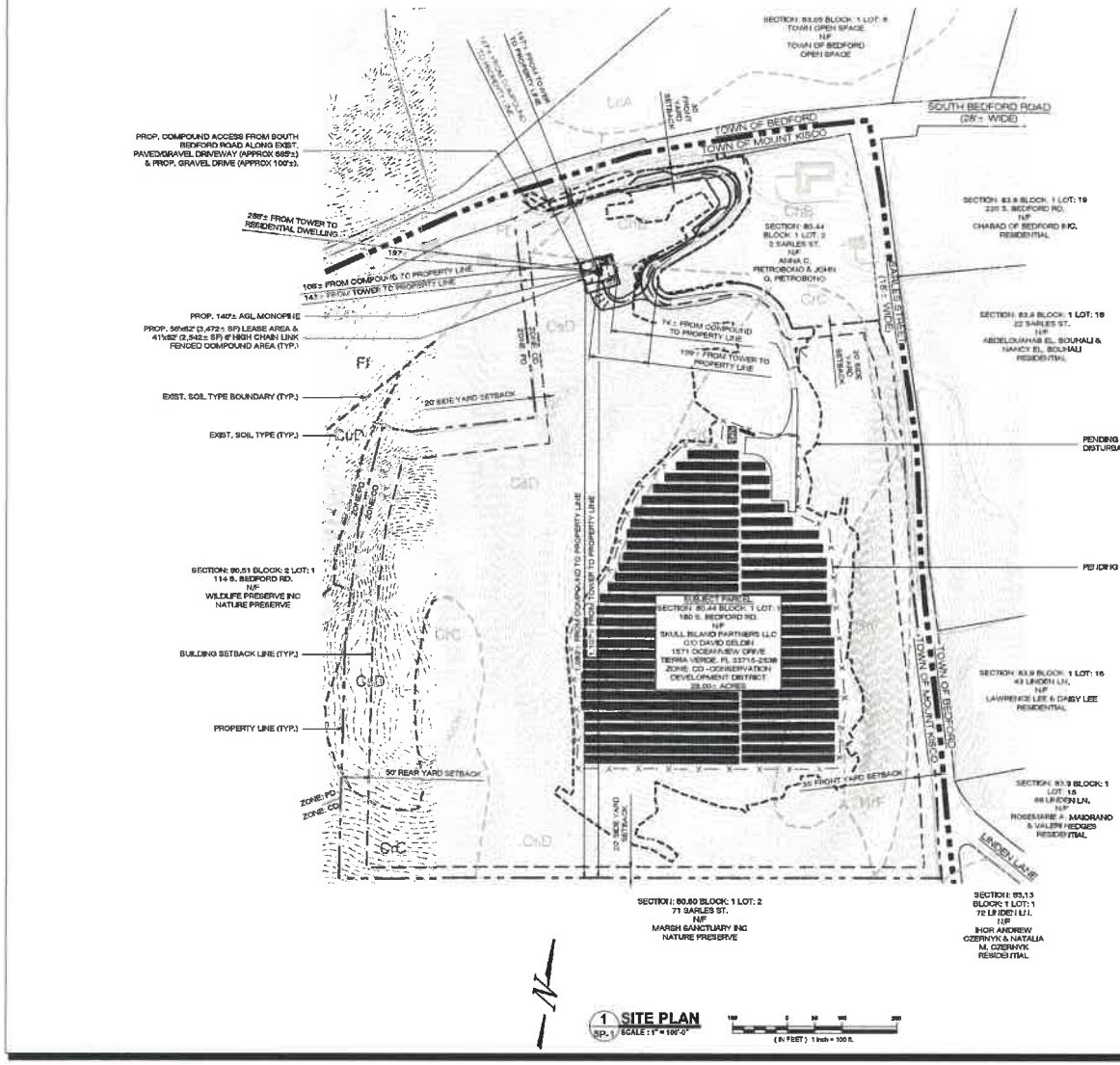
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY261030

DATE: 08/13/20 | DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
1,600' TOWER RADIUS MAP

SHEET NUMBER:
TR-1



ZONING TABLE: VILLAGE OF MOUNT KISCO ZONING DISTRICT
CD -CONSERVATION DEVELOPMENT DISTRICT

ITEM:	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA (AC)	25	25±	NC
MIN. LOT WIDTH (FT)	100	250±	NC
MIN. FRONT YARD SETBACK (FT)	50	N/A	127±**
MIN. SIDE YARD SETBACK (FT)	20	N/A	74±**
MIN. REAR YARD SETBACK (FT)	50	N/A	1,083±**
MAX. BUILDING COVERAGE	20%	N/A	0.5±
MAX. DEVELOPMENT COVERAGE	35%	N/A	0.4%
TOWER RESIDENCE SETBACK (FT)	1,600	N/A	288±***

NA = NOT APPLICABLE NC = NO CHANGE
* EXISTING DIMENSIONAL NON-CONFORMITY
** DISTANCE FROM EQUIPMENT COMPOUND TO PROPERTY LINE.
*** VARIANCE REQUIRED

LIMITS OF DISTURBANCE:

COMMUNITY SOLAR FARM	331,459± SF (7.61 ACRES)
HOMELAND TOWERS FACILITY	20,731± SF (0.47 ACRES)
ACCESS DRIVE IMPROVEMENTS	14,269± SF (0.33 ACRES)
OVERALL TOTAL:	366,459± SF (8.41 ACRES)

SEE DRAWING SP-3 FOR HOMELAND TOWERS FACILITY PROJECT LIMITS OF DISTURBANCE

NOTE: REFER TO SHEET SS-1 FOR STEEP SLOPES.

MAP REFERENCES:
1. "ABUTTERS PLAN, PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 1 OF 2' & 'EXISTING CONDITIONS SURVEY, PORTION OF PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 2 OF 2', PREPARED BY LAWSON SURVEYING & MAPPING, 2959 COUNTY ROUTE 8, ONEONTA, NEW YORK, 13820, DATED AUGUST 6, 2020.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-5345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
597 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALPONTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

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4	01/29/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF.: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 597 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS MOUNT KISCO

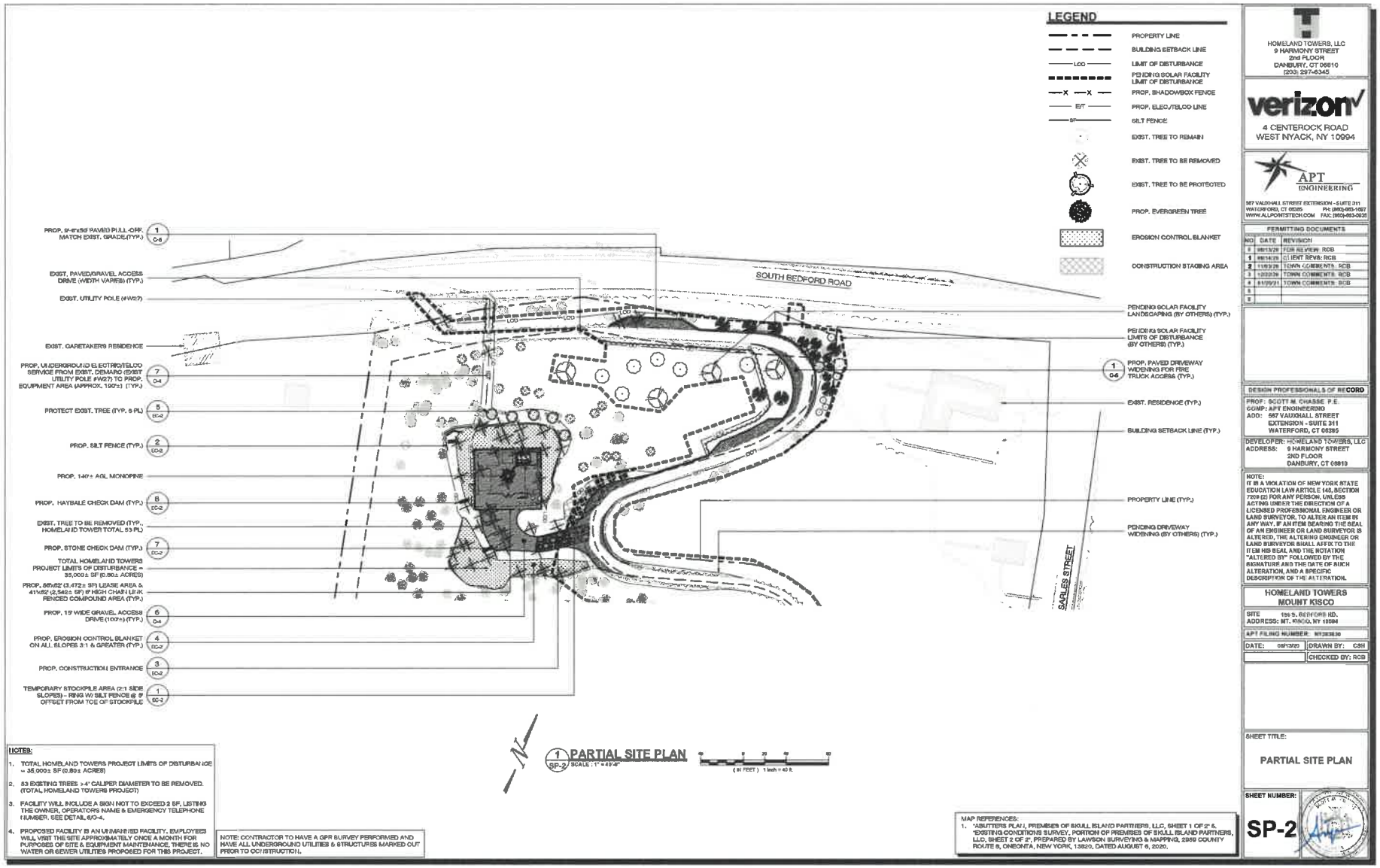
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY263639

DATE: 08/13/20 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE: SITE PLAN

SHEET NUMBER: SP-1



NOTES:

1. TOTAL HOMELAND TOWERS PROJECT LIMITS OF DISTURBANCE = 35,000± SF (0.80± ACRES)
2. 53 EXISTING TREES >4" CALIPER DIAMETER TO BE REMOVED. (TOTAL HOMELAND TOWERS PROJECT)
3. FACILITY WILL INCLUDE A SIGN NOT TO EXCEED 2 SF, LISTING THE OWNER, OPERATORS NAME & EMERGENCY TELEPHONE NUMBER. SEE DETAIL, EC-4.
4. PROPOSED FACILITY IS AN UNMANNED FACILITY. EMPLOYEES WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR PURPOSES OF SITE & EQUIPMENT MAINTENANCE. THERE IS NO WATER OR SEWER UTILITIES PROPOSED FOR THIS PROJECT.

NOTE: CONTRACTOR TO HAVE A QPR SURVEY PERFORMED AND HAVE ALL UNDERGROUND UTILITIES & STRUCTURES MARKED OUT PRIOR TO CONSTRUCTION.

MAP REFERENCES:
1. "ABUTTERS PLAN, PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 1 OF 2" & "EXISTING CONDITIONS SURVEY, PORTION OF PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 2 OF 2", PREPARED BY LAWSON SURVEYING & MAPPING, 2989 COUNTY ROUTE 6, ONEONTA, NEW YORK, 13820, DATED AUGUST 6, 2020.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

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WATERFORD, CT 06385 PH: (860)-663-1697
WWW.APTPOINTTECH.COM FAX: (860)-663-2038

PERMITTING DOCUMENTS

NO:	DATE	REVISION
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1	09/14/20	CLIENT REVS: RCB
2	11/03/20	TOWN COMMENTS: RCB
3	12/22/20	TOWN COMMENTS: RCB
4	01/29/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
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HOMELAND TOWERS
MOUNT KISCO

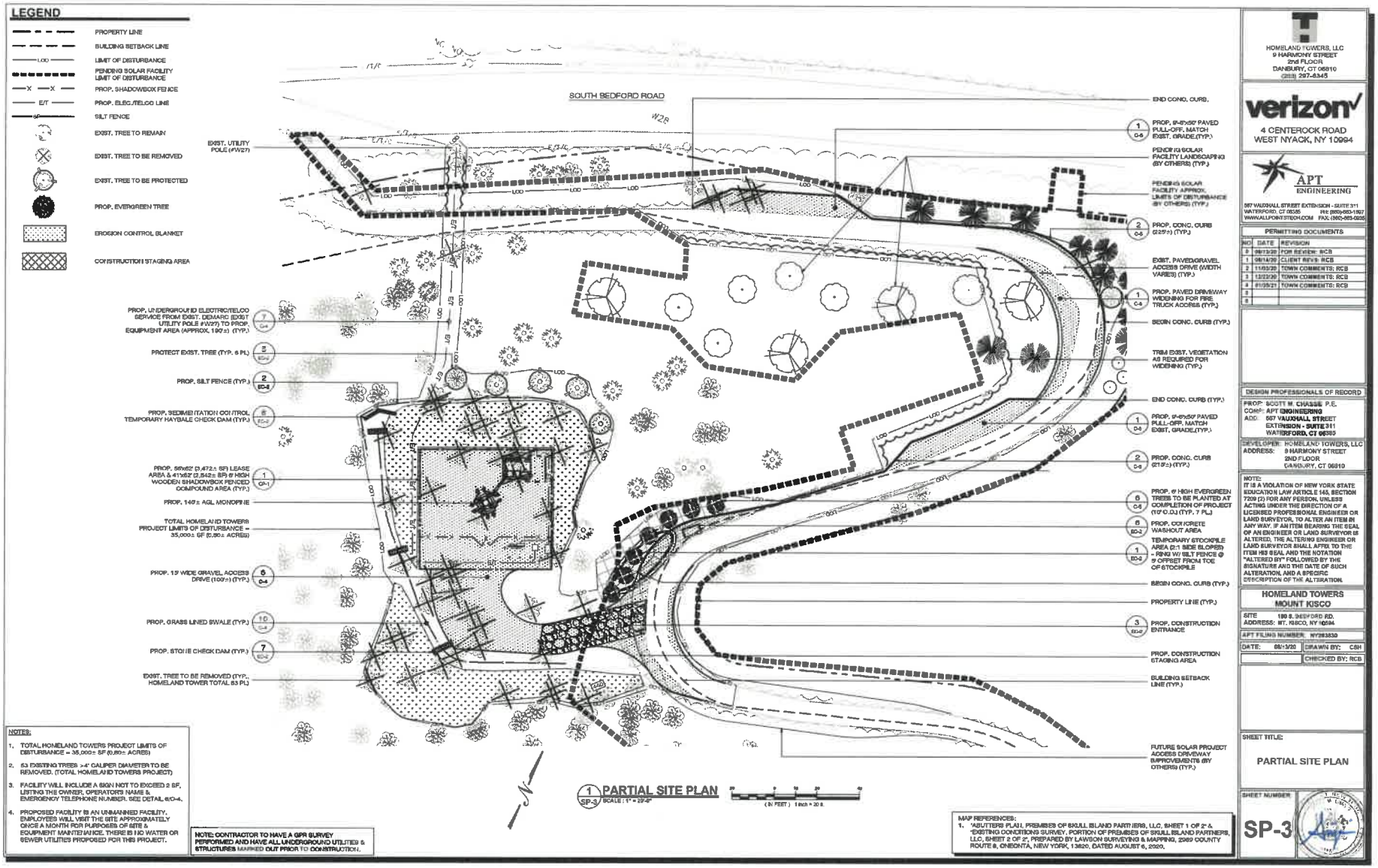
SITE ADDRESS: 194 S. BEDFORD RD. MT. KISCO, NY 10549

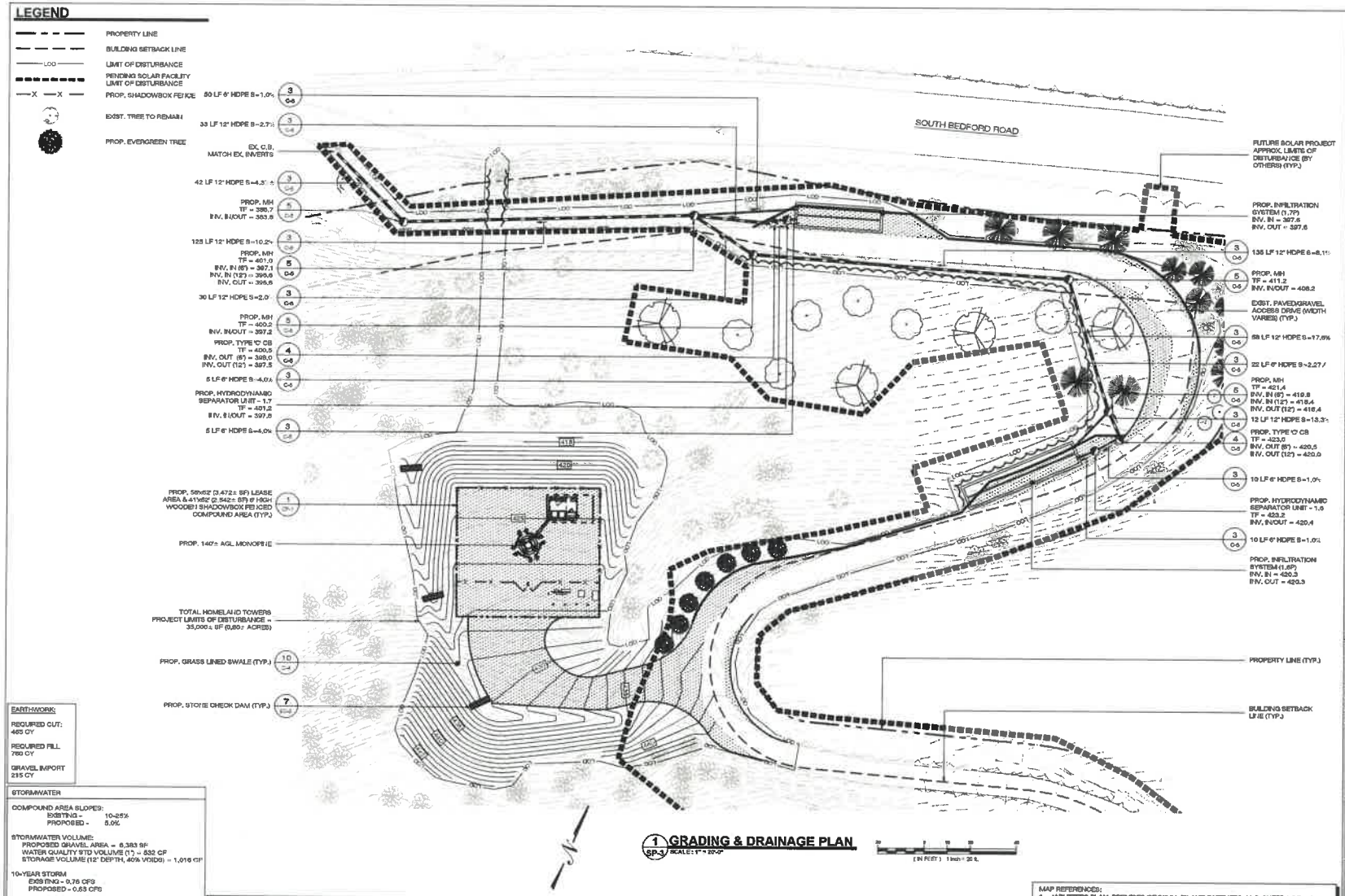
APT FILING NUMBER: NY2838.B

DATE: 08/13/20 | DRAWN BY: CSH | CHECKED BY: RCB

SHEET TITLE:
PARTIAL SITE PLAN

SHEET NUMBER:
SP-2


LEGEND
PROPERTY LINE
BUILDING SETBACK LINE
LIMIT OF DISTURBANCE
PENDING SOLAR FACILITY LIMIT OF DISTURBANCE
PROP. SHADOWBOX FENCE
PROP. ELEC./TELCO LINE
SILT FENCE
EXIST. TREE TO REMAIN
EXIST. TREE TO BE REMOVED
EXIST. TREE TO BE PROTECTED
PROP. EVERGREEN TREE
EROSION CONTROL BLANKET
CONSTRUCTION STAGING AREA
SOUTH BEDFORD ROAD
EXIST. UTILITY POLE (#W27)
PROP. UNDERGROUND ELECTRIC/TELCO SERVICE FROM EXIST. DEMARC (EXIST. UTILITY POLE #W27) TO PROP. EQUIPMENT AREA (APPROX. 197±) (TYP.)
PROTECT EXIST. TREE (TYP. 6 PL.)
PROP. SILT FENCE (TYP.)
PROP. SEDIMENTATION CONTROL TEMPORARY HAYBALE CHECK DAM (TYP.)
PROP. 56'x62' (3,472± SF) LEASE AREA & 41'x62' (2,542± SF) 6' HIGH WOODEN SHADOWBOX FENCED COMPOUND AREA (TYP.)
PROP. 140'± AGL MONOPINE
TOTAL HOMELAND TOWERS PROJECT LIMITS OF DISTURBANCE = 35,000± SF (0.80± ACRES)
PROP. 15' WIDE GRAVEL ACCESS DRIVE (100'±) (TYP.)
PROP. GRASS LINED SWALE (TYP.)
PROP. STONE CHECK DAM (TYP.)
EXIST. TREE TO BE REMOVED (TYP., HOMELAND TOWER TOTAL 83 PL)
END CONC. CURB
PROP. 9'-6"x50' PAVED PULL-OFF, MATCH EXIST. GRADE (TYP.)
PENDING SOLAR FACILITY LANDSCAPING (BY OTHERS) (TYP.)
PENDING SOLAR FACILITY APPROX. LIMITS OF DISTURBANCE (BY OTHERS) (TYP.)
PROP. CONC. CURB (225'±) (TYP.)
EXIST. PAVED/GRAVEL ACCESS DRIVE (WIDTH VARIES) (TYP.)
PROP. PAVED DRIVEWAY WIDENING FOR FIRE TRUCK ACCESS (TYP.)
BEGIN CONC. CURB (TYP.)
TRIM EXIST. VEGETATION AS REQUIRED FOR WIDENING (TYP.)
END CONC. CURB (TYP.)
PROP. 9'-6"x50' PAVED PULL-OFF, MATCH EXIST. GRADE (TYP.)
PROP. CONC. CURB (215'±) (TYP.)
PROP. 6' HIGH EVERGREEN TREES TO BE PLANTED AT COMPLETION OF PROJECT (10' O.C.) (TYP. 7 PL.)
PROP. CONCRETE WASHOUT AREA
TEMPORARY STOCKPILE AREA (2:1 SIDE SLOPES) - RING W/ SILT FENCE @ 5' OFFSET FROM TOE OF STOCKPILE
BEGIN CONC. CURB (TYP.)
PROPERTY LINE (TYP.)
PROP. CONSTRUCTION ENTRANCE
PROP. CONSTRUCTION STAGING AREA
BUILDING SETBACK LINE (TYP.)
FUTURE SOLAR PROJECT ACCESS DRIVEWAY IMPROVEMENTS (BY OTHERS) (TYP.)
1 PARTIAL SITE PLAN
SP-3 SCALE: 1" = 20'-0"
(IN FEET) 1 inch = 20 ft.
NOTES:
1. TOTAL HOMELAND TOWERS PROJECT LIMITS OF DISTURBANCE = 35,000± SF (0.80± ACRES)
2. 83 EXISTING TREES >4" CALIPER DIAMETER TO BE REMOVED. (TOTAL HOMELAND TOWERS PROJECT)
3. FACILITY WILL INCLUDE A SIGN NOT TO EXCEED 2 SF, LISTING THE OWNER, OPERATOR'S NAME & EMERGENCY TELEPHONE NUMBER. SEE DETAIL 6/C-4.
4. PROPOSED FACILITY IS AN UNMANNED FACILITY. EMPLOYEES WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR PURPOSES OF SITE & EQUIPMENT MAINTENANCE. THERE IS NO WATER OR SEWER UTILITIES PROPOSED FOR THIS PROJECT.
NOTE: CONTRACTOR TO HAVE A GPR SURVEY PERFORMED AND HAVE ALL UNDERGROUND UTILITIES & STRUCTURES MARKED OUT PRIOR TO CONSTRUCTION.
MAP REFERENCES:
1. "ABUTTERS PLAN, PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 1 OF 2" & "EXISTING CONDITIONS SURVEY, PORTION OF PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 2 OF 2", PREPARED BY LAWSON SURVEYING & MAPPING, 2989 COUNTY ROUTE 8, ONEONTA, NEW YORK, 13820, DATED AUGUST 6, 2020.
HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345
verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994
APT ENGINEERING
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935
PERMITTING DOCUMENTS
NO | DATE | REVISION
0 | 06/13/20 | FOR REVIEW: RCB
1 | 06/14/20 | CLIENT REVS: RCB
2 | 11/03/20 | TOWN COMMENTS: RCB
3 | 12/22/20 | TOWN COMMENTS: RCB
4 | 01/25/21 | TOWN COMMENTS: RCB
5
6
DESIGN PROFESSIONALS OF RECORD
PROP: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385
DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810
NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.
HOMELAND TOWERS
MOUNT KISCO
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549
APT FILING NUMBER: NY283830
DATE: 06/13/20 DRAWN BY: CBH
CHECKED BY: RCB
SHEET TITLE:
PARTIAL SITE PLAN
SHEET NUMBER
SP-3



HOMELAND TOWERS, LLC
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verizon
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APT ENGINEERING
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PERMITTING DOCUMENTS

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6		

DESIGN PROFESSIONALS OF **RECORD**

PROF.: SCOTT M. CHASSE P.E.
COMP.: APT ENGINEERING
ADD: 507 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

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HOMELAND TOWERS
MOUNT KISCO

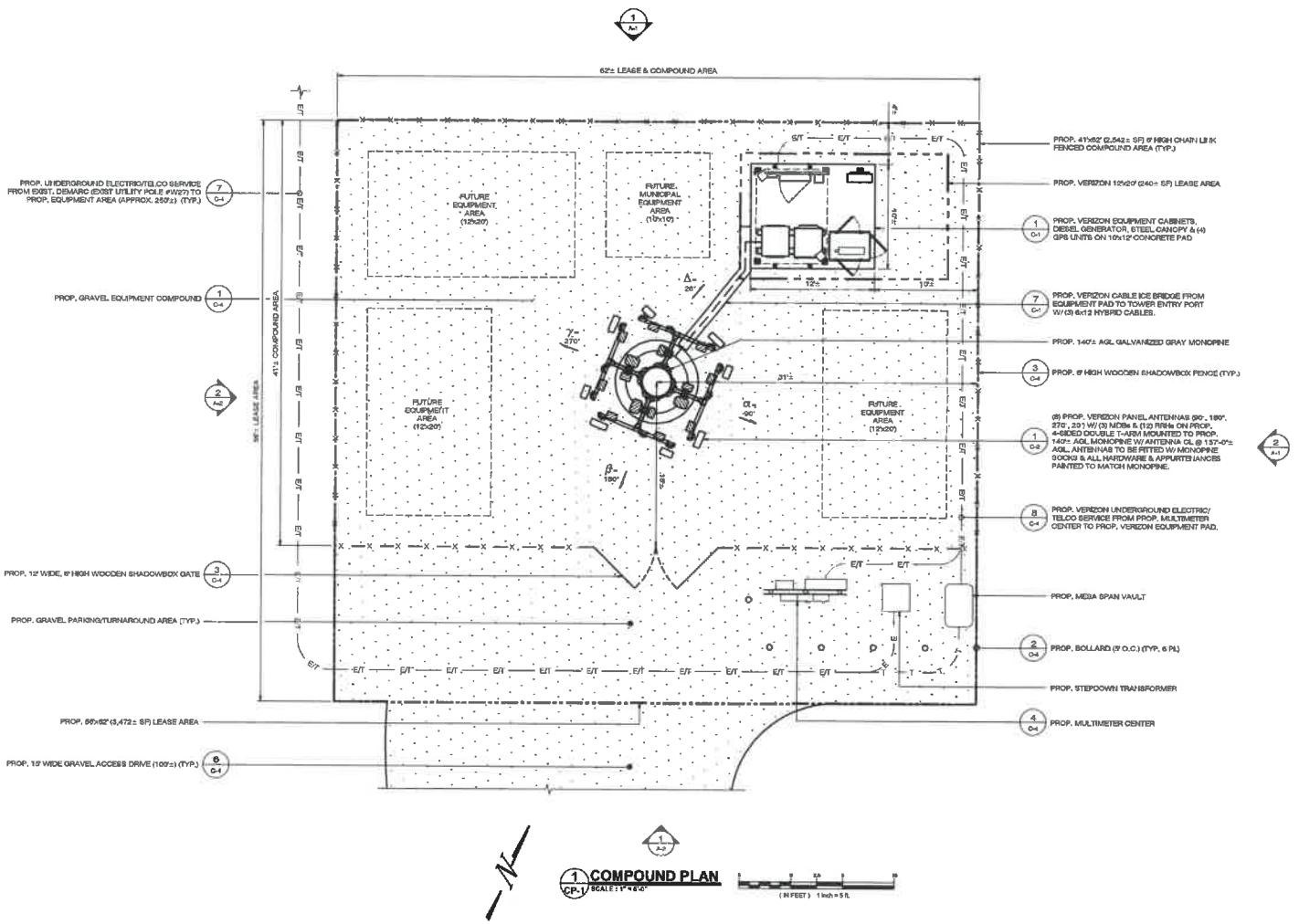
SITE ADDRESS: 190 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY25830

DATE: 06/13/20 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
GRADING & DRAINAGE PLAN

SHEET NUMBER:
SP-4



1 COMPOUND PLAN
CP-1 SCALE: 1" = 5'-0"

(IN FEET) 1 inch = 5 ft.

HOMELAND TOWERS, LLC
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2nd FLOOR
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WATERFORD, CT 06385 PH: (860)-663-1697
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6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

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HOMELAND TOWERS
MOUNT KISCO

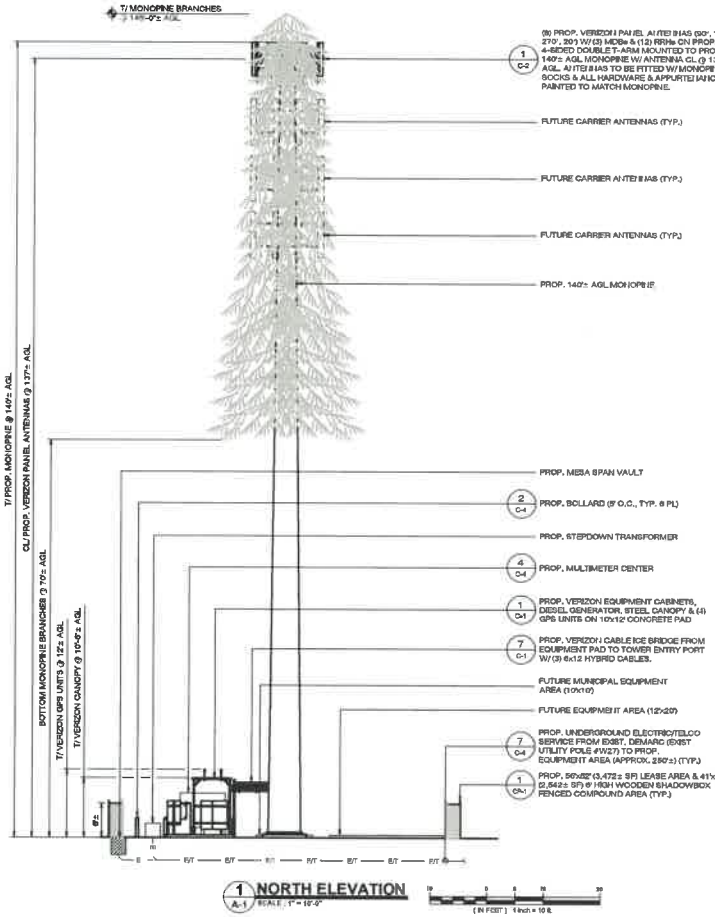
SITE ADDRESS: 199 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY2361o

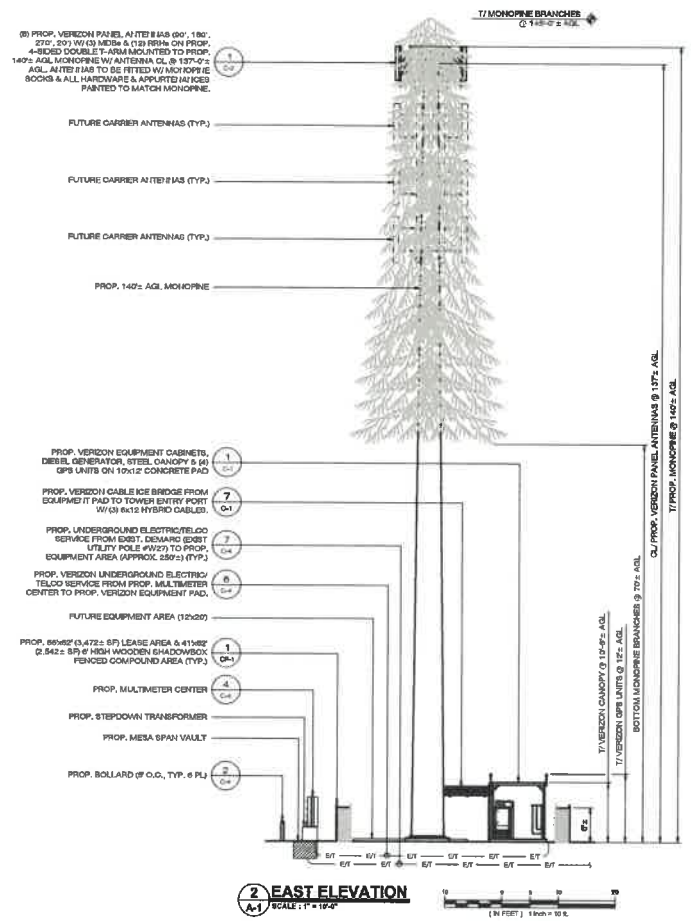
DATE: 08/13/20 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER:
CP-1



1 A-1 **NORTH ELEVATION**
SCALE : 1" = 10'-0"



2 A-1 **EAST ELEVATION**
SCALE : 1" = 10'-0"

TOWER TO BE DESIGNED TO SUPPORT FUTURE MUNICIPAL ANTENNAS.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
557 VALLEY STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

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4	01/25/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 557 VALLEY STREET EXTENSION - SUITE 311
WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

SITE ADDRESS: 180 S. BEDFORD RD., MT. KISCO, NY 10549

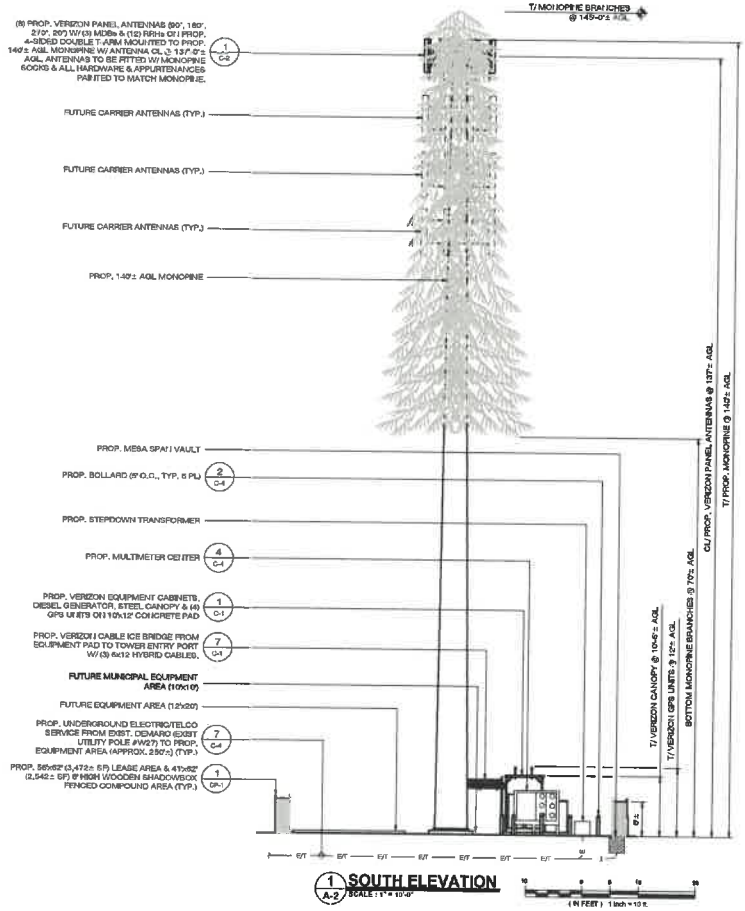
APT FILING NUMBER: NY258610

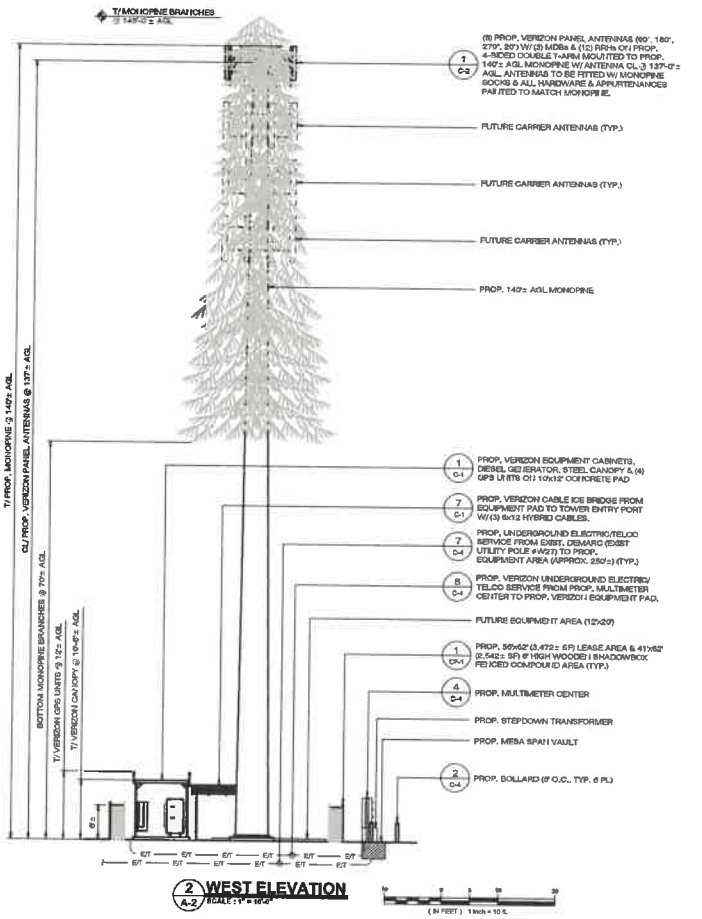
DATE: 08/13/20 DRAWN BY: CSH

CHECKED BY: RCB

SHEET TITLE:
ELEVATIONS

SHEET NUMBER:
A-1





TOWER TO BE DESIGNED TO SUPPORT FUTURE MUNICIPAL ANTENNAS.

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DANBURY, CT 06810
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4	01/07/21	TOWN COMMENTS: RCB
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6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE, P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

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HOMELAND TOWERS
MOUNT KISCO

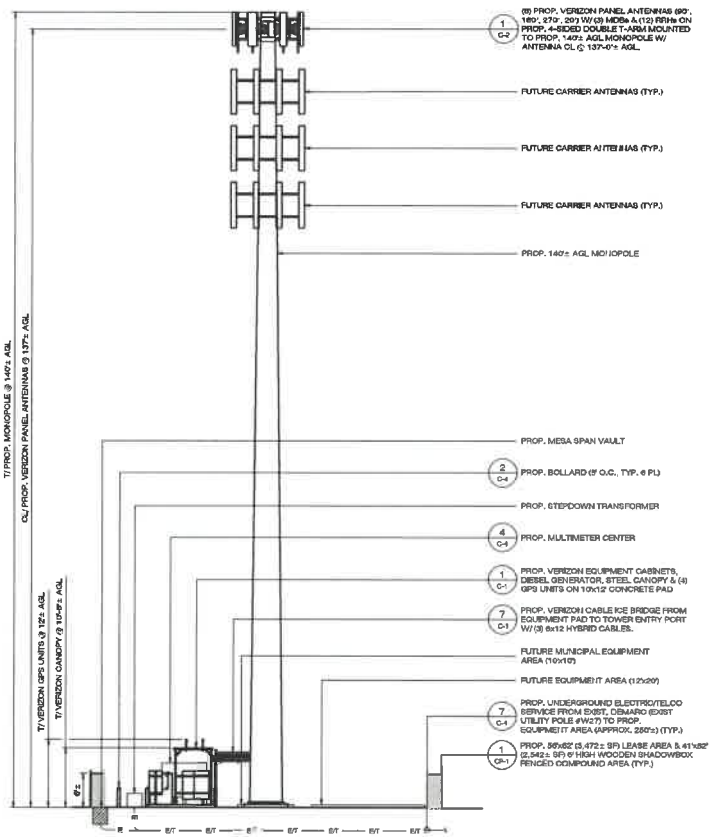
SITE ADDRESS: 980 S. BEDFORD RD. MT. KISCO, NY 10549

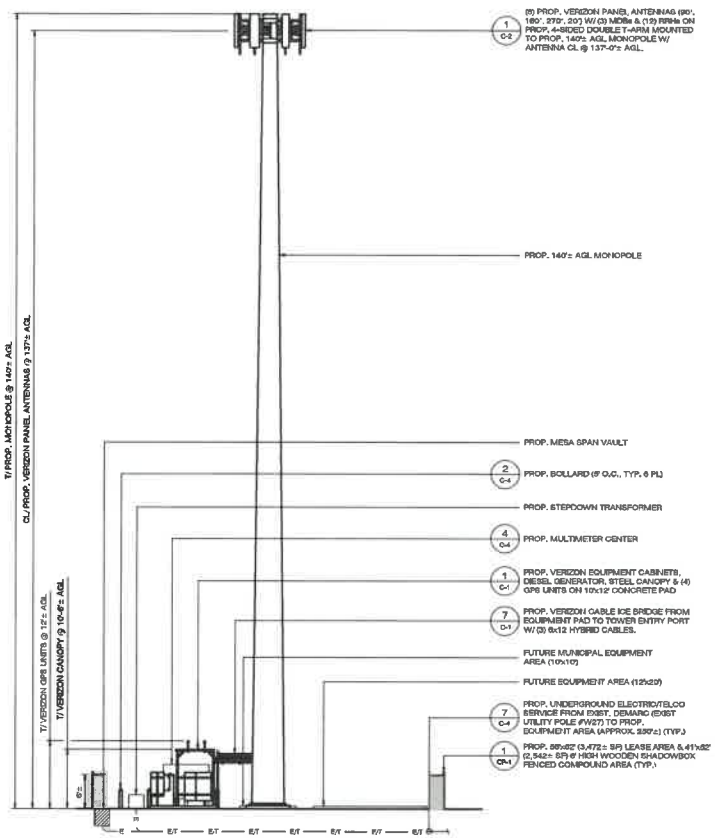
APT FILING NUMBER: NY33940

DATE: 08/13/20 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
ELEVATIONS

SHEET NUMBER:
A-2





HOMELAND TOWERS, LLC
9 HARMONY STREET
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(203) 297-6345

verizon
4 CENTEROCK ROAD
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APT ENGINEERING
587 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-460-1907
WWW.ALLPOINTSTECH.COM FAX: (860)-663-2935

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5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF. SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 587 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY263439

DATE: 06/13/20 DRAWN BY: CSH

CHECKED BY: RCB

SHEET TITLE:
ALTERNATE MONOPOLE ELEVATIONS

SHEET NUMBER
A-3

STORMWATER POLLUTION PREVENTION PLAN

STORMWATER POLLUTION PREVENTION PLAN

1. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE NEW YORK STATE STANDARD AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THE CURRENT GUIDELINES ON-SITE FOR REFERENCE DURING CONSTRUCTION. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.
2. THE CONTRACTOR WILL COMPLY WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY PERMIT NO. GP-0-20-001.
3. THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN IN A GENERAL SIZE AND LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS WHEN DIRECTED BY THE ENGINEER. SEE SEDIMENT AND EROSION CONTROL DETAILS AND SUGGESTED CONSTRUCTION SEQUENCE FOR MORE INFORMATION. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.
4. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE PROPER INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED WITH CONSTRUCTION ON THE SITE OF THE REQUIREMENTS AND OBJECTIVES OF THIS PLAN, INFORMING THE GOVERNING AUTHORITY OR INLAND WETLANDS AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE SEDIMENT & EROSION CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.
5. A BOND MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.
6. THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS WHERE NECESSARY.
8. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.
9. ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (SANDY FILL). SHALL BE PLACED IN MAXIMUM 8" LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.
10. PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING AT THE DRIP LINE, OR AS DETAILED, WITH SNOW FENCE, ORANGE SAFETY FENCE, OR EQUIVALENT FENCING. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA. FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.
11. ANTI-TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED.
12. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER, STAKED HAY BALES OR SILT FENCE SHALL ALSO BE INSTALLED AT THE DOWNHILL SIDES OF BUILDING EXCAVATIONS, DEWATERING PUMP DISCHARGES, AND MATERIAL STOCKPILES.
13. WASHOUT OF APPLICATORS, CONTAINERS, VEHICLES AND EQUIPMENT FOR CONCRETE SHALL BE CONDUCTED IN A DESIGNATED WASHOUT AREA. NO SURFACE DISCHARGE OF WASHOUT WASTEWATER FROM THE AREA WILL BE ALLOWED. ALL CONCRETE WASHWATER WILL BE DIRECTED INTO A CONTAINER OR PIT SUCH THAT NO OVERFLOW CAN OCCUR. WASHOUT SHALL BE CONDUCTED IN AN ENTIRELY SELF-CONTAINED SYSTEM AND WILL BE CLEARLY DESIGNED AND FLAGGED OR SIGNED WHERE NECESSARY. THE WASHOUT AREA SHALL BE LOCATED OUTSIDE OF ANY BUFFERS AND AT LEAST 50 FEET FROM ANY STREAM, WETLAND OR OTHER NON-STORMWATER DRAINAGE REQUIRED AS DETERMINED OR DESIGNATED BY THE ENGINEER.
14. INSTALL TEMPORARY DIVERSION DITCHES, PLUNGE POOLS, TEMPORARY SEDIMENT TRAPS/BASINS, AND DEWATERING PITS AS SHOWN AND AS NECESSARY DURING VARIOUS PHASES OF CONSTRUCTION TO CONTROL RUNOFF UNTIL UPHILL AREAS ARE STABILIZED. LOCATION OF TEMPORARY SEDIMENT TRAP/BASINS WILL REQUIRE REVIEW AND APPROVAL BY THE ENGINEER AND GOVERNING OFFICIAL. DEWATERING SETTLING TRAPS SHALL BE LINED IF GROUND WATER IS ENCOUNTERED. NO RUNOFF SHALL BE ALLOWED TO EXIT THE SITE PRIOR TO TREATMENT FOR SEDIMENT REMOVAL.
15. AS GENERAL GRADING OPERATION'S PROGRESS, THE TEMPORARY DIVERSION DITCHES SHALL BE RAISED OR LOWERED AND RELOCATED, AS CUT AND FILL SLOPES DICTATE, TO DIVERT SURFACE RUNOFF TO THE SEDIMENT TRAP/BASINS.
16. TEMPORARY SEDIMENT TRAPS SHALL PROVIDE 134 CUBIC YARDS OF SEDIMENT STORAGE PER DISTURBED ACRE CONTRIBUTING TO THE TRAP/BASIN, PROVIDE TRAP/BASIN VOLUMES FOR ALL DISTURBANCE ON SITE.
17. PERIODICALLY CHECK ACCUMULATED SEDIMENT LEVELS IN SEDIMENT TRAPS/BASINS DURING CONSTRUCTION AND CLEAN ACCUMULATED SILT WHEN NECESSARY OR WHEN ONE FOOT OF SEDIMENT HAS ACCUMULATED. CLEAN ACCUMULATED SEDIMENT FROM CATCH BASIN SUMPS AS NECESSARY. REMOVE DRY ACCUMULATED SEDIMENT FROM BEHIND HAY BALES AND SILT FENCE. EXCAVATED MATERIAL FROM TEMPORARY SEDIMENT TRAPS/BASINS MUST BE STOCKPILED ON UPHILL SIDE OF SILT FENCE.
18. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING. ALL EARTH STOCKPILES SHALL HAVE HAY BALES OR SILT FENCE AROUND THE LIMIT OF PILE. PILES SHALL BE TEMPORARILY SEEDED IF PILE IS TO REMAIN IN PLACE AND UNDISTURBED FOR MORE THAN 30 DAYS.
19. NO CUT OR FILL SLOPES SHALL EXCEED 3:1 EXCEPT WHERE STABILIZED BY ROCK RAISED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED, AND THE ROAD SHOULDER AND BANKS SHALL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.
20. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE SUCH AS TEMPORARY SEDIMENT TRAPS OR SILT FILTERS WITHIN THE APPROVED LIMIT OF DISTURBANCE. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE ENGINEER.
21. BLOCK THE OPEN UPSTREAM ENDS OF DETENTION BASIN/SEDIMENT TRAP OUTLET CONTROL ORIFICES UNTIL SITE IS STABILIZED AND BLOCK END OF STORM DRAINS INCORPORATED INTO THE BASIN WITH BOARDS AND SANDBAGS AT THE END OF EACH WORK DAY WHEN RAINFALL IS EXPECTED.
22. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.
23. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE, MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE, AS NEEDED ANCHOR MULCH ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, BLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.
24. SWEEP AFFECTED PORTIONS OF SITE ROADS ONE OR MORE TIMES A DAY OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.
25. TURF ESTABLISHMENT SHALL BE PERFORMED OVER ALL DISTURBED SOIL UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION. IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-ERODIBLE PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.
26. IF CONSTRUCTION ACTIVITIES ARE COMPLETE OR HAVE BEEN TEMPORARILY HALTED FOR 7 DAYS, STABILIZATION ACTIVITIES WILL BE IMPLEMENTED WITHIN 5 DAYS.
27. TWO WEEKS BEFORE THE FALL SEEDING SEASON BEGINS (AUGUST 15 TO OCTOBER 15), THE CONTRACTOR SHALL CONDUCT A MEETING WITH TOWN STAFF TO DISCUSS STABILIZING THE SITE FOR WINTER MONTHS. MEASURES MAY INCLUDE MULCHING AND/OR SEEDING MAY BE REQUIRED.
28. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM THE TOWN AND/OR ENGINEER.
29. SEEDING MIXTURES:
    A. NYSDEC PERMANENT CONSTRUCTION AREA PLANTING MIXTURE #1 FROM THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), LATEST EDITION.
30. POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES ARE NOT REQUIRED FOR THIS PROJECT SINCE THE PROJECT LIMITS OF DISTURBANCE IS UNDER 1 ACRE.
31. THE OWNER OR OPERATOR SHALL ENSURE THERE IS A TRAINED CONTRACTOR INSPECT ALL EROSION CONTROL MEASURES IN CONFORMANCE WITH PART V, SECTION B OF THE GENERAL PERMIT.
32. THE OWNER OR OPERATOR IS NOT REQUIRED TO HAVE A QUALIFIED INSPECTOR CONDUCT SITE INSPECTIONS BECAUSE THE PROJECT LIMITS OF DISTURBANCE IS UNDER 1 ACRE PER PART IV, SECTION C, SUBSECTION 1d OF THE GENERAL PERMIT.

SEDIMENT & EROSION CONTROL NARRATIVE

1. THE PROJECT INCLUDES THE INSTALLATION OF A 140'± AGL MONOPINE WITH ASSOCIATED GROUND MOUNTED EQUIPMENT. ALL DISTURBED AREAS ARE TO BE SEEDED AND STABILIZED PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT.

   THE PROPOSED PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:
   A. CONSTRUCTION OF 140'± AGL MONOPINE,
   C. CONSTRUCTION OF 41'X40' (1,640± SF) FENCED EQUIPMENT COMPOUND W/ GRAVEL SURFACE TREATMENT AND ASSOCIATED UTILITIES,
   D. CONSTRUCTION OF 12'± WIDE GRAVEL ACCESS DRIVE,
   E. CONSTRUCTION OF 10'X12' (120± SF) CONCRETE EQUIPMENT PAD,
   F. THE INSTALLATION OF PERVIOUS DISTURBED AREAS WITH PERMANENT GRASS TREATMENTS.
2. FOR THIS PROJECT, THERE ARE APPROXIMATELY 35,000± SF (0.80± AC) OF DISTURBED AREA ON THE SITE.
3. A GEOTECHNICAL ENGINEERING REPORT IS TO BE COMPLETED FOR THIS PROJECT AND WILL BE AVAILABLE UNDER SEPARATE COVER.
4. IT IS ANTICIPATED THAT CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 12 WEEKS.
5. REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATION IN THE ONSITE CONSTRUCTION PHASES.
6. EROSION AND SEDIMENTATION MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), LATEST EDITION.
7. DETAILS FOR THE TYPICAL EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON PLAN SHEET EC-2 OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.
8. CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION AREA:
   A. STAGED CONSTRUCTION;
   B. MINIMIZE THE DISTURBED AREAS DURING CONSTRUCTION;
   C. STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE WITH TEMPORARY OR PERMANENT MEASURES;
   D. MINIMIZE IMPERVIOUS AREAS.
   E. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

SUGGESTED CONSTRUCTION SEQUENCE

THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS. CONTRACTOR TO HIRE SURVEYOR FOR PROJECT STAKEOUT AS NEEDED THROUGHOUT CONSTRUCTION ACTIVITIES.

1. CONTACT THE OWNER TO SCHEDULE A PRE-CONSTRUCTION MEETING. PHYSICALLY FLAG THE TREES TO BE REMOVED IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.
2. CONDUCT A PRE-CONSTRUCTION MEETING TO REVIEW THE PROPOSED WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE OWNER, THE OWNER REPRESENTATIVES, THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON OR PERSONS RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.
3. NOTIFY THE OWNER AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY EXCAVATION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT. NOTIFY DIG SAFELY NEW YORK AT (800) 962-7962.
4. CLEAR AND GRUB AS REQUIRED, TO INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AND, IF APPLICABLE, TREE PROTECTION.
5. INSTALL CONSTRUCTION ENTRANCE.
6. PERFORM THE REMAINING CLEARING AND GRUBBING AS NECESSARY. REMOVE CUT WOOD AND STUMPS. CHIP BRUSH AND STOCKPILE FOR FUTURE USE OR REMOVE OFF-SITE. REMOVE AND DISPOSE OF DEMOLITION DEBRIS OFF-SITE.
7. TEMPORARILY SEED DISTURBED AREAS NOT UNDER CONSTRUCTION FOR THIRTY (30) DAYS OR MORE.
8. EXCAVATE AND GRADE NEW ACCESS DRIVE, INSTALL ACCESS ROAD DRAINAGE.
9. EXCAVATE AND ROUGH GRADE EQUIPMENT COMPOUND.
10. EXCAVATE FOR TOWER FOUNDATION & EQUIPMENT PAD.
11. FINALIZE ACCESS ROAD GRADES.
12. PREPARE SUBGRADE AND INSTALL FORMS, STEEL REINFORCING, & CONCRETE FOR TOWER FOUNDATION & EQUIPMENT PAD.
13. INSTALL BURIED GROUND RINGS, GROUND RODS, GROUND LEADS, UTILITY CONDUITS & UTILITY EQUIPMENT.
14. BACKFILL TOWER FOUNDATION.
15. ERECT TOWER.
16. INSTALL TELECOMMUNICATIONS EQUIPMENT ON TOWER & COMPOUND.
17. INSTALL COMPOUND GRAVEL SURFACES.
18. FINALIZE GRADING, INSTALL GRAVEL SURFACES, PAVE ACCESS DRIVE AREAS.
19. INSTALL FENCING.
20. CONNECT GROUNDING LEADS & LIGHTNING PROTECTION
21. FINAL GRADE AROUND COMPOUND.
22. LOAM & SEED DISTURBED AREAS OUTSIDE COMPOUND, AS REQUIRED.
23. TEST ALL NEW EQUIPMENT.
24. AFTER THE SITE IS STABILIZED AND WITH THE APPROVAL OF THE OWNER, REMOVE PERIMETER EROSION AND SEDIMENTATION CONTROLS.
25. PERFORM FINAL PROJECT CLEANUP.

THE ESTIMATED TIME FOR THE COMPLETION OF THE WORK IS APPROXIMATELY TWELVE (12) WEEKS. THE EXACT PERIOD IS MAY VARY DEPENDING ON THE CONTRACTOR'S & SUB-CONTRACTOR'S AVAILABILITY TO COMPLETE WORK & WEATHER DELAYS.

CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

BMP MEASURES	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED MUD/DEBRIS TRACKED SEDIMENT.
HAY BALES	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE BALE.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
SILT SACKS	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE SACK.
TOPSOIL/SUBSOIL STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
WATER BARS	DAILY	REPAIR/RESHAPE AS NECESSARY. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE WATER BAR.
TEMPORARY DIVERSION DITCHES	DAILY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/RESHAPE AS NECESSARY. REVIEW CONDITIONS IF REPETITIVE FAILURES OCCUR.
TEMPORARY SEDIMENT TRAP/BASINS	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REMOVE SEDIMENT WHEN IT REACHES 1/2 OF THE MINIMUM REQUIRED WET STORAGE VOLUME.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.

PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY, THE OWNER OR OPERATOR MUST IDENTIFY THE CONTRACTOR(S) AND SUBCONTRACTOR(S) THAT WILL BE RESPONSIBLE FOR INSTALLING, CONSTRUCTING, REPAIRING, REPLACING, INSPECTING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PRACTICES INCLUDED IN THE SWPPP; AND THE CONTRACTORS(S) AND SUBCONTRACTOR(S) THAT WILL BE RESPONSIBLE FOR CONSTRUCTING THE POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES INCLUDED IN THE SWPPP. THE OWNER OR OPERATOR SHALL HAVE EACH OF THE CONTRACTORS AND SUBCONTRACTORS IDENTIFY AT LEAST ONE PERSON FROM THEIR COMPANY THAT WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP. THIS PERSON SHALL BE KNOWN AS THE TRAINED CONTRACTOR. THE OWNER OR OPERATOR SHALL ENSURE THAT AT LEAST ONE TRAINED CONTRACTOR IS ON SITE ON A DAILY BASIS WHEN SOIL DISTURBANCE ACTIVITIES ARE BEING PERFORMED.

THE OWNER OR OPERATOR SHALL HAVE EACH OF THE CONTRACTORS AND SUBCONTRACTORS IDENTIFIED ABOVE SIGN A COPY OF THE FOLLOWING CERTIFICATION STATEMENT BELOW BEFORE THEY COMMENCE ANY CONSTRUCTION ACTIVITY:

"I HEREBY CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND AGREE TO COMPLY WITH THE TERMS AND CONDITIONS OF THE SWPPP AND AGREE TO IMPLEMENT ANY CORRECTIVE ACTIONS IDENTIFIED BY THE QUALIFIED INSPECTOR DURING A SITE INSPECTION. I ALSO UNDERSTAND THAT THE OWNER OR OPERATOR MUST COMPLY WITH THE TERMS AND CONDITIONS OF THE MOST CURRENT VERSION OF THE NEW YORK STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM ("SPDES") GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES AND THAT IT IS UNLAWFUL FOR ANY PERSON TO CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS. FURTHERMORE, I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, THAT I DO NOT BELIEVE TO BE TRUE, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS"

PRINTED NAME _____ DATE _____

SIGNATURE _____ DATE _____

ALL CONTRACTORS AND SUB-CONTRACTORS SHALL SIGN THE ABOVE STATEMENT AND THEY WILL BE STORED ON-SITE.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
357 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860) 663-1697
WWW.ALPOSTENGR.COM FAX: (860) 663-1935

PERMITTING DOCUMENTS		
NO.	DATE	REVISION
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1	09/14/20	CLIENT REVS: RCB
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3	12/22/20	TOWN COMMENTS: RCB
4	01/29/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD
PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 357 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HOMELAND TOWERS
MOUNT HISCO

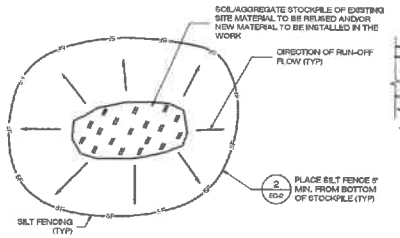
SITE: 180 S. BEDFORD RD
ADDRESS: MT. KISCO, NY 10549

APT FILING NUMBER: NY203930

DATE: 08/13/20 DRAWN BY: CSH
CHECKED BY: RCB

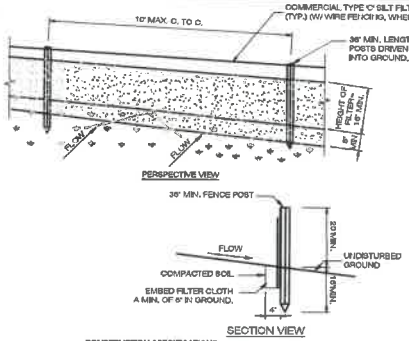
SHEET TITLE:
EROSION CONTROL NOTES

SHEET NUMBER:
EC-1



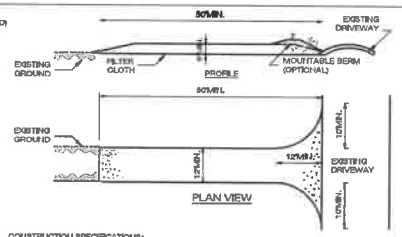
NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS AND ARE NOT PERMITTED ON SLOPES GREATER THAN 10%.
3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.
4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
5. ANY SOIL IN STOCKPILES IN EXCESS OF SEVEN (7) DAYS SHALL BE SEEDED AND MULCHED OR COVERED.

1 TEMPORARY STOCKPILE DETAIL
EC-2 SCALE : N.T.S.



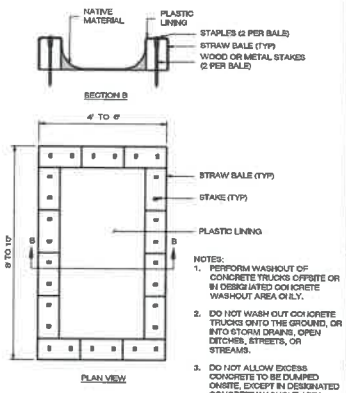
CONSTRUCTION SPECIFICATIONS
1. POSTS SHALL BE STEEL EITHER "T" OR "L" TYPE OR HARDWOOD.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
3. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

GEOTEXTILE SILT FENCE DETAIL
EC-2 SCALE : N.T.S.



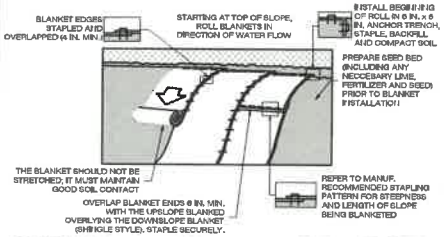
CONSTRUCTION SPECIFICATIONS:
1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM,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

3 CONSTRUCTION ENTRANCE DETAIL
EC-2 SCALE : N.T.S.

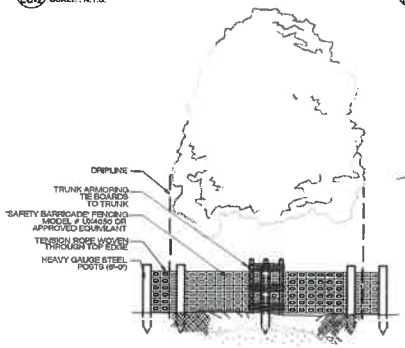


NOTES:
1. PERFORM WASHOUT OF CONCRETE TRUCKS OFFSITE OR IN DESIGNATED CONCRETE WASHOUT AREA ONLY.
2. DO NOT WASH OUT CONCRETE TRUCKS ONTO THE GROUND, OR INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
3. DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED CONCRETE WASHOUT AREA.

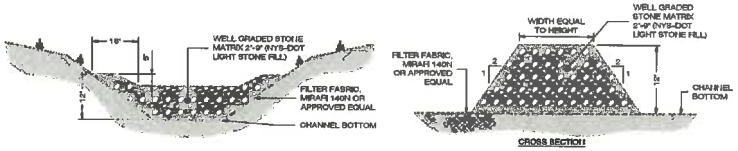
6 CONCRETE WASHOUT DETAIL
EC-2 SCALE : N.T.S.



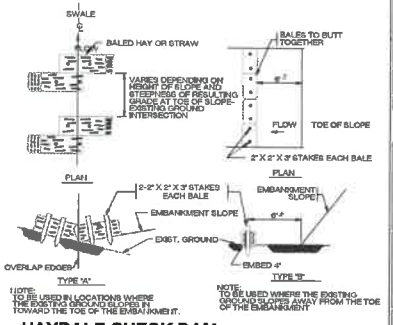
4 EROSION CONTROL BLANKET STEEP SLOPES
EC-2 SCALE : N.T.S.



5 TREE PROTECTION
EC-2 SCALE : N.T.S.



7 STONE CHECK DAM
EC-2 SCALE : N.T.S.



8 HAYBALE CHECK DAM SEDIMENTATION CONTROL BARRIER
EC-2 SCALE : N.T.S.

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PERMITTING DOCUMENTS

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DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 557 VAUXHALL STREET EXTENSION - SUITE 211 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

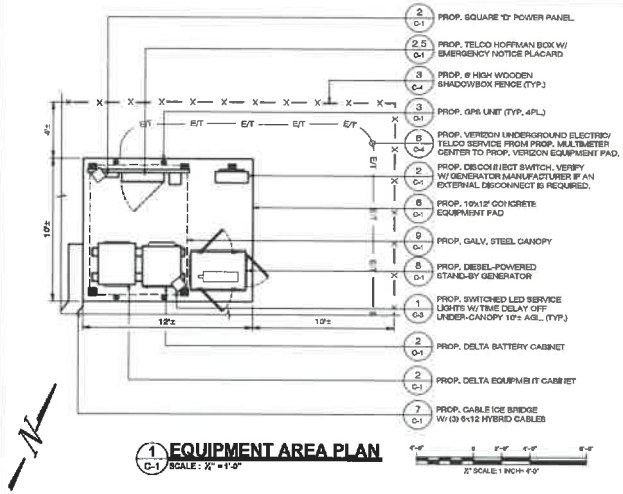
SITE ADDRESS: 192 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY22836

DATE: 08/13/20 DRAWN BY: CBH
CHECKED BY: RCB

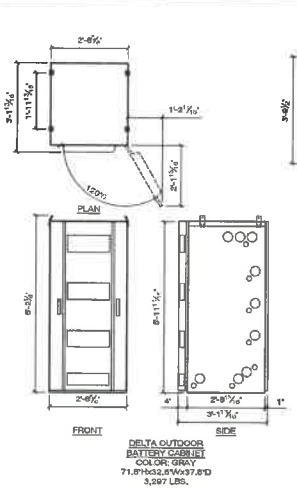
SHEET TITLE:
EROSION CONTROL DETAILS

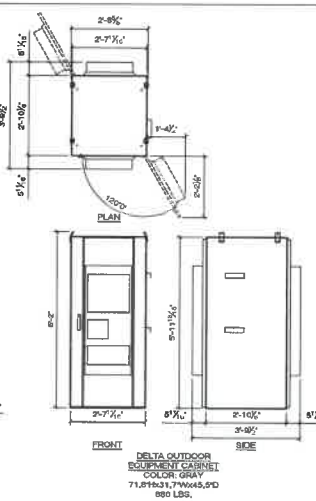
SHEET NUMBER:
EC-2

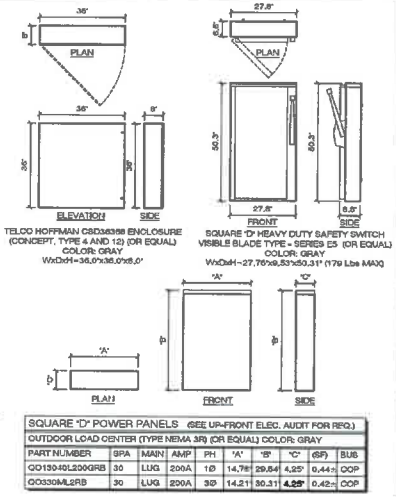


1 EQUIPMENT AREA PLAN
C-1 SCALE : ¼" = 1'-0"

1/4" SCALE: 1 INCH= 4'-0"

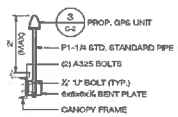




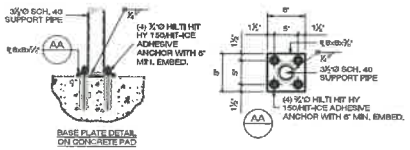


2 EQUIPMENT DETAILS
C-1 SCALE: N.T.S.

SQUARE "D" POWER PANELS (SEE UP-FRONT ELEC. AUDIT FOR REQ.)								
OUTDOOR LOAD CENTER (TYPE NEMA 3R) (OR EQUAL) COLOR: GRAY								
PART NUMBER	SPA	MAIN	AMP	PH	"A"	"B"	"C"	(SF)	SUB
QO130M1200GRB	30	LUG	200A	1Ø	14.76"	29.64"	4.25"	0.44±	OOP
QO330ML2RB	30	LUG	200A	3Ø	14.21"	30.31"	4.25"	0.42±	OOP

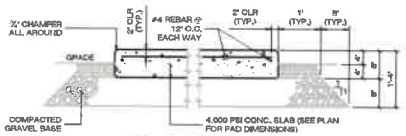


3 GPS MOUNT
C-1 SCALE: N.T.S.

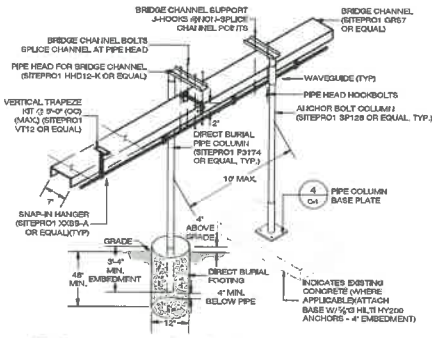


4 PIPE BASE PLATE
C-1 SCALE: N.T.S.

5 EMERGENCY NOTICE SIGN
C-1 SCALE: N.T.S.



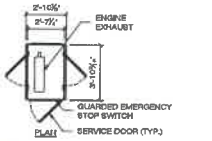
6 EQUIPMENT PAD
C-1 SCALE: N.T.S.

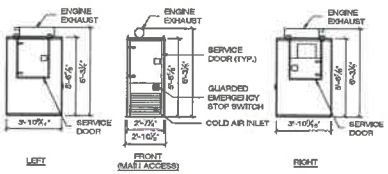


7 CABLE BRIDGE & COAX HANGER DETAIL
C-1 SCALE: N.T.S.

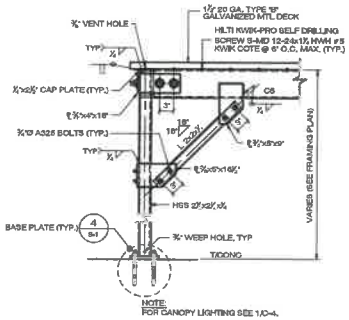
NOTE:
BACK SIDE OF GENERATOR MUST BE A MIN. OF 8" AWAY FROM ANY OBSTRUCTION

ASCOT ENERGY EVERYWHERE
15kW DIESEL-POWERED GENERATOR
MODEL # DC-GEN-15-DV-ACER
W/ INTEGRATED 54 GALLON DOUBLE WALL FUEL TANK
COLOR: GRAY





8 DIESEL GENERATOR SCHEMATICS
C-1 SCALE: ¾" = 1'-0"



9 CANOPY SUPPORT
C-1 SCALE: ¾" = 1'-0"

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
597 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

NO.	DATE	REVISION
0	09/13/29	FOR REVIEW: RCB
1	09/14/29	CLIENT REVS: RCB
2	11/13/29	TOWN COMMENTS: RCB
3	12/22/29	TOWN COMMENTS: RCB
4	01/25/30	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 597 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HOMELAND TOWERS
MOUNT KISCO

SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

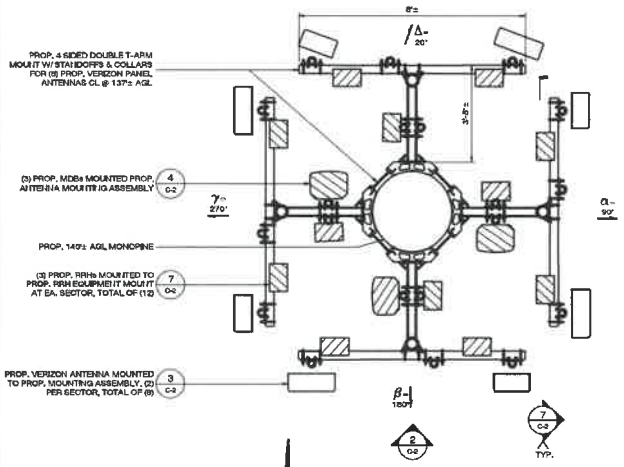
APT FILING NUMBER: NY283530

DATE: 05/10/29 DRAWN BY: CSH

CHECKED BY: RCB

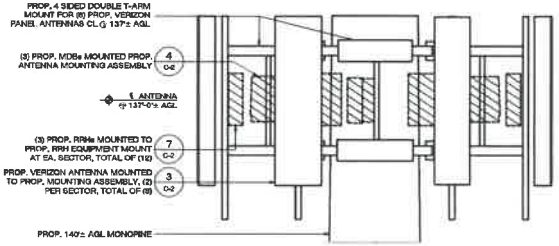
SHEET TITLE:
VERIZON EQUIPMENT PLAN & DETAILS

SHEET NUMBER:
C-1



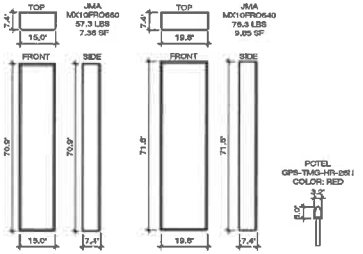
1 ANTENNA PLAN
C-3 SCALE : ½" = 1'-0"

NOTE:
PAINT MOUNTS, ANTENNAS, CABLING & APPURTENANCES TO MATCH TREE & INSTALL ANTENNA SOCKS ON ALL ANTENNAS.

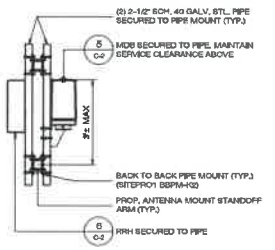


NOTE:
PAINT MOUNTS, ANTENNAS, CABLING & APPURTENANCES TO MATCH TREE & INSTALL ANTENNA SOCKS ON ALL ANTENNAS.

2 ANTENNA MOUNTING DETAIL
C-2 SCALE : ½" = 1'-0"

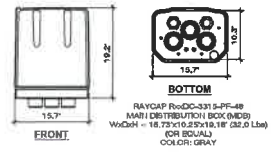


3 ANTENNA DETAIL
C-2 SCALE : ½" = 1'-0"



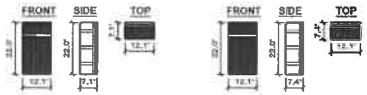
4 MDB/RRH MOUNT
C-3 SCALE : ½" = 1'-0"

NOTE:
1) RRH=REMOTE RADIO HEAD
2) MDB=MAIN DISTRIBUTION BOX



RAYCAP RxxDC-3315-PF-48
MAIN DISTRIBUTION BOX (MDB)
WxDxH = 16.73"x10.25"x19.18" (32.0 Lbs)
(OR EQUAL)
COLOR: GRAY

5 MAIN DISTRIBUTION BOX
C-2 SCALE: 1" = 1'-0"



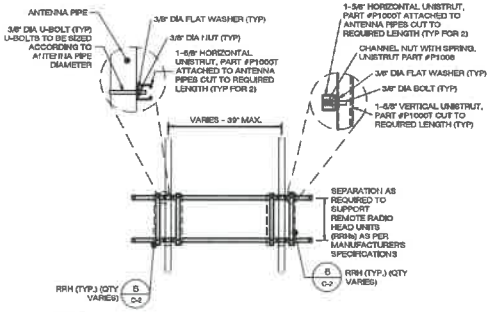
NOKIA AHFIG AIRSCALE DUAL RRH (OR EQUAL)
4T4R B2/66A 320W AWS-PCS
REMOTE RADIO HEAD (RRH)
WxDxH=12.1"x7.1"x22.0" (79± Lbs)

NOKIA AHBCG AIRSCALE DUAL RRH (OR EQUAL)
4T4R B5/13 320W 700/850 LTE
REMOTE RADIO HEAD (RRH)
WxDxH=12.1"x7.4"x22.0" (84± Lbs)

NOKIA AZQC
(OR EQUAL)
WxDxH=10.6"x4.0"x11.6" (25± LB)

NOTES:
1. DIMENSIONS SUBJECT TO CHANGE BASED UPON AVAILABILITY AT TIME OF CONSTRUCTION.
2. MANUFACTURER'S RECOMMENDED RRH CLEARANCES: FRONT: 36"; SIDES: 12"; BOTTOM: 24"
3. SPPs ARE PROTOCOL SPECIFIC. THE CONNECTIONS BETWEEN RRHs AND BBUs ARE CPRI OR ETHERNET. AND REQUIRE CPRI SFP (ON BOTH ENDS). THE CONNECTIONS BETWEEN BBUs AND TODs ARE ETHERNET AND REQUIRE ETHERNET SFP (ON BOTH ENDS.)

6 RRH EQUIPMENT
C-2 SCALE : ½" = 1'-0"



NOTES:
1. ALL EXPOSED UNISTRUT ENDS TO BE CAPPED WITH UNISTRUT CAP (MODEL #P2800-10).
2. ONLY 1-5/8" UNISTRUT TO BE USED FOR RACK CONSTRUCTION.
3. EXTEND UNISTRUT AS NEEDED BASED ON LENGTH OF ANTENNA SECTOR. DO NOT CANTILEVER UNISTRUT FOR MORE THAN 24" BEYOND ANTENNA MAST.
4. FOR SPANS GREATER THAN 5'-0" USE UNISTRUT PART #P1001T.

7 MDB/RRH EQUIPMENT ANTENNA MOUNT
C-2 SCALE : ½" = 1'-0"

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
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APT ENGINEERING
597 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH:(860)663-1697
WWW.ALPOINTETECH.COM FAX:(860)663-0935

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/13/20	FOR REVIEW: RCB
1	09/14/20	CLIENT REVS: RCB
2	11/03/20	TOWN COMMENTS: RCB
3	12/02/20	TOWN COMMENTS: RCB
4	01/25/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 597 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

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HOMELAND TOWERS
MOUNT KISCO

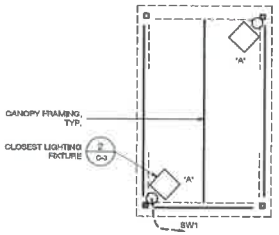
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10594

APT FILING NUMBER: NY263610

DATE: 08/13/20 | DRAWN BY: CSH | CHECKED BY: RCB

SHEET TITLE:
VERIZON ANTENNA PLAN & DETAILS

SHEET NUMBER:
C-2



SW1:
1. 15A, 120V, 500W SINGLE POLE 4 HOUR MANUAL TIMER: LEVITON MANUFACTURING CO., INC. MODEL #LTB-1LZ
2. OUTLET BOX: RAB LIGHTING INC. MODEL #S3S
3. WEATHERPROOF COVER: RAB LIGHTING INC. MODEL #TCS

'A':
1. FIXTURES (2 TOTAL). FULL CUTOFF, RAB LIGHTING INC. MODEL #WPLEDFC52NW.

NOTE:
1. LIGHTING TO BE MOUNTED BELOW CANOPY. BOTTOM OF LIGHT FIXTURE AT APPROXIMATELY 9'± AGL.

1 C-3 CANOPY LIGHTING
SCALE: N.T.S.

WPLEDFC52NW

RAB : Outdoor

LED 52W Wallpacks, 3 cutoff options. Patent Pending thermal management system. 100,000 hour L70 lifespan. 5-year, no-compromise warranty.

Color: White

Weight: 17 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type:	Constant Current
120V:	0.51A
208V:	0.30A
240V:	0.26A
277V:	0.24A
Input Watts:	59W
Efficiency:	92%

LED Info

Watts:	52W
Color Temp:	4000K (Neutral)
Color Accuracy:	72 CRI
L70 Lifespan:	100,000
Lumens:	7,238
Efficacy:	130 LPW

Technical Specifications

Listings:

UL Listing:
Suitable for wet locations

DLC Listed:
This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities.
DLC Product Code: PKZ3L38K

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

Electrical

THD:
6.15% at 120V, 7.09% at 277V

Power Factor:
99.3% at 120V, 97.3% at 277V

Driver:
Constant Current, 730mA, Class 2, 100 - 277V, 50 - 60 Hz, 120 - 277VAC 3.5 Amps

Surge Protection:
6kV

LED Characteristics

Lifespan:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations

LEDs:
Ten (10) multi-chip, high-output, long-life LEDs

Color Consistency:
3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:
LED color temperature is warranted to shift no more than .003x in CCT over a 6-year period

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017

Construction

Ambient Temperature:
Suitable For Use in 40°C (104°F)

Cold Weather Starting:
Minimum starting temperature is -40°C (-40°F)

Housing:
Precision die cast aluminum housing, lens trims

Mounting:
Die-cast aluminum wall bracket with (5) 1/2" conduit openings with plugs. Two-piece to allow with wiring for ease of installation and wiring.

Arm:
Die-cast aluminum with wiring access plate

Cutoff:
Full cutoff (0°)

Reflector:
Specular vacuum-metallized polycarbonate

Gaskets:
High temperature silicone

Lens:
Tempered glass

Finish:
Formulated for high-durability and long-lasting color

Green Technology:
Mercury and UV-free. RoHS compliant components.

Other

Warranty:
RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, indicating shortage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at

Patents:
The WPLED range is protected by patents in the U.S. Pat D668,377, Canada Pat. 143252, China Pat. ZL201730549338, and Mexico Pat. 39821 and pending patent in TW

Replacement:
Replaces 250W HID

Need help? Tech help line: (888) RAB-1000 Email: sales@rablighting.com Website: www.rablighting.com
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WPLEDFC52NW

RAB : Outdoor

Technical Specifications (continued)

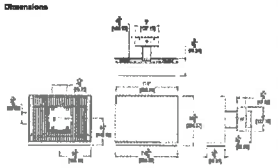
Other

Buy American Act Compliance:
RAB can be USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please upload customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating:
B1 U0 G1

Dimensions



Features

High performance LED light engine

Maintains 70% of initial lumens at 100,000 hours

Wet-rated high temperature silicone gaskets

Superior heat sinking with die cast aluminum housing and external fins

Replaces 250W HID

Traditional wallpack look from the front

3 cutoff options

5-Year, No-Compromise Warranty

Ordering Matrix

Family	Cutoff	Wattage	Color Temp	Finish	Driver Options	Options	Other Options
WPLED	FC	52 = 52W	N	W	A	A	A
	Blank = Standard (15 degrees)	90 = 90W	Blank = 4000K (Cool)	Blank = Bronze	Blank = 120-277V	Blank = No Option	Blank = Standard
	C = Cutoff (7.5 degrees)		W = 4000K (Neutral)	W = White	N/H = 480V	IPCS = 120V Swivel Photocell	USA = BAA Compliant
	FC = Flat Cutoff (0 degrees)		Y = 3000K (Warm)		dSL = 0-10V Dimming	IPCS2 = 277V Swivel Photocell	
					IDIS = 0-10V Dimming	IPCS4 = 480V Swivel Photocell	
						ILC = Lightcloud	

Need help? Tech help line: (888) RAB-1000 Email: sales@rablighting.com Website: www.rablighting.com
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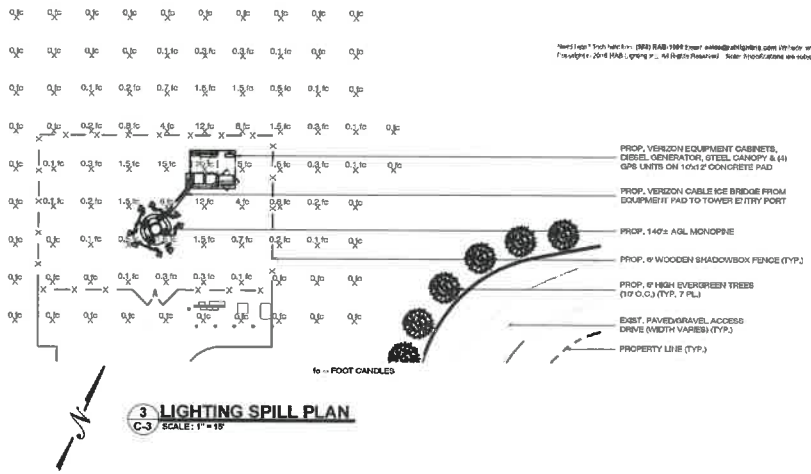
2 C-3 LIGHTING CUTSHEETS
SCALE: NONE



3 C-3 LIGHTING SPILL PLAN
SCALE: 1" = 15'

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
557 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

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4	01/29/21	TOWN COMMENTS: RCB
3		
2		
1		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 557 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
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HOMELAND TOWERS
MOUNT KISCO

SITE ADDRESS: 189 S. BEDFORD RD. MT. KISCO, NY 10984

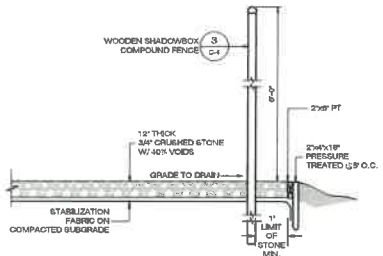
APT FILING NUMBER: NY293438

DATE: 08/13/20 DRAWN BY: CSH

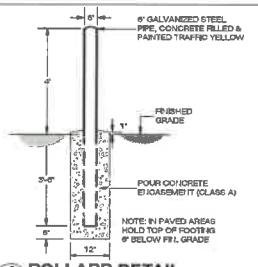
CHECKED BY: RCB

SHEET TITLE:
VERIZON EQUIPMENT LIGHTING PLAN & DETAILS

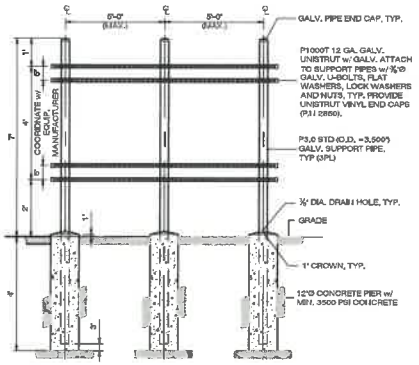
SHEET NUMBER:
C-3



1 COMPOUND DETAIL
C-4 SCALE: N.T.S.

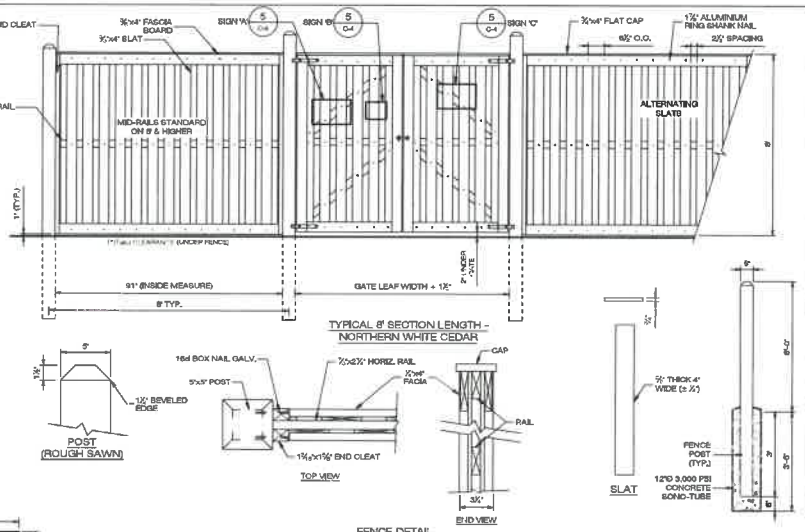


2 BOLLARD DETAIL
C-4 SCALE: N.T.S.

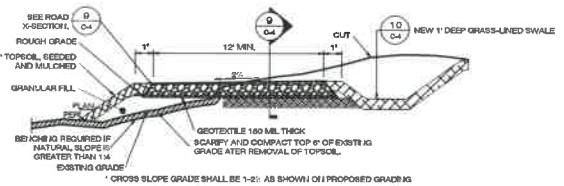


4 UTILITY BACKBOARD FRAME DETAIL
C-4 SCALE: N.T.S.

5 TYPICAL SIGNAGE
C-4 SCALE: N.T.S.



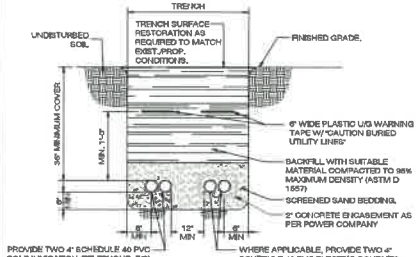
3 WALPOLE SHADOWBOX SCREEN FENCE
C-4 SCALE: N.T.S.



' CROSS SLOPE GRADE SHALL BE 1-2% AS SHOWN ON PROPOSED GRADING

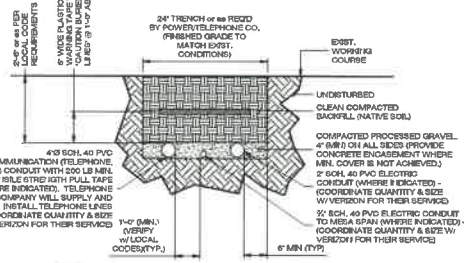
' WHERE CUT OR FILL EMBANKMENTS ARE STEEPER THAN 3:1 USE A STAPLED IN PLACE, BIODEGRADABLE EROSION CONTROL BLANKET OR A BONDED FIBER MATRIX HYDROSEED APPLICATION.

6 TYPICAL ROAD CROSS SECTION
C-4 SCALE: N.T.S.

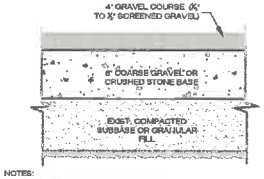


NOTES:
1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES, OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED.
2. CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
3. EXISTING PAVEMENT SHALL BE SAW-CUT PRIOR TO TRENCH EXCAVATION

7 PRIMARY UTILITY TRENCH
C-4 SCALE: N.T.S.

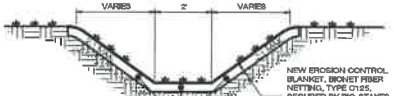


8 SECONDARY TRENCH DETAIL
C-4 SCALE: N.T.S.



NOTES:
1. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY.
2. SUBBASE IS TO BE FREE FROM DEBRIS AND UNSUITABLE MATERIALS.

9 GRAVEL ROAD/PARKING SECTION
C-4 SCALE: N.T.S.



10 GRASS LINED SWALE
C-4 SCALE: N.T.S.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon

4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
557 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.APTENGINEERING.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

NO	DATE	REVISION
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1	09/14/20	CLIENT REVS: RCB
2	11/09/20	TOWN COMMENTS: RCB
3	12/23/20	TOWN COMMENTS: RCB
4	01/25/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 557 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY26833

DATE: 08/13/20 DRAWN BY: CSH

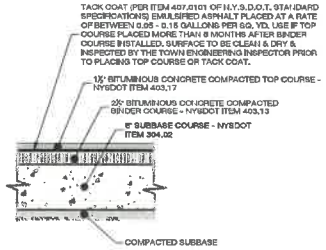
CHECKED BY: RCB

SHEET TITLE:

SITE DETAILS

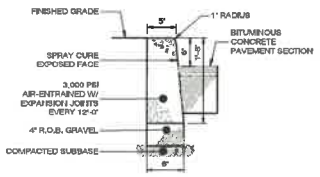
SHEET NUMBER

C-4

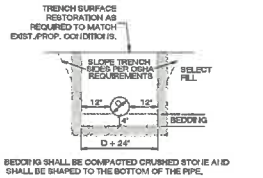


NOTES:
1. PAVEMENT SECTION TO MATCH TOWN STANDARDS.
2. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY.
3. SUBBASE IS TO BE FREE FROM DEBRIS AND UNSUITABLE MATERIALS.

1 PAVED ROAD SECTION
C-5 SCALE: N.T.S.

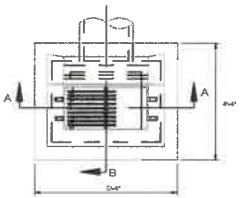


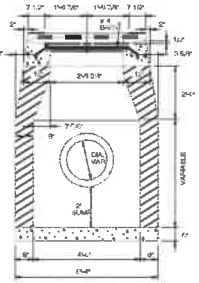
2 CONCRETE CURB DETAIL
C-5 SCALE: N.T.S.

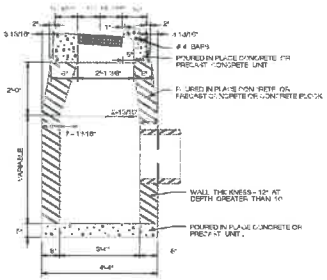


1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
2. SELECT FILL SHALL BE SELECT MATERIAL FREE OR LARGE ROCKS (3"+) AND SHALL BE PLACED IN 8" MAX. LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR.

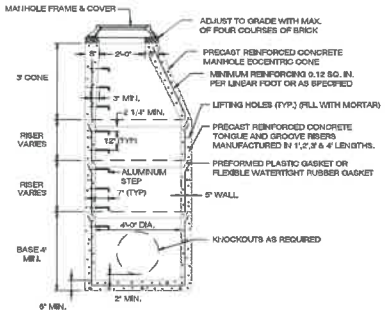
3 STORM TRENCH SECTION
C-5 SCALE: N.T.S.





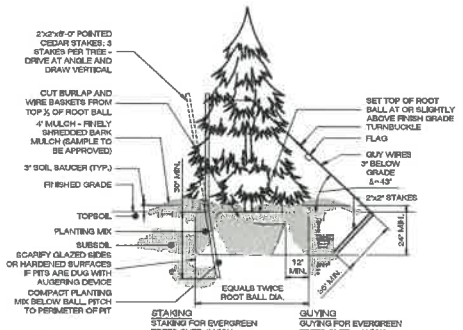


4 CURBED INLET CATCH BASIN
C-5 SCALE: N.T.S.



5' OR 6' DIA. PRECAST BASES MAY BE USED WHEN REQUIRED DUE TO SIZE OR NUMBER OF PIPES AT THE MANHOLE. PRECAST REDUCERS WILL BE PLACED ABOVE THE 5' & 6' BASES AS DIRECTED BY THE ENGINEER. WALL THICKNESS TO INCREASE 1" FOR EACH 1' OF INSIDE DIAMETER INCREASE.

5 PRECAST STORM MANHOLE
C-5 SCALE: N.T.S.



6 EVERGREEN TREE PLANTING
C-5 SCALE: N.T.S.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
557 VAUDREUIL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALPOINTSTITCH.COM FAX: (800)-663-3632

PERMITTING DOCUMENTS

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3	12/23/20	TOWN COMMENTS: RCB
4	01/25/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 557 VAUDREUIL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

NOTE:
IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW ARTICLE 145, SECTION 7209 (2) FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THE SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HOMELAND TOWERS
MOUNT KISCO

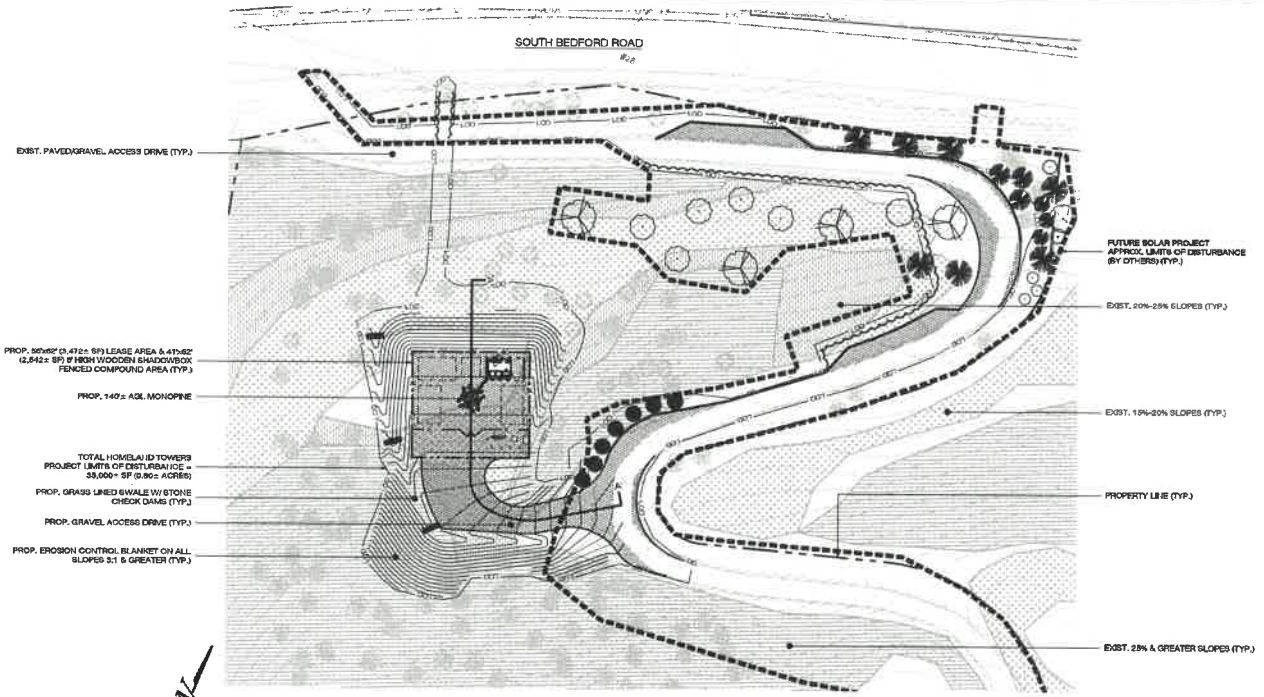
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY295830

DATE: 08/13/20 | DRAWN BY: CSH | CHECKED BY: RCB

SHEET TITLE:
SITE DETAILS

SHEET NUMBER:
C-5



1 SS-1 **STEEP SLOPE PLAN**
SCALE: 1" = 30'-0"
(IN FEET) 1 inch = 30 ft.

LEGEND

SLOPES 15%-20%

SLOPES 20%-25%

SLOPES 25% & GREATER

HOMELAND TOWERS AREAS OF DISTURBANCE

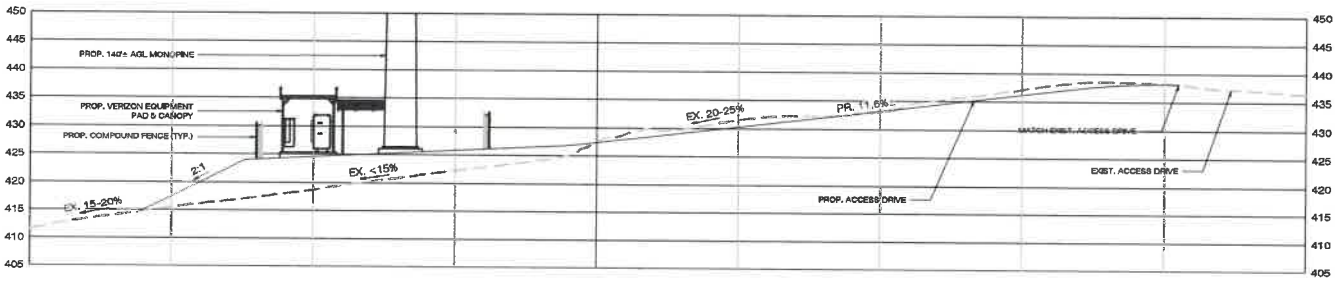
SLOPES 15%-20%	6,767± SF
SLOPES 20%-25%	2,346± SF
SLOPES 25% & GREATER	5,090± SF

COMMUNITY SOLAR FARM AREAS OF DISTURBANCE

SLOPES 15%-20%	59,590± SF
SLOPES 20%-25%	39,810± SF
SLOPES 25% & GREATER	44,259± SF

ACCESS DRIVE AREAS OF DISTURBANCE

SLOPES 15%-20%	4,031± SF
SLOPES 20%-25%	1,595± SF
SLOPES 25% & GREATER	1,305± SF



2 SS-1 **SECTION 'A-A'**
SCALE: 1" = 10'-0"
(IN FEET) 1 inch = 10 ft.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
587 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

NO.	DATE	REVISION
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3	12/03/20	TOWN COMMENTS: RCB
4	01/25/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF **RECORD**

PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 587 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10549

APT FILING NUMBER: NY2B3B30

DATE: 08/13/20 DRAWN BY: CSH

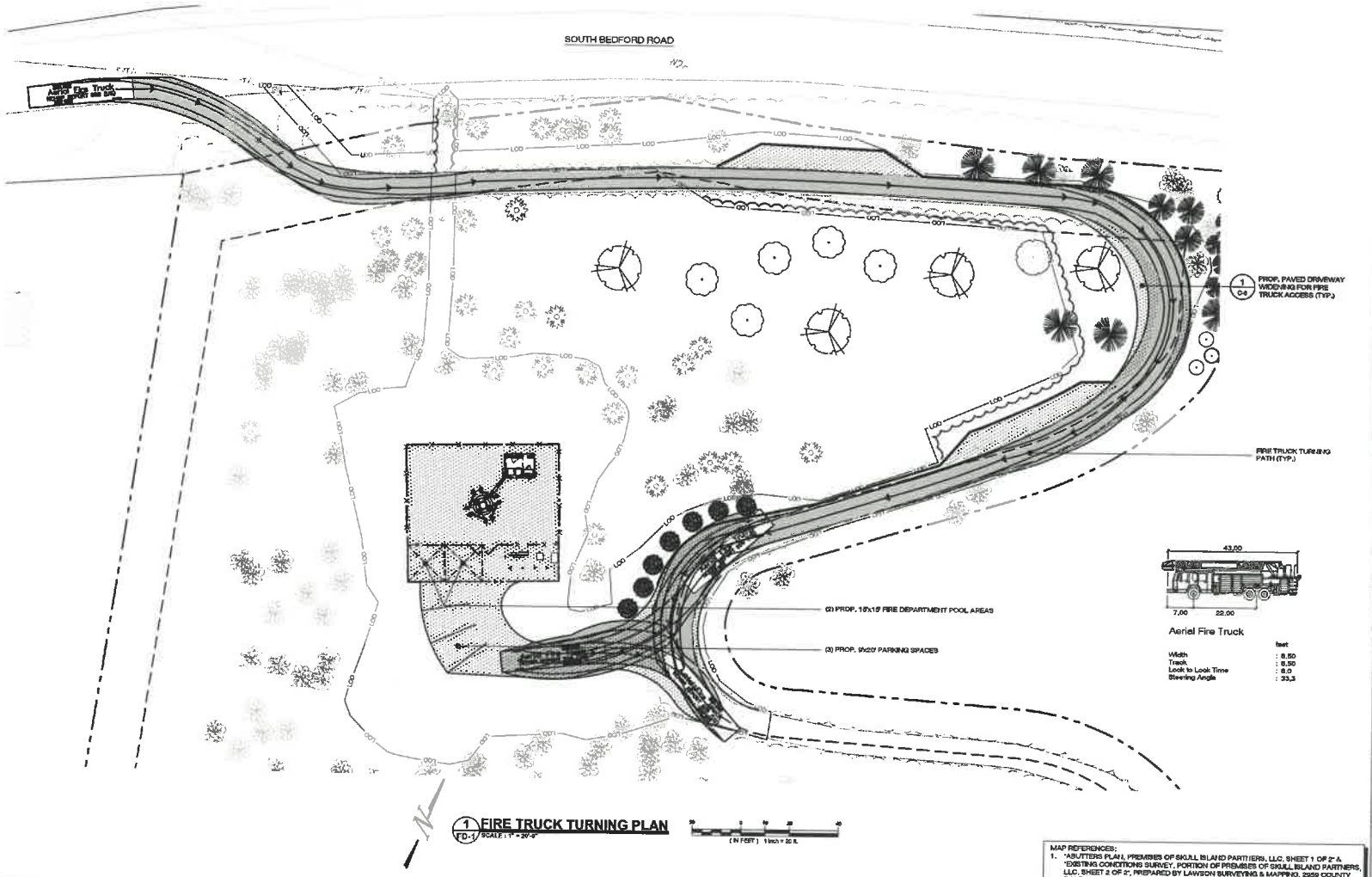
CHECKED BY: RCB

SHEET TITLE:

STEEP SLOPE PLAN

SHEET NUMBER:

SS-1



1 FD-1 FIRE TRUCK TURNING PLAN
SCALE: 1" = 20'-0"

(IN FEET) 1 inch = 20 ft.

MAP REFERENCES:
1. "ABUTTERS PLAN, PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 1 OF 2" & "EXISTING CONDITIONS SURVEY, PORTION OF PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 2 OF 2", PREPARED BY LAWSON SURVEYING & MAPPING, 2959 COUNTY ROUTE 6, ONEONTA, NEW YORK, 13820, DATED AUGUST 6, 2020.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

verizon
4 CENTERROCK ROAD
WEST NYACK, NY 10994

APT ENGINEERING
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMITTING DOCUMENTS

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3	12/23/20	TOWN COMMENTS: RCB
4	01/29/21	TOWN COMMENTS: RCB
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: SCOTT M. CHASSE, P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
MOUNT KISCO

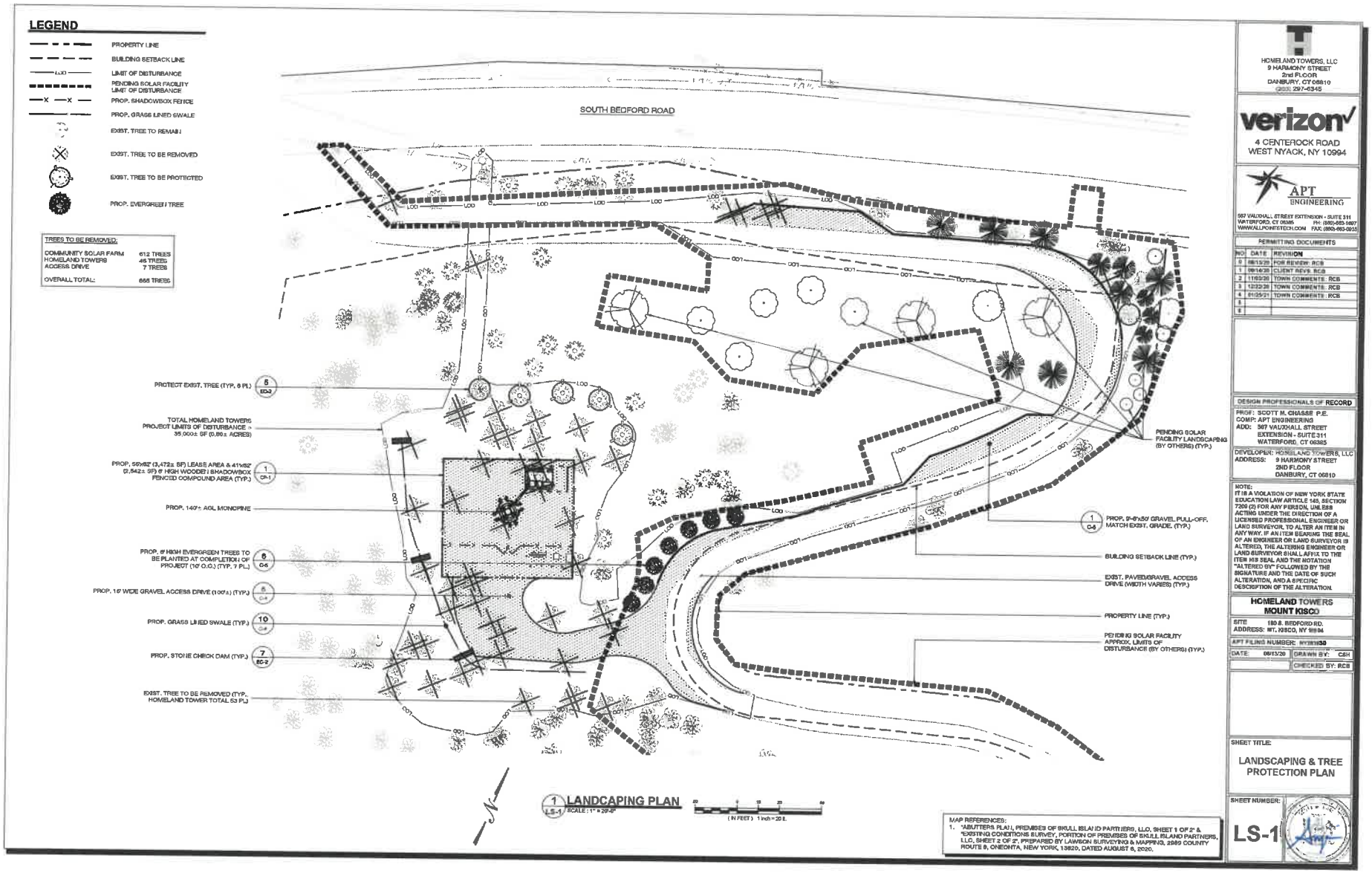
SITE ADDRESS: 180 S. BEDFORD RD, MT. KISCO, NY 10604

APT FILING NUMBER: NY263634

DATE: 05/13/20 | DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
FIRE TRUCK TURNING PLAN

SHEET NUMBER:
FD-1


LEGEND
PROPERTY LINE
BUILDING SETBACK LINE
LIMIT OF DISTURBANCE
PENDING SOLAR FACILITY LIMIT OF DISTURBANCE
PROP. SHADOWBOX FENCE
PROP. GRASS LINED SWALE
EXIST. TREE TO REMAIN
EXIST. TREE TO BE REMOVED
EXIST. TREE TO BE PROTECTED
PROP. EVERGREEN TREE
TREES TO BE REMOVED:
COMMUNITY SOLAR FARM 612 TREES
HOMELAND TOWERS ACCESS DRIVE 46 TREES 7 TREES
OVERALL TOTAL: 665 TREES
SOUTH BEDFORD ROAD
PROTECT EXIST. TREE (TYP. 6 PL)
TOTAL HOMELAND TOWERS PROJECT LIMITS OF DISTURBANCE = 35,000± SF (0.80± ACRES)
PROP. 50'x82' (3,472± SF) LEASE AREA & 41'x82' (3,542± SF) 6' HIGH WOODEN SHADOWBOX FENCED COMPOUND AREA (TYP.)
PROP. 140'± AGL MONOPINE
PROP. 6' HIGH EVERGREEN TREES TO BE PLANTED AT COMPLETION OF PROJECT (10' O.C.) (TYP. 7 PL.)
PROP. 16' WIDE GRAVEL ACCESS DRIVE (100'±) (TYP.)
PROP. GRASS LINED SWALE (TYP.)
PROP. STONE CHECK DAM (TYP.)
EXIST. TREE TO BE REMOVED (TYP., HOMELAND TOWER TOTAL 53 PL.)
PENDING SOLAR FACILITY LANDSCAPING (BY OTHERS) (TYP.)
PROP. 9'-6"x30' GRAVEL PULL-OFF, MATCH EXIST. GRADE. (TYP.)
BUILDING SETBACK LINE (TYP.)
EXIST. PAVED/GRAVEL ACCESS DRIVE (WIDTH VARIES) (TYP.)
PROPERTY LINE (TYP.)
PENDING SOLAR FACILITY APPROX. LIMITS OF DISTURBANCE (BY OTHERS) (TYP.)
N
1 LS-1 LANDCAPING PLAN
SCALE: 1" = 20'-0"
(IN FEET) 1 inch = 20 ft.
MAP REFERENCES:
1. "ABUTTERS PLAN, PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 1 OF 2" & "EXISTING CONDITIONS SURVEY, PORTION OF PREMISES OF SKULL ISLAND PARTNERS, LLC, SHEET 2 OF 2", PREPARED BY LAWSON SURVEYING & MAPPING, 2589 COUNTY ROUTE 8, ONEONTA, NEW YORK, 13820, DATED AUGUST 6, 2020.
HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345
verizon
4 CENTEROCK ROAD
WEST NYACK, NY 10994
APT ENGINEERING
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WATERFORD, CT 06385 PH: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935
PERMITTING DOCUMENTS
NO DATE REVISION
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5
6
DESIGN PROFESSIONALS OF RECORD
PROF: SCOTT M. CHASSE P.E.
COMP: APT ENGINEERING
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385
DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810
NOTE:
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HOMELAND TOWERS
MOUNT KISCO
SITE ADDRESS: 180 S. BEDFORD RD. MT. KISCO, NY 10994
APT FILING NUMBER: NY281130
DATE: 08/13/20 DRAWN BY: CSH
CHECKED BY: RCB
SHEET TITLE:
LANDSCAPING & TREE PROTECTION PLAN
SHEET NUMBER:
LS-1

PLANNING BOARD RESOLUTION
VILLAGE OF MOUNT KISCO

SITE PLAN APPROVAL
CHANGE OF USE PERMIT
215 LEXINGTON AVENUE

Sheet 80.32, Block 4, Lot 6
Cal #2016-0328

March 9, 2021

WHEREAS, the subject property consists of ±0.26 acre of land and is located at 215 Lexington Avenue within the Neighborhood Commercial (CN) Zoning District; and

WHEREAS, the subject property is located on the corner of Lexington Avenue and Maplewood Drive; and

WHEREAS, the subject property is owned by Bagnato 205 Lexington Avenue Corp. ("the applicant"); and

WHEREAS, the subject property is developed with a unlawful, dimensionally noncomplying three-story (4-family) apartment building with ±1,200 s.f. of commercial use on the ground floor and an attached 1-story commercial building located immediately to its south; an existing non-complying parking area is located adjacent to Lexington Avenue and consists of six (6) perpendicular spaces; and

WHEREAS, a residence and garage had been located on the subject parcel but have since been demolished and removed; and

WHEREAS, the applicant is proposing the legalization and exterior renovation of the existing 4-family apartment building and the construction of three (3) new townhomes to be located along Lexington Avenue; a parking area consisting of 10 spaces is proposed to the rear of the building, with access from Maplewood Drive ("the proposed action"); and

WHEREAS, a proposed covered walkway will connect the existing building to the proposed townhomes; and

WHEREAS, the proposed action includes landscaping, lighting, installation of accessible parking, the increase of greenspace along Maplewood Drive, the installation of street trees, and the ability to provide three (3) new on-street parking spaces on Lexington Avenue; and

WHEREAS, reference is made to the following drawings prepared by Federico Associates, dated (last revised) January 13, 2021:

- Streetscape Elevations Lexington Ave (A1)
- Streetscape Elevations Maplewood Ave (A2)
- Rear & Right Elevations (East & South) (A3)
- Ground Floor/Basement Plans (A4)
- First Floor Plans (A5)
- Second Floor Plans (A6)

WHEREAS, reference is made to review memoranda prepared by the Building Inspector, Village Planner, and Village Engineer of various dates; and

WHEREAS, the proposed action has been determined to be an Unlisted Action, pursuant to the New York State Environmental Quality Review Act (SEQRA), 6 NYCRR Part 617 and a coordinated review was not conducted; and

WHEREAS, the Planning Board has compared the proposed action with the Criteria for Determining Significance in 6 NYCRR 617.7(c) and determined that the proposed action will not have a significant adverse impact on the environment; and

WHEREAS, the Planning Board has considered all reasonably related long-term, short-term, direct, indirect, and cumulative environmental effects associated with the proposed action including other simultaneous or subsequent actions.

NOW, THEREFORE, BE IT RESOLVED THAT, the Planning Board hereby issues the attached Negative Declaration of Significance; and

BE IT FURTHER RESOLVED THAT, the Planning Board hereby grants site plan approval and approves the following plans (hereafter referred to as "the approved plans"), subject to the below conditions:

1. The following plans, prepared by Alfonzetti Engineering, P.C., dated (last revised) December 8, 2020:

    - Existing Conditions, Demolition and Layout Plan
    - Proposed Grading and Utility Plan
    - Erosion Control & Green Areas Plan
    - Site Details

- Turning Radius Study Plan

2. Lighting Plan, prepared by e-conolight, signed by Ralph Alfonzetti, P.E., dated (last revised) December 8, 2020

3. Landscape Plan, prepared by Stephen Lopez, AICP, RLA, dated November 16, 2020; and

BE IT FURTHER RESOLVED THAT, the Planning Board hereby grants a waiver to permit permanent encroachments into the landscape buffer, as shown on the approved plans referenced herein; and

BE IT FURTHER RESOLVED THAT, in accordance with Section 110-38 of the Zoning Code, the Planning Board hereby grants a Change of Use Permit; and

BE IT FURTHER RESOLVED THAT, unless extended by the Planning Board within 6-months of the filing of this resolution, Conditions #1 – #6 shall be satisfied and approved plans shall be signed by the Planning Board Chairman. Construction shall commence within six (6) months of the date of this Resolution and all remaining conditions contained herein shall be satisfied within one (1) year of commencement of construction.

Conditions to be Satisfied Prior to the Signing of the Approved Plans:

1. Prior to the signing of the approved plans, it is the applicant's responsibility to identify and secure any and all necessary permits/approvals from outside agencies having jurisdiction over the proposed action. Copies of outside agency permits/approvals shall be submitted to the Planning Board and the Building Department. In the event that such permit(s) require modification to the plans approved herein, a determination shall be made by the Building Inspector and Village Engineer as to whether the modification(s) is substantive and should be returned to the Planning Board for review. The following outside agency permits/approvals have been identified by the applicant:

    - Area variances from the Village of Mount Kisco Zoning Board of Appeals (ZBA)
    - Village of Mount Kisco Architectural Review Board (ARB)
    - Village of Mount Kisco Department of Public Works (DPW) – to be issued prior to the commencement of work
    - Westchester County Department of Public Works
    - New York City Department of Environmental Protection (NYCDEP) Stormwater Pollution Prevention Plan (SWPPP) approval
    - New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) – to be issued prior to the commencement of work

2. The owner/applicant shall satisfactorily address any outstanding comments provided by the Building Inspector, Village Attorney, Village Engineer, and/or Village Planner.

3. All applicable application fees and fees associated with professional legal, engineering and planning consultation shall be paid for by the owner/applicant.

4. Payment of a recreation fee (3 units) in the amount required by the Village Board's schedule of fees, as applicable.

5. The applicant shall submit a "check set" (4 copies) of the approved plans prepared in final form and in accordance with the conditions of this Resolution, for review by Village staff.

6. The approved plans shall be revised to conform to the above conditions and to the satisfaction of Village staff. The applicant shall submit four (4) original copies of the approved plans, signed and sealed by the design professional, for final review by Village staff and for signature by Village staff and the Planning Board Chairman. All plans shall have a common revision date.

Conditions to be Satisfied Prior to Commencement of Any Work:

7. The applicant shall obtain a Building Permit. A Building Permit shall not be issued until the Approved Plans have been signed by the Village staff and the Planning Board Chairman.

8. The applicant shall submit a schedule for all earthwork and land disturbance to the Village Engineer for approval. The applicant shall notify the Village Engineer and Building Inspector at least 72 hours in advance of any site disturbance.

9. Before commencement of any land disturbance, placing construction equipment on-site or actual construction, the subject property must be staked out by a NYS Licensed Land Surveyor, as determined necessary by the Village Engineer.

10. A pre-construction meeting shall be conducted with the applicant, contractor, Building Inspector, and Village Engineer.

Conditions to be Satisfied Prior to the Issuance of a Building Permit:

11. The owner/applicant shall satisfy the above conditions and the approved plans shall be signed by Village staff and the Planning Board Chairman.

12. A pre-construction meeting shall be conducted with the applicants, contractor, Building Inspector, Village Engineer and Village Planner.

13. The Diamond Applicant shall demonstrate that coverage has been obtained under the NYSDEC SPDES General Permit (GP-0-20-001).

Conditions to be Satisfied During Construction:

14. The Village Engineer and Village Planner shall have the right to inspect the property during construction.

15. All construction activities shall be performed during the times permitted under the Village Code. The Village Engineer and Village Planner shall have the right to inspect the property during construction, the cost of which shall be paid for by the applicant.

16. All proposed retaining walls more than four (4) feet in height shall be fully designed by a New York State Licensed Professional Engineer and to the satisfaction of the Building Inspector. Design drawings, details, and calculations shall be submitted to the Village Engineer and Building Inspector for review and approval.

17. All development activities shall be completed in accordance with the Approved Plans, subject to potential, non-substantive "field changes". For any reason, should modification to these plans be deemed necessary, the applicants shall contact the Building Inspector to review same and to determine if Amended Site Plan Approval is required. Any change to the construction details approved as part of the Approved Plans shall be reviewed and approved by the Building Inspector or Village Staff, as applicable.

18. Construction-related exterior lighting, equipment, and generators shall be turned off during non-working hours.

19. Construction activities shall be supervised by a NYS Licensed Professional Engineer.

Conditions to be Satisfied Prior to the Issuance of a Certificate of Occupancy:

20. There shall be no Final Certificate of Occupancy issued, until there is full compliance with the plans approved herein and all conditions of this Resolution.

21. Prior to the issuance of a Final Certificate of Occupancy, an as-built survey, signed and sealed by a NYS Licensed Land Surveyor and demonstrating compliance with the approved plans shall be submitted. This survey shall be prepared to the satisfaction of the Village Engineer.

22. Prior to the issuance of a Final Certificate of Occupancy, all required landscaping installations shall be completed and inspected by the Village Planner; any plant substitutions shall be approved by the Village Planner prior to being installed.

23. A final site inspection shall be completed by the Building Inspector, Village Engineer and Village Planner.

24. All applicable application fees and fees associated with professional legal, engineering and planning consultation shall be paid for by the applicant.

Other Conditions:

25. All WHEREAS clauses contained within the body of this Resolution shall be deemed incorporated as conditions of approval, as if fully set forth herein.

26. The Planning Board is to retain original jurisdiction.

27. The applicant shall be responsible for the installation (material/labor) associated with any improvements proposed on Village property, including the installation of landscaping, sidewalks, curbing, utilities, and the three (3) on-street parking spaces (if approved by the Village Manager).

28. All aspects regarding use, construction and operations at this site shall be fully compliant with Village Code, covenants, restrictions, and easements, and any other local, state or federal regulations.

29. Landscaping shall be maintained for the life of the facility and in accordance with the approved landscaping plan. The applicant shall be responsible for any re-grading, replanting, or irrigation necessary to ensure that the landscaping is installed and maintained in accordance with the approved plan. In the event that landscaping is not maintained to the satisfaction of the Village Engineer and/or Building Inspector, the Village Engineer and/or Building Inspector shall notify the applicant in writing of the violation.

30. No change of use and no expansion or intensification of use shall be permitted without Planning Board approval.

31. Failure to comply with any of the aforesaid conditions shall constitute a violation of site plan approval and shall subject the applicant to prosecution, penalties and/or permit revocations pursuant to applicable law. Deviation from any such approvals may render this site plan or certificates of occupancy issued in conjunction therewith, null and void.

ADOPTION OF RESOLUTION

WHEREUPON, the Resolution herein was declared adopted by the Planning Board of the Village of Mount Kisco as follows:

The motion was moved by: _____

The motion was seconded by: _____

The vote was as follows:

JOHN BAINLARDI	___
RALPH VIGLIOTTI	___
MICHAEL BONFORTE	___
WILLIAM POLESE	___
CRYSTAL PICKARD	___
JOHN HOCHSTEIN	___
BARBARA ROPPOLO	___

_____

John Bainlardi, Acting Chairman **March 4, 2021**

State Environmental Quality Review
NEGATIVE DECLARATION
Notice of Determination of Non-Significance

Date: March 9, 2021

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The Village of Mount Kisco Planning Board has determined that the proposed action described below will not have a significant environmental impact and a Draft Environmental Impact Statement will not be prepared.

Name of Action: Bagnato 205 Lexington Avenue Corp./The Crecco Companies

Lead Agency: Village/Town of Mount Kisco Planning Board

SEQRA Status: □ Type 1

■ Unlisted

Conditioned Negative Declaration: □ Yes

■ No

Coordinated Review: □ Yes

■ No

Description of Proposed Action: the subject property is developed with a unlawful, dimensionally noncomplying three-story (4-family) apartment building with ±1,200 s.f. of commercial use on the ground floor and an attached 1-story commercial building located immediately to its south; an existing non-complying parking area is located adjacent to Lexington Avenue and consists of six (6) perpendicular spaces. A residence and garage had been located on the subject parcel but have since been demolished and removed. The applicant is proposing the legalization and exterior renovation of the existing 4-family apartment building and the construction of three (3) new townhomes to be located along Lexington Avenue; a parking area consisting of 10 spaces is proposed to the rear of the building, with access from Maplewood Drive.

Location: 215 Lexington Avenue, Mount Kisco, Westchester County, New York

Reasons Supporting This Determination: The Planning Board has compared the proposed action with the Criteria for Determining Significance in 6 NYCRR 617.7 (c). Specifically:

1. The proposed action will not result in a substantial adverse change in the existing air quality, ground or surface water quality or quantity, traffic or noise levels; a substantial increase in solid waste production.

   The subject property is currently developed and has been previously disturbed. The proposed action will result in the legalization of a four-unit multifamily residence within an existing building and the construction of three (3) new townhome units. Approximately 40 trees are proposed to be removed; however, none of the trees are considered significant and the majority of the tree removal is associated with removing a row of evergreen trees along the southerly and easterly boundary lines. A landscape plan has been developed and efforts have been made to increase greenspace to the extent possible. Traffic safety will be improved via the removal of a noncomplying parking area along Lexington Avenue which requires the driver to back out onto a busy County road. Three (3) new on-street parking spaces are proposed along Lexington Avenue, in additional to the proposed 10 off-street spaces proposed to the rear of the building. The proposed action will result in limited land disturbance and new impervious cover and will have no negative impact on traffic, water/sewer demand, noise, air quality, ground or surface water or solid waste. On-site lighting has been designed in compliance with Village standards and refuse and recycling will be collected by the Village of Mount Kisco. The multifamily dwelling is presently served by municipal water and sewer services.

2. The proposed action will not result in the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impact a significant habitat area; result in substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such species; and will not result in other significant adverse impacts to natural resources.

   The proposed area of development has been previously disturbed. Approximately 40 trees are proposed to be removed; however, none of the trees are considered significant and the majority of the tree removal is associated with removing a row of evergreen trees along the southerly and easterly boundary lines. A landscape plan has been developed and efforts have been made to increase greenspace to the extent possible.

3. The proposed action will not result in the impairment of the environmental characteristics of a Critical Environmental Area as designated pursuant to 6 NYCRR Part 617.14(g).

   The subject property is not located within a Critical Environmental Area.

4. The proposed action will not result in a material conflict with the Town's officially approved or adopted plans or goals.

   The proposed action is a permitted use within the underlying Zoning District and the proposed plan has been determined to be compliant with Village's Comprehensive Plan. Several area variances are required from the Zoning Board of Appeals; however, the variances are not substantial and

will not result in a negative impact to the neighborhood or community.

5. The proposed action will not result in the impairment of the character or quality of important historical, archaeological, architectural, aesthetic resources, or the existing character of the community or neighborhood.

   The proposed action is not located in proximity to a protected historic, archeological or aesthetic resource. The exterior appearance of the existing apartment building will be made to match that of the new townhomes and the applicant is proposing streetscape improvements that will result in a positive change to the Lexington Avenue corridor.

6. The proposed action will not result in a major change in the use of either the quantity or type of energy.

   The three (3) new townhomes will not result in a demand in electricity/energy that cannot be accommodated by the existing service.

7. The proposed action will not create a hazard to human health.

8. The proposed action will not create a substantial change in the use, or intensity of use, of land including agricultural, open space or recreational resources, or in its capacity to support existing uses.

9. The proposed action will not encourage or attract a large number of people to a place or place for more than a few days, compared to the number of people who would come to such place absent the action.

10. The proposed action will not create a material demand for other actions that would result in one of the above consequences.

11. The proposed action will not result in changes in two or more elements of the environment, no one of which has a significant impact on the environment, but when considered together result in a substantial adverse impact on the environment.

12. When analyzed with two or more related actions, the proposed action will not have a significant impact on the environment and when considered cumulatively, will not meet one or more of the criteria under 6 NYCRR 617.7(c).

13. The Planning Board has considered reasonably related long-term, short-term, direct, indirect and cumulative impacts, including other simultaneous or subsequent actions.

WHEREUPON, this Negative Declaration of Significance was declared adopted by the Planning Board of the Village of Mount Kisco as follows:

The motion was moved by: _____

The motion was seconded by: _____

The vote was as follows:

JOHN BAINLARDI	**___**
RALPH VIGLIOTTI	**___**
MICHAEL BONFORTE	**___**
WILLIAM POLESE	**___**
CRYSTAL PICKARD	**___**
JOHN HOCHSTEIN	**___**
BARBARA ROPPOLO	**___**

_____

John Bainlardi, Acting Chairman **March 4, 2021**

Village/Town of Mount Kisco Building Department
104 Main Street
Mount Kisco, New York 10549
Ph. (914) 864-0019-fax (914) 864-1085

MEMORANDUM

TO: Honorable Acting Chair Bainlardi and Members of the Planning Board

FROM: Peter J. Miley, Building Inspector pjm

SUBJECT: CJ Developers
461 Lexington Avenue, SBL 880.64-2-15

DATE: March 4, 2021

PROJECT

Proposed is new townhome development consisting of five (5) individual (attached) single-family dwellings located on a 21,702 sf lot in the CL-1 Zoning District. Site improvements include a visitors parking area that is located behind the homes, a refuse area, and a walkway that connects all of the units that leads to Lexington Avenue. Each townhome will also be provided with a one car garage that is located within the rear of the dwelling unit and a parking area directly behind.

COMMENTS

- Proposed would require a land-swap with the Village of Mount Kisco. As part of the swap, the developer is proposing an access easement to the Village parkland located behind the development.
- A small section of the parking area (north corner) is located within the 100ft wetland buffer
- Property is located within the Designated Village Main Street Area
- The Building Department defers to the Village Planner for wetlands, landscaping, and lighting
- The Building Department defers to the Village Engineer for wetlands, storm water, drainage, and parking/driveway surfaces

ZONING

- Pursuant to 110 Attachment 1 Village/Town of Mount Kisco Parking Facility Standards, the required "width of aisle" is 25ft, proposed is 22ft; therefore, a 3ft width of aisle variance is required

APPROVALS REQUIRED

- Planning Board
- Zoning Board
- Architectural Review Board
- DEP

PM/mkr

KELLARD SESSIONS

John Kellard, P.E.
David Sessions, RLA, AICP
Joseph M. Cermele, P.E., CFM
Jan K. Johannessen, AICP

MEMORANDUM

TO: Acting Chairman John Bainlardi and
Members of the Mount Kisco Planning Board

CC: Michelle Russo
Whitney Singleton, Esq.
Anthony Oliveri, P.E.
Peter Miley

FROM: Jan K. Johannessen, AICP
Village Planner

DATE: March 4, 2021

RE: Site Plan (Conceptual) and Subdivision
CJ Developers, LLC
461 Lexington Avenue
Section 80.64, Block 2, Lot 15

PROJECT DESCRIPTION

The subject property consists of ±0.49 acres of land and is located at 461 Lexington Avenue within the CL-1 Zoning District. The subject property is currently undeveloped and is situated between Mardino's Restaurant to the south and the LaTulipe bakery to the north. The applicant is proposing the construction of one (1) building, consisting of five (5) townhomes in condominium ownership, along with an access driveway located off of Lexington Avenue, which would lead to a rear parking area consisting of 11 surface parking spaces and one (1) garage space per unit, for a total of 16 spaces. The applicant is also proposing a land swap with the Village, which would be effectuated by a lot line realignment (subdivision); the land swap would involve a proposed equal transfer of land (3,583 s.f. each) between the applicant and the Village. The purpose of the land conveyance is to allow the applicant to develop a portion of the property currently owned by the Village and allow the Village to obtain and protect an equal area of land that could then become part of its larger open space corridor, which flanks both side of the Kisco River, located just east of the subject parcel. The applicant also proposed access from the rear parking lot to Village property.

500 MAIN STREET, ARMONK, NY 10504 | T: 914.273.2323 | F: 914.273.2329
WWW.KELSES.COM

SEQRA

The proposed action has been preliminarily identified as an Unlisted Action under the State Environmental Quality Review Act (SEQRA). It is recommended that a coordinated review be conducted and that the Planning Board seek to establish itself as the Lead Agency. Prior to taking action on this pending application, the Planning Board must issue a determination of significance.

REQUIRED APPROVALS/REFERRALS

1. Site Plan Approval, a Wetland Permit, Preliminary and Final Subdivision Plat Approval are required from the Planning Board; a public hearing is required to be held on the Wetland Permit and the Preliminary Subdivision Plat.

2. Area variance(s) may be required from the Zoning Board of Appeals.

3. The proposed action requires Architectural Review Board (ARB) approval.

4. Access to Lexington Avenue and work proposed within the Westchester County right-of-way will require a permit from the Westchester County Department of Public Works (WC DPW).

5. The proposed subdivision requires realty subdivision approval from the Westchester County Department of Health (WCDH).

6. The proposed Stormwater Pollution Prevention Plan (SWPPP) requires approval from the New York City Department of Environmental Protection (NYCDEP).

7. The subject property is located within the NYC East of Hudson Watershed and proposed land disturbance exceeds 5,000 s.f. Coverage under New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) will be required.

COMMENTS

1. The applicant has responded to the majority of our conceptual site plan comments and it is our opinion that the changes made to the plan since the first submission result in an improved layout. Any outstanding comments provided in our prior memorandum should be considered when developing the formal application and the formal submission should include all applicable items specified within the Planning Board's site plan submission checklist and as required by Code.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

PLAN REVIEWED, PREPARED BY INSITE ENGINEERING, DATED FEBRUARY 16, 2021:

- Site Plan (SP-1)

DOCUMENTS REVIEWED:

- Cover Letter, prepared by Insite Engineering, dated February 16, 2021
- Short Environmental Assessment Form (EAF) Part 1

JKJ/dc

https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Mount Kisco/Correspondence/2020-03-04_MKPB_461 Lexington Avenue (CJ Developers)_Review Memo.docx

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

February 16, 2021

Village of Mt. Kisco Planning Board
104 East Main Street
Mt. Kisco, New York 10549

RE: CJ Developers LLC
461 Lexington Avenue
Mt. Kisco, New York

Dear Chairman Hertz and Members of the Board:

Enclosed please find seven (7) copies of the following in support of a conceptual review of the above referenced project:

- Drawing SP-1, "Site Plan", revised February 16, 2021.
- Short EAF, revised February 16, 2021.

The enclosed information is being submitted to your Board in support of a Conceptual Application for CJ Developers LLC. The project consists of the construction of a single residential townhouse building (5-townhousees) with associated parking areas, stormwater management facilities and site improvements located at 461 Lexington Avenue in the CL-1 zoning district. A land swap with the Village of Mount Kisco is proposed to provide access to the rear Village owned property as well as create a more geometric property shape.

The following site plan revisions have been made based on comments received at the January 26, 2021 Planning Board meeting and the February 9, 2021 staff meeting:

1. The total number of townhomes has been reduced to 5 from 6.
2. The units were realigned so they follow Lexington Avenue as opposed to the property line.
3. The building has been shifted to provide a 20-foot front yard setback, a 10-foot northern side yard setback and a southern 30-foot side yard setback.
4. The driveway width was reduced to 18 feet wide from 20 feet.
5. The dumpster location was shifted.
6. A common sidewalk was provided that connects the individual sidewalks to each townhome.
7. A zoning table has been added as it is understood we will be evaluating this application against the Townhome standards contained in the Zoning Code.

We trust you will find the enclosed Conceptual Application package in order and we look forward to presenting the project at the Board's March 9, 2020 agenda.

Should you have any questions or comments or require additional copies of the enclosed information, please feel free to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams, Jr., PE
Principal Engineer

RDW/jll

Enclosures

cc: James Scoli, CJ Developers LLC, w/enclosures via email
Charles Martabano, ESQ., w/enclosures via email
Jan Johannessen, AICP, Village Planner

Insite File No. 20211.100

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

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

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

Part 1 – Project and Sponsor Information

Name of Action or Project:

CJ Devlopers LLC

Project Location (describe, and attach a location map):

461 Lexington Ave, Mt. Kisco, NY 10549

Brief Description of Proposed Action:

Proposed 5-townhouses (1 Building) with associated driveway, parking areas, and utility connections. A land swap with the Village of Mount Kisco is proposed to provide access to the rear Village owned property as well as create a more geometric property shape. As part of this project, a small portion of the Village of Mount Kisco wetland buffer will be disturbed due to the site improvements proposed for the onsite parking areas and its associated grading. No disturbance is proposed to the wetland proper.

Name of Applicant or Sponsor:	Telephone: 914-490-1694
CJ Developers LLC	E-Mail: Gen3jscoli@yahoo.com

Address:

28 Scott Circle

City/PO:	State:	Zip Code:
Purchase	NY	10577

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Village of Mount Kisco Planning Board: Site Plan, Subdivision, SWPPP and Wetland Permit, Building Department: Building Permit, NYSDEC: GP-0-20-001Coverage, NYCDEP: SWPPP & Sewer Connection Approval, WCDOH: Water & Sewer Approval, WCDPW: Highway Work Permit	☐	☑

3. a. Total acreage of the site of the proposed action? 0.5 acres
   b. Total acreage to be physically disturbed? 0.5 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 0.5 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☑ Commercial ☑ Residential (suburban)
   ☑ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☑ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☐	☑
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☐	☑

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____ _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____ _____	☐	☑

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☑	☐
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐	☑

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☑	☐
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ Minor disturbance in the 100' wetland buffer, but NO disturbance to the actual wetland itself. _____ _____		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☑ Early mid-successional

☐ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☑	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☐	☑
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☐	☑
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☑
If Yes, briefly describe:		
Stormwater runoff will be directed to established stormwater management practices to be determined.		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	☐	☑
If Yes, explain the purpose and size of the impoundment:		
The purpose of impounding stormwater runoff is to treat both quality and quantity as required in local, regional and state regulations. The size of the impoundment is to be determined.		
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	☑	☐
If Yes, describe:		
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	☐	☑
If Yes, describe:		
Spill Number 1504692, Spill Date: 7-31-2015, Dated closed: 5-5-2016		

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

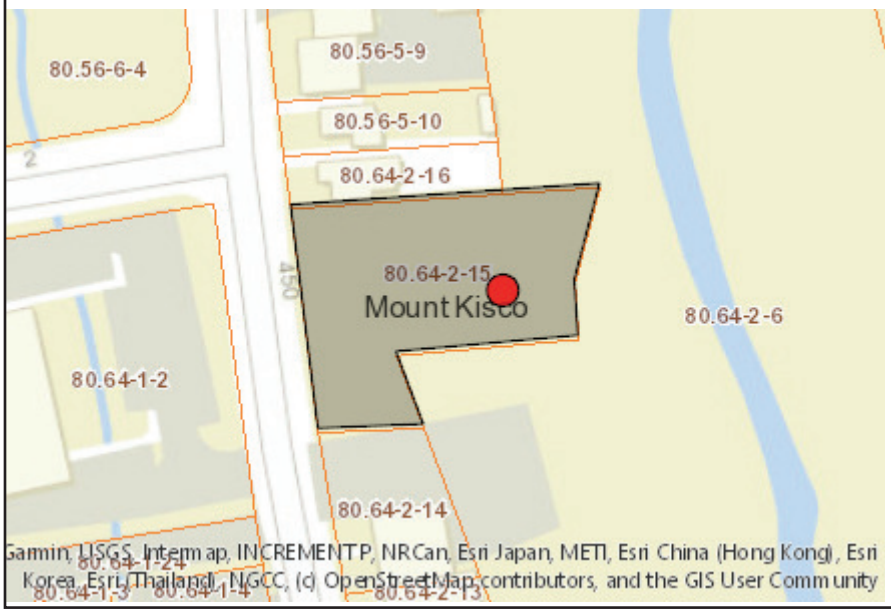
Applicant/sponsor/name: Richard D. WIlliams, Jr. PE, Agent for Owner
Insite Engineering, Surveying & Landscape Architecture, P.C. Date: 2-16-2021

Signature:  Title: Principal Engineer

PRINT FORM

EAF Mapper Summary Report

Tuesday, December 15, 2020 10:52 AM



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

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	Yes

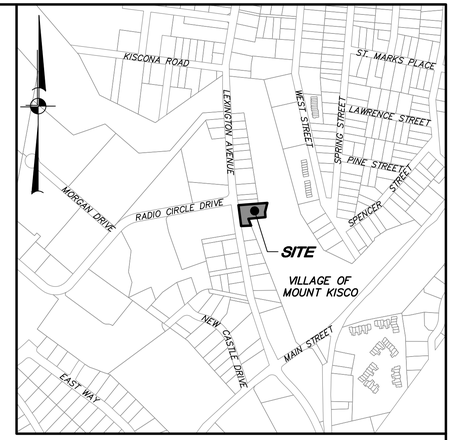
LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING CONCRETE CURB
- EXISTING WETLAND FLAG
- EXISTING WETLAND BUFFER
- PROPOSED PROPERTY LINE
- PROPOSED STRUCTURE
- PROPOSED CONCRETE CURB
- PROPOSED GATE

CL-1 ZONING REQUIREMENTS (TOWNHOUSE):

	Required:	Proposed:
Minimum Gross Site Area:	7,500 s.f.	21,702 s.f.
Minimum Lot Area Per Townhouse Unit:	2,500 s.f.	21,702 s.f.
Maximum Building Coverage:	35%	28%
Maximum Site Development Coverage:	65%	64.57%
Minimum Lot Width:	25'	149'
Minimum Lot Depth:	100'	144'
Minimum Front Yard:	20'	20'
Minimum Side Yard:	None	10'/30'
Minimum Rear Yard:	25'	63.6' (8.0'***)
Maximum Front Yard:	30'	20'
Maximum Height of Principal Structure:	3 Stories or 35'	2 Stories

* Variance requested
** Per §110-Attachment 1 of the Mount Kisco Zoning Code for Parking Facilities Standards, the width of the aisle shall be 25' for multi-family residential uses. Based on the plan as presented, a 3 foot variance would be required based upon the 22 foot wide drive aisle provided.
*** Based on the plan as presented, a 17 foot variance would be required for the dumpster enclosure provided.



LOCATION MAP SCALE: 1" = 500'±

OWNER/APPLICANT:

CJ Developers LLC
28 Scott Circle
Purchase, NY 10577

SITE DATA:

Zone: CL-1
Total Acreage 0.49 AC.±
Tax Map No.: 80.64-2-15

GENERAL NOTES:

1. Boundary and topographic information shown hereon taken from map entitled "Topographic Survey and Survey of Property prepared for 461 Lexington Ave LLC", prepared by H. Stanley Johnson & Co. last revised September 1, 2015. Contour interval is 1'.
2. Wetlands shown hereon delineated by Evans Associates Environmental Consulting Inc. on July 9, 2015.
3. There are no 100-year flood plains located on the subject property.
4. Contractor to provide appropriate maintenance and protection of traffic during any work which occurs within the County's right-of-way.

PARKING REQUIREMENTS:

Townhouses:
2 spaces required per dwelling unit = 10 Spaces

Visitors:
0.25 spaces required per dwelling unit = 2 Spaces

Total Parking Required: = 12 Spaces
Total Parking Provided: = 16 Spaces

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

NO.	DATE	REVISION	BY
1	2-16-21	REVISED FOR PLANNING BOARD SUBMISSION	JFR

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
CJ DEVELOPERS, LLC
461 LEXINGTON AVENUE, VILLAGE OF MT. KISCO, WESTCHESTER CO., NY

DRAWING:
SITE PLAN

PROJECT NUMBER	20211.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET
DATE	2-8-21	DRAWN BY	E.R.A.	SP-1	1 / 1
SCALE	1" = 20'	CHECKED BY	J.L.L.		

KELLARD SESSIONS

John Kellard, P.E.
David Sessions, RLA, AICP
Joseph M. Cermele, P.E., CFM
Jan K. Johannessen, AICP

MEMORANDUM

TO: Acting Chairman John Bainlardi and
Members of the Mount Kisco Planning Board

CC: Michelle Russo
Whitney Singleton, Esq.
Anthony Oliveri, P.E.
Peter Miley

FROM: Jan K. Johannessen, AICP
Village Planner

DATE: March 4, 2021

RE: Site Plan (Conceptual)
Coast to Coast Industries
134 Main Street
Section 80.25, Block 2, Lots 5 and 6

COMMENTS

The subject property consists of ±12,960 s.f. of land and is located at 134 Main Street within the CB-2 Zoning District. The subject property is developed with a 1-story retail building, including the AT&T Store and Frannie's Goodie Shop, and parking lot consisting of 19 spaces located at the rear of the building. The property is located to the north of the movie theater and to the south of the former Winston's restaurant, with the Blackeby municipal parking lot located to the west; a narrow strip of Village land runs along the south of the parcel connecting Main Street to the Blackeby parking lot.

The applicant is proposing the construction of a 4-story building, containing 16 units on three (3) floors, to be constructed over surface parking. The residential building would be constructed immediately to the rear of the one-story commercial building and is proposed to be connected to the existing building via a covered walkway. The residential building is proposed to contain a mix of studio, one-bedroom, and two-bedroom units and a rooftop terrace is proposed.

The subject property is located within the Village's Downtown Overlay District and, as such, a plan must be prepared to demonstrate compliance with Section 110-27.4 (Downtown Overlay District) of the Village Zoning Code. The plan shall also satisfy the requirements provided within the Village of Mount Kisco Planning Board Submission Checklist.

PLAN REVIEWED, PREPARED BY ENVIROSPACE ARCHITECTURE, DPC, DATED JANUARY 18, 2021:

- Title Sheet (Drawing No. T-1)
- Ground Floor Plan Concept (Drawing No. SK-1)
- Second Floor Plan Concept (Drawing No. SK-2)
- Third Floor Plan Concept (Drawing No. SK-3)
- Fourth Floor Plan Concept (Drawing No. SK-4)
- Roof Plan Concept (Drawing No. SK-5)
- Building Section Concept (Drawing SK-6)

DOCUMENTS REVIEWED:

- Cover Letter, prepared by EnviroSpace Architecture, DPC, dated January 18, 2021
- Survey, prepared by H. Stanley Johnson and Company Land Surveyors, P.C., dated March 16, 2020
- Conceptual Renderings
- Village of Mount Kisco Planning Board Application
- Short Environmental Assessment Form (EAF) Part 1
- Coverage Calculation Worksheet

JKJ/dc

EnviroSpace Architecture

• DeAngelis & Gaita •

January 18, 2021

Honorable Douglas Hertz
and Members of the Planning Board
Village/Town of Mount Kisco
104 Main Street
Mount Kisco, NY 10549

Re: Proposed Multi-Family Residential Building
134 E. Main Street
Section 80.25, Block 2, Lots 5 and 6

Dear Chair Hertz and Members of the Planning Board:

On behalf of Coast to Coast Industries, LLC, we submit the attached preliminary concept for a new four-story residential building with a covered, ground level parking area. The proposed building is being developed in accordance with the requirements of the form-based zoning of the Downtown Overlay District. The Overlay District permits residential uses in the underlying CB-1 Central Business District.

The proposed building will contain a mix of studio, one-bedroom, and two-bedroom units for a total of sixteen (16) units. A covered walkway between the residential and retail buildings will connect the two buildings and provide sheltered access to the parking area. Rooftop terrace areas will be provided for use by the residents. Exterior materials will be high-quality, durable and compatible with adjoining properties.

Existing landscaping will be enhanced to screen onsite parking. Although not required by zoning, a few on-site parking spaces will be allowed to be used by the existing retail tenants. Stormwater management will be in accordance with best practices and will include a vegetated roof over a portion of the roof. Solar panels may also be installed on the roof.

Drawings Submitted:

T-1	Title Sheet, dated January 18, 2021
SK-1	Ground Floor Plan Concept, dated January 18, 2021
SK-2	Second Floor Plan Concept, dated January 18, 2021
SK-3	Third Floor Plan Concept, dated January 18, 2021
SK-4	Fourth Floor Plan Concept, dated January 18, 2021
SK-5	Roof Plan Concept, dated January 18, 2021
SK-6	Building Section Concept, dated January 18, 2021
----	Survey, dated March 16, 2020
----	Conceptual Renderings

We respectfully request that this matter be placed on the agenda for an informal discussion at the next Planning Board meeting. Please do not hesitate to contact us should you have any questions or require any additional information.

Thank you in advance for your consideration.

Respectfully,

Gregg C. DeAngelis, A.I.A.

cc: Isi Albanese
George Gaspar, AIA

P:\0-PROJECTS\1 Current\20XX - 134 E Main Street\1-Correspondence\LTR-DH-210118.doc

Planning Board Members:

I would like to take this opportunity to thank you for your contribution to our Village and for the difference that you make to our community by donating your time. You have a huge responsibility to help people achieve their dreams and make our town better at the same time. I know some of you remember the 70's going to Fox Lane and living in Mt. Kisco. It was a much simpler time back then, and we have changed so much as a community. It is refreshing to see a new business opening and new residents moving into our Village to make a life here.

Together you and I have a common goal: to make Mt. Kisco one of the best places to visit, do business in, and to live. We are living in a very different world today—especially the way we work, live and play; and change is the only thing that is certain. The Comprehensive Plan creates opportunities for people to invest and do business in our town. Our town is only as strong as our residents, business owners, investors, and the visitors that come to use our services. In the next few years, we may see new businesses open that will surprise us. The retail market is taking a different road—the large corporate retailers are taking their business online, leaving the retail spaces for new, local and innovative "mom and pop" shops once again!

For those of you that know me, you know I have deep-seeded roots in Mt. Kisco. Upon arriving to the US, we lived with my Uncle Angelo in 1968, and my parents saved to buy their home (where they still live to this day) on Grove Street. I am blessed to have married a local Mt. Kisco girl (Fran Bueti), and we have remained in our beautiful town where we have raised 3 boys. In 1991 I opened Pizza Pizzazz since I always wanted to share my love of food with our community. We transitioned to Bellizzi and stayed in business for 24 years. I was so happy to have a business that contributed to beautiful memories for our patrons and their children. In 2007, we had the opportunity to take an old town eyesore and turn it into a beautiful building now housing AT&T with a pocket park for all residents to enjoy. This also led us to create Frannie's Goodie Shop, which is still thriving today. In 2015 children no longer desired to play in indoor playgrounds so we closed Bellizzi and opened Exit 4 Food Hall; where we saw a need to bring the community together in a communal way. These kids that frequented Pizza Pizzazz/Bellizzi are now in their 20s and 30s and come to Exit 4 and tell us about their memories all those years ago.

This apartment building concept I'm proposing is special to us because it is designed with our kids in mind; you can call me selfish, but I hope my kids decide to live close by so we can be a big part of our grandchildren's lives. The building is beautiful, and I'm hoping the design and functionality will attract our young people.

All apartments are thoughtfully furnished, beautiful designed, and full equipped and within walking distance to the train, highways, restaurants and shopping. The building is comprised of (12) one-bedrooms; (2) studios; and (2) two-bedroom apartments.

Target Market:

Transit-oriented professionals working in Mt. Kisco, White Plains, Stamford and NYC.

Design:

Each apartment is decorated with state-of-the-art furniture, fully-equipped kitchen, smart TV, WiFi and keyless entry.

Amenities:

- On-site gym
- Bike storage
- Mail room
- In-apartment laundry
- Elevator
- Roof-top gardens with private areas and BBQs
- Outdoor patio
- A civic space for the tenants and the community to enjoy
- Pet friendly

Arriving and Ongoing Support:

Throughout the tenant's stay, there is access to our Client Experience team through our Mobile App. Some of the features tenants can use through this App: schedule apartment cleaning, have dry cleaning picked up, submit maintenance requests, communicate with other tenants, see what's happening in the community, etc., all through use of their mobile device.

Lease Term:

Apartments can be leased for a minimum of 6 months to a year or more.

These renderings display my vision of what boutique living looks like; putting residents where the businesses are and a view of what the revitalization of the downtown can look like.

I look forward to hearing your thoughts and working with you to make this dream a reality.

Isi Albanese

Village/Town of Mount Kisco
Planning Board

Application Number PB2021-0410

JAN 19 2021

RECEIVED

VILLAGE OF MOUNT KISCO PLANNING BOARD APPLICATION

Type of Application (please check all that apply)

☒ Site Plan (Conceptual) ☐ Site Plan (Formal) ☐ Subdivision ☐ Special Use Permit

☐ Change of Use Permit ☐ Wetland Permit ☐ Steep Slopes Permit

For Conceptual Site Plan Applications, complete Page 1 only and provide signatures on Page 2

Name of Applicant (not agent): SAME AS BELOW

Address:

Phone Number: Email:

Applicant's relationship to property:

Name of Property Owner (if different from above) ISI ALBANESE, COAST TO COAST INDUSTRIES

Address: 122 McLAIN STREET, BEDFORD CORNERS, NY 10549

Phone Number: 914.755-5147 Email: ISIALBANESE7@GMAIL.COM

Name of Agent (Firm Name/Contact Person): GEORGE GASPAR, AIA

Address: 24 EASTVIEW AVE, BREWSTER, NY 10509

Phone Number: 845.216.8248 Email: GNGMIA48@GMAIL.COM

Application Information

Project Name: 134 EAST MAIN ST.

Project Address/Location: 134 EAST MAIN ST.

Tax Parcel ID Number(s): 5-80.25 / Block 2 / Lots 5 & 6

Project Description: 3 STORY RESIDENTIAL OVER PARKING

Total parcel size (square feet and acres): 12,960 SF

Zoning District(s): CB-1 Existing Use: RETAIL Proposed Use: RETAIL/RESIDENTIAL

Does the subject property have a Site Plan of Record? ☒ Yes ☐ No

Last approved use according to the last issued Certificate of Occupancy? RETAIL

For Office Use Only

Total Fee Paid: $ 400-

Initial Escrow Deposit: $ 500-

Number of off-street parking spaces - Existing: 19 Proposed: 160

Number of newly created building lots (if applicable): _____

Do any easement agreements, covenants or deed restrictions apply to this property? ☐ Yes ☒ No

If yes, please list these documents and attach copies _____

Identify all other permits/approvals required:

Agency	Approval Required	Type of Permit
Village Board of Trustees	☒ Yes ☐ No	OVERLAY DISTRICT
Village Zoning Board of Appeals (ZBA)	☒ Yes ☐ No	VARIENCE
Village Architectural Review Board (ARB)	☒ Yes ☐ No	
Village Building Department	☒ Yes ☐ No	BLDG. PERMIT
Village Department of Public Works (DPW)	☒ Yes ☐ No	
Westchester County Department of Health (WCDH)	☒ Yes ☐ No	
Westchester County Department of Public Works (WCDPW)	☐ Yes ☐ No	
NYC Department of Environmental Protection (NYCDEP)	☐ Yes ☐ No	
NYS Department of Environmental Conservation (NYSDEC)	☒ Yes ☐ No	
NYS Department of Transportation (NYSDOT)	☐ Yes ☐ No	
U.S. Army Corps of Engineers (ACOE)	☐ Yes ☐ No	
Other	☐ Yes ☐ No	

Total anticipated area of construction activity as defined under the most recent NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity: ☒ <5,000 s.f. ☐ ≥5,000 s.f. - <1 acre ☐ >1 acre

Will the project disturb any Village regulated wetlands or wetland buffer areas? ☐ Yes ☒ No

If yes, quantify area of disturbance: _____ s.f. wetland disturbance; _____ s.f. of wetland buffer disturbance

Will proposed action disturb any "steep slopes" (≥15 percent)? ☐ Yes ☒ No Area disturbed: _____ s.f.

Will proposed action disturb any "very steep slopes" (≥25 percent)? ☐ Yes ☒ No Area disturbed: _____ s.f.

Are any trees with a diameter of ≥4-inches proposed to be removed? ☐ Yes ☒ No Quantity: _____

If yes, will any trees be removed from steep slopes? ☐ Yes ☒ No Quantity: _____

Is the site located within a Flood Hazard Area as defined by FEMA? ☐ Yes ☒ No

---

I hereby certify that the above information is factually correct to the best of my knowledge. By applying for the permit/approval(s) herein, the below individuals expressly authorize Village Officials and Planning Board members access to the subject property for schedule site visits and inspections.

Applicant: Isi Albanese (print name) (signature) 1/19/21 (date)

Owner: Isi Albanese (print name) (signature) 1/19/21 (date)

VILLAGE OF MOUNT KISCO PLANNING BOARD

104 Main Street
Mount Kisco, New York 10549
914-864-0022
www.mountkisco.org

PLANNING BOARD SUBMISSION CHECKLIST

PROJECT NAME: 134 E. MAIN St.

Application materials (required for all applications)

- [x] *Planning Board application form completed and signed by all applicable parties
- [x] Unless otherwise instructed, a completed Short Environmental Assessment Form (EAF) as available from the NYSDEC website
- [x] *Application fee and initial escrow deposit as identified by the Planning Board Secretary
- [ ] *Most recent property deed
- [x] *Survey of property – Level of detail required to be determined by the Planning Board, Building Inspector and/or the Planning Board's consultants
- [ ] *Previously approved Planning Board Site Plan of Record and Planning Board Resolutions, available through the Building Department, if applicable
- [ ] *Identification of any known zoning variances (previously granted or required/proposed)
- [x] *Completed Coverage Calculations Worksheet
- [x] *Business plan providing a detailed description of the proposed use/operation
- [x] Floor plans of the existing and proposed condition as prepared by a NYS licensed architect or engineer
- [x] Architectural elevations prepared by a NYS licensed architect or engineer, if applicable
- [x] *The applicant shall provide a digital submission including PDFs of all forms, applications, documents, reports, and plans to the Planning Board Secretary on a flash drive or CD-ROM

(*) Indicates that this item is required for the first submission, including Conceptual Site Plan Applications

Items to be included on Site Plans and other plans presented to the Planning Board (Subdivisions, Special Use Permits, Change of Use Permits, Wetland Permits, and Steep Slope Permits, as determined applicable)

General information and Existing Conditions

- [x] *Location of project by street address
- [x] *The section, block and lot number(s) of the subject property taken from the latest assessment roll
- [x] *A location map identifying the location of the subject property in context to the surrounding area
- [x] *Name and mailing address of the owner of record and the applicant, if different
- [x] *Name and mailing address of the person, firm, or organization preparing the plan
- [x] *Date of the plan preparation/revision - provide common revision dates on each sheet
- [x] *North arrow; scale bar
- [x] *Unless otherwise approved, plans shall be prepared as a scale of 1 inch = 30 feet
- [x] *Zoning district boundary lines
- [x] *Zoning setback lines and dimensions
- [x] Landscape buffer setback lines and dimensions
- [x] Ownership information for all adjacent parcels taken from the latest assessment roll
- [x] The location, width and purpose of all existing and proposed easements, covenants, reservations and areas dedicated to public use within or adjacent to the property
- [x] Existing topography as illustrated by use of contour lines with intervals of two (2) feet or less, referred to a datum satisfactory to the Village Engineer
- [x] Adjacent structures and uses within fifty (50) feet of the subject property
- [x] The location, names and existing widths of adjacent streets, including curbs
- [x] *The location and limits of all existing improvements including buildings, structures, paved areas, gravel areas, vehicular and pedestrian access, driveways, parking stalls,

(*) Indicates that this item is required for the first submission, including Conceptual Site Plan Applications

☐ loading areas, sidewalks, exterior lighting, walls, fencing, and landscaping on and adjacent to the subject property

☑ Locations, dimensions, grades and flow directions of existing sewers, drainage features, culverts, and waterlines, as well as other underground and aboveground utilities within and adjacent to the subject property

Demolition and Removals

☐ Clearly identify any existing improvements or structures which are proposed to be removed, including utilities

Environmental Features

☐ If the subject property contains wetlands or surface water features or will require a wetland permit, wetlands and watercourses that are jurisdictional to the Village of Mount Kisco shall be delineated by a wetland scientist, shall be survey located, and shall be shown on a plan. A wetland delineation report shall be provided prepared to the satisfaction of the Village Wetland Consultant

☐ If disturbance to steep slopes is proposed, provide a calculation of disturbance within each applicable slope category and demonstrate compliance with Section 110-33.1A of the Zoning Code. The plan shall illustrate via shading, the portions of the site comprised of steep slopes (distinguish between slopes categories)

☐ If tree removal is proposed, trees with a diameter $\geq$ 4 inches as measured 1.5 feet above grade shall be survey located and shown on a plan (location, diameter, specie type). Identify all trees to be removed or preserved

☐ Mitigation plan (associated with wetland permits and steep slope permits)

☐ The location and extent of wooded areas, rock outcrops and other significant environmental features

☐ The location, boundary and elevation of any FEMA Flood Hazard Areas, if applicable

Proposed Development

☐ For subdivisions and/or lot line realignments, provide a subdivision plat in compliance with Chapter 94 of the Village Code

☐ *Bulk zoning table comparing the existing and proposed conditions to the requirements of the underlying zoning district(s)

☐ Average grade calculation to determine proposed building height, if applicable

(*) Indicates that this item is required for the first submission, including Conceptual Site Plan Applications

- [x] *Off-street parking and loading calculations comparing the existing and proposed condition to the requirements listed under Sections 110-28 and 110-29 of the Zoning Code
- [x] Limits of construction activity line with area calculation (square feet)
- [x] *The location and limits of all proposed improvements including buildings, structures, paved areas, vehicular and pedestrian access, driveways, parking stalls, loading areas, sidewalks, exterior lighting, walls, fencing, and landscaping on and adjacent to the subject property. Profiles and cross-sections shall be provided, as necessary
- [ ] Locations, dimensions, grades and flow directions of all proposed utilities incldung sanitary and storm sewers, drainage features, culverts, and waterlines, as well as other underground and aboveground utilities within and adjacent to the subject property. Profiles and cross-sections shall be provided, as necessary
- [ ] Preparation of a Stormwater Pollution Prevention Plan (SWPPP) in accordance with NYSDEC standards and requirements, as determined necessary by the Village Engineer, including drainage calculations
- [ ] Construction details, profiles and sections, as determined necessary
- [ ] Grading plan, indicating how proposed new grades will meet existing grades
- [ ] Location and cross-section of any new wall
- [ ] The location and plans for any proposed signage
- [ ] Landscaping plan, including location, size, specie type, and quantity of proposed plant material, prepared by a NYS registered landscape architect
- [ ] A lighting plan prepared to demonstrate compliance with 110-32 of the Zoning Code
- [ ] The location, limits and description of any proposed easements or covenants
- [ ] Any contemplated public improvements on adjoining properties
- [ ] *Any additional information required under the Village Code or as determined necessary by the Planning Board, Building Inspector, or by the Planning Board's consultants

Supplementary Regulations

- [ ] The applicant shall determine/demonstrate compliance with the Article V of the Zoning Code, including supplementary use and development regulations, as applicable

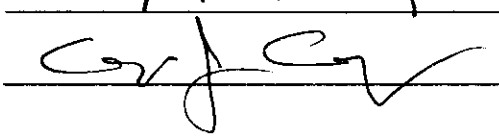
(*) Indicates that this item is required for the first submission, including Conceptual Site Plan Applications

Upon findings of the Planning Board that due to special conditions particular to the subject property, certain of the information identified above is not necessary or appropriate or that strict compliance with said requirements may cause extraordinary or unnecessary hardships, the Planning Board may vary or waive the provision of such information, provided that such waiver will not have detrimental effects on public health, safety or general welfare or have the effect of nullifying the intent and purpose of the application, Official Map, Village Comprehensive Plan or Village Code

This checklist is provided as a guide. The Planning Board may require additional information as determined necessary.

The undersigned agrees that, to the best of his or her knowledge, the submission materials have been prepared in accordance with this checklist.

Name of Design Professional: GEORGE J. GASPAR, AIA

Signature of Design Professional: 

Date: 2021.01.19

(*) Indicates that this item is required for the first submission, including Conceptual Site Plan Applications

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

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

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

Part 1 - Project and Sponsor Information

Name of Action or Project: 134 E. MAIN ST.

Project Location (describe, and attach a location map): 134 E. MAIN ST.

Brief Description of Proposed Action: PROPOSED CONSTRUCTION of 3 STORY RESIDENTIAL UNITS OVER EXISTING PARKING AREA

Name of Applicant or Sponsor:	Telephone: 914.755.5147
ISI ALBANESE	E-Mail: ISIALBANESE7@GMAIL.COM

Address: 122 McLAIN STREET

City/PO:	State:	Zip Code:
BEDFORD CORNERS	NY	10549

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☒	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:	☐	☒

3.a. Total acreage of the site of the proposed action? .29 acres
b. Total acreage to be physically disturbed? .27 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? .29 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☐ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

RESET

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☒	☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO ☐	YES ☒	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO ☒	YES ☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO ☒	YES ☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☐	☒	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☐	☒	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies:	NO ☐	YES ☒	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____	NO ☐	YES ☒	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____	NO ☐	YES ☒	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO ☒	YES ☐	
b. Is the proposed action located in an archeological sensitive area?	☒	☐	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO ☒	YES ☐	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	☒	☐	
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☒ Urban ☐ Suburban			
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO ☒	YES ☐	
16. Is the project site located in the 100 year flood plain?	NO ☒	YES ☐	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☒ NO ☐ YES	NO ☒	YES ☐	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☒ NO ☐ YES			

RESET

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	☒	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	☒	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: SITE USED AS FORMER GAS STATION LOCATION. SITE WAS REMEDIATED.	☐	☒

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Isi Albanese Date: 1/19/21

Signature: _____

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	☐	☐
2. Will the proposed action result in a change in the use or intensity of use of land?	☐	☐
3. Will the proposed action impair the character or quality of the existing community?	☐	☐
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	☐	☐
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?	☐	☐
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	☐	☐
7. Will the proposed action impact existing: a. public / private water supplies?	☐	☐
b. public / private wastewater treatment utilities?	☐	☐
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	☐	☐
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?	☐	☐

RESET

	No, or small impact may occur	Moderate to large impact may occur
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?	☐	☐
11. Will the proposed action create a hazard to environmental resources or human health?	☐	☐

Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3. For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Name of Lead Agency	Date
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

PRINT

RESET

VILLAGE OF MOUNT KISCO
104 Main Street
Mount Kisco, New York 10549
www.mountkisco.org

COVERAGE CALCULATION WORKSHEET

Project Name: 134 EAST MAIN STREET

Tax Parcel ID Number(s): 8.25 / 2 / 5&6

Relevant definitions from the Village's Zoning Code are provided on the following page

Building Coverage – Enter "0" below if category is not applicable

1. Total lot area (s.f.) =	1. 12,960 s.f.
2. Maximum permitted Building Coverage (s.f.) =	2. 10,388 s.f.
3. Portion of lot covered by the principal building: 10,368 s.f. (existing) + 9,340 s.f. (proposed) =	3. 19,708 s.f.
4. Portion of lot covered by accessory building(s): _____ s.f. (existing) + _____ s.f. (proposed) =	4. — s.f.
5. Portion of lot covered by other structures: _____ s.f. (existing) + _____ s.f. (proposed) =	5. — s.f.
6. Total Building Coverage (add Lines #3 through #5) =	6. 19,708 s.f.

Development Coverage – Enter "0" below if category is not applicable

1. Total lot area =	1. 12,960 s.f.
2. Maximum permitted Development Coverage =	2. 11,675 s.f.
3. Total Building Coverage from Line #6 Above =	3. 19,708 s.f.
4. Portion of lot covered by asphalt, concrete, gravel, or similar materials 6820 s.f. (existing) + 180 s.f. (proposed) =	4. 7,000 s.f.
5. Portion of lot covered by other improved surfaces = _____ s.f. (existing) + _____ s.f. (proposed) =	5. — s.f.
6. Total Development Coverage (add Lines #3 through #5) =	6. 11,800 s.f.

If Line #6 is less than or equal to Line #2, the proposed action is zoning compliant; if Line #6 is greater than Line #2, the proposed action is noncompliant


MT KISKO THEATRE
STOP
RANGE ROVER

PROJECT INFORMATION

OWNER:
Isi Albanese
Coast to Coast Industries, LLC
122 McLain Street
Bedford Corners, NY 10549

PROJECT DESCRIPTION
1. Proposed construction of four story mixed use building attached to existing one story retail building.
2. Ground floor will be used for parking, residential entry, lobby, elevator, stairs, and building mechanical and maintenance uses.
3. Floors 2-4 will be rental apartments.
4. The building will be fully sprinklered.
5. Site work will include minor reconfiguration of existing asphalt paving, parking areas, walkways, landscaping, and lighting.
6. Stormwater management will be in accordance with best practices.

P:\0-PROJECTS\1 Current\20XX - 134 E Main Street\5-Specifications\00001-Project Information.doc

ZONING ANALYSIS

Site Address: 134 E. Main Street
Section: 80.25 **Block**: 2 **Tax Lots:** 5 and 6
Zoning Districts: CB-1 (Central Business District -1) with Downtown Overlay District

Regulation	Required/ Allowable	Existing	Proposed	Remarks
Min. Lot Area	7,500 SF	12,960 SF	12,960 SF	Through lot per definition
Min. Site Frontage	50 Ft	124.62 Ft	124.62 Ft	
Min. Building Height – Blackeby Place				
Stories	2	None	4	
Max. Building Height – Blackeby Place				
Stories	4	None	4	
Feet	50 Ft	None	50 Ft	
Stepback Required	N.A.	None	N.A.	Frontage not on Street Type A or B
Min. Building Height – E. Main Street				
Stories	2	1	1	
Max. Building Height – E. Main Street				
Stories	4	1	1	
Feet	50 Ft	16 Ft	16 Ft	
Stepback Required	42 Ft	N.A.	N.A.	Street Type A
Max. Building Coverage	80% = 10,368 SF	31% = 3,963 SF	72% = 9,340 SF	
Max. Develop Coverage	90% = 11,664 SF	90% = 11,675 SF	91% = 11,800 SF	
Min. Required Yards				
Front - E. Main St.	0 Ft	0 Ft	0 Ft	Existing retail building
Front – Blackeby Pl.	N.R.	43 Ft	0 Ft	
Side - North	---	0 Ft	0 Ft	No requirement, but 6 feet if provided
Side - South	---	8 Ft	0 Ft	No requirement, but 6 feet if provided
Rear	20 Ft	N.A.	N.A.	Not applicable – through lot

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Regulation	Required/ Allowable	Existing	Proposed	Remarks
Parking (Retail)	1 Space / 200 SF For 4,000 SF = 20 Spaces	19 Spaces	1 Space	Parking not req'd per Section 110-28 (K) (3) (a)
Parking (Residential)	1 Space per D.U. + 1/4 Space per BR For (2) Studios + (12) 1 BR + (2) 2 BR = 2+15+3 = 20 Spaces			Per Section 110-27.4 (E) (6) (a) (2)
Parking (Visitor)	0.10 Space per D.U. For 16 D.U = 1.6 Spaces = 2 Spaces			
Parking (Total Res.)	= 22 Spaces		15 Spaces	(7) Space shortfall to be accommodated in Blackeby Place municipal lot

Notes:
1. Lot information taken from survey prepared by Stephen T. Johnson, Licensed Land Surveyor, dated March 16, 2020.

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BUILDING CODE REQUIREMENTS

PERMITS LICENSES AND INSPECTIONS
1. All work, including materials, assemblies, equipment, forms, methods of construction, etc. to comply with all New York State Building Code, Village of Mt. Kisco Zoning Code and Fire Department Regulations, utility company requirements, and any other applicable federal, state or local laws, codes, ordinances or regulations.
2. Before commencing work contractor is to file all required insurances with, pay all related fees to, and obtain all building permits from applicable Village and State agencies.
3. Plumbing, fire protection, heating, mechanical ventilation and electrical work to be filed under separate applications, as required, and all required documents, drawings and fees to be paid by the contractor.
4. All plumbing work to be performed by licensed plumbers.
5. All electrical work to be performed by licensed electricians in accordance with New York State Regulations.
6. Contractor is to arrange for all required inspections and obtain all approvals required for each phase of the work before proceeding to the next phase.
7. The contractor is to obtain all required construction sign-offs, and obtain for the owner a Certificate of Occupancy at completion of the work.
8. All materials and waste to be removed from the project site and disposed of in strict compliance with all applicable laws and regulations.

APPLICABLE CODES
Construction work to comply with the requirements of the following codes:

GENERAL BUILDING:	2020 Building Code of New York State
PLUMBING:	2020 Plumbing Code of New York State
MECHANICAL:	2020 Mechanical Code of New York State
FUEL GAS:	2020 Fuel Gas Code of New York State
FIRE CODE:	2020 Fire Code of New York State
ELECTRICAL:	National Electrical Code (NEC), current edition.
ACCESSIBILITY:	ICC/ANSI A117.1-2009.
LIFE SAFETY:	NFPA 101, current edition

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STRUCTURAL DESIGN REQUIREMENTS
1. Footing design based on a presumed soil bearing capacity of two tons PSF (4,000 PSF).
2. Notify architect of any locations where it appears that soil bearing capacity may not meet this design load.
3. The structural design has been based on the following loading schedule:

ROOF:	Live (Snow) Load:	30 PSF
	Dead Load:	15 PSF
	TOTAL ROOF LOAD:	45 PSF
FLOORS:	Live Load	40 PSF
	Dead Load	15 PSF
	TOTAL FLOOR LOAD:	55 PSF
BALCONIES:	Live Load	100 PSF
	Dead Load	15 PSF
	TOTAL FLOOR LOAD:	115 PSF

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA:

1.	Ground Snow Load:	30 PSF
2.	Wind Speed:	115 MPH, Special Wind Region
3.	Seismic Design Category:	C
4.	Damage from Weathering:	Severe
5.	Frost Line Depth:	42"
6.	Damage from Termites:	Moderate To Heavy
7.	Damage from Decay:	Slight To Moderate
8.	Winter Design Temperature:	7° F.
9.	Ice Shield Underlayment:	Required
10.	Flood Hazard:	Per FEMA Map 36119C 0153F, dated 9/28/07, Zone "X"

OCCUPANCY GROUPS
R-2, Residential, Multi-Family
S-2, Accessory Open Parking Garage
Separated Occupancies

CONSTRUCTION CLASSIFICATIONS
First Floor (Parking Garage): Type IIb, Noncombustible Construction, Unprotected
Second, Third and Fourth Floors: Type Vb Combustible Construction, Unprotected

REQUIRED FIRE SEPARATIONS
Between S-2 (Open Parking Garage) and R-2 (Residential): Three (3) Hours

HEIGHT AND AREA ANALYSIS PER TABLE 504.3, TABLE 504.4 AND TABLE 506.2
The building will be fully sprinklered.

Allowable Height and Area for R-2 Occupancy: 3 Stories, 60 Feet
20,500 SF per floor
Proposed Height and Area for R-2 Occupancy: 3 Stories, 32 Feet
5,270 SF per floor

Allowable Height and Area for S-2 Occupancy: 4 Stories, 75 Feet
104,000 SF per floor
Proposed Height and Area for S-2 Occupancy: 1 Story, 14 Feet
5,270 SF per floor

FIRE-RESISTANCE RATINGS:
Required fire-resistance ratings per Tables 601 and 602:

Component	Garage (IIb Construction) Rating Required	R-2 Floor (Vb Construction) Rating Required
Structural Members:	Zero (0) Hours	Zero (0) Hours
Bearing Walls:		
– Exterior:	Zero (0) Hours	(SEE BELOW)
– Interior:	Zero (0) Hours	Zero (0) Hours
Nonbearing Walls:		
– Exterior:	Zero (0) Hours	(SEE BELOW)
– Interior:	Zero (0) Hours	Zero (0) Hours
Floor Construction:	N.A.	Three (3) Hours at First Floor
Fire Separation Assemblies:		
Corridors:	N.A.	One-half (1/2) Hour
Exit Enclosures:	N.A.	Two (2) Hours
Elevator and Mechanical Shafts:	N.A.	Two (2) Hours
Fire Partitions:		
Dwelling Unit Separations:	N.A.	One (1) Hour

FIRE RESISTANCE RATINGS BASED ON FIRE SEPARATION DISTANCE (TABLE 602):

First Floor Garage (Type IIb Construction):	Zero (0) Hours required *
Second, Third, and Fourth Floors (Type Vb Construction):	One (1) Hour required at East, South, and West Walls Zero (0) Hours at North Walls

*Per Footnote "c", parking garage exterior walls not required to be rated.

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DRAWING LIST

SHEET	TITLE	REVISION NO.	REVISION DATE
T-1	Title Sheet, Drawing List, Code Analyses	---	01.18.21
SK-1	Ground Floor Plan Concept	---	01.18.21
SK-2	Second Floor Plan Concept	---	01.18.21
SK-3	Third Floor Plan Concept	---	01.18.21
SK-4	Fourth Floor Plan Concept	---	01.18.21
SK-5	Roof Plan Concept	---	01.18.21
SK-6	Building Section Concept	---	01.18.21

SURVEY

1 LOCATION PLAN
SCALE: 1" = 30'-0"

PLAN NORTH
TRUE NORTH

0' 15' 30' 60'

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

Envirospace Architecture
• DeAngelis & Gaita •
451 East Boston Post Road
Mamaroneck, NY 10543
(914) 777-2727
EnviroSpaceArch.com

Associated Architect
GEORGE J. GASPAR, AIA
24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

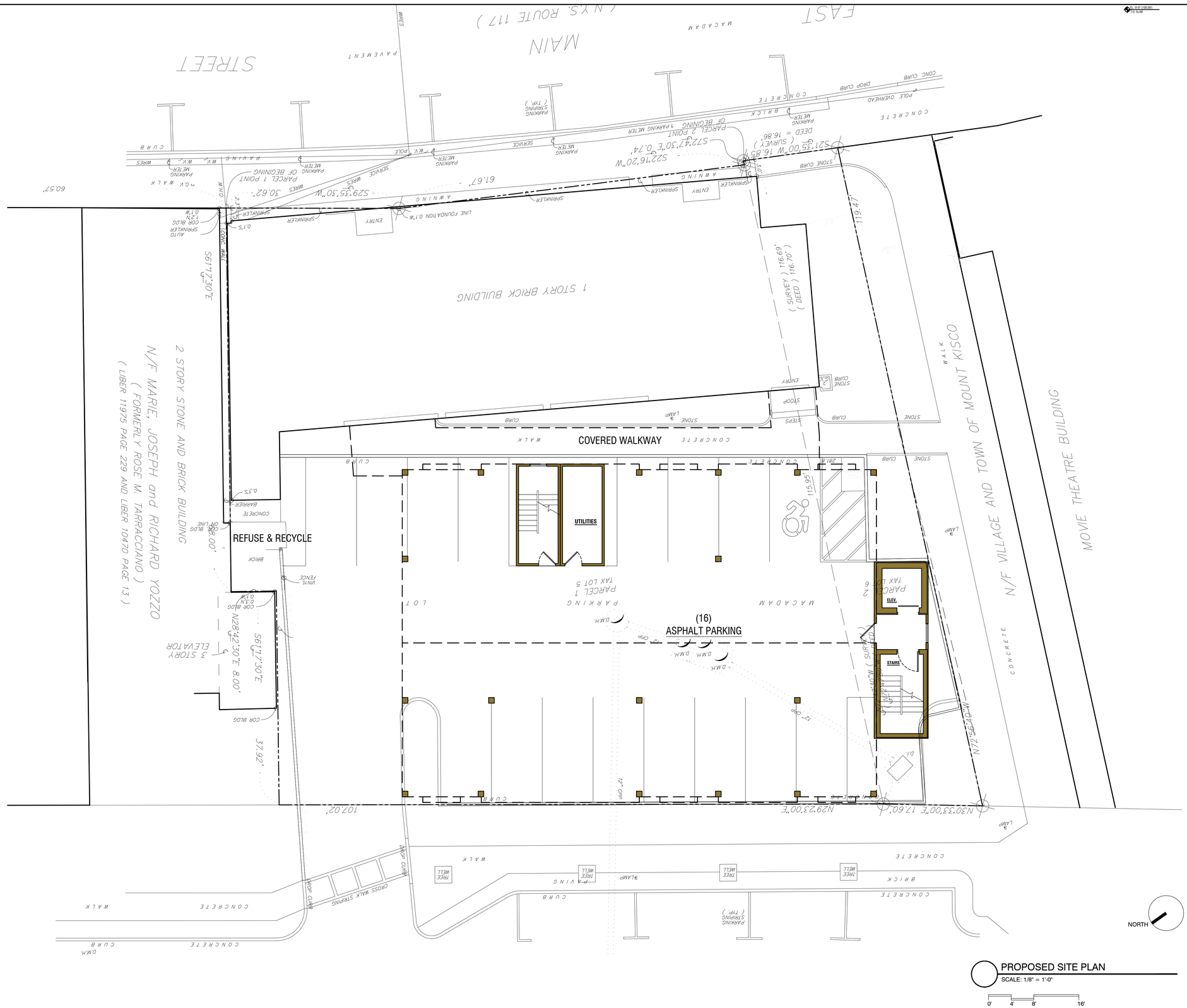
CODE ANALYSES
LOCATION PLAN
DRAWING LIST

SEAL

PROJECT NO.
21XX

DRAWING NO.
T-1

SHEET 1 OF



Drawing Name and Location: P:\0-PROJECTS\1 Current\20XX - 134 E Main Street\2-Drawings\2-Design Studies\PLOT\2014 A-2.dwg Plotted on Tuesday 01/19/2021 9:50 AM

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

Envirospace Architecture
• DeAngelis & Gaita •

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Mamaroneck, NY 10543
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Associated Architect
GEORGE J. GASPAR, AIA
24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

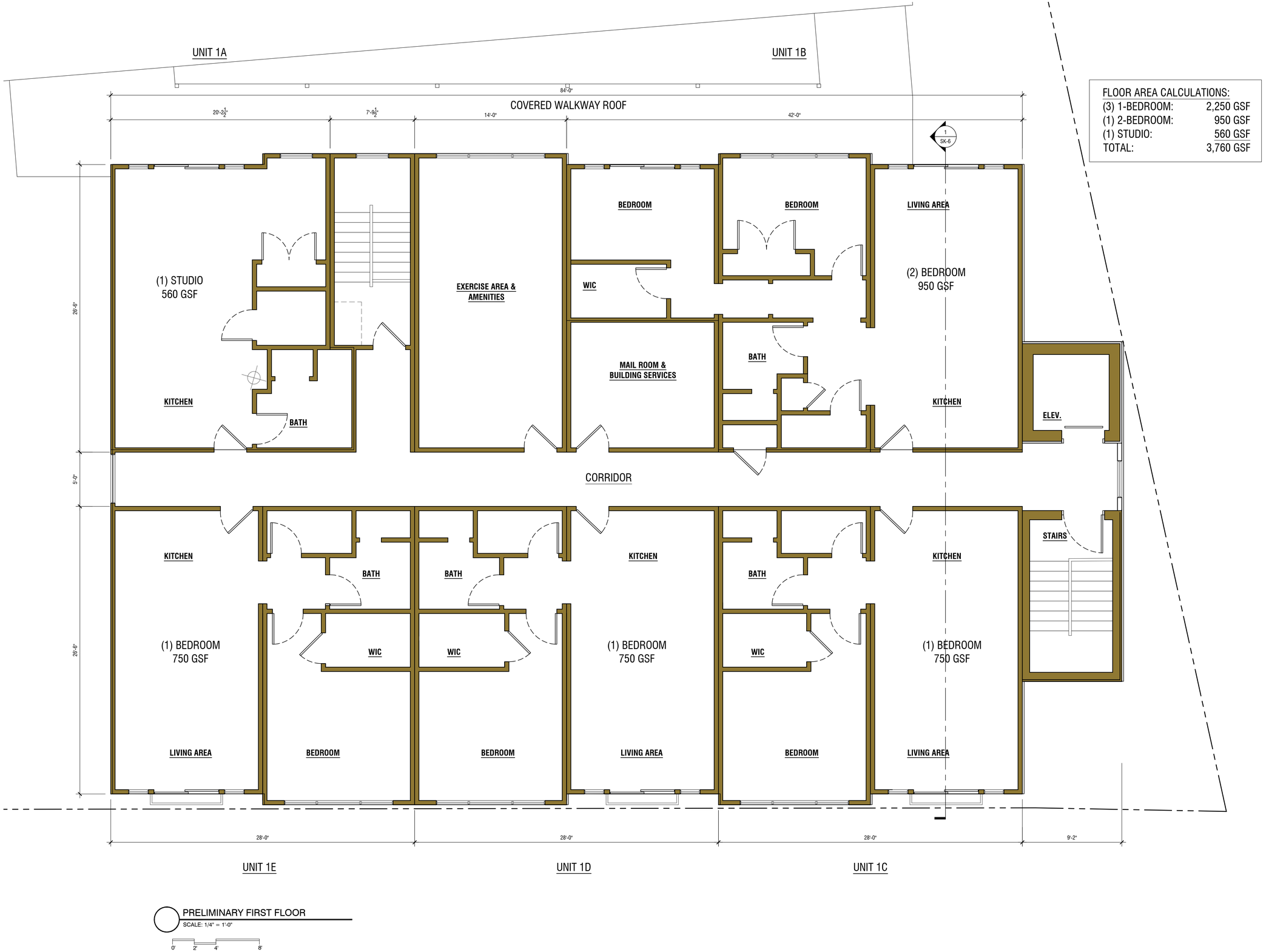
GROUND FLOOR PLAN CONCEPT

SEAL

PROJECT NO. 21XX

DRAWING NO.
SK-1

SHEET 1 OF



PRELIMINARY FIRST FLOOR
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'

FLOOR AREA CALCULATIONS:	
(3) 1-BEDROOM:	2,250 GSF
(1) 2-BEDROOM:	950 GSF
(1) STUDIO:	560 GSF
TOTAL:	3,760 GSF

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

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GEORGE J. GASPAR, AIA
24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

FIRST FLOOR PLAN CONCEPT

SEAL

PROJECT NO.
21XX

DRAWING NO.
SK-2

SHEET 1 OF

FLOOR AREA CALCULATIONS:

(5) 1-BEDROOM:	3,000 GSF
(1) STUDIO:	560 GSF
TOTAL:	3,560 GSF

PRELIMINARY SECOND FLOOR
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

Envirospace Architecture
• DeAngelis & Gaita •

451 East Boston Post Road
Mamaroneck, NY 10543
(914) 777-2727

EnviroSpaceArch.com

Associated Architect
GEORGE J. GASPAR, AIA
24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

SECOND FLOOR PLAN
CONCEPT

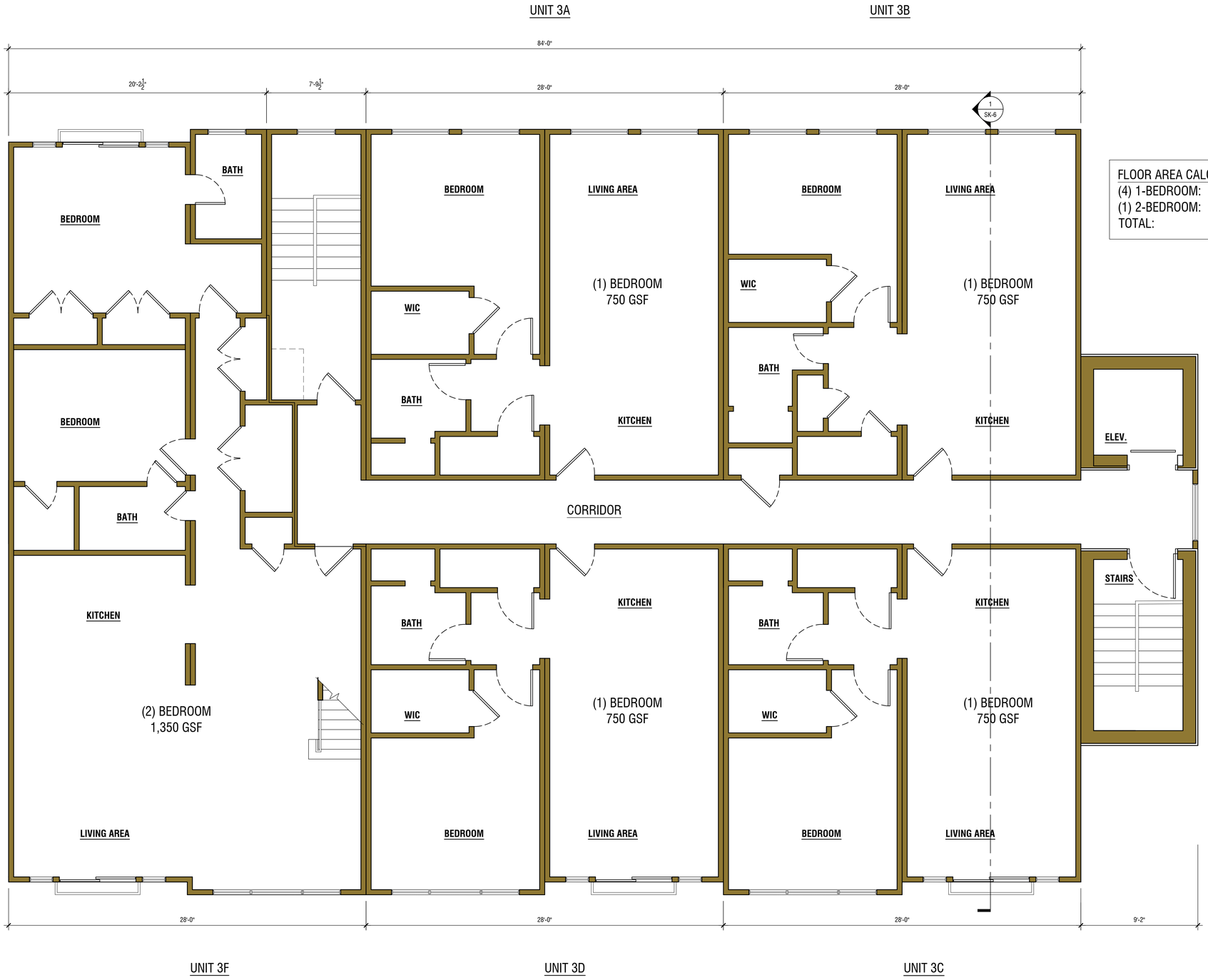
SEAL

REGISTERED ARCHITECT
JAMES CAMERON GAITA
STATE OF NEW YORK

PROJECT NO.
21XX

DRAWING NO.
SK-3

SHEET 1 OF



FLOOR AREA CALCULATIONS:

(4) 1-BEDROOM:	3,000 GSF
(1) 2-BEDROOM:	1,430 GSF
TOTAL:	4,430 GSF

PRELIMINARY THIRD FLOOR

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

0' 2' 4' 8'

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

Envirospace Architecture
• DeAngelis & Gaita •

451 East Boston Post Road
Mamaroneck, NY 10543
(914) 777-2727

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Associated Architect
GEORGE J. GASPAR, AIA
24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

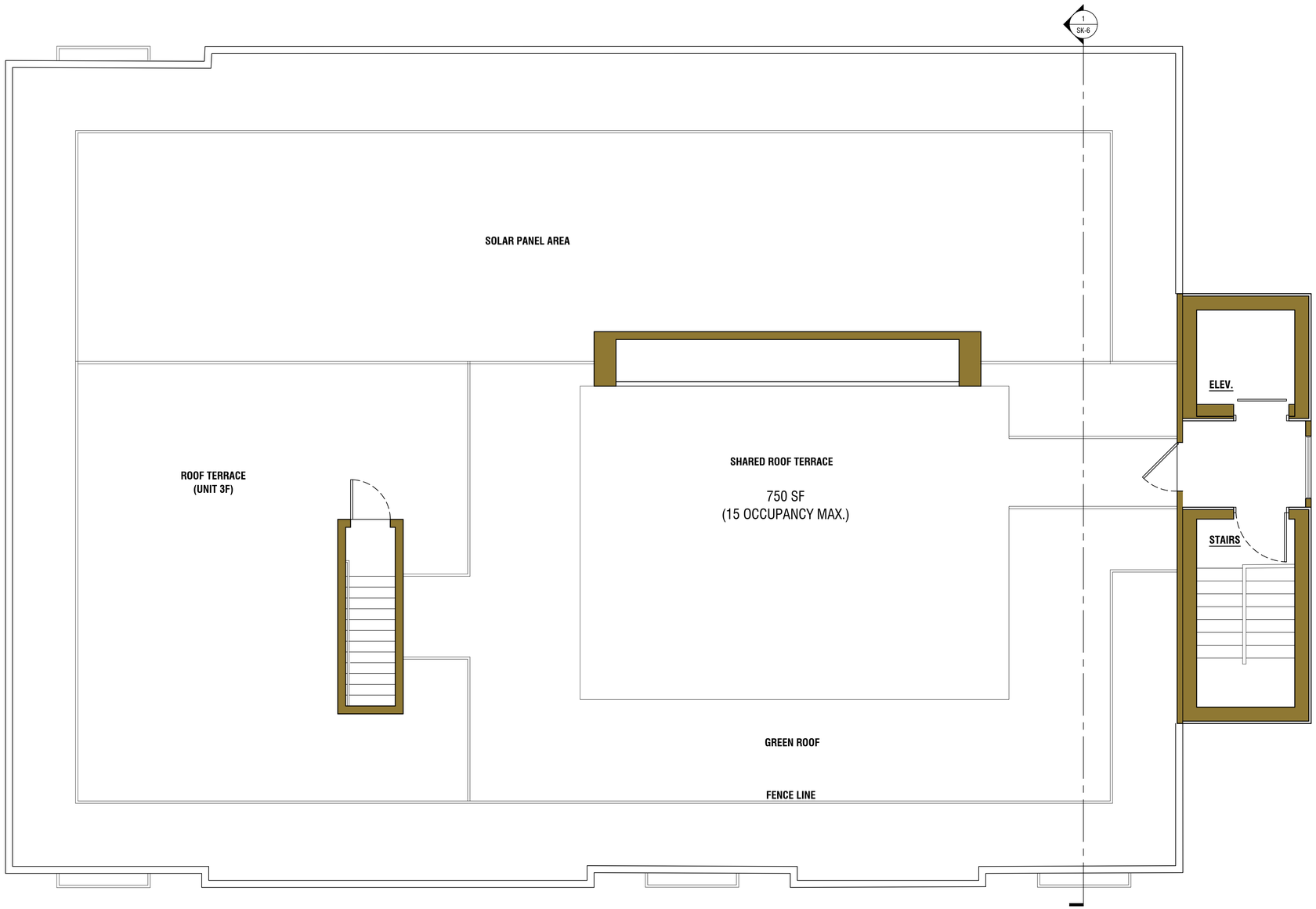
THIRD FLOOR PLAN CONCEPT

SEAL

PROJECT NO.
21XX

DRAWING NO.
SK-4

SHEET 1 OF



PRELIMINARY ROOF PLAN
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

Envirospace Architecture
• DeAngelis & Gaita •

451 East Boston Post Road
Mamaroneck, NY 10543
(914) 777-2727

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24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

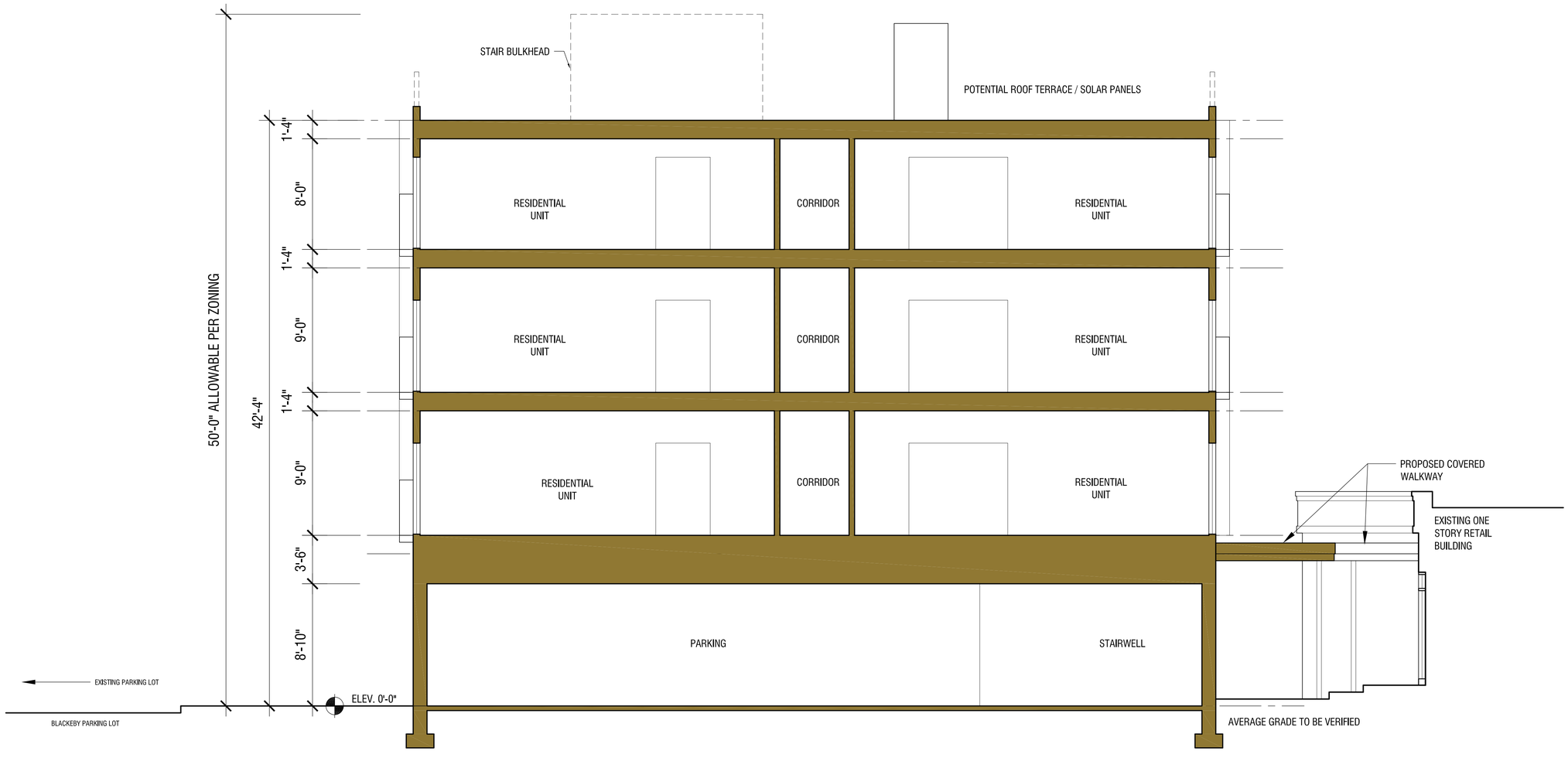
ROOF PLAN CONCEPT

SEAL

PROJECT NO.
21XX

DRAWING NO.
SK-5

SHEET 1 OF



CONCEPTUAL CROSS SECTION
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'

NEW BUILDING

134 E. MAIN STREET
MT. KISCO, NY

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• DeAngelis & Gaita •

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Mamaroneck, NY 10543
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24 EASTVIEW AVENUE
BREWSTER, NY 10509
(845) 279-3061

DATE	NO.	REVISION
01.18.21		INFORMAL REVIEW

BUILDING SECTION CONCEPT

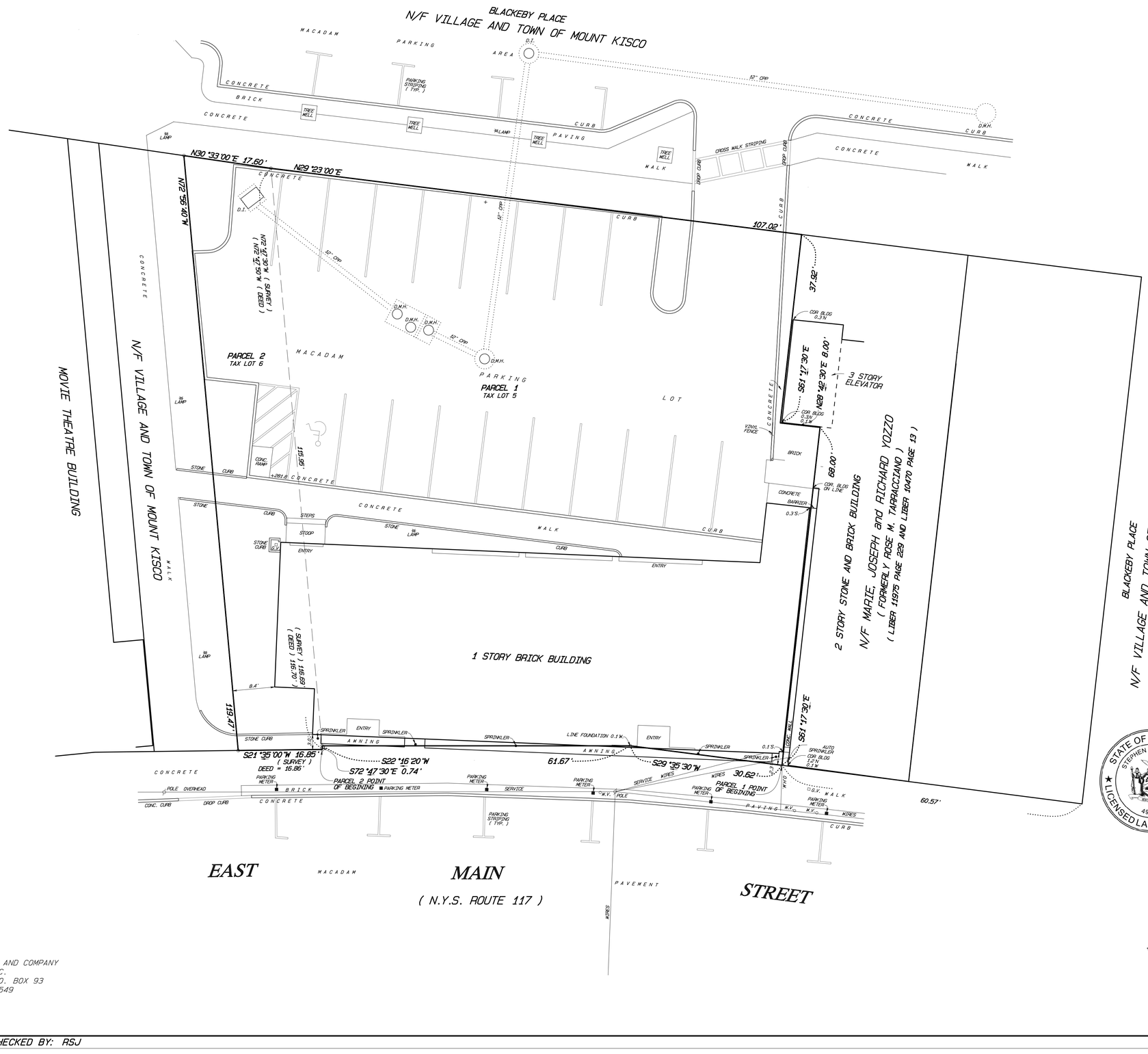
SEAL

REGISTERED ARCHITECT
GREGORY CAMERON GASPAR
STATE OF NEW YORK

PROJECT NO.
21XX

DRAWING NO.
SK-6

SHEET 1 OF



Area = 12,960 S.F. or 0.297 Acres.

Tax Identification: Section 80.25 Block 2 Lots 5 and 6.

Deed reference: Control No. 462680200.

Note: Parcel 1 and Parcel 2 as described in Deed Control No. 462680200 are described in different meridians. This map is in the meridian of Parcel 2 and of the adjoining deed to the north, land formerly of Rose M. Tarracciano, now or formerly Marie, Joseph and Richard Yozza, Liber 11975 Page 229 and Liber 10470 Page 13. Parcel 1, shown hereon, must be rotated 0°14'10" to the right to be in the meridian as described in Parcel 1, Deed Control No. 462680200.

In accordance with the existing Code of Practice for Land Surveys as adopted by The New York State Association of Professional Land Surveyors, Inc.

Unauthorized alteration or addition to a survey map bearing a Licensed Land Surveyor's seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

All certifications are valid for this map and copies thereof only if said map or copies bear the impressed seal of the surveyor whose signature appears hereon.

The location of underground improvements or encroachments hereon, if any exist, are not certified or shown.

Certified to: Coast to Coast Industries, LLC
The First Bank of Greenwich, ISOA
Old Republic National Title Insurance Company
Insignia National Title Agency, LLC
Title No. ITC-9709-W-200R

STATE OF NEW YORK
STEPHEN T. JOHNSON
49749
LICENSED LAND SURVEYOR

SURVEY BROUGHT TO DATE AND MAP REVISED: MARCH 16, 2020
SURVEY BROUGHT TO DATE AND MAP REVISED: FEBRUARY 7, 2013
MAP REVISED: SEPTEMBER 2, 2008 TO ADD CERTIFICATIONS
MAP REVISED: JULY 11, 2008
SURVEYED: JULY 7, 2008
MAP PREPARED: JULY 8, 2008

BY: _____
NEW YORK STATE LICENSED LAND SURVEYOR NO. 49749
STEPHEN T. JOHNSON, P.L.S.

SURVEY OF PROPERTY
PREPARED FOR

COAST TO COAST INDUSTRIES, LLC

SITUATE IN THE
VILLAGE AND TOWN OF MOUNT KISCO
WESTCHESTER COUNTY, NEW YORK

SCALE: 1" = 10'

H. STANLEY JOHNSON AND COMPANY
LAND SURVEYORS, P.C.
42 SMITH AVENUE P.O. BOX 93
MT. KISCO, N.Y. 10549
TEL. 914-241-3872
FAX. 914-241-0438

AREA: 12,960 S.F.
AREA: 1,042 S.F.

134 EAST MAIN STREET
CIVIC SPACE - PROPOSED PLAN
19.02.2021

134 EAST MAIN STREET
CIVIC SPACE - PROPOSED FACADE
19.02.2021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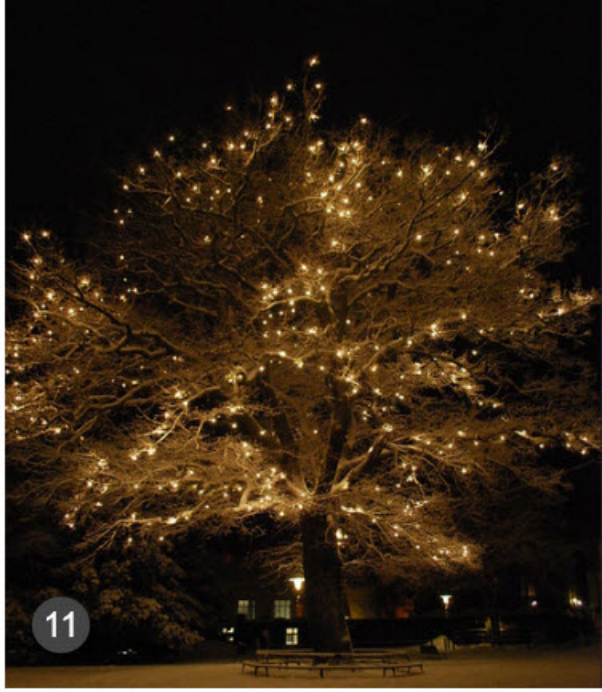
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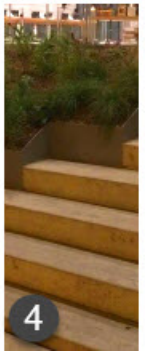
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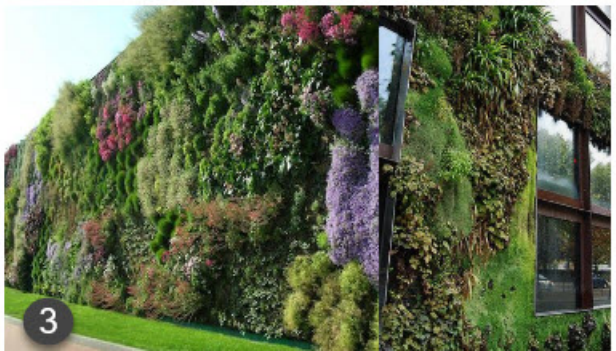
3


Frannie's
GOODIE SHOP


Frannie's
AT&T


XENIAL