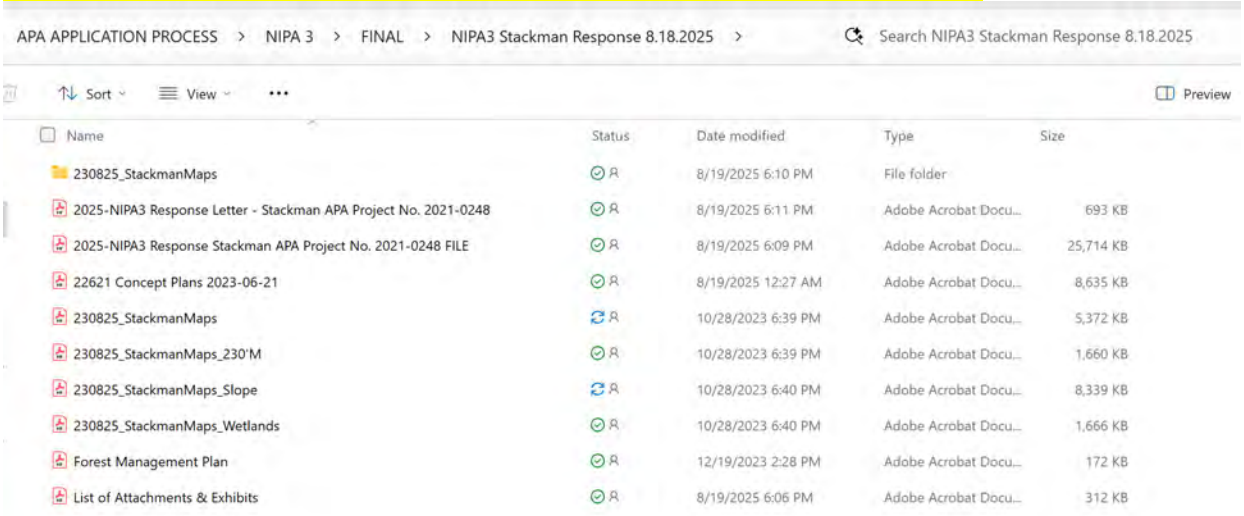
From: Roberta Alba
To: Korn, Devan F (APA); Petith, Stephanie L (APA)
Cc: supervisor@townofjayny.gov; Eric Stackman
Subject: NIPA 3 Response and Link to Documents 8.18.25
Date: Tuesday, August 19, 2025 6:32:45 PM
Attachments: image.png
APA Third Notice of Incomplete Permit Application 04 28 2023 4911-2514-9243 v.1.pdf
List of Attachments & Exhibits.pdf
2025-NIPA3 Response Letter - Stackman APA Project No. 2021-0248.pdf

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Devan,
Thank you for meeting with us yesterday. We appreciate yours and John's time, and the details you have explained regarding the review period and staff availability for further discussions.
Per our conversation, please find attached our response with updated application materials, addressing the NIPA3 items that remained outstanding.
Kindly confirm receipt and let us know once you have been able to receive and access the files.
We look forward to speaking with you, as scheduled, on the 28th or sooner, to work towards the complete review of the package.
Sincerely,

Roberta Alba
Sent on behalf of Eric Stackman
305-331-2587

THIS LINK TAKES YOU TO THE COMPLETE FOLDER TO VIEW THE FILES AND ALL ATTACHMENTS
The Response File is a total of 25MB / 103 Pages
NIPA3 Stackman Response 8.18.2025
https://1drv.ms/f/c/1112a96e6a6bad3b/EvZaU0c_ZGNLj_-9m0Zub7oBUCvpdj28dmWg7ubEJZJoxg?e=DgYc84



- **Proposed Development Site Plan (Attachment A)** – depicts all proposed vegetative clearing, development, and soil disturbance, per the Second NIPA parameters.
- **Critical Habitats & Natural Communities Map (Attachment D)** – shows the 100-ft wetland buffer and mapped natural communities/forest blocks used to guide siting.
- **Topography & Slope Analysis Map (Attachment E)** – identifies areas with slopes >25% avoided to the extent practicable.
- **Existing Trail Map & 230-Meter Delineation Zone (Attachment F)** – documents clustering near Route 9N, neighboring residential development, and the existing north–south access road.
- **Agency Coordination (Attachments G–J, L)** – DOH correspondence and requirements (Feb. 28, 2025); NYSEG preliminary service confirmation and Letter of Understanding (Feb. 25–26, 2025); Town of Jay willingness to accept road dedications.
- **On-Site Wastewater Treatment Plans (Attachment K)** – prepared by a NY-licensed design professional to Agency standards.
- **Forest Management Plan (Attachment M)** – supports proposed uses of open space and trail system, including sustainable forest resource management.
- **Design & Architectural Narrative (Attachment N)** – a more detailed description of and plans for proposed activities and development, including general building plans and elevation drawings

Multi-Season Biological Survey – Studies Performed & Citations to Attachments

Study Team: B. Laing Associates, Inc.

Secondary Deliverables:

Attachment B – *Natural Resource Inventory Report* (Aug 2023);

Attachment C – *Supplemental Natural Resource Report* (Apr 2024).

Fieldwork Timeline & Key Findings

Year	Season	Focus Area	Key Findings / Takeaways
2022	Fall	Initial wetland and resource baseline	Foundational delineation & mapping established sitewide resource baseline (Att. B §3–4).
2023	Winter	Winter survey	Intermediate winter observations to supplement baseline (Att. B §3.2).
2023	Spring	Vernal hydrology & amphibians	Confirmed seasonal wetland dynamics; observed vernal pools & breeding sites; documented Spotted Salamander, Wood Frog, Spring Peeper; delineated additional wetlands; observed 30+ bird species; recommended further herptile/bat surveys (Att. B §3.2; April 2023 memo summarized in Att. C).
2023	Summer	GPS mapping	Sub-meter GPS survey refined wetland flags/buffers and critical habitat zones; updated areas for jurisdictional determination review (Att. B §1.2; mapping referenced in Att. C App. E).
2023	Late Summer	Consolidation	Baseline report integrating 2022–mid-2023 field data provided to APA; established "no substantial change" threshold used in 2024 review (Att. B Summary; referenced in Att. C).
2024	Spring	Ecological supplement	Targeted herptile activity, beaver pond hydrology, and wetland verification; additional wildlife (e.g., Red-bellied Snake, Eastern Newts, American Giant Water Bug); new spring breeding pools from beaver dam breaches; verified development >750 ft from vernal pools; updated species inventories (>100 plants; 70+ animals) (Att. C §3–4).

Methods (with Report Citations)

Wetlands. Desktop analysis used NRCS soils (hydric ratings), USFWS NWI, and APA maps to identify potential wetlands (Att. B Fig. 3.0; Appx. B & D). Field delineations (Oct–Nov 2022; updated spring 2023/Apr 2024) followed the **1987 ACOE Wetland Delineation Manual** and regional supplements, with APA's wetland definition (§802[68]) (Att. B §4.0; Att. C §3.0). Delineations required **all three indicators**—hydrophytic vegetation, hydric soils (cores to 12–16" via 3" Dutch auger), and wetland hydrology—before flagging (Att. C §3.1). Sub-meter GPS was used to record flags and generate GIS mapping (Att. B §1.2).

Wildlife. Desktop review included NY Natural Heritage Program (NYSDEC) records (letter received March 2022) and USFWS IPaC review for federally listed species (Att. B §3.2). Field surveys combined **active** (transects; dip-netting; cover-object checks; sight/sound/sign) and **passive** methods (mammal footprint tunnels; aquatic funnel traps with 3-hour checks and partial submergence to ensure air access). Incidentals recorded throughout (Att. B §3.2; methods summarized in Att. C §3.0).

Ecosystem Mapping. Desktop and field verification evaluated mapped **Northern Pine–Hardwood Forest (NPHF)** and **Appalachian Oak–Pine Forest (AOPF)** using NYNHP community descriptions (canopy composition thresholds; typical shrub/herb layers) to confirm extents and inform avoidance/minimization (Att. B §3.3; Att. C §3.0).

Notable Results Applied to Design

- **Wetland/Water Resources.** Multiple wetlands mapped along the southern ponded stream system and smaller northern wetlands; on-site wetlands exhibit all three ACOE indicators and are connected to other waters (federal jurisdiction). The **Proposed Development avoids direct wetland fill**, places new trails/crossings to minimize impacts, and respects a **100-ft buffer** (Att. D; Att. C §4.3 & Appx. E). Two structures in the northern cul-de-sac are within 100 ft of **Wetland 1**; these have been sited to avoid disturbance and will use BMPs to protect wetland functions (Att. C §4.3).
- **Vernal Pools & Herptiles.** Verified **>750 ft separation** between development and vernal pools/critical amphibian breeding areas identified in 2023–2024 fieldwork (Att. C §4.0–4.3).
- **Unique Natural Communities.** Mapped **AOPF** and **NPHF** were used to steer development outside these communities to the maximum extent practicable (Att. D; Att. B §3.3).
- **Slope Avoidance.** Areas with **>25% slopes** avoided where practicable; see siting on **Topography & Slope Analysis Map** (Att. E).
- **Clustering Near Existing Disturbance.** Development preferentially clustered **within 230 meters** of Route 9N, existing residential development, and the established north–south access road (Att. F).

Agency Coordination & Utilities

- **DOH (Attachment G).** The Applicant consulted DOH (Feb. 28, 2025) and received requirements concerning subdivision approvals, food service, temporary residences, swimming pools, and on‑site wastewater systems; these will be addressed in agency‑specific applications upon APA's determination of completeness.
- **NYSDEC & NYSDOT.** Applicant will continue coordination; no additional comments received since the last submission.
- **NYSEG (Attachments H–J).** NYSEG provided preliminary cost estimate and confirmed **it can serve the project's electrical requirements**; a **Letter of Understanding (Feb. 26, 2025)** confirms design/construction of a new 3‑phase, 4‑wire overhead service to feed the subdivision.
- **First Responders.** Preliminary feedback from Essex County Emergency Services, Jay Volunteer Fire & Rescue, and the Essex County Sheriff's Office is included; comments have been requested from **New York State Police** and **AuSable Forks Fire District** and will be appended upon receipt.

Ownership, Operations, and Maintenance

- **Estate & Town Homes.** Individually owned lots fronting public roads to be constructed to Town standards and offered for dedication; each lot to have private well and septic; utilities from providers via ROW; no shared infrastructure among estate/town homes beyond dedicated roads.
- **Guest Houses (Condominiums).** Master POA will own land and shared site improvements; each of five buildings has an associated condominium association for building‑level responsibilities; Unit Owners contribute via annual budgets/assessments; final form subject to NYS OAG review.
- **Club & Common Amenities.** Club will own/operate clubhouse, restaurant, spa & wellness, fire tower, trails, and other facilities not dedicated to the Town/POA; membership optional for homeowners and available to the public.

Additional Complete‑Application Items

- **Forest Management Plan (Attachment M).** Describes open-space and trail uses (timber, habitat enhancement, recreation, safety) and aligns new trails/roads to support strategic access and sustainable use.
- **Detailed Plans & Elevations (Attachment N).** Updated plans and specifications for all proposed activities and development are enclosed.
- **Solar.** No ground-mounted solar arrays are proposed.

References -

- **B. Laing Associates, Inc.** *Natural Resource Inventory Report* (August 2023) – Wetlands delineation; wildlife desktop/field surveying; ecosystem mapping; GIS and flag locations; survey results and recommendations (Attachment B).
- **B. Laing Associates, Inc.** *Supplemental Natural Resource Report* (April 2024) – Targeted herptile activity, beaver pond hydrology, verification updates; species inventory updates; vernal pool setback verification (Attachment C).
- **Mapping & Memos (2023).** GPS wetland mapping and seasonal field memoranda referenced in Attachments B and C; integrated into Critical Habitats & Natural Communities, Topography & Slope, and 230‑Meter Delineation maps (Attachments D–F).

Conclusion. The Applicant has incorporated the findings and recommendations from the multi‑season environmental studies directly into siting and design to avoid and minimize impacts to wetlands, unique natural communities, and sensitive wildlife resources, while advancing a compact development pattern near existing disturbance. Upon confirmation of application completeness, the Applicant will submit to involved agencies for their respective approvals and continue coordination with first responders and utilities.

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

August 18, 2025

Mr. John M. Burth
Environmental Program Specialist 3 (EPS3)
Adirondack Park Agency
P.O. Box 99
1133 NYS Route 86
Ray Brook, NY 12977

Via Email - Devan.korn@apa.ny.gov

APA Project No.: 2021-0248
Type of Project: Large-scale Subdivision
Location of Project: Town of Jay, Essex County
Land Use Area: Low Intensity Use and Hamlet
Tax Map Nos.: 17.2-1-4, 17.2-1-5.1 & 17.2-1-20.111

Dear Sirs:

This letter responds to the letter from the Agency to the Applicant, dated April 28, 2023, and titled "Third Notice of Incomplete Permit Application" (the "Third NIPA").

Response to Comments

1. **Thank you for the revised proposed trail system map and your efforts to revise the proposed overall site design to meet the parameters described in the Agency's September 22, 2022 Second NIPA (2nd NIPA). Please further revise the project proposal to meet the parameters described in the 2nd NIPA and submit a revised site design that depicts all proposed vegetative clearing, development, and soil disturbance.**

   If the overall site design cannot be further revised as previously requested, please indicate which of the three alternatives submitted on April 10, 2023 is the current proposal. Please also remember that additional wetland delineations, visual and slopes analyses, and other studies will be required for any proposal that does not fully meet the parameters described in the 2nd NIPA, in addition to the information listed below. In addition, a biological survey prepared by a qualified biologist and spanning multiple seasons will be required for any proposal that does not fully meet the parameters described in the 2nd NIPA. Please note that, when biological surveys are required, staff recommend submission of a plan that includes the anticipated scope and methodology of the analysis for Agency review prior to beginning the survey, in order to ensure that the necessary criteria will be met.

The proposed development plan (the "Proposed Development" or "Project") has been revised to comply with the parameters set forth in the "2nd NIPA" to the greatest extent practicable. Enclosed as **Attachment A** is the Proposed Development site plan. The current Proposed Development site plan (the "Proposed Development Site Plan") depicts all proposed vegetative clearing, development, and soil disturbance.

Biological Survey

In response to the APA's "Second Notice of Incomplete Application" dated September 22, 2022 (the "Second NIPA"), Applicant engaged B. Laing Associates, Inc. ("B. Laing") to conduct a multi-season biological survey of the Project Site. The biological survey included several field studies spanning October 2022 to July 2023, and April 2024. A summary of the biological survey progression is set forth in the following table:

Year	**Season**	**Focus Area**	**Key Findings or Takeaway**
2022	Fall	Initial wetland and resource baseline	Foundational delineation and mapping
2023	Winter	Winter survey	Additional survey findings
2023	Spring	Vernal hydrology & amphibians	Confirmed seasonal wetland dynamics; observed vernal pools, and amphibian breeding sites; documented spotted salamanders, wood frog, and spring peeper; delineated additional wetlands; observed 30+ bird species; recommendations made for further herptile and bat surveys in the summer/fall;
2023	Summer	GPS Mapping	Performed high-resolution mapping and survey; defined wetland buffers and critical habitat zones; reconfirmed prior flagging and updated areas for formal jurisdictional determination review;
2023	Late Summer	Compilation of findings and data for APA	APA submission and cumulative summary including baseline report integrating all surveys from 2022 through mid-2023; defined "no substantial chance" threshold used in 2024 review;
2024	Spring	Ecological supplement	Targeted herptile activity, beaver pond hydrology, and wetland explanation; identified additional wildlife including Red-bellied Snake, Eastern Newts, and American Giant Water Bug;

			identified new spring breeding pools due to beaver dam breaches; verified development is located over 750' from vernal pools; updated species inventory tables with more than 100 plans and 70+ animals;

As part of the biological survey, B. Laing prepared: a "Natural Resource Inventory Report" dated August 2023, and a "Supplemental Natural Resource Report," dated April 2024, which includes more recent findings from April 2024 regarding natural resource inventorying including wetlands.

The biological survey and reports analyze the Proposed Development and the natural resources on the Project Site. The reports detail the potential impacts (and any mitigation/development recommendations) which may affect certain mapped natural resources such as wetlands, unique natural communities, wildlife, etc.

Biological Survey Methodology

The biological survey included a wetland desktop review and delineation, wildlife desktop review and field surveying, and ecosystem mapping. *See* Attachment B, Section 3.0; *see also* Attachment C, Section 3.0.

--*wetlands*

The wetland desktop review consulted numerous resources including the Essex County Natural Resources Conservation Service soil map, which was consulted to determine the drainage class and "hydric rating" of each soil group. *See* Attachment B, Figure 3.0 and Appendix B. The wetland desktop review also consulted the National Wetlands Inventory (NWI) maps and the APA maps.

The wetland delineation occurred over October/November 2023 and April 2024. *See* Attachment B, Section 3.0 and Attachment C, Section 3.0. Wetlands were delineated per the 1987 Army Corps of Engineers Wetland Delineation Manual and Regional Supplements and the APA definition of "wetlands" under the Adirondack Park Act § 802(68). *See* Attachment B, Section 4.0. All of the delineated wetlands exhibited all three parameters set forth in the 1987 ACOE Manual and were found to be connected to other waters and thus subject to federal jurisdiction. Field surveys included sampling at locations within wetland and upland areas. *See* Attachment B, Section 4.2. The April 2024 study updated findings from the previous year, which took place in November while some wetland parameters were obscured (e.g., herbaceous vegetation had died back with seasonally-low hydrologic indicators). *See generally*, Attachment C. Vegetation was analyzed for a dominance of hydrophytic vegetation (i.e., wetland plants) by identifying plants in pre-determined radii for respective strata (e.g., a 1-meter radius for herbaceous plants, a 5-meter radius for shrubs, etc.). *See*, Attachment C, Section 3.1. Soil was analyzed for hydric indicators by pulling representative cores from the top 12-16" of soil using a 3" Dutch auger. *Id*.

Hydrology was analyzed by assessing the land for hydric indicators, including soil saturation, presence of standing water, etc. Only when all three conditions tested positive, a wetland determination was made, and delineation flags were placed at the boundary between wetland and upland conditions.

--*wildlife*

The wildlife desktop review evaluated the potential for listed (i.e., endangered and/or threatened) species of plant or animal occupy the Project Site. As part of the desktop review, a New York Natural Heritage Program (NYNHP) request was made to the New York State Department of Environmental Conservation (DEC) for records of state-listed species, or their habitats, in the area of the Project Site. *See* Attachment B, Section 3.2. The Applicant received a response to the NYNHP letter in March 2022. In addition, the Information for Planning and Consultation (IPaC) tool was consulted to see if U.S. Fish and Wildlife Service (USFWS) had records of federally-listed species, or their habitats, in the area. *Id*.

The wildlife field surveying was performed on dates chosen to be conducive to herptile migration (e.g., salamander) and overall activity of ectothermic (i.e., cold blooded) organisms. Previous natural resource surveying on site had already informed the project of other parameters such as wetlands, listed species, etc. Thus, the purpose of field surveying was to bolster the existing data-set and to continue taking a "hard look" at the site, from an ecological standpoint.

According to the reports, biologists surveyed for organisms using two general approaches: (1) active surveying, including dip-netting for aquatic organisms, searching by sight, sound and sign, flipping and searching under cover, etc., and (2) passive surveying, including using mammal footprint tunnels and the implementation of aquatic funnel traps.

For active surveying, biologists walked in rough transects and targeted habitats that would be used by herptiles or other organisms. *See* Attachment B, Section 3.2. Cover items, such as logs, rocks, etc., were lifted and gently returned following examination. When observers surveyed wetlands, the edges of waterways were slowly walked and dip-nets were used to pull up aquatic organisms. Any incidental sightings of wildlife were also recorded while on site.

For passive surveying, two mammal footprint tunnels were installed on site: one in the central clearing area to the south, and the other on the border of the pine-hardwood forest, west of where the proposed development will occur. These were baited such that any organisms that passed through the tunnel, to retrieve the bait, would pass over an ink derived from ground charcoal and vegetable oil (i.e., temporary and animal-safe/natural) before leaving their tracks on inserted sheets of paper. These tunnels were checked every morning.

Five funnel traps (i.e., modified minnow-traps) were deployed in various locations throughout the site to incidentally capture aquatic organisms. These locations ranged from the east branch of the Ausable River to the various wetlands, beaver ponds, and streams on site. These traps were checked every three hours and were never completely submerged, to allow for any frogs or other organisms to have access to air. Every organism that was temporarily restrained for documentation was released as quickly as possible.

--ecosystem mapping

B. Laing also conducted a series of desktop analyses and ecosystem mapping to understand the potential for unique natural communities to exist (and thus, any impact proposed thereto) on the Project Site.

The desktop survey and mapping determined that the Project Site contains the "Northern Pine-Hardwood Forest" (NPHF) and "Appalachian Oak-Pine Forest" (AOPF). *See* Attachment B, Section 5.0. The NYNHP provides guidance on these habitat types which outline the parameters should be taken into consideration when determining the ecosystem type.

For the NPHF, the identification characteristics include an emergent canopy of white pines that overtop a mixed forest of pines (P. strobus, P. resinosa, etc.) and hardwoods (maples- Acer, birches – Betula, etc.), wherein pine trees make up at least 20-50% of the coverage. This habitat is typically underlain by shrubs, bracken fern, and mosses and lichens. *See* Attachment B, Section 3.3. For APOF, the identification characteristics include a canopy dominated by any oak species with at least 25% of the canopy being made up of white pine. *See* Attachment B, Section 3.3. The herbaceous layer is typically sparse and the shrub layer is typically dominated by ericaceous species such as lowbush blueberry, huckleberry, etc.

Thus, these above parameters and guidelines became the basis for the field investigation for these habitat types, on site.

The Revised Development Plan – The "Proposed Development"

The development plan for the Project Site has been revised, considering and guided by the findings of the multi-season biological survey, to comply with the parameters set forth in the Second NIPA to the greatest extent practicable.

The Proposed Development was designed and will be implemented to avoid and then minimize wetland impacts. A map of the Proposed Development and the 100-foot wetland buffer, titled "Critical Habitats & Natural Communities," is enclosed as **Attachment D**. As set forth on this map, two structures in the northern most cul-de-sac are located within 100 feet of what is has been delineated at Wetland 1. *See* Attachment C, Section 4.3 and Appendix E. According to B. Laing, Wetlands 1 and 5 are less than 1-acre, based on delineation of the portions of the wetlands on the Project Site and visual inspection of the portions of the wetlands that go off-site. These wetlands are also not adjacent to any body of water or permanent stream with which there is a free interchange of water at the surface.

The Proposed Development also includes new trails and crossings to be located within 100 feet of existing mapped wetlands. These trails and crossings will also be designed to avoid and then minimize any wetland impacts.

The Proposed Development has also been revised to avoid development on slopes greater than 25% to the greatest extent practicable. A map of the Proposed Development and the areas of the site that include slopes greater than 25%, entitled "Topography & Slope Analysis Map," is enclosed herewith as **Attachment E**.

The Proposed Development has also been revised to locate development, to the greatest extent practicable, within 230 meters of either Route 9N, neighboring residential development, or the well-established existing road that runs north-to-south through the project site and is currently used as primary site access. A map of the Proposed Development and the 230-meter delineation zone, entitled "Existing Trail Map & 230 Meter Delineation Zone," is enclosed herewith as **Attachment F**.

The Proposed Development has also been revised to locate development, to the greatest extent practicable, outside of the mapped unique natural communities and large forest blocks (other than the proposed cul-de-sac area in the northeastern portion of the site). The Oak-Pine Forest (natural community) and Pine-Northern Hardwood Forest (forest block) are mapped on the "Critical Habitats & Natural Communities" map. *See* Attachment D.

2. **Thank you for contacting New York State Departments of Transportation (DOT), and Environmental Conservation (DEC) regarding your project. Please provide the requested comments or approvals from DOT once received and continue to coordinate with DEC to confirm jurisdiction and submit any necessary permit applications.**

   The recent submission does not appear to include any coordination effort with the New York State Department of Health (DOH). Accordingly, please contact the DOH regarding your project to facilitate a coordinated review. Please note, application submissions to all involved agencies will be required for a complete application.

Applicant has not received any further communications from New York State Department` of Transportation or New York State Department of Environmental Conservation regarding the Project.

Applicant contacted New York State Department of Health ("DOH") regarding the Project. On February 28, 2025, DOH responded and provided a list of requirements for, among other things, permit application, food service establishments, temporary residences, swimming pools, realty subdivision, and on-site wastewater treatment systems. Enclosed as **Attachment G** is a copy of DOH's communication to Applicant.

Applicant acknowledges that it may require additional permits from other state agencies and will submit the appropriate and applicable applications for such matters upon the APA's determination that there is a complete application for the Project. In the meantime, Applicant will continue to coordinate with all applicable state agencies as requested by APA.

3. **Please provide the requested confirmation or comments from New State Electric & Gas Company (NYSEG) that the proposed utilities and anticipated electrical loading can be accommodated once received.**

Applicant requested from NYSEG to provide engineering/construction requirements and estimated costs in regard to utility service for the Project Site. A copy of the application and calculations submitted to NYSEG for the Proposed Development are enclosed herewith as **Attachment H**.

On February 25, 2025, NYSEG responded to Applicant's request, provided a preliminary cost estimate, a request for customer acknowledgement, and stated "NYSEG has preliminarily determined it can serve the electrical requirements pursuant to the details contained in this letter." A copy of NYSEG's letter dated February 25, 2025 is enclosed as **Attachment I**. The Applicant has executed and submitted the customer acknowledgment to NYSEG. On February 26, 2025, in response to the execution of the customer acknowledgement, NYSEG confirmed by "Letter of Understanding" that NYSEGF "will design, construct and reconductor a new 3-phase and 4-wire overhead service to feed [the Applicant's] subdivision facility." NYSEG again confirmed "it can serve the electrical requirements pursuant to the details contained in this letter." A copy of NYSEG's February 26, 2025 letter is enclosed as **Attachment J**.

4. **Based on the provided summary of the discussions with the Town of Jay Supervisor, it appears that a municipal sewer extension is not feasible. Accordingly, design plans prepared by a NYS licensed design professional that meet Agency standards and guidelines will be required for any proposed on-site wastewater treatment system(s). Details for any necessary replacement or expansion of existing municipal water district infrastructure will also be required for a complete application.**

Plans for on-site wastewater treatment, prepared by a New York State licensed design professional, are enclosed as **Attachment K**.

5. **The recent submission included preliminary comments from Essex County Emergency Services, Jay Volunteer Fire & Rescue, and the Office of the Essex County Sheriff. Please note, comments from the New York State Police and AuSable Forks Fire District should also be requested as identified in the documents included with the submission. Documentation will be required to confirm that any final project layout and infrastructure design meets the requirements for all first responders.**

Applicant has reached out to New York State Police and AuSable Forks Fire District and requested comments on the Proposed Development. Applicant is still waiting for a response from both organizations.

6. **As previously indicated, the following information will be required for a complete application, along with additional studies and analysis as necessary:**

   - **A description of the anticipated ownership configuration and maintenance responsibilities of the proposed access roads, utilities, open space and trail system, and other amenities such as employee housing.**

All estate homes and town homes will be constructed on individual tax lots. Each lot will front on public roadways which will be constructed to Town of Jay (the "Town") requirements and offered for dedication to the Town. Each home will be serviced by private well and septic located on such home's lot. Telephone, electric and internet will be provided by utility providers from lines installed within the public road right-of-way. Other than the roads which service the lots, which will eventually be owned and maintained by the Town, there will be no shared infrastructure between two or more of the estate homes or town homes.

The guest houses will be owned through a condominium structure in which a master property owners' association (the "POA") owns the land underneath each of the condominium buildings, as well as all site improvements, such as driveways, parking lots, stormwater infrastructure, utility lines that service all buildings, etc. Each building will be owned through a separate condominium association structure, such that there will be a total of five (5) condominium associations (e.g., one for each building). Owners of a unit in a building will be members of the condominium associated with that building, as well as members of the POA. Owners will be responsible for the costs to operate, maintain and repair their condominium unit ("Unit"), including any utilities that service solely their Unit. Each condominium association will be responsible for the costs to operate, maintain and repair the building associated with that condominium, including maintaining and repairing the exterior of the building, windows and exterior doors of the building, the structural elements of the building, mechanical systems within the building that service two or more units, and such other shared infrastructure within the building. The POA will be responsible for the costs to operate, maintain and repair the land and site improvements, including, landscaping, snow and ice removal, repair of the parking lots and driveways, stormwater facility maintenance, and the like. The affairs of the POA and condominiums will be governed by the board of directors of the POA, which will consist of no less than five (5) individuals elected by the owners of Units ("Unit Owners") (the "Board of Directors"). The Board of Directors will be responsible for developing an annual budget for the POA and each condominium and levying annual charges against the Units within the POA to be paid by the Unit Owners. Please note that the final form of ownership structure for the guest houses will be subject to review by the New York State Office of the Attorney General ("OAG") and thus, is subject to change based on OAG comments.

All other land, infrastructure and buildings within the community, including the buildings associated with the Clubhouse, Restaurant, Spa & Wellness, Suites, Event, Fire Tower, Retreat Cabin, Maintenance & Operations, Greenhouse & Farm, Stream-side Cabin, and Cairns Granite Barn, as well as, walking trails, forest lands, wetlands, parking lots, and roadways not otherwise owned by the Town, the POA, or any homeowner, will be owned, operated, maintained and repaired by the owner of the Clubhouse (the "Club"). All owners of a guest house, estate home or town home will have the opportunity (but will not be obligated) to become a member of the Club. In addition, members of the general public will likewise be able to become a member of the Club.

Club members will pay annual membership fees to the Club for access to the Club amenities, which include the Clubhouse, Restaurant, Spa & Wellness, Fire Tower, walking trails and other facilities (the "Club Amenities"). Non-members may also access the Club Amenities for a use fee. None of the owners of a guest house, estate home or town home will be required to pay any annual fee to the Club other than if such owner is a member of the Club, in which case, said owner will be responsible for the annual membership fee to the Club.

- **If any of the proposed roads or infrastructure are anticipated to be conveyed to the Town of Jay or any other entity, documentation confirming willingness to accept the development.**

As stated above, the Town has indicated its agreement to accept an offer of dedication of all roads within the community that service one or more lots. Enclosed as **Attachment L** is communication from the Town indicating their willingness to accept the dedication of the roads.

- **A forest management plan that details the proposed uses of the proposed open space and trail system and includes a description of the specific forest resources present on the property and allows for sustainable use of those resources. Any proposed new trails and roads should coincide with this plan to strategically support access and use of the property interior for the proposed use (i.e., timber harvest, wildlife habitat enhancement, recreation, safety, etc.).**

The proposed forest management plan is enclosed herewith as **Attachment M**.

- **A more detailed description of and plans for all proposed activities and development, including building plans and elevation drawings.**

Updated plans and specifications for the Proposed Development are included in the attachments to this response letter as **Attachment N.**

- **Additional information related to any proposed ground-mounted solar arrays.**

The Proposed Development does not include the installation of ground-mounted solar arrays.

The Proposed Development has been planned to avoid and then minimize wetland impacts, avoid slopes >25% where practicable, cluster development within 230 meters of existing roads/residences, and site development outside mapped unique natural communities and large forest blocks to the extent practicable. Supporting plan sets and agency coordination materials are provided as Attachments A and D–N.

List of Attachments & Exhibits (Referenced in this Response)

Attachment/Exhibit	Title / Description	Notes
Attachment A	Proposed Development Site Plan	Plan set
Attachment B	Natural Resource Inventory Report (B. Laing, Aug 2023)	Full Study/report Will be supplied separately
Attachment C	Supplemental Natural Resource Report (B. Laing, Apr 2024)	Full Study/report Will be supplied separately
Attachment D	Critical Habitats & Natural Communities Map	Map
Attachment E	Topography & Slope Analysis Map	Map
Attachment F	Existing Trail Map & 230-Meter Delineation Zone	Map
Attachment G	DOH Correspondence & Requirements (Feb. 28, 2025)	Agency coordination
Attachment H	DOT & DEC Ongoing	Agency coordination
Attachment I	NYSEG Preliminary Cost Estimate (Feb. 25, 2025)	Utilities coordination
Attachment J	NYSEG Letter of Understanding (Feb. 26, 2025)	Utilities coordination
Attachment K	Site Plans for Water, Wastewater & Treatment	Engineering plans
Attachment L	Town of Jay Road Dedication Willingness/Coordination Letters	Municipal coordination
Attachment M	Forest Management Plan	Open space management
Attachment N	Design & Architectural Narrative	Architectural, Site & General Building plans

In conclusion, the Applicant has incorporated the findings and recommendations from the multi-season environmental studies directly into siting and design to avoid and minimize impacts to wetlands, unique natural communities, and sensitive wildlife resources, while advancing a compact development pattern near existing disturbance.

Upon confirmation of application completeness, the Applicant will submit to involved agencies for their respective approvals and continue coordination with first responders and utilities.
We look forward to receiving your feedback and hope this satisfies the full application process.

If further details or clarification are required, kindly advise us at your earliest convenience, as we are standing by to review any of these items with your staff, via zoom or in person.

Respectfully yours,

Eric Stackman
Project Sponsor
PO Box 402422
Miami Beach, FL 33141

Cc:
Matt Stanley, Town of Jay Supervisor,
by e-mail to supervisor@townofjayny.gov

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 21, 2025

April 6, 2023

Mr. John M. Burth
Environmental Program Specialist 3 (EPS3)
Adirondack Park Agency
P.O. Box 99
1133 NYS Route 86
Ray Brook, NY 12977

APA Project No.: 2021-0248
Type of Project: Large-scale Subdivision
Location of Project: Town of Jay, Essex County
Land Use Area: Low Intensity Use and Hamlet
Tax Map Nos.: 17.2-1-4, 17.2-1-5.1 & 17.2-1-20.111

Re: APA Response received September 22, 2022 -PART 2 EXISTING TRAILS

In response for our submission in relation to APA Project No. 2021-0248, and particularly to the Agency's September 22, 2022, Second Notice of Incomplete Permit Application, we hereby submit the following information requested; pursuant to our Webex conference conversation on Monday, February 27th, 2023:

A revised proposed trail system map that clearly differentiates between existing and proposed trails; with a minimum of a 100-foot buffer between all new trails and the wetlands and waterbodies (stream).

Please note, that we had previously submitted information concerning Historic or Recent Logging Activities, in our August 3rd, 2022 application package. In such report, a brief summary and map were digitized and provided, delineating and calculating the areas for each zone of historic and potential timber and logging materials and recommended activities. These were prepared after the acquisition of the property and were taken into consideration during harvesting and maintaining the site for access, forest management, and future development analysis. However, minimal action has been taken to proceed with any significant logging or select cutting in these areas, and always under the guidelines and recommendations for future forest health and productivity; as well as in accordance with the NY APA and DEC regulations concerning forestry, wetlands, and any other significant considerations.

As you can see from the enclosed photographs and trail map information, most of these existing trails, service, and access roads, as well as easements from neighboring properties, have been in use for a significant period of time.

The site is largely unimproved and almost entirely wooded. There is an existing series of trails that run throughout the site and were ostensibly once roads used for logging. Historic aerial imagery shows the site was in the process of reforestation during the 1940s and 1950s, so the woodlands on site appear to be less than 100-years old. Please see historic aerial from 1947 in Appendix D.

The majority of the subject property exists west of Route 9N. However, a small portion of the subject property is east of Route 9N along the East Branch of the Ausable River, where an existing barn structure still stands.

In the aforementioned application package, we detailed an Existing Right of Way and Current Use of the Property, as demonstrated by the Surveyor's reports.

The current deed of record for tax parcel 17.2-1-20.11 indicates that there is an existing Right of Way and well-used un-improved roadway. These roads are currently maintained, as documented in the attached photographs – they are cleared and kept unobstructed, consisting of compacted soil and gravel, but unpaved.

The Proposed Trails map takes all of these elements into consideration, as part of our conscious effort to avoid and minimize any potential impacts resulting from any additional disturbance. It is our intention to use our best efforts to accommodate the APA's concerns, by utilizing previously existing logging roads and trails that have remained since the parcels were acquired. Of these existing service roads, easements, and trails; some will be slightly redirected away from sensitive areas or those with steeper slopes in the terrain, abandoned. All of this in accordance with the approved layouts and access control measures put in place to ensure their proper use and maintenance. As in the Right of Way discussed above, access points will be reused and properly posted; while others may be enhanced to allow for emergency access from the adjoining parcels.

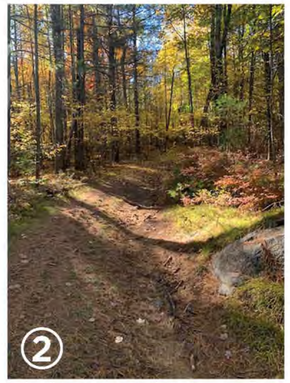
If further details or clarification are required, kindly advise us at your earliest convenience.

Respectfully yours,

Eric Stackman
Project Sponsor
PO Box 402422
Miami Beach, FL 33141

Cc: Environmental Program Specialist 2 (EPS2) Devan Korn
by e-mail to devan.korn@apa.ny.gov

Robbe Baer, Town of Jay Code Enforcement Officer
by e-mail to codes@townofjayny.gov



LEGEND

- Northern Pine-Hardwood Forest
- Oak-Pine Forest
- East Branch Ausable River
- Delineated Wetlands
- 100’ Wetland Buffer
- Property Boundary
- Adjacent Boundaries
- Existing Multi-Use Trail

SCALE (ft)
0 250 500 750 1000
1 in = 500 ft

TRAIL TYPOLOGY

MULTI-USE
(DOUBLE TRACK)

Width:
10’-12’
Construction Material:
Native Soil
Longitudinal Slope:
Up to 15%

0% 2% 3% 5% 8% 10% 12% 15% 25% 30%
Average Slope
Short Segments

The existing topography has been mapped utilizing 2’ Lidar imaging and is currently being field verified, as part of our bilogical survey studies. Some of these existing trails, which span for over 3.85 miles, meandering throughout the property; average anywhere between 8 and 12 feet in width. Part of the existing trails cross thru the wetlands and have developed over time, in or around previous or existing beaver damns that have changed the landscape and marshy areas during certain seasons.

STACKMAN PROPERTY: EXISTING TRAILS MAP

SE GROUP

CAIRNES GRANITE BARN

ESTATE HOMES (18)

FIRE TOWER

CLUBHOUSE & RESTAURANT

RETREAT CABIN

GUEST HOUSES (6)

MAINTENANCE & OPERATIONS

TOWN HOMES (37)

GREENHOUSE & FARM

BRIDGE

STREAM-SIDE CABIN

WETLAND

BOARDWALK

LEGEND

- Multi-Use Trails
- Hiking Trails
- Wetlands
- 100’ Buffer

IMAGE AND SITE DISCLAIMER

All images used are for illustrative purposes only and are intended to convey the concept and vision for the project And may change as work progresses and do not necessarily represent a true and/or accurate depiction of the finished product. Proposed site plans are intended to give a general indication of the proposed layout only. All images and dimensions are not intended to form part any contract or warranty.

STACKMAN PROPERTY CONCEPT 1

APRIL 2023

SE GROUP

N

SCALE (ft)

0 150 300 450 600

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 21, 2025

SUPPLEMENT 1.0 TO
NATURAL RESOURCES INVENTORY REPORT
STACKMAN PROPERTY, TOWN OF JAY
ESSEX COUNTY, NEW YORK
April 2024

PREPARED FOR:
Mr. Eric Stackman

PREPARED BY:

B. LAING ASSOCIATES
A Woman-owned Business Enterprise
ENVIRONMENTAL CONSULTING
www.blaingassociates.com
103 Fort Salonga Road - Suite 5 Fort Salonga, NY 11768
(631) 261-7170, Fax: (631) 261-7454

SUPPLEMENT 1.0 TO NATURAL RESOURCES INVENTORY REPORT
STACKMAN PROPERTY, TOWN OF JAY
ESSEX COUNTY, NEW YORK
April 2024

Contents

1.0 INTRODUCTION 3

2.0 SITE CONDITIONS 3

3.0 METHODOLOGY 4

4.0 RESULTS 5
4.1 Ecological Results 5
4.2 Wetland Results 7

5.0 DISCUSSION AND SUMMARY 9

Figures and Tables

Figure 1.0: Site Location Map – Satellite Imagery 4
Figure 2.0: Illustration of Beaver Dam Breach at Western Pond 8

Appendices

Appendix A: Site Photographs taken April 2024

Appendix B: Updated Species Inventory Data Sheets

1.0 INTRODUCTION

B. Laing Associates, Inc. has prepared this supplemental report to outline updated findings and data regarding natural resource inventorying, including ecology and wetlands, in response to the Adirondack Park Agency's "Second Notice of Incomplete Permit Application; APA Project No.: 2021-0248." The purpose of this report is to supplement the original (August 2023) report with updated findings based on data collected during April of 2024. The goal of this supplement was to provide additional herpetological (i.e., amphibians and reptile) surveys for the subject site. A review of the (already delineated) wetlands was not planned, but biologists did note slight changes to the hydrology of the site based on additional beaver (*Castor canadensis*) activity. This is discussed below.

In summary, project biologists conducted a four-day survey from April 8 to April 11, 2024, for various natural resource parameters including herptiles, mammals, birds, plants, etc. This brought the amount of biologist person-hours on site to 256.5, from October 2022 to date. The April 2024 surveys provided additional data to supplement the previous natural resource site assessment. However, it was determined that the findings of the August 2023 report have not changed in any substantial manner.

Based on a review of the site and the proposed site plan, the proposed development has been designed to avoid impacts to the sensitive natural resources which exist on site. Furthermore, the position of the site in the existing landscape naturally minimizes the amount of forest segmentation/wildlife crossings that will occur as a result of the project.

Please see below for more information.

2.0 SITE CONDITIONS

The subject site is located within an area of mixed-use just south of Au Sable Forks, in the Town of Jay, Essex County, New York. It is bordered on the east by Route 9N and the East Branch of the Ausable River; on the south by residential properties and a large mining operation; and on the north, west, and southwest by large, unimproved woodlands; residential lots exist immediately northeast of the subject site.

The site is ±358.0-acres and is comprised of three tax parcels, known as Essex County tax parcels 17.2-1-4, 17.2-4-5.1 & 17.2-1-20.111. The site has an existing roadway access from Route 9N via a dirt roadway, extending from an adjacent property to the north. See Figure 1, below, for a site location map. For more site details please see the original B. Laing Associates report.

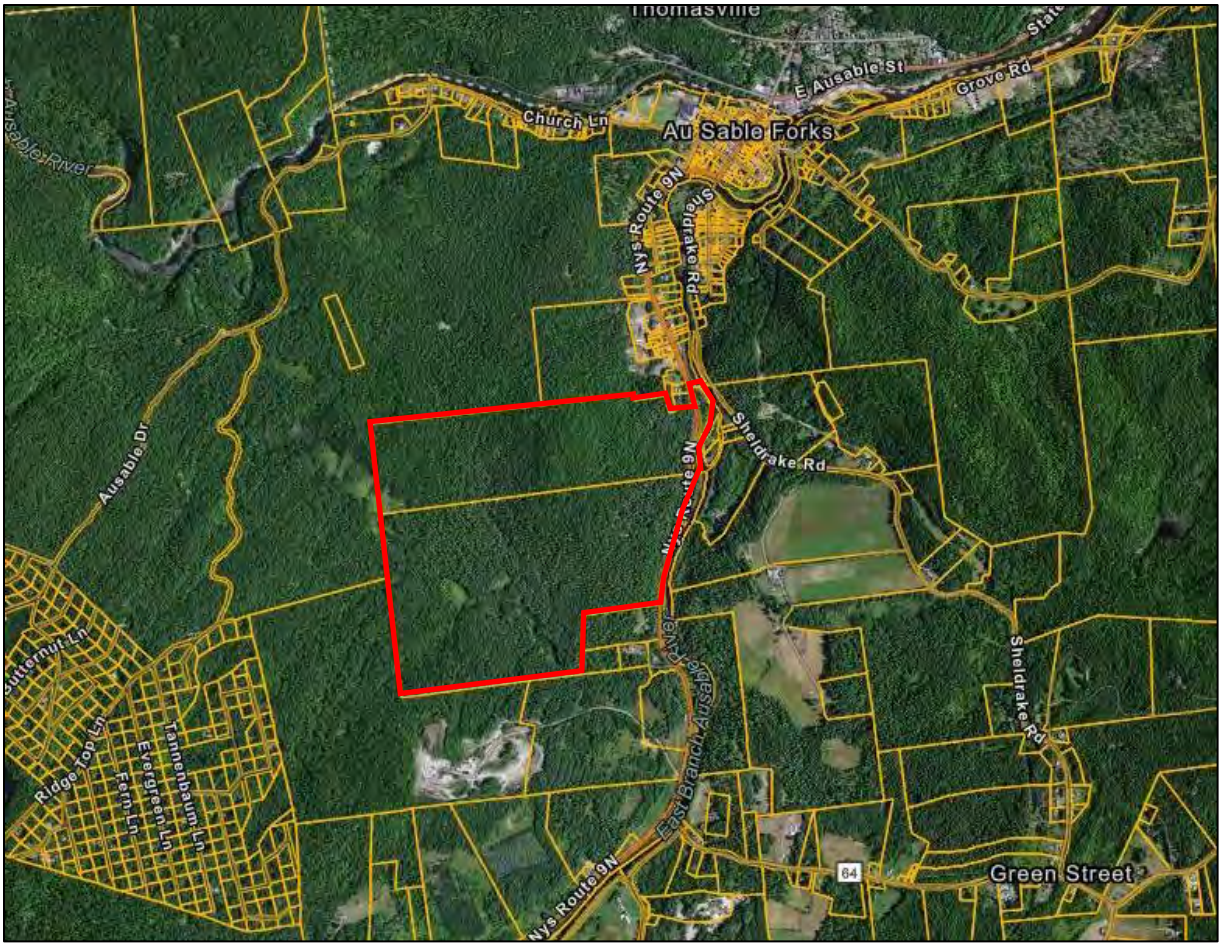


FIGURE 1.0
Site Location Map – Satellite Imagery
Site outlined in red
(Source: ESRI)

3.0 METHODOLOGY

For the purpose of this study, survey dates were chosen that would be conducive to herptile migration (e.g., salamanders) and overall activity of ectothermic (i.e., cold-blooded) organisms. Following a warm to mild winter, the week of April 8, 2024, was chosen for the survey. The proceeding weeks were wet with a combination of rain and snow (melt) which provided suitable ambient moisture for herptile movement. Further, the air temperature during the week was above freezing at night, and reaching as high as 68- and 70-degrees Fahrenheit in the daytime.

Previous natural resource surveying on site had already informed the project of other parameters such as wetlands, listed species, etc. Thus, the purpose of this study was to bolster the existing data-set and to continue taking a “hard look” at the site, from an ecological standpoint.

Biologists surveyed for organisms using two general approaches: (1) active surveying, including dip-netting for aquatic organisms, searching by sight, sound and sign, flipping and searching under cover, etc., & (2) passive surveying, including using mammal footprint tunnels and the implementation of aquatic funnel traps.

For active surveying, the methodology was straightforward. Biologists walked in rough transects and targeted habitats that would be used by herptiles or other organisms. Cover items, such as logs, rocks, etc., were lifted and gently returned following examination. When observers surveyed wetlands, the edges of waterways were slowly walked and dip-nets were used to pull up aquatic organisms. Any incidental sightings of wildlife were also recorded while on site.

For passive surveying, two mammal footprint tunnels were installed on site: one in the central clearing area to the south, and the other on the border of the pine-hardwood forest, west of where the proposed development will occur. These were baited such that any organisms that passed through the tunnel, to retrieve the bait, would pass over an ink derived from ground charcoal and vegetable oil (i.e., temporary and animal-safe/natural) before leaving their tracks on inserted sheets of paper. These tunnels were checked every morning.

Five funnel traps (i.e., modified minnow-traps) were deployed in various locations throughout the site to incidentally capture aquatic organisms. These locations ranged from the east branch of the Ausable River to the various wetlands, beaver ponds, and streams on site. These traps were checked every three hours and were never completely submerged, to allow for any frogs or other organisms to have access to air. Every organism that was temporarily restrained for documentation was released as quickly as possible. No mortality (invertebrate or otherwise) occurred due to any netting or trapping on site.

4.0 RESULTS

4.1 Ecological Results

In summary, B. Laing Associates did not find anything that contradicts the ecological findings outlined in the August 2023 report.

The most frequently observed herptile was red-backed salamander (*Plethodon cinereus*), which was found in its red-backed and “lead-backed” color morphs, typically under logs and rocks. This species was found throughout the site, in virtually any shaded habitat. However, the most numerous salamander species observed was eastern (red-spotted) newt (*Notophthalmus viridescens viridescens*). Newts were found in good numbers within the impounded (permanent) beaver ponds that stretch along the southern portion of the site and make up the majority of the delineated freshwater wetlands. Staff biologists netted and trapped some (i.e., a dozen) newts within the southern beaver pond, but the larger (upper) pond at the site’s western property line had many more. There, numerous newts were observed mating along the water’s edge. The only

other salamander species observed during this survey was spotted salamander (*Ambystoma maculatum*) which continues to use the vernal pool, associated with "Wetland G," as a breeding site. Approximately 15 adult spotted salamanders were observed within the vernal pool[1]. During the April 2023 survey, numerous egg masses were found within same.

During the April 2024 survey, only three species of frogs were observed: green frog (*Lithobates clamitans*), wood frog (*Lithobates sylvaticus*), and spring peeper (*Pseudacris crucifer*). Green frog was found in both adult and tadpole forms, often wherever permanent wetlands were present. Spring peeper was also found to be a wetland generalist, but only ever heard singing (mostly at dusk). Wood frog was found to be using the same vernal pool as spotted salamander ("Wetland G"), as expected (and documented in 2023). However, wood frogs were also found to be breeding in great numbers in the wetlands to the northwest, associated with the upper beaver pond along the western property line. This is due to the beavers creating a new dam at the outlet of this pond, which caused a side-breach to create temporary pools in ruts and low-spots in the landscape. Adult wood frogs and their egg-masses were observed within these newly formed, isolated wet pools. More information on this can be found in the Wetland Findings section, below.

In past surveys, only one species of snake had been documented: eastern garter snake (*Thamnophis sirtalis sirtalis*), which had also been recorded during this effort. However, during this most recent survey, a single red-bellied snake (*Storeria occipitomaculata*) was also observed. No turtles were observed on site.

Biologists noted a few mammal species during the April 2024 surveys, including squirrels, chipmunks, etc. A single red fox (*Vulpes vulpes*) was seen along the site's entryway, where it is less densely forested. This was the first fox observed on site by B. Laing Associates. The mammal footprint tunnels also found deer mouse (*Peromyscus* sp.) and raccoon (*Procyon lotor*) footprints. No "deep woods" mammals (e.g., bobcat, black bear, or American marten) or signs of same were observed.

Birds were observed by sight and sound during this survey. As in past surveys, breeding data were collected based on protocols implemented by the New York State Breeding Bird Atlas (i.e., characterizing behaviors between "possible," "probable," or "confirmed" breeding). Absent from all previous surveys, pine siskin (*Spinus pinus*) was abundant in all habitats during the April 2024 survey. Biologists also noted pine siskins in all nearby towns and locations. This may represent an uptick in local breeding this spring, by this nomadic species. Otherwise, birds were found to be those typical of the habitats on site (e.g., barred owl (*Strix varia*), ruffed grouse (Bonasa umbellus), duck species, and various passerines), as in past surveys.

Invertebrates were observed when found incidentally and documented when passively collected (and released) during funnel trapping or dip-netting. Aquatic invertebrates found mostly consisted of backswimmers (*Notonectidae*), diving beetles (*Dytiscidae*), and caddisfly (*Trichoptera*) larvae, among others. One clearwater crayfish (*Fraxonius propinquus*) was found in the eastern branch of

[1] No fairy shrimp (*Eubranchipus*) were found within the vernal pool.

the Ausable River, where the site meets same. A few species of small fish were also incidentally netted.

Plant species and lichen/fungi were observed when encountered. A substantial botanical inventory had occurred during previous site visits so this was not prioritized. However, whenever new plant/lichen/fungi species which had been previously been undocumented, those data were collected.

Updated species tables are included at the rear of this supplement that show the flora and fauna (biota) observed on site to date, including pertinent notes and other information.

4.2 Wetland Results

Wetlands on site were delineated during the October/November 2022 effort with supplemental data collected during the "wet season" in April 2023. Most of these wetlands were walked during the April 2024 surveys while targeting herptiles and other organisms. Many of the wetland flags were still present.

While no substantial changes to the wetland lines have occurred, especially as it relates to the proposed development along the eastern portion of the site, there were a few changes to the wetlands themselves.

The wetlands that run through the site's southern section, towards the Ausable River, consist of a series of beaver ponds along a stream. During the April 2024 surveys, it was found that the "lower" beaver pond was much drier than in past visits. The reason for this was found to be increased beaver activity further upstream, at the large beaver pond that exists at the site's western lot line. There, increased damming has retained considerable hydrology upstream. As a result of the increased beaver dams, the water level was much higher than in past years. One or two small "breaches" have occurred on the eastern side which provided a new outlet for water to trickle out of the pond, through what was originally upland habitat.

This has caused small pools to appear within low spots (hence new wood frog spawning habitat, as above). Eventually these new "rivulets" find themselves meeting back up with the delineated wetland. Further, they are not substantial enough (or close enough to the development) to warrant an updated wetland line.

Based on the wet conditions, some standing water was found south of "Wetlands G and J," in the topographic swales that drains most of the hilly site southward. This standing water was found to be temporarily submerging upland plants (e.g., *Dendrolycopodium* – UPL). A similar condition was found during April 2023, but all the water was gone within 1- or 2-days following rain events.

Figure 2, below, shows the approximate path of the small rivulets and pools which have formed based on the increase in beaver activity. Again, this area is over 2,000' west of the proposed development so no updated delineation was found to be necessary.

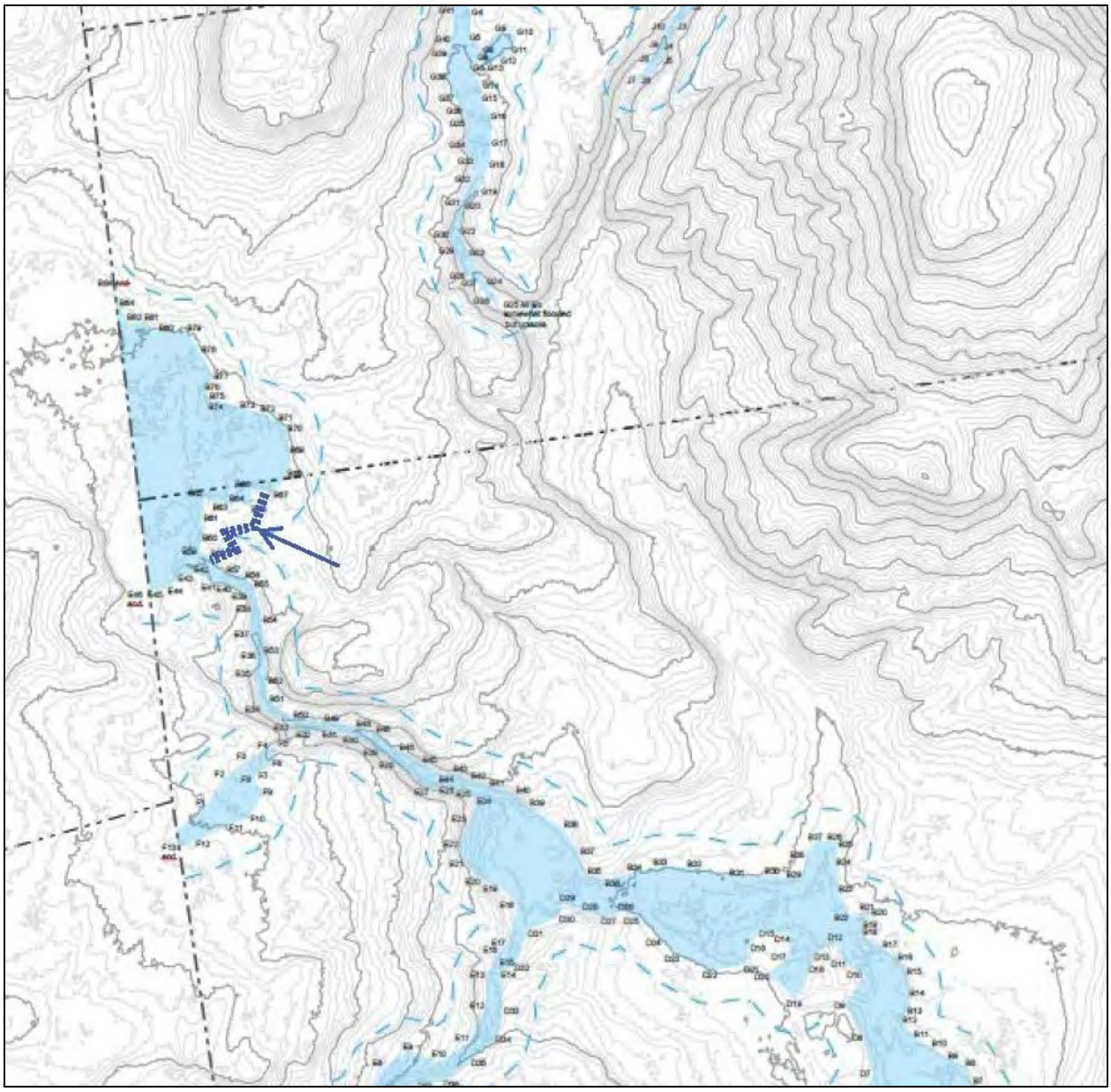


FIGURE 2.0

Illustration of Beaver Dam Breach at Western Pond

Blue dashed line represents new pathway of hydrology, called out by blue arrow.

(Source: SE Group Topographical Map of B. Laing Associates Delineated Wetlands)

5.0 DISCUSSION AND SUMMARY

B. Laing Associates, Inc. has undertaken numerous analyses of natural resources, including wetlands and ecology, in response to the Adirondack Park Agency's "Second Notice of Incomplete Permit Application; APA Project No.: 2021-0248." In April 2024, additional supplemental surveying was undertaken to continue inventorying for biota per the methodology listed above. This brought the amount of biologist person-hours on site to 256.5, from October 2022 to date.

In summary, none of the supplemental data had any affect on the previous findings that were summarized in the initial report. However, additional species of herptiles (e.g., eastern (red-spotted) newt, red-bellied snake, etc.), mammals, birds, etc., were found to be using the site. A few additional plant species were also discovered. These are all included within Appendix B (Updated Species Inventory Data Sheets).

Based on the warm, wet weather, biologists aimed to see if herptile crossings along Route 9N would be visible. Often, this is the case as salamanders and frogs move to their breeding habitat in spring. However, it was found that the site itself is not very conducive to these sorts of movements. The site is immediately adjacent to (and west of) Route 9N, but is separated therefrom by a large, steep rise in topography (i.e., a small cliff). Further, the eastern side of Route 9N is entirely comprised of the eastern branch of the Ausable River. Thus, no significant herptile movement was observed, or would be expected, between a steep cliff and a fast-moving river.

It is much more likely that herps that use the site either come from the site itself, or from the large woodlands to the north and west. This was further confirmed by the fact that most of the herps that undergo dispersion and migration, breed in the western portion of the site, where extensive wetlands and one vernal pool exist. Based on a review of the currently-proposed site plans, no development will occur within 750-feet of the vernal pool. This is compatible with the Vernal Pool Best Development Practices published by Calhoun and Klemens[2] which say no more than 25% of the "Critical Terrestrial Habitat" (a 750-foot envelope around the vernal pool) should be developed.

As it stands, the site exists within (and fronts on) in a natural break in woodland habitat. This is due to the aforementioned steep topography that separates the woodlands on site from the Ausable River and Route 9N. Thus, the proposed development, which is largely clustered in the site's eastern section, will act as an offshoot of that disturbance/woodland break rather than completely segmenting unbroken woods.

As discussed in the original report, when the larger picture is analyzed, including the existing clustering of the proposed project with respect to the extensive amount of unbroken woodland (including unique natural communities) to the west, the impact to wildlife that use the nearby

[2] Calhoun and Klemens. 2002. Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States

woodlands is already relatively minimized. Further, the project will not disrupt any hydrology, and will incorporate large buffer areas for the existing woodland (and vernal pool) areas.

Please see the original B. Laing Associates report for more information.

Appendix A

Site Photographs from April 2024

Photo 1: Showing the central beaver pond on site with damming on the left of the image.

Photo 2: Showing one of the red-backed salamanders found on site.

Photo 3: Showing the northern clearwater crayfish found in the Ausable River on site.

Photo 4: Showing one of the eastern newts that were netted from the beaver ponds on site.

Photo 5: Showing eastern newts that were trapped and promptly released.

Photo 6: Showing one of the mammal footprint tunnels that were deployed on site.

Photo 7: Looking north along the east branch of the Ausable River from the project site (east of Route 9N where no development is proposed).

Photo 8: Looking at some of the downstream wetlands with considerably reduced hydrology due to upstream damming.

Photo 9: Showing one of the small fish, creek chub (*Semotilus atromaculatus*), incidentally netted on site.

Photo 10: Showing the vernal pool associated with "Wetland G" which contains breeding spotted salamanders and wood frogs.

Photo 11: Showing a wood frog from the vernal pool as shown in Photo 10.

Photo 12: Showing a spotted salamander from the vernal pool as shown in Photo 10.

Photo 13: Showing a young garter snake found on site (near "Wetland J").

Photo 14: Showing a red-bellied snake which was found in a dry sandy area in the western portion of the site.

Photo 15: Showing the increased hydrology and submerged shrubs at the westernmost beaver pond which had been substantially dammed since previous visits.

Photo 16: A similar photo as above, but showing the dam on the left.

Photo 17: Showing one of the new rivulets/pathways of water that have breached from the flooded beaver pond at the west property line. (See Figure 2, above).

Photo 18: Showing another new rivulet/pathway of water that has breached from the flooded beaver pond at the west property line. (See Figure 2, above).

Photo 19: Showing a wood frog egg mass. One of many that now exist within temporary pools created by the breached beaver pond.

Photo 20: An American giant water bug (*Lethocerus americanus*) netted from one of the beaver ponds.

Appendix B

Updated Species Inventory Data Sheets
(Species Observed To Date)

Table 1.0
Vegetation Observed on Site (Alphabetical by Scientific Name)
Including Fungi and Lichen

Vegetative Stratum	Common Name	Scientific Name	Wetland Indicator Status
Trees	*Abies balsamea*	Balsam fir	FAC
	Acer negundo	Box elder	FAC
	Acer pensylvanicum	Striped maple	FACU
	Acer rubrum	Red maple	FAC
	Acer saccharum	Sugar maple	FACU
	Betula alleghaniensis	Yellow birch	FAC
	Betula papyrifera	Paper birch	FACU
	Betula populifolia	Gray birch	FAC
	Carpinus caroliniana	Ironwood	FAC
	Fagus grandifolia	American beech	FACU
	Fraxinus americana	White ash	FACU
	Larix laricina	Tamarack	FACW
	Ostrya virginiana	American hop hornbeam	FACU
	Picea glauca	White spruce	FACU
	Picea rubens	Red spruce	FACU
	Pinus banksiana	Jack pine	FACU
	Pinus resinosa	Red pine	FACU
	Pinus rigida	Pitch pine	FACU
	Pinus strobus	White pine	FACU
	Pinus sylvestris	Scotch pine	UPL
	Populus grandidentata	Big tooth aspen	FACU
	Populus tremuloides	Quaking aspen	FACU
	Prunus serotina	Black cherry	FACU
	Quercus alba	White oak	FACU
	Quercus rubra	Red oak	FACU
	Salix interior	Sandbar willow	FACW
	Tsuga canadensis	Eastern hemlock	FACU
Shrubs	*Alnus incana*	Speckled alder	FACW
	Berberis thunbergii	Japanese barberry	FACU
	Comptonia peregrina	Sweet fern	UPL
	Cornus sericea	Red osier dogwood	FACW
	Gaylussacia baccata	Black huckleberry	FACU
	Hamamelis virginiana	Witch-hazel	FACU
	Lonicera japonica	Japanese honeysuckle	FACU
	Lonicera morrowii	Morrow's honeysuckle	FACU
	Lonicera tatarica	Bush honeysuckle	FACU
	Physocarpus opulifolius	Common ninebark	FACW
	Vaccinium angustifolium	Lowbush blueberry	FACU

Table 1.0, continued…			
Herbaceous	*Achillea millefolium*	Common yarrow	FACU
	Adiantum pedatum	Maidenhair fern	FACU
	Alliaria petiolata	Garlic mustard	FACU
	Andropogon virginicus	Broomsedge	FACU
	Anemone americana	Round-lobed hepatica	UPL
	Angelica atropurpurea	Purple-stemmed Angelica	OBL
	Apocynum cannabinum	Hemp dogbane	FAC
	Aralia nudicaulis	Wild sarsapilla	FACU
	Asclepias syriaca	Common milkweed	UPL
	Callicladium imponens	Brocade moss	UPL
	Caltha palustris	Marsh marigold	OBL
	Cardamine pensylvanica	Pennsylvania bittercress	FACW
	Carex baileyi	Bailey's sedge	FACW
	Carex crawfordii	Crawford's sedge	FACW
	Carex deweyana	Dewey's sedge	FACU
	Carex digitalis	Slender wood sedge	UPL
	Carex flava	Yellow-green sedge	OBL
	Carex foenea	Hay sedge	UPL
	Carex gracillima	Graceful sedge	FACU
	*Carex houghtoniana**	Houghton's sedge	UPL
	Carex intumescens	Bladder sedge	FACW
	Carex laxiculmis	Spreading sedge	UPL
	Carex lucorum	Blue ridge sedge	UPL
	Carex lurida	Shallow sedge	OBL
	Carex pedunculata	Long-stalked sedge	FAC
	Carex pensylvanica	Pennsylvania sedge	UPL
	Carex scoparia	Pointed broom sedge	FACW
	Carex siccata	Dry land sedge	UPL
	Carex tenera	Delicate quill sedge	FAC
	Carex torta	Twisted sedge	OBL
	Carex tribuloides	Blunt broom sedge	FACW
	Caulophyllum sp.	Blue cohosh	FAC
	Chelidonium majus	Greater celandine	UPL
	Chimaphila umbellata	Pipsissewa	UPL
	Cinna arundinacea	Wood reed	FACW
	Cirsium vulgare	Bull thistle	FACU
	Climacium dendroides	Tree climacium moss	UPL
	Coptis trifolia	Goldthread	FACW
	Cornus canadensis	Canada bunchberry	FAC
	Cypripedium acaule	Pink lady slipper orchid	FACW
	Danthonia spicata	Poverty oatgrass	UPL
	Daucus carota	Queen Anne's lace	UPL

Table 1.0, continued…			
	Dendrolycopodium hickeyi	Hickey's tree clubmoss	UPL
	Dichanthelium clandestinum	Deer-tongue grass	FACW
	Dichanthelium linearifolium	Slim-leaf witchgrass	UPL
	Dichanthelium latifolium	Broad-leaved panic grass	FACU
	Dicranum fulvum	Boulder broom moss	UPL
	Dicranum polysetum	Waxy leaf moss	UPL
	Diphasiastrum digitatum	Fan clubmoss	UPL
	Dryopteris marginalis	Marginal wood fern	FACU
	Eleocharis sp.	Spikerush	OBL
	Epipactis helleborine	Helleborine orchid	UPL
	Equisetum arvense	Field horsetail	FAC
	*Equisetum pratense**	Meadow horsetail	FACW
	Equisetum sylvaticum	Wood horsetail	FACW
	Erechtites hieracifolia	American burnweed	UPL
	Erigeron philadelphicus	Philadelphia fleabane	FAC
	Erythronium americanum	Yellow-trout lily	FAC
	Euphorbia cyparissias	Cypress spurge	UPL
	Eutrochium purpureum	Joe-pye-weed	FAC
	Fragaria sp.	Strawberry	FACU
	Frullania eboracensis	New York scalewort	UPL
	Galeopsis tetrahit	Common hemp nettle	FACU
	Galium triflorum	Fragrant bedstraw	FACU
	Gaultheria procumbens	Teaberry	FACU
	Geum canadense	White avens	FAC
	Glyceria canadensis	Rattlesnake mannagrass	OBL
	Hackelia virginiana	Stickseed	FACU
	Hieracium pilosella	Mouse-ear hawkweed	UPL
	Houstonia longifolia	Long-leaved bluets	FACU
	Hylotelephium telephium	Orpine	UPL
	Hypericum perforatum	Common St. John's-wort	UPL
	Iris versicolor	Blueflag iris	OBL
	Juncus canadensis	Canada rush	OBL
	Juncus effusus	Soft rush	OBL
	Juncus tenuis	Path rush	FAC
	Kalmia angustifolia	Sheep laurel	FAC
	Lactuca muralis	Wall lettuce	UPL
	Lapsana communis	Nipplewort	FACU
	Lathyrus odoratus	Sweet pea	UPL
	Leucanthemum vulgare	Ox-eye daisy	UPL
	Lobelia inflata	Indian tobacco	FACU
	Lotus corniculatus	Birds-foot trefoil	FACU
	Luzula acuminata	Hairy woodrush	FACU

Table 1.0, continued…			
	Lycopodiella cernua	Staghorn clubmoss	FAC
	Lycopodium annotinum	Interrupted clubmoss	FAC
	Lycopus uniflorus	Northern bugleweed	OBL
	Lysimachia quadrifolia	Whorled loosestrife	FACU
	Lysimachia terrestris	Swamp candles	OBL
	Matteuccia struthiopteris	Ostrich fern	FAC
	Medicago lupulina	Black medick	FACU
	Melilotus albus	White sweetclover	FACU
	Mitchella repens	Partridge berry	FACU
	Moneses uniflora	One-flowered wintergreen	FAC
	Monotropa uniflora	Ghostpipe	FACU
	Oenothera perennis	Small sundrops	FAC
	Onoclea sensibilis	Sensitive fern	FACW
	Oryzopsis asperifolia	White-grained mountain ricegrass	UPL
	Osmunda claytoniana	Interrupted fern	FAC
	Osmunda regalis	Royal fern	OBL
	Osmundastrum cinnamomeum	Cinnamon fern	FACW
	Oxalis montana	Mountain wood sorrel	FACU
	Panicum virgatum	Switchgrass	FAC
	Parthenocissus vitacea	Thicket creeper	FACU
	Pedicularis canadensis	Canadian lousewort	FACU
	Phragmites australis	Common reed	FACW
	Pilosella aurantiaca	Orange hawkweed	FACU
	Plantago rugelii	American plantain	FAC
	Pleurozium schreberi	Red-stemmed feather-moss	UPL
	Poa annua	Meadow-grass	FACU
	Polygala paucifolia	Fringed polygala	FACU
	Polypodium virginianum	Rock polypody	UPL
	Polystichum acrostichoides	Christmas fern	FACU
	Polytrichum commune	Common haircap moss	UPL
	Potentilla argentea	Silvery cinquefoil	FACU
	Potentilla robbinsiana	Dwarf cinquefoil	UPL
	Potentilla simplex	Common cinquefoil	FACU
	Prunella vulgaris	Common selfheal	FAC
	Pseudognaphalium obtusifolium	Sweet everlasting	UPL
	Pteridium aquilinum	Bracken fern	FACU
	Pyrola americana	Wintergreen	FAC
	Pyrola elliptica	Shinleaf	FACU
	Ranunculus abortivus	Small-flowered buttercup	FAC
	Rhodobryum ontariense	Ontario rhodobryum moss	UPL
	Rubus fruticosus	Blackberry	UPL
	Rudbeckia hirta	Black-eyed Susan	FACU

Table 1.0, continued…			
	Rumex acetosella	Sheep's sorrel	FACU
	Rumex crispus	Curled dock	FAC
	Sanguinaria canadensis	Bloodroot	FACU
	Sceptridium oneidense	Blunt-lobed grape fern	FAC
	Scirpus atrocinctus	Black-girdle bulrush	OBL
	Scirpus cyperinus	Woolgrass	OBL
	Scirpus hattorianus	Mosquito bulrush	OBL
	Scirpus microcarpus	Panicled bulrush	OBL
	Securigera varia	Crown vetch	FAC
	Sisyrinchium mucronatum	Blue-eyed grass	FAC
	Solidago canadensis	Canada goldenrod	FACU
	Sparganium americanum	American bur-reed	OBL
	Spiraea tomentosa	Steeplebush	FACW
	Symphyotrichum cordifolium	Common blue wood-aster	UPL
	Symphyotrichum novae-angliae	New England aster	FACW
	Taraxacum sp.	Common dandelion	FACU
	Thalictrum dioicum	Early meadow-rue	FACU
	Thuidium delicatulum	Delicate fern moss	UPL
	Tiarella cordifolia	Foamflower	FACU
	Toxicodendron radicans	Poison ivy	FAC
	Trientalis borealis	Starflower	FAC
	Trifolium campestre	Hop trefoil	FAC
	Trifolium pratense	Red clover	FACU
	Trifolium repens	White clover	FACU
	Urtica dioica	Great stinging nettle	FAC
	Verbascum thapsus	Common mullein	UPL
	Verbena hastata	Blue vervain	FACW
	Veronica officinalis	Heath speedwell	FACU
	Viola sororia	Common violet	FAC
Fungi/Lichen	*Amanita elongata*	Peck's yellow dust amanita	
	Amanita flavoconia	Yellow patches	
	Cladonia coccifera	Pixie-cup lichen	
	Cladonia cristatella	British soldier lichen	
	Cladonia rangiferina	Gray reindeer lichen	
	Dacrymyces stillatus	Common jellyspot fungus	
	Flavoparmelia caperata	Common greenshield lichen	
	Ganoderma lingzhi	Lucky bracket	
	Hypogymnia physodes	Hooded tube lichen	
	Neonectria ditissima	Beech canker fungus	
	Peltigera praetextata	Scaly pelt lichen	
	Physciella chloantha	Powdery-margined Cryptic Shade lichen	

Table 1.0, continued…			
	Poronidulus conchifer	Little nest polypore	
	Porpidia crustulata	Concentric boulder lichen	
	Ptilidium pulcherrimum	Tree fringewort	
	Punctelia rudecta	Rough speckled shield lichen	
	Sarcosoma globosum	Witches' cauldron	
	Trapelia placodioides	Trapelia placodioides	
	Tremella mesenterica	Witch's butter	
	Trichaptum abietinum	Purple pore bracket	
	Usnea strigosa	Bristly beard lichen	

Table 1.0 Notes:

1. * Indicates a state listed plant species. See Section 5.2 for details.

2. OBL: Occurs almost always under natural conditions in wetlands.
   FACW: Usually occurs in wetlands but occasionally found in non-wetlands (uplands).
   FAC: Equally likely to occur in wetlands and non-wetlands (uplands).
   FACU: Usually occurs in non-wetlands (uplands) but occasionally found in wetlands.
   UPL: Occurs almost always under natural conditions in non-wetlands (uplands).

Table 2.0 Wildlife Observed on Site (Alphabetical by Common Name)		
Type	Common Name	Scientific Name
Birds	Alder flycatcher†	*Empidonax alnorum*
	American black duck	*Anas rubripes*
	American crow†	*Corvus brachyrhynchos*
	American goldfinch†	*Spinus tristis*
	American robin†	*Turdus migratorius*
	Barred owl†	*Strix varia*
	Black-and-white warbler†	*Mniotilta varia*
	Black-capped chickadee†	*Poecile atricapillus*
	Black-throated blue warbler†	*Setophaga caerulescens*
	Blue jay†	*Cyanocitta cristata*
	Broad-winged hawk	*Buteo platypterus*
	Brown creeper†	*Certhia americana*
	Canada goose†	*Branta canadensis*
	Chimney swift	*Chaetura pelagica*
	Chipping sparrow	*Spizella passerina*
	Common grackle	*Quiscalus quiscala*
	Common merganser	*Mergus merganser*
	Common raven	*Corvus corax*
	Common yellowthroat†	*Geothlypis trichas*
	Dark-eyed junco	*Junco hyemalis*
	Downy woodpecker†	*Picoides pubescens*
	Eastern bluebird	*Sialia sialis*
	Eastern phoebe	*Sayornis phoebe*
	Eastern towhee	*Pipilo erythrophthalmus*
	Eastern wood-pewee†	*Contopus virens*
	Evening grosbeak	*Coccothraustes vespertinus*
	Golden-crowned kinglet	*Regulus satrapa*
	Gray catbird†	*Dumetella carolinensis*
	Great blue heron	*Ardea herodias*
	Great crested flycatcher†	*Myiarchus crinitus*
	Hairy woodpecker†	*Leuconotopicus villosus*
	Hermit thrush†	*Catharus guttatus*
	Hooded merganser	*Lophodytes cucullatus*
	House wren†	*Troglodytes aedon*
	Mallard†	*Anas platyrhynchos*
	Mourning dove†	*Zenaida macroura*
	Nashville warbler	*Leiothlypis ruficapilla*
	Northern cardinal	*Cardinalis cardinalis*
	Northern flicker	*Colaptes auratus*
	Osprey	*Pandion haliaetus*

Table 2.0, continued…		
	Ovenbird†	*Seiurus aurocapilla*
	Pileated woodpecker†	*Dryocopus pileatus*
	Pine siskin†	*Spinus pinus*
	Pine warbler	*Setophaga pinus*
	Purple finch	*Haemorhous purpureus*
	Red crossbill	*Loxia curvirostra*
	Red-eyed vireo†	*Vireo olivaceus*
	Red-bellied woodpecker†	*Melanerpes carolinus*
	Red-breasted nuthatch	*Sitta canadensis*
	Ring-billed gull	*Larus delawarensis*
	Ruffed grouse†	*Bonasa umbellus*
	Scarlet tanager†	*Piranga olivacea*
	Song sparrow†	*Melospiza melodia*
	Swamp sparrow	*Melospiza georgiana*
	Tufted titmouse†	*Baeolophus bicolor*
	Turkey vulture	*Cathartes aura*
	White-breasted nuthatch†	*Sitta carolinensis*
	White-throated sparrow	*Zonotrichia albicollis*
	Wild turkey†	*Meleagris gallopavo*
	Wood duck†	*Aix sponsa*
	Yellow-bellied sapsucker†	*Sphyrapicus varius*
Mammals	American beaver	*Castor canadensis*
	Big brown bat	*Eptesicus fuscus*
	Coyote	*Canis latrans*
	Deer mouse	*Peromyscus sp.*
	Eastern chipmunk	*Tamias striatus*
	Fisher	*Pekania pennanti*
	Hoary bat	*Lasiurus cinereus*
	Little brown bat	*Myotis lucifugus*
	Mole sp.	*Talpidae sp.*
	Raccoon	*Procyon lotor*
	Red squirrel	*Sciurus vulgaris*
	Silver-haired bat	*Lasyionicterius noctivagans*
	White-tailed deer	*Odocoileus virginianus*
	Woodchuck	*Marmota monax*
Reptiles & Amphibians	American bullfrog	*Lithobates catesbeianus*
	American toad	*Anaxyrus americanus*
	Eastern garter snake	*Thamnophis sirtalis sirtalis*
	Gray tree frog	*Dryophytes versicolor*
	Green frog	*Rana clamitans*

Table 2.0, continued…		
	Northern leopard frog	*Lithobates pipiens*
	Pickerel frog	*Lithobates palustris*
	Red-backed salamander	*Plethodon cinereus*
	Red-bellied snake	*Storeria occipitomaculata*
	Red-spotted newt	*Notophthalmus viridescens*
	Spotted Salamander	*Ambystoma maculatum*
	Spring peeper	*Pseudacris crucifer*
	Wood frog	*Lithobates sylvaticus*
Fish	Creek chub	*Semotilus atromaculatus*
	Fathead minnow	*Pimephales promelas*
	Sunfish	*Lepornis sp.*
Invertebrates		
Coleoptera	Belly-banded flea beetle	*Alticini sp.*
	Black longhorn beetle	*Spondylis buprestoides*
	Black spruce borer	*Monochamus scutellatus*
	Click beetle	*Melanotus sp.*
	Dichelonyx albicollis	*Dichelonyx albicollis*
	Enoclerus nigripes	*Enoclerus nigripes*
	Ground beetle	*Pterostichus sp.*
	June beetle	*Cotinis nitida*
	Oriental beetle	*Anomala orientalis*
	Predacious diving beetle	*Dytiscidae sp.*
	Red milkweed beetle	*Tetraopes tetrophthalmus*
	Red-rot decay stag beetle	*Ceruchus piceus*
	Strangalepta flower longhorn beetle	*Strangalepta abbreviata*
	Trigonarthris subpubescens	*Trigonarthris subpubescens*
	Winter firefly	*Ellychnia corrusca*
Hymenoptera	American sand wasp	*Bembix americana*
	Blueberry stem gall wasp	*Hemadas nubilipennis*
	Cerceris nigrescens	*Cerceris nigrescens*
	Common bumblebee	*Bombus pensylvanicus*
	Hawthorn mining bee	*Andrena crataegi*
	Ichneumonid wasp	*Ichneumonidae sp.*
	New world fuzzy ant	*Lasius nearcticus*
	New York carpenter ant	*Camponotus novaeboracensis*
Odonata	Chalk-fronted corporal	*Ladona julia*
	Common whitetail	*Plathemis lydia*
	Darner	*Aeshnidae sp.*
	Eastern forktail	*Ischnura verticalis*
	Ebony jewelwing	*Calopteryx maculata*

Table 2.0, continued…		
Hemiptera	American giant water bug	*Lethocerus americanus*
	Backswimmer	*Paranecta sp.*
	Northern dog day cicada	*Neotibicen canicularis*
	Oedancala dorsalis	*Oedancala dorsalis*
	Root aphid	*Aphidoidea sp.*
	Twice-stabbed stink bug	*Cosmopepla lintneriana*
Trichoptera	Banksiola dossuaria	*Banksiola dossuaria*
	Casemaker caddisfly	*Ptilostomis sp.*
	Irrorata northern caddisfly	*Glyphopsyche irrorata*
	Limnephilus species	*Limephilus sp.*
Lepidoptera	Agonopterix clemensella	*Agonopterix clemensella*
	American copper	*Lycaena phlaeas*
	American idia	*Idia americalis*
	Apotomis sp.	*Apotomis sp.*
	Aspen serpentine leafminer	*Phyllocnistis populiella*
	Banded tussock moth	*Halysidota tessellaris*
	Black-dotted glyph	*Maliattha synochitis*
	Blinded sphinx	*Paonias excaecatus*
	Cabbage white	*Pieris rapae*
	Canada tiger swallowtail	*Papilio canadensis*
	Carmine snout	*Peoria approximella*
	Cloaked marvel	*Chytonix palliatricula*
	Clouded sulphur	*Colias philodice*
	Comma	*Polygonia c-album*
	Common gluphisia	*Gluphisia sp.*
	Common lytrosis moth	*Lytrosis unitaria*
	Connected brocade	*Calophasia lunula*
	Crocus geometer	*Xanthotype urticaria*
	Curved halter moth	*Capis curvata*
	Dagger moth	*Acronicta americana*
	Dotted graylet	*Hyperstrotia pervertens*
	Eastern panthea moth	*Panthea furcilla*
	Epauleted oak dagger	*Acronicta ovata*
	Essex skipper	*Thymelicus lineola*
	Faint spotted palthis moth	*Palthis asopialis*
	Forest tent caterpillar moth	*Malacosoma disstria*
	Green-dusted zale moth	*Zale aeruginosa*
	Hobomok skipper	*Poanes hobomok*
	Hydrelia condensata	*Hydrelia condensata*
	Isabella tiger moth	*Pyrrharctia isabella*
	Large aspen tortrix	*Choristoneura conflictana*
	Large lace border moth	*Scopula limboundata*

Table 2.0, continued…		
	Large mossy glyph	*Protodeltote muscosula*
	Least marked euchlaena moth	*Euchlaena irraria*
	Lintner's gluphisia	*Gluphisia linterii*
	Little wood satyr	*Megisto cymela*
	Mourning cloak	*Nymphalis antiopa*
	Mustard white	*Sinapis alba*
	Northern cloudywing	*Thorybes pylades*
	Northern pearly-eye	*Enodia anthedon*
	Northern pine sphinx	*Lapara bombycoides*
	Pale alder moth	*Tacparia detersata*
	Pale-winged midget	*Elaphria festivoides*
	Pine measuringworm moth	*Hypagyrtis piniata*
	Red-headed inchworm	*Macaria bisignata*
	Rosy maple moth	*Dryocampa rubicunda*
	Shagreened slug moth	*Apoda biguttata*
	Sigmoid prominent	*Clostera albosigma*
	Sparganothis fruitworm	*Sparganothis sulphureana*
	Spiny oak-slug moth	*Euclea delphinii*
	Subdued quaker	*Orthosia revicta*
	Sweetfern geometer	*Cyclophora pendulinaria*
	Virginia ctenucha moth	*Ctenucha virginica*
	White admiral	*Limenitis arthemis*
	White slant-line	*Tetracis cachexiata*
	Willow-and-poplar leafroller	*Gypsonoma fasciolana*
	Yellow-shouldered slug moth	*Lithacodes fasciola*
Other inverts	Black cherry leaf gall mite	*Eriophyes cerasicrumena*
	Canadian flat-backed millipede	*Pleuroloma flavipes*
	Eastern black-legged tick	*Ixodes scapularis*
	Dog tick	*Dermacentor variabilis*
	Flower fly	*Syrphus sp.*
	House fly	*Musca sp.*
	Giant lichen orbweaver	*Araneus bicentenarius*
	Marsh rams-horn snail	*Planorbella trivolvis*
	Mayfly	*Leptophlebia sp.*
	Melanoplus grasshopper	*Melanoplus sp.*
	Northern clearwater crayfish	*Faxonius propinquus*
	Nursery web spider	*Pisauridae sp.*
	Orange banded arion	*Arion fasciatus*
	Philomycus slug	*Philomycus sp.*
	Willow pinecone gall midge	*Rabdophaga strobiloides*
	Wolf spider	*Lycosidae sp.*

Table 2.0 Notes:

1. † Symbol indicates a bird confirmed, or presumed, to breed or have bred on site during the B. Laing Associates analyses based on behavior as outlined by the NYS Breeding Bird Atlas methodology.

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 21, 2025

NATURAL RESOURCES INVENTORY REPORT

STACKMAN PROPERTY, TOWN OF JAY
ESSEX COUNTY, NEW YORK
August 2023

PREPARED FOR:
Mr. Eric Stackman

PREPARED BY:

B. LAING ASSOCIATES
ENVIRONMENTAL CONSULTING
www.blaingassociates.com
103 Fort Salonga Road - Suite 5 Fort Salonga, NY 11768
(631) 261-7170, Fax: (631) 261-7454

NATURAL RESOURCES INVENTORY REPORT
STACKMAN PROPERTY, TOWN OF JAY
ESSEX COUNTY, NEW YORK
August 2023

Contents

1.0 INTRODUCTION 4

2.0 SITE CONDITIONS 4
2.1 Existing Condition 4
2.2 Vegetation and Habitat Types 6
2.3 Hydrology and Topography 7
2.4 Soils 8
2.5 Wildlife 9

3.0 METHODOLOGY 11
3.1 Wetland Methodology 11
3.1.1 Desktop Study 11
3.2 Wildlife Methodology 12
3.2.1 Desktop Study 12
3.2.2 Wildlife Field Surveying 12
3.3 Ecosystem Mapping Methodology 12
3.3.1 Desktop Study 12
3.3.2 Ecosystem Field Delineation 13

4.0 WETLAND FINDINGS 14
4.1 Adirondack Park Agency Wetland Regulations 14
4.2 Army Corps of Engineers Wetland Regulations 14
4.3 On-site Wetland Findings 15
4.4 Project Recommendations 17

5.0 BIOTA AND ECOSYSTEMS FINDINGS 17
5.1 Desktop Study Results 17
5.1.1 Federally Listed Species 17
5.1.2 State Listed Species 18
5.1.3 Unique Ecosystems 18

Contents, continued

5.2 Biota On-site Findings 19
5.2.1 Northern Long-eared Bat Findings 30
5.2.2 Indiana Bat Findings 31
5.2.3 Monarch Butterfly Findings 31
5.2.4 Appalachian Tiger Beetle Findings 32
5.2.5 Meadow Horsetail Findings 32
5.3 Unique Ecosystem Findings 33
5.4 Ecological Project Recommendations 34

6.0 SUMMARY 35

Figures and Tables

Figure 1.0: Site Location Map – Satellite Imagery 5
Figure 2.0: Site Location Map – USGS Topography 6
Figure 3.0: NRCS Soils Map 10

Table 1.0: Summary of Wetlands on Site 16
Table 2.0: Summary of Listed Species per USFWS and NYNHP 18
Table 3.0: Vegetation Observed on Site 20
Table 4.0: Wildlife Observed on Site 25

Appendices

Appendix A: Site Photographs
Appendix B: NRCS Soil Data
Appendix C: Listed Species Information
Appendix D: Additional Figures
Appendix E: SE Group Wetland Delineation Map
Appendix F: Regional Analysis of Local Development
Appendix G: Wetland Determination Data Forms

1.0 INTRODUCTION

B. Laing Associates, Inc. has prepared this report to outline findings regarding natural resource inventorying, including wetlands, in response to the Adirondack Park Agency's "Second Notice of Incomplete Permit Application; APA Project No.: 2021-0248." The purpose of this report is to analyze the proposed action (the project) considering the natural resources on site. Further, this report will detail the potential impacts (and any mitigation/development recommendations) which may affect certain mapped natural resources such as wetlands, unique natural communities, wildlife, listed species, etc.

In summary, the project site does have some unique, or protected natural resources. A series of large wetlands exist along the site's southern section, associated with the ponded stream which conveys hydrology southeastwards towards the East Branch of the Ausable River. In addition, other wetland areas exist further north on site but are smaller and typically self-contained. These wetlands were delineated by B. Laing Associates, Inc.

Seasonal field investigations were carried out between October 31, 2022, and June 28, 2023. During this period, two state-listed (threatened or endangered) plant species were observed on site, though well outside the proposed development envelope. No species of listed animal was observed on site during these inventories. However certain mitigative measures (especially for listed bat species) will still be implemented. Further, two mapped upland habitat communities were observed on site: Pine-Northern Hardwood Forest as well as Oak-Pine Forest. In order to best understand their extents, these community types were delineated by this office.

In summary, the proposed development has been designed and amended to avoid impacts to the sensitive natural resources which exist on site. Detailed discussions regarding the findings of these natural resource site investigations, and whether or not the project has a potential to have an effect on same, are included below.

2.0 SITE CONDITIONS

2.1 Existing Condition

The subject site is located within an area of mixed-use just south of Au Sable Forks, in the Town of Jay, Essex County, New York. It is bordered on the east by Route 9N and the East Branch of the Ausable River; on the south by residential properties and a large mining operation; and on the north, west, and southwest by large, unimproved woodlands; residential lots exist immediately northeast of the subject site. The site is ±358.0-acres and is comprised of three tax parcels, known as Essex County tax parcels 17.2-1-4, 17.2-4-5.1 & 17.2-1-20.111. The site has an existing roadway access from Route 9N via a dirt roadway, extending from an adjacent property to the north. See Figures 1 and 2, below, for site location maps.

The site is largely unimproved and almost entirely wooded. There is an existing series of trails which run throughout the site which were ostensibly once roads used for logging. Historic aerial

imagery shows the site was in the process of reforestation during the 1940s and 1950s, so the woodlands on site appear to be less than 100-years old. See historic aerial from 1947 in Appendix D. The majority of the subject property exists west of Route 9N. However, a small portion of the subject property is east of Route 9N along the East Branch of the Ausable River, where an existing barn structure still stands.

The site is mostly uplands, though wetlands do exist on site. These are largely comprised of wooded, palustrine wetlands, which are associated with the stream on site; however, large areas of wetlands without a tree stratum exist. The stream receives hydrology from Eaton Pond to the southwest, as well as a number of linear wetlands which drain the land to the south. These tributaries flow northward into the stream which carries hydrology southeast towards the East Branch of the Ausable River. It appears that many beaver dams, both current and historic, have contributed to the ponding of the stream.

Representative site photographs can be found in Appendix A.

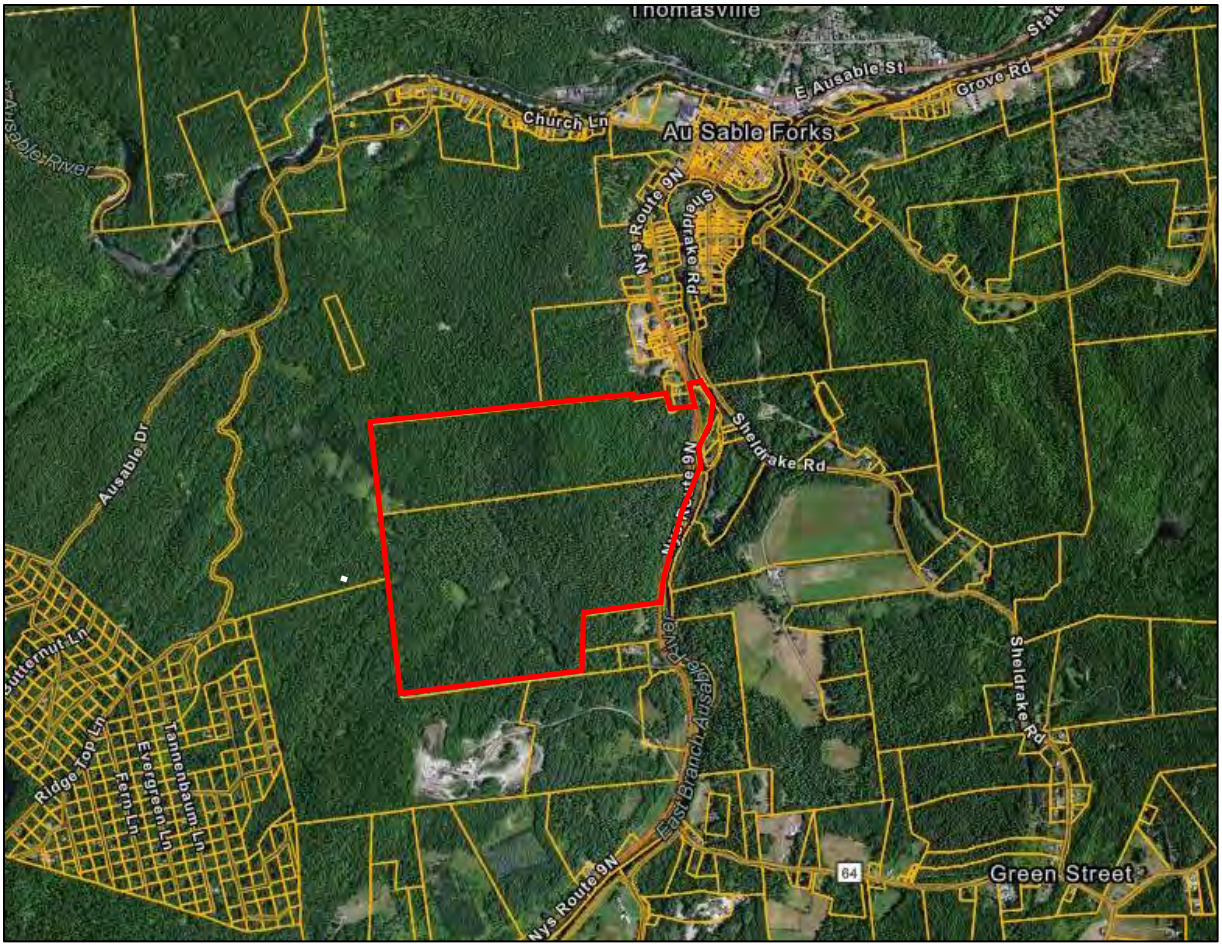


FIGURE 1.0
Site Location Map – Satellite Imagery
Site outlined in red
(Source: ESRI)

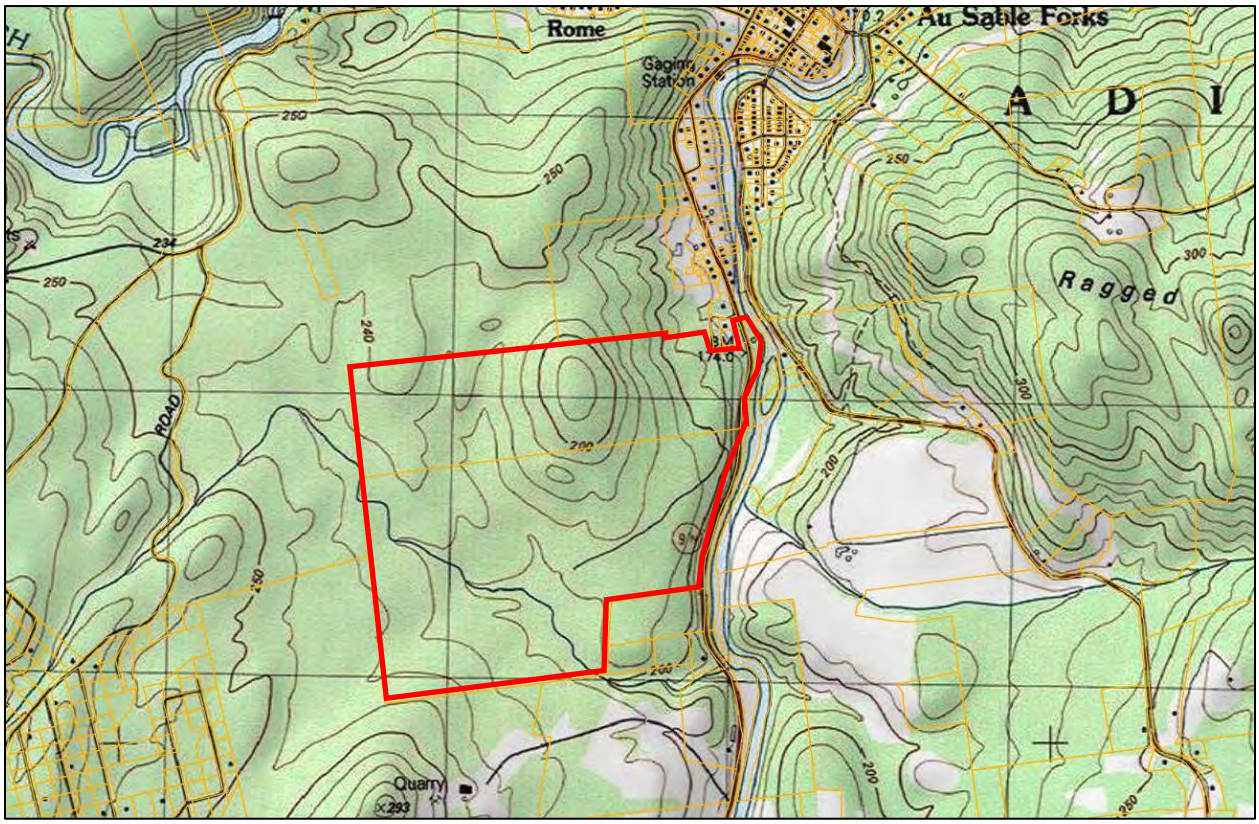


FIGURE 2.0
Site Location Map – USGS Topographic Map (Ausable, NY Quad)
Site outlined in red
(Source: ESRI)

2.2 Vegetation and Habitat Types

While large portions of the site are woodlands dominated by white pine (*Pinus strobus*), the site can be broken into the following broadly defined habitat types:

- Upland Woodlands
  - White Pine Woodlands
  - Northern Pine-Hardwood Forest
  - Appalachian Oak-Pine Forest
  - American Beech-dominated Woodlands
- Riparian, Rocky Streams, Riverine
- Low-flow Emergent Marshes and Sedge Meadows
- Shrub-dominated Wetlands
- Wooded, Palustrine Wetlands

As previously indicated, vegetation on site is mostly wooded. A large portion of the site and surroundings is dominated by a closed canopy comprised dominantly of white pine (*Pinus*

strobus) among lesser components such as oaks (*Quercus spp.*), other pines (*Pinus spp.*), hemlock (*Tsuga canadensis*), and maples (*Acer spp.*). Thus pines, especially white pine, is the dominant tree on site.

The shrub stratum on site was occasionally thick, though often completely absent. Where a shrub layer did it exist, the species are typically young pines or other young/small trees. In wetlands, the dominant shrub was speckled alder (*Alnus incana*) interspersed with red-osier dogwood (*Cornus sericea*). In uplands, the shrub layer was often young oaks and pines, though occasionally dominated by species such as witch-hazel (*Hamamelis virginiana*), sweetfern (*Comptonia peregrina*), or ericaceous species such as huckleberry (*Gaylussacia baccata*) and low-bush blueberry (*Vaccinium angustifolium*).

The herbaceous layer was often diverse and dense, except in areas which were overly disturbed (e.g., the old logging roads), areas dominated by pines, areas of standing water, or where scouring existed within the wetlands or other similar situations. Within wetland areas, the dominant herbaceous species were ferns such as royal fern (*Osmunda regalis*) and sensitive fern (*Onoclea sensibilis*), among horsetail (*Equisetum spp.*), sedges (*Carex spp.*) and other typical wetland plants. Occasionally, rocky portions of the streams were lacking vegetation, but sedge meadows often formed a fringe around their periphery.

In mesic upland areas, the herbaceous vegetation was often comprised of facultative upland species such as woodferns (*Dryopteris*). However, drier, more well-drained areas were dominated by bracken fern (*Pteridium aquilinum*) or clubmosses (*Lycopodiopsida*), among other typical upland species. Occasionally, some of the more xeric areas were dominated by lichen (e.g., *Cladonia spp.*). While most of the site was composed of native (i.e., not-invasive) vegetation, in areas where disturbance occurred, non-native species typical of these habitats (e.g., *Hypericum*, *Chelidonium*, etc.) could be found.

A complete list of vegetation identified on site can be found can be found in Table 3, below. Further, more detailed analyses of specific ecosystems/habitats can be found in Sections 4 and 5.

2.3 Hydrology and Topography

As above, the site is mostly hilly uplands, though wetlands also exist on site. The dominant soils (as described in Section 2.4) are mostly well drained and non-hydric.

The site's topography is generally hilly to moderately sloped, and tends to slope towards the stream on site (thus roughly southeastward). Per Figure 2, above, there is a large hill in the north-central portion of the site. Thus, there are portions of the site which are steep; mostly associated with the central hill. However, there is also a significant drop between the site and the elevation of Route 9N.

In comparing topographic maps of the site from the early 1900's with more modern (i.e., post 1950) maps, it appears that cutting and filling of the land may have occurred (during a period of

logging) and thus, the natural topography has changed. This is especially noticeable in that older topographic maps show a "blue line" (i.e., a stream) flowing from the north-central portion of the site, south into the main waterway. Maps after 1950 no longer show this stream and, indeed, this water feature was not observed on site. A comparison between historic and modern topographic maps can be found in Appendix D.

As above, most of the site drains southeastward into the stream, whereas the land south of the stream drains north into same. Thus, the entire site drains southeast, off site, and into the Ausable River with downstream drainage eventually reaching Lake Champlain. The stream on site is a NYSDEC-regulated[1] stream (under Article 15). This stretch of stream, from Eaton Pond to the East Branch of Ausable River is known as 830-292 and considered a "Class C(T)" stream[2]. The NYSDEC's Environmental Resource Mapper also shows the "historic blue line" described above as a Class C stream. However, this stream no longer exists. A map of NYSDEC-regulated (Article 15) streams on site can be found in Appendix D.

The primary, existing stream on site has been dammed by numerous beaver dams over the past decades. Observers found many older, dilapidated, or broken dams as well as much newer structures. It is likely due to these impoundments that the associated wetlands were able to form around the stream over time.

In addition, smaller wetlands were mapped in the site's northwestern section. These wetlands (flagged with G and J flags) sit between steep hilly areas and thus receives drainage from a small sub-watershed, off-site to the north. Near to these wetlands, to the south and east, are non-wetland drainage swales which conveys drainage into adjoining hilly uplands where it is drained to groundwater or southeastward as above.

A small wetland (flagged with A flags) also exists along the property line near the site's entryway. This wetland appears to receive drainage from a series of springs which were observed discharging water from small rocky seeps off-site to the north. This wetland is piped under the site's access road, where it discharges east into a non-wetland ditch during high water levels.

2.4 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey Map for Essex County showed a total of sixteen (16) different soil types. A summary of these soils, their qualities, and their hydric rating can be found below. For more information see Appendix B.

- Adams loamy sand (AdB); 3-8% slopes; 18.9% of the site; rated 0% hydric,
- Adams loamy sand (AdC); 8-15% slopes; 16.0% of the site; rated 0% hydric,
- Adams loamy sand (AdD); 15-25% slopes; 17.4% of the site; rated 0% hydric,

[1] Thus, the NYSDEC has jurisdiction over these features only up to the top of their banks, per Article 15 regulations.
[2] Classification C is for waters supporting fisheries and suitable for non-contact activities, but of lower quality than Classes A and B. The (T) designation means it can support trout.

- Adams loamy sand (AdE); 25-45% slopes; 0.4% of the site; rated 0% hydric,
- Adirondack fine sandy loam (AkB); 3-8% slopes; 0.2% of the site; rated 5% hydric,
- Croghan fine sand (CwB); 3-8% slopes; 0.3% of the site; rated 0% hydric,
- Femlake loamy fine sand (FnB); 3-8% slopes; 4.2% of the site; rated 0% hydric,
- Femlake loamy fine sand (FnC); 8-15% slopes; 9.6% of the site; rated 0% hydric,
- Hermon gravelly loamy sand (HnD); 15-35% slopes; 5.9% of the site; rated 0% hydric,
- Monadnock fine sandy loam (MkB); 3-8% slopes; 1.8% of the site; rated 0% hydric,
- Monadnock-Adams complex (MmF); 25-6% slopes; 4.0% of the site; rated 0% hydric,
- Nicholville silt loam (NvB); 3-8% slopes; 13.9% of the site; rated 0% hydric,
- Roundabout silt loam (RsA); 0-3% slopes; 0.4% of the site; rated 1% hydric,
- Rumney loam (RuA); 0-3% slopes; 2.3% of the site; rated 97% hydric,
- Rumney-Burnt Vly complex (RyA); 0-3% slopes; 0.6% of the site; rated 95% hydric, &
- Sunapee fine sandy loam (SnB); 3-8% slopes; 4.2% of the site; rated 0% hydric.

2.5 Wildlife

Several wildlife species were observed during B. Laing Associates, Inc. field inventories. The species observed, whether by sight, sound, or by sign, were those typical of wooded areas of the lower (in elevation) Adirondacks.

Birds on site mostly included woodland-breeding species such as woodpeckers (e.g., *Drycopus pileatus*), ruffed grouse (*Bonasa umbellus*), barred owl (*Strix* varia), and various thrushes, flycatchers, and warblers. In addition to breeding birds, seasonal/nomadic and migrant species (e.g., winter finches) were observed.

Mammals on site included typical Adirondack species including terrestrial mammals such as white-tailed deer (*Odocoileus virginianus*) and numerous bat species. Various herptiles were also observed, such as spotted salamander (*Ambystoma maculatum*) and numerous frog species; these were typically associated with wetland habitats on site.

Please see Table 4, below, for a list of wildlife observed on site. A more in-depth discussion of wildlife on site can be found in Section 5.0, below.

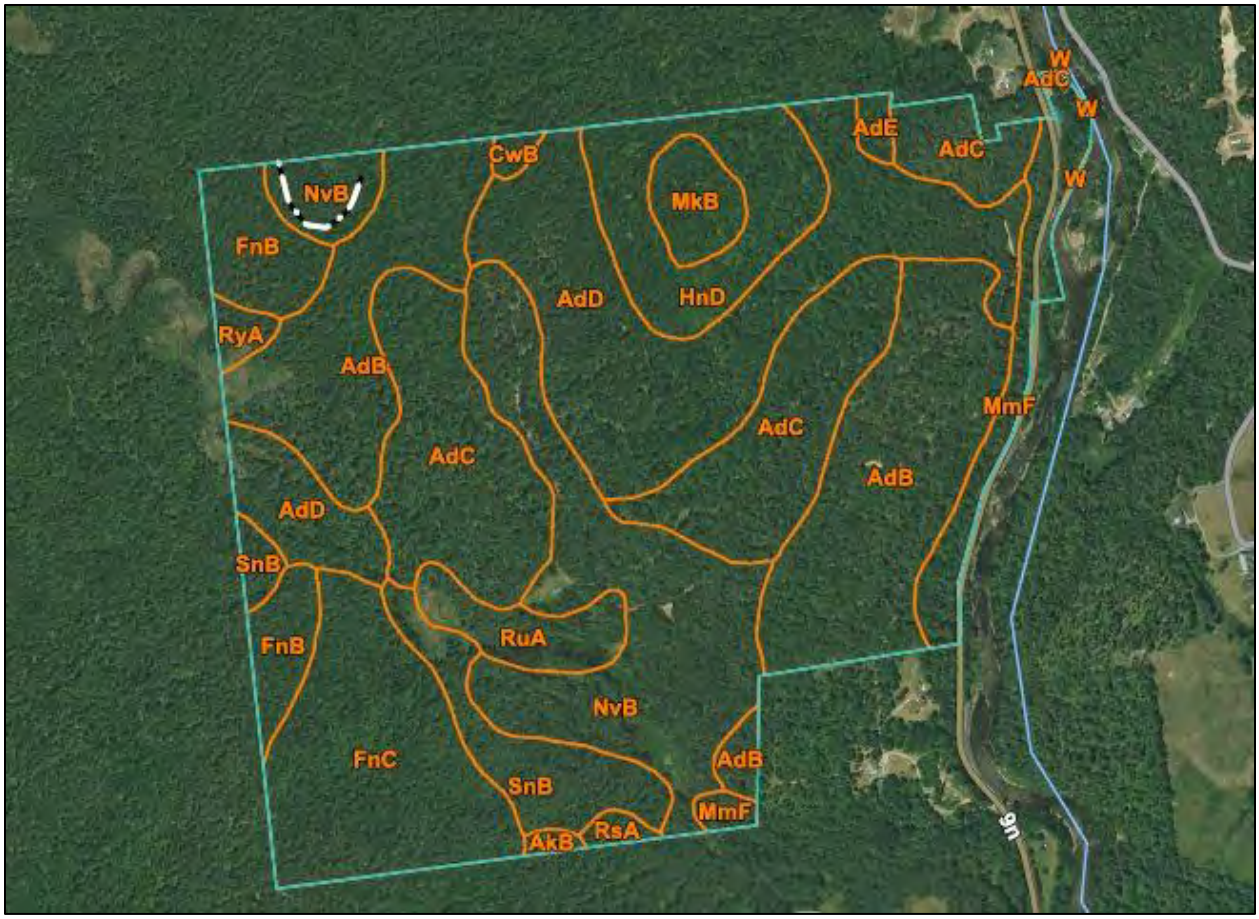


FIGURE 3.0

NRCS SOILS MAP OF PROJECT SITE
PLEASE SEE APPENDIX B FOR MORE DETAILS

(Source: USDA Natural Resources Conservation Service)

3.0 METHODOLOGY

3.1 Wetland Methodology

3.1.1 Desktop Study

In order to understand the potential for wetlands to exist on site, numerous resources were consulted during the desktop study portion of this analysis. The Natural Resource Conservation Service's soil map for Essex County was consulted to determine the drainage class of each soil group. Further, these data were analyzed for the "hydric rating" of each soil group. Appendix B shows these soil maps and additional details.

The National Wetlands Inventory (NWI) Maps and Adirondack Park Agency (APA) maps were also consulted. These maps are helpful in determining probable locations and extents of wetlands and other water resources, but they are not based on ground-truthing fieldwork and, thus, should be considered approximate. These online maps are shown in Appendix D.

3.1.2 Wetland Delineation

The site, as detailed in Sections 1.0 and 2.0, was analyzed for wetland characteristics and jurisdictional wetlands between October 31, and November 3, 2022, plus April 2023. Wetlands were delineated per the 1987 Corps of Engineers Wetland Delineation Manual and Regional Supplements (to the 1987 Manual), plus considering the Adirondack Park Agency definition of wetlands. Data were collected at sample locations within wetland areas, and within upland areas. The April 2023 study was to confirm or modify findings from the previous year, which took place in November while some wetland parameters were obscured (e.g., herbaceous vegetation had died back with seasonally low hydrologic indicators.)

Vegetation was analyzed for a dominance of hydrophytic vegetation (i.e., wetland plants) by identifying plants in pre-determined radii for respective strata (e.g., a 1-meter radius for herbaceous plants, a 5-meter radius for shrubs, etc.). Soil was analyzed for hydric indicators by pulling representative cores from the top 12-16" of soil using a 3" Dutch auger. Hydrology was analyzed by assessing the land for hydric indicators, including soil saturation, presence of standing water, etc. Only when all three conditions tested positive, a wetland determination was made and delineation flags were placed at the boundary between wetland and upland conditions.

Wetland flag locations were located using a sub-meter GPS unit[3] and plotted using ArcGIS software.

[3] Juniper Systems Geode GNSS Receiver.

3.2 Wildlife Methodology

3.2.1 Desktop Study

In order to understand if there is potential for listed (i.e., endangered and/or threatened) species of plant or animal to occupy the subject site, or have its habitat needs met by the subject site, inquiries were made to regulatory agencies. A New York Natural Heritage Program (NYNHP) request was made to determine if the New York State Department of Environmental Conservation (NYSDEC) had records of state-listed species, or their habitats, in the area. A NYNHP letter was received by the project in March 2022. In addition, the Information for Planning and Consultation (IPaC) tool was consulted to see if the US Fish and Wildlife Service (USFWS) had records of federally-listed species, or their habitats, in the area.

3.2.2 Wildlife Field Surveying

For the most part, with wildlife (fauna) and plant (flora) observation, no precise methodology was adhered to. Observers walked in rough transects to observe by sight, sound, or sign (i.e., tracks, scat, pellets, feathers, nests) for presence of wildlife. Species listed in the NYNHP and USFWS IPaC databases were intentionally sought, but general wildlife and plant species were also surveyed.

During April 2023, herptiles, especially salamanders, were targeted. Wetlands (including vernal ponds) and nearby cover (e.g., debris, logs, etc.) were searched for egg-masses and adult salamanders, respectively.

During the June 2023 survey, listed plants, invertebrates, and bats were purposefully targeted. To survey for bats, observers made rough transects through the development envelope, as well as outside of it, with ultrasonic bat detectors. These detectors can “hear” and differentiate the ultrasonic echolocation calls of various bat species. Further, the spectrograms of the unique calls were vetted against known examples of same. To better understand the use of the site by larger mammals (e.g., black bear, etc.) trail cameras were installed in two locations.

To survey for nocturnal invertebrates (e.g., moths), UV-light (non-kill) traps were set within representative habitats. Nocturnal invertebrates were photographed and subsequently identified.

3.3 Ecosystem Mapping Methodology

3.3.1 Desktop Study

Per comments made by the Adirondack Park Agency, unique natural communities are known to exist on the project site. In order to understand the potential for these communities to exist (and thus, any impact proposed thereto), a series of desktop analyses were conducted.

The NYSDEC and APA have mapped known habitat types which are considered “unique” or “rare.” These specific mapped areas were “Northern Pine-Hardwood Forest” (NPHF) and “Appalachian

Oak-Pine Forest" (AOPF). The NYNHP provides guidance on these habitat types which outline what parameters should be taken into consideration when determining the ecosystem type.

For NPHF, the identification characteristics[4] include an emergent canopy of white pines that overtop a mixed forest of pines (*P. strobus, P. resinosa*, etc.) and hardwoods (maples – *Acer*, birches – *Betula*, etc.), wherein pine trees make up at least 20-50% of the coverage. This habitat is typically underlain by shrubs, bracken fern, and mosses and lichens.

For AOPF, the identification characteristics[5] include a canopy dominated by any oak species with at least 25% of the canopy being made up of white pine. The herbaceous layer is typically sparse and the shrub layer is typically dominated by ericaceous species such as lowbush blueberry, huckleberry, etc.

Thus, these above parameters and guidelines became the basis for the field investigation for these habitat types, on site.

3.3.2 Ecosystem Field Delineation

The site, as detailed in Section 2.0, was walked to determine the presence and/or extent of the habitat types listed in 3.3.1, above. Using the identification characteristics provided by the NYNHP, determinations were made as to whether an observation point was "inside" or "outside" of each habitat type, as in the methodology of wetland delineation.

Using this methodology, a boundary for these habitats was able to be determined in the field. Observers walked this boundary and point locations were plotted using a sub-meter GPS unit and ArcGIS software.

[4] Per NYNHP.
[5] Ibid.

4.0 WETLAND FINDINGS

4.1 Adirondack Park Agency Wetland Regulations

Adirondack Park wetlands are defined in Chapter §802 of the Adirondack Park Agency Act. They are defined as "any land which is annually subject to a periodic or continual inundation by water and commonly referred to as a bog, swamp or marsh which are either (a) one acre or more in size or (b) located adjacent to a body of water, including a permanent stream, with which there is free interchange of water at the surface, in which case there is no size limitation.[6]"

An Adirondack Park Agency (AP) wetland permit must be sought in order to undertake a number of actions within or adjacent to wetlands. In the case of this project, the APA regulations read that a wetland permit is required when "creating by subdivision any lot that contains wetlands and any lot adjoining a lot that contains wetlands, as well as all land use and development related to these subdivision lots."

Further, as outlined in the project's APA Notice of Incomplete Application, a minimum of 100-foot buffer must be provided between development, including trails, etc., and wetlands.

4.2 Army Corps of Engineers Wetland Regulations

The Army Corps of Engineers (ACOE), defines federally jurisdictional wetlands as:

> "… areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The 1987 Corps of Engineers Wetland Delineation Manual and Regional Supplements (to the 1987 Manual) organizes characteristics of a potential wetland into three categories: soils, vegetation, and hydrology. The manual and supplements contain criteria for each category. With this approach, the ACOE takes jurisdiction, under the Clean Water Act, over any wetland which exhibits the three parameters per the 1987 Manual, regardless of size.

A footnote in the Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers case holds that a water or wetland must have a "significant nexus" (i.e., surface water connection) with other waters or wetlands to be considered a "water of the United States" and thereby under the ACOE's jurisdiction under Section 404 of the Clean Water Act. This was further reinforced in Sackett v. EPA wherein the Supreme Court held that the Corps' jurisdiction over wetlands under Section 404 of the CWA only extended to, "those wetlands with a continuous surface connection to bodies that are 'Waters of the United States' in their own right, so that they are 'indistinguishable' from those waters."

[6] With certain exceptions.

All the delineated wetlands on site exhibited all three of the hydric parameters set forth in the 1987 Manual. Further, all wetlands continue off the site either to the north or to the southwest. As such, these may be considered "connected" to other sites. However, while the wetlands do go "off site," they do not appear to have a continuous surface water connection to other *Waters of the United States*[7].

4.3 On-site Wetland Findings

Per the wetland methodology detailed above, B. Laing Associates performed a wetland and watercourse delineation on the subject site. The purpose of this study was to identify and delineate the boundaries of any potentially jurisdictional aquatic resources (i.e., wetlands and streams) on site. In total, ten (10) wetland lines were flagged, encompassing six different wetland areas. To document site conditions at each wetland area, ACOE Wetland Determination Data Forms were completed at each wetland and accompanying upland area, for reference. These Data Forms can be found in Appendix D.

The primary wetland on site (the ponded stream as described above) is known as Wetland 1, and was flagged by the B, C, D, and E lines. It roughly flows southeast and has three tributaries which drain into it, from the south. One of these wetland-tributaries (known as Wetland 2) is only connected to the stream by a rocky, upland swale[8]. As such, Wetland 2 (as flagged by "F-flags") does not completely connect to the main stream, and in this analysis is considered a separate wetland.

Wetland 3 (flagged with "A- and AA-flags") exists near the property's entry-road along its northeastern corner. This wetland extends off-site to the north and west and is at least partially fed by seeps which flow out of the rocky hillsides to the north. Wetland A becomes more channelized as it enters the site, eventually becoming a curved linear wetland between two upland hills. This wetland connects to a non-wetland ditch which exists on the residential lot to the east of the subject entry-road, after it is piped under the access road.

Wetland 4 (flagged with "G-flags") is a roughly linear, depressed area between two higher areas of topography in the north/central portion of the site. It does connect to an upland swale which drains periods of high-water towards the southeast between areas of higher elevation. Wetland G is also associated with a vernal pond[9] which branches off the wetland to its east. Wetland G extends off-site to the north. However, given its linear nature, it is likely that it does not extend very far before ending.

Wetland 5 (flagged with "J- and JJ-flags") is very similar to Wetland 4. This is another roughly linear low spot between higher elevation which collects hydrology and supports hydric soils and

[7] The federal jurisdiction of these wetlands is subject to a pending jurisdictional determination with the Army Corps of Engineers.
[8] Potentially a "ephemeral (or intermittent) stream," though no evidence of this was found in November 2022.
[9] In which spotted salamander (*Ambystoma maculatum*) egg-masses were observed.

hydrophytic vegetation. It also extends off-site to the north but may terminate just off-site. Like Wetland 4, this wetland flows to the south where it eventually turns into a non-wetland swale which conveys hydrology south during periods of high water.

Wetland 6 (lines H and I) were delineated on a portion of the subject property that exists east of Route 9N. These wetlands are directly associated with the East Branch of the Ausable River as it flows by the site.

The field conditions of the wetlands varied somewhat from the online resources that were examined. Namely a few wetlands in the southeast of the site, which were shown on the NWI mapper, were determined to be uplands. Table 1, below outlines the delineated wetlands on site by their individual characteristics.

Table 1.0
Summary of Wetlands on Site

Wetland	Flags #'s	Cover Type(s)	Description	Jurisdiction
1	B (1-84), C (1-14), D (1-46), E (1-46)	PFO, SS, R, EM, PUB	Ponded stream and connected tributaries; varied habitat: beaver-ponds; open marsh/water; linear stream with sedge meadow edge; shrubs; woods.	APA[10]/ACOE
2	F (1-13)	PFO	Tributary to Wetland 1; connected by small, rocky, non-wetland spillway.	APA/ACOE
3	A (1-18) & AA (1-12)	PFO/SS	Spring-fed depression between higher elevations near n/e property line. Continues off-site to the north.	APA/ACOE**
4	G (1-43)	PFO	Depressed area between higher elevation. Connected to non-wetland swale to the south. Includes vernal pond.	APA/ACOE**
5	J (1-20) & JJ (1-7)	PFO	Depressed area between higher elevation. Connected to non-wetland swale to the south.	APA[11]/ACOE**
6	H (1-12), I (1-12)	R, PFO, SS	Wooded wetland edge of western bank of East Branch of Ausable River; along shoulder of Route 9N.	APA/ACOE

Table 1.0 notes:

1. PFO- Palustrine Forested, SS- Scrub-shrub, R- Riverine, EM-Emergent Marsh, PUB- Palustrine Unconsolidated Bottom

2. **indicates a wetland which may be not be considered federally jurisdictional under the Sacketts v EPA ruling. See footnote 7.

[10] Wetland 1 was only flagged to be 0.75-acres, under the 1.0-acre APA threshold. However, it extends off-site and its entire size cannot be confirmed. However, it may be less than 1-acre in totality.
[11] Wetland 5 was only flagged to be 0.54-acres, ibid, above. As such, it may be less than 1.0-acres as it could end shortly off-site to the north. This was not confirmed.

4.4 Project Recommendations

As above, the wetlands as delineated on site would be under the jurisdiction of the US Army Corps of Engineers (ACOE) as well as the Adirondack Park Agency (APA). Wetlands 3, 4, and 5 may be "isolated" from a Corps perspective and, thus, non-jurisdictional. These smaller wetlands extend off-site and their entire extents could not be delineated. However, some of them may be less than 1-acre in size and so, are potentially not within the APA's jurisdiction either. In review of the existing project, it appears that all structures[12] on site are proposed outside of the 100-foot setback to all wetlands.

Even if the project proposes all structures outside of freshwater wetland setbacks, certain recommendations should be considered to ensure their preservation. This includes a Stormwater Pollution Prevention Plan (SWPPP) for this project, which will be required. A SWPPP will include methods to prevent any runoff (including de-icing salts) from entering jurisdictional wetlands and, ultimately, the East Branch of the Ausable River.

5.0 BIOTA AND ECOSYSTEMS FINDINGS

5.1 Desktop Study Results

As discussed above, consultations were made with the NYNHP and USFWS to determine if any federally or state listed (i.e., endangered or threatened) species have the potential to exist on site, and thus be impacted by the proposed action. A discussion of these species can be found below. The NYNHP and USFWS lists can be found in Appendix C.

5.1.1 Federally Listed Species[13]

As above, the IPaC tool was consulted in order to determine if any federally-listed species had the potential to exist on site. The tool showed two results in terms of listed species: northern long-eared bat (*Myotis septentrionalis,* wherever found) and Indiana bat (*Myotis sodalis*, wherever found); both of which are federally endangered[14]. The IPaC results did show concerns for the monarch butterfly (*Danaus plexippus*) as a "candidate for federal listing" as well as seven migratory birds: bald eagle (*Haliaeetus leucocephalus*), black-billed cuckoo (*Coccyzus erythropthalmus*), bobolink (*Dolichonyx oryzivorus*), chimney swift (*Chaetura pelagica*), eastern whip-poor-will (*Antrostomus vociferus*), evening grosbeak (*Coccothraustes verpertinus*) and wood thrush (*Hylocichla mustelina*).

A breakdown of these species is included in Table 2, below.

[12] Per the most recent site plans as of the date of this report.
[13] NYSDEC automatically lists federally threatened/endangered as state threatened/endangered. As such, state listing is typically more stringent/conservative.
[14] Northern long-eared bat was federally threatened until November 29, 2022.

5.1.2 State Listed Species

As above, the NYNHP was consulted in order to determine if any state-listed, or rare, species had the potential to exist on or adjacent to the site. A March 25, 2022, letter was received by the project team. The NYNHP letter outlined the potential for the following species of concern: Northern long-eared bat, Appalachian tiger beetle (*Cicindela ancocisconensis*), and meadow horsetail (*Equisetum pratense*).

A breakdown of these species is included in Table 2, below.

Table 2.0
Summary of Listed Species per USFWS and NYNHP

	Common Name	Scientific Name	Listing	Area Documented	Suitable Habitat
Mammals	Northern long-eared bat	*Myotis septentrionalis*	FE, ST	< 2.5 mi from project site	Woodland areas with trees >3" dbh with exfoliating bark or crevices in summer.
	Indiana bat	*Myotis sodalis*	FE, SE	Wherever found	Woodland areas with trees >3" dbh with exfoliating bark or crevices in summer.
Insects	Monarch butterfly	*Danaus plexippus*	FC	Wherever found	Meadows, prairies, grasslands with milkweed (*Asclepias*).
	Appalachian tiger beetle	*Cicindela ancocisconensis*	SI	Adjacent to project site	Sandy/gravely banks of streams and rivers in mountainous regions.
Plants	Meadow horsetail	*Equisetum pratense*	ST	<0.25 mi from project site	Usually rocky/gravely soil adjacent to rivers; moist woods.

Table 2.0 Notes:
1. FE- federally endangered, SE- state threatened, FC- candidate for federal listing (not listed), SI- state imperiled (not listed), ST- state threatened
2. Migratory birds not shown. No listed species of bird was found to have potential to exist on site, per USFWS and NYNHP.

5.1.3 Unique Ecosystems

In addition to the species outlined above, the NYNHP letter indicated there was at least one uncommon community type of concern. According to the NYNHP, Pine-Northern Hardwood Forest (PNHF) has been documented at the project site, which is considered an S3[15] habitat. They refer to this uncommon community type as a "very large, moderately diverse community with relatively large, intact, putative old growth core, in a moderately intact landscape" and that the sections on

[15] Vulnerable in New York - Vulnerable to disappearing from New York due to rarity or other factors (but not currently imperiled).

site are of “high quality.” This habitat type is not considered “listed” or protected by New York State, but the NYNHP writes that “[PNHF] is considered significant from a statewide perspective by the NY Natural Heritage Program. By meeting specific, documented criteria, the NY Natural Heritage Program considers this community occurrence to have high ecological and conservation value.”

In consultation with other online resources, it was determined that another uncommon community type was known to exist on site: Appalachian Oak-Pine Forest, an S4[16] habitat. This habitat was not mentioned in the NYNHP letter, but other resources had it mapped. As such, care was taken to observe and document it on the project site.

5.2 Biota On-site Findings

B. Laing Associates undertook an inventory of the biota (flora and fauna) on site throughout various seasons, between October 31, 2022, and June 28, 2023. The purpose of these investigations was to determine what species use the site, and also to determine if any of the listed species in Section 5.1 use, or have the potential to use, the site; especially in regard to the site’s proposed development.

As discussed above, birds on site mostly included woodland-breeding species such as woodpeckers (e.g., *Drycopus pileatus*), ruffed grouse (*Bonasa umbellus*), barred owl (*Strix varia*), and various thrushes, flycatchers, and warblers. In addition to breeding birds, seasonal/nomadic and migrant species such as evening grosbeak (*Coccothraustes vespertinus*) and red crossbill (*Loxia curvirostra*) were also observed.

Mammals on site also included woodland species such as white-tailed deer (*Odocoileus virginianus*), beaver (*Castor canadensis*), red squirrel (*Tamiasciurus hudsonicus*), and fisher (*Pekania pennanti*). Nocturnal bat surveys, using ultrasonic bat detectors, found species such as big brown bat (*Eptesicus fuscus*) and hoary bat (*Lasiurus cinereus*) among others. More information on the bat studies is discussed below, in Section 5.2.1. “Deep forest” mammals such as bobcat, eastern black bear, American marten, etc., were not observed; this includes observations provided by two trail camera locations over 2.5-months.

Various herptiles were also observed, typically associated with wetland habitats on site. Spotted salamander and red-backed salamander were observed during the April 2023 studies. Further, various frog species, and American toad (*Bufo americana*), were observed in numerous locations throughout the site. The only snake species observed was eastern garter snake (*Thamnophis sirtalis sirtalis*).

Nocturnal (e.g., moth) and diurnal (e.g., butterflies, etc.) insect surveys were also conducted. Invertebrates observed on site included numerous lepidopteran species such as rosy-maple moth

[16] Apparently Secure in New York - Uncommon in New York but not rare; usually widespread, but may be rare in some parts of the state.

(*Dryocampa rubicunda*), blinded sphinx (*Paonias excaecatus*), and Lintner's gluphisia moth (*Gluphisia lintneri*), plus butterflies such as Canada tiger swallowtail (*Papilio canadensis*), etc.

Discussions regarding individual listed species are included below. A complete inventory of plants and wildlife are included below in Tables 3.0 and 4.0, respectively.

Table 3.0 Vegetation Observed on Site (Alphabetical by Scientific Name) Including Fungi and Lichen			
Stratum	Scientific Name	Common Name	Indicator Status
Trees	*Abies balsamea*	Balsam fir	FAC
	Acer negundo	Box elder	FAC
	Acer pensylvanicum	Striped maple	FACU
	Acer rubrum	Red maple	FAC
	Acer saccharum	Sugar maple	FACU
	Betula papyrifera	Paper birch	FACU
	Betula populifolia	Gray birch	FAC
	Carpinus caroliniana	Ironwood	FAC
	Fagus grandifolia	American beech	FACU
	Fraxinus americana	White ash	FACU
	Larix laricina	Tamarack	FACW
	Ostrya virginiana	American hop hornbeam	FACU
	Picea glauca	White spruce	FACU
	Picea rubens	Red spruce	FACU
	Pinus banksiana	Jack pine	FACU
	Pinus resinosa	Red pine	FACU
	Pinus rigida	Pitch pine	FACU
	Pinus strobus	White pine	FACU
	Pinus sylvestris	Scotch pine	UPL
	Populus grandidentata	Big tooth aspen	FACU
	Populus tremuloides	Quaking aspen	FACU
	Prunus serotina	Black cherry	FACU
	Quercus alba	White oak	FACU
	Quercus rubra	Red oak	FACU
	Tsuga canadensis	Eastern hemlock	FACU
Shrubs	*Alnus incana*	Speckled alder	FACW
	Berberis thunbergii	Japanese barberry	FACU
	Comptonia peregrina	Sweet fern	UPL
	Cornus sericea	Red osier dogwood	FACW
	Gaylussacia baccata	Black huckleberry	FACU
	Hamamelis virginiana	Witch-hazel	FACU

Table 3.0: Vegetation Observed on Site, continued.			
	Lonicera japonica	Japanese honeysuckle	FACU
	Lonicera morrowii	Morrow's honeysuckle	FACU
	Lonicera tatarica	Bush honeysuckle	FACU
	Physocarpus opulifolius	Common ninebark	FACW
	Vaccinium angustifolium	Lowbush blueberry	FACU
Herbaceous	*Achillea millefolium*	Common yarrow	FACU
	Adiantum pedatum	Maidenhair fern	FACU
	Alliaria petiolata	Garlic mustard	FACU
	Andropogon virginicus	Broomsedge	FACU
	Anemone americana	Round-lobed hepatica	UPL
	Angelica atropurpurea	Purple-stemmed Angelica	OBL
	Apocynum cannabinum	Hemp dogbane	FAC
	Aralia nudicaulis	Wild sarsapilla	FACU
	Asclepias syriaca	Common milkweed	UPL
	Berteroa incana	Hoary asylum	UPL
	Caltha palustris	Marsh marigold	OBL
	Cardamine pensylvanica	Pennsylvania bittercress	FACW
	Carex baileyi	Bailey's sedge	FACW
	Carex crawfordii	Crawford's sedge	FACW
	Carex deweyana	Dewey's sedge	FACU
	Carex digitalis	Slender woodland sedge	UPL
	Carex flava	Yellow-green sedge	OBL
	Carex foenea	Hay sedge	UPL
	Carex gracillima	Graceful sedge	FACU
	*Carex houghtoniana**	Houghton's sedge	UPL
	Carex intumescens	Bladder sedge	FACW
	Carex laxiculmis	Spreading sedge	UPL
	Carex lucorum	Blue ridge sedge	UPL
	Carex lurida	Shallow sedge	OBL
	Carex pensylvanica	Pennsylvania sedge	UPL
	Carex scoparia	Pointed broom sedge	FACW
	Carex siccata	Dry land sedge	UPL
	Carex tenera	Delicate quill sedge	FAC
	Carex torta	Twisted sedge	OBL
	Carex tribuloides	Blunt broom sedge	FACW
	Caulophyllum sp.	Blue cohosh	FAC
	Centaurea nigra	Common knapweed	UPL
	Chelidonium majus	Greater celandine	UPL
	Chimaphila umbellata	Pipsissewa	UPL
	Cinna arundinacea	Wood reed	FACW
	Cirsium vulgare	Bull thistle	FACU
	Clematis virginiana	Virgin’s bower	FAC

Table 3.0: Vegetation Observed on Site, continued.			
	Climacium dendroides	Tree climacium moss	UPL
	Coptis trifolia	Goldthread	FACW
	Cornus canadensis	Canada bunchberry	FAC
	Cyperus lupulinus	Great Plains flatsedge	UPL
	Cypripedium acaule	Pink lady slipper orchid	FACW
	Danthonia spicata	Poverty oatgrass	UPL
	Daucus carota	Queen Anne's lace	UPL
	Dendrolycopodium hickeyi	Hickey's tree clubmoss	UPL
	Desmodium canadense	Showy tick-trefoil	FAC
	Dichanthelium clandestinum	Deer-tongue grass	FACW
	Dichanthelium linearifolium	Slim-leaf witchgrass	UPL
	Dichanthelium latifolium	Broad-leaved panic grass	FACU
	Dicranum polysetum	Waxy leaf moss	UPL
	Diphasiastrum digitatum	Fan clubmoss	UPL
	Doellingeria umbellate	Flattop white aster	FACW
	Dryopteris marginalis	Marginal wood fern	FACU
	Eleocharis sp.	Spikerush	OBL
	Epipactis helleborine	Helleborine orchid	UPL
	Equisetum arvense	Field horsetail	FAC
	Equisetum hymale	Tall scouring-rush	FACW
	*Equisetum pratense**	Meadow horsetail	FACW
	Equisetum sylvaticum	Wood horsetail	FACW
	Erechtites hieracifolia	American burnweed	UPL
	Erigeron philadelphicus	Philadelphia fleabane	FAC
	Erythronium americanum	Yellow trout-lily	FAC
	Euphorbia cyparissias	Cypress spurge	UPL
	Euthamia graminifolia	Flat-top goldenrod	FAC
	Eutrochium purpureum	Joe-pye-weed	FAC
	Fragaria sp.	Strawberry	FACU
	Frullania eboracensis	New York scalewort	UPL
	Galeopsis tetrahit	Common hemp nettle	FACU
	Galium triflorum	Fragrant bedstraw	FACU
	Gaultheria procumbens	Teaberry	FACU
	Geum canadense	White avens	FAC
	Glyceria canadensis	Rattlesnake mannagrass	OBL
	Hackelia virginiana	Stickseed	FACU
	Helianthus sp.	Woodland sunflower	FAC
	Hieracium pilosella	Mouse-ear hawkweed	UPL
	Houstonia longifolia	Long-leaved bluets	FACU
	Hypericum perforatum	Common St. John's-wort	UPL
	Iris versicolor	Blue-flag iris	OBL
	Juncus canadensis	Canada rush	OBL

Table 3.0: Vegetation Observed on Site, continued.			
	Juncus effusus	Soft rush	OBL
	Juncus tenuis	Path rush	FAC
	Kalmia angustifolia	Sheep laurel	FAC
	Lactuca muralis	Wall lettuce	UPL
	Lapsana communis	Nipplewort	FACU
	Lathyrus odoratus	Sweet pea	UPL
	Leucanthemum vulgare	Ox-eye daisy	UPL
	Lobelia inflata	Indian tobacco	FACU
	Lotus corniculatus	Birds-foot trefoil	FACU
	Luzula acuminata	Hairy woodrush	FACU
	Lycopodiella cernua	Staghorn clubmoss	FAC
	Lycopodium annotinum	Interrupted clubmoss	FAC
	Lycopus uniflorus	Northern bugleweed	OBL
	Lysimachia quadrifolia	Whorled loosestrife	FACU
	Lysimachia terrestris	Swamp candles	OBL
	Maianthemum canadense	Canada mayflower	FAC
	Maianthemum stellatum	Star-flowered lily-of-the-valley	FACW
	Matteuccia struthiopteris	Ostrich fern	FAC
	Medicago lupulina	Black medick	FACU
	Melilotus albus	White sweetclover	FACU
	Mitchella repens	Partridge-berry	FACU
	Monarda fistulosa	Wild bergamot	UPL
	Moneses uniflora	One-flowered wintergreen	FAC
	Monotropa uniflora	Ghostpipe	FACU
	Oenothera perennis	Small sundrops	FAC
	Onoclea sensibilis	Sensitive fern	FACW
	Oryzopsis asperifolia	Wh.-grained mountain ricegrass	UPL
	Osmunda claytoniana	Interrupted fern	FAC
	Osmunda regalis	Royal fern	OBL
	Osmundastrum cinnamomeum	Cinnamon fern	FACW
	Oxalis montana	Mountain wood sorrel	FACU
	Panicum virgatum	Switchgrass	FAC
	Parthenocissus vitacea	Thicket creeper	FACU
	Pedicularis canadensis	Canadian lousewort	FACU
	Phlox paniculate	Fall phlox	FACU
	Phragmites australis	Common reed	FACW
	Physostegia virginiana	Obedient plant	FAC
	Pilosella aurantiaca	Orange hawkweed	FACU
	Plantago rugelii	American plantain	FAC
	Poa annua	Meadow-grass	FACU
	Polygala paucifolia	Gaywings	FACU
	Polypodium virginianum	Rock polypody	UPL

Table 3.0: Vegetation Observed on Site, continued.			
	Polystichum acrostichoides	Christmas fern	FACU
	Polytrichum commune	Common haircap moss	UPL
	Potentilla argentea	Silvery cinquefoil	FACU
	Potentilla robbinsiana	Dwarf cinquefoil	UPL
	Potentilla simplex	Common cinquefoil	FACU
	Prunella vulgaris	Common selfheal	FAC
	Pseudognaphalium obtusifolium	Sweet everlasting	UPL
	Pteridium aquilinum	Bracken fern	FACU
	Pyrola americana	Wintergreen	FAC
	Pyrola elliptica	Shinleaf	FACU
	Ranunculus abortivus	Small-flowered buttercup	FAC
	Rhodobryum ontariense	Ontario rhodobryum moss	UPL
	Rubus sp.	Blackberry/brambles	UPL
	Rudbeckia hirta	Black-eyed susan	FACU
	Rumex acetosella	Sheep's sorrel	FACU
	Rumex crispus	Curled dock	FAC
	Sanguinaria canadensis	Bloodroot	FACU
	Saponaria officinalis	Common soapwort	FACU
	Sceptridium oneidense	Blunt-lobed grape fern	FAC
	Scirpus atrocinctus	Black-girdle bulrush	OBL
	Scirpus cyperinus	Woolgrass	OBL
	Scirpus hattorianus	Mosquito bulrush	OBL
	Scirpus microcarpus	Panicled bulrush	OBL
	Securigera varia	Crown vetch	FAC
	Silene vulgaris	Bladder campion	UPL
	Sisyrinchium montanum	Blue-eyed grass	FAC
	Solidago canadensis	Canada goldenrod	FACU
	Solidago flexicaulis	Broad-leaved goldenrod	FAC
	Sparganium americanum	American burreed	OBL
	Spiraea tomentosa	Steeplebush	FACW
	Symphyotrichum cordifolium	Common blue wood-aster	UPL
	Symphyotrichum novae-angliae	New England aster	FACW
	Tanacetum vulgare	Tansy	UPL
	Taraxacum sp.	Common dandelion	FACU
	Thalictrum dioicum	Early meadow-rue	FACU
	Thuidium delicatulum	Delicate fern moss	UPL
	Tiarella cordifolia	Foamflower	FACU
	Toxicodendron radicans	Poison ivy	FAC
	Trientalis borealis	Starflower	FAC
	Trifolium campestre	Hop trefoil	FAC
	Trifolium pratense	Red clover	FACU
	Trifolium repens	White clover	FACU

Table 3.0: Vegetation Observed on Site, continued.			
	Urtica dioica	Great stinging nettle	FAC
	Verbascum thapsus	Common mullein	UPL
	Verbena hastata	Blue vervain	FACW
	Veronica officinalis	Heath speedwell	FACU
	Viola sororia	Common violet	FAC
	Zizia aurea	Golden Alexander	FAC
Fungi/Lichen	*Amanita elongata*	Peck's yellow dust amanita	
	Amanita flavoconia	Yellow patches	
	Cladonia coccifera	Pixie-cup lichen	
	Cladonia cristatella	British soldier lichen	
	Cladonia rangiferina	Gray reindeer lichen	
	Clavulina cristata	White coral fungus	
	Flavoparmelia caperata	Common greenshield lichen	
	Ganoderma lingzhi	Reishi	
	Hypogymnia physodes	Hooded tube lichen	
	Neonectria ditissima	Beech canker fungus	
	Peltigera praetextata	Scaly pelt lichen	
	Poronidulus conchifer	Little nest polypore	
	Sarcosoma globosum	Witches' cauldron	
	Tremella mesenterica	Witch's butter	
	Trichaptum abietinum	Purple pore bracket	
	Usnea strigosa	Bristly beard lichen	

Table 3.0 Notes:

1. * Indicates a state listed plant species. See Section 5.2 for details.

2. OBL: Occurs almost always under natural conditions in wetlands.
   FACW: Usually occurs in wetlands but occasionally found in non-wetlands (uplands).
   FAC: Equally likely to occur in wetlands and non-wetlands (uplands).
   FACU: Usually occurs in non-wetlands (uplands) but occasionally found in wetlands.
   UPL: Occurs almost always under natural conditions in non-wetlands (uplands).

Table 4.0 Wildlife Observed on Site		
Type	Common Name	Scientific Name
Birds	Alder flycatcher	*Empidonax alnorum*
	American crow	*Corvus brachyrhynchos*
	American goldfinch	*Spinus tristis*
	American robin	*Turdus migratorius*
	Barred owl	*Strix varia*
	Black-and-white warbler	*Mniotilta varia*
	Black-capped chickadee	*Poecile atricapillus*

Table 4.0: Wildlife Observed on Site, continued.		
	Black-throated blue warbler	*Setophaga caerulescens*
	Blue jay	*Cyanocitta cristata*
	Broad-winged hawk	*Buteo platypterus*
	Brown creeper	*Certhia americana*
	Canada goose	*Branta canadensis*
	Chimney swift	*Chaetura pelagica*
	Chipping sparrow	*Spizella passerina*
	Common merganser	*Mergus merganser*
	Common raven	*Corvus corax*
	Common yellowthroat	*Geothlypis trichas*
	Dark-eyed junco	*Junco hyemalis*
	Downy woodpecker	*Picoides pubescens*
	Eastern bluebird	*Sialia sialis*
	Eastern towhee	*Pipilo erythrophthalmus*
	Eastern wood-pewee	*Contopus virens*
	Evening grosbeak	*Coccothraustes vespertinus*
	Golden-crowned kinglet	*Regulus satrapa*
	Gray catbird	*Dumetella carolinensis*
	Great blue heron	*Ardea herodias*
	Great crested flycatcher	*Myiarchus crinitus*
	Hairy woodpecker	*Leuconotopicus villosus*
	Hermit thrush	*Catharus guttatus*
	House wren	*Troglodytes aedon*
	Mourning dove	*Zenaida macroura*
	Nashville warbler	*Leiothlypis ruficapilla*
	Osprey	*Pandion haliaetus*
	Ovenbird	*Seiurus aurocapilla*
	Pileated woodpecker	*Dryocopus pileatus*
	Pine warbler	*Setophaga pinus*
	Purple finch	*Haemorhous purpureus*
	Red crossbill	*Loxia curvirostra*
	Red eyed vireo	*Vireo olivaceus*
	Red-bellied woodpecker	*Melanerpes carolinus*
	Red-breasted nuthatch	*Sitta canadensis*
	Ruffed grouse	*Bonasa umbellus*
	Scarlet tanager	*Piranga olivacea*
	Swamp sparrow	*Melospiza georgiana*
	Tufted titmouse	*Baeolophus bicolor*
	White throated sparrow	*Zonotrichia albicollis*
	White-breasted nuthatch	*Sitta carolinensis*

Table 4.0: Wildlife Observed on Site, continued.		
	White-throated sparrow	*Zonotrichia albicollis*
	Wild turkey	*Meleagris gallopavo*
	Yellow-bellied sapsucker	*Sphyrapicus varius*
Mammals	American beaver	*Castor canadensis*
	Big brown bat	*Eptesicus fuscus*
	Coyote	*Canis latrans*
	Eastern chipmunk	*Tamias striatus*
	Fisher	*Pekania pennanti*
	Hoary bat	*Lasiurus cinereus*
	Little brown bat	*Myotis lucifugus*
	Mole sp.	*Talpidae sp.*
	Red squirrel	*Sciurus vulgaris*
	Silver-haired bat	*Lasyionicterius noctivagans*
	White-tailed deer	*Odocoileus virginianus*
	Woodchuck	*Marmota monax*
Herptiles	American bullfrog	*Lithobates catesbeianus*
	American toad	*Anaxyrus americanus*
	Eastern garter snake	*Thamnophis sirtalis sirtalis*
	Gray tree frog	*Dryophytes versicolor*
	Green frog	*Rana clamitans*
	Northern leopard frog	*Lithobates pipiens*
	Pickerel frog	*Lithobates palustris*
	Red-backed salamander	*Plethodon cinereus*
	Spotted Salamander	*Ambystoma maculatum*
	Spring peeper	*Pseudacris crucifer*
	Wood frog	*Lithobates sylvaticus*
Invertebrates		
Coleoptera	Belly-banded flea beetle	*Alticini sp.*
	Black longhorn beetle	*Spondylis buprestoides*
	Black spruce borer	*Monochamus scutellatus*
	Click beetle	*Melanotus sp.*
	Dichelonyx albicollis	*Dichelonyx albicollis*
	Enoclerus nigripes	*Enoclerus nigripes*
	Ground beetle	*Pterostichus sp.*
	June beetle	*Cotinis nitida*
	Oriental beetle	*Anomala orientalis*
	Red milkweed beetle	*Tetraopes tetrophthalmus*
	Red-rot decay stag beetle	*Ceruchus piceus*

Table 4.0: Wildlife Observed on Site, continued.		
	Strangalepta flower longhorn beetle	*Strangalepta abbreviata*
	Trigonarthris subpubescens	*Trigonarthris subpubescens*
	Winter firefly	*Ellychnia corrusca*
Hymenoptera	American sand wasp	*Bembix americana*
	Blueberry stem gall wasp	*Hemadas nubilipennis*
	Cerceris nigrescens	*Cerceris nigrescens*
	Common bumblebee	*Bombus pensylvanicus*
	Hawthorn mining bee	*Andrena crataegi*
	Ichneumonid wasp	*Ichneumonidae sp.*
	New York carpenter ant	*Camponotus novaeboracensis*
Odonata	Chalk-fronted corporal	*Ladona julia*
	Common whitetail	*Plathemis lydia*
	Eastern forktail	*Ischnura verticalis*
	Ebony jewelwing	*Calopteryx maculata*
Hemiptera	Northern dog day cicada	*Neotibicen canicularis*
	Oedancala dorsalis	*Oedancala dorsalis*
	Twice-stabbed stink bug	*Cosmopepla lintneriana*
Trichoptera	Casemaker caddisfly	*Ptilostomis sp.*
	Irrorata northern caddisfly	*Glyphopsyche irrorata*
Lepidoptera	Agonopterix clemensella	*Agonopterix clemensella*
	American copper	*Lycaena phlaeas*
	American idia	*Idia americalis*
	Apotomis sp.	*Apotomis sp.*
	Aspen serpentine leafminer	*Phyllocnistis populiella*
	Banded tussock moth	*Halysidota tessellaris*
	Banksiola dossuaria	*Banksiola dossuaria*
	Black-dotted glyph	*Maliattha synochitis*
	Blinded sphinx	*Paonias excaecatus*
	Cabbage white	*Pieris rapae*
	Canada tiger swallowtail	*Papilio canadensis*
	Carmine snout	*Peoria approximella*
	Cloaked marvel	*Chytonix palliatricula*
	Clouded sulphur	*Colias philodice*
	Common gluphisia	*Gluphisia sp.*
	Common lytrosis moth	*Lytrosis unitaria*
	Connected brocade	*Calophasia lunula*
	Crocus geometer	*Xanthotype urticaria*
	Curved halter moth	*Capis curvata*
	Dagger moth	*Acronicta americana*
	Dotted graylet	*Hyperstrotia pervertens*

Table 4.0: Wildlife Observed on Site, continued.		
	Eastern panthea moth	*Panthea furcilla*
	Epauleted oak dagger	*Acronicta ovata*
	Essex skipper	*Thymelicus lineola*
	Faint spotted palthis moth	*Palthis asopialis*
	Forest tent caterpillar moth	*Malacosoma disstria*
	Green-dusted zale moth	*Zale aeruginosa*
	Hobomok skipper	*Poanes hobomok*
	Hydrelia condensata	*Hydrelia condensata*
	Isabella tiger moth	*Pyrrharctia isabella*
	Large aspen tortrix	*Choristoneura conflictana*
	Large lace border moth	*Scopula limboundata*
	Large mossy glyph	*Protodeltote muscosula*
	Least marked euchlaena moth	*Euchlaena irraria*
	Lintner's gluphisia	*Gluphisia linterii*
	Little wood satyr	*Megisto cymela*
	Mustard white	*Sinapis alba*
	Northern cloudywing	*Thorybes pylades*
	Northern pearly-eye	*Enodia anthedon*
	Northern pine sphinx	*Lapara bombycoides*
	Pale alder moth	*Tacparia detersata*
	Pale-winged midget	*Elaphria festivoides*
	Pine measuringworm moth	*Hypagyrtis piniata*
	Red-headed inchworm	*Macaria bisignata*
	Rosy maple moth	*Dryocampa rubicunda*
	Shagreened slug moth	*Apoda biguttata*
	Sigmoid prominent	*Clostera albosigma*
	Sparganothis fruitworm	*Sparganothis sulphureana*
	Spiny oak-slug moth	*Euclea delphinii*
	Subdued quaker	*Orthosia revicta*
	Sweetfern geometer	*Cyclophora pendulinaria*
	Virginia ctenucha moth	*Ctenucha virginica*
	White admiral	*Limenitis arthemis*
	White slant-line	*Tetracis cachexiata*
	Willow-and-poplar leafroller	*Gypsonoma fasciolana*
	Yellow-shouldered slug moth	*Lithacodes fasciola*
Other inverts	Black cherry leaf gall mite	*Eriophyes cerasicrumena*
	Canadian flat-backed millipede	*Pleuroloma flavipes*
	Eastern black-legged tick	*Ixodes scapularis*
	Flower fly sp.	*Syrphus sp.*
	Giant lichen orbweaver	*Araneus bicentenarius*

Table 4.0: Wildlife Observed on Site, continued.		
	Melanoplus grasshopper	*Melanoplus sp.*
	Nursery web spider	*Pisauridae sp.*
	Philomycus slug	*Philomycus sp.*
	Wolf spider	*Lycosidae sp.*

5.2.1 Northern Long-eared Bat Findings

Northern long-eared bat is an S1[17] species which is listed by New York, and the USFWS, as endangered. Per the NYNHP letter, northern long-eared bat has been documented within 2.5 miles of the project site and Essex County, NY, is a known location for winter occurrences (i.e., hibernacula exist nearby). This species can disperse up to 5-miles from these locations and likely forage over any suitable habitat (i.e., woodlands) within that radius. However, the NYSDEC does not show Essex County as a location where summer occurrences (i.e., breeding, pup-rearing, etc.) has been documented.

Northern long-eared bats are typically associated with mature, interior forests and often tend to avoid edge-habitat[18]. They will often forage over forested areas and associated riparian areas as well as a large variety of habitats. Further, this species is typically associated with caves when hibernating in the winter and trees with crevasses and snags for roosting in the summer. Suitable potential summer roosting/maternity habitat is characterized by numerous trees (dead, dying, or alive) or snags, down to 3 inches diameter breast height (dbh).

This species has declined across most of its range due to White Nose Syndrome (WNS), a deadly fungal (*Pseudogymnoascus destructans*) disease which has caused the deaths of millions of bats since 2006. The USFWS and NYSDEC does not consider habitat loss (the cutting of trees) to be a detriment to this species. However, the removal of roost trees during the breeding season (i.e., when bats are outside of their hibernacula) is prohibited.

During the B. Laing Associates nocturnal bat surveys, no northern long-eared bats were recorded. Even if summer occurrences of this species have not been documented on/near the site, it is feasible that these woodlands could be used for foraging, at a minimum. Suitable habitat for this species does exist on site, especially considering the species has been documented nearby.

[17] Also, G2G3, globally: imperiled or vulnerable.
[18] Per NYNHP.

5.2.2 Indiana Bat Findings

Per the USFWS IPaC results, Indiana bat was generated as an endangered species which may be affected by the project. This species has not been documented near the project site[19]. As such, the NYSDEC, which also considers this species as endangered, did not consider it as a possibility on site. However, Indiana bat has been known to hibernate in Essex County and the DEC cites "it is certain that the summer range of this species extends well beyond these [areas]."

Indiana bats have a very similar life history to northern long-eared bats, as above. However, they typically roost/rear their young in larger trees with snags or exfoliating bark. This species has also been devastated by WNS and regulatory agencies do not consider tree removal to be an overall detriment to the species' overall population. Even so, as in the case of northern long-eared bats, the removal of roost trees during the breeding season is prohibited.

During the B. Laing Associates nocturnal bat surveys, no definitive Indiana bats were recorded on site. However, the surveys did detect one occurrence of little brown bat (*Myotis lucifugus*), which is often cited as being "acoustically ambiguous" with Indiana bat[20]. As with northern long-eared bats, even if summer occurrences of this species have not been documented on/near the site, it is feasible that these woodlands could be used for foraging considering Indiana bats have been known to hibernate in Essex County. Suitable foraging habitat for this species does exist on site, but restrictions to protect northern long-eared bat and Indiana bat are almost identical. As such, any project concerns for the northern long-eared bat will also apply to the Indiana bat.

5.2.3 Monarch Butterfly Findings

Monarch butterflies are not currently protected, but they are a candidate species for future federal listing. This species of butterfly is migratory and its population has declined over the last few decades due to habitat loss on its wintering grounds as well as habitat loss in its breeding grounds (including New York). Further, the USFWS cites the overuse of pesticides as another reason for its decline.

Adults of this species typically nectar on a wide range of wildflowers, but its larval form (caterpillars) are obligatorily tied to members of the milkweed genus (*Asclepias*); most typically common milkweed (*Asclepias syriaca*). Thus, the species' habitat can be defined as places where milkweeds are most common (roadways, grasslands, meadows, etc.) The project site is mostly wooded with only a few areas where common milkweed grows; most notably the small clearing within the south-central portion of the site. Even there, milkweed was not very abundant. There were no areas found to be dominated by, or with large populations of, milkweed. As such, the project site is not very suitable for monarch butterfly. Regardless, this species is not afforded any protection under the Endangered Species Act at this time.

[19] Even if the Indiana bat does not exist within the vicinity of the project site, any considerations made for the northern long-eared bat will also benefit this species, as they have a similar life history.
[20] Per Qualitative Manual Identification of Eastern U.S. Bat Echolocation Calls.

5.2.4 Appalachian Tiger Beetle Findings

Appalachian tiger beetle is an S2[21] species in New York State and considered a G3[22] species, globally. This species is typically found in riparian sections of hilly and low mountain regions. It is typically[23] found on edges of forested streams and rivers on sandy bars, shaded beaches, and gravel areas or cobble bars, along running water. These sandy/gravelly areas are typically vegetated with sparse to moderate herbaceous species and/or saplings of trees such as cottonwood (*Populus deltoides*), willows (*Salix*), etc.

This species is known from Essex County, and has been observed "adjacent" to the project site. The habitat for this species, as described by the NYNHP is better suited for the gravelly banks of the Ausable River, rather than the habitat on the main portion of the site. Even "Wetland 1," which has some flowing water, is not very suitable. The flowing portions of Wetland 1 are very narrow with the larger sections being dammed by beavers and lacking sandy/gravelly bars and beaches.

During June, 2023, suitable habitat for Appalachian tiger beetle was surveyed for this species. No Appalachian tiger beetles were located on site; either along the Ausable River or otherwise. While observers did not locate this species, it is a relatively mobile insect and the Ausable River corridor represents a large stretch of suitable habitat. However, as this is a riparian obligate species, any future instances of this beetle would be strictly associated with the Ausable River, thus far from the development area. This species is not listed as either threatened or endangered by the NYSDEC.

5.2.5 Meadow Horsetail Findings

Meadow Horsetail is an S2 species of plant in the Equisetidae family that is listed as threatened by the NYSDEC, though secure globally. There are currently 15 known populations in the state. The NYNHP describes this species' habitat as a "diversity of upland habitats, both shaded and open, usually in rocky or gravelly soil, on slopes or banks, adjacent to rivers, road, or railroads; alluvial woods, thickets, mossy glades, rich slopes and calcareous meadows; stream banks and moist woods."

This species has been found nearby as recently as 2016. It is known from an area within 0.25-miles of the southeastern portion of the site, along a slope down to a creek in successional northern hardwoods.

Observers purposefully sought out this species and did find meadow horsetail growing in and adjacent to the wetlands ("Wetland 6") associated with the Ausable River, east of Route 9N. Other, similar-looking *Equisetum* species (*E. arvense, E. sylvaticum*) were found throughout other areas of the site, but this was the only location where meadow horsetail was observed. This portion of

[21] Very vulnerable in New York, few remaining individuals
[22] Vulnerable globally - At moderate risk of extinction due to rarity or other factors.
[23] Per NYNHP.

the site is across Route 9N and no development is proposed nearby. See Appendix C for more information about meadow horsetail.

5.2.6 Houghton's Sedge Findings

Houghton's sedge (*Carex houghtoniana*) is an S2 species of plant in the Cyperaceae family that is listed as threatened by the NYSDEC, though secure globally. There are currently 10 known populations in the state, though as many as 20 historic locations. The NYNHP describes its habitat as open, dry areas such as dunes, old sand pits, exposed sandy or rocky soils, disturbed areas, and breaks in woodlands. Populations have the potential to rebound after succession/reforestation following disturbance events such as clearing or fire.

Houghton's sedge was not provided in the NYNHP letter for this site. As such, the NYSDEC did not appear to have records of this species at this location. Nevertheless, observers found a population of this species on site; between 20-50 plants. This species was found growing in a dry, open break alongside sweetfern (*Comptonia peregrina*), and other species of sandy uplands. This location was well to the west of the development area and no development is proposed nearby. Similar dry, open habitats on site were surveyed but this species was not located elsewhere. See Appendix C for more information about Houghton's sedge.

5.3 Unique Ecosystem Findings

As described above, the Northern Pine-Hardwood Forest (NPHF) community, as shown on the online resources was sought in the field to understand its extents. Investigators found that the mapping as provided online was more or less correct in terms of this community's extents. Further, the online mapping shows this habitat as two disconnected pieces which are separated by the wetlands on site, which was also found to be accurate.

B. Laing Associates personnel walked the perimeter of the northern section of the NPHF habitat type to determine a more precise boundary of its limits. Using the habitat parameters set forth in the methodology section, above, observers were able to note small differences between the online mapped sections, and the habitat in the field. Points were plotted on a sub-meter GPS unit as observers delineated the boundary between NPHF and non-NPHF habitat. Investigators also noted that the southern mapped area of NPHF existed south of the primary wetland on site. However, as this mapped area was considered a) well outside the area of development and b) more or less accurate, B. Laing Associates did not believe this area required refined mapping.

As with the NPHF habitat, observers also sought the Appalachian Oak-Pine Forest (AOPF) community, though it was not included in the NYNHP letter and is not considered listed, or at risk by the NYSDEC[24]. Using the habitat parameters set forth in the methodology section, above,

[24] The NYNHP refers to this habitat type, which is not listed or protected, as "uncommon but not rare," and "apparently secure."

observers delineated the boundary between AOPF and non-AOPF habitat. Points were plotted on a sub-meter GPS unit and analyzed with ArcGIS software.

The limits of the above-described habitat features were similar to the defined boundaries provided online. The shapefiles of the plotted points were sent to the project engineers for review.

5.4 Ecological Project Recommendations

As described above, there are species of plants and animals, as well as rare habitat communities, that either exist or have the potential to exist on site. For the most part, these species include plants and animals which would be well outside the development area. The largest *potential* impact, from a listed-species point of view, would come from the endangered northern long-eared (and Indiana) bats.

The NYSDEC and USFWS agree that the decline of listed bat species is not the result of habitat loss, but rather the WNS. As such, tree clearing (except in areas of known summer occurrences or within 0.25-miles of a known hibernaculum) is typically allowed. As northern long-eared bats are known to exist nearby (but outside of the 0.25-mile radius), trees should be allowed to be cleared during the hibernation season (between November 1 and March 31). Undertaking this tree-clearing restriction typically allows a project to continue while being unlikely to harm listed bat species. However, the project should still try (to the greatest extent practicable) to reduce the number of trees being cleared. Further, a USFWS ESA consultation should be done prior to any tree clearing,

As described above, two species of state-threatened plant were observed on site: meadow horsetail and Houghton's sedge. It was determined that both plant populations were well outside of the development area. As such, no further recommendations for these species need to be made[25].

With respect to the unique ecological communities on site, especially the NPHF, the project should try to reduce impacts to this habitat as much as possible. The NYNHP outlines conservation and development considerations for the NPHF community type. These include avoiding cutting older growth examples of this habitat type and striving to minimize fragmentation of large forest blocks by focusing development on forest edges, minimizing the width of roads, and overall trying to reduce the spatial impact of development. Clustering development as much as possible toward existing disturbed areas (such as Route 9N) is also helpful.

In this case, the project should attempt to reduce impact to the NPHF to the greatest extent practicable. Considering the fact that the site was apparently logged within the last 100-years, portions of the NPHF on site may be younger and less mature. By clustering the development closer to the road, and limiting fragmentation of this ecological community, impacts thereto will naturally lessen. Further, by clustering the development to the greatest extent practicable, the

[25] Per NYSDEC, state-protected plants on private property can be removed with the consent of the landowner.

project will be reducing the impacts to all the types of wildlife which depend on unbroken woodlands. The site abuts Route 9N and the East Branch of the Ausable River. Thus, there is already a natural/existing "break" in the woodland habitat, between the existing roadway and the wide, open river corridor. As such the project should strive to cluster towards the east as much as possible. Note that extensive woodland habitat (including extensive NPHF habitat) exists off-site to the west. As such, the impact of this site's woodlands may not have a large impact on the greater overall community, especially given the natural break in habitat already afforded by Route 9N and the East Branch of the Ausable River. See Appendix F.

6.0 SUMMARY

B. Laing Associates, Inc. has undertaken an analysis of natural resources, including wetlands and ecology, in response to the Adirondack Park Agency's "Second Notice of Incomplete Permit Application; APA Project No.: 2021-0248." The site, as detailed in Section 1, was analyzed for wetlands, and inventoried for biota per the methodology listed above. Wetlands were delineated per the 1987 Army Corps of Engineers Wetland Delineation Manual and APA's wetland definition. Wildlife and plants were inventoried by sight, sound, or sign. Further, effort was taken to analyze the project site for those species (and their habitats) which were listed by either the USFWS or NYSDEC/NYNHP. In addition, unique habitat communities were inventoried and mapped.

As above, field investigations by B. Laing Associates, Inc. discovered that wetlands, characterized by all three parameters, (i.e., wetland vegetation, hydrology, and soils) were largely associated with the existing stream which runs southeast through the southern portion of the site. Further, some additional wetlands (some of which were indicated on the NWI map) were found to exist, and were delineated. In other cases, some wetland areas which were on the NWI map were found to be uplands.

B. Laing Associates also did observe two species of plant (meadow horsetail and Houghton's sedge) which are listed by New York State as threatened. These were found well outside of the development area. No animals listed as endangered or threatened by the New York State or the USFWS were observed on site. While none were observed, it was determined that northern long-eared bat[26] and Appalachian tiger beetle may find their needs met by the habitats on site. As such, they have the potential to occur. The latter species would only be found away from the proposed development; along the gravelly banks of the Ausable River, east of Route 9N. However, as listed bat species have the potential to occur anywhere on site, all tree clearing should be done during the wintertime as outlined above.

With regard to the unique community types (mainly Northern Pine-Hardwood Forest), it was determined that the online mapping resources show these habitats more or less where they exist in the field. These habitats are not considered listed or protected by New York State.

[26] The NYSDEC does not show Indiana bat as existing in this part of Essex County. However, any precautions taken to protect northern long-eared bat will also protect Indiana bat.

However, the APA has requested that a revised site plan be submitted that showed all clearing, development, etc. outside of the NPHF. As such, the project should be clustered such that impacts to the Northern Pine-Hardwood Forest are minimized or prevented.

However, the existing break in woodland habitat associated with Route 9N and the East Branch of the Ausable River should be considered. There is also a large mining operation to the south of the project site and a band of clearing/development along Route 9N both south and north of the project site (including Au Sable Forks; a nearby town). This "zoomed out" analysis is included in Appendix F. When the larger picture is analyzed, including the existing clustering of the proposed project with respect to the extensive amount of unbroken woodland (including unique natural communities) to the west, the impact to wildlife that use the nearby woodlands is already relatively minimized.

Appendix A

Site Photographs

Photo 1: Showing a drone photograph looking north at the site which is dominated by white pine. (11/8/2022)

Photo 2: Showing a drone photograph looking south at the site. Note the emergent beaver ponds (Wetland 1) in the photograph. (11/8/2022)

Photo 3: A drone photograph looking west at distant wetlands on site. (11/8/2022)

Photo 4: A drone photograph looking east at the East Branch of the Ausable River and wetlands associated therewith. (11/8/2022)

Photo 5: Showing a typical upland trail/old logging road on site. (11/2/2022)

Photo 6: Showing a portion of Wetland 3 off-site to the north where it is fed by a rocky seep. (11/2/2022)

Photo 7: Showing an upland area dominated by very young white pine. (11/2/2022)

Photo 8: Showing a sparely vegetated upland are on the southeast portion of the site, near nearby residences. (11/2/2022)

Photo 9: Showing the stream on site (Wetland 1) where it flows southeast off site. (11/2/2022)

Photo 10: Looking at an area of shrub-dominated wetland on the southeast of the site. (11/2/2022)

Photo 11: Looking at an edge of Wetland 1 with pine dominated uplands to the right and shrub-dominated wetlands to the left. (11/2/2022)

Photo 12: A similar vantage as in Photo 11, but looking into the wetlands at a sedge-dominated portion. (11/2/2022)

Photo 13: Looking at a disturbed upland area with *Verbascum Thapsus*. In the distance is the centrally-located clearing on site. (11/2/2022)

Photo 14: Showing an open-water/beaver pond portion of Wetland 1. (11/2/2022)

Photo 15: Showing a pine and beech dominated upland adjacent to the delineated wetlands. (11/2/2022)

Photo 16: Looking south into the centrally located upland clearing on site, where numerous trails converge. (11/2/2022)

Photo 17: Showing another portion of sedge-dominated wetland with more open water in the distance. (11/2/2022)

Photo 18: Showing a rocky drainageway which drains Wetland 2 of the lands to the south, northward into Wetland 1. (11/2/2022)

Photo 19: Showing a portion of Wetland 2. (11/2/2022)

Photo 20: Another representative photo of pine-dominated uplands with an understory dominated by *Pteridium aquilinum.* (11/2/2022)

Photo 21: On the east side of Route 9N, showing wetlands associated with the East Branch of the Ausable River, looking east. (11/2/2022)

Photo 22: A similar vantage as in Photo 21, but looking back towards Route 9N at the back-side of the existing barn on site. (11/2/2022)

Photo 23: Looking north along Route 9N at the barn on site with the East Branch of the Ausable River to the right. (11/2/2022)

Photo 24: A typical photo of Appalachian Oak-Pine Forest with ericaceous shrubs overtopped by oaks and pines. (11/2/2022)

Photo 25: A typical photo of the overstory of the Oak-Pine woods showing a mix of oaks and pines. (11/2/2022)

Photo 26: Showing a typical section of hydric soil on site, showing an A-11 Hydric Parameter: "depleted beneath dark surface." (11/2/2022)

Photo 27: Showing one of the linear wetlands which drain northward into Wetland 1 from the south. (11/2/2022)

Photo 28: Showing an area of uplands dominated by lichen (*Cladonia spp.*) (11/2/2022)

Photo 29: Showing a typical view of Northern Pine-Hardwood Forest with a mix of understory trees overtopped by emergent pines. (11/2/2022)

Photo 30: A typical sample of bright-colored (chroma) upland soils. (11/2/2022)

Photo 31: Showing the vernal pond associated with Wetland 4 from Spring 2023. (4/18/23)

Photo 32: Looking eastward, east of Route 9N, at the Ausable River where it flows by the site. (6/27/23)

Photo 33: Looking into the beaver-impounded wetlands on site, from hilly uplands during Summer 2023. (6/27/23)

Photo 34: A photo showing the open sedge meadows of Wetland 1. (6/27/23)

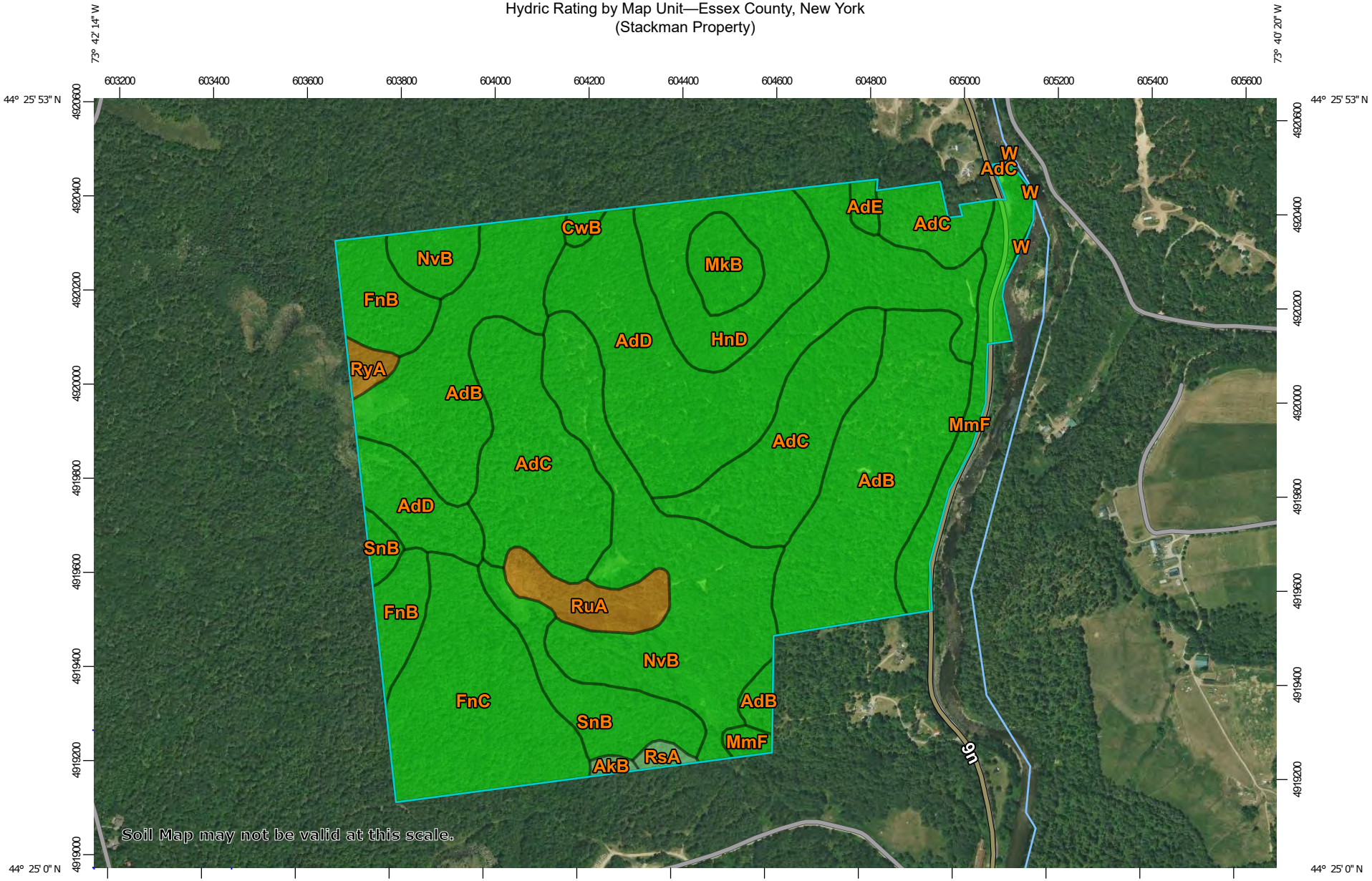
Photo 35: Looking at the Ausable River east of Route 9N where suitable Appalachian tiger beetle habitat exists. (6/27/23)

Appendix B

NRCS Soil Data

Hydric Soil Ratings
Ecological Classification of Soils

Hydric Rating by Map Unit—Essex County, New York
(Stackman Property)



Map Scale: 1:11,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- 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 1:24,000.

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

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

Date(s) aerial images were photographed: Jun 18, 2020—Jun 20, 2020

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.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 3 to 8 percent slopes	0	68.0	18.9%
AdC	Adams loamy sand, 8 to 15 percent slopes	0	57.5	16.0%
AdD	Adams loamy sand, 15 to 25 percent slopes	0	62.3	17.4%
AdE	Adams loamy sand, 25 to 45 percent slopes	0	1.5	0.4%
AkB	Adirondack fine sandy loam, 3 to 8 percent slopes, very bouldery	5	0.8	0.2%
CwB	Croghan fine sand, 3 to 8 percent slopes	0	1.1	0.3%
FnB	Fernlake loamy fine sand, 3 to 8 percent slopes, very bouldery	0	15.0	4.2%
FnC	Fernlake loamy fine sand, 8 to 15 percent slopes, very bouldery	0	34.4	9.6%
HnD	Hermon gravelly loamy sand, 15 to 35 percent slopes, very bouldery	0	21.1	5.9%
MkB	Monadnock fine sandy loam, 3 to 8 percent slopes, very bouldery	0	6.3	1.8%
MmF	Monadnock-Adams complex, 25 to 60 percent slopes, bouldery	0	14.2	4.0%
NvB	Nicholville silt loam, 3 to 8 percent slopes	0	50.1	13.9%
RsA	Roundabout silt loam, 0 to 3 percent slopes	1	1.3	0.4%
RuA	Rumney loam, 0 to 3 percent slopes	97	8.3	2.3%
RyA	Rumney-Burnt Vly complex, 0 to 3 percent slopes	95	2.1	0.6%
SnB	Sunapee fine sandy loam, 3 to 8 percent slopes, very bouldery	0	15.2	4.2%
W	Water	0	0.1	0.0%
Totals for Area of Interest			**359.2**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

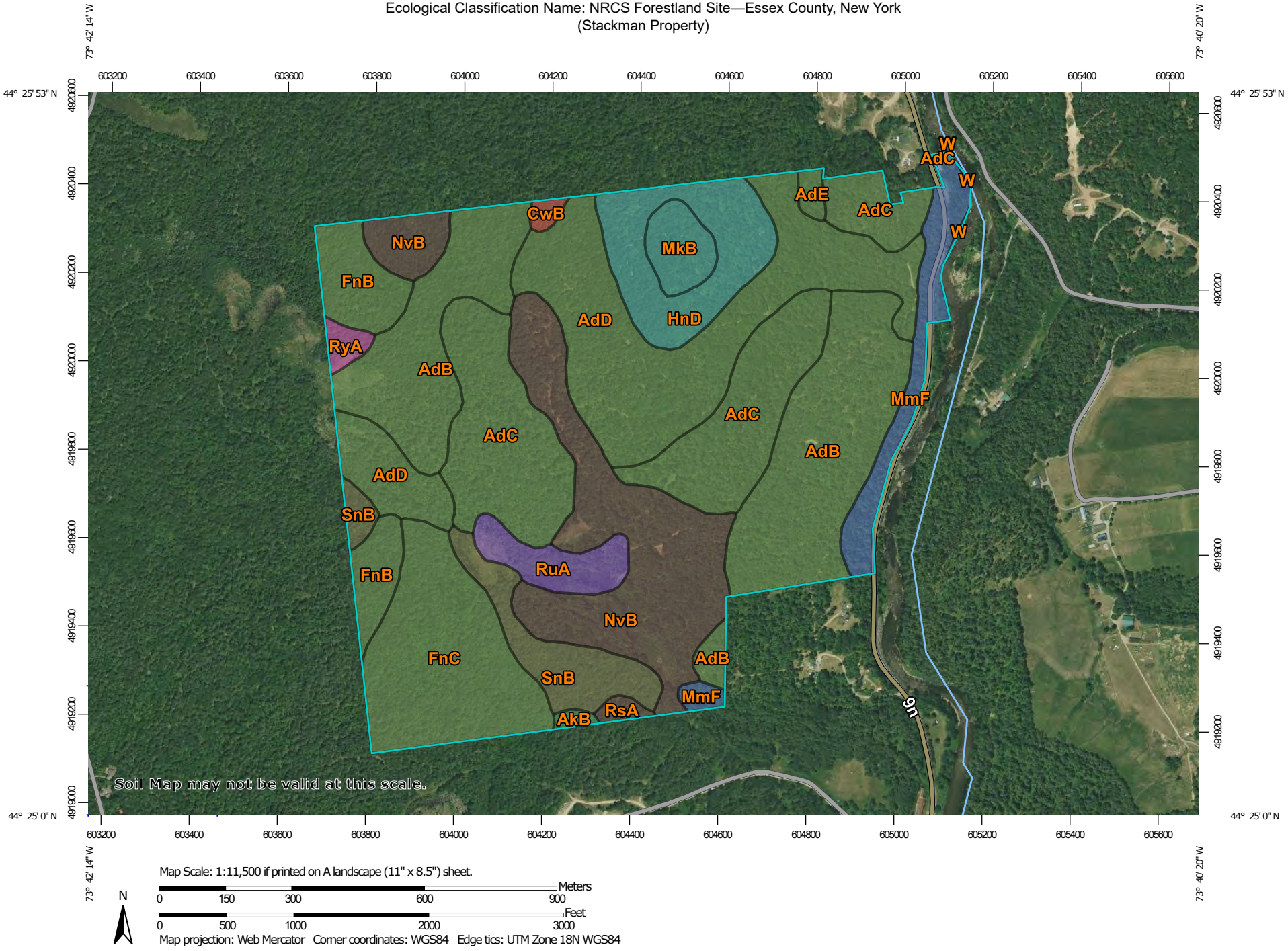
Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Ecological Classification Name: NRCS Forestland Site—Essex County, New York
(Stackman Property)



Map Scale: 1:11,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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

- Acidic Lacustrine Terraces Frigid
- Acidic Moist Till Frigid
- Broad Floodplain Riparian Complex
- Dry Sand
- Loamy Over Sandy
- Loamy Slope
- Loamy Till Toeslope
- Low Floodplain Frigid
- Sandy Flat
- Not rated or not available

Soil Rating Lines

- Acidic Lacustrine Terraces Frigid
- Acidic Moist Till Frigid
- Broad Floodplain Riparian Complex
- Dry Sand
- Loamy Over Sandy
- Loamy Slope
- Loamy Till Toeslope
- Low Floodplain Frigid
- Sandy Flat
- Not rated or not available

Soil Rating Points

- Acidic Lacustrine Terraces Frigid
- Acidic Moist Till Frigid
- Broad Floodplain Riparian Complex
- Dry Sand
- Loamy Over Sandy
- Loamy Slope
- Loamy Till Toeslope
- Low Floodplain Frigid
- Sandy Flat
- 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 1:24,000.

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

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

Date(s) aerial images were photographed: Jun 18, 2020—Jun 20, 2020

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.

Ecological Classification Name: NRCS Forestland Site

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 3 to 8 percent slopes	Dry Sand	68.0	18.9%
AdC	Adams loamy sand, 8 to 15 percent slopes	Dry Sand	57.5	16.0%
AdD	Adams loamy sand, 15 to 25 percent slopes	Dry Sand	62.3	17.4%
AdE	Adams loamy sand, 25 to 45 percent slopes	Dry Sand	1.5	0.4%
AkB	Adirondack fine sandy loam, 3 to 8 percent slopes, very bouldery	Loamy Till Toeslope	0.8	0.2%
CwB	Croghan fine sand, 3 to 8 percent slopes	Sandy Flat	1.1	0.3%
FnB	Fernlake loamy fine sand, 3 to 8 percent slopes, very bouldery	Dry Sand	15.0	4.2%
FnC	Fernlake loamy fine sand, 8 to 15 percent slopes, very bouldery	Dry Sand	34.4	9.6%
HnD	Hermon gravelly loamy sand, 15 to 35 percent slopes, very bouldery	Acidic Moist Till Frigid	21.1	5.9%
MkB	Monadnock fine sandy loam, 3 to 8 percent slopes, very bouldery	Acidic Moist Till Frigid	6.3	1.8%
MmF	Monadnock-Adams complex, 25 to 60 percent slopes, bouldery	Loamy Over Sandy	14.2	4.0%
NvB	Nicholville silt loam, 3 to 8 percent slopes	Acidic Lacustrine Terraces Frigid	50.1	13.9%
RsA	Roundabout silt loam, 0 to 3 percent slopes	Acidic Lacustrine Terraces Frigid	1.3	0.4%
RuA	Rumney loam, 0 to 3 percent slopes	Broad Floodplain Riparian Complex	8.3	2.3%
RyA	Rumney-Burnt Vly complex, 0 to 3 percent slopes	Low Floodplain Frigid	2.1	0.6%
SnB	Sunapee fine sandy loam, 3 to 8 percent slopes, very bouldery	Loamy Slope	15.2	4.2%
W	Water		0.1	0.0%
Totals for Area of Interest			**359.2**	**100.0%**

Description

Ecological classifications consist of a series of vegetative classification systems developed by various partners in the National Cooperative Soil Survey. The classifications include, but are not limited to, systematic vegetative groupings. Examples include NRCS ecological sites, United States Forest Service plant associations, and forage suitability groups. The classifications systems are identified by the Ecological Classification Type Name field, which is in the Component Ecological Classification table.

Rating Options

Class: NRCS Forestland Site

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Appendix C

Listed Species Data

NYNHP Letter
IPaC List
Exhibits regarding *Equisetum pratense* and *Carex houghtoniana*

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 25, 2022

Eric Neumeyer
SE Group
35 W Main Street #946
Frisco, CO 80443

Re: Stackman Project
County: Essex Town/City: Jay

Dear Eric Neumeyer:

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

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to 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 sources may be required to fully assess impacts on biological resources.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and 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 5 Office, Division of Environmental Permits, at dep.r5@dec.ny.gov.

Sincerely,

Heidi Krahling
Environmental Review Specialist
New York Natural Heritage Program

The following state-listed animals have been documented in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 5 Office at dep.r5@dec.ny.gov, (518) 623-1286.

The following species has been documented within 1.5 miles of the project site. Another location is documented within 4.75 miles. Individual animals may travel 5 miles from documented locations. The main impact of concern is the cutting or removal of potential roost trees.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Northern Long-eared Bat *Hibernaculum*	*Myotis septentrionalis*	Threatened	Threatened	14157

This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare plants, rare animals, and significant natural communities have been documented at the project site, or in its vicinity.

We recommend that potential impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine whether a species currently occurs at the site, particularly for sites that are currently undeveloped andK may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animal, while not listed by New York State as Endangered or Threatened, €Cr are rare in New York and is of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Beetles			
Appalachian Tiger Beetle	*Cicindela ancocisconensis*	Unlisted	Imperiled in NYS and Globally Uncommon

Aocumented in an area adjacent to t7e pro&ct site. 4173

The following natural community is considered significant from a statewide perspective by the NY Natural Heritage Program. By meeting specific, documented criteria, the NY Natural Heritage Program considers this community occurrence to have high ecological and conservation value.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Upland/Terrestrial Communities			
Pine-Northern Hardwood Forest			High Quality Occurrence of Uncommon Community Type

Documented at the project site. Very large, moderately diverse community with relatively large, intact, putative old growth core, in a moderately intact landscape. 2307

The following plant €Cr listed as Threatened by New York State, and so €Cr a vulnerable natural resource of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Vascular Plants			
Meadow Horsetail	*Equisetum pratense*	Threatened	Imperiled in NYS

Documented within 1/4 mile of the southeast section of the project site. 2016-08-17: The plants were along the slope down to a small creek in successional northern hardwoods. 2923

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/29384.html for Ecological Communities of New York State.

IPaC **U.S. Fish & Wildlife Service**

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.

NOT FOR CONSULTATION

Location

Essex County, New York

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699
fw5es_nyfo@fws.gov

3817 Luker Road
Cortland, NY 13045-9385

NOT FOR CONSULTATION

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. IPaC only shows species that are regulated by USFWS (see FAQ).

NOT FOR CONSULTATION

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 Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

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].

NOT FOR CONSULTATION

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 https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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
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.	Breeds Dec 1 to Aug 31

NOT FOR CONSULTATION

Black-billed Cuckoo Coccyzus erythropthalmus — Breeds May 15 to Oct 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9399

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▬)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

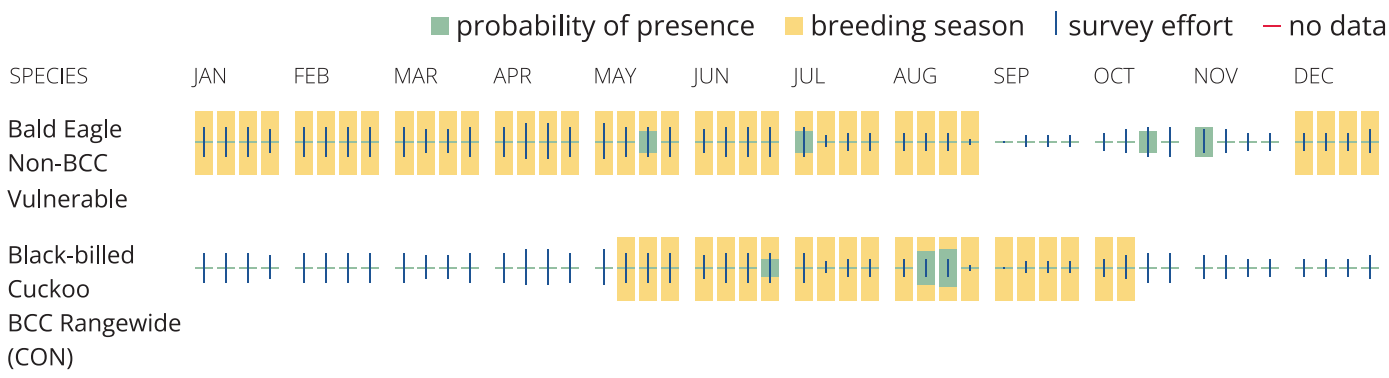
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

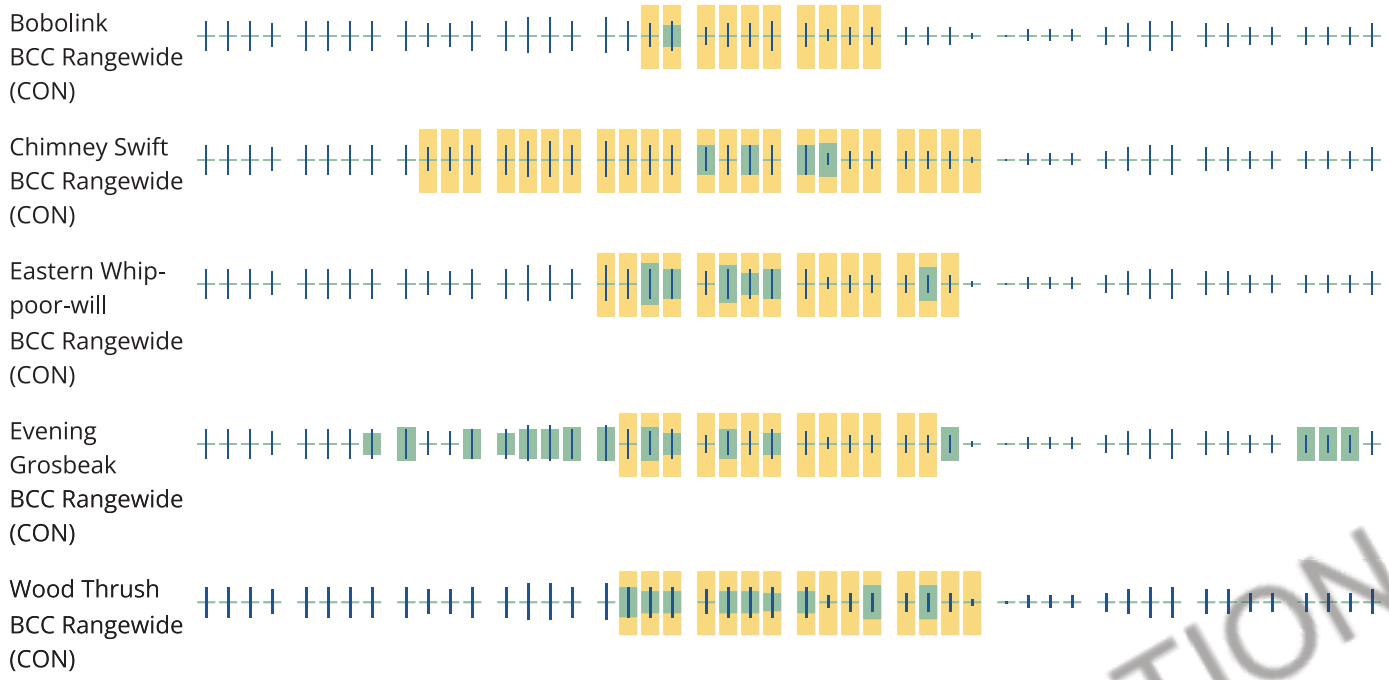
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION





NOT FOR CONSULTATION

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 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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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?

NOT FOR CONSULTATION

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.

NOT FOR CONSULTATION

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

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 (NWI)

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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

NOT FOR CONSULTATION

- PFO5/UBHb
- PFO4/SS1Bb
- PFO4/SS4Eb
- PFO1/SS1E
- PFO4B
- PFO1/SS1B
- PFO4/SS1B
- PSS1Eb
- PSS1E
- PSS1B

RIVERINE

- R3UBH
- R4SB3C
- R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

NOT FOR CONSULTATION

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.

NOT FOR CONSULTATION

Exhibit A: A photograph of meadow horsetail (*Equisetum pratense*) from the subject site. Showing the branching of this species which is horizontal to drooping rather than ascending in other *Equisetum* species.

Photo taken June June 27, 2023. See Figure at end of Appendix C for location of photograph.

Exhibit B: Showing the lowest branches on an individual of meadow horsetail (*Equisetum pratense*). The first internode (end of inner segment) of the branches are shorter in length than the leaf sheaths, which further confirms the identification.

Photo taken June June 27, 2023. See Figure at end of Appendix C for location of photograph.

Exhibit C: A photo of Houghton's sedge (*Carex houghtoniana*) from the subject site. Showing the relatively distinctive female spike of this species.

Photo taken June June 27, 2023. See Figure at end of Appendix C for location of photograph.

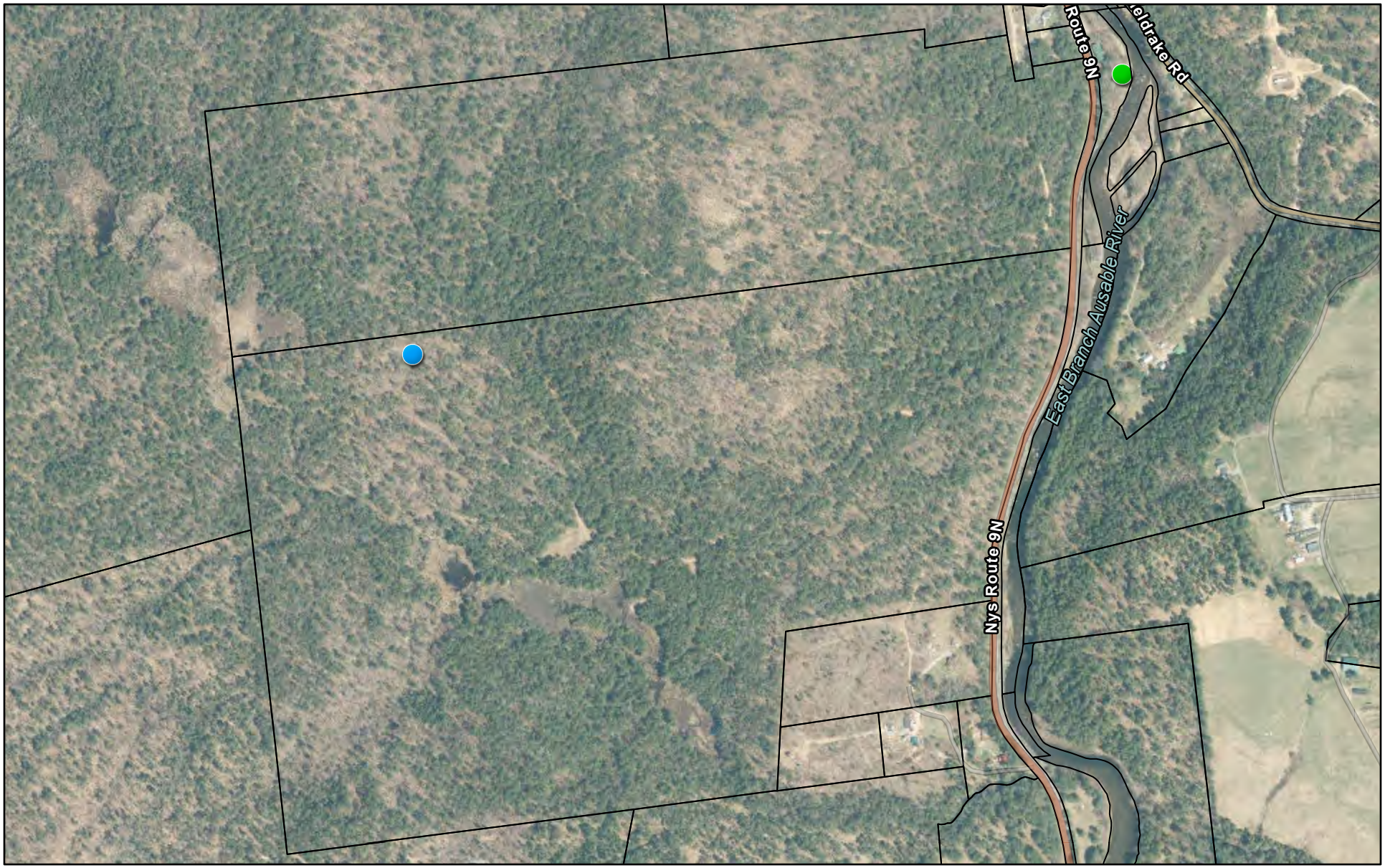
Exhibit D: A detail of the individual perigynia of Houghton's sedge (*Carex houghtoniana*), showing the well veined and densely pubescent surfaces.

Photo taken June June 27, 2023. See Figure at end of Appendix C for location of photograph.

Exhibit E: Showing the habitat that Houghton's sedge (*Carex houghtoniana*) was found growing in; a dry, sandy open/disturbed area. Note other species typical of dry, sandy areas such as sweetfern (*Comptonia peregrina*).

Photo taken June June 28, 2023. See Figure at end of Appendix C for location of photograph.

Stackman Property - Listed Species Map



6/29/2023

Essex County NY Parcels - essex county ny parcels

E. pratense

C. houghtoniana

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

1:12,248

0 0.07 0.15 0.3 mi

0 0.1 0.2 0.4 km

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,

B. Laing Associates, Inc.

Appendix D

Additional Figures

Historic Aerial Photography
Comparison of Historic USGS Topo Maps
National Wetlands Inventory Map
Adirondack Park Agency Wetland Map
Online Map of Northern Pine-Hardwood Forest
Map of NYSDEC Regulated Streams on Site

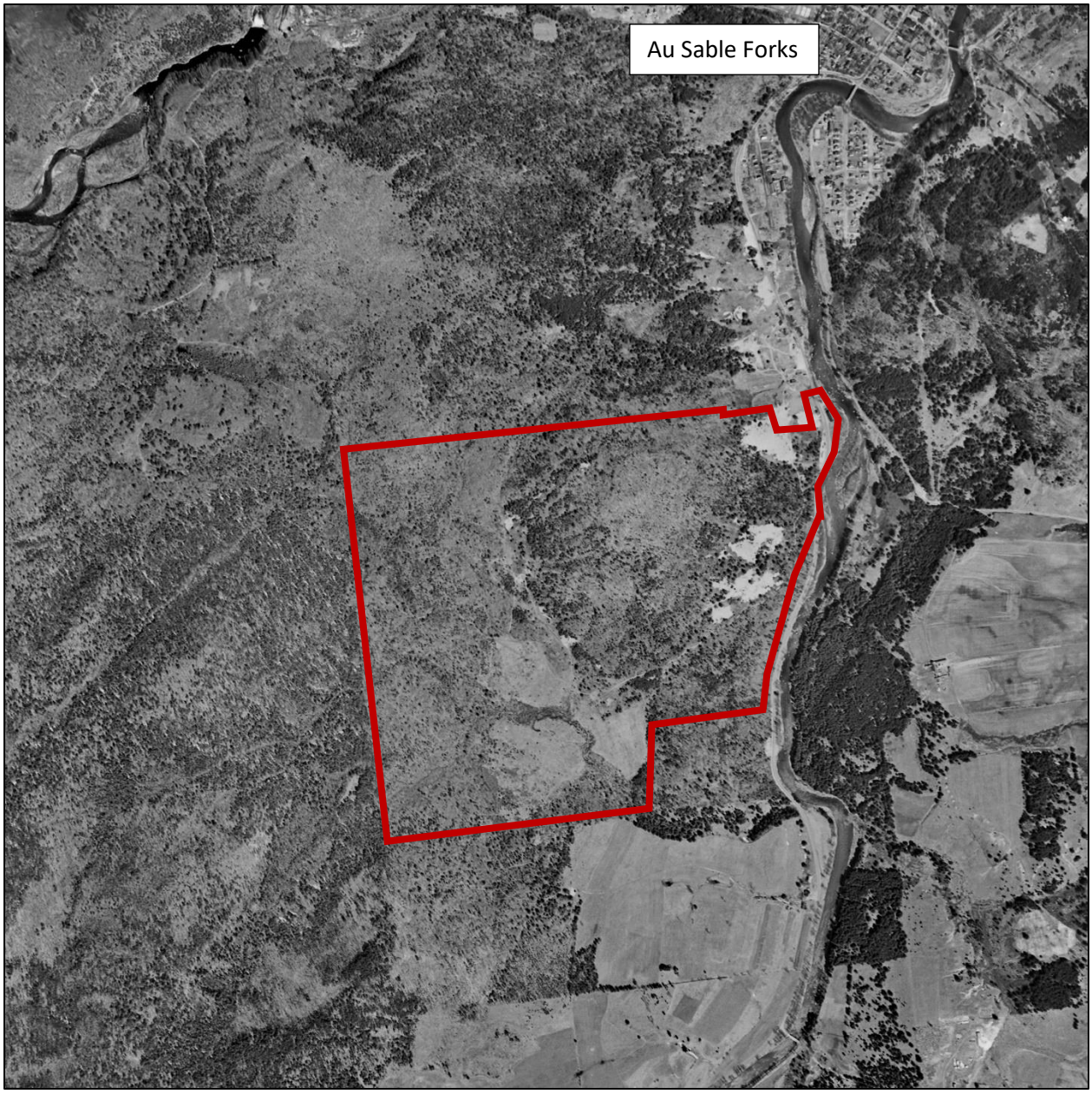
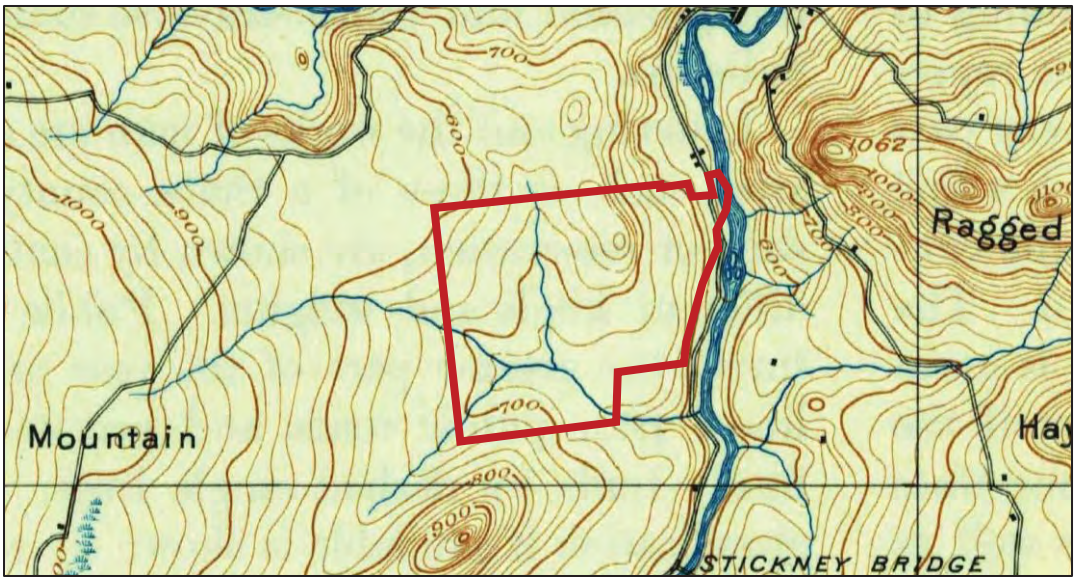


Figure 4.0 – Aerial Photograph of Project Site in 1947

Showing young woodland regeneration and extensive bare areas following logging.

Property lines approximate.

Source: NETR



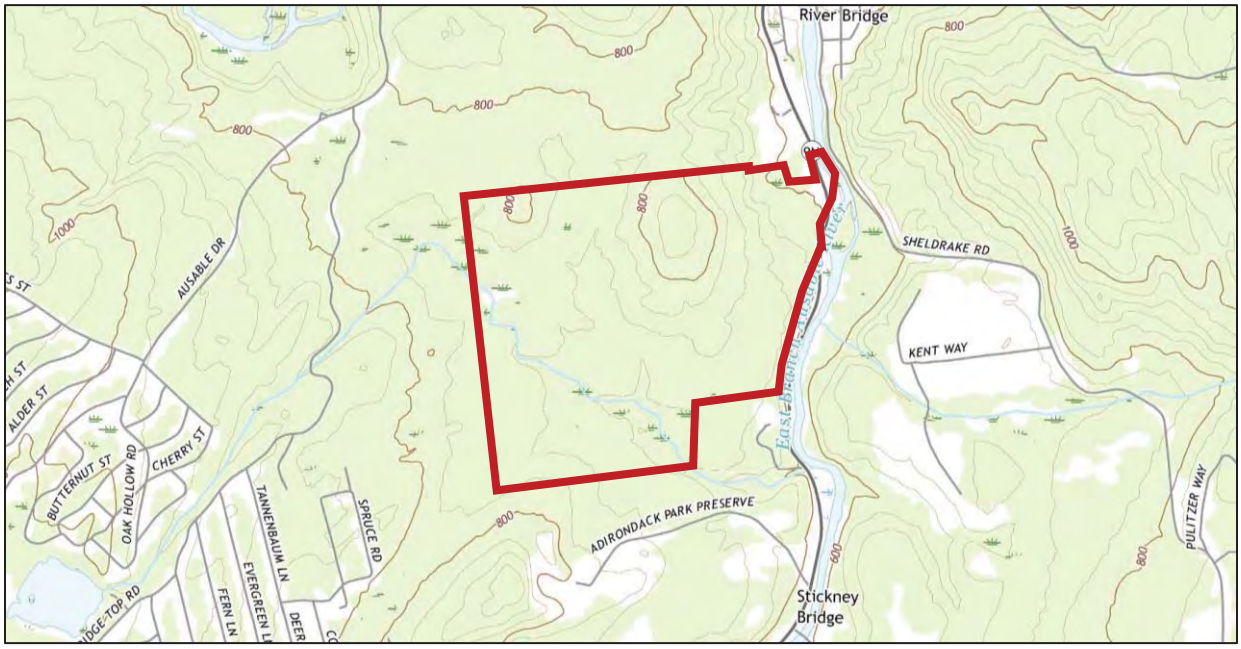


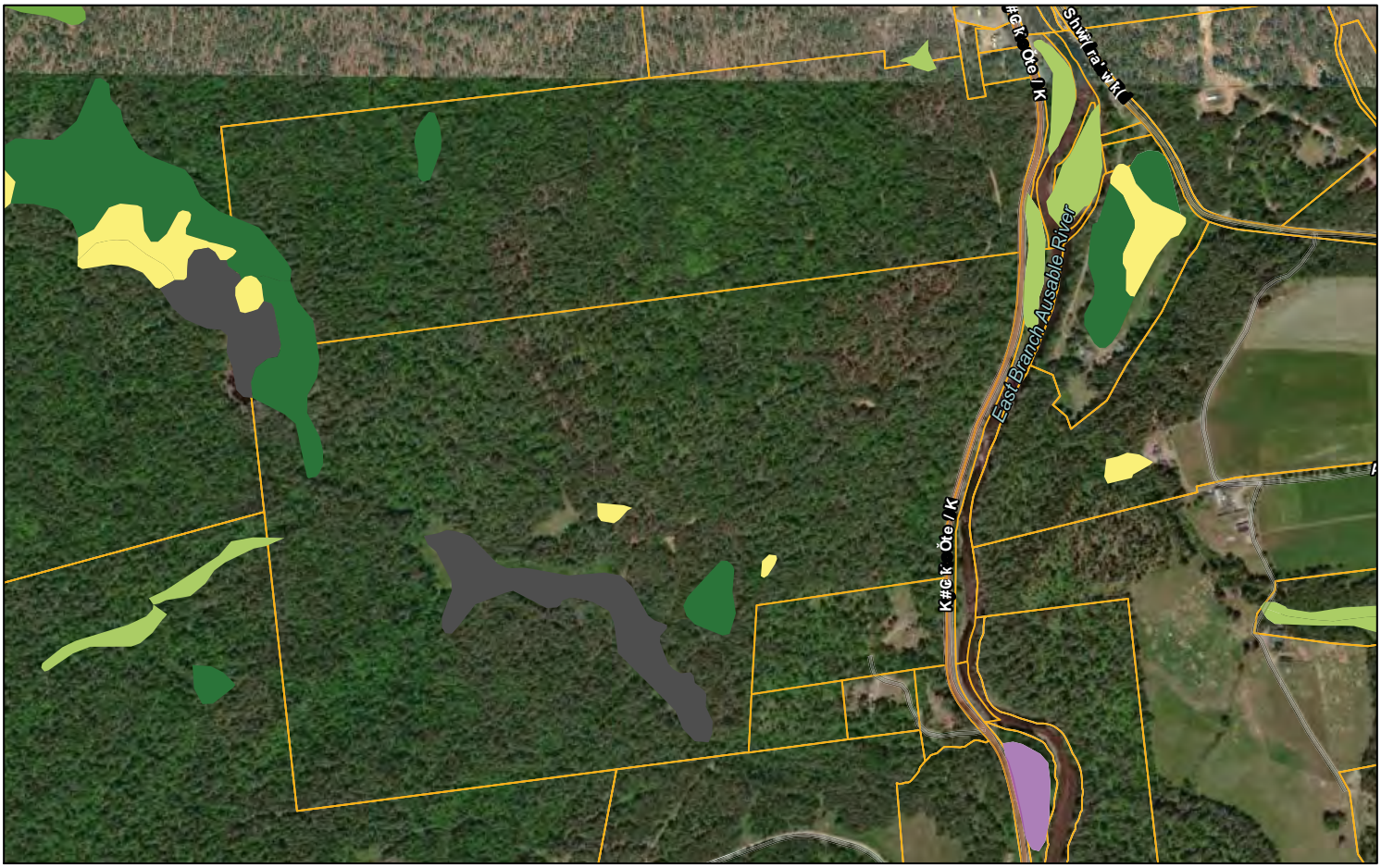
Figure 5.0 – Comparing 1946 Topography (Top) with 2019 Topography (Bottom)

Note change in stream designations and slight differences in topography, both on site and locally.

Property lines approximate.

Source: NETR

Figure 6.0: NWI Wetland Map on Site



12/14/2022

Wetland Covertype Areas

- EM1 Emergent Persistent
- FO1 Forested Broad-leaved Deciduous
- FO4 Forested Needle-leaved Evergreen
- FO5 Forested Dead
- SS1 Scrub Shrub Broad-leaf Deciduous

1:13,256

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,

B. Laing Associates, Inc.

Figure 7.0: Adirondack Park Agency Wetland Map

12/14/2022

APA Regulatory Wetland Areas

Parcels - NY - Essex County

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

2.4m Resolution Metadata

1:12,398

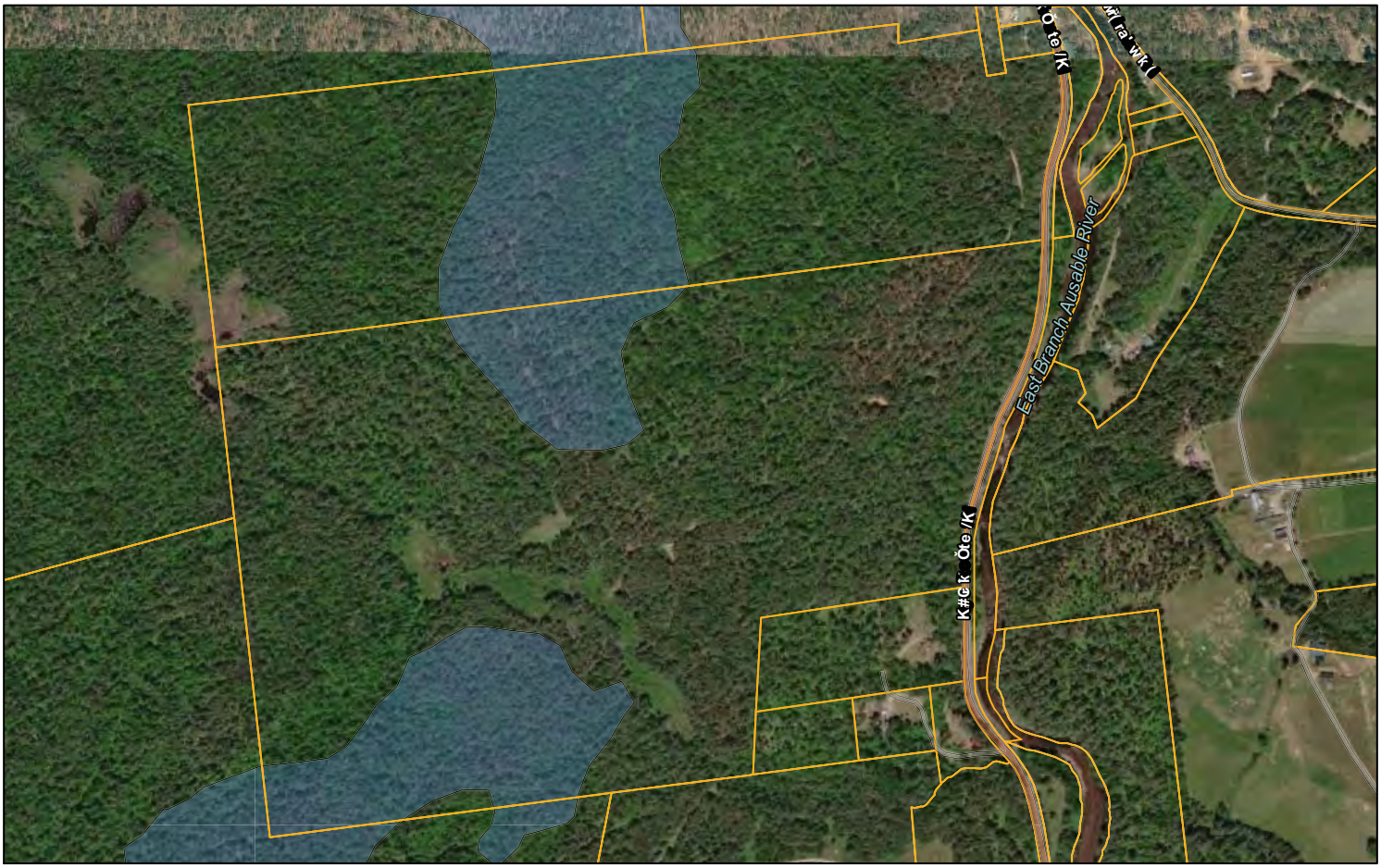
0 0.07 0.15 0.3 mi

0 0.1 0.2 0.4 km

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,

B. Laing Associates, Inc.

Figure 8.0: NYNHP Map of Northern Pine-Hardwood Forest



12/14/2022

Parcels - NY - Essex County

NYS Natural Communities 2022

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

2.4m Resolution Metadata

1:12,398

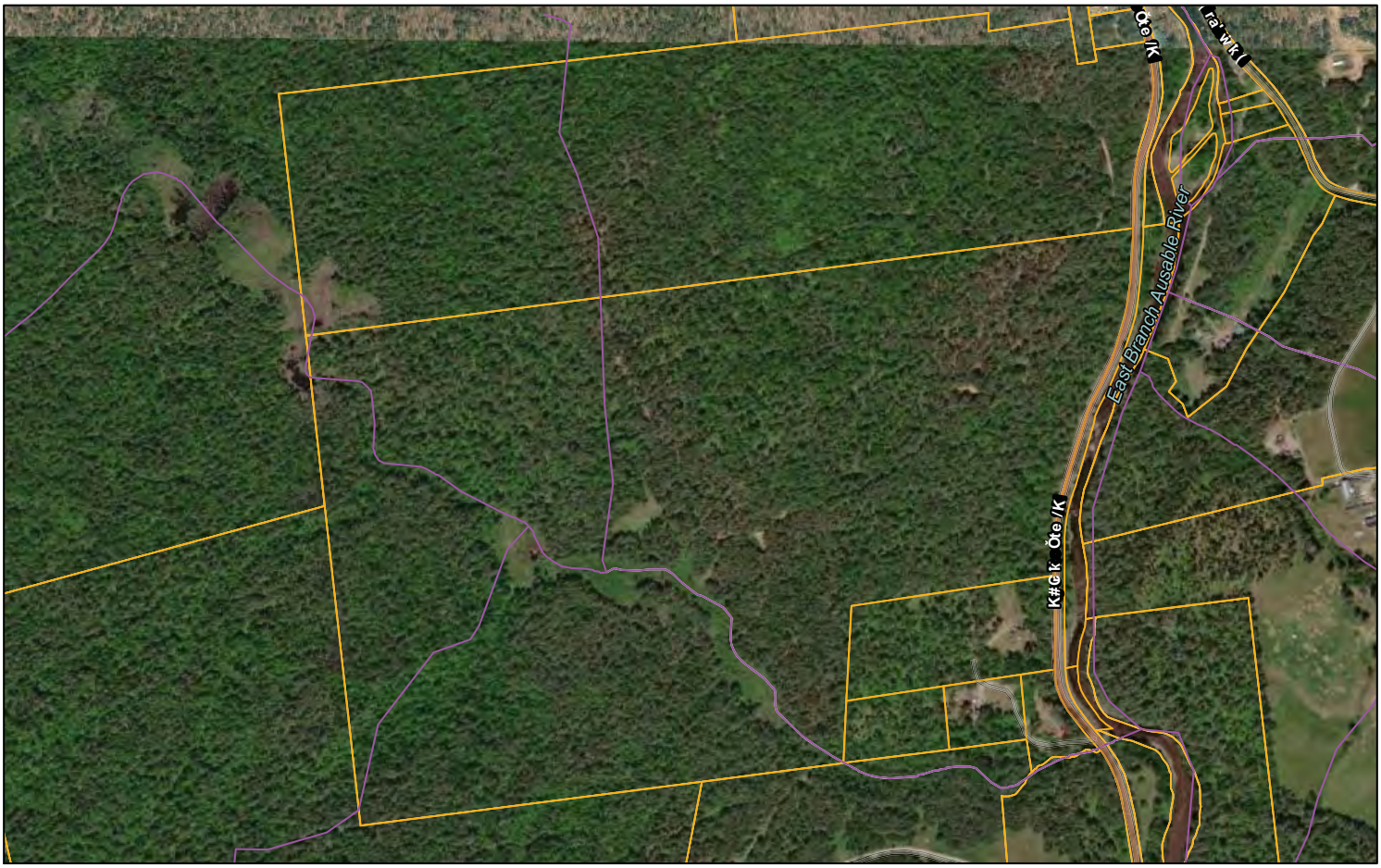
0 0.07 0.15 0.3 mi

0 0.1 0.2 0.4 km

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,

B. Laing Associates, Inc.

Figure 9.0: Map of NYSDEC Streams



12/14/2022

Adk Streams

Parcels - NY - Essex County

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

2.4m Resolution Metadata

1:12,398

0 0.07 0.15 0.3 mi

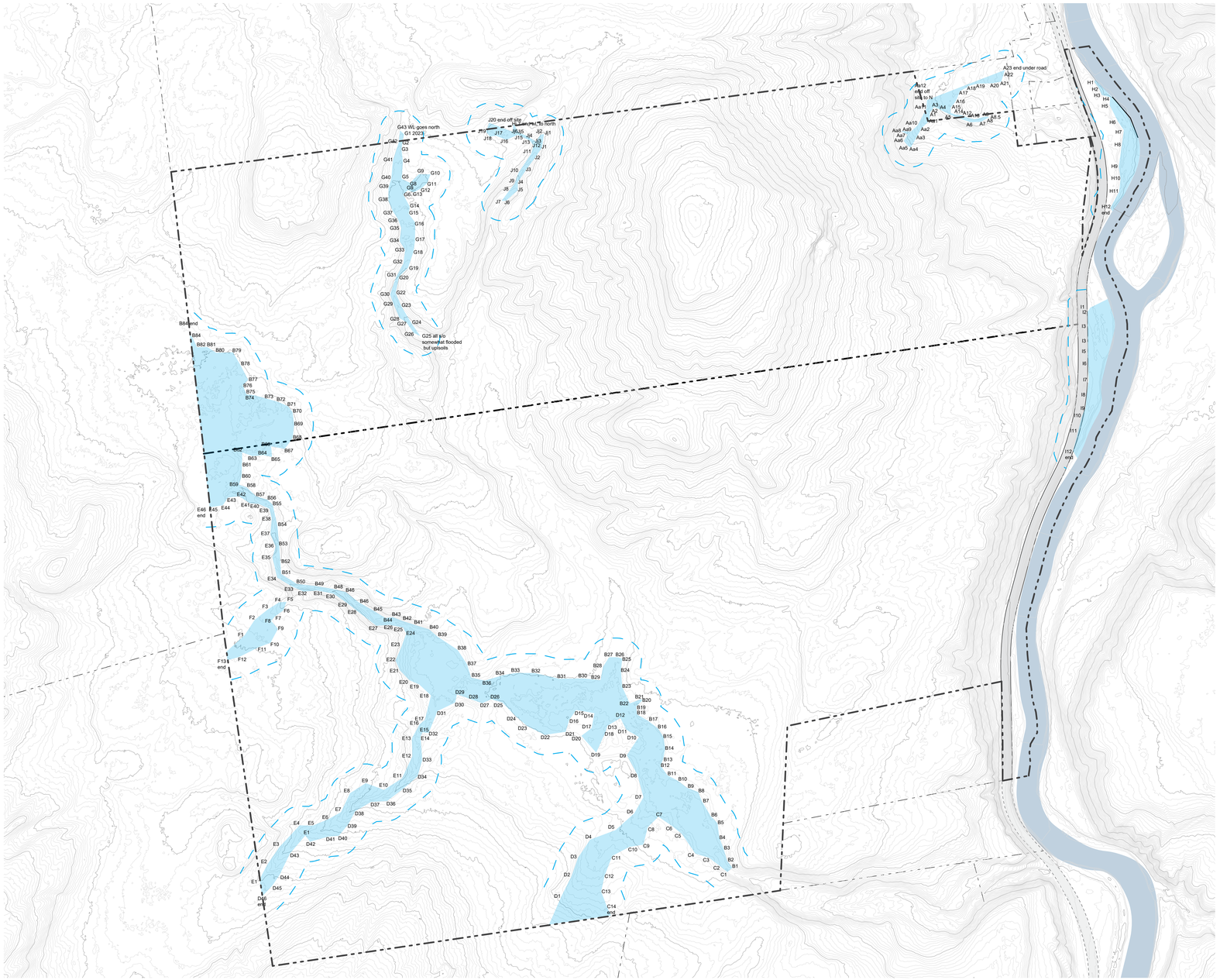
0 0.1 0.2 0.4 km

Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,

B. Laing Associates, Inc.

Appendix E

SE Group Wetland Map



LEGEND

- Project Parcel Boundary
- 100’ Wetland Buffer
- 10’ Contours
- Wetlands

SCALE (ft)
0 150 300 450 600
N

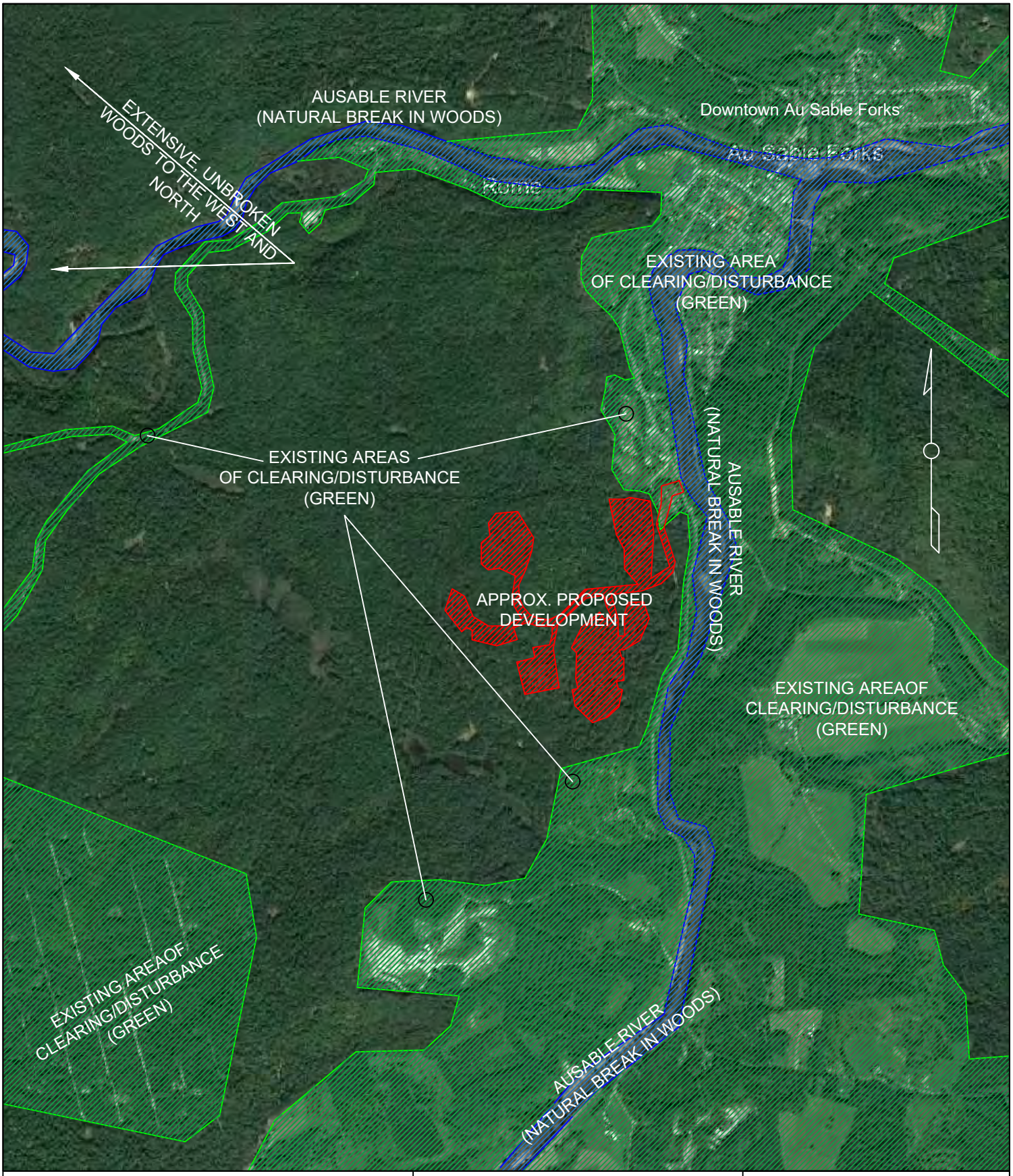
STACKMAN PROPERTY | WETLANDS

JULY 2023

SE GROUP

Appendix F

Regional Analysis of Local Development



TITLE: Regional Development Analysis Diagram

AT: Town of Jay
ON: NYS Route 9N
COUNTY: Essex
STATE: NY
FOR: E. Stackman

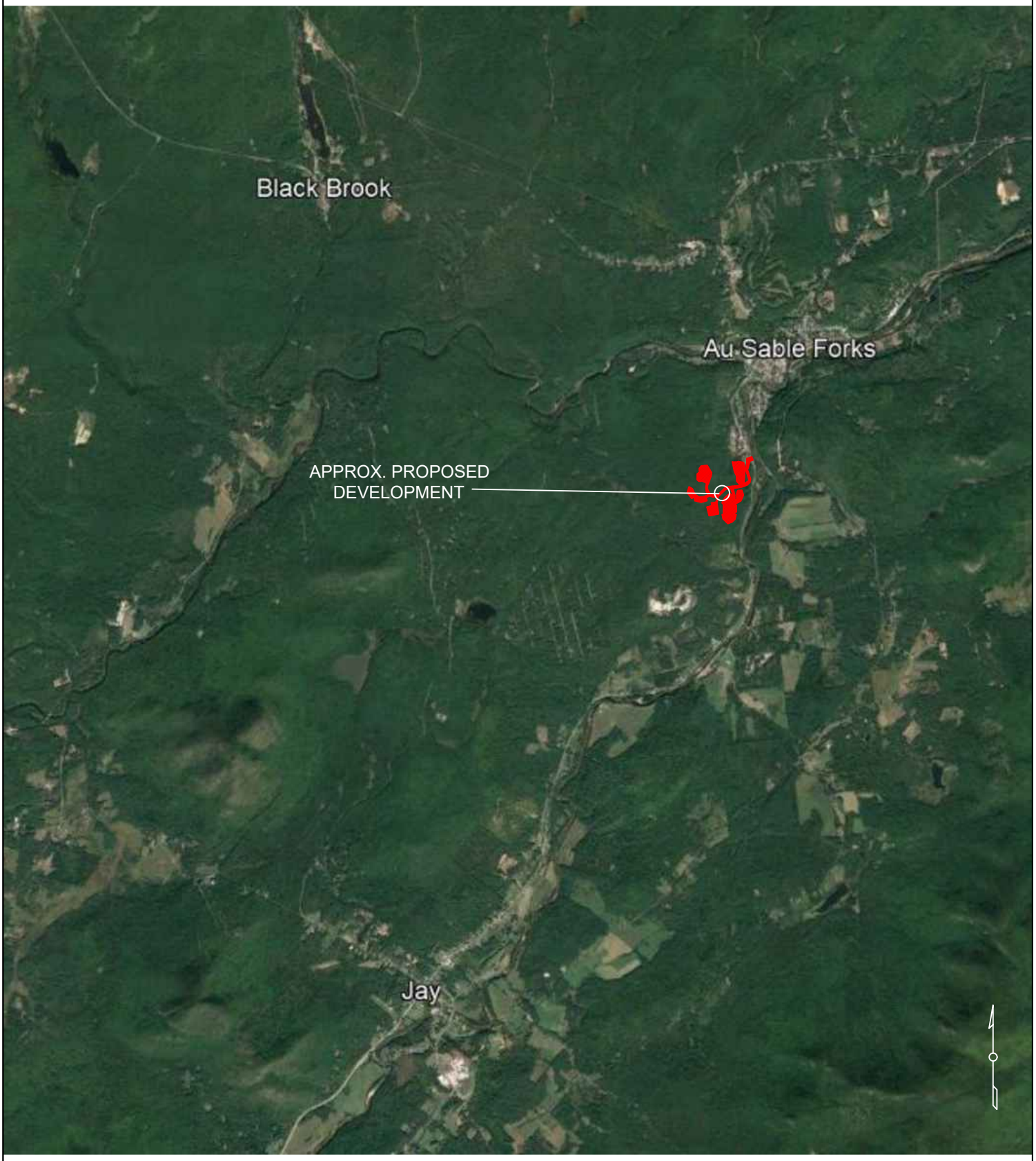
PROJ #: STKJAY
TM: --
DATE: Dec. 6, 2022
REV:

SHEET: 1 of 2 - Local/Immediate Area

NOTES:

1. Not a survey. For illustrative purposes only.
2. Aerial Imagery sourced from Google Earth.
3. Boundaries and limits of development approximate.
4. N.T.S.

B. LAING ASSOCIATES
ENVIRONMENTAL CONSULTANTS
103 Fort Salonga, Suite 5
Fort Salonga, NY 11768
(631) 261-7170
(631) 261-7454 fax
www.blaingassociates.com



TITLE: Regional Development Analysis Diagram

AT: Town of Jay
ON: NYS Route 9N
COUNTY: Essex
STATE: NY
FOR: E. Stackman

PROJ #: STKJAY
TM: --
DATE: Dec. 6, 2022
REV:

SHEET: 2 of 2 - Regional View of Development

NOTES:

1. Not a survey. For illustrative purposes only.
2. Aerial Imagery sourced from Google Earth.
3. Boundaries and limits of development approximate.
4. N.T.S.

B. LAING ASSOCIATES
ENVIRONMENTAL CONSULTANTS
103 Fort Salonga, Suite 5
Fort Salonga, NY 11768
(631) 261-7170
(631) 261-7454 fax
www.blaingassociates.com

Appendix G

Wetland Determination Data Forms

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: W-1/2

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Woodland/Hillsides Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes X	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Wetlands associated with stream running W to E through lower third of subject site (Wetland 1/2). Beaver ponds/other inundated areas stem from this stream on either side. Seeps with sedge meadows flow north from hills to the south into this wetland, and all water carries on to Ausable River, eventually.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 12
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology in Wetlands driven by stream which is occasionally slowed or impounded by old/new beaver dams, etc.

VEGETATION – Use scientific names of plants.

Sampling Point: W-1/2

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Alnus incana*	80	Yes	FACW
2. *Carpinus caroliniana*	5	No	FAC
3. *Spiraea tomentosa*	10	No	FACW
4.			
5.			
6.			
7.			
	95 =Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Carex spp.*	60	Yes	FACW
2. *Juncus effusus*	10	No	OBL
3. *Carex intumescens*	5	No	FACW
4. *Carex lurida*	5	No	OBL
5. *Glyceria canadensis*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Most sedges (Carex spp.) were well past the optimal time for specific identification except for a few remnant seed-heads on C. intumescens and C. lurida.

VEGETATION – Use scientific names of plants.

Sampling Point: UP-1

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	80	Yes	FACU
2. *Quercus rubra*	10	No	FACU
3. *Picea rubens*	5	No	FACU
4.			
5.			
6.			
7.			
	95	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Comptonia peregrina*	50	Yes	UPL
2. *Spiraea alba*	5	No	FACW
3. *Gaylussacia baccata*	10	No	FACU
4.			
5.			
6.			
7.			
	65	=Total Cover	
Herb Stratum (Plot size: 1m)			
1. *Pteridium aquilinum*	35	Yes	UPL
2. *Verbascum thapsus*	10	No	UPL
3. *Dryopteris marginalis*	25	Yes	FACU
4. *Polypodium virginianum*	10	No	UPL
5. *Polytrichum commune*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 3/2	100						
4-10	5YR 4/4	100						
10-15	5YR 4/3	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: W-3

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Woodland/Hillsides Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes X** **No ____**
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
"Wetland 3" near northeast portion of site/property line.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soils relatively saturated but water table not discovered in 12-16". Hydrology driven by rocky seep just north of property line which inundates this low lying area periodically.

VEGETATION – Use scientific names of plants.

Sampling Point: W-3

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	95	Yes	FACU
2. *Populus grandidentata*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
	105	=Total Cover	

Sapling/Shrub Stratum (Plot size: 5m)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 1m)			
1. *Matteuccia struthiopteris*	15	Yes	FAC
2. *Coptis trifolia*	10	Yes	FACW
3. *Carex inturnescens*	25	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _X_ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100						
2-6	7.5YR 3/1	100						
6-12	7.5YR 5/1	85	10YR 5/4	15	C	M		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: UP-3

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Woodland/Hillsides Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Uplands near/adjacent to "Wetland 3."

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: UP-1

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Woodland/Hillsides Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Uplands near/adjacent to wetland complex comprised of flowing stream and beaver ponds. (Wetland 1/2)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point W-1/2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100						
2-5	5YR 5/3	100						
5-10	7.5YR 3/1	100						
10-16	7.5R 6/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: UP-3

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	85	Yes	FACU
2. *Populus grandidentata*	10	No	FACU
3. *Tsuga canadensis*	5	No	FACU
4.			
5.			
6.			
7.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Fagus grandifolia*	50	Yes	FACU
2. *Berberis thunbergii*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
	55	=Total Cover	
Herb Stratum (Plot size: 1m)			
1. *Lycopodium hickeyi*	10	Yes	UPL
2. *Chelidonium majus*	5	No	UPL
3. *Dryopteris*	25	Yes	FACU
4. *Solidago*	10	Yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point UP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100						
2-6	7.5YR 4/3	100						
6-12	7.5YR 5/4	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: W-4

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Woodland/Hillsides Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland?** **Yes X No ____**
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland 3. Apparently isolated in ±NW/central portion of site.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- X Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes X No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soils relatively saturated but water table not easily apparent. Water stained leaves and moss trim lines visible.

VEGETATION – Use scientific names of plants.

Sampling Point: W-4

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	50	Yes	FACU
2. *Acer rubrum*	10	No	FAC
3. *Betula populifolia*	10	No	FAC
4.			
5.			
6.			
7.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Carpinus caroliniana*	25	Yes	FAC
2. *Hamamelis virginiana*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	55	=Total Cover	
Herb Stratum (Plot size: 1m)			
1. *Matteuccia struthiopteris*	5	No	FAC
2. *Onoclea sensibilis*	20	Yes	FACW
3. *Carex sp.*	25	Yes	FACW
4. *Cinna arundinacea*	30	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)
Areas without herbaceous cover typically covered by water-stained leaves.

SOIL

Sampling Point W-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100						
2-8	7.5YR 3/2	100						
8-16	7.5YR 5/1	95	10YR 5/4	5	C	M		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Typical hydric soil with A11 indicator.

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: U-4

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Woodland/Hillsides Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Uplands adjacent to Wetland 4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: U-4

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	70	Yes	FACU
2. *Fagus grandifolia*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Carpinus caroliniana*	30	Yes	FAC
2. *Hamamelis virginiana*	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	70	=Total Cover	
Herb Stratum (Plot size: 1m)			
1. *Matteuccia struthiopteris*	5	No	FAC
2. *Pteridium aquilinum*	20	Yes	FACU
3. *Polystichum acrostichoides*	10	No	FACU
4. *Cinna arundinacea*	5	No	FACW
5. *Polytrichum commune*	20	Yes	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point U-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100						
2-4	7.5YR 3/3	100						
4-12	10YR 5/4	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:
Dry, high chroma soil.

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: W-5

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Shoulder of Roadway Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes X** **No ____**
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland 5 - associated with Ausable River (East Branch).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W-5

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Cornus sericea*	25	Yes	FACW
2. *Alnus incana*	10	Yes	FACW
3. *Physocarpus opulifolius*	10	Yes	FACW
4.			
5.			
6.			
7.			
	45 =Total Cover		
Herb Stratum (Plot size: 1m)			
1. *Onoclea sensibilis*	25	Yes	UPL
2. *Pedicularis canadensis*	10	No	FACU
3. *Matteuccia struthiopteris*	15	No	FAC
4. *Equisetum sp.*	20	Yes	FAC
5. *Solidago canadensis*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Soil not sampled but was saturated. Clearly associated with Ausable River.

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	*OMB Control #: 0710-0024, Exp: 11/30/2024* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Jay, NY City/County: Essex County Sampling Date: 11/2/2022

Applicant/Owner: E. Stackman State: NY Sampling Point: U-5

Investigator(s): TJS/CAS Section, Township, Range: Town of Jay

Landform (hillside, terrace, etc.): Shoulder of Roadway Local relief (concave, convex, none): _____ Slope %: var.

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Uplands adjacent to Wetland 5 (Ausable River).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: U-5

Tree Stratum (Plot size: 10m)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fagus grandifolia*	5	Yes	FACU
2. *Ostrya virginiana*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5m)			
1. *Prunus serotina*	5	Yes	FACU
2. *Alnus incana*	5	Yes	FACW
3. *Physocarpus opulifolius*	5	Yes	FACW
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 1m)			
1. *Daucus carota*	20	Yes	UPL
2. *Pedicularis canadensis*	20	Yes	FACU
3. *Matteuccia struthiopteris*	10	No	FAC
4. *Equisetum sp.*	5	No	FAC
5. *Solidago canadensis*	20	Yes	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point U-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ High Chroma Sands (S11) **(LRR K, L)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR K, L)**
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

Soil rocky/gravelly and mostly comprised of fill associated with Route 9N shoulder.

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 21, 2025

FRESHWATER WETLAND DELINEATION REPORT

STACKMAN PROPERTY, TOWN OF JAY

ESSEX COUNTY, NEW YORK

May 2023

PREPARED FOR:

Mr. Eric Stackman

DRAFT FOR INTERNAL DISCUSSION

PREPARED BY:

B. LAING ASSOCIATES

ENVIRONMENTAL CONSULTING
www.blaingassociates.com

103 Fort Salonga Road - Suite 5 Fort Salonga, NY 11768
(631) 261-7170, Fax: (631) 261-7454

FRESHWATER WETLAND DELINEATION REPORT
STACKMAN PROPERTY, TOWN OF JAY
ESSEX COUNTY, NEW YORK
May 2023

Contents

1.0 INTRODUCTION 3
2.0 SITE CONDITIONS 3
2.1 Existing Condition 3
2.2 Vegetation 5
2.3 Hydrology and Topography 6
2.4 Soils 7
2.5 Wildlife 7
3.0 METHODOLOGY 9
3.1 Wetland Methodology 9
3.1.1 Desktop Study 9
4.0 WETLAND FINDINGS 10
4.1 Adirondack Park Agency Wetland Regulations 10
4.2 Army Corps of Engineers Wetland Regulations 10
4.3 On-site Wetland Findings 11
4.4 On-site Wetlands vs. Desktop Analysis 16
5.0 SUMMARY 16

DRAFT FOR INTERNAL DISCUSSION

Figures and Tables

Figure 1.0: Site Location Map – Satellite Imagery 4
Figure 2.0: Site Location Map – USGS Topography 5
Figure 3.0: NRCS Soils Map 8

Table 1.0: Vegetation Observed on Site 12
Table 2.0: Summary of Wetlands on Site 15

Appendices

Appendix A: Site Photographs
Appendix B: NRCS Soil Data
Appendix C: Online Wetland Resource Maps
Appendix D: Wetland Determination Data Forms
Appendix E: Wetland Survey Map

1.0 INTRODUCTION

B. Laing Associates, Inc. has prepared this report to outline a routing freshwater wetland delineation on the subject property as described below. Between October 31 and November 3, 2022, plus April 17 to 20, 2023, B. Laing Associates personnel performed a delineation of Federal Clean Water Act freshwater wetlands on a portion of said property (see below). Per the US Army Corps Wetland Delineation Manual's three-parameter methodology for wetland determinations, soils, hydrology, and vegetation were simultaneously characterized at each observation point. These data were utilized to make a wetland determination at each point. Only when all three conditions tested positive, was a "positive wetland determination" made. Flagging was placed at the boundary between wetland and upland conditions.

In summary, a series of wetlands exist along the site's southern section, associated with the ponded stream which conveys hydrology southeastwards towards the East Branch of the Ausable River. In addition, some smaller wetland areas exist further north on site which mostly extend through linear drainageways onto the subject site. Lastly, a portion of the site meets the East Branch of the Ausable River as such, wetland lines were also delineated there. As above, these wetlands were delineated by staff of B. Laing Associates, Inc.

2.0 SITE CONDITIONS

2.1 Existing Condition

The subject site is located within an area of mixed-use just south of Au Sable Forks, in the Town of Jay, Essex County, New York. It is bordered on the east by Route 9N and the East Branch of the Ausable River; on the south by residential properties and a large mining operation; and on the north, west, and southwest by large, unimproved woodlands; residential lots exist immediately northeast of the subject site. The site is ±358.0-acres and is comprised of three tax parcels, known as Essex County tax parcels 17.2-1-4, 17.2-4-5.1 & 17.2-1-20.111. The site has an existing roadway access from Route 9N via a dirt roadway, extending from an adjacent property to the north. See Figures 1 and 2, below, for site location maps.

The site is largely unimproved and almost entirely wooded. There is an existing series of trails which run throughout the site which were ostensibly once roads used for logging. Historic aerial imagery shows the site was in the process of reforestation during the 1940s and 1950s, so the woodlands on site appear to be less than 100-years old. The majority of the subject property exists west of Route 9N. However, a small portion of the subject property is east of Route 9N along the East Branch of the Ausable River, where an existing barn structure still stands.

The site is mostly uplands, though wetlands do exist on site. These are largely comprised of wooded, palustrine wetlands, which are associated with the large, beaver-impounded stream on site; however, large areas of wetlands without a tree stratum exist. The stream receives hydrology from Eaton Pond to the southwest, as well as a number of linear wetlands which drain

the land to the south. These tributaries flow northward into the stream which carries hydrology southeast towards the East Branch of the Ausable River. It appears that many beaver dams, both current and historic, have contributed to the ponding of the stream.

Representative site photographs can be found in Appendix A.

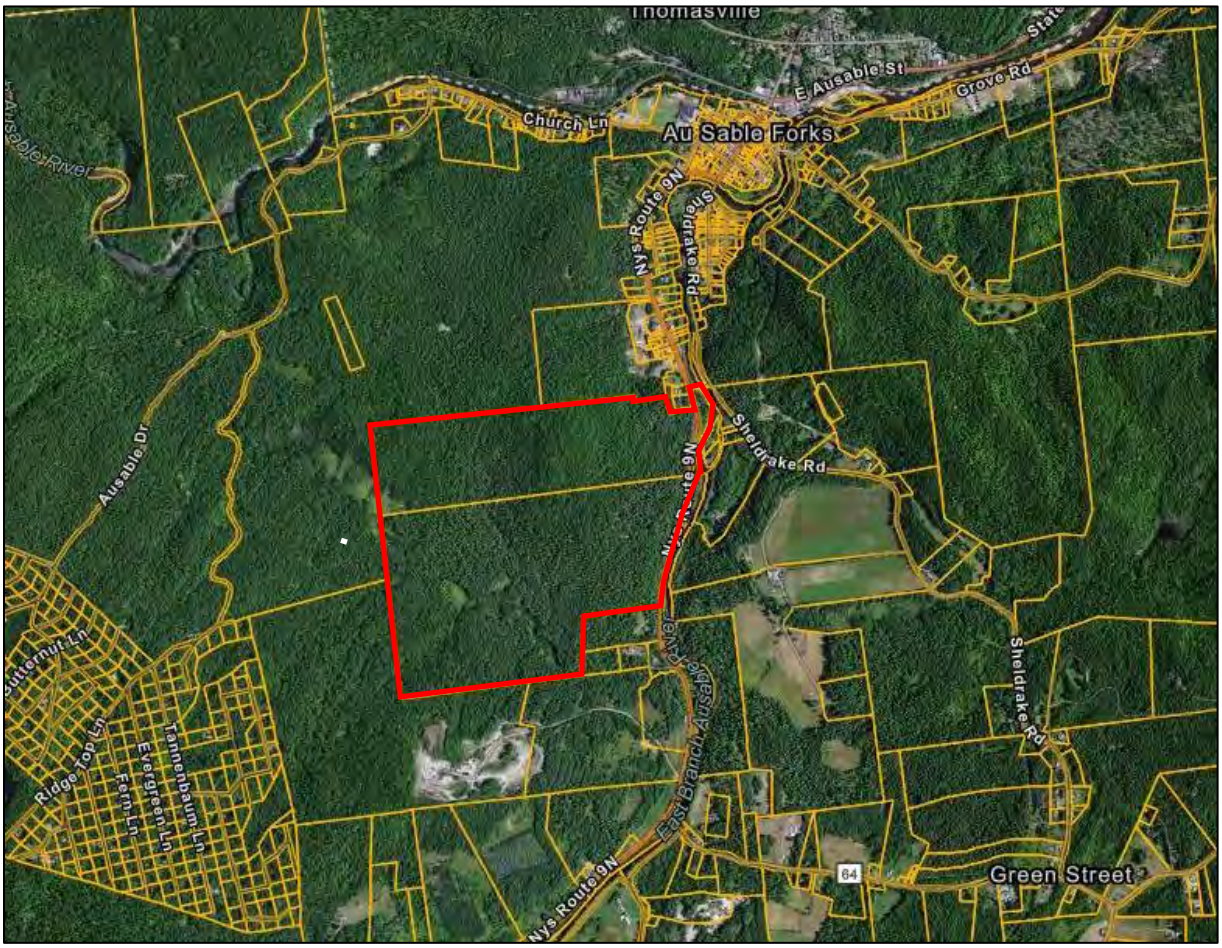


FIGURE 1.0
Site Location Map – Satellite Imagery
Site outlined in red
(Source: ESRI)

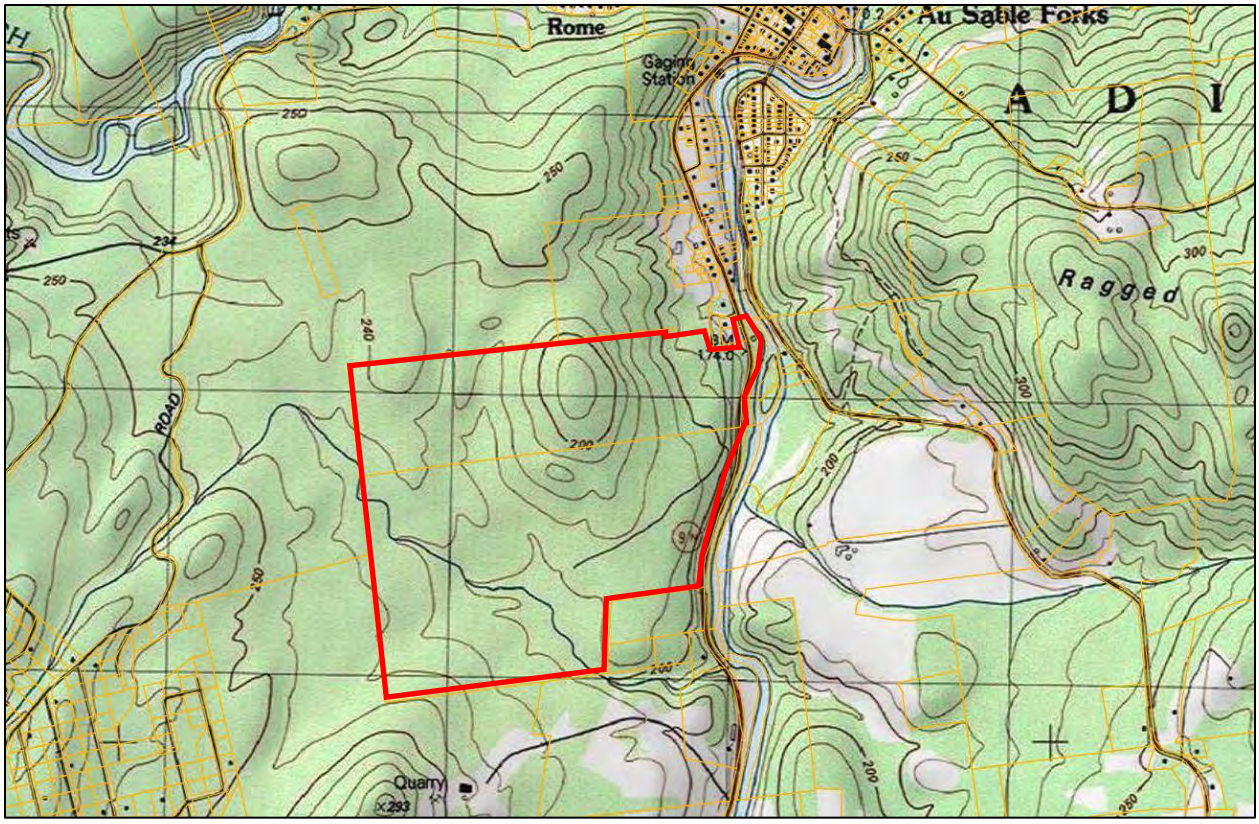


FIGURE 2.0
Site Location Map – USGS Topographic Map (Ausable, NY Quad)
Site outlined in red
(Source: ESRI)

2.2 Vegetation

As previously indicated, vegetation on site is mostly wooded. A large portion of the site and surroundings is dominated by a closed canopy comprised dominantly of white pine (*Pinus strobus*) among lesser components such as oaks (*Quercus spp.*), other pines (*Pinus spp.*), hemlock (*Tsuga canadensis*), maples (*Acer spp.*). Thus pines, especially white pine, is the dominant tree on site.

The shrub stratum on site was occasionally thick, though often completely absent. Where a shrub layer did it exist, the species are typically young pines or other young/small trees. In wetlands, the dominant shrub was speckled alder (*Alnus incana*) interspersed with red-osier dogwood (*Cornus sericea*). In uplands, the shrub layer was often young oaks and pines, though occasionally dominated by species such as witch-hazel (*Hamamelis virginiana*), sweetfern (*Comptonia peregrina*), or ericaceous species such as huckleberry (*Gaylussacia baccata*) and low-bush blueberry (*Vaccinium angustifolium*).

The herbaceous layer was often dense, except in areas which were overly disturbed (e.g., the old logging roads), areas dominated by pines, areas of standing water, or where scouring existed within the wetlands or other similar situations. Within wetland areas, the dominant herbaceous species were ferns such as royal fern (*Osmunda regalis*) and sensitive fern (*Onoclea sensibilis*), among horsetail (*Equisetum sp.*), sedges (*Carex spp.*) and other typical wetland plants. Occasionally, rocky portions of the streams were lacking vegetation, but sedge meadows often formed a fringe around their periphery.

In mesic upland areas, the herbaceous vegetation was often comprised of facultative upland species such as woodferns (*Dryopteris*). However, drier, more well-drained areas were dominated by bracken fern (*Pteridium aquilinum*) or clubmosses (*Lycopodiopsida*), among other typical upland species. Occasionally, some of the more xeric areas were dominated by lichen (e.g., *Cladonia spp.*). In areas where disturbance occurred, non-native species typical of these habitats (e.g., *Hypericum*, *Chelidonium*, etc.) could be found.

A complete list of vegetation identified on site can be found can be found in Table 1, below.

2.3 Hydrology and Topography

As above, the site is mostly hilly uplands, though wetlands also exist on site. The dominant soils (as described in Section 2.4) are mostly well drained and non-hydric.

The site's topography is generally hilly to moderately sloped, and tends to slope towards the stream on site (thus roughly southeastward). Per Figure 2, above, there is a large hill in the north-central portion of the site. Thus, there are portions of the site which are steep; mostly associated with the central hill. However, there is also a significant drop between the site and the elevation of Route 9N.

As above, most of the site drains southeastward into the stream, whereas the land south of the stream drains north into same. Thus, the entire site drains southeast, off site, and into the Ausable River with downstream drainage eventually reaching Lake Champlain.

The primary stream on site has been dammed by numerous beaver dams over the past decades. Observers found many older, dilapidated or broken dams and much newer structures as well. It is likely due to these impoundments that the associated wetlands were able to form around the stream.

In addition, the aforementioned hills to the north have associated low-lying valleys ("Wetlands G and J") which become flooded during snow-melt and rain periods. These wetlands also receive hydrology from the north, off-site, where they are relatively channelized. Wetland G is also associated with a vernal pond which was completely dry and cryptic during the November 2022 survey. Non-wetland drainage swales, which convey drainage south or southeastward, also exist. During high periods of rain, they were found to be briefly saturated but 24-hours later they were largely dry and underlain with typical upland soils.

A small wetland delineated with "A" flags exists along the property line near the site's entryway. This wetland appears to receive drainage from a spring which was observed discharging water from one or two small seeps. This source of hydrology is on the adjoining property (off-site) to the north, and it is also connected with a culvert that is piped under the aforementioned drive to a non-wetland ditch. While Wetland A is likely isolated from a larger, local viewpoint, the wetland is not self-contained within the subject lot(s).

2.4 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey Map for Essex County showed a total of sixteen (16) different soil types. A summary of these soils, their qualities, and their hydric rating can be found below. For more information see Appendix B.

- Adams loamy sand (AdB); 3-8% slopes; 18.9% of the site; rated 0% hydric,
- Adams loamy sand (AdC); 8-15% slopes; 16.0% of the site; rated 0% hydric,
- Adams loamy sand (AdD); 15-25% slopes; 17.4% of the site; rated 0% hydric,
- Adams loamy sand (AdE); 25-45% slopes; 0.4% of the site; rated 0% hydric,
- Adirondack fine sandy loam (AkB); 3-8% slopes; 0.2% of the site; rated 5% hydric,
- Croghan fine sand (CwB); 3-8% slopes; 0.3% of the site; rated 0% hydric,
- Femlake loamy fine sand (FnB); 3-8% slopes; 4.2% of the site; rated 0% hydric,
- Femlake loamy fine sand (FnC); 8-15% slopes; 9.6% of the site; rated 0% hydric,
- Hermon gravelly loamy sand (HnD); 15-35% slopes; 5.9% of the site; rated 0% hydric,
- Monadnock fine sandy loam (MkB); 3-8% slopes; 1.8% of the site; rated 0% hydric,
- Monadnock-Adams complex (MmF); 25-6% slopes; 4.0% of the site; rated 0% hydric,
- Nicholville silt loam (NvB); 3-8% slopes; 13.9% of the site; rated 0% hydric,
- Roundabout silt loam (RsA); 0-3% slopes; 0.4% of the site; rated 1% hydric,
- Rumney loam (RuA); 0-3% slopes; 2.3% of the site; rated 97% hydric,
- Rumney-Burnt Vly complex (RyA); 0-3% slopes; 0.6% of the site; rated 95% hydric, &
- Sunapee fine sandy loam (SnB); 3-8% slopes; 4.2% of the site; rated 0% hydric.

2.5 Wildlife

Several wildlife species were observed during B. Laing Associates, Inc. fall and spring field inventories. These field inventories were used to analyze general wildlife characteristics to determine what species were using, or were likely to use, the site. The species observed, whether by sight, sound, or by sign, were those typical of wooded areas of the lower (elevation) Adirondacks.

These included bird species such as black-capped chickadee (*Poecile atricapillus*), woodpeckers (e.g., *Drycopus pileatus*), ruffed grouse (*Bonasa umbellus*), barred owl (*Strix* varia), among seasonal finches such as evening grosbeak (*Coccothraustes vespertinus*) and red crossbill (*Loxia curvirostra*).

In addition, mammals such as white-tailed deer (*Odocoileus virginianus*), red squirrel (*Tamiasciurus hudsonicus*), fisher (*Pekania pennanti*), beaver (*Castor canadensis*), etc. were observed.

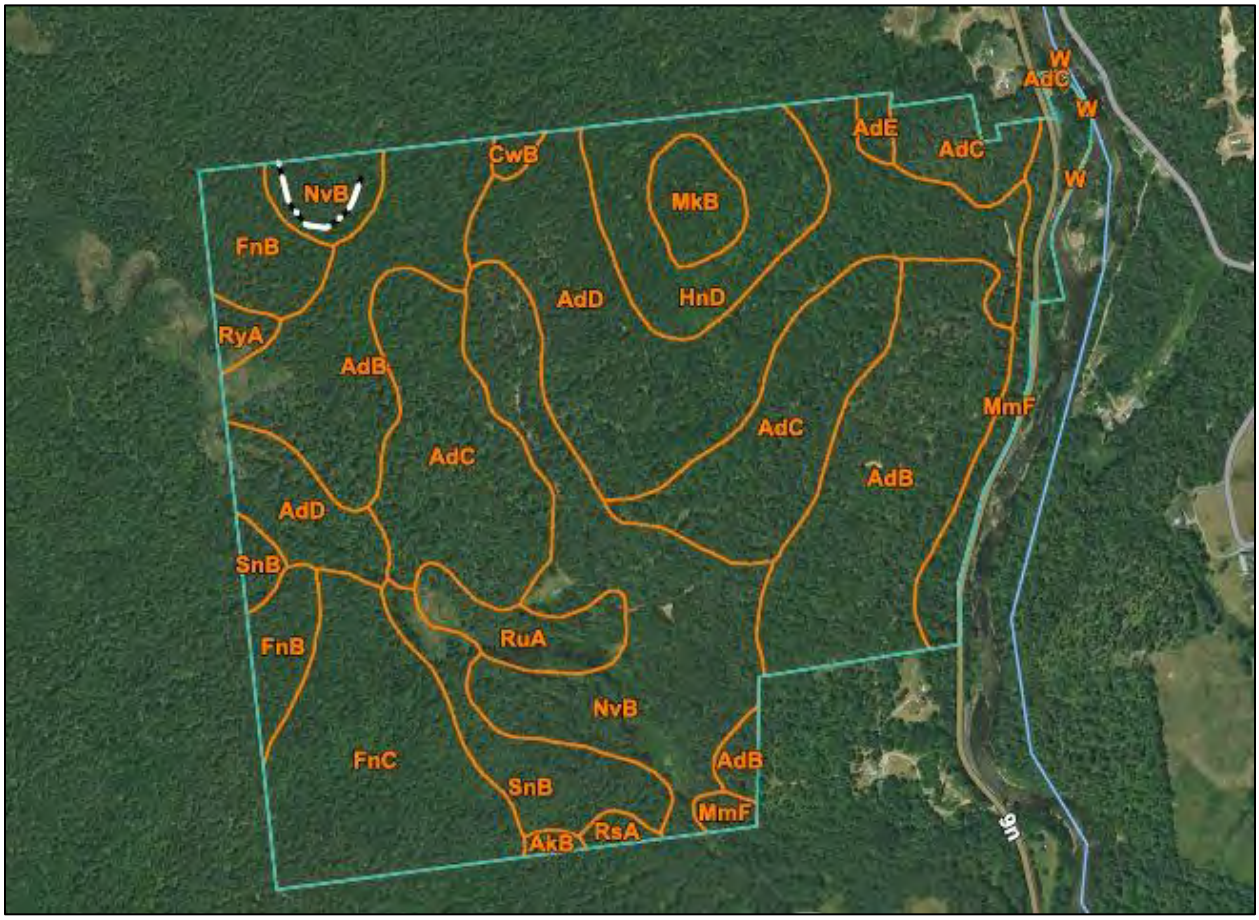


FIGURE 3.0

NRCS SOILS MAP OF PROJECT SITE
PLEASE SEE APPENDIX B FOR MORE DETAILS

(Source: USDA Natural Resources Conservation Service)

3.0 METHODOLOGY

3.1 Wetland Methodology

3.1.1 Desktop Study

In order to understand the potential for wetlands to exist on site, numerous resources were consulted during the desktop study portion of this analysis. The Natural Resource Conservation Service's soil map for Essex County was consulted to determine the drainage class of each soil group. Further, these data were analyzed for the "hydric rating" of each soil group. Appendix B shows these soil maps and additional details.

The National Wetlands Inventory (NWI) Maps and Adirondack Park Agency (APA) maps were also consulted. These maps are helpful in determining probable locations and extents of wetlands and other water resources, but they are not based on ground-truthing fieldwork and, thus, should be considered approximate. These online maps are shown in Appendix C.

3.1.2 Wetland Delineation

The site, as detailed in Sections 1.0 and 2.0, was analyzed for wetland characteristics and jurisdictional wetlands in October/November 2022 and April 2023. Wetlands were delineated per the 1987 Corps of Engineers Wetland Delineation Manual and Regional Supplements (to the 1987 Manual), plus taking into account the Adirondack Park Agency definition of wetlands. Data were collected at sample locations within wetland areas, and within upland areas. The April 2023 study was to confirm or modify findings from the previous year, which took place in November while some wetland parameters were obscured (e.g., herbaceous vegetation had died back with seasonally-low hydrologic indicators.)

Vegetation was analyzed for a dominance of hydrophytic vegetation (i.e., wetland plants) by identifying plants in pre-determined radii for respective strata (e.g., a 1-meter radius for herbaceous plants, a 5-meter radius for shrubs, etc.). Soil was analyzed for hydric indicators by pulling representative cores from the top 12-16" of soil using a 3" Dutch auger. Hydrology was analyzed by assessing the land for hydric indicators, including soil saturation, presence of standing water, etc. Only when all three conditions tested positive, a wetland determination was made and delineation flags were placed at the boundary between wetland and upland conditions.

Wetland flag locations were located using a sub-meter GPS unit[1] and plotted using ArcGIS software.

[1] Juniper Systems Geode GNSS Receiver.

4.0 WETLAND FINDINGS

4.1 Adirondack Park Agency Wetland Regulations

Adirondack Park wetlands are defined in Chapter §802 of the Adirondack Park Agency Act. They are defined as "any land which is annually subject to a periodic or continual inundation by water and commonly referred to as a bog, swamp or marsh which are either (a) one acre or more in size or (b) located adjacent to a body of water, including a permanent stream, with which there is free interchange of water at the surface, in which case there is no size limitation.[2]"

An Adirondack Park Agency (AP) wetland permit must be sought for undertaking a number of actions within or adjacent to wetlands. In the case of this project, the APA regulations read that a wetland permit is required when "creating by subdivision any lot that contains wetlands and any lot adjoining a lot that contains wetlands, as well as all land use and development related to these subdivision lots."

4.2 Army Corps of Engineers Wetland Regulations

The Army Corps of Engineers (ACOE), defines[3] federally jurisdictional wetlands as:

> "… areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The 1987 Corps of Engineers Wetland Delineation Manual and Regional Supplements (to the 1987 Manual) organizes characteristics of a potential wetland into three categories: soils, vegetation, and hydrology. The manual and supplements contain criteria for each category. With this approach, the ACOE takes jurisdiction, under the Clean Water Act, over any wetland which exhibits the three parameters per the 1987 Manual, regardless of size.

A footnote in the Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers case holds that a water or wetland must have a "significant nexus" (i.e., surface water connection) with other waters or wetlands to be considered a "water of the United States" and thereby under the ACOE's jurisdiction under Section 404 of the Clean Water Act.

All the delineated wetlands on site exhibited all three of the hydric parameters set forth in the 1987 Manual. Further, all wetlands, as delineated, continue off the site either to the north or to the southwest. As such, these are "connected" to other waters and would not be considered isolated. As such, they would all be under federal jurisdiction.

[2] With certain exceptions.
[3] Not including the May 25, 2023 Supreme Court ruling.

4.3 On-site Wetland Findings

Per the wetland methodology detailed above, B. Laing Associates performed a wetland and watercourse delineation on the subject site. The purpose of this study was to identify and delineate the boundaries of any potentially jurisdictional aquatic resources (i.e., wetlands and streams) on site. In total, ten (10) wetland lines were flagged, encompassing six different wetland areas. To document site conditions at each wetland area, ACOE Wetland Determination Data Forms were completed at each wetland and accompanying upland area, for reference. These Data Forms can be found in Appendix D.

The primary wetland on site (the ponded stream as described above) is known as Wetland 1, and was flagged by the B, C, D, and E lines. It roughly flows southeast and has three tributaries which drain into it, from the south. One of these wetland-tributaries (known as Wetland 2) is only connected to the stream by a rocky, upland swale[4]. As such, Wetland 2 (as flagged by "F-flags") does not completely connect to the main stream, and in this analysis is considered a separate wetland.

Wetland 3 (flagged with "A- and AA-flags") exists near the property's entry-road along its northeastern corner. This wetland extends off-site to the north and west and is at least partially fed by seeps which flow out of the rocky hill-sides to the north. Wetland A becomes more channelized as it enters the site, eventually becoming a curved linear wetland between two upland hills. This wetland connects to a non-wetland ditch which exists on the residential lot to the east of the subject entry-road.

Wetland 4 (flagged with "G-flags") is a roughly-linear, depressed area between two higher areas of topography in the north/central portion of the site. It does connect to an upland swale which drains periods of high-water towards the southeast between areas of higher elevation. Wetland G is also associated with a vernal pond[5] which branches off the wetland to its east. Wetland G extends off-site to the north. However, given its linear nature, it is likely that it does not extend very far before ending.

Wetland 5 (flagged with "J- and JJ-flags") is very similar to Wetland 4. This is another roughly linear low-spot between higher elevation which collects hydrology and supports soils and hydrophytic vegetation. It also extends to the south where the wetland eventually turns into a non-wetland swale which conveys hydrology south during periods of high water.

Wetland 6 (lines H and I) were delineated on a portion of the subject property that exists east of Route 9N. These wetlands are directly associated with the East Branch of the Ausable River as it flows by the site.

Table 2, below outlines the wetlands on site by their individual characteristics.

[4] Potentially a "perennial stream," though no evidence of this was found in November 2022.
[5] In which spotted salamander (*Ambystoma maculatum*) egg-masses were observed.

Table 1 – Plants Observed on Site (Alphabetical)			
Vegetative Stratum	**Common Name**	**Scientific Name**	**Indicator Status**
Trees	American beech	*Fagus grandifolia*	FACU
	American hop hornbeam	*Ostrya virginiana*	FACU
	Balsam fir	*Abies balsamea*	FAC
	Big tooth aspen	*Populus grandidentata*	FACU
	Black cherry	*Prunus serotina*	FACU
	Box elder	*Acer negundo*	FAC
	Eastern hemlock	*Tsuga canadensis*	FACU
	Ironwood	*Carpinus caroliniana*	FAC
	Jack pine	*Pinus banksiana*	FACU
	Paper birch	*Betula papyrifera*	FACU
	Pitch pine	*Pinus rigida*	FACU
	Quaking aspen	*Populus tremuloides*	FACU
	Red maple	*Acer rubrum*	FAC
	Red oak	*Quercus rubra*	FACU
	Red pine	*Pinus resinosa*	FACU
	Red spruce	*Picea rubens*	FACU
	Scotch pine	*Pinus sylvestris*	UPL
	Striped maple	*Acer pensylvanicum*	FACU
	Sugar maple	*Acer saccharum*	FACU
	Tamarack	*Larix laricina*	FACW
	White ash	*Fraxinus americana*	FACU
	White oak	*Quercus alba*	FACU
	White pine	*Pinus strobus*	FACU
	White spruce	*Picea glauca*	FACU
Shrubs	Black huckleberry	*Gaylussacia baccata*	FACU
	Common ninebark	*Physocarpus opulifolius*	FACW
	Japanese barberry	*Berberis thunbergii*	FACU
	Japanese honeysuckle	*Lonicera japonica*	FACU
	Lowbush blueberry	*Vaccinium angustifolium*	FACU
	Red osier dogwood	*Cornus sericea*	FACW
	Speckled alder	*Alnus incana*	FACW
	Sweet fern	*Comptonia peregrina*	UPL
	Witch-hazel	*Hamamelis virginiana*	FACU
Herbaceous	American burnweed	*Erechtites hieracifolia*	UPL
	American burreed	*Sparganium americanum*	OBL
	American Plantain	*Plantago rugelii*	FAC
	Blackberry	*Rubus fruticosus*	UPL
	Bladder sedge	*Carex intumescens*	FACW

Table 1.0, continued			
Herbaceous	Blue vervain	*Verbena hastata*	FACW
	Blunt-lobed grape fern	*Sceptridium oneidense*	FAC
	Bracken fern	*Pteridium aquilinum*	FACU
	Broomsedge	*Andropogon virginicus*	FACU
	Bull thistle	*Cirsium vulgare*	FACU
	Canada bunchberry	*Cornus canadensis*	FAC
	Canada goldenrod	*Solidago canadensis*	FACU
	Canada rush	*Juncus canadensis*	OBL
	Canadian lousewort	*Pedicularis canadensis*	FACU
	Christmas fern	*Polystichum acrostichoides*	FACU
	Cinnamon fern	*Osmundastrum cinnamomeum*	FACW
	Common blue wood-aster	*Symphyotrichum cordifolium*	UPL
	Common cinquefoil	*Potentilla simplex*	FACU
	Common dandelion	*Taraxacum officinale*	FACU
	Common haircap moss	*Polytrichum commune*	UPL
	Common hemp nettle	*Galeopsis tetrahit*	FACU
	Common milkweed	*Asclepias syriaca*	UPL
	Common mullein	*Verbascum thapsus*	UPL
	Common reed	*Phragmites australis*	FACW
	Common self-heal	*Prunella vulgaris*	FAC
	Common St. John's wort	*Hypericum perforatum*	UPL
	Common violet	*Viola sororia*	FAC
	Common yarrow	*Achillea millefolium*	FACU
	Curled dock	*Rumex crispus*	FAC
	Deer-tongue grass	*Dichanthelium clandestinum*	FACW
	Delicate fern moss	*Thuidium delicatulum*	UPL
	Dwarf cinquefoil	*Potentilla robbinsiana*	UPL
	Early meadow-rue	*Thalictrum dioicum*	FACU
	Fan clubmoss	*Diphasiastrum digitatum*	UPL
	Foamflower	*Tiarella cordifolia*	FACU
	Fragrant bedstraw	*Galium triflorum*	FACU
	Fringed polygala	*Polygala paucifolia*	FACU
	Garlic mustard	*Alliaria petiolata*	FACU
	Ghostpipe	*Monotropa uniflora*	FACU
	Goldthread	*Coptis trifolia*	FACW
	Graceful sedge	*Carex sect. Hymenochlaenae*	FACU
	Greater celandine	*Chelidonium majus*	UPL
	Hairy woodrush	*Luzula acuminata*	FACU
	Hickey's tree clubmoss	*Dendrolycopodium hickeyi*	UPL
	Honeysuckle	*Lonicera sp.*	FACU

Table 1.0, continued			
Herbaceous	Horsetail	*Equisetum sp.*	FAC
	Indian tobacco	*Lobelia inflata*	FACU
	Interrupted clubmoss	*Lycopodium annotinum*	FAC
	Interrupted fern	*Osmunda claytoniana*	FAC
	Lurid sedge	*Carex lurida*	OBL
	Maidenhair fern	*Adiantum pedatum*	FACU
	Marginal wood fern	*Dryopteris marginalis*	FACU
	Marsh marigold	*Caltha palustris*	OBL
	Mosquito bulrush	*Scirpus hattorianus*	OBL
	Mountain wood sorrel	*Oxalis montana*	FACU
	Mouse-ear hawkweed	*Hieracium pilosella*	UPL
	New England aster	*Symphyotrichum novae-angliae*	FACW
	New York scalewort	*Frullania eboracensis*	UPL
	Nipplewort	*Lapsana communis*	FACU
	Northern bugleweed	*Lycopus uniflorus*	OBL
	Ontario rhodobryum moss	*Rhodobryum ontariense*	UPL
	Ostrich fern	*Matteuccia struthiopteris*	FAC
	Partridge berry	*Mitchella repens*	FACU
	Path rush	*Juncus tenuis*	FAC
	Pennsylvania bittercress	*Cardamine pensylvanica*	FACW
	Pennsylvania sedge	*Carex pensylvanica*	UPL
	Pipsissewa	*Chimaphila umbellata*	UPL
	Poverty oatgrass	*Danthonia spicata*	UPL
	Purple-stemmed Angelica	*Angelica atropurpurea*	OBL
	Queen Anne's lace	*Daucus carota*	UPL
	Rattlesnake mannagrass	*Glyceria canadensis*	OBL
	Red clover	*Trifolium pratense*	FACU
	Rock polypody	*Polypodium virginianum*	UPL
	Round-lobed hepatica	*Anemone americana*	UPL
	Royal fern	*Osmunda regalis*	OBL
	Sensitive fern	*Onoclea sensibilis*	FACW
	Sheep laurel	*Kalmia angustifolia*	FAC
	Small-flowered buttercup	*Ranunculus abortivus*	FAC
	Soft rush	*Juncus effusus*	OBL
	Staghorn clubmoss	*Lycopodiella cernua*	FAC
	Starflower	*Trientalis borealis*	FAC
	Steeplebush	*Spiraea tomentosa*	FACW
	Stickseed	*Hackelia virginiana*	FACU
	Sweet everlasting	*Pseudognaphalium obtusifolium*	UPL
	Switchgrass	*Panicum virgatum*	FAC

Table 1.0, continued			
Herbaceous	Teaberry	*Gaultheria procumbens*	FACU
	Tree climacium moss	*Climacium dendroides*	UPL
	Wall lettuce	*Lactuca muralis*	UPL
	Waxy leaf moss	*Dicranum polysetum*	UPL
	White avens	*Geum canadense*	FAC
	White-grained mountain ricegrass	*Oryzopsis asperifolia*	UPL
	Wintergreen	*Pyrola americana*	FAC
	Wood reed	*Cinna arundinacea*	FACW
	Wool grass	*Scirpus cyperinus*	OBL
	Yellow-green sedge	*Carex flava*	OBL
	Yellow-trout lily	*Erythronium americanum*	FAC

Note on Wetland Indicators:
OBL: Occurs almost always under natural conditions in wetlands.
FACW: Usually occurs in wetlands but occasionally found in non-wetlands (uplands).
FAC: Equally likely to occur in wetlands and non-wetlands (uplands).
FACU: Usually occurs in non-wetlands (uplands) but occasionally found in wetlands.
UPL: Occurs almost always under natural conditions in non-wetlands (uplands).

Table 2.0
Summary of Wetlands on Site

Wetland	Flags #'s	Cover Type(s)	Description	Jurisdiction
1	B (1-84), C (1-14), D (1-46), E (1-46)	PFO, SS, R, EM, PUB	Ponded stream and connected tributaries; varied habitat: beaver-ponds; open marsh/water; linear stream with sedge meadow edge; shrubs; woods.	APA[6]/ACOE
2	F (1-13)	PFO	Tributary to Wetland 1; connected by small, rocky, non-wetland spillway.	APA/ACOE
3	A (1-18) & AA (1-12)	PFO/SS	Spring-fed depression between higher elevations near n/e property line. Continues off-site to the north.	APA/ACOE
4	G (1-43)	PFO	Depressed area between higher elevation. Connected to non-wetland swale to the south. Includes vernal pond.	APA/ACOE
5	J (1-20) & JJ (1-7)	PFO	Depressed area between higher elevation. Connected to non-wetland swale to the south.	APA/ACOE[7]
6	H (1-12), I (1-12)	R, PFO, SS	Wooded wetland edge of western bank of East Branch of Ausable River; along shoulder of Route 9N.	APA/ACOE

Cover Types: PFO- Palustrine Forested, SS- Scrub-shrub, R- Riverine, EM-Emergent Marsh,
PUB- Palustrine Unconsolidated Bottom

[6] Wetland 1 was only flagged to be 0.75-acres, under the 1.0-acre APA threshold. However, it extends off-site and its entire size cannot be confirmed. However, it may be less than 1-acre in totality.
[7] Wetland 5 was only flagged to be 0.54-acres, ibid, above. As such, it may be less than 1.0-acres as it could end shortly off-site to the north. This was not confirmed.

4.4 On-site Wetlands vs. Desktop Analysis

Prior to field investigations by this office, a desktop analysis of wetlands was undertaken per the methodology section, above. The wetland desktop study included a review of the NWI and APA maps which had been included with the original project application to the APA, and is the subject of the Notice of Incomplete Application. The NWI/APA maps were more or less correct in terms of the wetlands which were found and delineated on site. However, there were instances when the online resources did not accurately represent the wetlands on site.

For the primary wetland (lines B, C, D, & E), the online resources were typically correct in both locations and extents. In addition, Wetland G and Wetland A were found to exist in approximately the same location as described on the online resources, with only minor changes to shape. Wetland J was not included on any resource map.

However, the NWI map also showed wetlands which field investigations were not able to find. Specifically, three isolated forested/shrub wetlands are drawn at the site's southeastern corner. Observers searched in the areas outlined on the NWI map, but found no wetland characteristics. In the largest of these NWI wetlands, occasional wetland plants (e.g., *Scirpus, Juncus*) could be found, but the majority of the vegetation sampled was indicative of upland habitats (e.g., clubmosses, *Pteridium*, etc.) In addition, numerous soil samples were taken in these areas, all of which showed dry, bright-chroma (i.e., non-hydric) soils. As such, these areas were considered uplands.

5.0 SUMMARY

The site located as detailed in Section 1.0 was analyzed for wetland characteristics and jurisdictional wetlands were delineated per the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplements (to the 1987 Manual).

As above, field investigations by B. Laing Associates, Inc. discovered that wetlands, characterized by all three parameters, (i.e., wetland vegetation, hydrology, or soils) were largely associated with a large, impounded stream which flows south and east through the lower portion of the site. However, some low-lying areas which collect hydrology were also delineated accordingly, as was the western edge of the Ausable River, where it meets the site. The balance of the site was found to be uplands.

For precise locations and sizes of the wetland delineated on site, please see the Wetland Map in Appendix E. It is of the opinion of this office that most of the water resources delineated on site would under the jurisdiction of the Army Corps of Engineers[8], as they all "flow" off-site (even

[8] The May 25, 2023, Supreme Court ruling may have the potential to remove federal jurisdiction over some wetlands. The ruling stated the Clean Water Act extends only to "those wetlands with a continuous surface connection to bodies that are 'waters of the United States' in their own right, so that they are 'indistinguishable' from those waters."

if they may be isolated from a wider, local standpoint.) The wetlands on site are also mostly greater than 1-acre and would be jurisdictional from the APA, with the exception of Wetland 1 and Wetland 5, which both extend off the subject site, but may be less than 1-acre in totality.

Appendix A

Site Photographs

Appendix B

NRCS Soil Data

Hydric Soil Ratings

Appendix C

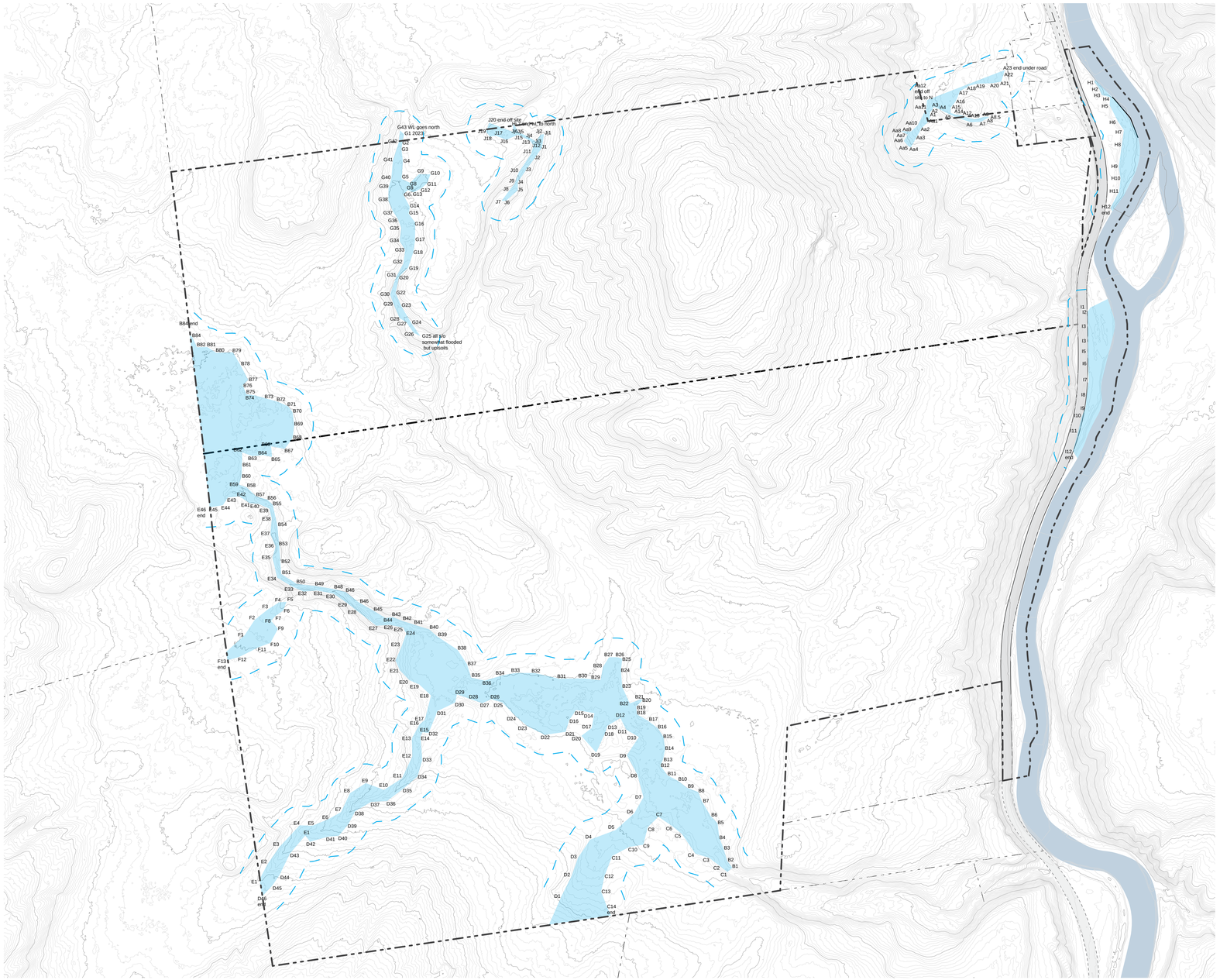
Online Wetland Resource Maps

Appendix D

Wetland Determination Data Forms

Appendix E

Wetland Delineation Map



LEGEND

- Project Parcel Boundary
- 100’ Wetland Buffer
- 10’ Contours
- Wetlands

SCALE (ft)
0 150 300 450 600
N

STACKMAN PROPERTY | WETLANDS

JULY 2023

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 21, 2025

SE GROUP

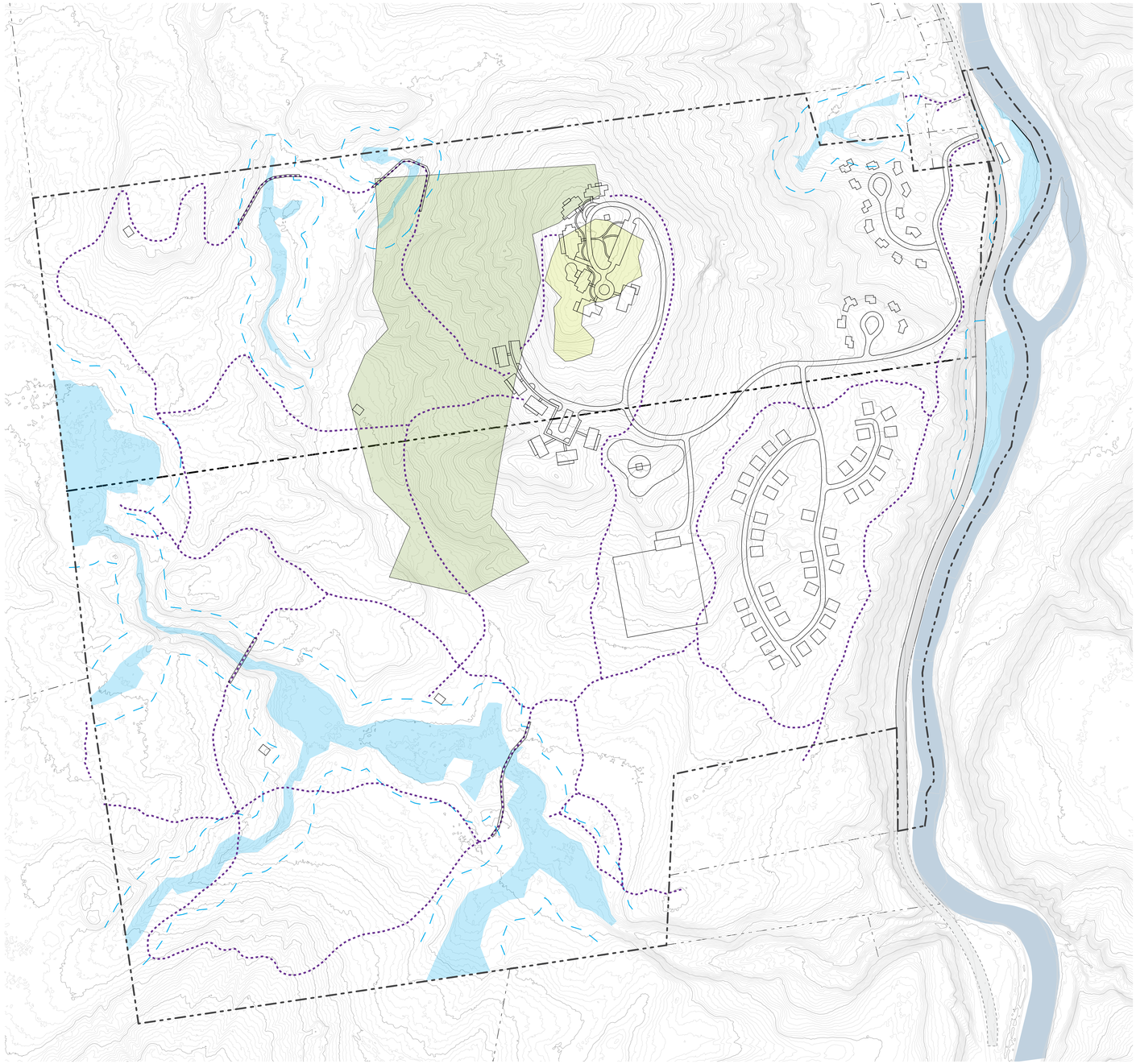
NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

List of Attachments & Exhibits (Referenced in this Response)

Attachment/Exhibit	Title / Description	Notes
Attachment A	Proposed Development Site Plan	Plan set
Attachment B	Natural Resource Inventory Report (B. Laing, Aug 2023)	Full Study/report Will be supplied separately
Attachment C	Supplemental Natural Resource Report (B. Laing, Apr 2024)	Full Study/report Will be supplied separately
Attachment D	Critical Habitats & Natural Communities Map	Map
Attachment E	Topography & Slope Analysis Map	Map
Attachment F	Existing Trail Map & 230-Meter Delineation Zone	Map
Attachment G	DOH Correspondence & Requirements (Feb. 28, 2025)	Agency coordination
Attachment H	DOT & DEC Ongoing	Agency coordination
Attachment I	NYSEG Preliminary Cost Estimate (Feb. 25, 2025)	Utilities coordination
Attachment J	NYSEG Letter of Understanding (Feb. 26, 2025)	Utilities coordination
Attachment K	Site Plans for Water, Wastewater & Treatment	Engineering plans
Attachment L	Town of Jay Road Dedication Willingness/Coordination Letters	Municipal coordination
Attachment M	Forest Management Plan	Open space management
Attachment N	Design & Architectural Narrative	Architectural, Site & General Building plans

In conclusion, the Applicant has incorporated the findings and recommendations from the multi-season environmental studies directly into siting and design to avoid and minimize impacts to wetlands, unique natural communities, and sensitive wildlife resources, while advancing a compact development pattern near existing disturbance.

Upon confirmation of application completeness, the Applicant will submit to involved agencies for their respective approvals and continue coordination with first responders and utilities.



LEGEND

- Project Parcel Boundary
- 100’ Wetland Buffer
- Oak-Pine Forest
- Pine-Northern Hardwood Forest
- Wetlands

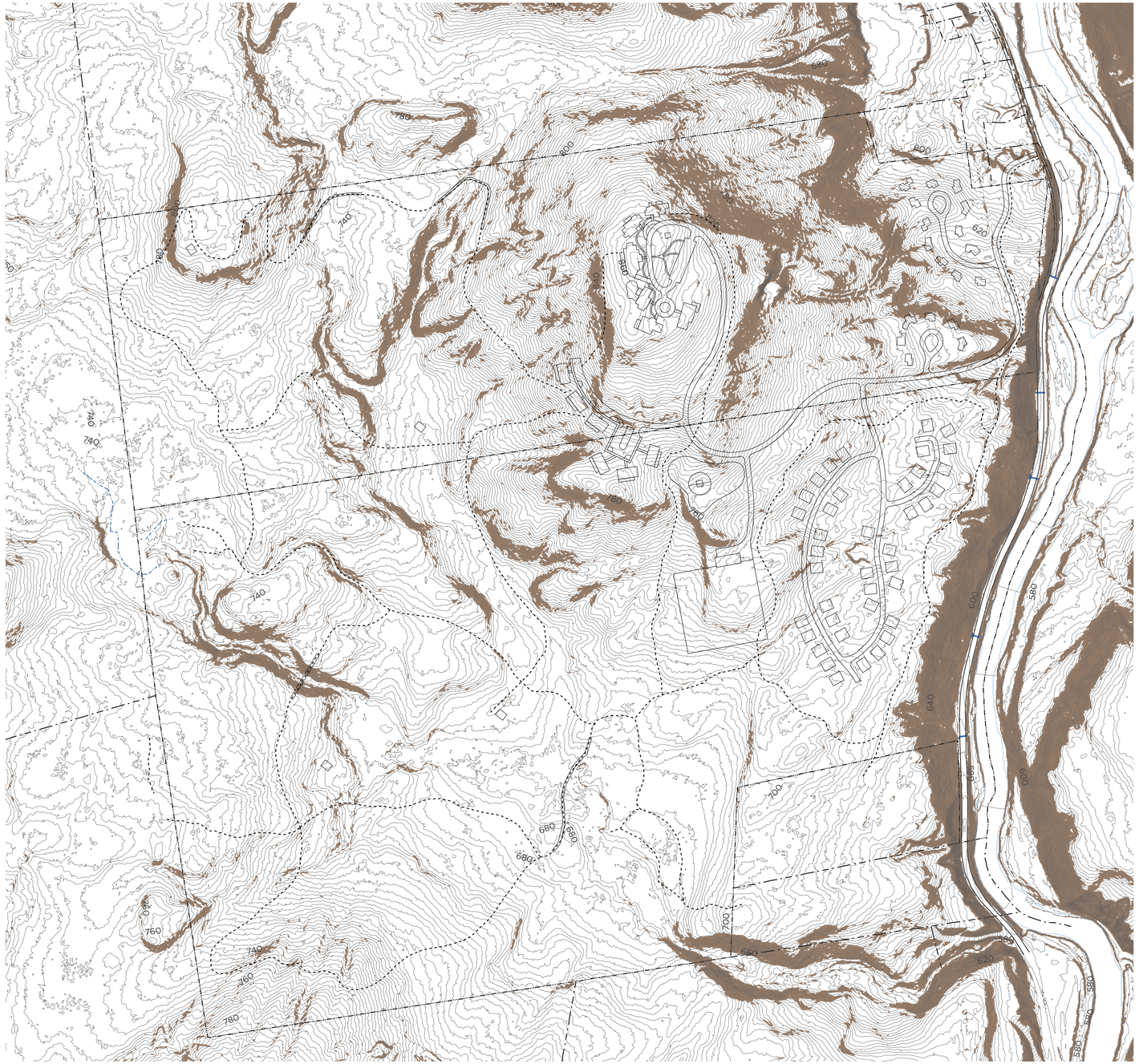
SCALE (ft)
0 150 300 450 600
N

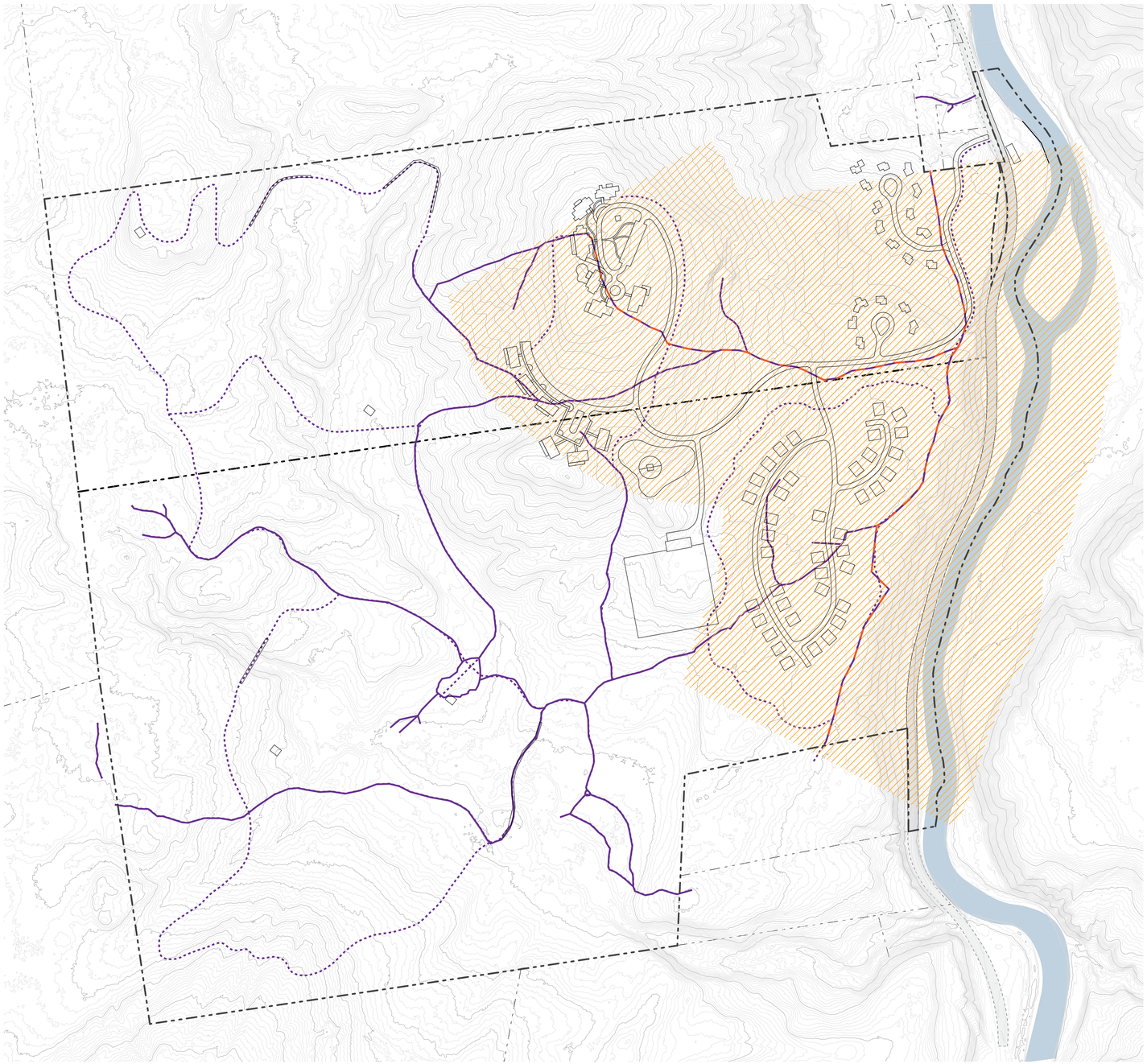
STACKMAN PROPERTY | CRITICAL HABITATS & NATURAL COMMUNITIES

JULY 2023

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

SE GROUP


740
760
780
800
820
840
860
880
900
920
940
960
980
1000
1020
1040
1060
1080
1100
1120
1140
1160
1180
1200
1220
1240
1260
1280
1300
1320
1340
1360
1380
1400
1420
1440
1460
1480
1500
1520
1540



LEGEND

- Project Parcel Boundary
- 230’ Meter Delineation Zone
- Existing Trails
- Proposed Trails
- Main Road

SCALE (ft)
0 150 300 450 600
N

STACKMAN PROPERTY | EXISTING TRAILS MAP & 230 METER DELINEATION ZONE

JULY 2023

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

SE GROUP

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

Forest Management Plan

for

Eric Stackman

Prepared By:

Northwoods Forest Consultants, LLC
Deborah Boyce, CF
PO Box 307
Jay, NY 12941
(518) 946-7040

December 2023

Table of Contents

	Page
Introduction	1
Goals	1
Topography	1
Access	1
Boundaries	1
History	2
Timber Management	2
Forest and Stand Descriptions	4
Stand 1 Pine - Hardwood	5
Stand 2 Pine - Hardwood	7
Stand 3 Pine - Hardwood	9
Stand 4 Hardwood - Pine	11
Stand 5 Pine - Hardwood	13
Stand 6 White Pine - Red Pine	15
Stand 7 Pine - Hardwood	17
Stand 8 Pine	19
Stand 9 Pine - Hardwood	21
Stands 10, 11 Hardwood - Pine	23
Stands 12, 13 White Pine	25
Inoperable	26
Recreation	27
Soil and Water Protection	27
Wildlife and Flora Management	28
Insects and Diseases	29
Soils	31
Fire Protection	32
Endangered Species	32
Summary	34
Appendix	
Forest Type Map- topo	
Forest Type Map - aerial	
Soil Type Map	
Special Sites and Invasie Species Map	
Glossary of Terms	

Introduction

This management plan was authorized by Eric Stackman to determine the forest resources present on the property and options for management of those resources. The property is located in parts of lots 120 and 121 Maule's Patent, Town of Jay, Essex County, New York.

The property encompasses three tax parcels: 17.2-1-4.000, 17.2-1-5.100, 17.2-1-20.110. The property was surveyed in 2008 by Robert M. Southerland PC and is 385 acres in size. The chart on page 4 outlines the commercial forest, wetlands, inoperable, river and road acres.

Goals

The goals of the landowner are to manage the health of the forest, open and maintain old logging trails, create new trails and enhance wildlife habitat in the areas that will be designated open spaces.

Topography

The terrain of the property is gentle to moderate. A small hill rises in the north-central portion of the property. Several small ridges follow drainages in the western half. Except for the area just west of NYS Route 9N, all areas are accessible for forest management.

Access

The property lies along NYS Route 9N. A ROW gives access across a dirt woods road. This enters the property from the north and parallels NYS Route 9N. A landing is located in the central portion of the property and was the main landing area for the southern two thirds. Many old logging trails are present from previous harvesting. Some of the main trails have been kept open by 4 wheelers. Other trails are reforesting to pine and hardwood.

An old road crossed the wetland in the southern half of the property. Two culverts were washed out, most likely during high water events.

Boundaries

The property was surveyed in 2008 by Robert M. Southerland. The north line and northern half of the west line have flagging and scattered blazes. The boundaries have not been painted or marked more clearly. The southern half of the west line and the southern line are painted red by Cold Spring Granite. These lines are blazed with pipes in the corners. Little evidence of boundaries were found along the out parcels in the southeast corner.

The boundaries should be painted or more clearly marked prior to any forest management activity. If evidence of the boundary is not found, a surveyor will need to return to establish the boundary.

History

This property was purchased from three owners between 2006 and 2009. Many areas of the property were used for agriculture in the 1900's. The older aerial photos through the 1960's show the fields in the southern half. The northern areas where it is steeper, the lands were grazed or timbered for lumber & pulp production. Charcoal kilns were found in the AuSable valley to make charcoal from the hardwood trees for the iron ore furnaces.

The sandy soils on the property allowed the white pine to reforest and grow quickly when agricultural uses were abandoned. Several white pine sawmills were present in the region up until the late 1980's. White pine sawlogs have been harvested periodically throughout the property.

In January 1998 an ice storm hit the northeastern New York. An inversion occurred, which trapped the cold air at the surface. Between 1 and 3 inches of ice were deposited over a three-day period. In many of the lower valley areas the ice melted on the fourth day but in the higher elevations the ice remained on the trees for a much longer period. The trees in the forest sustained light to heavy damage from the ice storm. The damaged trees in the northern lot were salvaged. Many of the oaks were damaged severely. The damage is easily identifiable on some of the oaks that remain. The white pine did not sustain as much damage. Evidence can still be seen where there is a crook in the top of the tree. The main stem broke and a side limb became the main stem of the tree. The salvage harvest in the southern parcel was lighter.

The last harvest occurred approximately 3 years ago. White pine was harvested and sawn to provide siding for the barn.

Timber Management

The stands of the property can be managed under even-aged or uneven-aged systems. The two systems are described below and options are given in the individual stand prescriptions.

In an uneven-aged management system only a portion of the trees are removed at one time and is the most aesthetically pleasing system. In an uneven-aged management system there is a distribution of trees in multiple age & diameter classes. This distribution of diameters is plotted on a graph. The Arbogast curve is one of the curves used by foresters to determine how many trees are needed in each diameter class to manage the stand in an uneven-aged system. The stands found on a property are then compared to the Arbogast curve to see where there are deficiencies in diameter classes and where there are excesses. In a timber harvest the excess trees in each diameter class are removed. In most cases unmanaged stands take several harvests before they have the proper age distribution to be truly managed in an uneven-aged system.

In properties without previous forest management, the first harvest scheduled is usually an improvement harvest. In the improvement harvest the poorest quality trees are removed leaving the best to grow in size and quality. The new regeneration that becomes established will also be from the trees with the best genetics in the stand since the poor trees were removed.

The harvests following an improvement harvest are termed a selection harvest. When marking the excess trees to be removed the forester will remove the poor quality trees and allow the best quality trees to remain in the stand. Through the years as the stand is managed, the quality of the trees in the forest will improve. The selection harvests can periodically occur every

10 to 20 years. 15 - 20 years is the average in most hardwood stands while pine can be 10-15 years.

Individual and group tree selection are the types of harvests used in an uneven-aged management system. In individual tree selection, a single tree is marked in a given area for harvesting thus creating only a small opening in the stand. This is done throughout the stand so that there are only small pockets where the regeneration is released. Individual tree selection is done when there is more shade tolerant species in the stand. It is also done to minimize the effects of certain insect problems like the white pine weevil. In group tree selection, several trees in a group are marked for removal. This creates a larger opening in the forest. This allows more sunlight to reach the forest floor. Species of trees that are shade intolerant such as the oaks and cherry can then regenerate in the stand.

In contrast in an even-aged management system the trees in the stand are thinned several times while they mature. It is not the goal to regenerate portions of the stand during these thinnings. When the stand has reached its maturity, a regeneration harvest is scheduled. The regeneration harvest can be a clearcut, a shelterwood harvest, or a seed tree harvest. In a clearcut harvest all the overstory trees in the stand or a portion of the stand are removed at the same time. In a shelterwood harvest approximately 40 to 60% of the overstory trees are removed. The remaining trees are left for seed and shelter for the new regeneration. When the regeneration has become established, the overstory is then removed. In a seed tree harvest, 10 to 20% of the trees are left to provide seed for new regeneration. These seed trees are then removed when the regeneration has become established. The overstory removal in the seed tree and shelterwood harvests usually occur in 5 to 10 years.

Even-aged stands may be converted to uneven-aged systems as the trees within the stand mature. Even-aged management is used in small stands and in stands where the goal is to regenerate primarily shade intolerant species.

The harvesting of timber on the property could be influenced by several regulations of the Adirondack Park Agency. No clearcuts more than 25 acres are permitted without a permit from the Agency. If less than 30 sq.ft. of basal area is left after a harvest it is considered a clearcut by the Agency. No clearcuts greater than 3 acres within a wetland are permitted.

The property also lies along the East Branch of the AuSable River. Where this river flows through the property, it is classified as a recreational river. Based on that classification, the following restrictions apply:

1) Within 100 feet of the river - no new woods roads, no felling trees into the river, lop hardwood tops to 4' piles, and conifers to 3" trunk diameter, no more than 5% of the basal area can be cut over any 10-year period.

2) Between 100' and 1320' from the river - must adhere to the NY Society of American Foresters timber harvesting guidelines, no more than 15 contiguous acres can be clearcut, no more than 50% of the basal area of any tract more than 30 acres may be cut over any 10 year period, and regeneration cuts of even-aged stands may remove no more than 1/3 of the main crown canopy during any 10 year period.

These restrictions will be taken into account when the timber harvesting is planned for the various stands. An APA permit can be applied for if the planned harvest will exceed these harvest restrictions.

Forest/ Stand Description

The forest was divided into the following stands based on the species present, size and recent harvesting. They are as follows:

Forested Stands		Acres
Stand	1 Pine - Hardwood	24
	2 Pine - Hardwood	25
	3 Pine - Hardwood	40
	4 Hardwood - Pine	31
	5 Pine - Hardwood	26
	6 White Pine - Red Pine	39
	7 Pine - Hardwood	56
	8 Pine	30
	9 Pine - Hardwood	19
	10 Hardwood - Pine	8
	11 Hardwood - Pine	8
	12 White Pine	27
	13 White Pine	5
	Total	338
Inoperable		8
Wetlands (4 areas)		24.4
Route 9N & River		14.6
	Total	47
	Totals for property	385

The following pages outline the descriptions and prescriptions for each stand.

Stand #: 1 **Forest Type:** Pine - Hardwood

Acreage: 24 **Site:** 2

 # Trees/ acre: 164 (133 AGS) **Ave. Diameter:** 11.8" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 85 AGS only - 68 (49 WP, 8 RP, 6 RM, 3 WS, 1 RO, 1 ASP)

Species Composition: 66% White pine, 14% Red pine, 13% Red maple, 4% White spruce, 2% Aspen, 1% Red oak

Stand Description

This stand is located in the northwestern corner of the property. The soils are sandy and well drained to excessively drained. In this type of soils the pines will dominate. Several small ridges and valleys generally run north-south in the stand. In the north west corner the beaver have moved north and created a small wetland less than an acre in size.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. The poletimber size hardwoods and spruce trees were established when the stand was harvested 40-50 years ago. The quality of trees present in the stand is good with more than 80% tallied as acceptable growing stock. Some white pine blister rust was found on trees.

Numerous old skid trails access this stand. A very old landing was noted along the main skid trail as it turned north. This was probably used 50 years ago when smaller tandem trucks were used to haul the forest products. The severely damaged trees were likely salvaged in the late 1990's following the ice storm in 1998.

Regeneration plots were taken in the stand and there are approximately 3200 saplings per acre. The species percentages are as follows: 62% white pine, 10% red maple, 8% white spruce, 7% red oak, 4% aspen, 3% beech, 2% witch hazel, 2% striped maple, 1% white birch, 1% white oak. Good white pine regeneration is found in the old trails where skidding exposed the mineral soil (scarification).

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the western edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Tall white pine will be left along near the wetlands to for raptors to watch for prey and provide nesting sites. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned once more then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. The hardwoods would remain in the stand to provide seed for added diversity in the forest. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 2 **Forest Type:** Pine - Hardwood

Acreage: 25 **Site:** 2

 # Trees/ acre: 154 (120 AGS) **Ave. Diameter:** 12.5" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 82 AGS only - 58 (39 WP, 6 RM, 4 RP, 2 RO, 2 WB, 1 WO, 1 HM, 1 BC, 1 WS, 1 BF)

Species Composition: 65% White pine, 11% Red maple, 5% Red pine, 4% Red oak, 4% Hard maple, 3% Balsam fir, 2% White birch, 2% White oak, 1% Aspen, 1% Black cherry, 1% White spruce, 1% Hophornbeam

Stand Description

This stand is located along the northern boundary. The stand is similar to stand 1 in trees per acre and basal area per acre. The soils are sandy and but internal drainage may be slower. A wetland is found in the valley between the two ridges.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. There is greater diversity in the hardwood trees present. The quality of trees present in the stand is good with 77% tallied as acceptable growing stock. Some white pine blister rust was found on trees. Few trees have old logging damage and ice damage.

One main skid trail accesses either side of the wetland area. Old trails crossed the wetland in the north. Harvesting occurred in the stand several times in the last 50 years with the most recent following the 1998 ice storm. The trees were likely skidded to the small landing in stand 1 50 years ago and the main landing after the 1998 ice storm.

Regeneration plots were taken in the stand and there are approximately 2300 saplings per acre. The species percentages are as follows: 19% red maple, 17% white pine, 15% hophornbeam, 13% witch hazel, 11% red oak, 5% aspen, 4% white spruce, 4% hornbeam, 3% alder, 3% white birch, 1% red pine, 1% hemlock. Hardwoods regenerated following the ice salvage. The hardwoods will out compete the white pine on sites that have more moisture. The hornbeam and alder are found at the wetland edges. The witch hazel is a shrub that grows to 20' tall.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is better in this stand than stand 1 with the diversity of hardwood trees. Water is present in the wetland at the edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or

are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine and oak component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. The oaks and other mast crop trees will provide food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Tall white pine will be left along near the wetlands to for raptors to watch for prey and provide nesting sites. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned once more then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine and hardwoods. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. The hardwoods would remain in the stand to provide seed for added diversity in the forest. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 3 **Forest Type:** Pine - Hardwood

Acreage: 40 **Site:** 2

 # Trees/ acre: 222 (151 AGS) **Ave. Diameter:** 10.5" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 91 AGS only - 65 (37 WP, 17 RP, 7 RO, 3 RM)

Species Composition: 48% White pine, 23% Red pine, 10% Red oak, 8% Red maple, 5% Beech, 3% White birch, 3% Aspen

Stand Description

This stand lies on the western slopes of the small hill in the north-central part of the property. The slopes are gentle to moderate. The soils are sandy and well drained to excessively drained. In this type of soils the pines will dominate. Numerous small ridges and valleys generally run northeast to southwest. A small wetland lies along the western edge of the stand.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. The hardwoods are near the top of the ridge. The quality of trees present in the stand is good with more than 68% tallied as acceptable growing stock. Some white pine blister rust was found on trees.

Numerous old skid trails access this stand. Many run southwest to north east. A few of run north-south along gentle slopes. The stand has been harvested several times in the last 50 years. The last harvest was a salvage of the 1998 ice damaged timber. Dense small poletimber trees are growing in pockets where openings were created.

Regeneration plots were taken in the stand and there are approximately 2300 saplings per acre. The species percentages are as follows: 42% white pine, 18% beech, 11% red oak, 11% aspen, 6% red maple, 3% red pine, 2% sugar maple, 2% jack pine. Good white pine regeneration is found in the old trails where skidding scarified the soils.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the western edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances

create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. The hardwoods would remain in the stand to provide seed for added diversity in the forest. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 4 **Forest Type:** Hardwood - Pine

Acreage: 31 **Site:** 2

 # Trees/ acre: 204 (102 AGS) **Ave. Diameter:** 10.0" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 79 AGS only -46 (17 WP, 14 RO, 8 RM, 4 RP, 2 WO, 1 HM)

Species Composition: 25% White pine, 24% Red oak, 23% Red maple, 11% Beech, 6% Red pine, 3% Hard maple, 3% Aspen, 3% White Oak, 2% White birch

Stand Description

This stand lies on the eastern slopes of the small hill in the north-central part of the property. The slopes are gentle to moderate. The soils are sandy and well drained. Several small ridges and valleys generally run east - west. A small wetland lies along the eastern edge of the stand.

The stand is a mixture of sawtimber size pine and oak. The remaining hardwoods are poletimber in size. This stand has the highest percentage of beech on the property. The quality of trees present in the stand is medium to good with 50% tallied as acceptable growing stock. The beech are infected with beech bark disease. The ice damage can still be seen in some of the hardwood crowns.

One main trail runs up the hill on the southern edge of the stand. Numerous old skid trails run north across the slope. The stand has been harvested several times in the last 50 years. It is one of the easiest accessible stand and has been harvested several times in the last 50 years. The last harvest was a salvage of the 1998 ice damaged timber.

Regeneration plots were taken in the stand and there are approximately 2100 saplings per acre. The species percentages are as follows: 42% hophornbeam, 31% beech, 16% white pine, 6% red maple, 4% witch hazel, 1% white birch. The stand has not regenerated well to quality species.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The pine and mast trees are providing food for wildlife. Water is present in the wetland along the eastern edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for

recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The diseased beech will keep sprouting from the roots and without disturbance the quality of the stand will decline.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens. Any disease free beech will be identified and left since wildlife use the beech nuts for food.

Timber management can occur in the stand. Even-age management is recommended for this stand. A regeneration harvest should occur. Quality trees will be left to provide seed and shelter and all other trees will be harvested. The harvest should occur in the summer months to allow scarification. The harvest should occur the year of a good white pine cone crop or acorn crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 5 **Forest Type:** Pine - Hardwood

Acreage: 26 **Site:** 2

 # Trees/ acre: 218 (106 AGS) **Ave. Diameter:** 11.4" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 103 AGS only 64 (21 WP, 19 RO, 17 RP, 6 RM, 1 ASP)

Species Composition: 31% White pine, 24% Red oak, 19% Red pine, 13% Red maple, 8% Aspen, 5% Beech

Stand Description

This stand lies on the southern slopes of the small hill in the north-central part of the property. The slopes are gentle to moderate. The soils are sandy and well drained. The stand is a mixture of sawtimber size pine and oak. This stand has the highest percentage of red oak on the property. The quality of trees present in the stand is medium with 48% tallied as acceptable growing stock. Many of the trees have poor form. Some of the red oak are found in clumps. They are stump sprouts from harvesting 60+ years ago. The ice damage can still be seen in some of the hardwood crowns.

Several trails cross through the stand from previous harvesting. Many have been kept open by 4 wheelers. The stand has been harvested several times in the last 50 years. This stand was part of the southern tax parcel. Very little salvage harvesting occurred after the 1998 ice storm.

In 2021-2022 a severe spongy moth infestation spread across the Champlain and AuSable Valleys. The red oak on this property were partially defoliated. Old egg masses can be seen on some of the oak and white pine throughout the property. The oak can withstand 1-2 years of defoliation. While it may be decades before another severe defoliation, this should be monitored when it occurs to see if it has caused death in the oak.

Regeneration plots were taken in the stand and there are approximately 2100 saplings per acre. The species percentages are as follows: 38% beech, 18% hophornbeam, 15% witch hazel, 10% white pine, 8% red maple, 6% striped maple, 5% red oak. The stand did not regenerate to quality species. The beech are root sprouts and are dense thickets.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The pine and mast trees are providing food for wildlife.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The diseased beech will keep sprouting from the roots and without disturbance the quality of the stand will decline.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens. Any disease free beech will be identified and left since wildlife use the beech nuts for food.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Larger openings would be created to regenerate the red oak and pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the fewer, larger openings during each harvest. In each opening, the beech and other poor quality regeneration needs to be cut to the ground to allow other species to regenerate.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of an acorn crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 6 **Forest Type:** White Pine- Red Pine

Acreage: 39 **Site:** 2

 # Trees/ acre: 161 (110 AGS) **Ave. Diameter:** 12.3" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 98 AGS only 65 (49 WP, 13 RP, 2 RM, 1 ASP)

Species Composition: 72% White pine, 21% Red pine, 4% Red maple, 3% Aspen

Stand Description

This stand lies in the eastern part of the property. This stand developed from old agricultural areas that reforested naturally to white pine. Some small areas of planted Scotch pine are found along the main woods road. These were likely planted for Christmas trees.

The soils are very sandy and well drained. White and red pine will dominate the hardwoods on these types of soils. The quality of trees present in the stand is good with 68% tallied as acceptable growing stock. The larger white pine have poor open grown form. The large limbs are a result of growing with little competition. Multiple leaders in the crown result from damage by the white pine weevil.

Several harvests have occurred in this stand in the past 50 years. The most recent was approximately 15 years ago. The trees were marked by a forester from Mill River sawmill in Vermont.

The main woods road travels through this stand. A small landing was located the road in the northern end. Many trails cross through the stand from previous harvesting. Some have been kept open by 4 wheelers. A small sand pit is found in the southern part of the stand, north of the woods road.

Regeneration plots were taken in the stand and there are approximately 4100 saplings per acre. The species percentages are as follows: 78% white pine, 7% red oak, 5% witch hazel, 2% red maple, 2% beech, 1% aspen, 1% white spruce, 1% striped maple, 1% white birch, 1% hophornbeam, 1% serviceberry. The white pine has regenerated well following the past harvesting.

There is little cover for wildlife in most of the stand. The understory is open. The only food for wildlife is the pine cones. Good cone crops will occur on 3-5 year intervals.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for

recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. The pines will provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 7 **Forest Type:** Pine - Hardwood

Acreage: 56 **Site:** 2

 # Trees/ acre: 148 (87 AGS) **Ave. Diameter:** 12.1" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 83 AGS only 48 (32 WP, 8 RM, 5 RO, 1 RP, 1 ASP, 1 BC)

Species Composition: 59% White pine, 17% Red maple, 9% Aspen, 8% Red oak, 2% Jack pine, 2% Red pine, 1% White birch, 1% Black cherry, 1% White oak

Stand Description

This stand lies in an east-west band north of the wetland area and main woods road. This area was designated as a separate stand since the most recent harvest was 3 years ago. This stand is similar to the stands to the north and eventually as harvesting occurs it may be merged with those stands. The soils are very sandy and well drained. The small valleys allow more moisture to accumulate and hardwoods can compete with the pine.

The quality of trees present in the stand is medium to good with 58% tallied as acceptable growing stock. The larger white pine have poor form or are rotten. Some of the hardwoods have damage as a result of the 1998 ice storm.

Several harvests have occurred in the stand in the past 50 years. The last harvest removed the better quality white pine. The pine were sawed and used for siding on the barn along the AuSable River.

Many trails are present from the harvesting. The main trails have been kept open by the 4 wheelers. Many trails cross through the stand from previous harvesting. Some have been kept open by 4 wheelers. A small sand pit is found in the southern part of the stand, north of the woods road.

Regeneration plots were taken in the stand and there are approximately 5100 saplings per acre. The species percentages are as follows: 84% white pine, 5% witch hazel, 4% red maple, 3% beech, 1% white spruce, 1% white birch, 1% hophornbeam, 1% black cherry. Most of the saplings are those that were present prior to the last harvest. The deer have browsed the stump sprouts of the maple and other hardwoods.

The hardwood stumps continue to send sprouts that the deer eat. Soon they root systems will be exhausted and the stumps will not longer sprout. The openings from the harvesting should allow other hardwoods to regenerate. The deed will eat those as well. Since white pine is not a preferred food, the white pine should successfully regenerate and grow. Tree shelters may need to be put around hardwood seedlings until they are tall enough to be out of reach of the deer.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow and fill in the openings created by the last harvest. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting is providing cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned in 15 years and then a regeneration harvest scheduled. Five to ten years following the regeneration harvest, the remaining overstory would be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest. The next harvest would not be scheduled for another 10-15 years.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 8 **Forest Type:** Pine

Acreage: 30 **Site:** 2

 # Trees/ acre: 212 (146 AGS) **Ave. Diameter:** 11.1" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 105 AGS only 70 (51 WP, 11 RP, 5 PP, 1 BC, 1 RO, 1 RM)

Species Composition: 62% White pine, 16% Red pine, 9% Pitch pine, 4% Jack pine, 4% Aspen, 3% Red maple, 1% Black cherry, 1% Red oak

Stand Description

This stand lies in the southern part of the property north of the wetland. This stand developed from old agricultural areas that reforested naturally to white pine. The soils are very sandy and are well to excessively drained. Jack pine and pitch pine are found in the stands which indicate the low moisture availability. These species were a higher percentage of the stand but many were severely damaged by the 1998 ice storm.

The quality of trees present in the stand is good with 68% tallied as acceptable growing stock. The larger white pine have poor open grown form. The large limbs are a result of growing with little competition. Multiple leaders in the crown result from damage by the white pine weevil. The Jack pine and pitch pine are struggling and have small thin crowns. Aspen along the wetland are being toppled by the beaver.

Several harvests have occurred in this stand in the past 50 years. The most recent was approximately 15 years ago. The trees were marked by a forester from Mill River sawmill in Vermont.

The main woods road travels through this stand. The main landing for the property occurs in this stand. Many trails cross through the stand from previous harvesting. Some have been kept open by 4 wheelers.

Regeneration plots were taken in the stand and there are approximately 4300 saplings per acre. The species percentages are as follows: 81% white pine, 8% beech, 5% white spruce, 3% red maple, 1% hophornbeam, 1% white oak, 1% honeysuckle. The white pine have regenerated well. Little hardwood regeneration is present from the harvest 15 years ago due to deer browse.

There is little cover for wildlife in most of the stand. The understory is open. The only food for wildlife is the pine cones. Good cone crops will occur on 3-5 year intervals.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. The pines will provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Honeysuckle is present near the wetland. This is an invasive species. The stems should be cut and treated with herbicide or a basal stem herbicide treatment applied. The wildlife will eat the berries and spread the plant. It will form a thick understory and not allow trees to regenerate. It also may provide too much shade for the meadow horsetail to thrive if it is present.

Stand #: 9 **Forest Type:** Pine - Hardwood

Acreage: 19 **Site:** 2

 # Trees/ acre: 179 (94 AGS) **Ave. Diameter:** 13.3" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 121 AGS only 73 (49 WP, 13 RP, 4 WS, 3 RO, 2 RM, 2 ASP)

Species Composition: 64% White pine, 16% Red pine, 7% Red maple, 5% Aspen, 4% Red oak, 4% White spruce

Stand Description

This stand lies south of the wetland area along the western boundary line. The slopes are gentle with some steeper slopes along the brook and wetland. The soils are sandy and well drained. Pines have dominated in this stand. Hardwoods the hardwoods are smaller in diameter and are in the intermediate to codominant position. A small wetland crosses through the stand.

The quality of trees present in the stand is medium with 52% tallied as acceptable growing stock. Some white pine blister rust was found on trees. The red pine have not been harvested in the past. Some are good pole quality and others have thin crowns and large branch scars.

One old skid trail was found that crossed north-south through the stand. The last harvest in the stand was 50-60 years ago when most of the white pine was harvested. The wood was skidded to the south to the old road in stand 10. A stream crossing could occur in the stand. The location is shown on the forest type map.

Regeneration plots were taken in the stand and there are approximately 2300 saplings per acre. The species percentages are as follows: 54% white pine, 15% red maple, 13% red oak, 8% hornbeam, 6% white spruce, 4% hophornbeam. Most of these saplings are 2-4 inches in size.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the northern edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trail in the stand would be need to be cut open and kept open for recreational use. The understory will remain fairly open unless death or natural

disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Larger openings would be created to regenerate the oak and pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest. The harvest may be split into two units to avoid crossing the wetland that is within the stand.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stands #: 10, 11 **Forest Type:** Hardwood - Pine

Acreage: st 10 (8ac), st 11 (8 ac) **Site:** 2

 # Trees/ acre: 171 (94 AGS) **Ave. Diameter:** 14.1" **Size:** medium sawtimber

Basal Area(sq.ft./acre): All trees - 113 AGS only 65 (25 WP, 19 RM, 11 RO, 9 RP, 1 ASP)

Species Composition: 38% White pine, 31% Red maple, 14% Red oak, 9% Red pine, 8% Aspen

Stand Description

These stands lie south of the wetland area in the southwest corner of the property. The strip of wetland separates the stands. The slopes are gentle with one steeper ridge in stand 10. some steeper slopes along the brook and wetland. The soils are sandy and well drained to somewhat poorly drained along the wetland. The stands are a varying mixture of hardwoods and pine. An old pasture fence runs north south on the west side of the wetland in stand 10.

The quality of trees present in the stands is medium with 54% tallied as acceptable growing stock. Some white pine blister rust was found on trees. Many of the white pine are larger and were left in previous harvesting.

An old road crosses the narrow wetland strip from stand 12. This then crosses onto the neighbors to the west. This road appears on the 1953 USGS AuSable topographic map. One old skid trail was found to access stand 9. The old trails have grown in.

Regeneration plots were taken in the stands and there are approximately 2300 saplings per acre. The species percentages are as follows: 35% hophornbeam, 27% white pine, 8% white spruce, 6% white birch, 6% red maple, 4% red oak, 4% alder, 4% hornbeam, 3% beech, 3% striped maple. The lack of periodic harvesting and scarification has allowed the hophornbeam to dominate in the understory. This is a noncommercial tree species.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with little diversity in the overstory trees. Water is present in the wetlands that split the stands.

Stand Prescription

Several options are available for managing these forest stands. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trail in the stands would be need to be cut open and kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly

decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stands. If even-age management is used, the stands would be thinned and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Larger openings would be created to regenerate the oak and pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stands #: 12, 13 **Forest Type:** White Pine

Acreage: st 12 (27ac), st 13 (5 ac) **Site:** 2

 # Trees/ acre: 191 (119 AGS) **Ave. Diameter:** 14.1" **Size:** medium sawtimber

Basal Area(sq.ft./acre): All trees - 131 AGS only 76 (58 WP, 11 RP, 6 RM, 1 WS)

Species Composition: 78% White pine, 10% Red pine, 5% Red maple, 3% White spruce, 2% Aspen, 1% White birch, 1% Black cherry

Stand Description

These stands lie in the southern part of the property south of the wetland. They are separated by a strip of wetland. The stands developed from old agricultural areas that reforested naturally to white pine. Remnants of stone walls are present. The soils are sandy and are well to somewhat poorly drained along the wetland.

The quality of trees present in the stands is good with 62% tallied as acceptable growing stock. Some of the larger white pine have poor open grown form. The older white spruce also have large dead lower limbs showing they were open grown for years. Aspen along the wetland are being toppled by the beaver.

Very little harvesting has been done in these stands. Some trees may have been removed along the old road. The beaver are toppling aspen and other hardwoods on the edges of the wetland. The beaver periodically flood the edges of the stand when they are active in the wetland.

An old road travels crosses the brook and wetland from the main woods road into stand 12. This road has not been used in decades and has grown in with thick white pine regeneration. This old road shows on the 1953 USGS AuSable topographic map. Two old culverts are present where it crossed the wetland area.

Regeneration plots were taken in the stands and there are approximately 2700 saplings per acre. The species percentages are as follows: 56% white pine, 25% red maple, 13% white spruce, 3% hophornbeam, 1% balsam fir, 1% striped maple.

There is little cover for wildlife in most of the stands. The understory is open. There's some diversity in the trees in the stand and hard and soft mast. Water is present in the wetlands.

Stand Prescription

Several options are available for managing these forest stands. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stands would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances

create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. The pines will provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stands. If even-age management is used, the stands would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In these stands, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand: Inoperable

Acreage: 8

This stand includes the steep bank west of NYS Route 9N. The stand is a mixture of white pine, red pine and red oak. Near the top of the bank there are some moderate slopes where harvesting could occur. The remaining areas are too steep for timber harvesting. Any removal of trees could possibly cause sections of the slope to slip. Occasionally dead and leaning trees along NYS Route 9N are removed.

Recreation

Recreation is one of the primary goals of the landowner. Several trails have been established from old logging roads and skid trails. Other trails are and will be created to loop together to provide better access throughout the property. The trails can be used for walking, skiing, hunting, snowshoeing and a variety of other activities. Dead limbs on the pines along the trails should be pruned to minimize hazards.

Soil and water protection

Roads and trails built need to be laid out to minimize the impact of erosion. A few of the current trails and the main woods road are eroding in several spots where the slopes are steeper. On the trails, water bars or other water diversion devices should be installed. This will direct the water across and off the trail. The main woods road should be ditched and turnouts for the water added. Additional gravel may be needed. The NYS DEC publishes a Best Management Plan Guide that is a good resource when planning water diversion. The file forestybmp.pdf can be found on the NYS DEC website.

Two brooks on the property are classified as C with a standard of C(T). These streams will require permits for any crossings. Temporary crossings for timber harvesting will require a permit from the NYS DEC. If permanent crossings are desired, a three agency permit (APA, DEC, Army Corp) will be needed. Varying width buffers will occur along the streams will occur where timber harvesting would be limited. In areas of steep slopes, the width will be wider. If a tree poses a safety risk in a buffer where a trail occurs, it will be removed.

Several options were noted for crossing the brook in the southern part of the property. These are noted on the forest type map. In the western side of the property, the crossings would be bank to bank with a skidding bridge. An old crossing is present in the wetland area. Two old culverts are laying at the edge of the forest where a skid trail crossed the brook. The beaver used the old road as a base of their dam. The dam has not been maintained and most of the water is gone. This crossing is still an option for use for timber harvesting but would have to occur in winter months.

Wildlife and Flora Management

The property has many bird and wildlife species present that are common in the Adirondacks. Habitat improvement can occur with active forest management. Three critical factors will determine the abundance of wildlife populations on any property. These factors are cover, water and food. Specific habitat management activities that may be undertaken include:

1.) Placement of brush piles for snowshoe hare and cottontail rabbit shelters.
2.) Developing or preserving trees that contain cavities.
3.) The propagation of plant species that specifically benefit wildlife.

a.) Seeding of landings fields, or allowing native herbaceous plants to reclaim the site.
b.) Seeding of skid trails or secondary roads, or allowing native herbaceous plants to reclaim the road and trails.
c.) Planting of wildlife shrubs along roads or in landing areas.
d.) Allowing of noncommercial species to develop in stands that would normally be eradicated for timber growing purposes (i.e. Striped maple and hophornbeam).
e.) Plantings of wetland or shallow water plants along ponds or streams.

4.) Maintaining and or creating dead woody material standing or on the forest floor.

General activities that will be done in order to improve the habitat of wildlife in a timber harvest operation are:

1.) Leaving scattered existing or potential den trees during silvicultural operations.
2.) To maintain varying buffers along the wet areas in stand 1to maintain shade and keep waters cool.
3.) Maintain quality hard and soft mast producing trees.
4.) Maintain wildlife travel corridors.
5.) Maintain deer wintering areas.

A half acre pond is located on the east side of Sam Spear Road. This report does not include any information about the quality of the water in the pond or its fisheries. Experts need to be consulted to determine if it is good fish habitat and for what species. It does provide a source for water for wildlife. However since it is in the middle of the field, there is no cover for wildlife as they come to drink.

Insects and Diseases

The **Beech Bark** disease has been infecting the beech on the property. Beech scales (*Cryptococcus fagisuga)* first attack the tree and create small holes in the bark where they feed. They produce a cotton like substance that makes the bark look white. The Nectria fungus (*Nectria coccinea faginata)* then infects the beech through these holes. The Nectria spread and eventually girdle the tree. The disease is widespread throughout the Adirondacks and little can be done to contain the disease. Diseased trees should be harvested when possible and any trees that show resistance to the disease should be left as a future seed source.

The **white pine weevil** (*Pissodes strobi)* damaged some of the trees as the agricultural areas were reforesting in stands 6 and 8. Some of these large multi-stem trees remain in the stand. The weevil may become a problem with the regeneration in the future. The weevil attacks and kills the leader of the tree. A side branch will then become the new leader thus forming a crook. The weevil often attack the new leaders again and again until the trees reach 20-25' in height. The best defense against the weevil is to plant a mixture of species in new plantations or to plant white pine with a tree that will shade them quickly such as larch or aspen. In areas where new regeneration is being established, overstory trees should be kept in order to shade and protect the

new seedlings. The weevil aren't likely to attack the new seedlings when there is an overstory present. Once the seedlings reach 20-25' tall then it is usually safe to remove some or all of the overstory. In thinning operations the weeviled trees will be thinned first, leaving the straighter, better quality trees.

The **white pine blister rust** (*Cronartium ribicola)* is also present in white pine across the property. This fungus lives half of its life cycle on the gooseberry plant (*Ribes* sp.) and the other half on the white pine. When it attacks the white pine it will cause the tree to "weep". Sap will be exuded from the face of the tree where the rust is. The fungus will begin to girdle the tree and you will then notice a sunken area at the point of infection. If the infected area is on the main stem, the tree will begin to die above the infected area from the top down. If the infection occurs below the live crown, the tree will die. If a branch is infected, the branch will die. The blister rust can be controlled by removing the infected trees as soon as possible after they are found. By removing them you try to get rid of the rust before it forms aceiospores which will then return to the gooseberry plant to start the life cycle again. Through proper management the nonresistant trees will be removed from the stand which will increase the ability to genetically improve the future stand with potentially more resistant trees.

The **Spongy moth** (*Lymantria dispar*)was accidentally released into the United States in 1870. Since that time it has spread and now infests more than 200,000 square miles in the northeast. The larvae hatch from early April to late May. A few days after the larvae hatch, they climb the tree to feed on the leaves. As the caterpillar matures the feeding habits change. It begins to feed at night and descends off the tree during the day to a shady location. They will continue to feed all day on a heavily infested tree. The caterpillars feed on the leaves of a number of trees including: apple, alder, basswood, hawthorn, oaks, some poplars and willows. Larvae from a massive population may feed on almost every tree in the northern forest. Oaks suffer from the spongy moths attack more than the other trees. Most deciduous trees can withstand one or two consecutive defoliations before severe decline or death occurs. Most conifers will die after one complete defoliation. The larval stage lasts about 7 weeks. The larvae then pupate and the moths emerge in July. The females do not fly. After mating the adults soon die without feeding. Human manipulations, bacterial pathogens, and parasites and predators from Europe have been used to help control the moths.

The **emerald ash borer** (*Agrilus planipennis)* is not present on the property at this time, but could pose a threat to the white ash if it migrates to northern New York. There is a relatively small percentage of white ash on the property. This is an exotic beetle from Asia that was discovered in Michigan in 2002. It had probably been there 6 to 10 years prior to discovery. The borer generally has a one-year life cycle in Michigan but may need two years to complete the cycle in colder climates. Adult beetles emerge in early June. Beetles live for about three weeks and are present until mid August. Beetles feed on ash foliage along the margins of the leaf. Females can lay 60 to 90 eggs and they are deposited individually in bark crevices on the trunk or branches. The eggs will hatch in 7 to 10 days. The larvae feed on the phloem and outer sapwood for several weeks. The S-shaped galleries wind over an area 20 to 30 cm in length. Feeding is completed in late autumn and the pre-pupal larvae overwinter in shallow chambers in the outer sapwood. New adults remain in the papal chamber for 1 to 2 weeks before they emerge through a D-shaped exit hole. The S-shaped galleries interrupt the transport of nutrients and water within

the tree during the summer. Foliage wilts and the tree canopy becomes thin as branches die. Most trees die 3-4 years after infestation. The borer is found in the Lake States and in southern Ontario.

The **Hemlock Wooly Adelgid** (*Adeleges tsugae*) is an insect that attacks hemlock exclusively. This species was first discovered in western North America in 1924 and near Virginia in 1951. In 2017 three trees near Lake George were identified as having HWA. The presence of HWA can be identified by its egg sacs, which resemble small tufts of cotton clinging to the underside of hemlock branches. Hemlocks stricken by HWA frequently become grayish-green rather than the dark green of healthy hemlocks. In North America, the hemlock woolly adelgid asexually reproduces and can have two generations per year. The hemlock woolly adelgid feeds on the phloem sap of tender hemlock shoots. It may also inject a toxin while feeding. The resulting desiccation causes the tree to lose needles and not produce new growth. In the northern portion of the hemlock's range, death typically occurs four to ten years after infestation. Since 2017 areas surrounding Lake George were found infected and treated. The insect continues to move north and may eventually will be a threat to the hemlock on this property.

Soils

A detailed soils map of Essex County has been compiled by the Natural Resources Conservation Service and can be viewed on the Web Soil Survey by the Natural Resources Conservation Service. The soils of the property fall into the following associations: 1) Adams, 2) Adirondack, 3) Champlain, 4) Croghan, 5) Fernlake, 6) Herman, 7) Monadnock, 8) Nicholville, 9) Roundabout, 10) Rumney, 10) Rumney-Burnt Vly, and 11) Sunapee.

The **Adams** soils are loamy sands, formed in low lime glacial outwash. They are very deep and excessively drained. Available water capacity is very low and permeability is rapid to very rapid. These soils, where cleared, and found on 3 to 8% slopes are considered farmland of statewide importance. These soils are found in most stands north of the brook.

The **Adirondack** soils are loams, formed in low lime glacial till underlain with a dense substratum. They are very deep and somewhat poorly drained. Available water capacity and permeability are moderate. This association contains possible inclusions of hydric soils. These soils where cleared are considered farmland of statewide importance. These soils along the southern boundary in the wetland.

The **Champlain** soils are loamy sands that are very deep, excessively to somewhat excessively drained. They are formed in glaciofluvial deposits on sandy deltas, outwash plains and terraces. Depth to bedrock is greater than 60". These soils are found along the western boundary in stand 9.

The **Croghan** soils are fine loamy sands that are very deep. They lie on gently sloping terrain. They are moderately well drained soils that are formed in sandy low lime glacial outwash. The available water capacity low and permeability is rapid. These soils are found in stands 2&3 along the northern boundary.

The **Fernlake** soils are loamy sands that are very deep. They are somewhat excessively drained, low lime, formed in glacial till. Surface runoff and permeability are rapid. Available

water capacity is low. These soils are found in stands 1 and 9 along the western boundary.

The **Hermon** soils are deep, well drained and somewhat excessively drained, moderately coarse developed in glacial till on uplands. This association occupies gently sloping plains and dome shaped rounded hills. There are many cobblestones, boulders and gravel in the till. Minor soils in this association are poorly drained soils on small flats or depressional areas where water tends to accumulate. Rock outcrop can also be found in this association. These are found in stands 3, 4 and 5 on the hill in the north-central part of the property.

The **Monadnock** soils are fine sandy loams formed in low lime glacial till on uplands. They are deep and well drained. Boulders cover up to 3% of ground surface. Available water capacity and permeability are moderate. These soils are found in stand 4 and 5 at the top o f the hill and the inoperable area.

The **Nicholville** soils are stoney fine sandy loams that are moderately well drained and have developed on glaciolacustrine deposits of fine sand and silt. Deposits of parent material are thin. They occur on broad smooth slopes. Surface runoff is medium and internal drainage is medium to slow. These soils are found in stands 2, 3, 6, 12 and 13.

The **Roundabout** soils are silt loams that are very deep and poorly drained. They are formed in glaciolacustrine deposits on lake plains. Depth to bedrock is more than 60 inches. These soils are found in stand 13.

The **Rumney-Burnt Vly** soils are deep, somewhat poorly drained to very poorly drained, moderately coarse textured, developed in recent alluvium. This association occupies nearly level floodplains of large streams. These are found in the wetland areas.

The **Sunapee** soils are fine sandy loams. They are very deep, moderately well drained, formed in low lime glacial till on uplands. Boulders cover up to 3% of the ground surface. Available water capacity is moderate and permeability is moderate. These soils are found in stand 12.

Fire Protection

There are numerous skid trails and roads to serve as fire breaks. Future skid trails and recreational trails may also serve as breaks. Some trails should be wide enough to allow ATV access. Any brush or trees that are cut will be left close to the ground to minimize the fire danger.

Fire danger is low in hardwoods except during droughty periods and in early spring. The cut tops must be lopped to 4" in the softwood stands during any harvesting as required by NYS law. If the tops are left high, they pose a danger of spreading a ground fire into the canopy of the softwood trees.

Invasives

During the inventory of the property the only invasive noted was honeysuckle. They were introduced in the 1800's as ornamentals, wildlife cover and erosion control. They will leaf out

early in spring and retain their leaves later in the fall. They thrive in the shaded forest understory. They will form a thick understory that limits the sunlight for regeneration of native plants and trees. They can be controlled by: 1) pulling when plants are small, 2) Cut the shrub and apply herbicide to the cut stem, 3) apply foliar herbicide to the leaves, 4) apply herbicide to the bark of the tree 12 to 15 inches above the ground, and 5) controlled fire. A certified herbicide applicator must apply any herbicides to the cut stump, leaves or stems.

Endangered Species

According to DEC Resource Mapper, the property lies within 5 miles of a known northern long-eared bat hibernaculum. The northern long-eared bat has been listed as threatened. Harvest restrictions apply within a quarter mile of the hibernaculum. Within the 5 miles there are guidelines to leave shaggy bark hardwoods and snags. The harvest regulations for the northern long-eared bat may be updated if the bat is listed as endangered.

The New York Natural Heritage Program has also indicated the Meadow Horsetail (*Equisetum pratense),* a rare plant that could be found growing in the wetlands or banks of the small brooks that feed into the East Branch of the AuSable River. These plants like moist to wet woods. They reproduce by spores. They differ from the common horsetail in that their shoots are green and have whorls of branches. They can be poisonous to livestock and humans. Prior to marking timber in drainages or near wetlands, the existence of these plants or any of the horsetail species will be noted. Small areas may be left unmarked to preserve the habitat of these plants. The New York Heritage database indicates that open wetland areas where these plants occur should not be allowed to succeed into shrubs or trees. Often buffers are installed around wetland areas were timber harvesting or other activities are limited. If horsetails are found along the wetland, removal of the understory, honeysuckle or other shrubs may be recommended.

The New York Natural Heritage Program also indicated that the Appalachian Tiger Beetle (*Cicindela ancocisconensis),* an imperiled beetle was documented within 250 yards of the property. This beetle lives in riparian zones in low mountain regions. It inhabits the edges of forested streams on sand bars, gravel areas and sandy beach. Flooding, primarily due to dam construction is a major threat to this species. These are found along the East Branch of the AuSable River and are not within the forest management area.

The DEC Resource mapper also indicated a significant natural community on this property. The maps have recently been updated and indicate a pine - hardwood forest community through the central portion of the property. The threats to the pine-hardwood community include clearing, forest fragmentation, recreation overuse, invasive species, over browsing by deer, fire suppression and air pollution. They recommend management focus on activities to help regenerate and maintain the species associated with this community.

Summary

The forests of this property have developed from disturbances. The southern areas were used for agriculture and the northern areas for charcoal and lumber production. Harvests have occurred periodically by the previous owners. The NY Natural Heritage Program identifies the Pine - Hardwood forest as a significant natural community. This community developed from the past uses and site conditions present on the property. If no forest management occurs, the hardwoods will eventually become dominant. Site disturbance and sunlight are needed to keep the pine growing and regenerating in the forest.

As the plans for the property are finalized, more specific management practices and a time frame can be prescribed. This plan is a guide for the management of the forest. It is a working document that will be updated as practices are completed.

Respectfully submitted,
Northwoods Forest Consultants, LLC

Deborah Boyce, CF
Forest Management Plan.wpd

APPENDIX

Glossary of Terms

AGS - Acceptable growing stock. Trees of acceptable quality for future growth for sawlogs.

Basal Area - The area of the cross-section of a tree stem at breast height (4.5') and inclusive of bark. Expressed as square feet per acre. This measurement is used by foresters to determine the density of a stand.

Clearcutting - The removal of all trees in a given area

Commercial Forest - Forest land capable of bearing merchantable timber, currently or prospectively accessible.

Commercial Value - Value placed on products grown in the forest.

Conks - A fruit of a wood destroying fungus which projects beyond the tree.

Cords - Unit of measure for roundwood. One cord equals a stack of wood 4'wide x 4'deep x 8'long. Contains 128 cubic feet of wood.

Den Tree - A tree with holes and cavities that provide shelter and nest sites for various wildlife species.

Forest Type - Forest community defined by the composition of overstory tree species.

Girdling - making continuous incisions around a living stem through the bark and cambium with the object of killing the tree.

Improvement Harvest - Cutting of poor quality trees to stimulate growth on better quality trees.

MBF - Thousand board feet. Board feet is a unit of measure 12"x 12"x 1" thick.

Pruning - removal, close or flush with stem, of side branches, live or dead, and of multiple leaders.

Regeneration - Young crop of trees.

Seams - Crack in the stem of the tree. Most are results of freezing in the winter months.

Spring Seeps - Areas where underground water sources percolate to the ground surface.

Shrubs - Woody perennial plant, differing from a tree in its lower stature and general absence of a well defined main stem.

Site - An area considered in terms of its environment, particularly as it determines the type and quality of the vegetation the area can carry. Site class 1 is given to the best sites with deep, well drained soils. Site 3 is given to those sites with very shallow soils or very poorly drained soils where commercial timber growth is not likely to occur. Site class 2 is given to those sites that lie between 1 and 3.

Snag - A standing dead tree from which the leaves and most of the branches have fallen. Wildlife use these trees for dens, nests and perches.

Species Percentage - the percentage of species found within the stand. This is based on basal area.

Stand - A community of trees possessing sufficient uniformity as regards to composition, age, spatial arrangement, or condition to be distinguished from adjacent communities, so forming a silvicultural or management entity.

Timber Stand Improvement (TSI) - Thinning, pruning, or other activites that improve the condition of the stand.

Thinning - felling of immature trees primarily to accelerate diameter growth, or improve the form of the trees that remain. Products are sold from the harvest.

UGS - unacceptable growing stock. Trees of poor form, position, quality, or defect. Unacceptable for future growth for sawlogs.

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

THIRD NOTICE OF INCOMPLETE PERMIT APPLICATION

APA Project No.: 2021-0248

Project Sponsor:	**Authorized Representatives:**
Eric Stackman PO Box 402422 Miami Beach, FL 33141	Roberta Alba 6540 NW 170TH Terrace Miami, FL 33015

Type of Project: large-scale subdivision
Location of Project: Town of Jay, Essex County
Land Use Area: Low Intensity Use and Hamlet
Tax Map Nos.: 17.2-1-4, 17.2-1-5.1 & 17.2-1-20.111

Dear Roberta Alba:

Thank you for the recent submission in relation to APA Project No. 2021-0248, received by the Agency on April 10, 2023. The submission provided important information in response to the Agency's September 22, 2022 Second Notice of Incomplete Permit Application (NIPA).

Based upon staff review of your proposal and the information submitted in response to the Agency's September 22, 2022 Second NIPA, the following questions must be addressed in order to review your application.

Please be aware that the Adirondack Park Agency does not issue "Site Plan Approvals" as referenced and requested in the recent submission. As discussed, any decision by the Agency must come in the form of an issued permit or other determination once everything required for a complete application has been received.

As previously indicated, please note that additional information and studies, as well as professionally prepared plans for all aspects of the proposed development, will be required for a complete application. You will receive a notice in writing informing you when staff has received the information necessary to complete the application.

The proposal may not be undertaken until a permit has been issued by the Agency. "Undertake" means any commencement of a material disturbance of land preparatory to the proposed project, including but not limited to road construction, grading, installation of utilities, excavation, clearing of building sites, or other landscaping, or in the case of subdivision, the conveyance of any lots.

If you have any questions regarding this Notice of Incomplete Permit Application or the project review process, please contact Environmental Program Specialist 2 (EPS2) **Devan Korn**.

April 28, 2023
Date

***/s/* John M. Burth**
John M. Burth
Environmental Program Specialist 3 (EPS3)

Attachment: List of Requested Information

REQUESTED INFORMATION
APA Project No. 2021-0248

Please submit your response to this notice by e-mail to devan.korn@apa.ny.gov All application submissions should be in PDF or similar format and be legible. Electronic copies of plans must be fully scalable. Upon receipt and review of a complete response to the following, additional information may be required.

1. Thank you for the revised proposed trail system map and your efforts to revise the proposed overall site design to meet the parameters described in the Agency's September 22, 2022 Second NIPA (2nd NIPA). Please further revise the project proposal to meet the parameters described in the 2nd NIPA and submit a revised site design that depicts all proposed vegetative clearing, development, and soil disturbance.

   If the overall site design cannot be further revised as previously requested, please indicate which of the three alternatives submitted on April 10, 2023 is the current proposal. Please also remember that additional wetland delineations, visual and slopes analyses, and other studies will be required for any proposal that does not fully meet the parameters described in the 2nd NIPA, in addition to the information listed below. In addition, a biological survey prepared by a qualified biologist and spanning multiple seasons will be required for any proposal that does not fully meet the parameters described in the 2nd NIPA. Please note that, when biological surveys are required, staff recommend submission of a plan that includes the anticipated scope and methodology of the analysis for Agency review prior to beginning the survey, in order to ensure that the necessary criteria will be met.

2. Thank you for contacting New York State Departments of Transportation (DOT), and Environmental Conservation (DEC) regarding your project. Please provide the requested comments or approvals from DOT once received and continue to coordinate with DEC to confirm jurisdiction and submit any necessary permit applications.

   The recent submission does not appear to include any coordination effort with the New York State Department of Health (DOH). Accordingly, please contact the DOH regarding your project to facilitate a coordinated review. Please note, application submissions to all involved agencies will be required for a complete application.

3. Please provide the requested confirmation or comments from New State Electric & Gas Company (NYSEG) that the proposed utilities and anticipated electrical loading can be accommodated once received.

4. Based on the provided summary of the discussions with the Town of Jay Supervisor, it appears that a municipal sewer extension is not feasible. Accordingly, design plans prepared by a NYS licensed design professional that meet Agency standards and guidelines will be required for any proposed on-site wastewater treatment system(s). Details for any necessary replacement or expansion of existing municipal water district infrastructure will also be required for a complete application.

5. The recent submission included preliminary comments from Essex County Emergency Services, Jay Volunteer Fire & Rescue, and the Office of the Essex County Sheriff.

Please note, comments from the New York State Police and AuSable Forks Fire District should also be requested as identified in the documents included with the submission. Documentation will be required to confirm that any final project layout and infrastructure design meets the requirements of all first responders.

6. As previously indicated, the following information will be required for a complete application, along with additional studies and analysis as necessary:

- A description of the anticipated ownership configuration and maintenance responsibilities of the proposed access roads, utilities, open space and trail system, and other amenities such as employee housing.

- If any of the proposed roads or infrastructure are anticipated to be conveyed to the Town of Jay or any other entity, documentation confirming willingness to accept the development.

- A forest management plan that details the proposed uses of the proposed open space and trail system and includes a description of the specific forest resources present on the property and allows for sustainable use of those resources. Any proposed new trails and roads should coincide with this plan to strategically support access and use of the property interior for the proposed use (i.e., timber harvest, wildlife habitat enhancement, recreation, safety, etc.).

- A more detailed description of and plans for all proposed activities and development, including building plans and elevation drawings.

- Additional information related to any proposed ground-mounted solar arrays.

cc: Robbe Baer, Town of Jay Code Enforcement Officer
Erin Donhauser, NYSDEC

IMAGE AND SITE DISCLAIMER

All images used are for illustrative purposes only and are intended to convey the concept and vision for the project And may change as work progresses and do not necessarily represent a true and/or accurate depiction of the finished product. Proposed site plans are intended to give a general indication of the proposed layout only. All images and dimensions are not intended to form part any contract or warranty.

STACKMAN PROPERTY CONCEPT

AUGUST 2023

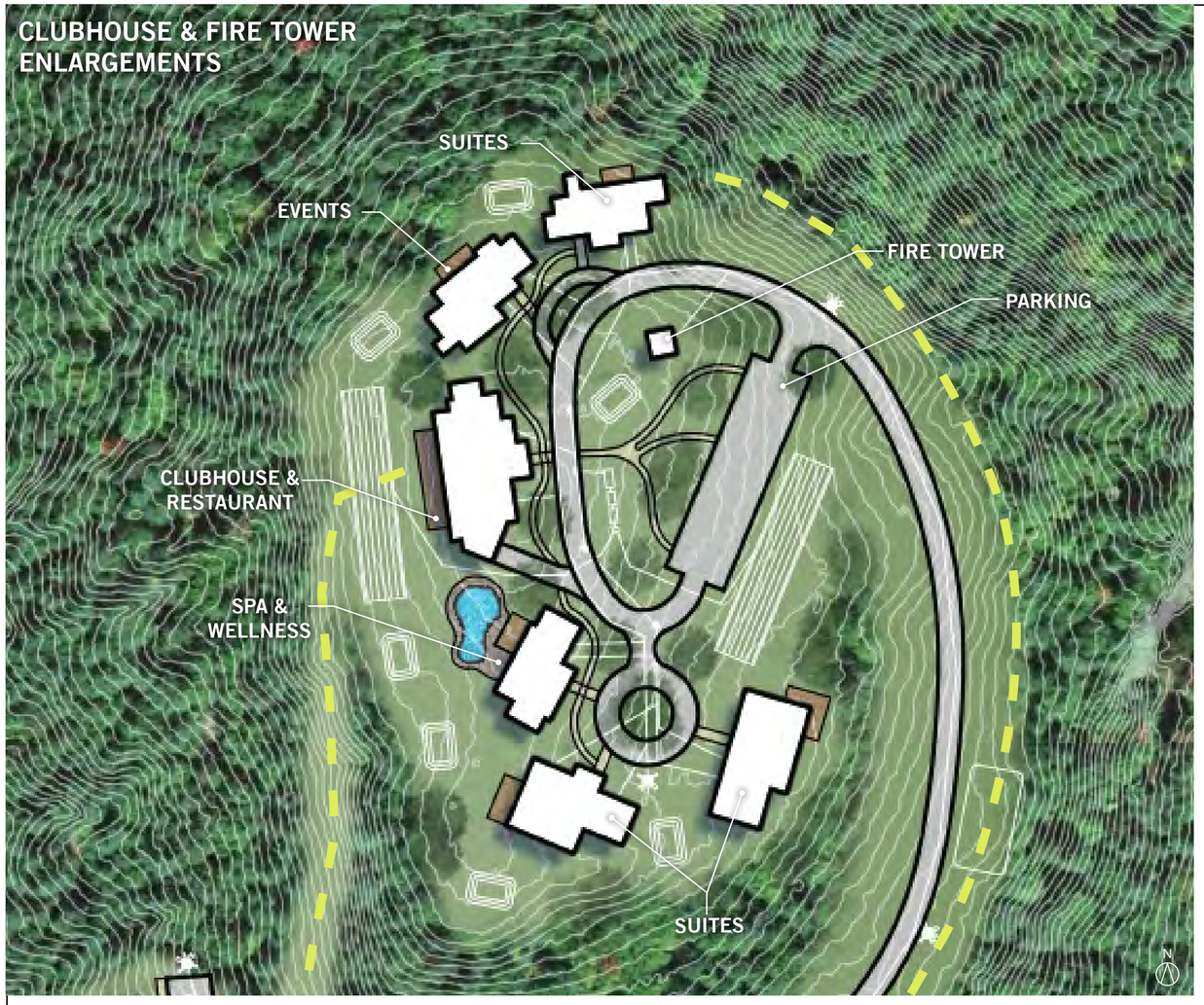
NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

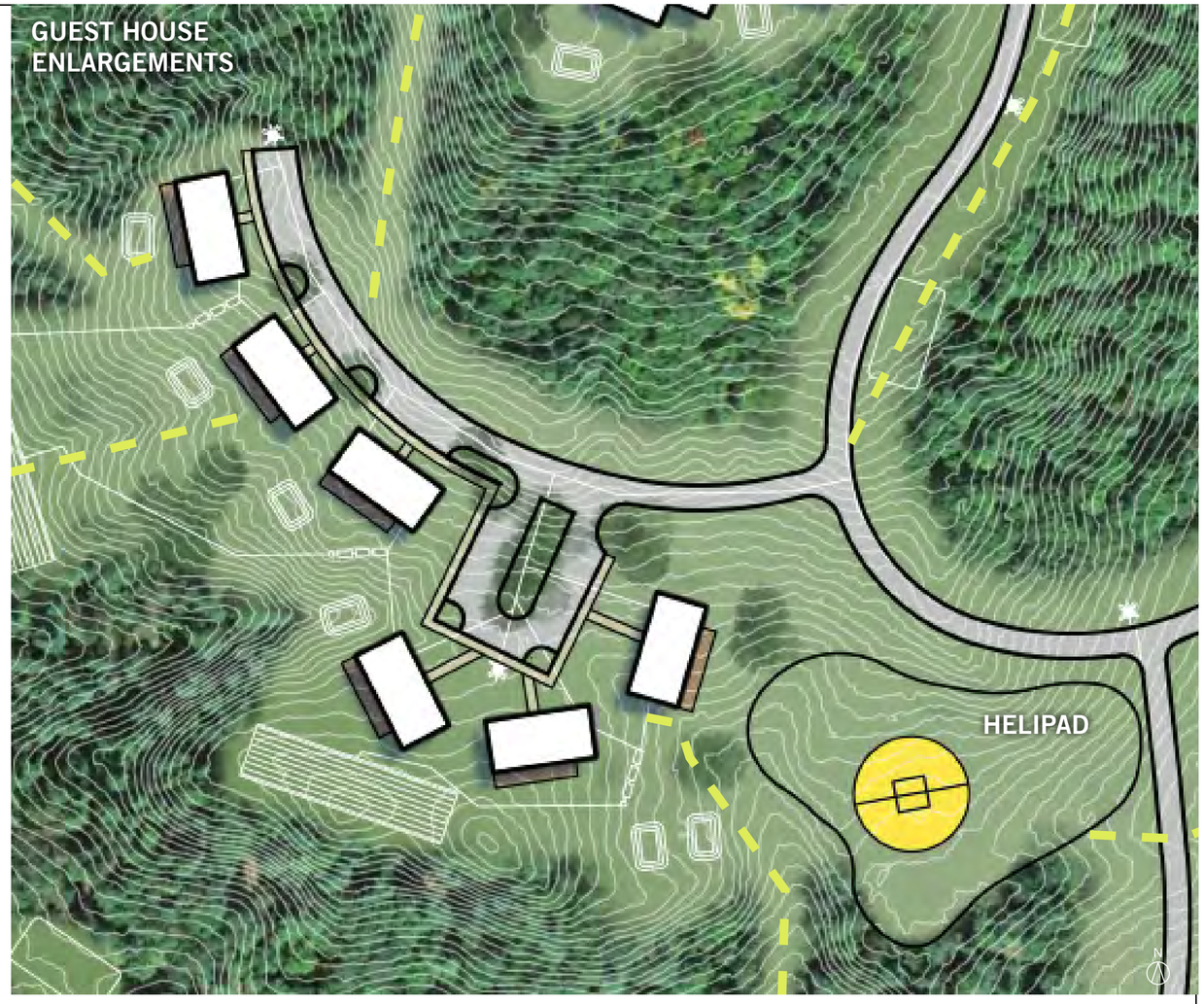
SE GROUP

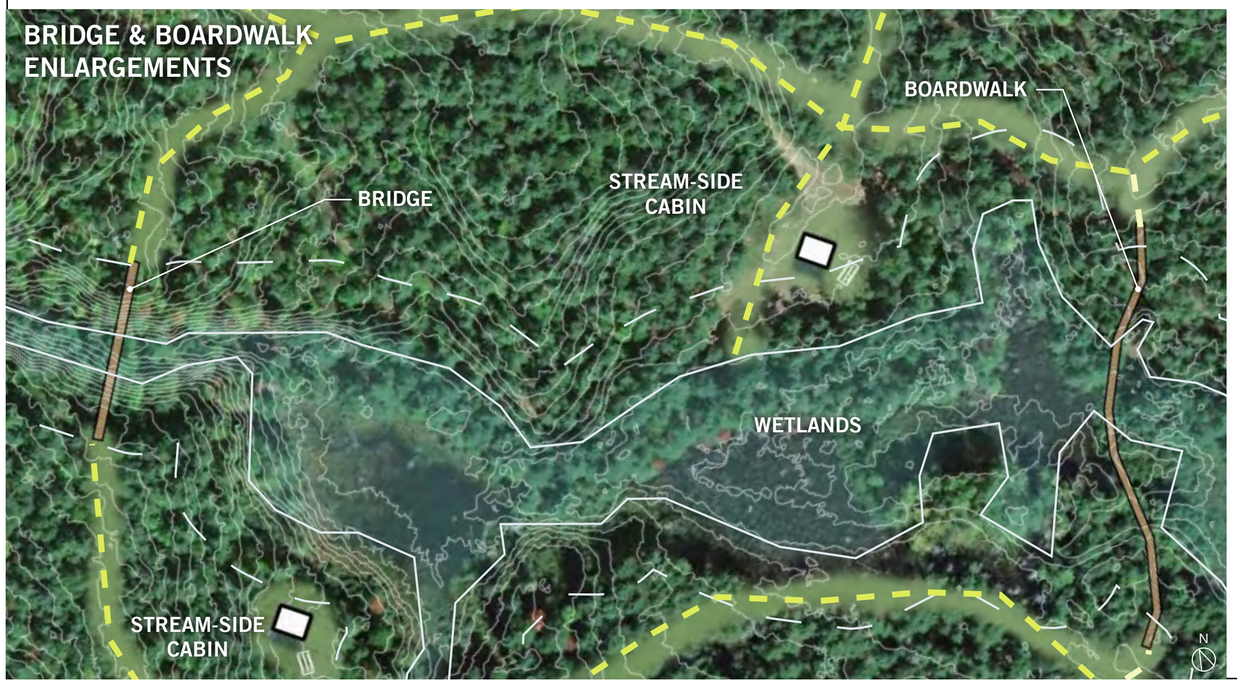
N

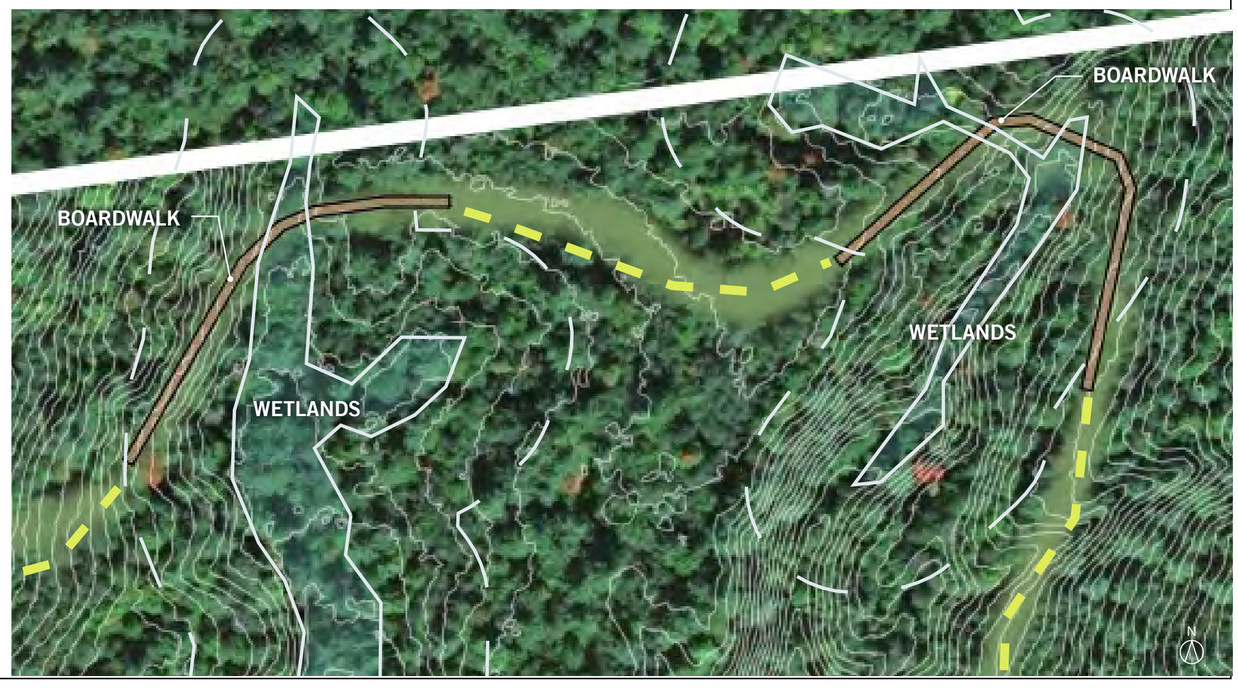
SCALE (ft)

0 150 300 450 600





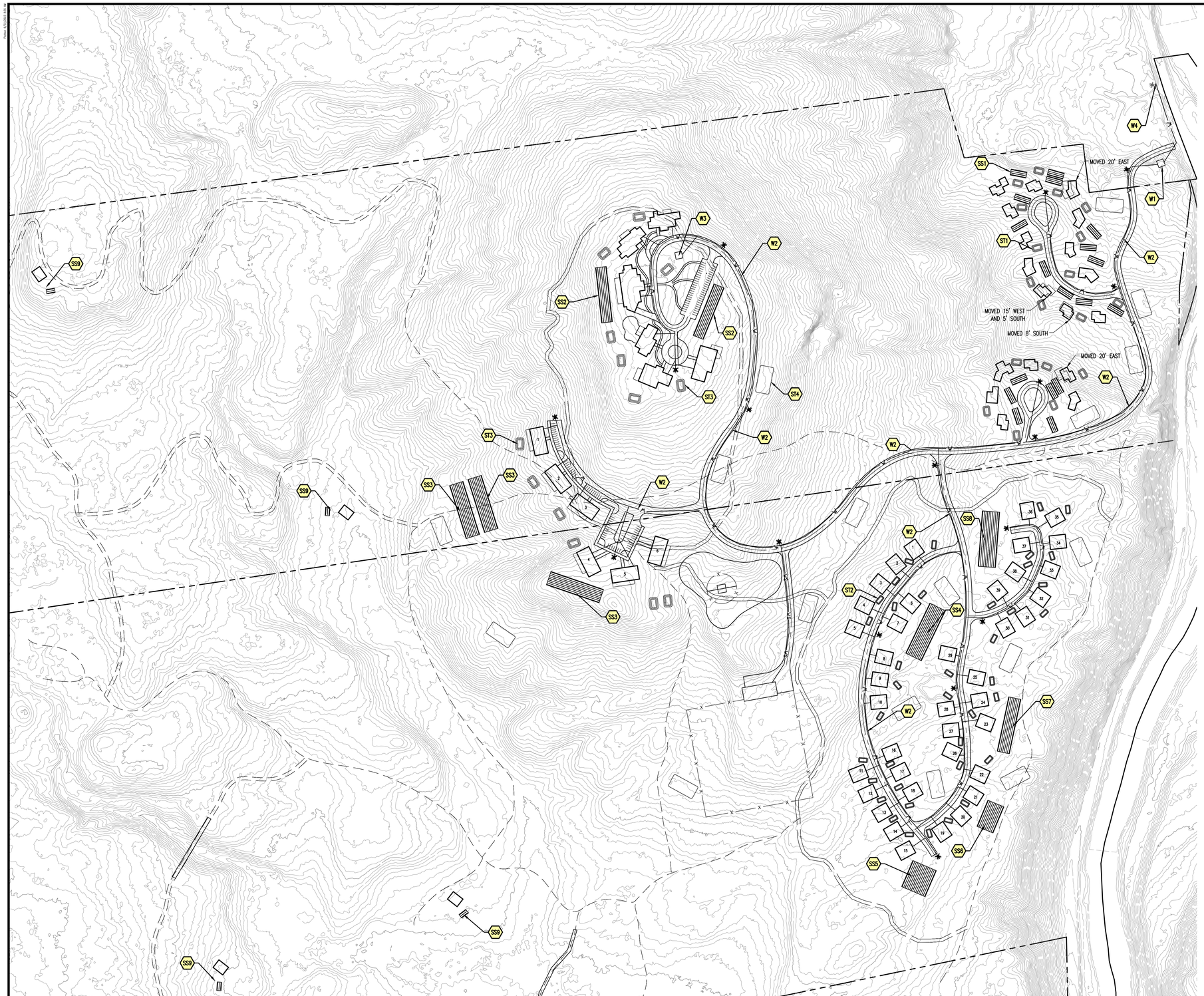




STACKMAN PROPERTY CONCEPT

AUGUST 2023

SE GROUP



WATER NOTES

- **W1** WATER PRESSURE BOOSTER STATION. SEE DETAIL 2/C104.
- **W2** PROPOSED 8" HDPE WATER LINE WITH HYDRANT EVERY 1,000 FT.
- **W3** PROPOSED 60,000 GALLON FIRE SUPPRESSION STORAGE TANK (2 HOURS AT 500 GPM). SEE DETAIL 1/C104.
- **W4** PROPOSED TAPPING SLEEVE, CORPORATION STOP AND SHUTOFF VALVE. COORDINATE PROPOSED WATER LINE CONNECTION TO THE EXISTING WATER MAIN WITH THE TOWN OF JAY. VERIFY SIZE OF EXISTING WATER MAIN.

SANITARY NOTES

- **SS1** PROPOSED TYPICAL ESTATE HOME INDIVIDUAL SANITARY SEWER ABSORPTION FIELD. SEE DETAILS FOR REFERENCE.
- **SS2** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD (14 X 100' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS3** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD (9 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS4** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #1–#10 (11 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS5** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #11–#17 (16 X 100' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS6** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #18–#22 (11 X 100' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS7** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #23–#29 (8 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS8** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #30–#39 (11 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS9** PROPOSED TYPICAL CABIN INDIVIDUAL SANITARY SEWER ABSORPTION FIELD. SEE DETAILS FOR REFERENCE.

STORM NOTES

- **ST1** PROPOSED TYPICAL ESTATE HOME INDIVIDUAL RAIN GARDEN. (FOR ¼ ACRE CONTRIBUTING AREA, 895 SQ. FT SURFACE AREA). SEE DETAILS FOR REFERENCE.
- **ST2** PROPOSED TYPICAL TOWN HOME RAIN GARDEN. (FOR ¼ ACRE CONTRIBUTING AREA, 580 SQ. FT SURFACE AREA). SEE DETAILS FOR REFERENCE.
- **ST3** PROPOSED TYPICAL GUEST HOUSE AND VISITOR AREA RAIN GARDEN. (FOR 1 ACRE CONTRIBUTING AREA, 1315 SQ. FT SURFACE AREA). SEE DETAILS FOR REFERENCE.
- **ST4** PROPOSED TYPICAL INFILTRATION BASIN AREA. (FOR 5 ACRE CONTRIBUTING AREA, 50' x 100' OR 5,000 SQ. FT SURFACE AREA). SEE DETAILS FOR REFERENCE.

GENERAL NOTES

1. EXACT OBJECT LOCATIONS MAY DIFFER FROM THAT AS SHOWN, AND ADDITIONAL SUB-SURFACE AND SURFACE UTILITIES AND STRUCTURES MAY EXIST. THE CONTRACTOR IS TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK,
2. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXITING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES. ALL DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND ENGINEER. SITE CONTRACTOR SHALL CALL UTILITY LOCATOR SERVICE AND UTILITY OWNERS 72 HOURS, EXCLUSIVE OF WEEKENDS AND HOLIDAYS, PRIOR TO ANY DIGGING, DRILLING, OR BLASTING:
   A. DIG SAFE (TEL: #811)
   B. NON DIG SAFE MEMBER FACILITY OPERATORS IF KNOWN. (A LIST OF DIG SAFE MEMBERS BY STATE CAN BE FOUND ON THE DIG SAFE WEB SITE WWW.DIGSAFE.COM)
   C. TOWN OF JAY PUBLIC WORKS, WATER AND SEWER DEPARTMENT (518-647-2204 EXT. 101)
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
4. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
5. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
7. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, AND CERTIFICATES.
8. THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A NEW HAMPSHIRE STATE LICENSED LAND SURVEYOR.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
11. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS FOR CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
13. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
14. ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
15. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AND TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.

SYMBOL LEGEND

EXISTING FEATURES

- 100 — MAJOR CONTOUR
- 98 — MINOR CONTOUR
- PROPERTY LINE

PROPOSED FEATURES

- SANITARY SEWER MANHOLE (SMH)
- HYDRANT
- 100 — MAJOR CONTOUR
- 98 — MINOR CONTOUR
- EDGE OF PAVEMENT
- CURB
- —SD—SD—SD—SD—SD— SANITARY SEWER

GRAPHIC SCALE

150 0 75 150 300 600

1 inch = 150 ft.
for sheet size 30" x 42"

N

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Adirondack Park Agency
RECEIVED
Date: August 20, 2025

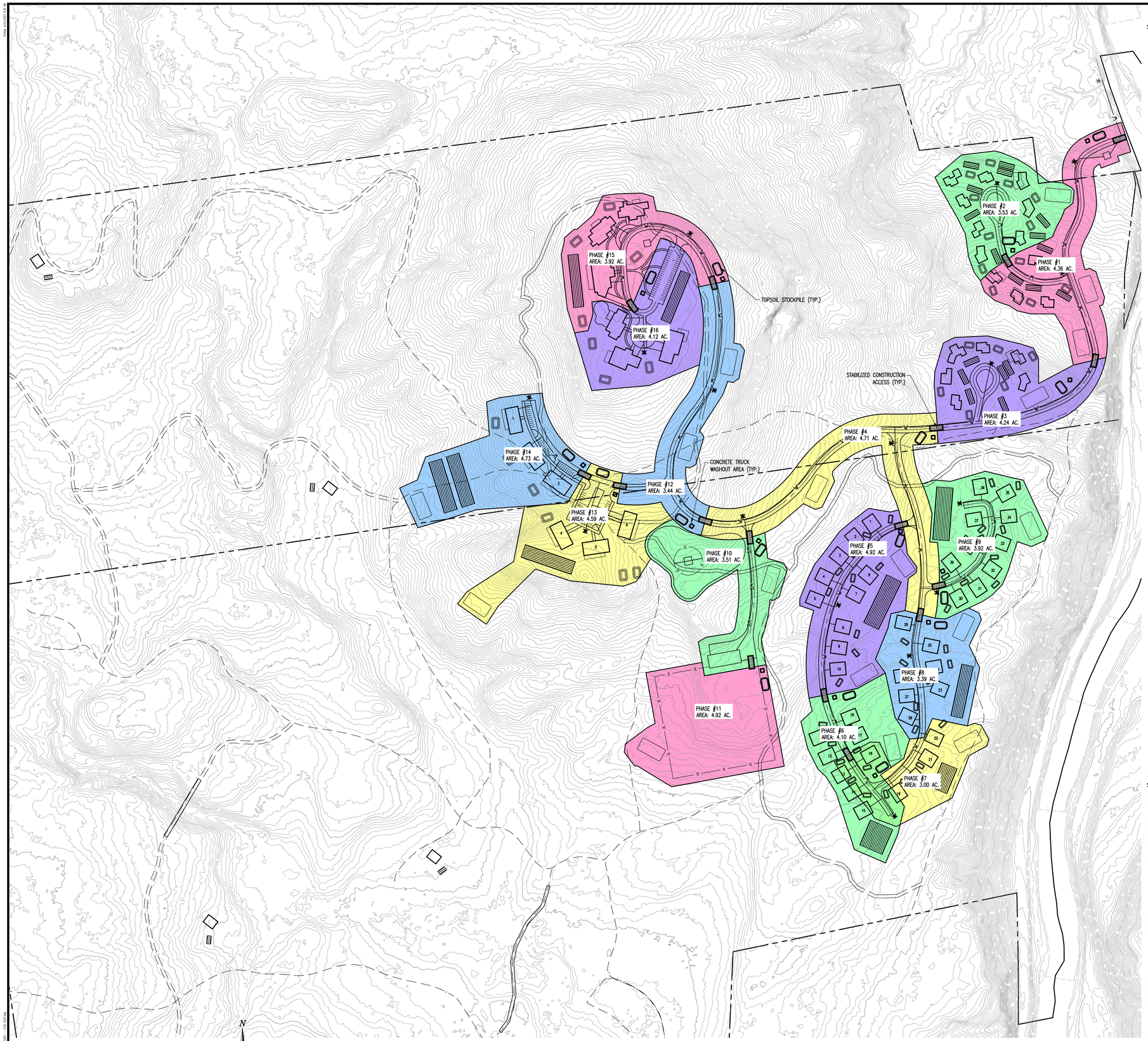
Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: SITE PLAN

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C101



GRAPHIC SCALE

150 0 75 150 300 600

1 inch = 150 ft.
for sheet size 30" x 42"

N

EROSION CONTROL LEGEND

TEMPORARY STABILIZED CONSTRUCTION ACCESS
THIS STRUCTURAL MEASURE IS A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER FABRIC LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE REMOVED, THE IMPACTED AREA SHALL BE RETURNED TO ASPHALT PAVEMENT.

TEMPORARY SOIL STOCKPILE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE TOPSOIL AND OTHER SOIL MATERIALS MAY BE STORED. THESE STOCKPILES WILL BE PROTECTED FROM EROSION BY A NUMBER OF METHODS, INCLUDING INSTALLING SILT FENCING AROUND THE DOWN GRADIENT PERIMETER OF THE STOCKPILE AND SEEDING AND MULCHING THE STOCKPILE WHEN NOT IN USE FOR MORE THAN FIVE DAYS.

CONCRETE TRUCK WASHOUT
THIS IS AN APPROVED LOCATION WHERE CONCRETE TRUCK MIXERS AND EQUIPMENT CAN BE WASHED AFTER THEIR LOADS HAVE BEEN DISCHARGED, TO PREVENT HIGHLY ALKALINE RUNOFF FROM ENTERING STORM DRAINAGE SYSTEMS OR LEACHING INTO THE SOIL. THE FACILITY SHALL BE LINED TO PREVENT RUNOFF FROM LEACHING INTO THE SOIL. TEMPORARY SIGNAGE SHALL BE PROVIDED TO DIRECT DRIVERS TO THE FACILITY.

LIMITS OF DISTURBANCE AND TEMPORARY SILT FENCING
THE CONTRACTOR SHALL CONTAIN ANY EARTH MOVING ACTIVITIES WITHIN THE DESIGNATED LIMITS SHOWN ON THIS PLAN AS OUTLINED BY THE PHASE BOUNDARIES. SILT FENCE TO BE INSTALLED, INSIDE THE LIMITS OF DISTURBANCE FOR EACH PHASE, ACCORDING TO NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. THE ENGINEER SHALL REVIEW THE SITE TO MAKE ANY ADJUSTMENTS TO ACCOUNT FOR ENVIRONMENTALLY SENSITIVE AREAS, SPECIMEN TREES AND SPECIAL AREAS OF CONCERN.

DUST CONTROL
DUST SHALL BE CONTROLLED THROUGH APPLICATION OF WATER, AS REQUIRED TO PREVENT MIGRATION BEYOND THE PROJECT LIMITS. CONTROL OF DUST REMAINS AN ONGOING RESPONSIBILITY OF THE CONTRACTOR UNTIL THE SITE IS FULLY STABILIZED.

INSPECTION REQUIREMENTS
THE SITE WORK CONTRACTOR IS RESPONSIBLE FOR INSPECTION OF ALL EROSION AND SEDIMENT CONTROL MEASURES EVERY 7 DAYS AND AS SOON AS REASONABLY POSSIBLE DURING OR AFTER RUNOFF EVENTS RESULTING IN RUNOFF FROM THE SITE.

FULL COMPLIANCE WITH THE REQUIREMENTS OF NEW YORK STATE EROSION AND SEDIMENT CONTROL MANUAL (2016) AND THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (GP-0-20-001) IS THE RESPONSIBILITY OF THE SITE CONTRACTOR.

IT IS THE RESPONSIBILITY OF THE SITE CONTRACTOR TO PROVIDE AND COMPENSATE A "QUALIFIED INSPECTOR", AS DEFINED IN THE NYSDEC GENERAL PERMIT GP-0-20-001. (SEE WRITTEN SPECIFICATIONS AND THE STORMWATER POLLUTION PREVENTION PLAN REPORT FOR ADDITIONAL INFORMATION). A THIRD-PARTY "QUALIFIED INSPECTOR" MAY BE HIRED AND COMPENSATED BY THE SITE CONTRACTOR.

INSPECTION FREQUENCY MAY BE REDUCED TO MONTHLY IF ALL DISTURBED AREAS HAVE BEEN STABILIZED.

INSPECTION AND REPORTING REQUIREMENTS DO NOT CEASE UNTIL THE SITE IS PERMANENTLY STABILIZED.

VEGETATIVE STABILIZATION
ALL SEEDING FOR VEGETATIVE STABILIZATION IS TO TAKE PLACE BETWEEN APRIL 15TH AND SEPTEMBER 15TH UNLESS OTHERWISE APPROVED.

STABILIZATION REQUIREMENTS
TO BE CONSIDERED PERMANENTLY STABILIZED, ALL DISTURBED AREAS MUST BE PROTECTED BY ONE OF THE FOLLOWING: PAVEMENT, GRAVEL, MULCH BEDS, OR VEGETATION (70% MINIMUM COVERAGE). THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL SEDIMENT CONTROL MEASURES (SILT FENCE, DISTURBANCE LIMIT MARKERS, INLET PROTECTION, ETC.) AND FOR RESTORATION OF ALL STAGING AND SOIL STOCKPILE AREAS BEFORE FILING NOTICE OF TERMINATION.

SOLID WASTE DISPOSAL
SOLID WASTES SHALL BE COLLECTED ON SITE AND REMOVED TO AN APPROVED OFF-SITE FACILITY.

SOIL RESTORATION NOTE:
IN ACCORDANCE WITH SECTION 5.1.6 OF THE NYS STORMWATER MANUAL, SOIL RESTORATION TECHNIQUES SHALL BE APPLIED IN AREAS SHOWN ON THIS PLAN, AS WELL AS ANY LAWN AREAS THAT BECOME COMPACTED BY CONSTRUCTION EQUIPMENT OR USE DURING CONSTRUCTION. SOIL RESTORATION SHALL CONSIST OF THE FOLLOWING PROCEDURE:

1) APPLY THREE (3) INCHES OF COMPOST TO SUBSOIL. 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 1/2" SCREEN, AND HAVE A PH SUITABLE TO GROW DESIRED PLANTS.
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. IN AREA OF PROPOSED INFILTRATION BASIN, INSTALL ORANGE CONSTRUCTION FENCING AROUND BASIN BOTTOM TO KEEP CONSTRUCTION EQUIPMENT FROM CROSSING THE PROPOSED BASIN BOTTOM.
3) ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF FOUR INCHES AND LARGER SIZE ARE CLEANED OFF THE SITE.
4) APPLY TOPSOIL TO A DEPTH OF 6 INCHES.
5) VEGETATE AS REQUIRED BY APPROVED PLAN.

APPLY SOIL RESTORATION TECHNIQUES TO ALL PROPOSED LAWN AREAS AS WELL AS ANY EXISTING LAWN AREAS THAT ARE DISTURBED AND RETURNED TO LAWN AFTER CONSTRUCTION.

CONSTRUCTION SEQUENCING

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A DETAILED CONSTRUCTION SEQUENCE DETAILING THE SPECIFIC WORK THAT WILL BE PERFORMED. THE SEQUENCE PROVIDED IS FOR GENERAL WORK ITEMS TO ENSURE THAT SEDIMENT LADEN RUNOFF IS NOT DISCHARGED FROM SITE. CONTRACTOR TO ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME WITHOUT AREAS BEING FULLY STABILIZED.

1. OBTAIN ALL NECESSARY APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCIES INCLUDING THE NYSDEC AND APA.
2. HOLD PRE-CONSTRUCTION MEETING WITH ALL NECESSARY PARTICIPANTS AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE. MARK LIMITS OF DISTURBANCE WITH FLAGGING/TAPING OR APPROPRIATE MEASURES. INSTALL SILT FENCING DOWNSLOPE OF WORK AREAS AS SHOWN ON THE PLAN. INSTALL ORANGE CONSTRUCTION FENCING/TREE PROTECTION FENCING IN THE AREAS SHOWN. INSTALL INLET PROTECTION ON EXISTING CATCH BASINS AS SHOWN ON PLAN.
4. CLEAR AND GRUBB EXISTING VEGETATION TO THE LIMITS SHOWN ON THE PLAN.
5. STRIP TOPSOIL FROM AND BEGIN EXCAVATION AND ROUGH GRADING.
6. CONCRETE WASHOUT AREA TO BE INSTALLED AND FUNCTIONING PRIOR TO ANY CONCRETE BEING POURED FOR THE BUILDING FOUNDATION. BUILDING WORK MAY CONTINUE THROUGH REMAINING DURATION OF PROJECT.
7. INSTALL STORM SEWER CONVEYANCE SYSTEM. CONTRACTOR TO PROVIDE INLET PROTECTION ON ALL CATCH BASINS AS SHOWN ON THE PLAN TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING EXISTING AND PROPOSED SYSTEM.
8. FINAL GRADE PAVEMENT AREAS AND INSTALL PAVEMENT BASE COURSES.
9. INSTALL LANDSCAPING AND IMMEDIATELY STABILIZE ALL 3:1 SLOPES WITH EROSION CONTROL BLANKET.
10. INSTALL NEW SIDEWALK.
11. INSTALL SIGNAGE AND ANY REMAINING HARDSCAPE.
12. ONCE ALL DISTURBED AREAS HAVE ACHIEVED FINAL STABILIZATION, THE REMAINING EROSION CONTROL FEATURES SHALL BE REMOVED. STABILIZE ANY AREAS DISTURBED DURING THE REMOVAL OF TEMPORARY E&S MEASURES. INSTALL PERMANENT SEED AND MULCH ON ANY AREAS NOT ALREADY STABILIZED.
13. INSTALL BINDER AND WEARING COURSES FOR ALL PAVEMENT AREAS.

SCHEMATIC DESIGN PLANS NOT FOR CONSTRUCTION 6/21/2023

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

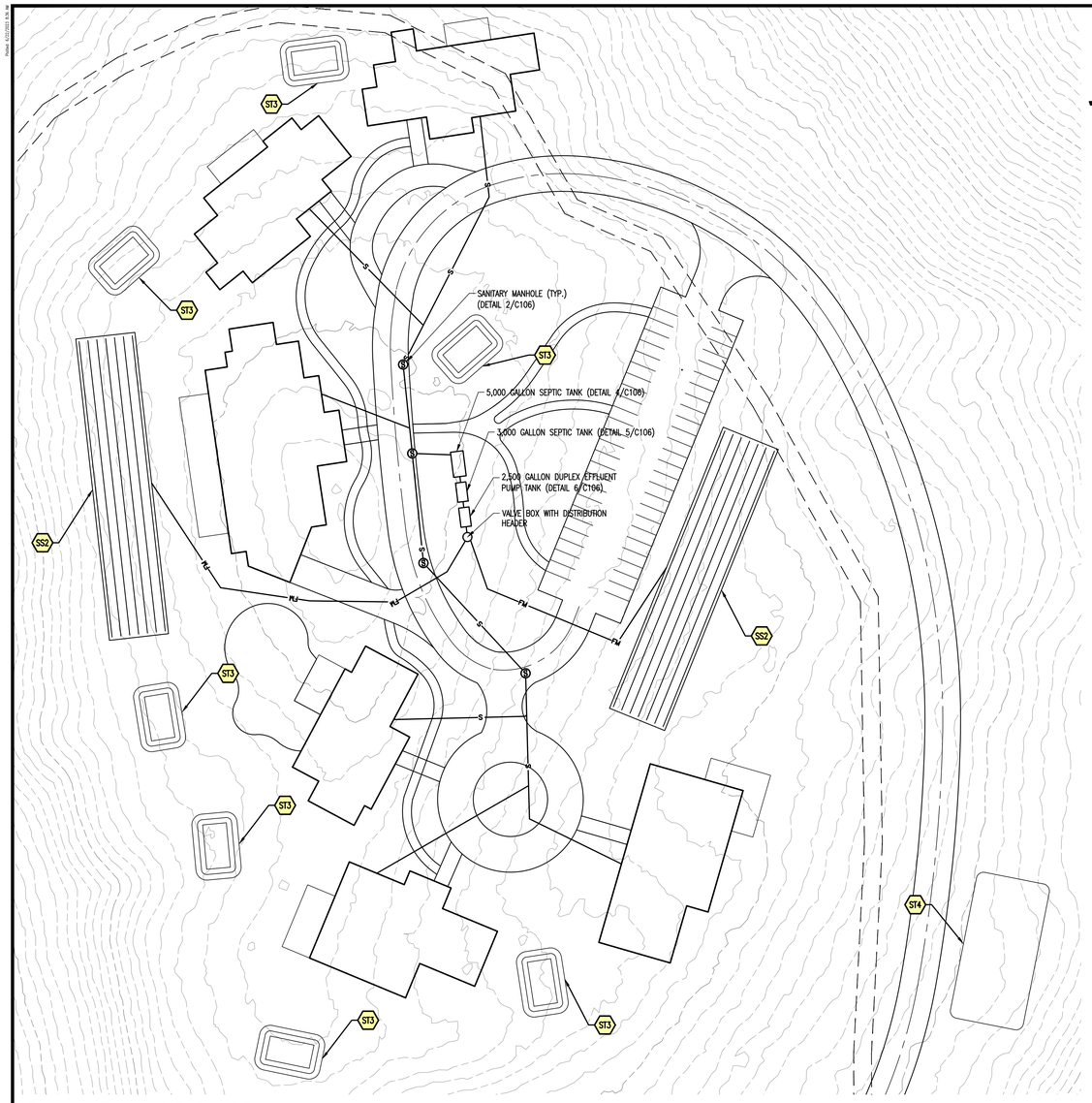
Sheet Title: EROSION AND SEDIMENT CONTROL PHASING PLAN

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C102

Plotted: 6/21/2023 8:39 AM
V:\PROJECTS\22621 W Broadway Stackman\Civil\Plan Sheets\22621 Phasing Plan.dwg



PLAN VIEW: VISITOR AREA

N

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.
for sheet size 30" x 42"

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

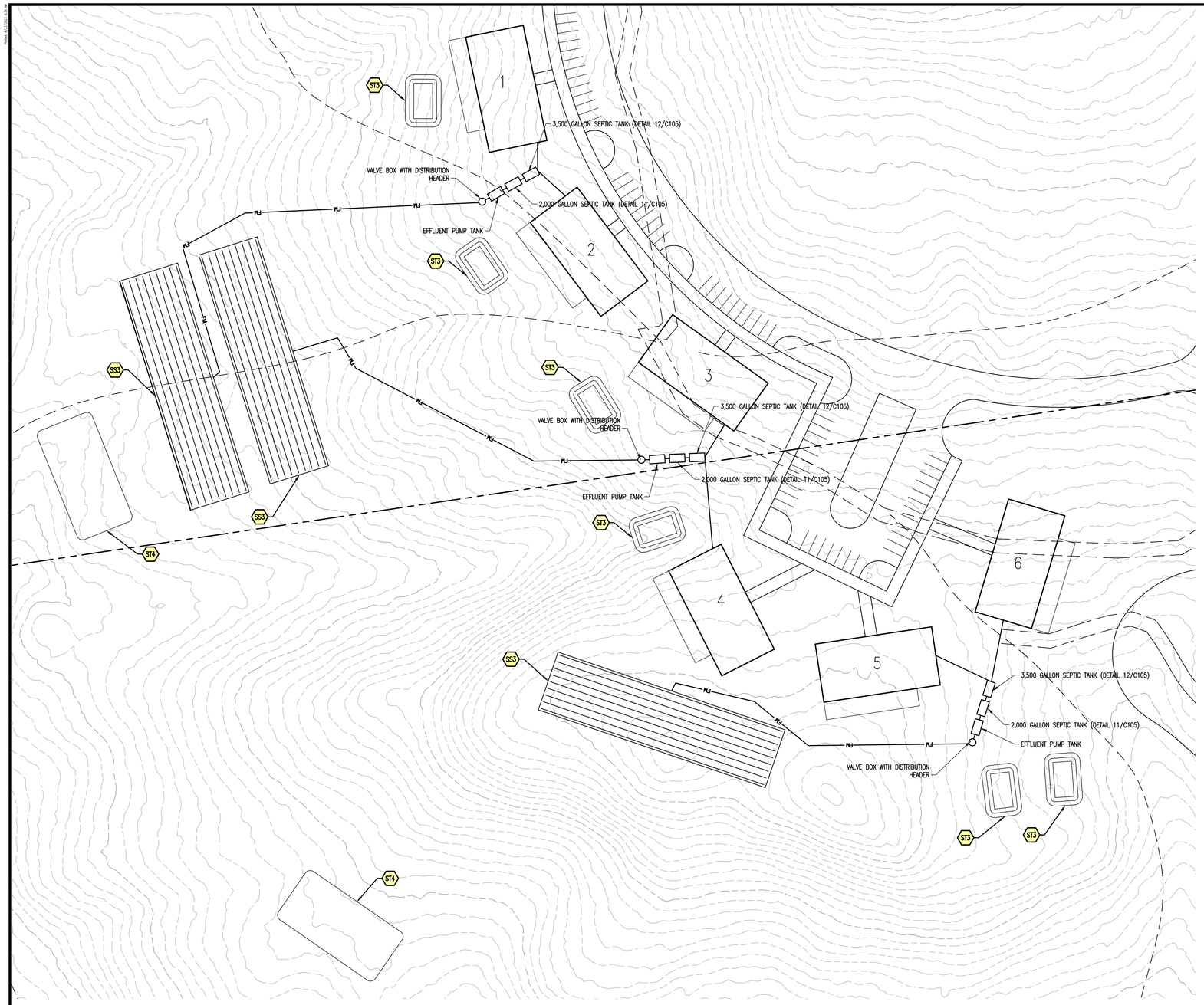
Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: VISITOR AREA PART PLAN

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C301



PLAN VIEW: GUEST HOUSES

N

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.
for sheet size 30" x 42"

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: GUEST HOUSES PART PLAN

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

C302

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

GRAPHIC SCALE
1 inch = 50 ft.
for sheet size 36" x 42"
50 0 25 50 100 200

N

5,000 GALLON SEPTIC TANK (DETAIL 4/C106)
2,000 GALLON SEPTIC TANK (DETAIL 11/C105)
EFFLUENT PUMP TANK
VALVE BOX WITH DISTRIBUTION HEADER
SANITARY MANHOLE (TYP.) (DETAIL 2/C106)
3,000 GALLON SEPTIC TANK (DETAIL 5/C106)
1,500 GALLON SEPTIC TANK (DETAIL 12/C105)

Sheet Title:	TOWN HOUSES PART PLAN
Project Title:	Stackman Property Concept
	Au Sable Forks, Town of Jay, Essex County, NY

Client:
Eric Stackman
751 W Treasure Drive
North Bay Village, FL
erickstackman@bellsouth.net

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Merchants Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

No.	Description	Date

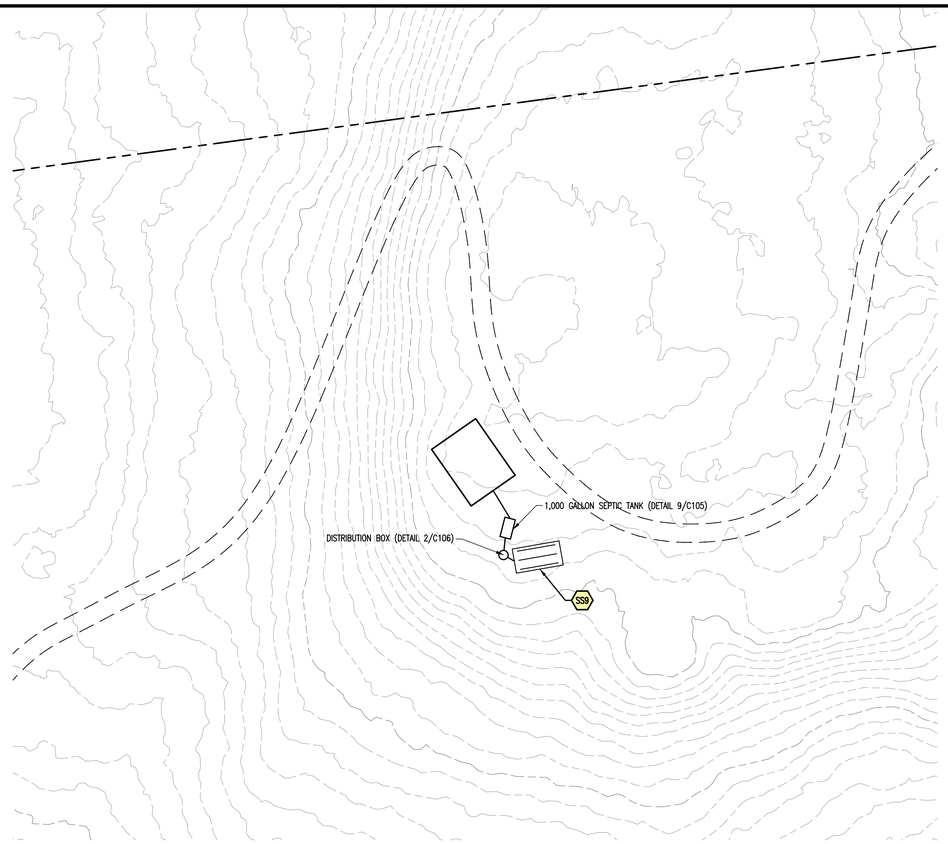
Stamp

EV Project #	22021
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C303

C:\Projects\22-0021\2021 SF Basecamp Development\Civil\Cad Files\22021 - CSD Ref Xref.dwg
Plotted: 6/21/2023 8:36 AM

PLAN VIEW: TYPICAL ESTATE HOME



PLAN VIEW: TYPICAL CABIN

N

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.
for sheet size 30" x 42"

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: TYPICAL ESTATE HOME AND TYPICAL CABIN PART PLAN

Project Title: Stackman Property Concept

Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C304

WATER NOTES

GENERAL

1. BEFORE ANY WATER LINE WORK IS COMMENCED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE TOWN OF JAY DPW (518-647-2204 EXT. 125) AT LEAST 48 HOURS IN ADVANCE.
2. THE CONTRACTOR SHALL COLLECT AND MAINTAIN "AS BUILT" INFORMATION DURING THE INSTALLATION OF THE WATER SYSTEM. "AS BUILT" DRAWINGS SHALL BE PREPARED **BY THE CONTRACTOR** UPON COMPLETION OF THE WATER SYSTEM.

WATER MAINS

1. PERFORM FLUSHING, PRESSURE AND LEAKAGE TESTING ACCORDING TO AWWA C600 AND NFPA 24 (LATEST REVISION) ON EACH PIPE LINE.
2. THE ENGINEER SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. ALL TESTING MUST BE WITNESSED BY THE ENGINEER.
3. SPECIFIED TEST PRESSURE IS A MINIMUM OF 200 PSI OR 1.5X THE WORKING PRESSURE, WHICHEVER IS GREATER. THE PRESSURE DURING TEST SHALL NOT VARY BY MORE THAN 5 PSI.

EXISTING UTILITIES

1. LOCATION OF UTILITY INSTALLATIONS AND UNDERGROUND STRUCTURES ARE SHOWN AS APPROXIMATE ON THE CONTRACT DOCUMENTS.
2. ALL UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED DURING CONSTRUCTION.
4. ALL WATER, GAS, CABLE, TELEPHONE, ELECTRIC, SEWER, AND OTHER UTILITIES FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED IN A MANNER ACCEPTABLE TO THE ENGINEER.

PIPE BEDDING

1. SAND BEDDING MEETING REQUIREMENTS OF EARTHWORK SPECIFICATIONS.
2. SAND BLANKET MEETING REQUIREMENTS OF EARTHWORK SPECIFICATIONS.
3. TRENCH FINAL BACKFILL MATERIAL – MATERIAL WILL EXCLUDE PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT, CLAY, LARGE ROCKS (6" DIMENSION), OR ANY MATERIAL DETERMINED BY THE ENGINEER THAT WILL NOT BE SUITABLE.

PIPE TRENCH BACKFILL

1. MEET EARTHWORK SPECIFICATIONS FOR PLACEMENT AND COMPACTION.

DUCTILE IRON PIPE (WATER)

1. D.I. PIPE CONFORM TO AWWA/ANSI C151.
2. LININGS AND LINING REPAIR TO AWWA/ANSI C104.
3. JOINTS CONFORM TO AWWA/ANSI C111 AND C115.
4. FITTINGS CONFORM TO AWWA/ANSI C110, C153, C105.
5. KEEP INSIDE OF PIPE CLEAN AND FREE OF DEBRIS.
6. REJECT ANY PIPE WHICH IS DROPPED DURING HANDLING.
7. MECHANICAL JOINT GLANDS SHALL BE "MEGA-LUG" RETAINER GLANDS.
8. CAST IRON FITTINGS: ANSI A21.10, 250 PSI PRESSURE RATING.
9. DUCTILE IRON FITTINGS: ANSI A21.10, 350 PSI PRESSURE RATING.
10. JOINTS: MECHANICAL, PUSH-ON, AND FLANGED:
    A. RUBBER GASKET JOINT, ANSI A21.11
11. GASKETS:
    A. MECHANICAL AND PUSH-ON JOINTS: ANSI A21.11
    B. FLANGED JOINT: 1/8" THICK RING OR FULL FACED RUBBER, ANSI A21.15.
12. BOLTS/NUTS:
    A. MECHANICAL JOINT: ANSI A21.11
    B. FLANGED JOINT: ANSI A21.15
13. LININGS:
    A. INTERIOR –CEMENT LINED–DOUBLE THICKNESS WITH BITUMINOUS SEAL.
    B. EXTERIOR –BITUMINOUS COATING APPROX. 1 MIL THICK, ANSI A21.51, ANSI A21.15, AND ANSI A21.10.
    C. FLANGE MACHINED FACE COATING: ANSI A21.15.
14. LAYING PIPE:
    A. PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING.
    B. WHERE PIPE IS LAID ON A SLOPE OF 5% OR MORE, THE LAYING SHALL START AT THE LOW END AND PROCEED UPHILL, WITH THE BELL ENDS UPGRADE.
    C. A WATERTIGHT PLUG SHALL BE PLACED IN THE OPEN ENDS OF INSTALLED PIPE WHEN PIPE LAYING IS NOT IN PROGRESS.
    D. MAX. PERMISSIBLE DEFLECTION IS 75% OF AWWA SPEC. C600.
15. SERRATED SILICON BRONZE WEDGES:
    A. D.I. PIPE SIZE 3"–12" – 2 PER JOINT.
    B. D.I. PIPE SIZE >12" – 4 PER JOINT.

CHLORINATION OF DOMESTIC WATER LINES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF BEGINNING ANY DISINFECTION OF WATER MAINS
2. CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTING AS REQUIRED BY THIS SPECIFICATION AND REFERENCE STANDARDS MENTIONED.
3. DISINFECT ALL PIPELINE SYSTEMS IN ACCORDANCE WITH AWWA C651, INCLUDING:
    A. METHOD OF CHLORINE APPLICATION. USE CONTINUOUS FEED METHOD OR SLUG METHOD. (TABLET METHOD IS NOT ACCEPTABLE.)
    B. FORM OF CHLORINE UTILIZED.
    C. FINAL FLUSHING.
    D. BACTEROLOGICAL TESTING
    E. REPETITION OF PROCEDURE

GATE VALVES

1. RESILIENT SEAT GATE VALVES BY AMERICAN FLOW CONTROL (AFC), SERIES 2500.
2. DUCTILE IRON BODY GATE VALVES TO MEET AWWA C515 AND SHALL BE EPOXY COATED (FUSION BONDED) INSIDE AND OUT.
3. STEM CONSTRUCTION: NON–RISING.
4. STEM SEALS: DOUBLE O–RING.
5. GATE: DUCTILE IRON RUBBER ENCAPSULATED WEDGE.
6. BONNET HARDWARE: STAINLESS STEEL.
7. OUTLET CONNECTION: STANDARD MECHANICAL JOINT
8. OPERATION: OPEN COUNTERCLOCKWISE.

TAPPING SLEEVES AND VALVES

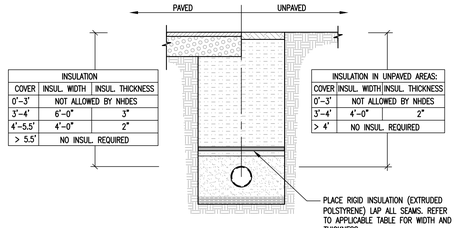
1. TAPPING VALVES
    A. TAPPING VALVES TO MEET ANSI/AWWA C515, STANDARD FOR RESILIENT SEATED GATE VALVES.
    B. VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 250 PSI.
    C. VALVES SHALL OPEN COUNTERCLOCKWISE.
    D. INLET FLANGES SHALL BE CLASS 125, ANSI B16.1, OR ANSI/AWWA C110/A21.10.
    E. OUTLET CONNECTION: STANDARDIZED MECHANICAL JOINT.
    F. STEM SEALS: O RING.
    G. STEM CONSTRUCTION: NON–RISING.
    H. SEATING: PARALLEL SEAT
    I. END CONNECTIONS: MECHANICAL ON RUN, FLANGED ON BRANCH.
2. TAPPING SLEEVES
    A. AWWA C515, LATEST REVISION.
    B. AWWA C207, CLASS D, MAX. WORKING PRESSURE OF 150 PSI.
    C. SLEEVES: SPLIT SLEEVES OF CAST IRON OR DUCTILE IRON.
    D. MECHANICAL JOINT ENDS WITH END AND GASKET SEALS.
    E. PROVIDE A 3/4" NPT TEST PLUG OR OTHER PROVISION FOR AIR TESTING THE VALVE AND SLEEVE AT MAXIMUM WORKING PRESSURE.
    F. BOLTS AND NUTS, MECHANICAL JOINTS: HIGH STRENGTH CAST IRON OR HIGH STRENGTH LOW ALLOY STEEL, ANSI/AWWA C111/A21.11–90.
    G. BOLTS AND NUTS, FLANGED JOINTS: HIGH STRENGTH, LOW CARBON STEEL CONFORMING TO ANSI/AWWA C110/A21.10–87, APPENDIX A.
    H. COAT ALL NUTS AND BOLTS WITH A RUST RESISTANT LUBRICANT.
    I. ALL BOLTS AND NUTS USED WITH PIPE SLEEVES SHALL BE BRUSH COATED HEAVILY AFTER FINAL TIGHTENING WITH BITUMASTIC COLD–APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF BOLTS AND NUTS.

VALVE BOXES

1. ACCEPTABLE MANUFACTURER'S: MUELLER, CLOW, OR EQUAL.
2. CLOW F–2452 SLIDING TYPE, TWO PIECE, OR EQUAL.
3. 5 1/4 INCH SHAFT.
4. SIZE 654–A (40–60 INCH OVERALL LENGTH).
5. CAST IRON.
6. CLOW F–2490 LIDS OR EQUAL.
7. THE WORD "WATER" TO BE CAST INTO TOP OF COVERS, AND ARROW SHOWING DIRECTION OF OPENING.
8. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'–0 , A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

CONCRETE

1. CLASS B CONCRETE SHALL HAVE:
    A. MIN. COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS
    B. AIR ENTRAINMENT OF 4% TO 6% BY VOLUME.
    C. MINIMUM CEMENT CONTENT FOR 4000 PSI CONCRETE IS 564 LBS PER CUBIC YARD.
    D. SLUMP OF 3 TO 5 INCHES.
2. CONCRETE SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT.
3. CONCRETE SHALL NOT BE DROPPED MORE THAN SIX FEET INSIDE A FORM.
4. MAINTAIN TEMPERATURE OF CONCRETE SURFACE AT MINIMUM 50 DEGREES FAHRENHEIT FOR 72 HOURS AFTER PLACING CONCRETE. PREHEAT ALL ENCLOSURES FOR A MINIMUM OF 2 HOURS TO PROVIDE A MIN. SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT.
5. ALLOW TO SET AND CURE ALL THRUST BLOCKS, CONCRETE SUPPORTS, AND ANCHORS A MINIMUM OF 24 HOURS BEFORE BACKFILLING.
6. COMPLETELY CURE AND SET CONCRETE BEFORE ANY HYDROSTATIC OR LEAKAGE TESTING OF PIPELINE SYSTEMS.
7. NONSHRINK GROUT SHALL BE HALCO TRADEMARK, AS MANUFACTURED BY LEHN & FINK INDUSTRIAL PRODUCTS.
8. DO NOT PLACE ANY MORTAR OR GROUT WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT.
9. MORTAR FOR MANHOLES SHALL CONSIST OF THE FOLLOWING:
    A. CEMENT–TYPE II, ASTM C150.
    B. HYDRATED LIME–TYPE N, ASTM C207.
    C. SAND– ASTM C 33, FINE AGGREGATES FOR CONCRETE.
    D. WATER–CLEAN, SUITABLE FOR DRINKING.
10. MIX (BY VOLUME): 1 PART CEMENT, 1/2 PART LIME, 4 1/2 PARTS SAND.



INSULATION		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	NOT ALLOWED BY NHDES	
3'–4'	6'–0"	2"
4'–5.5'	4'–0"	2"
> 5.5'	NO INSUL. REQUIRED	

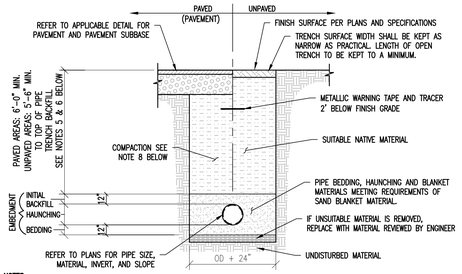
INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	NOT ALLOWED BY NHDES	
3'–4'	4'–0"	2"
> 4'	NO INSUL. REQUIRED	

TRENCH INSULATION NOTES:

1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. NOTIFY DEPARTMENT OF PUBLIC WORKS TO REVIEW INSTALLATION AND BACKFILL.
3. ALL SHALLOW WATER INSTALLATIONS MUST BE APPROVED BY ENGINEER PRIOR TO INSTALLATION..

INSULATION OVER SHALLOW WATER LINE DETAIL (2)

NOT TO SCALE

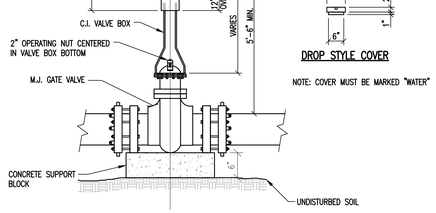


NOTES:

1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR FULL LENGTH OF PIPE.
3. PROVIDE MINIMUM COVER AS SHOWN OVER WATER PIPE, OTHERWISE, REFER TO INSULATION OVER SHALLOW WATER LINE DETAIL.
4. INSTALL WATER PIPE IN ACCORDANCE WITH AWWA STANDARD C600.
5. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
6. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED IN THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
7. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
8. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

WATER TRENCH DETAIL (3)

NOT TO SCALE



DROP STYLE COVER

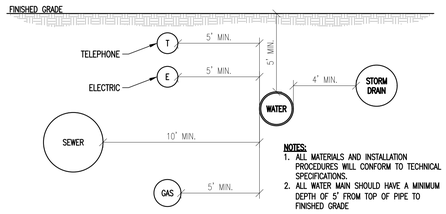
NOTE: COVER MUST BE MARKED "WATER"

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. UTILIZE MEGALUG MECHANICAL JOINT RESTRAINT ON ALL M.J. GATE VALVES.
3. SEE TYPICAL WATER TRENCH DETAIL FOR PIPE BEDDING REQUIREMENTS.
4. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'–0 , A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

GATE VALVE DETAIL (4)

NOT TO SCALE

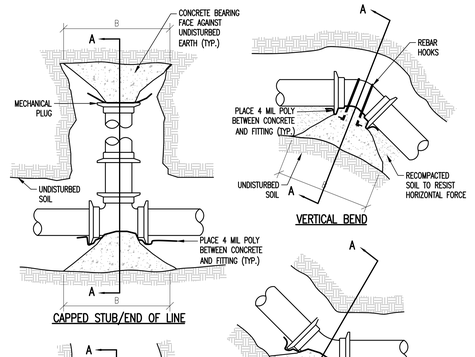


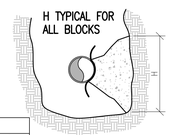
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISHED GRADE

WATER MAIN UTILITY SEPARATIONS (1)

NOT TO SCALE





NOTES:

1. PERFORM HYDROSTATIC AND LEAKAGE TEST PRESSURE PER SPECIFICATIONS.
2. PLACE 4 MIL POLYETHYLENE BETWEEN FITTINGS AND THRUST BLOCKS.
3. CONCRETE SHALL BE CLASS B.
4. ON ALL THRUST BLOCKS, B SHALL BE THE GREATER DIMENSION, USE 1.5:1 TO 2:1 FOR B≥H.

TABLE 2 – THRUST DEVELOPED PER 100psi PRESSURE (lbs force)

PIPE DIAMETER IN.	VALVES AND DEAD ENDS, TEES	90° BENDS	45° BENDS	22½° BENDS	11¼° BENDS
4	1810	2560	1390	635	320
6	3740	5290	2860	1370	690
8	6430	9100	4920	2320	1170
10	9680	13680	7410	3610	1820
12	13690	19350	10470	5080	2550
14	18380	25990	14100	6100	3080
16	23780	33630	18280	7960	4020

TABLE 1 – BEARING STRENGTH OF UNDISTURBED SOIL

SOIL TYPE	BEARING STRENGTH
PEAT, ETC.	0 lb/ft²
SOFT CLAY	500 lb/ft²
SAND	1000 lb/ft²
SAND AND GRAVEL	1500 lb/ft²
SAND AND GRAVEL WITH CLAY	2000 lb/ft²
SAND AND GRAVEL CEMENTED WITH CLAY	4000 lb/ft²
HARD PAN	5000 lb/ft²

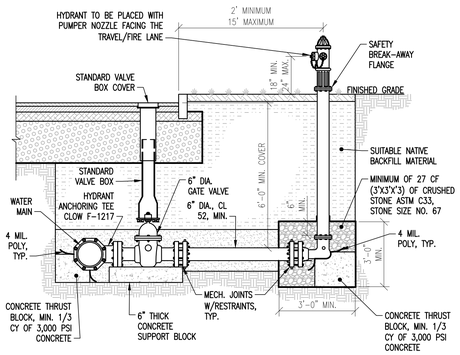
DETERMINING MINIMUM BEARING FACE AREA:

THE AREA (ft^2) SHALL BE CALCULATED BY DETERMINING THE TOTAL THRUST GENERATED AT THE FITTING.
DIVIDE THE THRUST DEVELOPED (lbs force) (FROM TABLE 2) BY THE BEARING STRENGTH OF THE SOIL (FROM TABLE 1). THE RESULT IS THE AREA OF THE SOIL REQUIRED TO RESIST THE THRUST (A).
THE AREA CALCULATED WILL BE FOR THE AREA OF CONCRETE UP AGAINST THE TRENCH WALL (i.e. THE BACK SIDE OF THE BLOCK). USE THE TEST PRESSURE TO DETERMINE THE TOTAL THRUST.

AREA = THRUST DEVELOPED (lbs force) / BEARING STRENGTH OF SOIL

TYPICAL BEARING THRUST BLOCK (5)

NOT TO SCALE

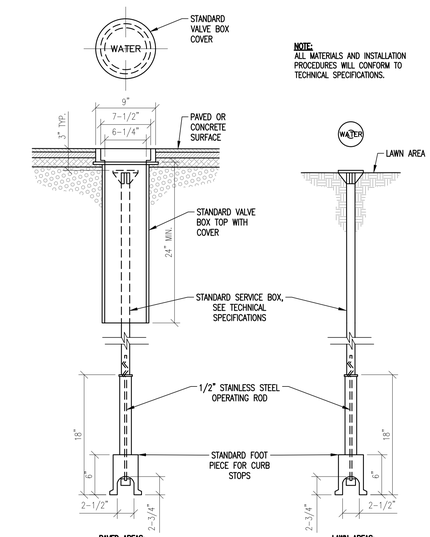


NOTES:

1. HYDRANT DRAIN SHALL BE PLUGGED.
2. ACCEPTABLE HYDRANT MAKE AND MODEL: MUELLER SUPER CENTURION 250 MODEL A–423 (NO HYDRANT DRAIN).
3. HYDRANT SHALL MEET OR EXCEED AWWA C502.
4. 5 1/4" VALVE OPENING.
5. ONE (1) 4 1/2" NST PUMPER NOZZLE.
6. TWO (2) 2 1/2" NST HOSE NOZZLE.
7. OPERATING NUT AND NOZZLE CAPS – NS#7 PENTAGON
8. SIX (6) INCH MECHANICAL JOINT CONNECTION WITH ACCESSORIES FOR 6.90 O.D. DI PIPE.
9. OPERATION: OPEN COUNTERCLOCKWISE (LEFT).
10. DEPTH AS REQUIRED.
11. CONTRACTOR TO SUPPLY AND INSTALL HYDRANT
12. TOP OF BLOCKING TO BE 2 INCHES FROM HYDRANT WEEP HOLES.

HYDRANT DETAIL (6)

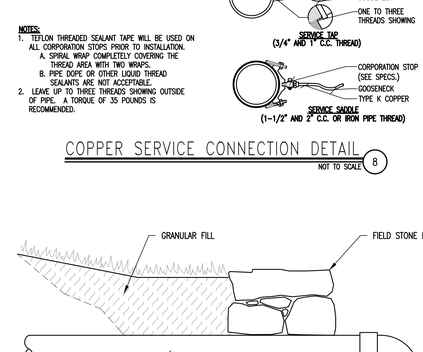
NOT TO SCALE



NOTE:
ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.

TYPICAL SERVICE BOX (7)

NOT TO SCALE

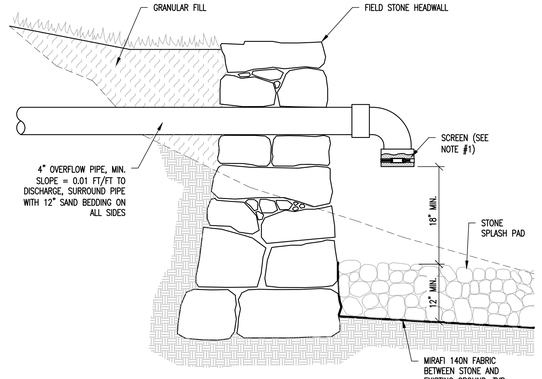


NOTES:

1. TEFLON THREADED SEALANT TAPE WILL BE USED ON ALL CORPORATION STOPS PRIOR TO INSTALLATION.
    A. SPIRAL WRAP COMPLETELY COVERING THE THREAD AREA WITH TWO WRAPS.
    B. PIPE DOPE OR OTHER LIQUID THREAD SEALANTS ARE NOT ACCEPTABLE.
2. LEAVE UP TO THREE THREADS SHOWING OUTSIDE OF PIPE. A TORQUE OF 35 POUNDS IS RECOMMENDED.

COPPER SERVICE CONNECTION DETAIL (8)

NOT TO SCALE

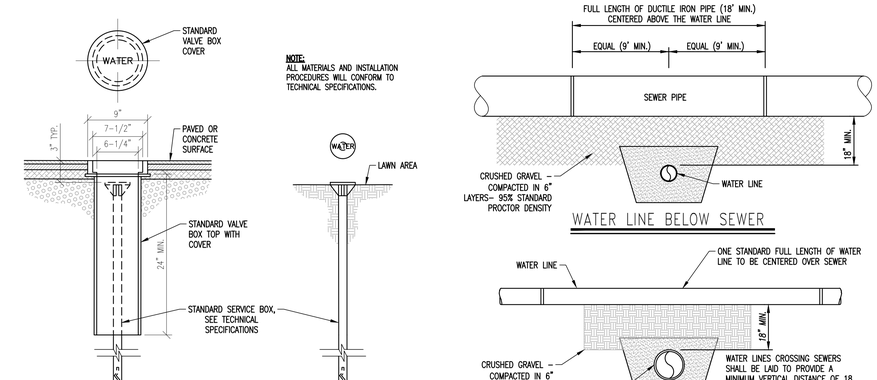


NOTE:

1. TANK DRAIN DISCHARGE POINT:
    - 18" (MIN.) ABOVE GROUND SURFACE
    - DOWNWARD FACING 90 DEGREE BEND
    - RESTRAINED #24 NON–CORRODIBLE SCREEN

OVERFLOW DISCHARGE (9)

NOT TO SCALE



NOTE:

PROTECTION OF WATER SUPPLIES

a. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN ANY CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.

b. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADII ESTABLISHED IN ~~ENV–WS–300~~ FOR ANY PUBLIC WATER SUPPLY WELL OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.

c. SEWERS SHALL BE LOCATED AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.

d. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (b) or (c) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENV–Wq 704.06.

e. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:

1.) VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND

2.) SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 9 FEET HORIZONTALLY FROM THE WATER MAIN.

f. WATER–SEWER SEPARATION SHALL COMPLY WITH NYS STANDARDS

TYPICAL SEWER/WATER SEPARATION DETAILS (10)

NOT TO SCALE

SCHEMATIC DESIGN PLANS NOT FOR CONSTRUCTION 6/21/2023

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client: Eric Stackman, 7513 W Treasure Drive, North Bay Village, FL, erikstackman@bellsouth.net

Sheet Title: WATER DETAILS (1 OF 2)

Project Title: Stackman Property Concept, Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C501

No. | Description | Date

Stamp

Revit: 12/27/22 8:36 AM
V:\PROJECTS\22-22621\001 SP Drawings\Stackman Property Concept.rvt

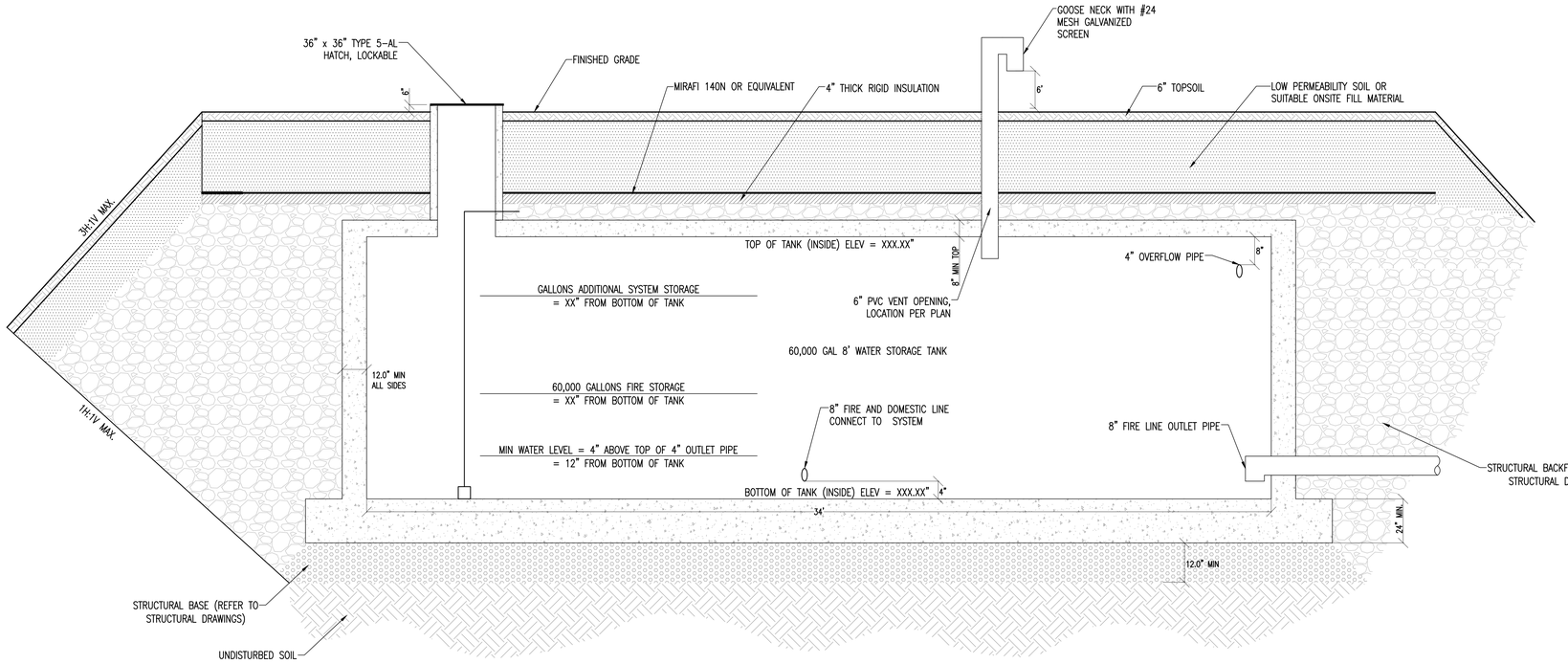
WATER TANK ELEVATION CONTROL INDEX:

SETTINGS	DISTANCE ABOVE TANK BOTTOM (IN)
LOW WATER ALARM	XX"
WELL PUMP ON	XX"
WELL PUMP OFF	XX"
HIGH ALARM LEVEL	XX"

*ALARMS TO BE INTEGRATED INTO SECURITY SYSTEM

WATER TANK NOTES:

1. ITEMS OF WORK SHALL INCLUDE ALL NECESSARY MATERIALS AND THEIR INSTALLATION AS REQUIRED TO OPERATE THE POTABLE WATER SYSTEM AND ALL NEW COMPONENTS.
2. TANKS, PIPING AND APPURTENANCES SHALL BE MANUFACTURED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES (UL) STANDARD 1316 AND NATIONAL SANITATION FOUNDATION (NSF) STANDARD 61.
3. WATER TANK PIPE PENETRATIONS SHALL BE MADE WITH FLEXIBLE CONNECTORS.
4. BURIED WATER PIPING SHALL BE CONSTRUCTED ACCORDING TO THE NOTES AND DETAILS ON SHEET C103.
5. TANKS, PIPING AND APPURTENANCES INVOLVED WITH THE PROPOSED WATER SYSTEM IMPROVEMENTS SHALL BE INSTALLED, CLEANED, AND DISINFECTED IN ACCORDANCE WITH THE CURRENT NEW YORK STATE DEPARTMENT OF HEALTH REGULATIONS AND THE TANK MANUFACTURER'S INSTALLATION MANUAL AND OPERATING GUIDELINES. DISINFECTION OF TANK, PIPING AND APPURTENANCES SHALL COMPLY WITH ALL PERTINENT PROCEDURES AND REQUIREMENTS OF THE LATEST EDITIONS OF AWWA C651 AND AWWA C652.
6. UPON COMPLETION OF CONSTRUCTION, THE WATER TANKS SHALL BE FILLED WITH POTABLE WATER TO THE OVERFLOW ELEVATION AND SUBJECTED TO A 24 HOUR HYDROSTATIC LEAKAGE TEST. VISUAL OR MEASURABLE WATER LOSS DURING THIS TEST PERIOD SHALL NOT BE ACCEPTABLE. THE TANKS MAY BE DISINFECTED ONLY AFTER A SATISFACTORY LEAKAGE TEST HAS BEEN OBSERVED BY THE ENGINEER.
7. CHLORINATED WATER SHALL BE NEUTRALIZED AS OUTLINED IN AWWA STANDARD C652, APPENDIX B, BEFORE BEING RELEASED INTO THE ENVIRONMENT.
8. SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY THE OWNER AND ENGINEER. THE CONTRACTOR SHALL BE AWARE THAT WATER SYSTEM MODIFICATIONS MAY BE SUBJECT TO STATE REVIEW AND PERMIT AMENDMENT.
9. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE.

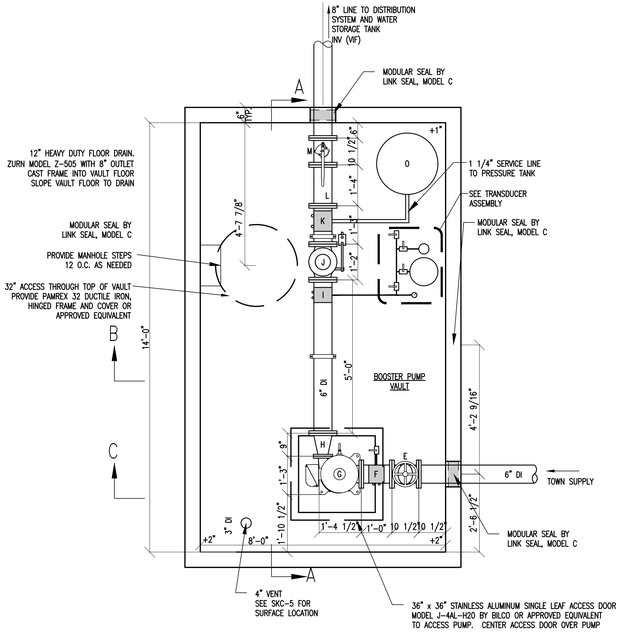


NOTES:

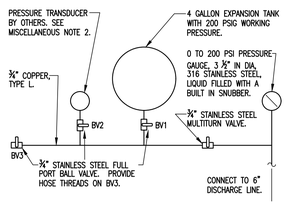
1. THE BACKFILL SHALL MEET THE REQUIREMENTS SHOWN ON THE STRUCTURAL PLANS. COMPACT IN 12" LIFTS OR PER MANUFACTURER'S REQUIREMENT OR RECOMMENDATION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRY AND STABLE SUBGRADES IN THE EXCAVATION AND SHALL USE PROTECTIVE WORKING MATS AS NEEDED. PROTECTIVE WORKING MATS MAY CONSIST OF 6 INCHES OF COMPACTED GRANULAR FILL OR 3 INCHES OF 3/4" CRUSHED STONE.

60,000 GALLON STORAGE TANK DETAILS

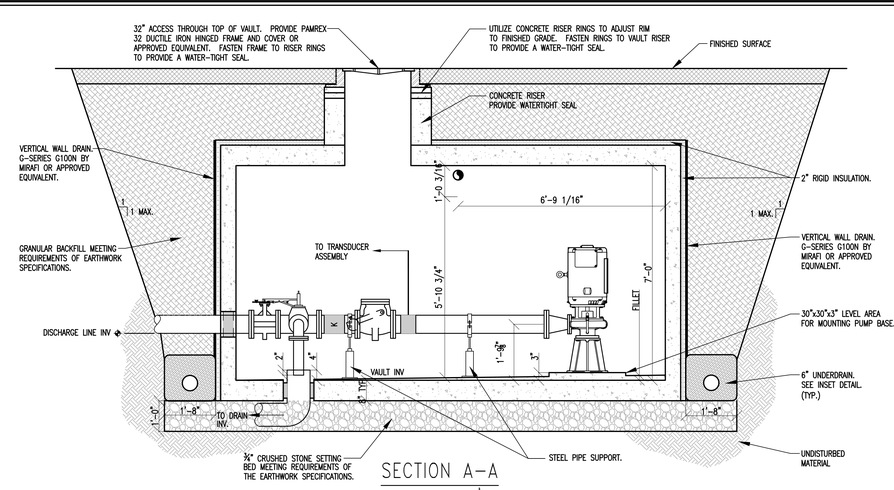
NOT TO SCALE (1)



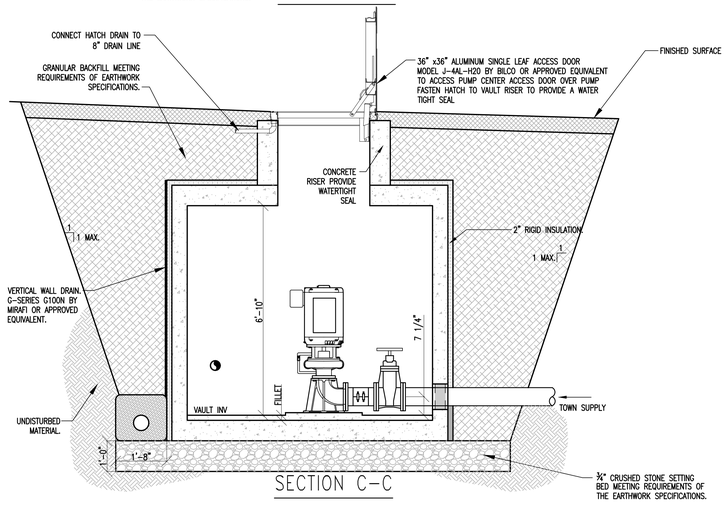
PLAN



TRANSDUCER ASSEMBLY



SECTION A–A



SECTION C–C

WATER BOOSTER STATION DETAILS

NOT TO SCALE (2)

SCHEMATIC DESIGN PLANS NOT FOR CONSTRUCTION 6/21/2023

Stamp

Date

Description

No.

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5933
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: WATER DETAILS (2 OF 2)

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C502

Plotted: 12/7/2021 8:39 AM
L:\PROJECTS\22-22621 @ Stackman Development\Dwg\Sheet Files\22621 - C502 Details.dwg

SEWER NOTES

A-01. BUILDING SEWERS

A. MATERIALS: THE BUILDING SEWER SHALL BE CONSTRUCTED IN A MANNER WHICH WILL PREVENT LEAKING, BREAKING OR CLOGGING. ACCEPTABLE MATERIALS FOR THE SEWER ARE RUBBER-RING-JOINTED PVC GRAVITY SEWER PIPE SDR35 ASTM D3034.
B. SIZING AND SLOPE: MINIMUM BUILDING SEWER SIZE IS 4 INCHES (UNLESS SHOWN ON THE PLAN) AND A MINIMUM SLOPE IS 1/4 INCH PER FOOT.
C. MANHOLES: BUILDING SEWERS DISCHARGING TO A COLLECTION SEWER SHALL BE CONNECTED THROUGH A MANHOLE OR WITH A WYE FITTING SO AS TO DIRECT FLOW AND MINIMIZE IN-LINE TURBULENCE.
D. CLEANOUTS: CLEANOUTS SHALL BE PROVIDED AT EACH HORIZONTAL CHANGE IN DIRECTION OF THE BUILDING SEWER GREATER THAN 45 DEGREES, NOT GREATER THAN EVERY 100' AND WHERE INDICATED ON THE DESIGN DRAWINGS. BUILDING SEWER CHANGES IN DIRECTION WHICH EXCEED 45 DEGREES SHOULD BE MADE WITH TWO 45 DEGREE ELLS OR LONG SWEEP FITTINGS. MANHOLES ARE ACCEPTABLE IN LIEU OF CLEANOUTS. WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH OF LESS THAN 3 FEET UNDER DRIVEWAYS ARE ANTICIPATED, EXTRA HEAVY CAST IRON PIPE SHALL BE USED.
E. LEAKAGE: BUILDING SEWERS SHALL MEET THE LEAKAGE STANDARDS PRESCRIBED IN THE STATE OF NEW YORK SPECIFICATIONS. SEE "A-02, J" BELOW FOR MORE DETAIL.

A-02. SEWER COLLECTION SYSTEMS:

A. A SEWER COLLECTION SYSTEM IS THAT SYSTEM OF SEWERS THAT TRANSPORT WASTEWATER FROM BUILDING SEWERS TO THE WASTEWATER TREATMENT/DISPOSAL SYSTEM.
B. NO CONNECTIONS OF ROOF DRAINS, AREA DRAINS, FOUNDATION DRAINS, CELLAR DRAINS OR OTHER CLEAN WATER SOURCES OR ANY STORM DRAINS WILL BE ALLOWED TO BUILDING OR COLLECTION SEWERS.
C. THE SIZE OF COLLECTION SEWERS SHALL BE AS SHOWN ON THESE DRAWINGS.
D. DEPTH: SEWERS SHALL BE SUFFICIENTLY DEEP TO PREVENT FREEZING. RIGID FOAM INSULATION SHALL BE USED, WHERE INDICATED ON DRAWINGS.
E. SLOPE, VELOCITY: ALL SEWERS SHALL BE INSTALLED WITH NOT LESS THAN THE SLOPES SHOWN BELOW:

PIPE SIZE (INCHES)	SLOPE (FEET/100 FEET)
6"	0.60
8"	0.40

F. CHANGES IN PIPE SIZE: WHEN A SMALLER SEWER JOINS A LARGE ONE, THE INVERT OF THE LARGER SEWER SHALL BE LOWERED SUFFICIENTLY TO MAINTAIN THE SAME ENERGY GRADIENT.
G. MATERIAL: PVC SDR 35, ASTM D3034, WITH PUSH-ON GASKETED JOINTS. GASKETS SHALL CONFORM TO ASTM D3212. SEWER JOINTS SHALL BE CONSTRUCTED TO MINIMIZE INFILTRATION AND TO PREVENT THE ENTRANCE OF ROOTS INTO THE SYSTEM.
H. TRENCHING: LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
I. BEDDING: SEE TRENCH DETAILS THIS DRAWING FOR MATERIALS. TRENCH BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL FREE FROM DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS.
J. LEAKAGE TESTS: UPON COMPLETION OF SEWER MAIN CONSTRUCTION, THE SEWER LINE SHALL BE TESTED IN ACCORDANCE WITH THE STATE OF NEW YORK SPECIFICATIONS.

LEAKAGE TESTS FOR GRAVITY SEWERS

PERFORM A PRESSURIZED AIR TEST ON THE GRAVITY LINE IN ACCORDANCE WITH THE LATEST VERSION OF DESIGN STANDARDS FOR WASTEWATER TREATMENT WORKS ON EACH SECTION OF THE GRAVITY SEWER. THE ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.

PLUG ALL OPENINGS IN THE TEST SECTION. ADD AIR UNTIL THE INTERNAL PRESSURE OF THE LINE IS RAISED TO APPROXIMATELY 4.0 POUNDS/SQUARE INCH (PSI) GREATER THAN THE AVERAGE PRESSURE OF ANY GROUND WATER. AFTER THIS PRESSURE IS REACHED, ALLOW THE PRESSURE TO STABILIZE. THE PRESSURE WILL NORMALLY DROP AS THE AIR TEMPERATURE STABILIZES. THIS USUALLY TAKES 2 TO 5 MINUTES DEPENDING ON THE PIPE SIZE. THE PRESSURE MAY BE REDUCED TO 3.5 PSI BEFORE STARTING THE TEST.

START THE TEST WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE THE STARTING TEST PRESSURE OF 3.5 PSI ABOVE THE PIPE. IF THE PRESSURE DROPS MORE THAN 1.0 PSI DURING THE TEST TIME, THE LINE IS PRESUMED TO HAVE FAILED THE TEST. IF A 1.0 PSI DROP DOES NOT OCCUR WITHIN THE TEST TIME, THE LINE HAS PASSED THE TEST. THE TEST TIME SHALL BE DERIVED FROM THE FOLLOWING TABLE. IF THE SECTION OF LINE TO BE TESTED INCLUDES MORE THAN ONE PIPE SIZE, CALCULATE THE TEST TIME FOR EACH SIZE AND ADD THE TEST TIMES TO ARRIVE AT THE TOTAL TEST TIME FOR THE SECTION.

PIPE SIZE (INCHES)	T (TIME) (MIN/100 FT.)
3	0.2
4	0.3
6	0.7
8	1.2
10	1.5
12	1.8

K. INSTALLATION: PIPE SHALL BE LAID WITH BELL ENDS FACING UPGRADE AND LAYING SHALL START AT THE DOWNGRADE END.
L. WATER LINE SEPARATION

a. HORIZONTAL SEPARATION: SEWERS SHALL BE LAID FLAT AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER LINE. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WHERE IMPOSSIBLE OR IMPRACTICABLE, DUE TO LEDGE, BOULDERS OR OTHER UNUSUAL CONDITIONS, TO MAINTAIN THE TEN FOOT SEWER/WATER PIPE HORIZONTAL SEPARATION BETWEEN SEWER AND WATER LINES, THE WATER LINE MAY BE IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF IN THE SEWER TRENCH PROVIDED THAT THE BOTTOM OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHEREVER IMPOSSIBLE OR IMPRACTICAL TO MAINTAIN THE 18 INCH VERTICAL SEPARATION, THE SEWER LINE SHALL BE CONSTRUCTED TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO 50 PSI FOR 15 MINUTE PRIOR TO BACKFILLING. NO LEAKAGE SHALL BE ALLOWED FOR THIS TEST.

b. CROSSINGS: SEWERS CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATER MAIN WITH AT LEAST 18 INCHES VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE SEWER AND THE OUTSIDE OF THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION:

1. THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AWAY AS POSSIBLE FROM WATER JOINTS;
2. THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER;
3. THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS;
4. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

A-03. MANHOLES

A. DIAMETER: THE MINIMUM DIAMETER OF MANHOLES SHALL BE 48 INCHES; LARGE DIAMETERS ARE PREFERRED FOR CONNECTION TO LARGE DIAMETER SEWERS. A MINIMUM ACCESS DIAMETER OF 24 INCHES SHALL BE PROVIDED.
B. FLOW CHANNEL: FLOW CHANNELS SHALL BE PROVIDED IN THE BASE OF ALL MANHOLES AND THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
C. MANHOLES SHALL BE OF THE PRE-CAST CONCRETE OR POUR-IN PLACE CONCRETE TYPE. MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR.
D. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A RUBBER-GASKETED FLEXIBLE WATERTIGHT CONNECTION THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL TO TAKE PLACE.
E. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTING OF GRAVITY SEWERS UTILIZING THE WATER TESTING PROCEDURES TAKES INTO ACCOUNT THE LEAKAGE FROM ONE MANHOLE IN THE TEST SECTION. OTHERWISE, MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

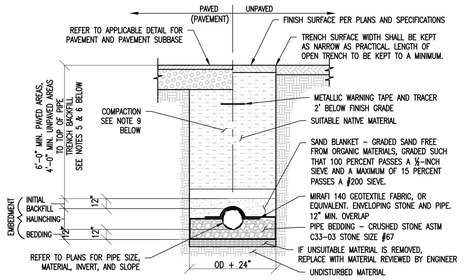
AFTER THE MANHOLE HAS BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED WITH AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED AND THE PLUGS PLACED TO PREVENT BLOWOUT.

EACH MANHOLE SHALL BE CHECKED FOR INFILTRATION BY FILLING WITH WATER TO THE TOP OF THE CONE SECTION. A STABILIZATION PERIOD OF ONE HOUR SHALL BE PROVIDED TO ALLOW FOR ABSORPTION. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST SIX HOURS BEGUN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BEREFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE CONVERTED TO A 24 HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24 HOUR PERIOD FOR EXFILTRATION AND THERE SHALL BE NO VISIBLE INFILTRATION.

REQUIRED SEPARATION DISTANCES FROM WASTEWATER COMPONENTS

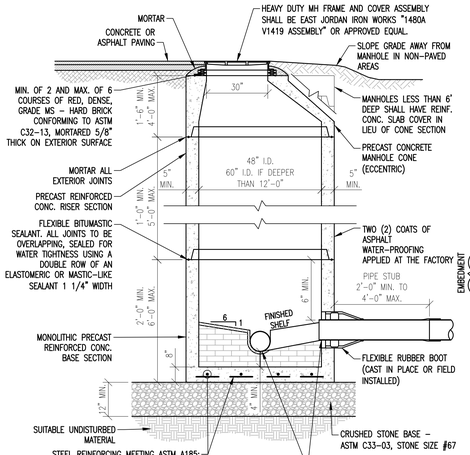
SYSTEM COMPONENTS	WELL (d) OR SUCTION LINE	TO STREAM, LAKE, WATERCOURSE (b) OR WETLAND	DWELLING	PROPERTY LINE	DRAINAGE DITCH
HOUSE SEWER (WATERTIGHT JOINTS)	25' IF CAST IRON OR PVC W/O-RING JOINTS; 50' IF NOT	25'	3'	10'	.....
SEPTIC TANK	50'	50'	10'	10'	10'
EFFLUENT LINE TO D-BOX	50'	50'	10'	10'	10'
DISTRIBUTION BOX	100'	100'	20'	10'	20'
ABSORPTION FIELD (c) (INCL. REPLACEMENT AREA)	100' (a)	100'	20'	10'	20'
DRY WELL (ROOF & FOOTING)	50'	25'	20'	10'	10'
SANITARY PRIVY PIT	100'	50'	20'	10'	20'
PRIVY, WATERTIGHT VAULT	50'	50'	20'	10'	10'

NOTES:
(a) WHEN SEWAGE TREATMENT SYSTEMS ARE LOCATED IN COARSE GRAVEL OR UPGRADE AND IN THE GENERAL PATH OF DRAINAGE TO A WELL, THE CLOSEST PART OF THE TREATMENT SYSTEM SHALL BE AT LEAST 200' AWAY FROM THE WELL. THE LEACH FIELD MUST ALSO BE 200' AWAY FROM ANY PUBLIC WATER SUPPLY WELLS.
(b) MEAN HIGH WATER MARK.
(c) FOR ALL SYSTEMS INVOLVING THE PLACEMENT OF FILL MATERIAL, SEPARATION DISTANCES ARE MEASURED FROM THE TOE OF SLOPE OF THE FILL.
(d) ANY WATER SERVICE UNDER PRESSURE LOCATED WITHIN 10' OF ANY ABSORPTION FIELD, SEEPAGE PIT OR SANITARY PRIVY SHALL BE INSTALLED INSIDE A LARGER DIAMETER WATER MAIN TO PROTECT THE POTABLE WATER SUPPLY



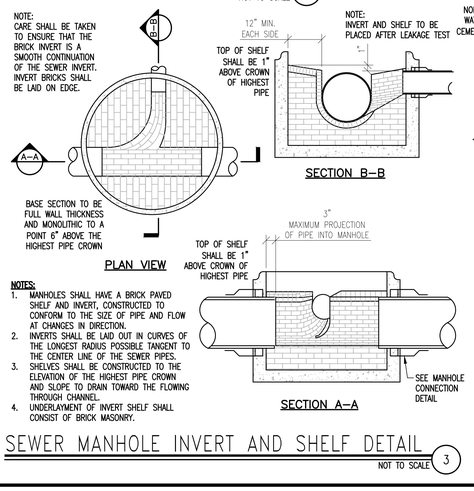
NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. FOR SEWER LINES THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'-0" IN PAVED AREAS AND 4'-0" IN UNPAVED AREAS. SHALLOWER DEPTHS REQUIRE APPROVAL FROM THE ENGINEER. REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.
4. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED IN THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
6. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW SEWER SYSTEM DURING CONSTRUCTION.
7. ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER.
8. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
9. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

GRAVITY SEWER TRENCH DETAIL
NOT TO SCALE — 1



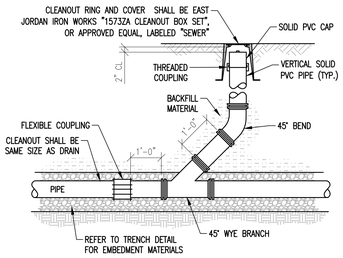
NOTES:
1. INVERTS OF MANHOLES SHALL BE FORMED WITH GRADE SS – HARD BRICK CONFORMING TO ASTM C32-13.
2. PROVIDE SMOOTH SWEEPING TRANSITIONS BETWEEN INVERTS OF INTERSECTING PIPE.
3. IF DEPTH OF MANHOLE IS 6 FT. OR LESS FROM RIM TO CENTERLINE INVERT, THEN A FLAT TOP MAY BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO CENTERLINE INVERT IS MORE THAN 6 FT., THEN AN ECCENTRIC CONICAL TOP SHALL BE INSTALLED.
4. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF THE INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
5. MANHOLE AND COVER SHALL BE DESIGNED FOR H20 LOADING.
6. MANHOLE SHALL CONFORM TO ASTM C478 SPECIFICATIONS FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
7. CONCRETE FC=4,000 PSI @ 28 DAYS MINIMUM
8. BASE SECTION SHALL BE A ONE POUR MONOLITHIC SECTION

SEWER MANHOLE DETAIL
NOT TO SCALE — 2

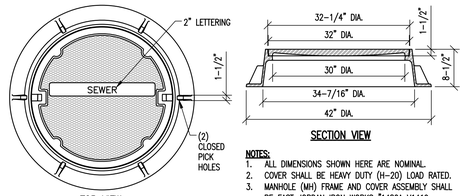


NOTES:
1. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION.
2. INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES.
3. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL.
4. UNDERLAYMENT OF INVERT SHELF SHALL CONSIST OF BRICK MASONRY.

SEWER MANHOLE INVERT AND SHELF DETAIL
NOT TO SCALE — 3

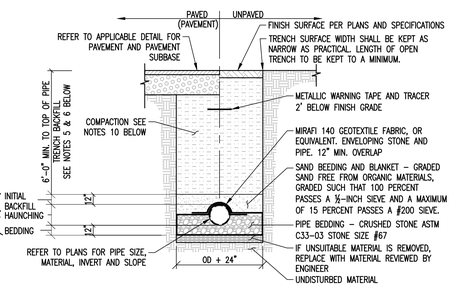


SEWER CLEANOUT DETAIL
NOT TO SCALE — 4



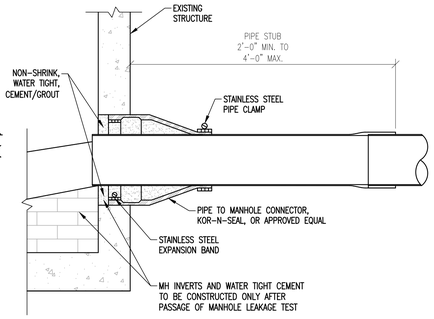
NOTES:
1. ALL DIMENSIONS SHOWN HERE ARE NOMINAL.
2. COVER SHALL BE HEAVY DUTY (H-20) LOAD RATED.
3. MANHOLE (MH) FRAME AND COVER ASSEMBLY SHALL BE EAST JORDAN IRON WORKS "1480A V1419 ASSEMBLY" OR APPROVED EQUAL.

SEWER MANHOLE FRAME & COVER
NOT TO SCALE — 5



SANITARY FORCE MAIN TRENCH NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. FOR SEWER FORCE MAINS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'-0".
4. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED BY NHDOT 203.2.7, ENV-WQ-704.11(b), AND THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
6. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW SEWER FORCE MAIN SYSTEM DURING CONSTRUCTION.
7. ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER.
8. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
9. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

SEWER FORCE MAIN TRENCH DETAIL
NOT TO SCALE — 6

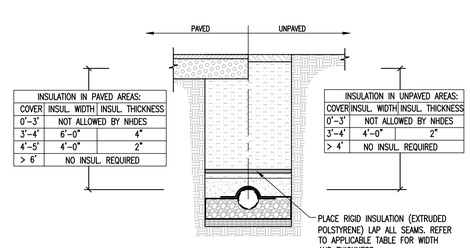


NOTES:
1. CORE HOLE SHALL BE SMOOTH, SYMMETRICAL, AND APPROPRIATELY SIZED FOR SEWER PIPE INSTALLATION.
2. WHEN APPLICABLE CONTRACTOR SHALL RECONSTRUCT EXISTING SHELF IN MANHOLES TO PROVIDE POSITIVE FLOW TO INVERT OUT.

MANHOLE CONNECTION
NOT TO SCALE — 7

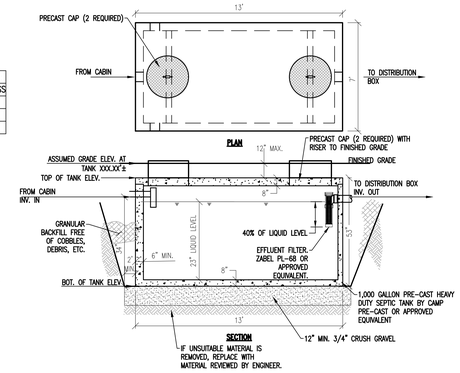
INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	NOT ALLOWED BY NHDES	
3'-4'	6'-0"	4"
4'-5'	4'-0"	2"
> 6'	NO INSUL. REQUIRED	

INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	NOT ALLOWED BY NHDES	
3'-4'	4'-0"	2"
> 4'	NO INSUL. REQUIRED	

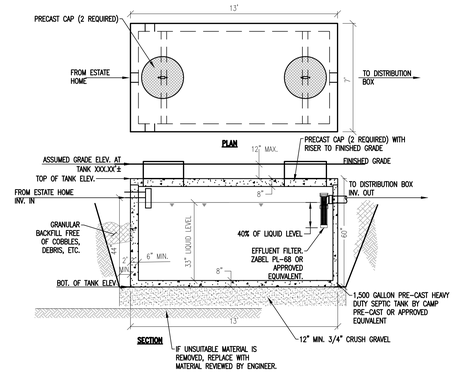


NOTES:
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. NOTIFY DEPARTMENT OF PUBLIC WORKS TO REVIEW INSTALLATION AND BACKFILL.
3. ALL SHALLOW SEWER INSTALLATIONS MUST BE APPROVED BY ENGINEER.
4. THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'-0" IN PAVED AREAS AND 4'-0" IN UNPAVED AREAS. SHALLOWER DEPTHS REQUIRE APPROVAL FROM THE ENGINEER. REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.

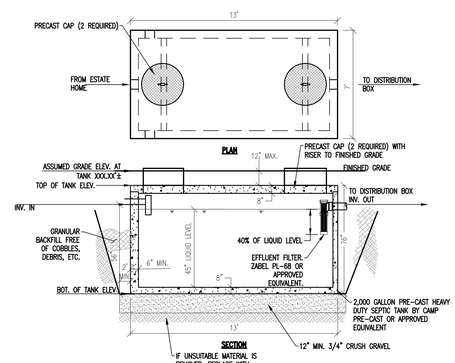
SHALLOW SEWER LINE INSULATION DETAIL
NOT TO SCALE — 8



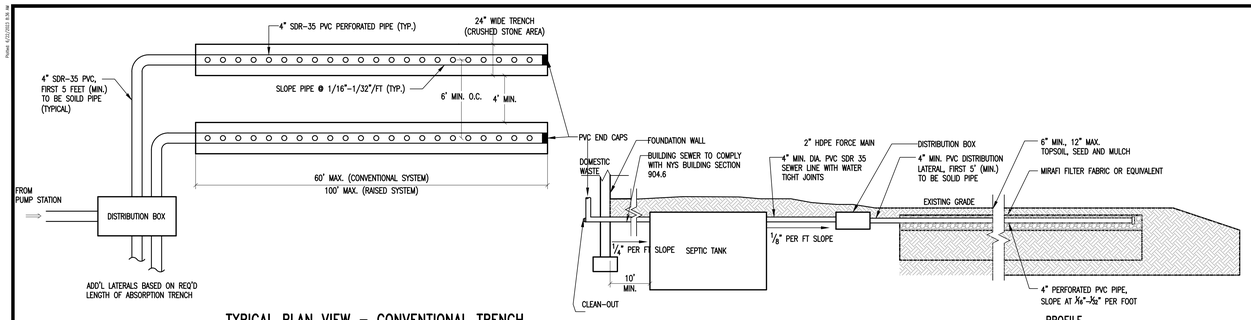
1,000 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE — 9



1,500 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE — 10



2,000 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE — 11



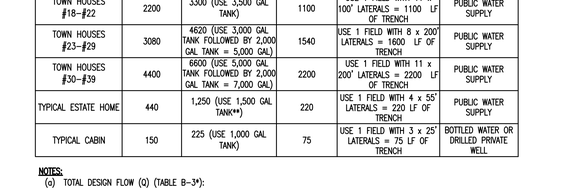
TYPICAL PLAN VIEW – CONVENTIONAL TRENCH

PROFILE

HYDRAULIC PROFILE – CONVENTIONAL TRENCH

CONVENTIONAL ABSORPTION TRENCH SYSTEM DETAIL

NOT TO SCALE (1)



SECTION

NOTES:

1. DISTRIBUTION BOX BY CAMP PRECAST OR APPROVED EQUIVALENT.
2. PIPE JOINTS TO BE SEALED WITH ASPHALTIC MATERIAL OR EQUIVALENT.
3. INVERT ELEVATIONS OF ALL OUTLET PIPES MUST BE EQUAL.
4. THE SLOPE OF OUTLET PIPES BETWEEN THE DISTRIBUTION BOX AND DISTRIBUTOR LATERALS SHOULD BE A MINIMUM OF 1/16" PER FOOT.
5. INSTALL FLOW EQUALIZATION DEVICES AT EACH OUTLET TO PROVIDE EQUAL FLOW TO EACH LATERAL.
6. DIMENSIONS ARE AS PER MANUFACTURER

TYPICAL DISTRIBUTION BOX DETAIL

NOT TO SCALE (2)

BASIS OF DESIGN

BUILDING TYPE	DAILY FLOW, Q (GPD) (a)	MINIMUM EFFECTIVE TANK CAPACITY (GAL) (b)	REQUIRED LF OF ABSORPTION TRENCH (c)	REQUIRED LATERALS	WATER SOUTCE
SUITE B	5540	7905 GALLONS (USE 5,000 GAL TANK FOLLOWED BY 3,000 GAL TANK = 8,000 GAL)	2770	USE 2 FIELDS EACH WITH 7 x 200' LATERALS = 2800 LF OF TRENCH	PUBLIC WATER SUPPLY
SUITE A					
CLUB AND RESTAURANTS					
SPA AND WELLNESS					
EVENT SPACE					
SUITE C					
GUEST HOUSE #1	3520	5280 (USE 3,500 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,500 GAL)	1760	USE 1 FIELD WITH 9 x 200' LATERALS = 1800 LF OF TRENCH	PUBLIC WATER SUPPLY
GUEST HOUSE #2					
GUEST HOUSE #3	3520	5280 (USE 3,500 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,500 GAL)	1760	USE 1 FIELD WITH 9 x 200' LATERALS = 1800 LF OF TRENCH	PUBLIC WATER SUPPLY
GUEST HOUSE #4					
GUEST HOUSE #5	3520	5280 (USE 3,500 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,500 GAL)	1760	USE 1 FIELD WITH 9 x 200' LATERALS = 1800 LF OF TRENCH	PUBLIC WATER SUPPLY
GUEST HOUSE #6					
TOWN HOUSES #1–#10	4400	6600 (USE 5,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 7,000 GAL)	2200	USE 1 FIELD WITH 11 x 200' LATERALS = 2200 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #11–#17	3080	4620 (USE 3,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,000 GAL)	1540	USE 1 FIELD WITH 16 x 100' LATERALS = 1600 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #18–#22	2200	3300 (USE 3,500 GAL TANK)	1100	USE 1 FIELD WITH 11 x 100' LATERALS = 1100 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #23–#29	3080	4620 (USE 3,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,000 GAL)	1540	USE 1 FIELD WITH 8 x 200' LATERALS = 1600 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #30–#39	4400	6600 (USE 5,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 7,000 GAL)	2200	USE 1 FIELD WITH 11 x 200' LATERALS = 2200 LF OF TRENCH	PUBLIC WATER SUPPLY
TYPICAL ESTATE HOME	440	1,250 (USE 1,500 GAL TANK**)	220	USE 1 FIELD WITH 4 x 55' LATERALS = 220 LF OF TRENCH	PUBLIC WATER SUPPLY
TYPICAL CABIN	150	225 (USE 1,000 GAL TANK)	75	USE 1 FIELD WITH 3 x 25' LATERALS = 75 LF OF TRENCH	BOTTLED WATER OR DRILLED PRIVATE WELL

NOTES:

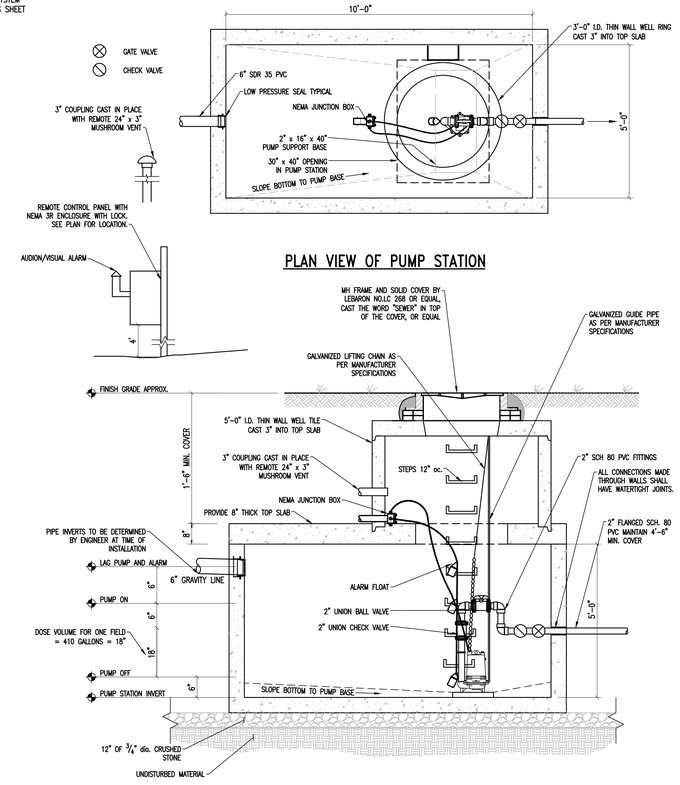
(a) TOTAL DESIGN FLOW (Q) (TABLE B–3*):

SUITE A, B, AND C:	8 BEDROOMS X 110 GPD/BEDROOM	=	880 GPD
CLUB AND RESTAURANT:	50 SEATS X 35 GPD/EMPLOYEE	=	1750 GPD
SPA AND WELLNESS:	20 PATRONS X 20 GPD/PATRON	=	400 GPD
EVENT SPACE:	75 SEATS X 10 GPD/SEAT	=	750 GPD
		=	5540 GPD
GUEST HOUSE #1:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
GUEST HOUSE #2:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
		=	3520 GPD
GUEST HOUSE #3:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
GUEST HOUSE #4:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
		=	3520 GPD
GUEST HOUSE #5:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
GUEST HOUSE #6:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
		=	3520 GPD
TYPICAL TOWN HOUSE:	4 BEDROOMS X 110 GPD/BEDROOM	=	440 GPD
TYPICAL ESTATE HOME:	4 BEDROOMS X 110 GPD/BEDROOM	=	440 GPD
TYPICAL CABIN:	10 PATRONS X 15 GPD/PATRON	=	150 GPD

(b) MINIMUM EFFECTIVE TANK CAPACITY (GAL) (TABLE D–2*):
FOR Q < 5,000 GPD, MINIMUM EFFECTIVE TANK CAPACITY (GAL) = 1.5 x Q
FOR Q > 5,000 GPD AND Q < 15,000 GPD, MINIMUM EFFECTIVE TANK CAPACITY (GAL) = 3,750 + 0.75 x Q

(c) FOR 6–7 MIN/INCH, USE APPLICATION RATE OF 1.0 GPD/SF (TABLE E–1*)
REQUIRED LINEAR FEET OF ABSORPTION TRENCH = Q / 1.0 GPD/SF / 2 FT WIDE TRENCH

* NEW YORK STATE DESIGN STANDARDS FOR INTERMEDIATE SIZED WASTEWATER TREATMENT SYSTEMS, LAST REVISED MARCH 5, 2014
** APPENDIX 75–A WASTEWATER TREATMENT STANDARDS – RESIDENTIAL ONSITE SYSTEMS, LAST REVISED MARCH 16, 2016



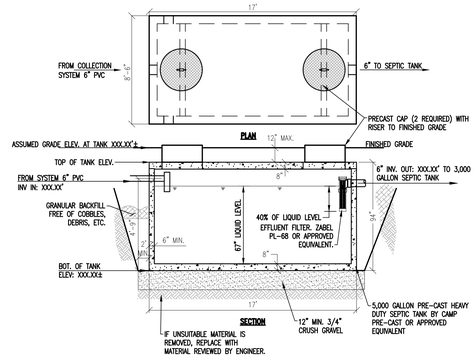
ELEVATION VIEW PUMP STATION

PUMP STATION NOTES:

1. 1000 GALLON WATER PROOF, PUMP STATION SUPPLIED BY CAMP PRE–CAST, OR EQUIVALENT.
2. CONTROL PANEL TO BE LOCATED IN THE VICINITY OF THE PUMP STATION AND SHALL CONTAIN:
   A. PUMP ALTERNATOR
   B. RUN LIGHTS
   C. MANUAL ON/OFF AUTOMATIC CONTROL
   D. ALARM SILENCE BUTTON
   E. AUDIO AND VISUAL ALARM TO BE MOUNTED ON THE CONTROL PANEL BOX.
   F. 120 VOLT RECEPTACLE.
   G. DIAL UP ALARM OPTION
   H. PUMP TIMER AND COUNTER
3. PUMP STATION SHALL BE REINFORCED CONCRETE (4000psi AT 28 DAYS AND REINFORCED WITH WELDED WIRE FABRIC) ABLE TO SUPPORT H20 LOADING.
4. SPARE PARTS TO BE SUPPLIED TO INCLUDE:
   A. EXTRA FLOAT SWITCH
   B. TWO EXTRA RESET BLOCKS IN CONTROL PANEL.
   C. TWO ORIGINAL SETS OF MANUALS FOR BOTH THE PUMPS AND CONTROL PANELS.
5. ALL ELECTRICAL COMPONENTS TO BE UNDERWRITERS LABORATORY APPROVED, INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
6. PUMP TO BE MYERS MODEL, ME100 SUBMERSIBLE EFFLUENT PUMP.
7. ALL PIPE AND FITTINGS IN PUMP STATION SHALL BE FLANGED SCHEDULE 80 PVC.
8. TANK SHALL BE INSTALLED LEVEL ON A COMPACTED 12" GRAVEL BASE.
9. STEPS TO BE COPOLYMER POLYPROPYLENE PLASTIC WITH 3/8" GRADE 60 REBAR CONTINUOUS THROUGHOUT.
10. PIPE INVERTS TO BE DETERMINED BY ENGINEER AT TIME OF INSTALLATION.

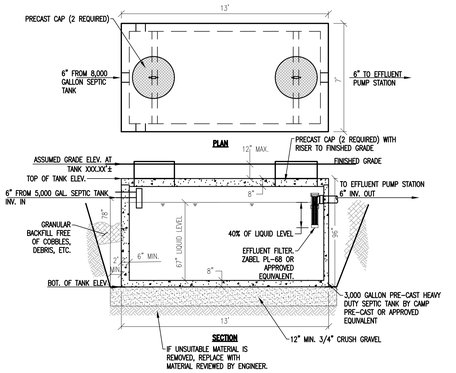
SIMPLEX PUMP STATION DETAIL

NOT TO SCALE (3)



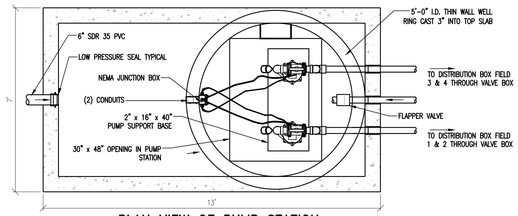
5,000 GAL. CONCRETE SEPTIC TANK

NOT TO SCALE (4)

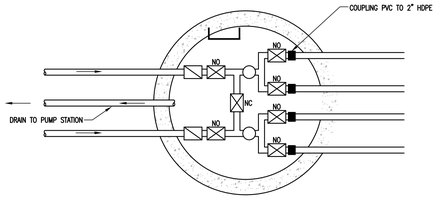


3,000 GAL. CONCRETE SEPTIC TANK

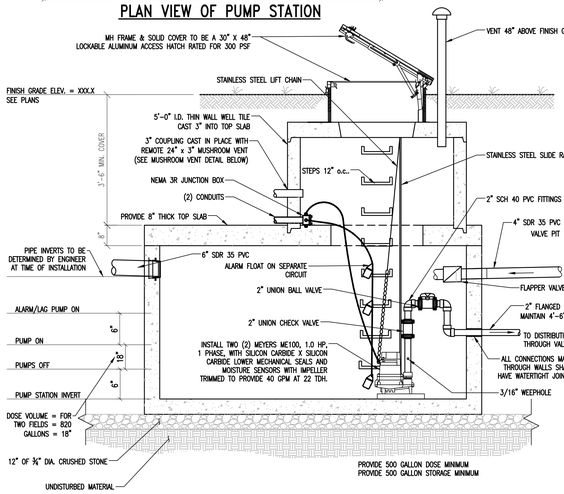
NOT TO SCALE (5)



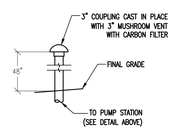
PLAN VIEW OF PUMP STATION



PLAN VIEW OF VALVE CHAMBER



2,500 GALLON DUPLEX EFFLUENT PUMP STATION



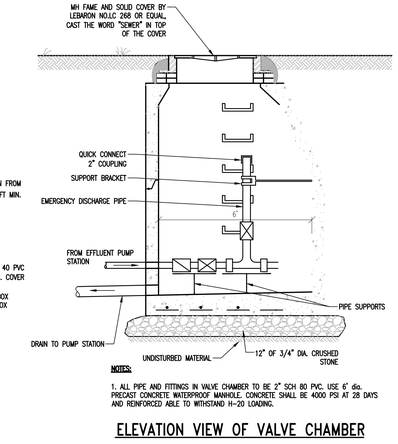
MUSHROOM VENT DETAIL

PUMP STATION NOTES:

1. ITEMS OF WORK SHALL INCLUDE ALL NECESSARY MATERIALS AND THEIR INSTALLATION AS REQUIRED TO OPERATE THE PUMPING SYSTEM.
2. 2,500 GALLON WATER PROOF, PUMP STATION SUPPLIED BY CAMP PRE–CAST, OR EQUIVALENT.
3. CONTROL PANEL TO BE LOCATED IN THE VICINITY OF THE PUMP STATION AND SHALL CONTAIN:
   A. PUMP ALTERNATOR
   B. RUN LIGHTS
   C. MANUAL ON/OFF AUTOMATIC CONTROL
   D. ALARM SILENCE BUTTON
   E. AUDIO AND VISUAL ALARM TO BE MOUNTED ON THE CONTROL PANEL BOX.
   F. 120 VOLT RECEPTACLE.
   G. PROVIDE ONLY AN EXTRA DRY CONTACT FOR A DIAL UP ALARM (A COMPLETE DIAL UP MODEM SHOULD NOT BE INCLUDED).
   H. PUMP TIMER AND COUNTER SHALL BE AN ELAPSED TIME METER FOR EACH PUMP AND AN EVENT COUNTER TO TRACK SYSTEM CYCLES.
   I. SEAL FAILURE INDICATORS
4. PUMP STATION SHALL BE REINFORCED CONCRETE (4000psi AT 28 DAYS AND REINFORCED WITH WELDED WIRE FABRIC) ABLE TO SUPPORT H20 LOADING.
5. SPARE PARTS TO BE SUPPLIED TO INCLUDE:
   A. EXTRA FLOAT SWITCH
   B. EXTRA MAGNETIC CONTACTORS.
   C. TWO ORIGINAL SETS OF MANUALS FOR BOTH THE PUMPS AND CONTROL PANELS.
6. ALL ELECTRICAL COMPONENTS TO BE UNDERWRITERS LABORATORY APPROVED, INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
7. ALL PIPE AND FITTINGS IN PUMP STATION SHALL BE FLANGED SCHEDULE 40 PVC.
8. TANK SHALL BE INSTALLED LEVEL ON A COMPACTED 12" GRAVEL BASE.
9. STEPS TO BE COPOLYMER POLYPROPYLENE PLASTIC WITH 3/8" GRADE 60 REBAR CONTINUOUS THROUGHOUT.
10. SLIDE RAILS AND DISCONNECT FITTINGS SHALL BE INSTALLED SO THAT THE PUMPS CAN BE REMOVED WITHOUT ENTERING THE PUMP STATION. A REMOVABLE STAINLESS STEEL HOIST (SIZED FOR THE SPECIFIED PUMPS) AND REQUIRED MOUNTING HARDWARE WILL BE PROVIDED WITH THE PUMP STATION.
11. THE PUMP CHAMBER AND VALVE PIT SHALL BE FILLED WITH WATER AND SUBJECTED TO A 24 HOUR HYDROSTATIC LEAKAGE TEST. NO LEAKAGE WILL BE ALLOWED DURING THE TEST PERIOD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A WATERTIGHT STRUCTURE.
12. THE FORCE MAIN LEAKAGE TEST SHALL EXTEND FROM THE DISPOSAL FIELD INTO THE 2,500 GALLON PUMP CHAMBER INTERIOR.
13. SHOP DRAWINGS OF THE PUMP STATION, VALVE PIT, AND COMPONENTS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
14. PIPE INVERTS TO BE DETERMINED BY ENGINEER AT TIME OF INSTALLATION.

DUPLEX EFFLUENT PUMP STATION DETAIL

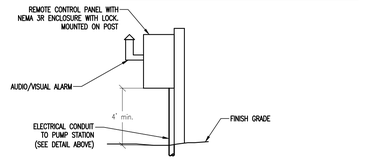
NOT TO SCALE (6)



NOTES:

1. ALL PIPE AND FITTINGS IN VALVE CHAMBER TO BE 2" SCH 80 PVC. USE 6' dia. PRECAST CONCRETE WATERPROOF MANHOLE. CONCRETE SHALL BE 4000 PSI AT 28 DAYS AND REINFORCED ABLE TO WITHSTAND H–20 LOADING.

ELEVATION VIEW OF VALVE CHAMBER



CONTROL PANEL AND ALARM DETAIL

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

Stamp

Date

Description

No.

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

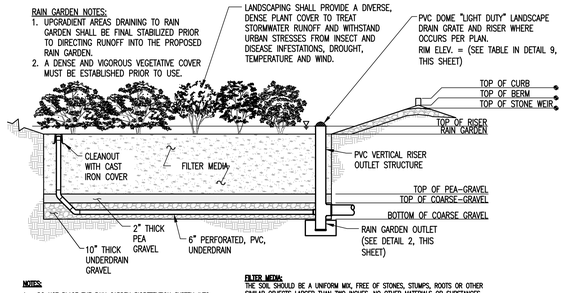
Client: Eric Stackman, 7513 W Treasure Drive, North Bay Village, FL, ericstackman@bellsouth.net

Sheet Title: SANITARY DETAILS (2 OF 2)

Project Title: Stackman Property Concept, Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C504

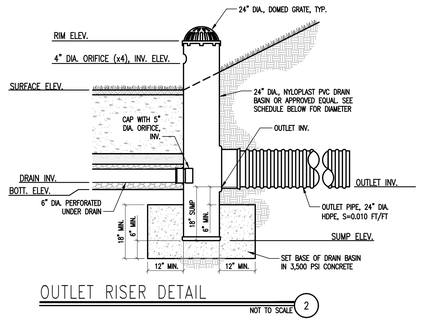


NOTES:
1. DO NOT PLACE THE RAIN GARDEN BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

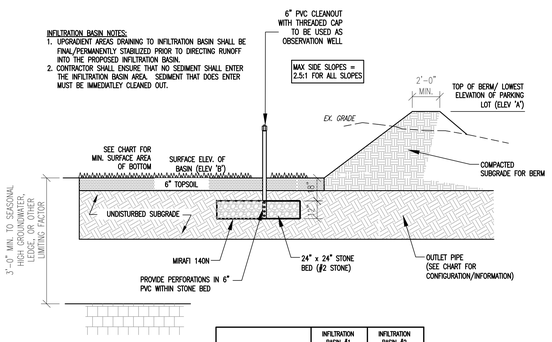
FILTER MEDIA:
THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE FILTER MEDIA SHOULD BE FREE OF NOXIOUS WEEDS. THE FILTER MEDIA SHOULD BE TESTED AND SHOULD MEET THE FOLLOWING CRITERIA:
PH RANGE 5.2 – 7.0
ORGANIC MATTER 1.5 – 4%
MAGNESIUM 35 LB./AC
PHOSPHORUS P205 75 LB./AC
POTASSIUM K20 85 LB./AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

PARAMETER	SPECIFICATION	MATERIAL SPECIFICATIONS SIZE			NOTES
FILTER MEDIA [15" DEEP]	COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	% PASSING	
	BARK MULCH	20% TO 30%	200	<5	BARK MULCH SHALL BE MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED.
	LOAMY COARSE SAND	70% TO 80%	10 20 60 200	85 to 100 70 to 100 15 to 40 8 to 15	USDA SOIL TYPE FOR LOAMY COARSE SAND
MULCH [3" DEEP]	SHREDDED HARDWOOD				AGED 6 MONTHS, MINIMUM
PEA GRAVEL	ASTM C33-03		NO. 8 (3/8" TO #8)		
COARSE GRAVEL	ASTM C33-03		NO. 6 (3/4" TO 3/8")		

TYPICAL RAIN GARDEN DETAIL
NOT TO SCALE 1

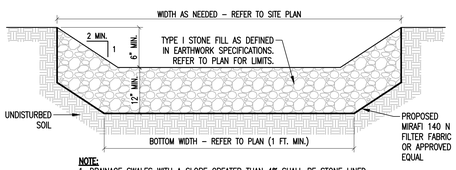


OUTLET RISER DETAIL
NOT TO SCALE 2



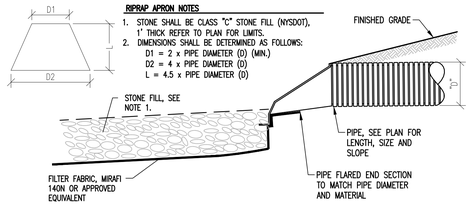
	INFILTRATION BASIN #1	INFILTRATION BASIN #2
TOP OF BERM (ELEV 'A')	498.8	498.0
SURFACE ELEV (ELEV 'B')	495.75	495.0
BOT. SURFACE AREA	804 SF	1,537 SF

SURFACE INFILTRATION BASIN DETAIL
NOT TO SCALE 3

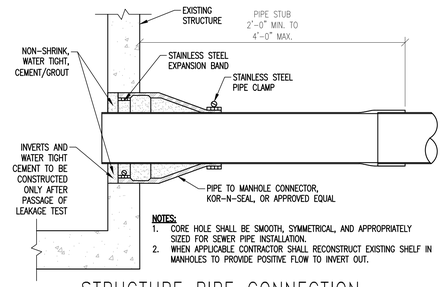


NOTE:
1. DRAINAGE SWALES WITH A SLOPE GREATER THAN 4% SHALL BE STONE LINED.

STONE-LINED DRAINAGE SWALE
NOT TO SCALE 4

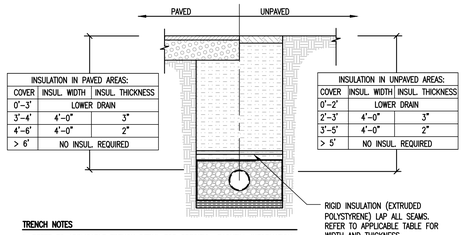


FLARED END SECTION W/STONE APRON
NOT TO SCALE 5



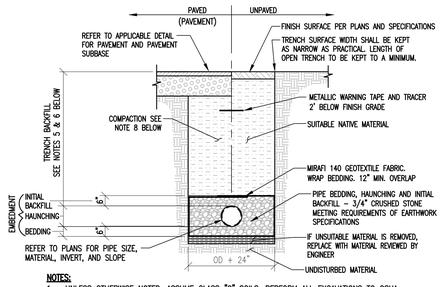
NOTES:
1. CORE HOLE SHALL BE SMOOTH, SYMMETRICAL, AND APPROPRIATELY SIZED FOR SEWER PIPE INSTALLATION.
2. WHEN APPLICABLE CONTRACTOR SHALL RECONSTRUCT EXISTING SHELF IN MANHOLES TO PROVIDE POSITIVE FLOW TO INVERT OUT.

STRUCTURE PIPE CONNECTION
NOT TO SCALE 6



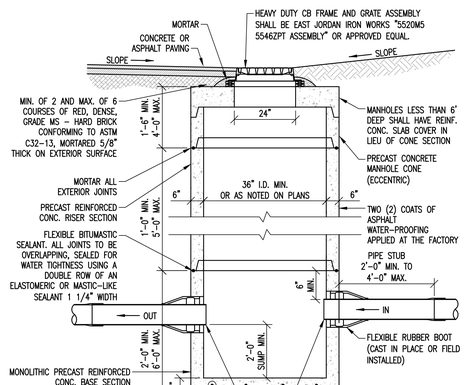
TRENCH NOTES
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

INSULATION OVER SHALLOW DRAIN DETAIL
NOT TO SCALE 7



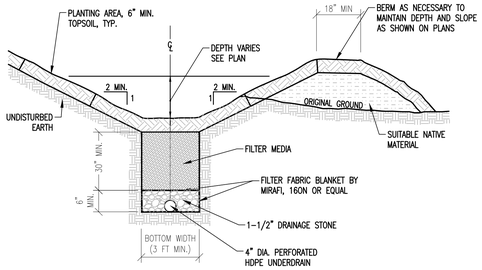
NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.
4. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED BY THE EARTHWORK SPECIFICATIONS AND NYSDOT STANDARDS.
6. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
7. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

TYPICAL STORM DRAIN TRENCH DETAIL
NOT TO SCALE 8



NOTES:
1. IF DEPTH OF MANHOLE IS 7 FT. OR LESS FROM RIM TO CENTERLINE INVERT, THEN A FLAT TOP WILL BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO CENTERLINE INVERT IS MORE THAN 7 FT., THEN AN ECCENTRIC CONICAL TOP WILL BE INSTALLED.
2. CATCH BASIN AND GRATE SHALL BE DESIGNED FOR H20 LOADING.
3. CATCH BASIN SHALL BE PRECAST CONCRETE AS MANUFACTURED BY CAMP PRECAST, SD IRELAND OR APPROVED EQUIVALENT.

CATCH BASIN DETAIL
NOT TO SCALE 9



DRY SWALE
NOT TO SCALE 12

SCHEMATIC DESIGN PLANS
NOT FOR CONSTRUCTION
6/21/2023

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-5225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

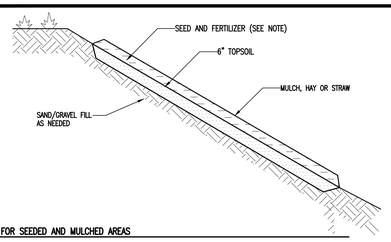
Sheet Title: STORM DETAILS

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

C505

Plotted: 10/27/2023 8:39 AM
X:\PROJECTS\2022\2621 - 56 Broadway - Development Design\Civil Files\C505 - STORM DETAILS.dwg



NOTES FOR SEEDED AND MULCHED AREAS

1. MULCH: HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE.
2. SEED: SHALL BE OF THE FOLLOWING MIXTURE

KENTUCKY BLUE GRASS ----------20 POUNDS / ACRE
CREEPING RED FESCUE ----------20 POUNDS / ACRE
RYE GRASS ----------5 POUNDS / ACRE

3. COVER SEED WITH ¼ INCH SOIL UNLESS A HYDROSEEDER IS USED.
4. MULCH ANCHORING: SHALL BE ACCOMPLISHED BY DEGRADABLE MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
5. TOPSOIL AND MULCHING NOT TO BE APPLIED IN AREAS OF TRAVEL WAYS.
6. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.

FERTILIZER– 10 LBS. PER 1000S.F.
SPRING SEEDING
FALL SEEDING

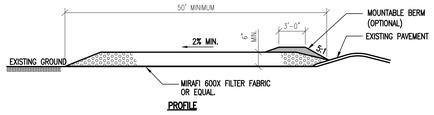
LIME– 90 LBS. PER 1000S.F.
DOLOMITIC GROUND LIMESTONE
NOT LESS THAN 85% OF THE TOTAL CARBONATE

TOP SOIL
6" MINIMUM APPROVED TOPSOIL

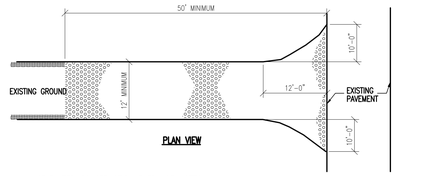
STRAW MULCH– 2 BALES PER 1000S.F.
APPLY BINDER OR NETTING AS NEEDED

SEED AND MULCHED AREAS DETAIL

NOT TO SCALE (1)



PROFILE



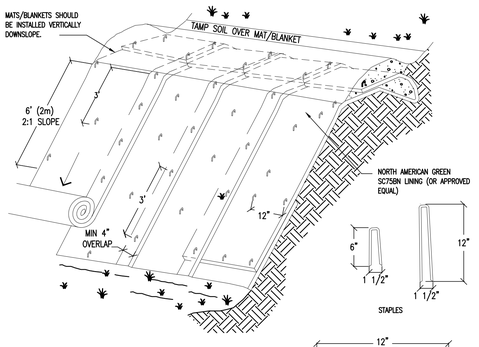
PLAN VIEW

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: USE 1–1/2" CRUSHED STONE.
2. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
4. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
5. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION ACCESS DETAIL

NOT TO SCALE (2)

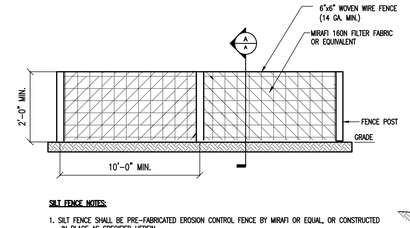


EROSION CONTROL MATTING NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION CONTROL MATTING DETAIL

NOT TO SCALE (3)

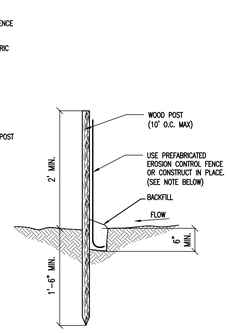


SILT FENCE NOTES:

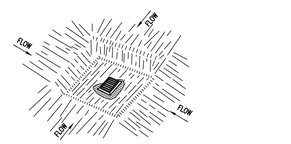
1. SILT FENCE SHALL BE PRE-FABRICATED EROSION CONTROL FENCE BY MIRAFI OR EQUAL, OR CONSTRUCTED IN PLACE AS SPECIFIED HEREIN.
2. CONSTRUCTED IN PLACE SILT FENCE:
   A. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
   B. FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP OF MID SECTION.
   C. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
3. INSPECTION SHALL BE FREQUENT (MINIMUM ONCE A WEEK AND AFTER EVERY RAINFALL). MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED ACCORDING TO THE MOST RECENT VERSION OF THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

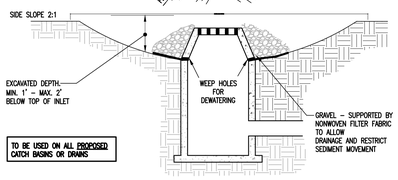
SILT FENCE DETAIL

NOT TO SCALE (4)



SECTION A–A
NTS





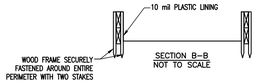
TO BE USED ON ALL PROPOSED CATCH BASINS OR DRAINS

CONSTRUCTION SPECIFICATIONS

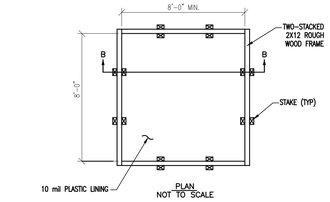
1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. GRAVEL BAGS, GRATE GUARDS, FILTREXX OR SEDIGUARD INLET PROTECTION DEVICES MAY BE USED. SUBMIT PRODUCT INFORMATION TO ENGINEER FOR REVIEW PRIOR TO USE. INSTALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE LATEST EDITION OF THE NY EPSC STANDARDS AND SPECIFICATIONS.

EXCAVATED INLET PROTECTION DETAIL

NOT TO SCALE (5)



SECTION B–B
NOT TO SCALE

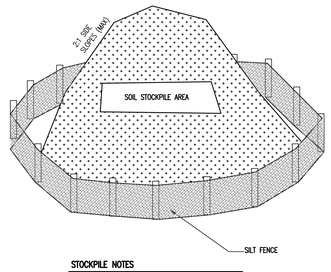


PLAN
NOT TO SCALE

TYPE "ABOVE GROUND" WITH WOOD PLANKS

WOOD FRAME CONCRETE WASHOUT DETAIL

NOT TO SCALE (6)

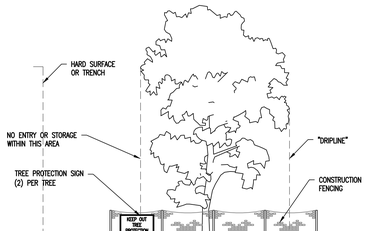


STOCKPILE NOTES

1. STOCKPILES TO HAVE MAXIMUM 2:1 SIDE SLOPES.
2. SILT FENCE SHALL BE PLACED AROUND THE PERIMETER OF STOCKPILE AREA.
3. STOCKPILE AREA TO BE STABILIZED WITH VEGETATION, GEOTEXILE, OR COVER. IF COVER TO BE USED, COVER SHALL BE SECURED WITH USE OF SAND BAGS OR OTHER MEASURES TO PREVENT COVER FROM BLOWING OFF STOCKPILE.
4. STOCKPILES SHALL BE PLACED ON DRY AND STABLE AREAS.

TOPSOIL STOCKPILE AREA

NOT TO SCALE (7)

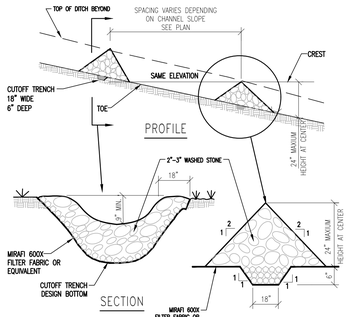


TREE PROTECTION NOTES:

1. TO CALCULATE THE CRITICAL ROOT RADIUS, ESTIMATE THE TREE'S HEIGHT AND MULTIPLE BY 40 PERCENT (0.40). THE RESULT IS THE APPROXIMATE DISTANCE FROM THE TREE TRUNK TO THE EDGE OF THE CONSTRUCTION FENCING.
2. FENCE SPECIMEN TREES AND GROUPS OF TREES. WHERE ROOT LOSS WILL OCCUR, ROOT PRUNE ONE FOOT BEYOND THE CONSTRUCTION FENCE USING A VIBRATING KNIFE OR NARROW TRENCHER – ALWAYS WITH SHARP BLADES TO MAKE CLEAN CUTS. BACKFILL IMMEDIATELY AND COVER WITH 3 INCHES OF MULCH.
3. INSTALL SILT FENCE ON THE INTERIOR OF THE CONSTRUCTION FENCING TO KEEP SOIL FROM DISTURBED AREAS OUT OF THE ROOT ZONES OF TREES TO BE SAVED.
4. FERTILIZE, WATER, AERATE AND OTHERWISE AID TREE HEALTH.
5. COORDINATE THE FINAL LOCATION OF THE CONSTRUCTION FENCING AND ROOT PRUNING WITH THE OWNER.

TREE PROTECTION FENCING DETAIL

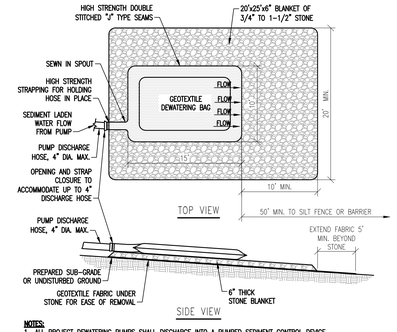
NOT TO SCALE (8)



NOTES:
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN PLANS.
2. SET SPACING OF CHECK DAMS TO ASSURE 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 DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
6. REMOVE ACCUMULATED SEDIMENT BEHIND CHECK DAM WHEN 1/2 THE HEIGHT OF THE DAM. REPLACE STONES AS NECESSARY.

STONE CHECK DAM DETAIL

NOT TO SCALE (9)



NOTES:
1. ALL PROJECT DEWATERING PUMPS SHALL DISCHARGE INTO A PUMPED SEDIMENT CONTROL DEVICE.
2. GEOTEXTILE BAG MATERIAL BASED ON PARTICLE SIZE IN PUMPED WATER, I.E., FOR COARSE PARTICLES A WOVEN MATERIAL. FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
3. LIFTING STRAPS SHALL BE INCLUDED WITH THE PUMPED SEDIMENT CONTROL DEVICE FOR REMOVAL WHEN FULL.
4. DO NOT OVER PRESSURIZED BAG OR USE BEYOND CAPACITY.
5. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
6. DOWNGRADIENT FROM RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G., FOREST FLOOR, GRASS LAWN OR COARSE GRAVEL/STONE.
7. DISCHARGE LOCATION SHALL MEET ALL REGULATORY SETBACKS FROM WETLANDS AND OTHER WATER COURSES.
8. HEAVY EQUIPMENT ACCESS TO THE THE PUMPED SEDIMENT CONTROL DEVICE SITE SHALL BE MAINTAINED FOR REPLACEMENT AND DISPOSAL.
9. FOLLOW MANUFACTUREY'S RECOMMENDATIONS FOR INSTALLATION, CLEANING AND REMOVAL.

PUMPED WATER FILTER BAG

NOT TO SCALE (10)

EROSION CONTROL NOTES

GENERAL NOTES

1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE PRESENT ON-SITE FROM DAY-TO-DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ONSITE AT ALL TIMES.
2. EROSION CONTROL MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS", DATED NOVEMBER 2016, OR LATEST EDITION.
3. DISTURBANCE LIMITS ARE TO BE MARKED, AND THE FOLLOWING MANAGEMENT PRACTICES INSTALLED, PRIOR TO BEGINNING EARTH WORK IN ANY GIVEN AREA; SILT FENCE, CONSTRUCTION ENTRANCE, INLET PROTECTION, AND TREE PROTECTION FENCING.
4. THE PERIOD BETWEEN OCTOBER 15TH AND APRIL 15TH IS CONSIDERED THE "WINTER CONSTRUCTION PERIOD". A PLAN FOR WINTER CONSTRUCTION MUST BE DEVELOPED BY THE CONTRACTOR, AND SUBMITTED TO THE ENGINEER AT LEAST 30 DAYS IN ADVANCE OF PROPOSED EARTH DISTURBANCE DURING THIS PERIOD.
5. ALL DISTURBED AREAS ARE TO BE STABILIZED (TEMPORARY OR FINAL) WITHIN 7 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE WITHIN THIS WORK AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
   a. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECAST DURING THAT PERIOD.
   b. WORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, 2 FEET OR MORE IN DEPTH. IN NO CASE SHALL SOIL BE EXPOSED FOR MORE THAN 14 DAYS WITHOUT BEING STABILIZED.
6. THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION OF THE ADJACENT ROADWAYS FOR OFF-SITE TRACKING OF SOIL MATERIALS. SOIL, STONE, AND DEBRIS FOUND LEAVING THE SITE ARE TO BE REMOVED (WHEN FOUND) BY SWEEPING AT THE END OF EACH CONSTRUCTION DAY, OR MORE FREQUENTLY WHEN NEEDED TO PREVENT IMPACTS TO ADJACENT ROADS AND SIDEWALKS.
7. IF DEWATERING IS REQUIRED FOR CONSTRUCTION, THE CONTRACTOR MUST UTILIZE SEDIMENT FILTER BAGS (OR ALTERNATE APPROVED BY THE ENGINEER) TO PREVENT DISCHARGE OF SEDIMENT-LADEN WATER OFF SITE.

TEMPORARY/CONSTRUCTION EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE DISTURBED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS DISTURBED, THE DISTURBANCE SHALL BE KEPT TO THE SHORTEST PRACTICAL DURATION AS APPROVED BY THE ENGINEER.
2. DUST SHALL BE CONTROLLED WITH WATER DISTRIBUTED BY A TRUCK-MOUNTED SPRAY BAR. CALCIUM CHLORIDE (AASHTO M 144) OR SODIUM CHLORIDE (AASHTO M 143) SHALL BE USED AS DIRECTED BY THE ENGINEER.
3. SILT FENCES SHALL BE INSTALLED GENERALLY 10 FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE PLANS. THESE SHALL REMAIN IN PLACE UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
4. EXCAVATED MATERIAL FROM EARTH EXCAVATION AND DITCH DIGGING SHALL BE PLACED ONSITE IN A LOCATION TO BE APPROVED OF BY THE OWNER AND/OR THE ENGINEER OR USED FOR PROJECT FILL MATERIAL IF DETERMINED SUITABLE BY THE OWNER'S REPRESENTATIVE.
5. STOCKPILED MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. THE STOCKPILED MATERIAL SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.
6. SLOPES GREATER THAN 3:1 SHALL HAVE EROSION CONTROL NETTING INSTALLED TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. NETTING SHALL BE BIODEGRADABLE WITH A 12 MONTH LONGEVITY, S150BN AS MANUFACTURED OR APPROVED EQUIVALENT. INSTALL NETTING OVER MULCHED SLOPES SO THAT ALL PARTS ARE IN CONTACT WITH THE SOIL AND MULCH. PIN NETTING WITH WIRE STAPLES 3 FEET O.C. TO ENSURE FULL BONDING WITH SOIL SURFACE. THE SLOPE SURFACES SHOULD BE LEFT SLIGHTLY ROUGHENED AND NOT SMOOTH. IF LARGE AMOUNTS OF OFFSITE WATER WILL DRAIN OVER THESE SLOPES, TEMPORARY DIVERSION SWALES SHALL BE INSTALLED UP SLOPE UNTIL THE SLOPE VEGETATION STABILIZES.

PERMANENT EROSION CONTROL MEASURES

1. WHEN FINAL GRADES ARE REACHED IN AN AREA, IT SHALL BE SEEDED AND MULCHED WITHIN 48 HOURS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF ALL DISTURBED AREAS, INCLUDING WATERING UNTIL THE AREA IS INSPECTED AND ACCEPTED BY THE OWNER OR ENGINEER.
3. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
4. RE-SEEDING SHALL BE DONE UNTIL ALL AREAS ARE COMPLETELY COVERED WITH A MATURE STRAND OF GRASS. AN AREA SHALL BE CONSIDERED COVERED WHEN THE ENTIRE SURFACE CONTAINS A VERDUROUS STAND OF GRASS. AREAS THAT, IN THE OPINION OF THE ENGINEER, ARE PREDOMINATELY WEEDS SHALL BE PLOWED UP, FINE GRADED, FERTILIZED AND RE-SEEDED IN THE MANNER SPECIFIED PREVIOUSLY, EXERCISING CAUTION NOT TO CAUSE DAMAGE TO NEW OR EXISTING PLANT MATERIAL.
5. ALL STABILIZATION INVOLVING SEEDING IS TO BE COMPLETED BY SEPTEMBER 15TH.

WINTER EROSION CONTROL NOTES

WINTER CONSTRUCTION STANDARDS AND EROSION AND SEDIMENT CONTROL MEASURES APPLY TO ALL CONSTRUCTION ACTIVITIES INVOLVED WITH ONGOING LAND DISTURBANCE AND EXPOSURE BETWEEN NOVEMBER 15TH TO THE FOLLOWING APRIL 1ST.

WINTER CONSTRUCTION PROCEDURES

1. DURING WINTER CONSTRUCTION, INSPECTIONS BY THE ON-SITE PLAN COORDINATOR SHALL OCCUR DAILY WHEN AREAS ARE UN-STABLE, AND WEEKLY PRIOR TO ANY FORECASTED RAIN, THAW OR SPRING MELT WHEN TEMPORARY STABILIZATION IS IN PLACE.
2. IF THE SITE WILL NOT HAVE EARTH DISTURBING ACTIVITIES ONGOING DURING THE WINTER CONSTRUCTION PERIOD, ALL BARE EXPOSED SOIL MUST BE STABILIZED BY ESTABLISHING VEGETATION, STRAW OR OTHER ACCEPTABLE MULCH, MATTING, ROCK, OR OTHER APPROVED MATERIAL SUCH AS ROLLED EROSION CONTROL PRODUCTS. SEEDING OF AREAS WITH MULCH COVER IS PREFERRED BUT SEEDING ALONE IS NOT ACCEPTABLE FOR PROPER STABILIZATION.
3. PREPARE A SNOW MANAGEMENT PLAN WITH ADEQUATE STORAGE FOR SNOW AND CONTROL OF MELT WATER, REQUIRING CLEARED SNOW TO BE STORED IN A MANNER NOT AFFECTING ONGOING CONSTRUCTION ACTIVITIES.
4. ENLARGE AND STABILIZE ACCESS POINTS TO PROVIDE FOR SNOW MANAGEMENT AND STOCKPILING. SNOW MANAGEMENT ACTIVITIES MUST NOT DESTROY OR DEGRADE INSTALLED EROSION AND SEDIMENT CONTROL PRACTICES.
5. LIMITS OF DISTURBANCE SHALL BE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
6. A MINIMUM 25–FT BUFFER SHALL BE MAINTAINED FROM ALL PERIMETER CONTROLS (SUCH AS SILT FENCE) TO ALLOW FOR CLEARING AND MAINTENANCE. MARK SILT FENCE WITH TALL STAKES THAT ARE VISIBLE ABOVE THE SNOW PACK.
7. SNOW IS TO BE REMOVED FROM ALL STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES FOLLOWING EACH SIGNIFICANT SNOWFALL. NO SNOW STORAGE UP–GRADIENT OF DISTURBANCE. NO SNOW DISPOSAL IN SEDIMENT PONDS/BASINS. IF NECESSARY, SNOW/ICE MUST BE REMOVED PRIOR TO STABILIZATION OF DISTURBED AREAS.
8. EDGES OF DISTURBED AREAS THAT DRAIN TO A WATERBODY WITHIN 100 FT SHALL HAVE 2 ROWS OF SILT FENCE, 5 FEET APART, INSTALLED ON THE CONTOUR.
9. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS. ALL DEBRIS, ICE DAMS, OR DEBRIS FROM PLOWING OPERATIONS, THAT RESTRICT THE FLOW OF RUNOFF AND MELTWATER, SHALL BE REMOVED.
10. SEDIMENT BARRIERS MUST BE INSTALLED AT ALL APPROPRIATE PERIMETER AND SENSITIVE LOCATIONS. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED BEFORE THE GROUND FREEZES.
11. SOIL STOCKPILES MUST BE PROTECTED BY THE USE OF ESTABLISHED VEGETATION, ANCHORED STRAW MULCH, ROLLED STABILIZATION MATTING, OR OTHER DURABLE COVERING. A BARRIER MUST BE INSTALLED AT LEAST 15 FT FROM THE TOE OF THE STOCKPILE TO PREVENT SOIL MIGRATION AND TO CAPTURE LOOSE SOIL.
12. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES SHOULD BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN THREE (3) DAYS. ROLLED EROSION CONTROL BLANKETS MUST BE USED ON ALL SLOPES 3H:1V OR STEEPER.
13. IF STRAW MULCH ALONE IS USED FOR TEMPORARY STABILIZATION, IT SHALL BE APPLIED AT DOUBLE THE STANDARD RATE OF 2 TONS PER ACRE, MAKING THE APPLICATION RATE 4 TONS PER ACRE. OTHER MANUFACTURED MULCHES SHOULD BE APPLIED AT DOUBLE THE MANUFACTURER'S RECOMMENDED RATE.
14. TO ENSURE ADEQUATE STABILIZATION OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL SHOULD BE STABILIZED AT THE END OF EACH WORK DAY UNLESS:
   a. WORK WILL RESUME WITHIN 24 HOURS IN THE SAME AREA AND NO PRECIPITATION IS FORECAST OR;
   b. THE WORK IS IN DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, FOUNDATION EXCAVATIONS, OR WATER MANAGEMENT AREAS.
14. USE STONE PATHS TO STABILIZE ACCESS PERIMETERS OF BUILDINGS UNDER CONSTRUCTION AND AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED. STONE PATHS SHOULD BE A MINIMUM 10 FT IN WIDTH BUT WIDER AS NECESSARY TO ACCOMMODATE EQUIPMENT.
15. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE BY OCTOBER 15, OR IF NOT POSSIBLE, THEN PRIOR TO GROUND FREEZE.
16. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
   A) IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
   B) DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.
17. SNOW AND ICE SHALL BE REMOVED TO LESS THAN 1" THICKNESS PRIOR TO STABILIZATION.

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-3333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
erikstackman@bellsouth.net

Sheet Title: EROSION AND SEDIMENT CONTROL DETAILS

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	PEG
Scale:	AS NOTED
Date:	6/21/2023

SCHEMATIC DESIGN PLANS NOT FOR CONSTRUCTION 6/21/2023

C506

Plotted: 6/21/2023 8:36 AM
S:\PROJECTS\2022\2621 SE Stackman Development\Dwg\Plans\ 11x17\2621 - ESC Details.dwg

NEW YORK STATE OF OPPORTUNITY. Adirondack Park Agency
RECEIVED
Date: August 20, 2025

August 18, 2025

Mr. John M. Burth
Environmental Program Specialist 3 (EPS3)
Adirondack Park Agency
P.O. Box 99
1133 NYS Route 86
Ray Brook, NY 12977

Via Email - Devan.korn@apa.ny.gov

APA Project No.: 2021-0248
Type of Project: Large-scale Subdivision
Location of Project: Town of Jay, Essex County
Land Use Area: Low Intensity Use and Hamlet
Tax Map Nos.: 17.2-1-4, 17.2-1-5.1 & 17.2-1-20.111

Dear Sirs:

This letter responds to the letter from the Agency to the Applicant, dated April 28, 2023, and titled "Third Notice of Incomplete Permit Application" (the "Third NIPA").

Response to Comments

1. **Thank you for the revised proposed trail system map and your efforts to revise the proposed overall site design to meet the parameters described in the Agency's September 22, 2022 Second NIPA (2nd NIPA). Please further revise the project proposal to meet the parameters described in the 2nd NIPA and submit a revised site design that depicts all proposed vegetative clearing, development, and soil disturbance.**

   If the overall site design cannot be further revised as previously requested, please indicate which of the three alternatives submitted on April 10, 2023 is the current proposal. Please also remember that additional wetland delineations, visual and slopes analyses, and other studies will be required for any proposal that does not fully meet the parameters described in the 2nd NIPA, in addition to the information listed below. In addition, a biological survey prepared by a qualified biologist and spanning multiple seasons will be required for any proposal that does not fully meet the parameters described in the 2nd NIPA. Please note that, when biological surveys are required, staff recommend submission of a plan that includes the anticipated scope and methodology of the analysis for Agency review prior to beginning the survey, in order to ensure that the necessary criteria will be met.

The proposed development plan (the "Proposed Development" or "Project") has been revised to comply with the parameters set forth in the "2nd NIPA" to the greatest extent practicable. Enclosed as **Attachment A** is the Proposed Development site plan. The current Proposed Development site plan (the "Proposed Development Site Plan") depicts all proposed vegetative clearing, development, and soil disturbance.

Biological Survey

In response to the APA's "Second Notice of Incomplete Application" dated September 22, 2022 (the "Second NIPA"), Applicant engaged B. Laing Associates, Inc. ("B. Laing") to conduct a multi-season biological survey of the Project Site. The biological survey included several field studies spanning October 2022 to July 2023, and April 2024. A summary of the biological survey progression is set forth in the following table:

Year	**Season**	**Focus Area**	**Key Findings or Takeaway**
2022	Fall	Initial wetland and resource baseline	Foundational delineation and mapping
2023	Winter	Winter survey	Additional survey findings
2023	Spring	Vernal hydrology & amphibians	Confirmed seasonal wetland dynamics; observed vernal pools, and amphibian breeding sites; documented spotted salamanders, wood frog, and spring peeper; delineated additional wetlands; observed 30+ bird species; recommendations made for further herptile and bat surveys in the summer/fall;
2023	Summer	GPS Mapping	Performed high-resolution mapping and survey; defined wetland buffers and critical habitat zones; reconfirmed prior flagging and updated areas for formal jurisdictional determination review;
2023	Late Summer	Compilation of findings and data for APA	APA submission and cumulative summary including baseline report integrating all surveys from 2022 through mid-2023; defined "no substantial chance" threshold used in 2024 review;
2024	Spring	Ecological supplement	Targeted herptile activity, beaver pond hydrology, and wetland explanation; identified additional wildlife including Red-bellied Snake, Eastern Newts, and American Giant Water Bug;

			identified new spring breeding pools due to beaver dam breaches; verified development is located over 750' from vernal pools; updated species inventory tables with more than 100 plans and 70+ animals;

As part of the biological survey, B. Laing prepared: a "Natural Resource Inventory Report" dated August 2023, and a "Supplemental Natural Resource Report," dated April 2024, which includes more recent findings from April 2024 regarding natural resource inventorying including wetlands.

The biological survey and reports analyze the Proposed Development and the natural resources on the Project Site. The reports detail the potential impacts (and any mitigation/development recommendations) which may affect certain mapped natural resources such as wetlands, unique natural communities, wildlife, etc.

Biological Survey Methodology

The biological survey included a wetland desktop review and delineation, wildlife desktop review and field surveying, and ecosystem mapping. *See* Attachment B, Section 3.0; *see also* Attachment C, Section 3.0.

--*wetlands*

The wetland desktop review consulted numerous resources including the Essex County Natural Resources Conservation Service soil map, which was consulted to determine the drainage class and "hydric rating" of each soil group. *See* Attachment B, Figure 3.0 and Appendix B. The wetland desktop review also consulted the National Wetlands Inventory (NWI) maps and the APA maps.

The wetland delineation occurred over October/November 2023 and April 2024. *See* Attachment B, Section 3.0 and Attachment C, Section 3.0. Wetlands were delineated per the 1987 Army Corps of Engineers Wetland Delineation Manual and Regional Supplements and the APA definition of "wetlands" under the Adirondack Park Act § 802(68). *See* Attachment B, Section 4.0. All of the delineated wetlands exhibited all three parameters set forth in the 1987 ACOE Manual and were found to be connected to other waters and thus subject to federal jurisdiction. Field surveys included sampling at locations within wetland and upland areas. *See* Attachment B, Section 4.2. The April 2024 study updated findings from the previous year, which took place in November while some wetland parameters were obscured (e.g., herbaceous vegetation had died back with seasonally-low hydrologic indicators). *See generally*, Attachment C. Vegetation was analyzed for a dominance of hydrophytic vegetation (i.e., wetland plants) by identifying plants in pre-determined radii for respective strata (e.g., a 1-meter radius for herbaceous plants, a 5-meter radius for shrubs, etc.). *See*, Attachment C, Section 3.1. Soil was analyzed for hydric indicators by pulling representative cores from the top 12-16" of soil using a 3" Dutch auger. *Id*.

Hydrology was analyzed by assessing the land for hydric indicators, including soil saturation, presence of standing water, etc. Only when all three conditions tested positive, a wetland determination was made, and delineation flags were placed at the boundary between wetland and upland conditions.

--*wildlife*

The wildlife desktop review evaluated the potential for listed (i.e., endangered and/or threatened) species of plant or animal occupy the Project Site. As part of the desktop review, a New York Natural Heritage Program (NYNHP) request was made to the New York State Department of Environmental Conservation (DEC) for records of state-listed species, or their habitats, in the area of the Project Site. *See* Attachment B, Section 3.2. The Applicant received a response to the NYNHP letter in March 2022. In addition, the Information for Planning and Consultation (IPaC) tool was consulted to see if U.S. Fish and Wildlife Service (USFWS) had records of federally-listed species, or their habitats, in the area. *Id*.

The wildlife field surveying was performed on dates chosen to be conducive to herptile migration (e.g., salamander) and overall activity of ectothermic (i.e., cold blooded) organisms. Previous natural resource surveying on site had already informed the project of other parameters such as wetlands, listed species, etc. Thus, the purpose of field surveying was to bolster the existing data-set and to continue taking a "hard look" at the site, from an ecological standpoint.

According to the reports, biologists surveyed for organisms using two general approaches: (1) active surveying, including dip-netting for aquatic organisms, searching by sight, sound and sign, flipping and searching under cover, etc., and (2) passive surveying, including using mammal footprint tunnels and the implementation of aquatic funnel traps.

For active surveying, biologists walked in rough transects and targeted habitats that would be used by herptiles or other organisms. *See* Attachment B, Section 3.2. Cover items, such as logs, rocks, etc., were lifted and gently returned following examination. When observers surveyed wetlands, the edges of waterways were slowly walked and dip-nets were used to pull up aquatic organisms. Any incidental sightings of wildlife were also recorded while on site.

For passive surveying, two mammal footprint tunnels were installed on site: one in the central clearing area to the south, and the other on the border of the pine-hardwood forest, west of where the proposed development will occur. These were baited such that any organisms that passed through the tunnel, to retrieve the bait, would pass over an ink derived from ground charcoal and vegetable oil (i.e., temporary and animal-safe/natural) before leaving their tracks on inserted sheets of paper. These tunnels were checked every morning.

Five funnel traps (i.e., modified minnow-traps) were deployed in various locations throughout the site to incidentally capture aquatic organisms. These locations ranged from the east branch of the Ausable River to the various wetlands, beaver ponds, and streams on site. These traps were checked every three hours and were never completely submerged, to allow for any frogs or other organisms to have access to air. Every organism that was temporarily restrained for documentation was released as quickly as possible.

--*ecosystem mapping*

B. Laing also conducted a series of desktop analyses and ecosystem mapping to understand the potential for unique natural communities to exist (and thus, any impact proposed thereto) on the Project Site.

The desktop survey and mapping determined that the Project Site contains the "Northern Pine-Hardwood Forest" (NPHF) and "Appalachian Oak-Pine Forest" (AOPF). *See* Attachment B, Section 5.0. The NYNHP provides guidance on these habitat types which outline the parameters should be taken into consideration when determining the ecosystem type.

For the NPHF, the identification characteristics include an emergent canopy of white pines that overtop a mixed forest of pines (P. strobus, P. resinosa, etc.) and hardwoods (maples- Acer, birches – Betula, etc.), wherein pine trees make up at least 20-50% of the coverage. This habitat is typically underlain by shrubs, bracken fern, and mosses and lichens. *See* Attachment B, Section 3.3. For APOF, the identification characteristics include a canopy dominated by any oak species with at least 25% of the canopy being made up of white pine. *See* Attachment B, Section 3.3. The herbaceous layer is typically sparse and the shrub layer is typically dominated by ericaceous species such as lowbush blueberry, huckleberry, etc.

Thus, these above parameters and guidelines became the basis for the field investigation for these habitat types, on site.

The Revised Development Plan – The "Proposed Development"

The development plan for the Project Site has been revised, considering and guided by the findings of the multi-season biological survey, to comply with the parameters set forth in the Second NIPA to the greatest extent practicable.

The Proposed Development was designed and will be implemented to avoid and then minimize wetland impacts. A map of the Proposed Development and the 100-foot wetland buffer, titled "Critical Habitats & Natural Communities," is enclosed as **Attachment D**. As set forth on this map, two structures in the northern most cul-de-sac are located within 100 feet of what is has been delineated at Wetland 1. *See* Attachment C, Section 4.3 and Appendix E. According to B. Laing, Wetlands 1 and 5 are less than 1-acre, based on delineation of the portions of the wetlands on the Project Site and visual inspection of the portions of the wetlands that go off-site. These wetlands are also not adjacent to any body of water or permanent stream with which there is a free interchange of water at the surface.

The Proposed Development also includes new trails and crossings to be located within 100 feet of existing mapped wetlands. These trails and crossings will also be designed to avoid and then minimize any wetland impacts.

The Proposed Development has also been revised to avoid development on slopes greater than 25% to the greatest extent practicable. A map of the Proposed Development and the areas of the site that include slopes greater than 25%, entitled "Topography & Slope Analysis Map," is enclosed herewith as **Attachment E**.

The Proposed Development has also been revised to locate development, to the greatest extent practicable, within 230 meters of either Route 9N, neighboring residential development, or the well-established existing road that runs north-to-south through the project site and is currently used as primary site access. A map of the Proposed Development and the 230-meter delineation zone, entitled "Existing Trail Map & 230 Meter Delineation Zone," is enclosed herewith as **Attachment F**.

The Proposed Development has also been revised to locate development, to the greatest extent practicable, outside of the mapped unique natural communities and large forest blocks (other than the proposed cul-de-sac area in the northeastern portion of the site). The Oak-Pine Forest (natural community) and Pine-Northern Hardwood Forest (forest block) are mapped on the "Critical Habitats & Natural Communities" map. *See* Attachment D.

2. **Thank you for contacting New York State Departments of Transportation (DOT), and Environmental Conservation (DEC) regarding your project. Please provide the requested comments or approvals from DOT once received and continue to coordinate with DEC to confirm jurisdiction and submit any necessary permit applications.**

   The recent submission does not appear to include any coordination effort with the New York State Department of Health (DOH). Accordingly, please contact the DOH regarding your project to facilitate a coordinated review. Please note, application submissions to all involved agencies will be required for a complete application.

Applicant has not received any further communications from New York State Department of Transportation or New York State Department of Environmental Conservation regarding the Project.

Applicant contacted New York State Department of Health ("DOH") regarding the Project. On February 28, 2025, DOH responded and provided a list of requirements for, among other things, permit application, food service establishments, temporary residences, swimming pools, realty subdivision, and on-site wastewater treatment systems. Enclosed as **Attachment G** is a copy of DOH's communication to Applicant.

Applicant acknowledges that it may require additional permits from other state agencies and will submit the appropriate and applicable applications for such matters upon the APA's determination that there is a complete application for the Project. In the meantime, Applicant will continue to coordinate with all applicable state agencies as requested by APA.

3. **Please provide the requested confirmation or comments from New State Electric & Gas Company (NYSEG) that the proposed utilities and anticipated electrical loading can be accommodated once received.**

Applicant requested from NYSEG to provide engineering/construction requirements and estimated costs in regard to utility service for the Project Site. A copy of the application and calculations submitted to NYSEG for the Proposed Development are enclosed herewith as **Attachment H**.

On February 25, 2025, NYSEG responded to Applicant's request, provided a preliminary cost estimate, a request for customer acknowledgement, and stated "NYSEG has preliminarily determined it can serve the electrical requirements pursuant to the details contained in this letter." A copy of NYSEG's letter dated February 25, 2025 is enclosed as **Attachment I**. The Applicant has executed and submitted the customer acknowledgment to NYSEG. On February 26, 2025, in response to the execution of the customer acknowledgement, NYSEG confirmed by "Letter of Understanding" that NYSEGF "will design, construct and reconductor a new 3-phase and 4-wire overhead service to feed [the Applicant's] subdivision facility." NYSEG again confirmed "it can serve the electrical requirements pursuant to the details contained in this letter." A copy of NYSEG's February 26, 2025 letter is enclosed as **Attachment J**.

4. **Based on the provided summary of the discussions with the Town of Jay Supervisor, it appears that a municipal sewer extension is not feasible. Accordingly, design plans prepared by a NYS licensed design professional that meet Agency standards and guidelines will be required for any proposed on-site wastewater treatment system(s). Details for any necessary replacement or expansion of existing municipal water district infrastructure will also be required for a complete application.**

Plans for on-site wastewater treatment, prepared by a New York State licensed design professional, are enclosed as **Attachment K**.

5. **The recent submission included preliminary comments from Essex County Emergency Services, Jay Volunteer Fire & Rescue, and the Office of the Essex County Sheriff. Please note, comments from the New York State Police and AuSable Forks Fire District should also be requested as identified in the documents included with the submission. Documentation will be required to confirm that any final project layout and infrastructure design meets the requirements for all first responders.**

Applicant has reached out to New York State Police and AuSable Forks Fire District and requested comments on the Proposed Development. Applicant is still waiting for a response from both organizations.

6. **As previously indicated, the following information will be required for a complete application, along with additional studies and analysis as necessary:**

   - **A description of the anticipated ownership configuration and maintenance responsibilities of the proposed access roads, utilities, open space and trail system, and other amenities such as employee housing.**

All estate homes and town homes will be constructed on individual tax lots. Each lot will front on public roadways which will be constructed to Town of Jay (the "Town") requirements and offered for dedication to the Town. Each home will be serviced by private well and septic located on such home's lot. Telephone, electric and internet will be provided by utility providers from lines installed within the public road right-of-way. Other than the roads which service the lots, which will eventually be owned and maintained by the Town, there will be no shared infrastructure between two or more of the estate homes or town homes.

The guest houses will be owned through a condominium structure in which a master property owners' association (the "POA") owns the land underneath each of the condominium buildings, as well as all site improvements, such as driveways, parking lots, stormwater infrastructure, utility lines that service all buildings, etc. Each building will be owned through a separate condominium association structure, such that there will be a total of five (5) condominium associations (e.g., one for each building). Owners of a unit in a building will be members of the condominium associated with that building, as well as members of the POA. Owners will be responsible for the costs to operate, maintain and repair their condominium unit ("Unit"), including any utilities that service solely their Unit. Each condominium association will be responsible for the costs to operate, maintain and repair the building associated with that condominium, including maintaining and repairing the exterior of the building, windows and exterior doors of the building, the structural elements of the building, mechanical systems within the building that service two or more units, and such other shared infrastructure within the building. The POA will be responsible for the costs to operate, maintain and repair the land and site improvements, including, landscaping, snow and ice removal, repair of the parking lots and driveways, stormwater facility maintenance, and the like. The affairs of the POA and condominiums will be governed by the board of directors of the POA, which will consist of no less than five (5) individuals elected by the owners of Units ("Unit Owners") (the "Board of Directors"). The Board of Directors will be responsible for developing an annual budget for the POA and each condominium and levying annual charges against the Units within the POA to be paid by the Unit Owners. Please note that the final form of ownership structure for the guest houses will be subject to review by the New York State Office of the Attorney General ("OAG") and thus, is subject to change based on OAG comments.

All other land, infrastructure and buildings within the community, including the buildings associated with the Clubhouse, Restaurant, Spa & Wellness, Suites, Event, Fire Tower, Retreat Cabin, Maintenance & Operations, Greenhouse & Farm, Stream-side Cabin, and Cairns Granite Barn, as well as, walking trails, forest lands, wetlands, parking lots, and roadways not otherwise owned by the Town, the POA, or any homeowner, will be owned, operated, maintained and repaired by the owner of the Clubhouse (the "Club"). All owners of a guest house, estate home or town home will have the opportunity (but will not be obligated) to become a member of the Club. In addition, members of the general public will likewise be able to become a member of the Club.

Club members will pay annual membership fees to the Club for access to the Club amenities, which include the Clubhouse, Restaurant, Spa & Wellness, Fire Tower, walking trails and other facilities (the "Club Amenities"). Non-members may also access the Club Amenities for a use fee. None of the owners of a guest house, estate home or town home will be required to pay any annual fee to the Club other than if such owner is a member of the Club, in which case, said owner will be responsible for the annual membership fee to the Club.

- **If any of the proposed roads or infrastructure are anticipated to be conveyed to the Town of Jay or any other entity, documentation confirming willingness to accept the development.**

As stated above, the Town has indicated its agreement to accept an offer of dedication of all roads within the community that service one or more lots. Enclosed as **Attachment L** is communication from the Town indicating their willingness to accept the dedication of the roads.

- **A forest management plan that details the proposed uses of the proposed open space and trail system and includes a description of the specific forest resources present on the property and allows for sustainable use of those resources. Any proposed new trails and roads should coincide with this plan to strategically support access and use of the property interior for the proposed use (i.e., timber harvest, wildlife habitat enhancement, recreation, safety, etc.).**

The proposed forest management plan is enclosed herewith as **Attachment M**.

- **A more detailed description of and plans for all proposed activities and development, including building plans and elevation drawings.**

Updated plans and specifications for the Proposed Development are included in the attachments to this response letter as **Attachment N.**

- **Additional information related to any proposed ground-mounted solar arrays.**

The Proposed Development does not include the installation of ground-mounted solar arrays.

The Proposed Development has been planned to avoid and then minimize wetland impacts, avoid slopes >25% where practicable, cluster development within 230 meters of existing roads/residences, and site development outside mapped unique natural communities and large forest blocks to the extent practicable. Supporting plan sets and agency coordination materials are provided as Attachments A and D–N.

List of Attachments & Exhibits (Referenced in this Response)

Attachment/Exhibit	Title / Description	Notes
Attachment A	Proposed Development Site Plan	Plan set
Attachment B	Natural Resource Inventory Report (B. Laing, Aug 2023)	Full Study/report Will be supplied separately
Attachment C	Supplemental Natural Resource Report (B. Laing, Apr 2024)	Full Study/report Will be supplied separately
Attachment D	Critical Habitats & Natural Communities Map	Map
Attachment E	Topography & Slope Analysis Map	Map
Attachment F	Existing Trail Map & 230-Meter Delineation Zone	Map
Attachment G	DOH Correspondence & Requirements (Feb. 28, 2025)	Agency coordination
Attachment H	DOT & DEC Ongoing	Agency coordination
Attachment I	NYSEG Preliminary Cost Estimate (Feb. 25, 2025)	Utilities coordination
Attachment J	NYSEG Letter of Understanding (Feb. 26, 2025)	Utilities coordination
Attachment K	Site Plans for Water, Wastewater & Treatment	Engineering plans
Attachment L	Town of Jay Road Dedication Willingness/Coordination Letters	Municipal coordination
Attachment M	Forest Management Plan	Open space management
Attachment N	Design & Architectural Narrative	Architectural, Site & General Building plans

In conclusion, the Applicant has incorporated the findings and recommendations from the multi-season environmental studies directly into siting and design to avoid and minimize impacts to wetlands, unique natural communities, and sensitive wildlife resources, while advancing a compact development pattern near existing disturbance.

Upon confirmation of application completeness, the Applicant will submit to involved agencies for their respective approvals and continue coordination with first responders and utilities.
We look forward to receiving your feedback and hope this satisfies the full application process.

If further details or clarification are required, kindly advise us at your earliest convenience, as we are standing by to review any of these items with your staff, via zoom or in person.

Respectfully yours,

Eric Stackman
Project Sponsor
PO Box 402422
Miami Beach, FL 33141

Cc:

Matt Stanley, Town of Jay Supervisor,
by e-mail to supervisor@townofjayny.gov

Attachment A
Proposed Development
Site Plan & Plan set

Attachment D
Critical Habitats
& Natural Communities
Map

Attachment E
Topography & Slope Analysis
Map

Attachment F
Existing Trail Map
&
230-Meter Delineation Zone
Map

IMAGE AND SITE DISCLAIMER
All images used are for illustrative purposes only and are intended to convey the concept and vision for the project And may change as work progresses and do not necessarily represent a true and/or accurate depiction of the finished product. Proposed site plans are intended to give a general indication of the proposed layout only. All images and dimensions are not intended to form part any contract or warranty.

STACKMAN PROPERTY CONCEPT

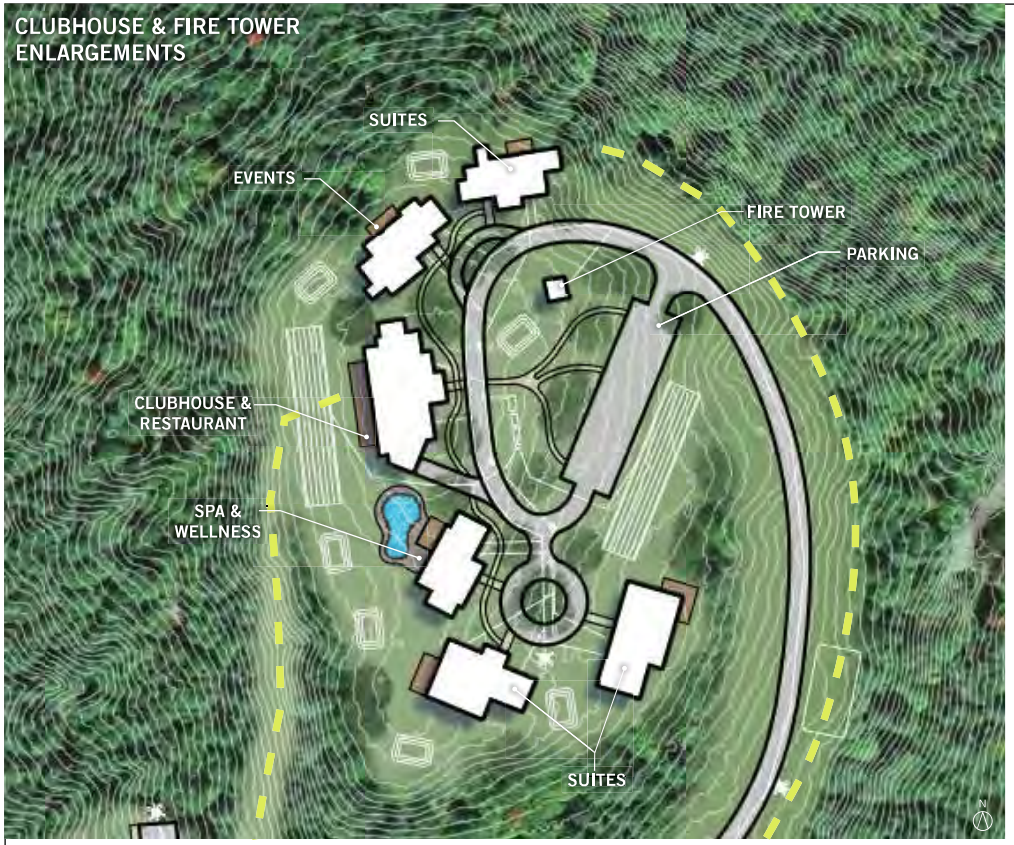
AUGUST 2023

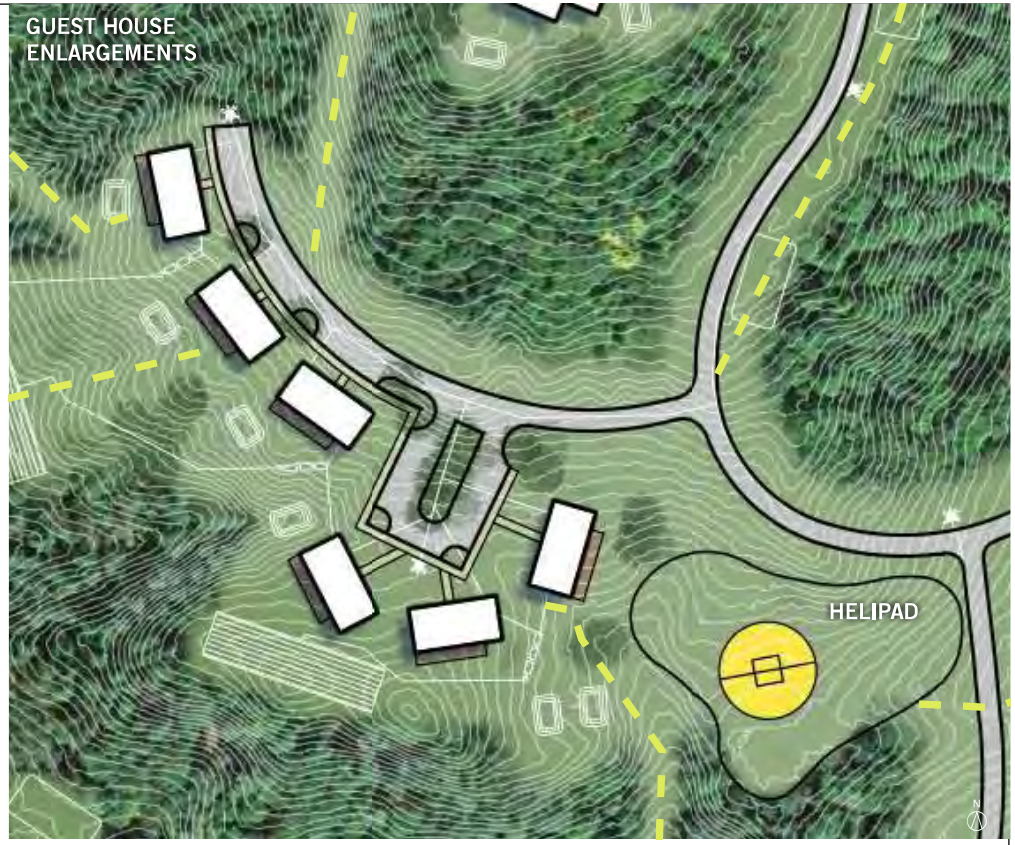
SE GROUP

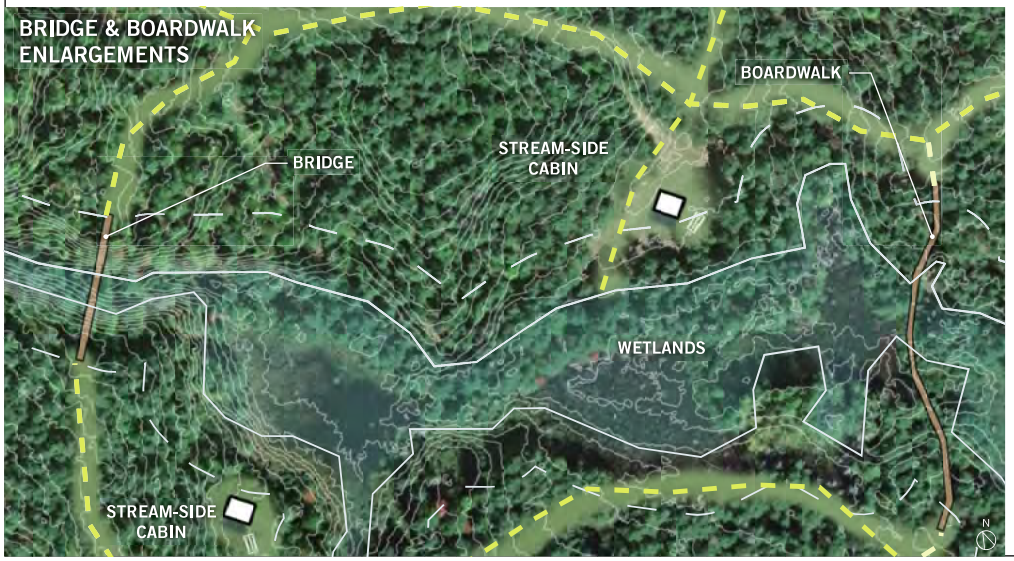
N

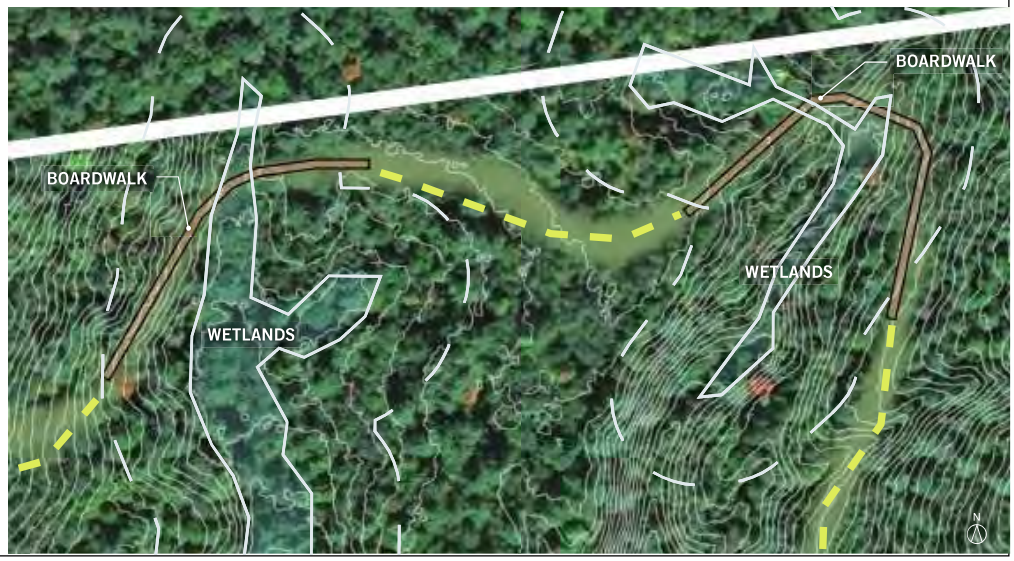
SCALE (ft)

0 150 300 450 600





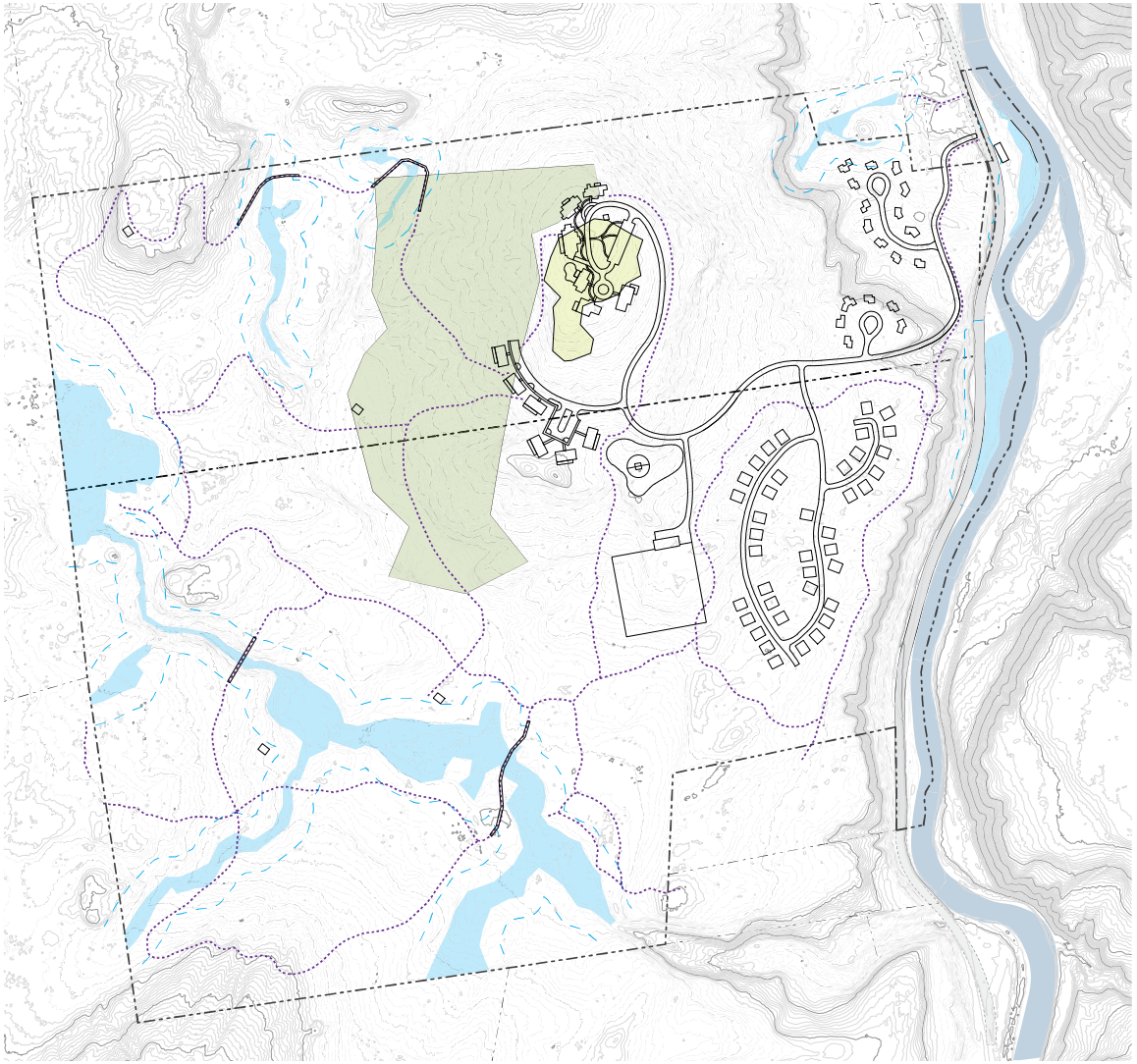




STACKMAN PROPERTY CONCEPT

AUGUST 2023

SE GROUP



LEGEND

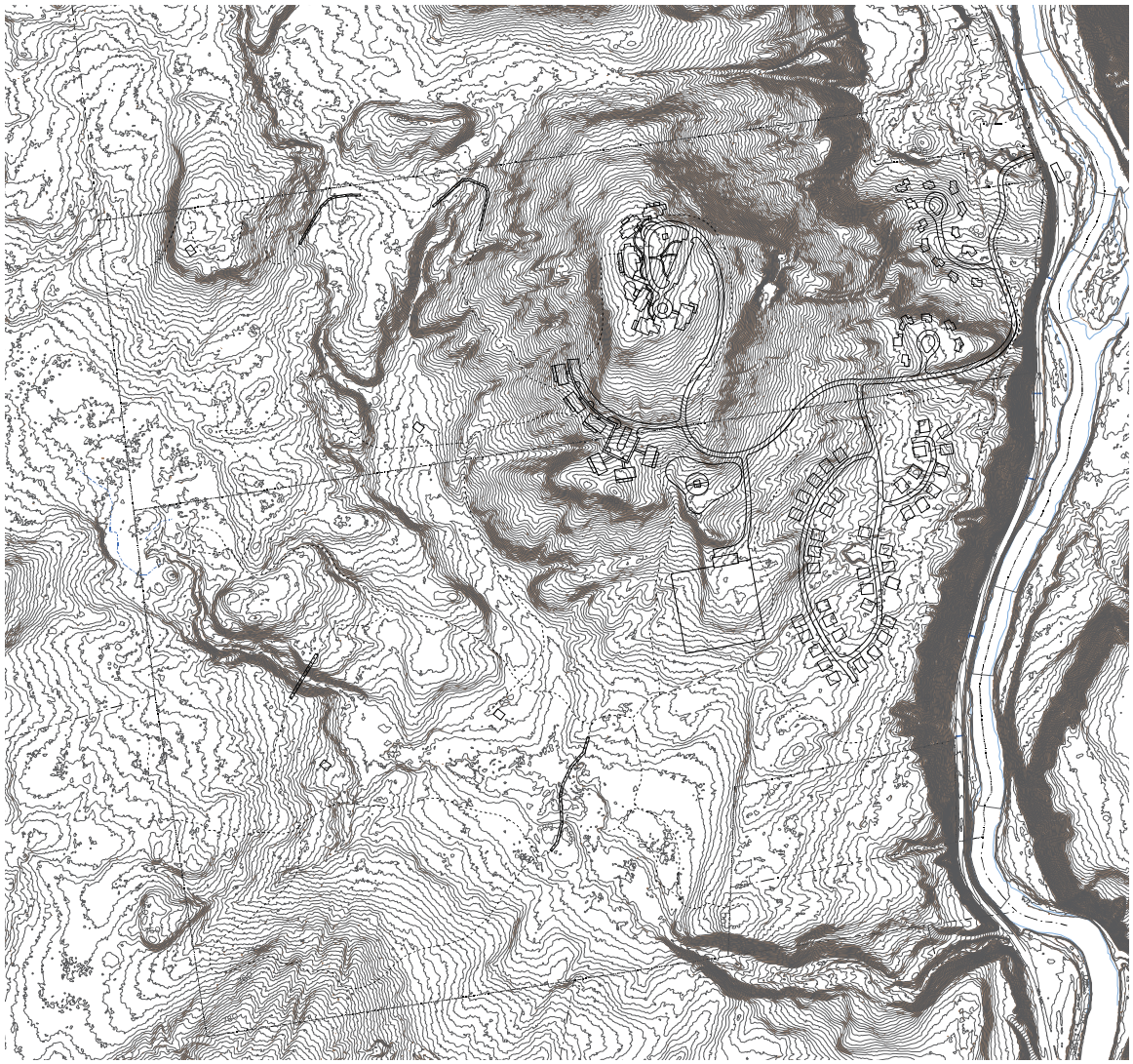
- Project Parcel Boundary
- 100’ Wetland Buffer
- Oak-Pine Forest
- Pine-Northern Hardwood Forest
- Wetlands

SCALE (ft)
0 150 300 450 600
N

STACKMAN PROPERTY | CRITICAL HABITATS & NATURAL COMMUNITIES

JULY 2023

SE GROUP



LEGEND

Project Parcel Boundary

2' Contours

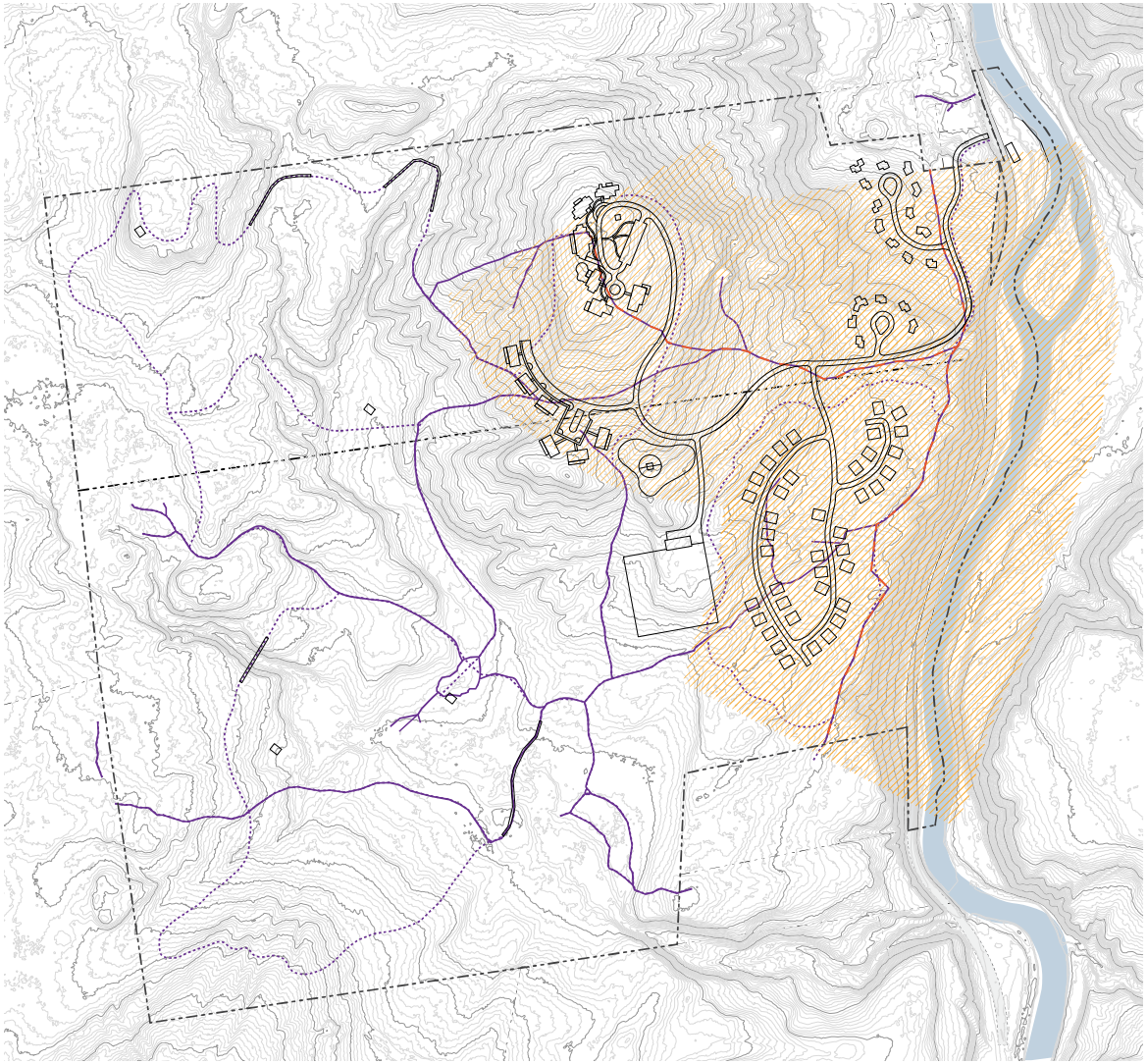
+ 25% Slope

SCALE (ft)
0 150 300 450 600
N

STACKMAN PROPERTY | TOPOGRAPHY & SLOPE ANALYSIS MAP

JULY 2023

SE GROUP



LEGEND

- Project Parcel Boundary
- 230' Meter Delineation Zone
- Existing Trails
- Proposed Trails
- Main Road

SCALE (ft)
0 150 300 450 600
N

STACKMAN PROPERTY | EXISTING TRAILS MAP & 230 METER DELINEATION ZONE

JULY 2023

SE GROUP

Attachment G

DOH Correspondence & Requirements
(Feb. 28, 2025)
Agency coordination

Outlook

Fw: Stackman Project (Realty Subdivision, Temporary Residence, Food Service and Swimming Pool) - US Route 9 in Ausable Forks

From Sayers, Kristen M (HEALTH) <kristen.sayers@health.ny.gov>
Date Mon 3/3/2025 8:41 AM
To Roberta Alba <ralba@robertaconsulting.com>

18 attachments (6 MB)

Notice of Intent Form.pdf; Application for a Permit to Operate.pdf; TR.pdf; FSE.pdf; Plan Review.pdf; Food Service SP14-1.pdf; Swimming Pools Subpart 6-1 Final 7-6-11.pdf; TR Code SubPart 7-1.pdf; 2017 Updated FIRE SAFETY AND EMERGENCY EVACUATION PLANS.pdf; Swimming Pool SP PDF Template_DOH 4472.pdf; doh-4200.pdf; Final Pool Mailing to TRs Level IV with outside guests - June 9.pdf; doh-1309 Engineering Report for Pool.pdf; doh-2434 Plan Review Checklist.pdf; Realty Sub Info Packet 1.24.2025.docx; Sanitary Improvement App -gen-157 app.pdf; PART 74 - Email Version.pdf; PWS Improvement App - DOH 348.pdf;

You don't often get email from kristen.sayers@health.ny.gov. Learn why this is important

Kristen Sayers
Saranac Lake District Office Director
New York State Department of Health- Saranac Lake District Office
41 St. Bernard Street
Saranac Lake, New York 12983
518-891-1800
518-891-5895 (fax)
Email: Kristen.sayers@health.ny.gov
Health.ny.gov

From: Sayers, Kristen M (HEALTH)
Sent: Friday, February 28, 2025 4:22:02 PM
To: roberta_alba@yahoo.com <roberta_alba@yahoo.com>
Cc: Korn, Devan F (APA) <Devan.Korn@apa.ny.gov>; Bielefield, David W (HEALTH) <david.bielefield@health.ny.gov>; Simonette, Bryanna M (HEALTH) <Bryanna.Simonette@health.ny.gov>; 'Marlene Martin' <Marlene.Martin@health.ny.gov>; Peer, Annemarie (HEALTH) <Annemarie.Peer@health.ny.gov>; codes@townofjayny.gov <codes@townofjayny.gov>
Subject: Stackman Project (Realty Subdivision, Temporary Residence, Food Service and Swimming Pool) - US Route 9 in Ausable Forks

Eric and Roberta,

Thank you for contacting our office this afternoon regarding your project located on US Route 9 in Ausable Forks. The project include a large realty subdivision, a Temporary Residence, a Food Service Establishment and a swimming pool. Copies of the State Sanitary Codes and informational information for each of these program areas

is attached. What follows is a summary of each proposed operation and the information that will need to be submitted to NYSDOH for project review and approval.

Permit Application

- Please complete and return the attached Notice of Intent Form for this project.
- Please submit a complete permit application at least 60 days prior to opening. A complete permit application includes a completed fee schedule, permit fee in the form of a check or money order, complete and signed permit application and proof of worker's compensation and disability insurance (see forms listed on page 2 of application and listing our office NYSDOH, 41 St. Bernard Street, Saranac Lake, NY 12983 – as the certificate holder).
- A Plan review fee schedule must also be completed and submitted to our office with the appropriate fee.

Food Service Establishment

A kitchen plan, including a proposed sketch of the kitchen must be submitted to our office for review and approval,. Please do not complete any construction until we have approved your kitchen plan. A list of items that should be included in the kitchen plan is provided below.

- Proposed Menu.
- Description of food service (i.e., # of seats, hours of operation, take out, eat-in).
- A sketch of the kitchen layout.
- Location of equipment and equipment type and manufacturer's specifications for equipment to be used at the food service. This includes refrigeration, freezer (including walk-in units), cooking, and hot holding, food processing or similar equipment. All equipment must be clean and in good working order (door gaskets intact).
- Plumbing and fixture locations. There is a sink requirement at food service establishments. You may be required to have one or more conveniently located hand washing sinks (this will depend on the size and layout of the kitchen); a 3-bay sink with **drain boards on each side** for washing, rinsing and sanitizing cookware, dinnerware and utensils; a food preparation sink(s) with an indirect drain; and a mop (utility) sink or curbed floor drain sink for the disposal of dirty mop water and cleaning of floor cleaning tools. There must be no direct connection between drains from fixtures and equipment used for preparation, storage or processing of food and drink. This type of equipment, which includes ice machines, must have an indirect drain. Again, we do have some flexibility with regards to the sink requirements. Please feel free to contact us with questions.
- Mechanical ventilation is required in all rooms where odors, vapors or fumes originate. Ventilation hoods and devices are to be constructed and installed to prevent grease or condensation from collecting on walls or ceilings and from dripping into food or onto food contact surfaces. If required, the size and capacity of the ventilation system should be determined by an appropriate design professional and be approved by the local code enforcement official. It is important to design and size your kitchen ventilation system correctly in order to avoid issues later on. You may also be required to install a hood fire suppression system such as an ANSUL system. Please consult with the local code enforcement official to see if this is required.
- Provide the location of food storage areas including the type (material) of shelving to be used. All shelving materials must be smooth and easily cleanable.
- Location of refuse storage area.
- Description of floor, wall and ceiling finish materials to be used in the kitchen, food preparation/storage areas, walk-in coolers/freezers, bathrooms and other foodservice related areas. Floor materials must be smooth, durable and non-absorbent. Anti-skid floor coverings can be used when required for safety reasons. Walls and ceilings must be easily cleanable, **light colored**, smooth and non-absorbent.
- The use of unfinished basement spaces or unfinished rooms for food service related purposes is prohibited. If such spaces are to be used, the floors, walls and ceilings must be appropriately finished.
- Thermometers must be present in all refrigeration units. At least one food probe thermometer (with a scale of 0-220 degrees F) must be available on-site to measure food temperatures.
- If on-site seating is available, a CPR kit with 2 adult masks, 2 child mask, sanitary disposable gloves and a patron notification sign must be onsite.
- If on-site seating is available, a choking poster must also be on-site.
- All food contact surfaces must be washed, rinsed and sanitized prior to opening.
- All cutting boards must be in good conditions (smooth and easily cleanable).

- All non-food contact surfaces, walls, floors and ceilings must be clean.
- The required Allergen sign must be posted on-site and required language must be included on your menu.
- If you plan to offering catering additional information will be required.

All kitchen construction must be done in accordance with the requirements outlined in Subpart 14-1 of the NYS Sanitary Code (attached). Please also check with the Code Enforcement Officer regarding the need for a building permit prior to construction. The Code Enforcement Officer can advise you and the requirements for your exhaust hood. **Do not complete any construction until your kitchen plan is approved by our office.**

Temporary Residence

- Prior to construction, copies of architectural plans must be submitted to our office for review and approval. Plan review focusing on compliance with the NYS Uniform Fire Prevention and Building Code will be completed by the local Code Enforcement Official, however, we will also review the plans to ensure compliance with Subpart 7-1. Prior to construction, copies of architectural plans must be submitted to our office for review and approval. Plan review focusing on compliance with the NYS Uniform Fire Prevention and Building Code will be completed by the local Code Enforcement Official, however, we will also review the plans to ensure compliance with Subpart 7-1.

- If new construction of renovations have occurred or occurs we will require that you submit copies of an electrical inspection certificates and a copy of the Certificate of Occupancy must be submitted to our office. All new construction including alterations, enlargements and improvements, and change of occupancy shall be in accordance with the Uniform Code. The building permit and certificate of occupancy/certificate of compliance as issued by the code enforcement official and a copy of the plans as approved by the CEO shall be readily available for review by the permit-issuing

- Fire Safety and Emergency Evacuation Plans are required by the Uniform Building Code at Temporary Residences regulated under Part 7-1 of the State Sanitary Code. Upon discovery of a fire or suspected fire, hotel and motel employees need to know how to notify guests, activate the fire alarm system (if provided) and notify the local fire department. This information should be included in the fire safety and evacuation plan as well as other procedures that should be followed by staff and guests in the case of a fire or emergency. A copy of the fire safety and evacuation plan submitted to the local code enforcement official shall be available on-site for review by the permit-issuing official or designated representative at the time of inspection. The fire safety and evacuation plans shall be updated as required in accordance with applicable sections of the Uniform Code.

  For your reference, I have attached a summary of items that may be required to be in your Fire Safety and Evacuation Plan. This document is provided to you for guidance purposes only and may not include all the requirements outlined in the Uniform Code. Please work with the Town Code Enforcement Officer if you have any questions. The Fire Safety and Evacuation Plan is a requirement of the Uniform Building Code and approval of such plans is the responsibility of the local Code Enforcement Official. The information I am attaching may not meet all Uniform code requirements but may be used as a starting point. There are also resources online that may be helpful to you in preparing your Fire Safety and Evacuation plan and Evacuation Notices. Prior to permit issuance, DOH will verify that you have a plan on-site and that a copy of the plan has been submitted to Code Enforcement.

- Exit Signs, Emergency Lighting and Exit Maintenance Discharge - All exit doors must be properly labelled and maintained in accordance with the Uniform Code. Illuminated exit signs and emergency lighting (when required) shall clearly identify a safe and continuous path of travel to the exterior of the building. All exits and exit pathways (including stairwells) must be free and clear of obstructions. Doors located in exit pathways must be non-lockable against egress, operable with a single motion and devoid of hooks, bolts, bars or similar restrictive devices. Exiting through bedrooms or sleeping quarters is prohibited.

- Fire Alarm and Fire Suppression Systems – If required by the code enforcement officer, documentation must be provided from a certified testing company that the Fire Alarm and Fire Suppression systems are

operational. All smoke detectors and carbon monoxide detectors must be working and installed in accordance with the Uniform Code.

- Fire Extinguishers – Portable fire extinguishers be conspicuously located and readily accessible for use in the event of a fire. Documentation must be available on-site indicating the extinguishers are located and maintained in accordance with applicable sections of the Uniform Code. A copy of such documentation shall be available for review by DOH at the time of inspection. Fire extinguishers are required to be inspected. Please work with your local code enforcement officer to determine the required inspection frequency.

- Prior to permit issuance a pre-operational inspection must be completed by our office. To ensure the facility complies with Subpart 7-1 and the Uniform Building Code, we will try to schedule a joint inspection with the Code Enforcement Officer prior to permit issuance.

- The operator of the temporary residence must employ or designate an individual who is acceptable to the NYSDOH to be in charge of the property, to maintain the facilities, and who shall be on or available to the property at all times when the property is occupied or open for occupancy, who is capable of providing an adequate response to all matters affecting the life, safety and health of the occupants. A telephone number or other method of summoning the individual in charge must be posted in an area readily accessible to facility occupants.

Swimming Pool

Prior to construction, engineering plans and specifications for the proposed swimming pool must be submitted to our office for review and approval. The plans must be completed by a NYS Licensed Professional Engineer and the plans must comply with the Swimming pool design standards outlined in Subpart 6-1 of the State Sanitary Code (attached). Your engineer must submit the plans with a DOH 1309 Form (also attached). A plan review checklist is also included in this email. It is recommended that your engineer contact Marlene Martin, our District Engineer to discuss plan submittal requirements.

Specific operational requirements for the pool will be addressed once we complete the engineering plan review. Information on operational requirements is attached. You may not commence construction until the pool plans are approved by our office.

Realty Subdivision

Prior to construction, engineering plans and specifications for the proposed realty subdivision must be submitted to our office for review and approval. The plans must be completed by a NYS Licensed Professional Engineer and the plans must comply with the Realty Subdivision regulations (attached). It is recommended that your engineer contact Marlene Martin, our District Engineer to discuss plan submittal requirements.

On-site Wastewater Treatment Systems

The facility will by an on-site wastewater treatment system(s). Please submit plans and specifications prepared by a NYS Licensed Engineer for the on-site wastewater treatment system(s). An engineering report which includes as-built plans and any proposed modifications must be submitted to this office. Plans for new or modified on-site wastewater treatment systems must be designed in accordance with New York State Department of Environmental Conservation design standards, and the plans must be submitted to our office for approval prior to construction. The plans must be prepared by a professional engineer licensed to practice in New York State. When a new system is installed or modifications are made to an existing system, the engineer must observe the construction of the system and provide a certification of construction compliance. If the discharge flow rate for the system is greater than 1000 gallons per day, a permit from NYSDEC will be required.

In-ground grease traps are required at food service establishments. The determination of the need for an in-ground grease trap(s) at your commercial kitchens will be based on a review of the on-site septic system, engineering report and proposed menu and cooking equipment. Plans for the grease trap design must be submitted to our office by a licensed engineer for review and approval prior to construction. Please feel free to have your engineer reach out to Marlene Martin (DOH Engineers in our office) with any questions about the plan submittal requirements.

Other Items

Please let us know if you have any questions. A permit to operate will be issued once a complete permit application is received, a satisfactory pre-operational inspection conducted, an APA permit is submitted and all of the other items included in this email are addressed. We look forward to working with you on this project. Thank you!

Kristen Sayers
Saranac Lake District Office Director
New York State Department of Health – Saranac Lake District Office
41 St. Bernard Street
Saranac Lake, New York 12983
518-891-1800
518-891-5895 (Fax)
Email: Kristen.sayers@health.ny.gov
Health.ny.gov

Attachment H

DOT & DEC Ongoing

Agency coordination

Outlook

Fw: Commercial Access Highway Permit Application - Stackman Property

From Roberta Alba <ralba@robertaconsulting.com>
Date Wed 7/9/2025 1:51 PM
To Ruane, T.J. <truane@woh.com>; Hubbell, Dan <dhubbell@woh.com>
Cc Eric <ericstackman@bellsouth.net>

1 attachment (175 KB)
NYSDOT Stage 1 - Review Comments.pdf;

Please see below and attached for the SDOT status

From: Cody Buchalter <Cody.Buchalter@nv5.com>
Sent: Wednesday, July 9, 2025 1:40 PM
To: 'Sri' <ericstackman@bellsouth.net>
Cc: Yelena Chibisova <Yelena.Chibisova@nv5.com>; Joseph Menzer <Joseph.Menzer@nv5.com>; Roberta Alba <ralba@robertaconsulting.com>
Subject: RE: Commercial Access Highway Permit Application - Stackman Property

Hi Eric,

Attached, please find SDOT's acknowledgment of the Stage 1 Submission and requested items for the Stage 2 submission.

Thank you,
Cody

Cody Buchalter, P.E.| Senior Civil Engineer | **NV5**
32 Old Slip, 4th Floor | New York, NY 10005 | Direct: 845.269.9198 | Main: 212.741.8090

Electronic Communications Disclaimer

From: Cody Buchalter
Sent: Tuesday, October 24, 2023 9:45 AM
To: Roberta Alba <ralba@robertaconsulting.com>; Sri <ericstackman@bellsouth.net>
Cc: Yelena Chibisova <Yelena.Chibisova@nv5.com>; Joseph Menzer <Joseph.Menzer@nv5.com>; Muhammad Khan <Muhammad.Khan@nv5.com>
Subject: RE: Commercial Access Highway Permit Application - Stackman Property

Hi Eric and Roberta,

I hope you're doing well. I wanted to follow up if there have been any updates on progress with the APA and the project in general.

From: Tedesco, Gaetano (DOT) <Gaetano.Tedesco@dot.ny.gov>
Sent: Tuesday, August 23, 2022 11:54 AM
To: Cody Buchalter
Cc: Justin Iwinski; Davis, Kenneth G (DOT)
Subject: RE: Commercial Access Highway Permit Application - Stackman Property

Cody-

Please see some comments below to take into consideration for the stage 2 submission:

1) Sight distance to the south does not seem to be great due to the horizontal curve with steep bank on the inside of the curve. The Stage 2 will definitely have to show the sight distance meets standards. I am also worried, that since the driveway is located in the 40mph zone they will only have to meet 40mph sight distance limits, but the northbound traffic coming around this horizontal curve is located in the 55 mph zone. In my opinion the sight distance should have to meet 55mph criteria as that is the speed most vehicles will be traveling northbound in advance of this driveway.
2) The entire site appears to drain towards our highway. I am assuming a drainage study will be required to prove they are not going to overwhelm any of our cross culverts under Route 9N post development.
3) They are proposing a River Cabin and Store on the river side of Route 9N. Do they anticipate pedestrians crossing Route 9N from the development to get to the store? Should a crosswalk across Route 9N be included? R1 Traffic (Reed Sholtes should be consulted regarding this). Is the sight distance good enough for northbound traffic to see crossing pedestrians?
4) The River Cabin and Store I believe are located in a typical flood zone due to ice jams. The developer may want to be aware of this.

Please let me know if you have any questions.

Thanks
Guy

Gaetano Tedesco, P.E.
Regional Permit Engineer, Region 1

New York State Department of Transportation
Region One – Traffic
50 Wolf Rd., Albany, NY 12232
(518) 457-9934 | Gaetano.Tedesco@dot.ny.gov

From: Cody Buchalter <Cody.Buchalter@nv5.com>
Sent: Wednesday, August 17, 2022 12:49 PM
To: Tedesco, Gaetano (DOT) <Gaetano.Tedesco@dot.ny.gov>; Davis, Kenneth G (DOT) <Kenneth.Davis@dot.ny.gov>

Cc: Justin Iwinski <Justin.Iwinski@nv5.com>
Subject: RE: Commercial Access Highway Permit Application - Stackman Property

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Gaetano and Kenneth,

Kindly following up to request confirmation of receipt of the PERM 33-COM – Commercial Access Highway Permit Application for the subject property. Please let us know if you require any additional information to move forward with the application process.

Thank you very much,
Cody

Cody Buchalter, P.E.| Senior Engineer | **NV5**
32 Old Slip, 4th Floor | New York, NY 10005 | Direct: 845.269.9198 | Main: 212.741.8090

Electronic Communications Disclaimer

From: Justin Iwinski <Justin.Iwinski@nv5.com>
Sent: Friday, August 5, 2022 9:14 AM
To: Gaetano.Tedesco@dot.ny.gov; Kenneth.Davis@dot.ny.gov
Cc: Cody Buchalter <Cody.Buchalter@nv5.com>; Eric <ericstackman@bellsouth.net>
Subject: Commercial Access Highway Permit Application - Stackman Property

Gaetano and Kenneth,

NV5 respectfully submits the Initial Proposal Review for a commercial access highway work permit application for the Stackman Property. The proposed project is a multi-family residential and hotel development in the town of Jay in Essex County. One two-way driveway is proposed along State Route 9N as shown in the supplemental materials appended to the attached application. Please let us know if you require any additional information to complete this first stage of the review process, and let us know if you have any questions.

Thank you,

Justin Iwinski, PE, PTOE | Senior Transportation Engineer | **NV5**
32 Old Slip, Suite 401 | New York, NY 10005 | P: 646.300.7163 | F: 212.633.1205

Electronic Communications Disclaimer

Outlook

FW: Proposed Subdivision at AuSable (T), Essex County - Town of Jay (Stackman)

From Montagnola, Calista T (DEC) <Calista.Montagnola@dec.ny.gov>
Date Wed 10/5/2022 9:38 AM
To Roberta Alba <ralba@robertaconsulting.com>

1 attachment (179 KB)
P2021-0248 IAN Response, Jay Subdivision, Ausable (T), Essex County.pdf;

Good morning,

I have reached out to our program staff here at DEC regarding the submittal of a seasonal biological study, per the description you shared in your below email. And because the text was provided by APA, they recommend that the APA be the one to define all of the details of those surveys. Thank you and have a great day!

Calista T. Montagnola
Agency Program Aide-Division of Environmental Permits

New York State Department of Environmental Conservation
1115 NYS Route 86, PO Box 296, Ray Brook, NY 12977-0296
P: (518) 897-1234 | F: (518) 897-1394| Calista.Montagnola@dec.ny.gov
www.dec.ny.gov | | |

From: Roberta Alba <ralba@robertaconsulting.com>
Sent: Thursday, September 29, 2022 1:30 PM
To: dec.sm.DEP.R5 <DEP.R5@dec.ny.gov>; Montagnola, Calista T (DEC) <Calista.Montagnola@dec.ny.gov>
Cc: Eric <ericstackman@bellsouth.net>
Subject: Proposed Subdivision at AuSable (T), Essex County - Town of Jay (Stackman)

Some people who received this message don't often get email from ralba@robertaconsulting.com. Learn why this is important

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Ms. Calista T. Montagnola
NYSDEC – Division of Environmental Permits
CC Supervisor DEP Region 5 - Ray Brook and Essex County
dep.r5@dec.ny.gov

Dear Calista,
As we discussed briefly, we wanted to formally acknowledge receipt of the NYSDEC's letter received last November 2021, regarding the Proposed Subdivision at AuSable (T), Essex County, which we will be addressing and providing the required responses thereof. (Attached for your reference).
Since we are moving forward with the APA Application, we wanted to bring you up to speed and refer you to the latest information on the Adirondack Park Agency's Home page. It includes links and correspondence for the status of our Large-scale Residential Subdivisions Application, currently Under Review.
Ref Project No. P2021-0248
All materials are accessible and downloadable thru the link below
https://apa.ny.gov/Projects/P2021-0248/P2021_0248.htm

Additionally, we would like your assistance in providing us with any guidance or templates from existing or previous formats for the submittal of a seasonal biological study, per the description below.
We would be very appreciative If there are any resources for contacts or recommendations you can provide us with, for specialists in the area that are already familiar with the process.

> *" A biological survey prepared by a qualified biologist and spanning multiple seasons will also be required. This biological survey will need to include a report detailing potential impacts to the mapped forest resources, unique natural communities, wetlands, fish/amphibians, and wildlife, and an assessment of how wildlife dependent on the forest blocks and unique communities will be impacted by the proposal, particularly area-sensitive and edge-affected species such as interior forest birds, American marten, and wide-ranging mammals."*

Please let us know if you have any questions or need additional information.
Thanks in advance for your help.

Sincerely,

Roberta Alba
305-331-2587
ralba@robertaconsulting.com
Eric Stackman
Ericstackman@bellsouth.net

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 5
1115 State Route 86, PO Box 296, Ray Brook, NY 12977-0296
P: (518) 897-1234 | F: (518) 897-1394
www.dec.ny.gov

November 3, 2021

Eric Stackman
PO Box 402422
Miami Beach FL, 33141
ericstackman@bellsouth.net

RE: Proposed Subdivision
AuSable (T), Essex County

Dear Applicant:

On October 27, 2021, the Department received correspondence regarding the above referenced project (P2021-0248) from the Adirondack Park. We have reviewed and offer the following comments related to the Department's jurisdiction (without knowing treatment and water needs):

1. **Protection of Waters Permit**: Under 6NYCRR Part 608.2 no person may change, modify or disturb any protected stream, its bed or banks, without receiving a permit. Information and the application for a Protection of Waters Permit can be found here: http://www.dec.ny.gov/permits/42593.html . There are several class C(T) protected streams within the proposed site. For more information regarding stream banks and their definition, please visit https://www.dec.ny.gov/permits/70947.html

   Please note, all stream work, as well as any work that may result in the suspension of sediment, is prohibited during trout spawning and incubation period commencing October 1 and ending April 30.

2. **Wastewater**: The provided materials do not indicate how wastewater will be handled at the proposed facility. A State Pollutant Discharge Elimination System (SPDES) permit would be required (6NYCRR Part 750) for any on-site septic system with a design flow of 1,000 gallons per day (gpd) or more to groundwater, or any discharge to surface water including floor drains such as found in maintenance garages. If the facility will be connected to an existing wastewater collection and treatment system, Department review and approval may be required. For further guidance, please contact Kelly Duval in our Division of Water at (518) 623-1200 or refer to the weblink: www.dec.ny.gov/permits/6054.html .

3. **Stormwater SPDES**: If the project will disturb (1) or more acres, a Notice of Intent form will need to be submitted for coverage under the *SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001)*. The Stormwater Notice of Intent form can be accessed at the following weblink: http://www.dec.ny.gov/chemical/43133.html. Please contact Kelly Duval in our Division of Water at (518) 623-1200 with questions regarding stormwater permit requirements.
4. **Natural Heritage:** A check of our Natural Heritage Data Bank shows there are Northern Long-eared bats (NLEB) a listed threatened species pursuant to 6 NYCRR Part 182 within or near the project area. Due to the proximity to the bats, if trees need to be cut, it must be done between November 1, and March 31 in order to avoid possible permit requirements under 6NYCRR Part 182 Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern; Incidental Take Permits. If trees need to be cut outside this timeframe, please contact Jed Hayden in our Division of Wildlife at (518) 623-1200.
5. **Other Agencies**: In addition, we recommend contacting the Army Corps of Engineers (518) 266-6350 for a determination based on their jurisdiction as well.

Sincerely,

Bethany H. Kress

Bethany H. Kress
Program Aide
Division of Environmental Permits

ec: K. Duval, Water
J. Hayden, Wildlife
M. Brown, APA (P2021-0248)
R. Alba, ralba@robertaconsulting.com
C. Berga, cberga@bergalaw.com

Attachment I

NYSEG Preliminary Load Calculations,
Information Request & Cost Estimate
(September 2022 to Feb. 25, 2025)
Utilities coordination

Attachment J
NYSEG Letter of Understanding
(Feb. 26, 2025)
Utilities coordination

Roberta Alba

From: Begor, Brenden <bbegor@nyseg.com>
Sent: Monday, December 4, 2023 1:06 PM
To: Sri
Cc: miked@engineeringventures.com; Roberta Alba
Subject: 10301031649 Stackman Project T. jay

You don't often get email from bbegor@nyseg.com. Learn why this is important

Hi there-

Again this information will not be provided until we get everything NYSEG has requested and starts to work on the load study. As of now this is on hold until we receive what we need.

Thanks,

Brenden

Internal Use

From: Dragon, Jeremy B <JBDragon@nyseg.com>
Sent: Monday, December 4, 2023 12:58 PM
To: Begor, Brenden <bbegor@nyseg.com>
Subject: FW: Stackman Development, 385 acres in AuSable Forks, Tax Map #'s 17.2-1-20.110, 17.2-1-5.100 and 17.2-2-4.000, owned by Eric C. Stackman

Jeremy Dragon
Electric Field Planner A
Plattsburgh Division

4125 State Route 22, Plattsburgh, NY. 12901
Office 585-484-3838
Cell 518-569-7888
Fax 585-484-3716
JBDragon@NYSEG.com

Internal Use

From: Peter Gibbs <peterg@engineeringventures.com>
Sent: Wednesday, January 4, 2023 8:09 AM
To: Dragon, Jeremy B <JBDragon@nyseg.com>
Cc: Roberta Alba <ralba@robertaconsulting.com>; Mike Dussault <miked@engineeringventures.com>; Eric <ericstackman@bellsouth.net>
Subject: RE: Stackman Development, 385 acres in AuSable Forks, Tax Map #'s 17.2-1-20.110, 17.2-1-5.100 and 17.2-2-4.000, owned by Eric C. Stackman

EXTERNAL SENDER: Be cautious, especially with links and attachments. Report phishing if suspicious.

Jeremy
As promised listed below are the electrical load calculations as requested. Also, we are working on a Service Request form, so that this project can land on your desk for initial planning. My hope is that this will allow you to respond to the Adirondack Park Agency's questions about NYSEG being able to accommodate the perceived electrical load. If there is any other information that you need, please do not hesitate to contact me.
Thank you for your help.
Peter

Estimated Electrical load

Assumptions

- Location of the closest substation has all necessary upgrades to support the development.
- All distribution lines in the area are adequate to support the development.
- Underground from NYS Rte 9N to development, as opposed to overhead.

	Future Property Power Estimate:	AMP per		Totals
74	homes	200		14,800
18	estates	400		7,200
3	commercial building club house, restaurant building, wellness 2 floor each	1,000		3,000
6	hotel room building 6 x 15 units - 90 units 2 floor each	4,000		24,000
3	Misc. barn, shed, maintains	400		1,200
	property lighting , entry signage , misc.	2,000		2,000
480V	power in			52,200
277V	step down		transformers	100 amp = 10 KVA
120	power			5700KW

Peter Gibbs PE
Senior Civil Engineer
Engineering Ventures, PC
Direct Line (802) 255-9521
Cell (802) 324-3457
www.engineeringventures.com

Engineering Ventures, PC
Creative Structural & Site Engineering
Burlington, VT · Lebanon, NH · Schenectady, NY
Jeremy
Learn more about EV!

From: Peter Gibbs
Sent: Tuesday, November 8, 2022 2:52 PM
To: jbdragon@nyseg.com
Cc: Mike Dussault <miked@engineeringventures.com>
Subject: Stackman Development, 385 acres in AuSable Forks, Tax Map #'s 17.2-1-20.110, 17.2-1-5.100 and 17.2-2-4.000, owned by Eric C. Stackman

Jeremy
Thank you so much for calling me! And providing the information about a Service Notification and the need for a preliminary load study.
Below is a portion of the APA notice of incomplete for this project that caused the letter I sent last week.
Peter

NEW YORK STATE OF OPPORTUNITY. | Adirondack Park Agency

SECOND NOTICE OF INCOMPLETE PERMIT APPLICATION
APA Project No.: 2021-0248

Project Sponsor:	**Authorized Representatives:**
Eric Stackman PO Box 402422 Miami Beach, FL 33141	Roberta Alba 6540 NW 170TH Terrace Miami, FL 33015 Christopher G. Berga, Berga Law PA 121 Alhambra Plaza, Suite 1500 Coral Gables, FL 33134

Type of Project: Large-scale Subdivision
Location of Project: Town of Jay, Essex County
Land Use Area: Low Intensity Use and Hamlet
Tax Map Nos.: 17.2-1-4, 17.2-1-5.1 & 17.2-1-20.111

Dear Eric Stackman:

- Confirmation from New State Electric & Gas Company (NYSEG) that the proposed utilities and anticipated electrical loading can be accommodated.

Peter Gibbs PE
Senior Civil Engineer
Engineering Ventures, PC
Direct Line (802) 255-9521
Cell (802) 324-3457
www.engineeringventures.com

Engineering Ventures, PC
Creative Structural & Site Engineering
Burlington, VT · Lebanon, NH · Schenectady, NY

Learn more about EV!

Please consider the environment before printing this email.
If you have received this message in error, please notify the sender and immediately delete this message and any attachment hereto and/or copy hereof, as such message contains confidential information intended solely for the individual or entity to whom it is addressed. The use or disclosure of such information to third parties is prohibited by law and may give rise to civil or criminal liability.
The views presented in this message are solely those of the author(s) and do not necessarily represent the opinion of Avangrid Networks, Inc. or any company of its group. Neither Avangrid Networks, Inc. nor any company of its group guarantees the integrity, security or proper receipt of this message. Likewise, neither Avangrid Networks, Inc. nor any company of its group accepts any liability whatsoever for any possible damages arising from, or in connection with, data interception, software viruses or manipulation by third parties.

NYSEG
An AVANGRID Company

Electric Load Form
Commerical, Industrial, and Municipal Customers

Service Notification Number 10301031649

Customer Name Eric Stackman		Day Phone (305) 965-0926
Address Location of New or Additional Load 14049 State Hwy 9N		
Address 2 tax map #'s 17.2-1-4, 17.2-1-5, 17.2-1-20.11		
City Ausable Forks	State NY	ZIP 12912
Electrician		Day Phone (305) 965-0926

Service Connection Preferred (Note: Installation charges may apply)

☐ Secondary Voltage (Typical – Utility owns transformer) ■ Primary Voltage (Customer owns transformer)
☐ Overhead ☐ Underground ■ Combined Overhead and Underground
☐ Apartment Complex: Number of Buildings _____ Units per Building _____
■ URD Multiple Secondary and Transformers: Total Units 10 transformers

Service Configuration Requested (Select one)

Service Voltage	Phase	Wire	Amps
120/240 not to exceed 100 kVA	1	3	
120/208 not to exceed 100 kVA (Requires 5th jaw in meter box)	1	3	
208 wye/120 (50kW min) *	3	4	
240 delta/120 (Overhead transformers only – not to exceed 150 kVA)	3	4	
480 wye/277 (50kW min) **	3	4	52,200
Other Specify: _____ (See note below)	3	4	

* Loads requiring transformer capacity in excess of 500 kVA will require pad mount transformer and underground service connections.
** 480V requires a disconnect before self-contained meter. Voltages in excess of 480V may be supplied upon request where feasible. See Section III, Electric Services and Meter – General Information and Requirements.

Total Square Footage Existing (if upgrading) _____ **Total Square Footage New** 240,000

Electric Load Type	Power Factor	Connected kW	Connected kVA
Lighting	74single family homes		
Air Conditioning	18 estates homes		
Heating (Space Conditioning)			
Heating (Industrial Process)	3 commercial buildings club house, restaurant building, wellness center		
Cooking Appliances			
Continuous Motors (on for 3 hours or longer)			
General Purpose Motors (on for less than 3 hours)	6 hotel room building 6 x 15 units - 90 units		
Receptacles			
Refrigeration			
Electric Hot Water	3Misc. barn, shed, maintains		
Special Equipment (welders/x-ray/elevators)	property lighting , entry signage , misc.		
Miscellaneous			
Electric Vehicle Charging			

■ **Total Connected Load** _____kVA 5,700 kW ☐ **Expected Peak Demand** _____kVA _____kW

NYSEG

An AVANGRID Company

Electric Load Form

Commerical, Industrial, and Municipal Customers

Service Notification Number _____

Largest Motors (HP) ☐ Single-Phase ☐ Three-Phase 8 HP sewage pumps

Motors 10 HP and higher, please include connected phase, motor code, and starts per day

_____

VFD Equipment ☐ Yes ☐ No

Specialized Equipment Description (x-ray, welders, rock crushers, etc.)

_____

Power Conditioning Equipment ☐ Yes ☐ No, specify type _____

Electric Battery Storage ☐ Yes ☐ No, specify size (kW): _____

Future Additional Loads (kVA/dates) _____

Number of Meters ☐ Single-Phase 64 residential units ☐ Three-Phase 9 commercial units

Do you intend to install submeters at this location?

☐ Yes ☐ No

If yes, you may be required to submit a petition to the Public Service Commission and receive their approval. All approvals need to be received by the company before service can be energized.

Submitted by _____
SIGNATURE

Name ERIC STACKMAN
PLEASE PRINT

10/16/2023
DATE

Please return the signed and completed form by

- Email **NYSEGESI@nyseg.com**
- Fax **844.515.1573**
- Mail NYSEG, Attn: Energy Service Installation
  Customer Care Center
  P.O. Box 5240
  Binghamton, NY 13902-5240

Questions? Contact us at 800.572.1111

- Monday through Friday (excluding holidays) from 7 a.m. - 4:30 p.m.
- Select option 3 for "Start or Stop Service, New Construction or Upgrades" and then select option 3 again for "New Construction or Upgrading Service."

ENGINEERING VENTURES PC

208 Flynn Avenue, Suite 2A, Burlington, VT 05401 · Tel: 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 · Tel: 603-442-9333
414 Union Street, Schenectady, NY 12305 · Tel: 518-205-9141

November 4, 2022

Engineering Department
New York State Electric & Gas Corporation
Plattsburgh Engineering Division
4125 Route 22,
Plattsburgh, NY 12901

RE: Request of Capacity NYSEG power in the Town of Jay, AuSable Forks, Essex County.

Dear Engineering Department:

This letter concerns a proposed development on 385 acres in AuSable Forks, Tax Map #'s 17.2-1-20.110, 17.2-1-5.100 and 17.2-2-4.000, owned by Eric C. Stackman. Engineering Ventures PC is a civil engineering consultant to Mr. Stackman. We are in the process of responding to an APA Notice of Incomplete condition, that requires the applicant to contact you concerning the ability of New York State Electric and Gas to provide electrical power to the development. Below is general information about the development, and a concept plan for your review.

Stackman Development, AuSable Forks NY		
type of unit	**# of units**	
Hotel	75	units
Estate Homes (assume 6 bedrooms each)	18	homes
Mountain Cabins (assume 4 bedrooms each)	74	cabins
Club house	100	seats

If you could tell us what additional information you require to provide a capacity letter, sometimes called a letter-to-serve, that would be most appreciated.

Please do not hesitate to contact me with questions or concerns. We look forward to your response.

Sincerely;

Peter Gibbs PE
Senior Engineer
Engineering Ventures, PC

February 26, 2025

Attn: Eric Stackman
P. O. box 402422
Miami Beach, Florida 33140

RE: Letter of Understanding: Eric Stackman / Electrical Project

Dear Mr. Stackman:

This letter of Understanding between Eric Stackman ("Customer") request for New York State Electric & Gas Corporation ("NYSEG") provides the customer a commitment to fund and allow NYSEG to continue the necessary engineering and design work in regards to certain electrical service upgrades needed to serve the development located at 14016 State Hwy 9N, Au Sable Forks, NY (the "Development") located in NYSEG electric service territory.

NYSEG will design, construct and reconductor a new 3-phase 4-wire overhead service to feed Eric Stackman's subdivisions facility. NYSEG has completed a preliminary electric planning load study analysis of the Project. NYSEG has calculated 2386.60 kVA (2028.95 kW, 0.85 power factor) of diversified load. Based on this load study and the inputs provided by the Customer, NYSEG has preliminarily determined it can serve the electrical requirements pursuant to the details contained in this letter.

Although an overall cost estimate will be provided at the project's outset, the customer will be responsible for the actual costs NYSEG incurs to provide the requested service. This load study analysis does not include any engineering, construction or costs within the Underground Residential Development (URD) and only includes providing power to the URD project site.

Sincerely,

Peter S. Bauerle
Economic Development Project Manager

Cc: Marilyn Kies-Hartunian, Business Relations Manager
Troy Trombley, Program Manager
Joe Sayre, Economic Development

65 Country Club Road, Oneonta, NY 13820
Telephone 607-237-7521
www.nyseg.com | pbauerle@nyseg.com
An equal opportunity employer

Confidential

February 25, 2025

ECS 1, Inc.
Attn: Eric Stackman
P. O. box 402422
Miami Beach, Florida 33140

RE: Letter of Intent: ECS 1, Inc. / Electrical Project

Dear Mr. Stackman:

This letter responds to the ECS 1, Inc's ("Customer") request for New York State Electric & Gas Corporation ("NYSEG") to provide preliminary high-level engineering/construction requirements and estimated costs in regard to certain electrical service upgrades needed to serve the development located at 14016 State Hwy 9N, Au Sable Forks, NY (the "Development") located in NYSEG electric service territory.

NYSEG will design, construct and reconductor a new 3-phase 4-wire overhead service to feed ECS 1's subdivisions facility. ("Electrical Project" or "Project"). NYSEG has completed a preliminary electric planning load study analysis of the Project. NYSEG calculated 2386.60 kVA (2028.95 kW, 0.85 power factor) of diversified load. Based on this load study and the inputs provided by the Customer, NYSEG has preliminarily determined it can serve the electrical requirements pursuant to the details contained in this letter.

This is a non-engineered high-level cost estimate that does not include any costs within the Underground Residential Development (URD) and only includes providing power to the URD project site.

Preliminary Cost Estimate

NYSEG's preliminary cost estimate to complete the Project is Ten Million Eight Hundred Thirty-One Thousand Dollars ($10,831,000.00). By executing below, the Customer is acknowledging that this is an estimate only and that the costs of the Project cannot be guaranteed. The estimate provided hereunder shall not limit ECS 1, Inc's obligation to pay NYSEG for all costs actually incurred by NYSEG or its affiliates should ECS 1, Inc choose to move forward with the Project.

NYSEG will commence conceptual engineering upon ECS 1, Inc's acknowledgment as indicated below and upon NYSEG's receipt of Two Million Nine Hundred Ninety-Three Thousand Seven Hundred Seventy-Five Dollars ($2,993,775.00) (the "Pre-Engineering and Material Procurement Fee"). The Pre-Engineering and Material Procurement Fee is non-refundable. ECS 1, Inc agrees to provide NYSEG with additional technical details related to the Project consisting of, but not limited to, verifying the service connection type, service voltage, projected load, load characteristics, a listing of all motor sizes and starting requirements, and other electrical equipment specifications. The conceptual engineering will enable NYSEG to refine the high-level estimate, better define the Project duration and determine required equipment specifications.

65 Country Club Road, Oneonta, NY 13820
Telephone 607-237-7521
www.nyseg.com | pbauerle@nyseg.com
An equal opportunity employer

Confidential

Upon completion of conceptual engineering, NYSEG will provide an engineered estimate of the cost and estimated construction timeline to provide service based on the technical details provided. If ECS 1, Inc decides to move forward with the Project, NYSEG and ECS 1, Inc will enter into a Contribution and Service Agreement (the "CIAC Agreement") which will further describe the work scope and funding arrangements. Although a non-binding cost estimate will be provided at the project's outset, ECS 1, Inc will be responsible for the actual costs NYSEG incurs to provide the requested service.

This letter agreement reflects NYSEG and Customer's intent to conduct further evaluations regarding the Project. Additional work beyond the conceptual engineering will require the parties to enter into a CIAC Agreement (as defined above). All future agreement drafts, "term sheets," memoranda, and other communications about the Project exchanged in the course of discussions, even if signed by one or both parties shall be considered only preliminary and shall not have any legal effect unless incorporated into a CIAC Agreement. This Letter of Intent cost is valid for 6 months from the date of this letter.

Thank you for the opportunity and we look forward to continuing to work with ECS 1, Inc. I can be reached at (607) 237-7521(cell) or pbauerle@nyseg.com.

Sincerely,

Peter S. Bauerle
Economic Development Project Manager

Cc: Marilyn Kies-Hartunian, Business Relations Manager
Troy Trombley, Program Manager
Joe Sayre, Economic Development

ACKNOWLEDGMENT

I am the _____[title] of ECS 1, Inc. I have read this letter and understand its contents. I am authorized by ECS 1, Inc to provide the acknowledgments as required in this letter and by my signature below ECS 1, Inc acknowledges and agrees with the contents of this letter and ECS 1, Inc agrees to fulfill its obligations as set forth in this letter.

Customer:

Signed: _____

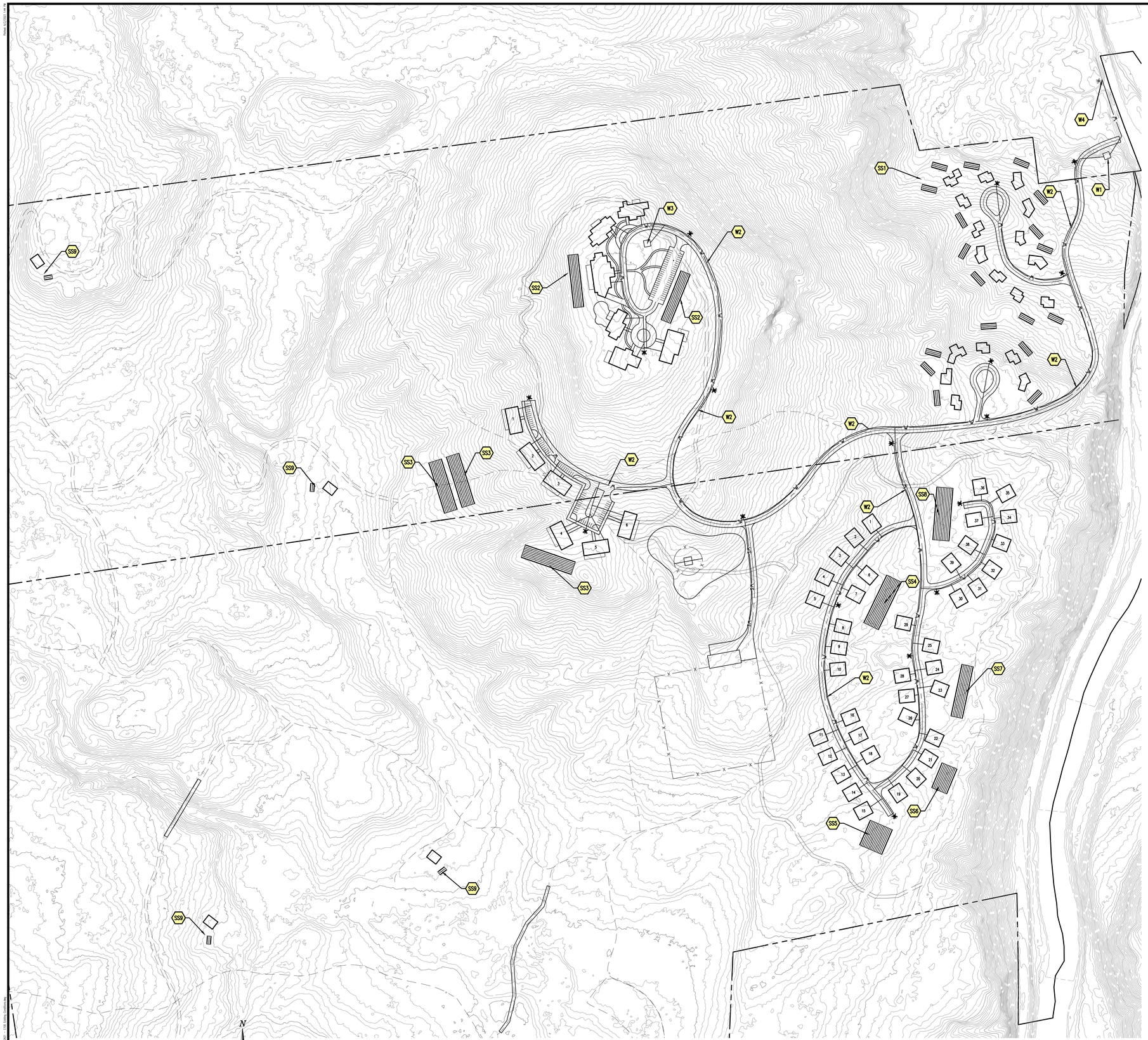
Name (Printed): _____

Title:_____

Date:_____

Attachment K

Engineering Plans
Site Plans for Water, Sanitary,
Wastewater & Treatment



WATER NOTES

- **W1** WATER PRESSURE BOOSTER STATION. SEE DETAIL 2/C104.
- **W2** PROPOSED 8" HDPE WATER LINE WITH HYDRANT EVERY 1,000 FT.
- **W3** PROPOSED 60,000 GALLON FIRE SUPPRESSION STORAGE TANK (2 HOURS AT 500 GPM). SEE DETAIL 1/C104.
- **W4** PROPOSED TAPPING SLEEVE, CORPORATION STOP AND SHUTOFF VALVE. COORDINATE PROPOSED WATER LINE CONNECTION TO THE EXISTING WATER MAIN WITH THE TOWN OF JAY. VERIFY SIZE OF EXISTING WATER MAIN.

SANITARY NOTES

- **SS1** PROPOSED TYPICAL ESTATE HOME INDIVIDUAL SANITARY SEWER ABSORPTION FIELD. SEE DETAILS FOR REFERENCE.
- **SS2** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD (14 X 100' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS3** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD (9 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS4** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #1–#10 (11 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS5** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #11–#17 (16 X 100' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS6** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #18–#22 (11 X 100' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS7** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #23–#29 (8 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS8** PROPOSED CONVENTIONAL SEPTIC ABSORPTION FIELD FOR TOWN HOMES #30–#39 (11 X 200' LATERALS). SEE DETAILS FOR REFERENCE.
- **SS9** PROPOSED TYPICAL CABIN INDIVIDUAL SANITARY SEWER ABSORPTION FIELD. SEE DETAILS FOR REFERENCE.

GENERAL NOTES

1. EXACT OBJECT LOCATIONS MAY DIFFER FROM THAT AS SHOWN, AND ADDITIONAL SUB-SURFACE AND SURFACE UTILITIES AND STRUCTURES MAY EXIST. THE CONTRACTOR IS TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK,
2. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES. ALL DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND ENGINEER. SITE CONTRACTOR SHALL CALL UTILITY LOCATOR SERVICE AND UTILITY OWNERS 72 HOURS, EXCLUSIVE OF WEEKENDS AND HOLIDAYS, PRIOR TO ANY DIGGING, DRILLING, OR BLASTING:
   A. DIG SAFE (TEL: #811)
   B. NON DIG SAFE MEMBER FACILITY OPERATORS IF KNOWN. (A LIST OF DIG SAFE MEMBERS BY STATE CAN BE FOUND ON THE DIG SAFE WEB SITE WWW.DIGSAFE.COM)
   C. TOWN OF TICONDEROGA PUBLIC WORKS, WATER AND WASTE-WATER DEPARTMENT (518-585-6144)
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
4. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
5. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
7. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, AND CERTIFICATES.
8. THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A NEW HAMPSHIRE STATE LICENSED LAND SURVEYOR.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
11. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS FOR CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
13. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
14. ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
15. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AND TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.
18. PROJECT IS ON NYS HIGHWAY ROUTE 9N, BETWEEN HIGHWAY REFERNECE MARKERS 9N 1203 1049 AND 9N 1203 1047.

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-5225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: SITE PLAN

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	6/2/2023

C101

WATER NOTES

GENERAL
1. BEFORE ANY WATER LINE WORK IS COMMENCED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE TOWN OF ENFIELD DPW (603-632-4002) AT LEAST 48 HOURS IN ADVANCE.
2. THE CONTRACTOR SHALL COLLECT AND MAINTAIN "AS BUILT" INFORMATION DURING THE INSTALLATION OF THE WATER SYSTEM. "AS BUILT" DRAWINGS SHALL BE PREPARED **BY THE CONTRACTOR** UPON COMPLETION OF THE WATER SYSTEM.

WATER MAINS
1. PERFORM FLUSHING, PRESSURE AND LEAKAGE TESTING ACCORDING TO AWWA C600 AND NFPA 24 (LATEST REVISION) ON EACH PIPE LINE.
2. THE ENGINEER SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. ALL TESTING MUST BE WITNESSED BY THE ENGINEER.
3. SPECIFIED TEST PRESSURE IS A MINIMUM OF 200 PSI OR 1.5X THE WORKING PRESSURE, WHICHEVER IS GREATER. THE PRESSURE DURING TEST SHALL NOT VARY BY MORE THAN 5 PSI.

EXISTING UTILITIES
1. LOCATION OF UTILITY INSTALLATIONS AND UNDERGROUND STRUCTURES ARE SHOWN AS APPROXIMATE ON THE CONTRACT DOCUMENTS.
2. ALL UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED DURING CONSTRUCTION.
4. ALL WATER, GAS, CABLE, TELEPHONE, ELECTRIC, SEWER, AND OTHER UTILITIES FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED IN A MANNER ACCEPTABLE TO THE ENGINEER.

PIPE BEDDING
1. SAND BEDDING MEETING REQUIREMENTS OF EARTHWORK SPECIFICATIONS.
2. SAND BLANKET MEETING REQUIREMENTS OF EARTHWORK SPECIFICATIONS.
3. TRENCH FINAL BACKFILL MATERIAL – MATERIAL WILL EXCLUDE PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT, CLAY, LARGE ROCKS (6" DIMENSION), OR ANY MATERIAL DETERMINED BY THE ENGINEER THAT WILL NOT BE SUITABLE.

PIPE TRENCH BACKFILL
1. MEET EARTHWORK SPECIFICATIONS FOR PLACEMENT AND COMPACTION.

DUCTILE IRON PIPE (WATER)
1. D.I. PIPE CONFORM TO AWWA/ANSI C151.
2. LININGS AND LINING REPAIR TO AWWA/ANSI C104.
3. JOINTS CONFORM TO AWWA/ANSI C111 AND C115.
4. FITTINGS CONFORM TO AWWA/ANSI C110, C153, C105.
5. KEEP INSIDE OF PIPE CLEAN AND FREE OF DEBRIS.
6. REJECT ANY PIPE WHICH IS DROPPED DURING HANDLING.
7. MECHANICAL JOINT GLANDS SHALL BE "MEGA-LUG" RETAINER GLANDS.
8. CAST IRON FITTINGS: ANSI A21.10, 250 PSI PRESSURE RATING.
9. DUCTILE IRON FITTINGS: ANSI A21.10, 350 PSI PRESSURE RATING.
10. JOINTS: MECHANICAL, PUSH-ON, AND FLANGED:
    A. RUBBER GASKET JOINT, ANSI A21.11
11. GASKETS:
    A. MECHANICAL AND PUSH-ON JOINTS: ANSI A21.11
    B. FLANGED JOINT: ⅛" THICK RING OR FULL FACED RUBBER, ANSI A21.15.
12. BOLTS/NUTS:
    A. MECHANICAL JOINT: ANSI A21.11
    B. FLANGED JOINT: ANSI A21.15
13. LININGS:
    A. INTERIOR –CEMENT LINED–DOUBLE THICKNESS WITH BITUMINOUS SEAL.
    B. EXTERIOR –BITUMINOUS COATING APPROX. 1 MIL THICK, ANSI A21.51, ANSI A21.15, AND ANSI A21.10.
    C. FLANGE MACHINED FACE COATING: ANSI A21.15.
14. LAYING PIPE:
    A. PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING.
    B. WHERE PIPE IS LAID ON A SLOPE OF 5% OR MORE, THE LAYING SHALL START AT THE LOW END AND PROCEED UPHILL, WITH THE BELL ENDS UPGRADE.
    C. A WATERTIGHT PLUG SHALL BE PLACED IN THE OPEN ENDS OF INSTALLED PIPE WHEN PIPE LAYING IS NOT IN PROGRESS.
    D. MAX. PERMISSIBLE DEFLECTION IS 75% OF AWWA SPEC. C600.
15. SERRATED SILICON BRONZE WEDGES:
    A. D.I. PIPE SIZE 3"–12" – 2 PER JOINT.
    B. D.I. PIPE SIZE >12" – 4 PER JOINT.

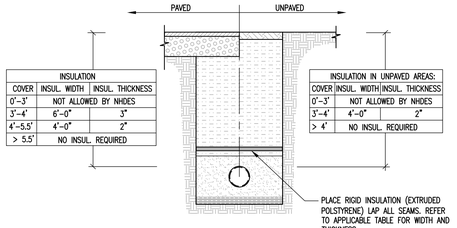
CHLORINATION OF DOMESTIC WATER LINES
1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF BEGINNING ANY DISINFECTION OF WATER MAINS
2. CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTING AS REQUIRED BY THIS SPECIFICATION AND REFERENCE STANDARDS MENTIONED.
3. DISINFECT ALL PIPELINE SYSTEMS IN ACCORDANCE WITH AWWA C651, INCLUDING:
    A. METHOD OF CHLORINE APPLICATION. USE CONTINUOUS FEED METHOD OR SLUG METHOD. (TABLET METHOD IS NOT ACCEPTABLE.)
    B. FORM OF CHLORINE UTILIZED.
    C. FINAL FLUSHING.
    D. BACTEROLOGICAL TESTING
    E. REPETITION OF PROCEDURE

GATE VALVES
1. RESILIENT SEAT GATE VALVES BY AMERICAN FLOW CONTROL (AFC), SERIES 2500, (HARTFORD, VT).
2. DUCTILE IRON BODY GATE VALVES TO MEET AWWA C515 AND SHALL BE EPOXY COATED (FUSION BONDED) INSIDE AND OUT.
3. STEM CONSTRUCTION: NON–RISING.
4. STEM SEALS: DOUBLE O–RING.
5. GATE: DUCTILE IRON RUBBER ENCAPSULATED WEDGE.
6. BONNET HARDWARE: STAINLESS STEEL.
7. OUTLET CONNECTION: STANDARD MECHANICAL JOINT
8. OPERATION: OPEN COUNTERCLOCKWISE.

TAPPING SLEEVES AND VALVES
1. TAPPING VALVES
    A. TAPPING VALVES TO MEET ANSI/AWWA C515, STANDARD FOR RESILIENT SEATED GATE VALVES.
    B. VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 250 PSI.
    C. VALVES SHALL OPEN COUNTERCLOCKWISE.
    D. INLET FLANGES SHALL BE CLASS 125, ANSI B16.1, OR ANSI/AWWA C110/A21.10.
    E. OUTLET CONNECTION: STANDARDIZED MECHANICAL JOINT.
    F. STEM SEALS: O RING.
    G. STEM CONSTRUCTION: NON–RISING.
    H. SEATING: PARALLEL SEAT
    I. END CONNECTIONS: MECHANICAL ON RUN, FLANGED ON BRANCH.
2. TAPPING SLEEVES
    A. AWWA C515, LATEST REVISION.
    B. AWWA C207, CLASS D, MAX. WORKING PRESSURE OF 150 PSI.
    C. SLEEVES: SPLIT SLEEVES OF CAST IRON OR DUCTILE IRON.
    D. MECHANICAL JOINT ENDS WITH END AND GASKET SEALS.
    E. PROVIDE A ¾" NPT TEST PLUG OR OTHER PROVISION FOR AIR TESTING THE VALVE AND SLEEVE AT MAXIMUM WORKING PRESSURE.
    F. BOLTS AND NUTS, MECHANICAL JOINTS: HIGH STRENGTH CAST IRON OR HIGH STRENGTH LOW ALLOY STEEL, ANSI/AWWA C111/A21.11–90.
    G. BOLTS AND NUTS, FLANGED JOINTS: HIGH STRENGTH, LOW CARBON STEEL CONFORMING TO ANSI/AWWA C110/A21.10–87, APPENDIX A.
    H. COAT ALL NUTS AND BOLTS WITH A RUST RESISTANT LUBRICANT.
    I. ALL BOLTS AND NUTS USED WITH PIPE SLEEVES SHALL BE BRUSH COATED HEAVILY AFTER FINAL TIGHTENING WITH BITUMASTIC COLD–APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF BOLTS AND NUTS.

VALVE BOXES
1. ACCEPTABLE MANUFACTURER'S: MUELLER, CLOW, OR EQUAL.
2. CLOW F–2452 SLIDING TYPE, TWO PIECE, OR EQUAL.
3. 5 ¼ INCH SHAFT.
4. SIZE 654–A (40–60 INCH OVERALL LENGTH).
5. CAST IRON.
6. CLOW F–2490 LIDS OR EQUAL.
7. THE WORD "WATER" TO BE CAST INTO TOP OF COVERS, AND ARROW SHOWING DIRECTION OF OPENING.
8. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'–0 , A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

CONCRETE
1. CLASS B CONCRETE SHALL HAVE:
    A. MIN. COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS
    B. AIR ENTRAINMENT OF 4% TO 6% BY VOLUME.
    C. MINIMUM CEMENT CONTENT FOR 4000 PSI CONCRETE IS 564 LBS PER CUBIC YARD.
    D. SLUMP OF 3 TO 5 INCHES.
2. CONCRETE SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT.
3. CONCRETE SHALL NOT BE DROPPED MORE THAN SIX FEET INSIDE A FORM.
4. MAINTAIN TEMPERATURE OF CONCRETE SURFACE AT MINIMUM 50 DEGREES FAHRENHEIT FOR 72 HOURS AFTER PLACING CONCRETE. PREHEAT ALL ENCLOSURES FOR A MINIMUM OF 2 HOURS TO PROVIDE A MIN. SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT.
5. ALLOW TO SET AND CURE ALL THRUST BLOCKS, CONCRETE SUPPORTS, AND ANCHORS A MINIMUM OF 24 HOURS BEFORE BACKFILLING.
6. COMPLETELY CURE AND SET CONCRETE BEFORE ANY HYDROSTATIC OR LEAKAGE TESTING OF PIPELINE SYSTEMS.
7. NONSHRINK GROUT SHALL BE HALCO TRADEMARK, AS MANUFACTURED BY LEHN & FINK INDUSTRIAL PRODUCTS.
8. DO NOT PLACE ANY MORTAR OR GROUT WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT.
9. MORTAR FOR MANHOLES SHALL CONSIST OF THE FOLLOWING:
    A. CEMENT–TYPE II, ASTM C150.
    B. HYDRATED LIME–TYPE N, ASTM C207.
    C. SAND– ASTM C 33, FINE AGGREGATES FOR CONCRETE.
    D. WATER–CLEAN, SUITABLE FOR DRINKING.
10. MIX (BY VOLUME): 1 PART CEMENT, ½ PART LIME, 4 ½ PARTS SAND.

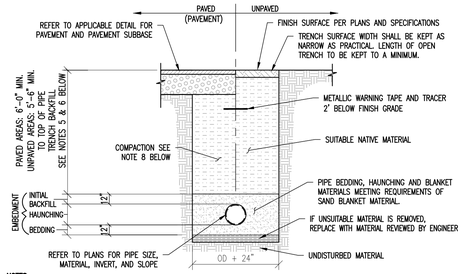


INSULATION		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	NOT ALLOWED BY NHDES	
3'–4'	6'–0"	3"
4'–5.5'	4'–0"	2"
> 5.5'	NO INSUL. REQUIRED	

INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	NOT ALLOWED BY NHDES	
3'–4'	4'–0"	2"
> 4'	NO INSUL. REQUIRED	

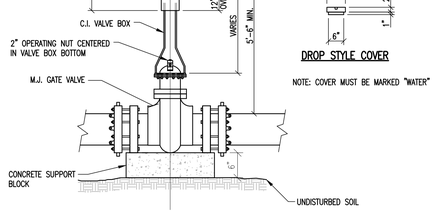
TRENCH INSULATION NOTES:
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. NOTIFY DEPARTMENT OF PUBLIC WORKS TO REVIEW INSTALLATION AND BACKFILL.
3. ALL SHALLOW WATER INSTALLATIONS MUST BE APPROVED BY ENGINEER PRIOR TO INSTALLATION..

INSULATION OVER SHALLOW WATER LINE DETAIL (2)
NOT TO SCALE



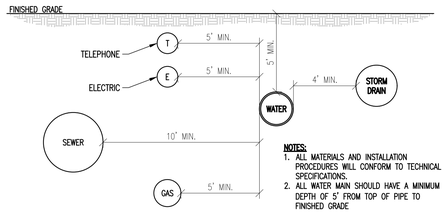
NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR FULL LENGTH OF PIPE.
3. PROVIDE MINIMUM COVER AS SHOWN OVER WATER PIPE, OTHERWISE, REFER TO INSULATION OVER SHALLOW WATER LINE DETAIL.
4. INSTALL WATER PIPE IN ACCORDANCE WITH AWWA STANDARD C600.
5. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
6. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED IN THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
7. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
8. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

WATER TRENCH DETAIL (3)
NOT TO SCALE



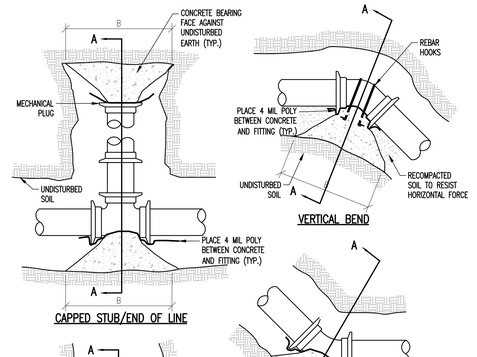
NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. UTILIZE MEGALUG MECHANICAL JOINT RESTRAINT ON ALL M.J. GATE VALVES.
3. SEE TYPICAL WATER TRENCH DETAIL FOR PIPE BEDDING REQUIREMENTS.
4. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'–0 , A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

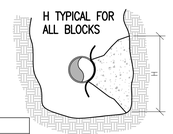
GATE VALVE DETAIL (4)
NOT TO SCALE



NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISHED GRADE

WATER MAIN UTILITY SEPARATIONS (1)
NOT TO SCALE





NOTES:
1. PERFORM HYDROSTATIC AND LEAKAGE TEST PRESSURE PER SPECIFICATIONS.
2. PLACE 4 MIL POLYETHYLENE BETWEEN FITTINGS AND THRUST BLOCKS.
3. CONCRETE SHALL BE CLASS B.
4. ON ALL THRUST BLOCKS, B SHALL BE THE GREATER DIMENSION, USE 1.5:1 TO 2:1 FOR B/H.

TABLE 2 – THRUST DEVELOPED PER 100psi PRESSURE (lbs force)

PIPE DIAMETER IN.	VALVES AND DEAD ENDS, TEES	90° BENDS	45° BENDS	22½° BENDS	11¼° BENDS
4	1810	2560	1390	635	320
6	3740	5290	2860	1370	690
8	6430	9100	4920	2320	1170
10	9680	13680	7410	3610	1820
12	13690	19350	10470	5080	2550
14	18380	25990	14100	6100	3080
16	23780	33630	18280	7960	4020

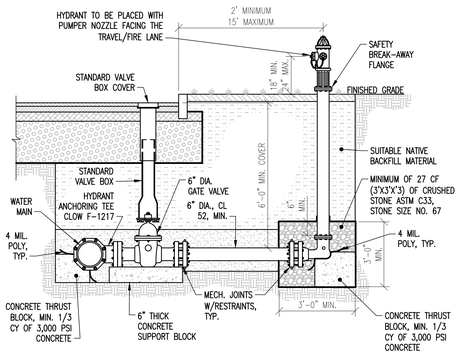
TABLE 1 – BEARING STRENGTH OF UNDISTURBED SOIL

SOIL TYPE	BEARING STRENGTH
PEAT, ETC.	0 lb/ft²
SOFT CLAY	500 lb/ft²
SAND	1000 lb/ft²
SAND AND GRAVEL	1500 lb/ft²
SAND AND GRAVEL WITH CLAY	2000 lb/ft²
SAND AND GRAVEL CEMENTED WITH CLAY	4000 lb/ft²
HARD PAN	5000 lb/ft²

DETERMINING MINIMUM BEARING FACE AREA:
THE AREA (ft^2) SHALL BE CALCULATED BY DETERMINING THE TOTAL THRUST GENERATED AT THE FITTING.
DIVIDE THE THRUST DEVELOPED (lbs force) (FROM TABLE 2) BY THE BEARING STRENGTH OF THE SOIL (FROM TABLE 1). THE RESULT IS THE AREA OF THE SOIL REQUIRED TO RESIST THE THRUST (A).
THE AREA CALCULATED WILL BE FOR THE AREA OF CONCRETE UP AGAINST THE TRENCH WALL (i.e. THE BACK SIDE OF THE BLOCK). USE THE TEST PRESSURE TO DETERMINE THE TOTAL THRUST.

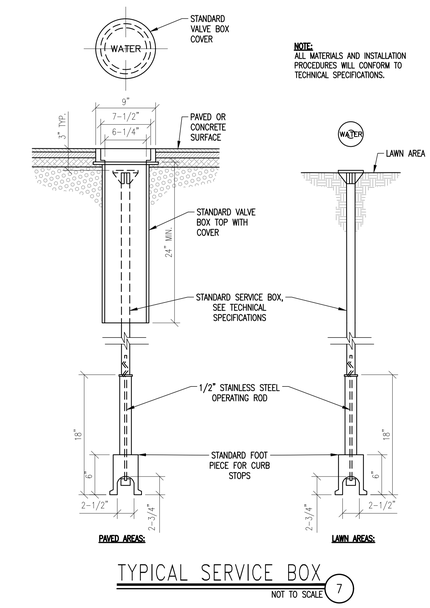
$$\text{AREA} = \frac{\text{THRUST DEVELOPED (lbs force)}}{\text{BEARING STRENGTH OF SOIL}}$$

TYPICAL BEARING THRUST BLOCK (5)
NOT TO SCALE



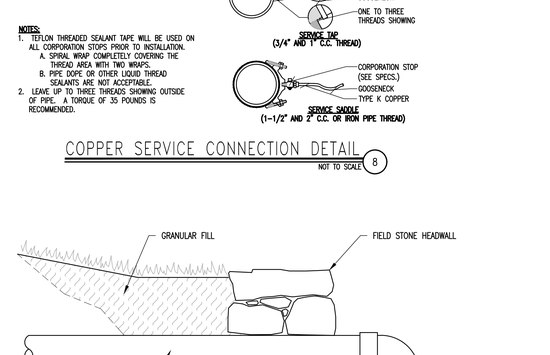
NOTES:
1. HYDRANT DRAIN SHALL BE PLUGGED.
2. ACCEPTABLE HYDRANT MAKE AND MODEL: MUELLER SUPER CENTURION 250 MODEL A–423 (NO HYDRANT DRAIN).
3. HYDRANT SHALL MEET OR EXCEED AWWA C502.
4. 5¼" VALVE OPENING.
5. ONE (1) 4½" NST PUMPER NOZZLE.
6. TWO (2) 2½" NST HOSE NOZZLE.
7. OPERATING NUT AND NOZZLE CAPS – NS#7 PENTAGON
8. SIX (6) INCH MECHANICAL JOINT CONNECTION WITH ACCESSORIES FOR 6.90 O.D. DI PIPE.
9. OPERATION: OPEN COUNTERCLOCKWISE (LEFT).
10. DEPTH AS REQUIRED.
11. CONTRACTOR TO SUPPLY AND INSTALL HYDRANT
12. TOP OF BLOCKING TO BE 2 INCHES FROM HYDRANT WEEP HOLES.

HYDRANT DETAIL (6)
NOT TO SCALE



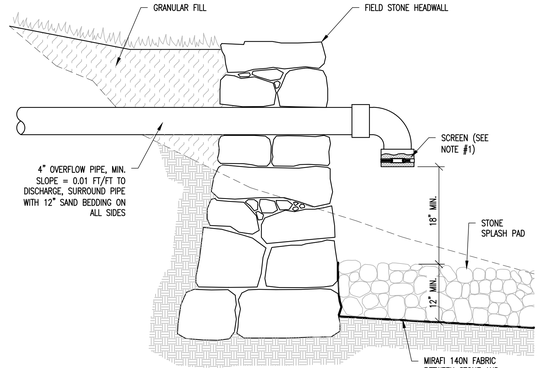
NOTE:
ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.

TYPICAL SERVICE BOX (7)
NOT TO SCALE



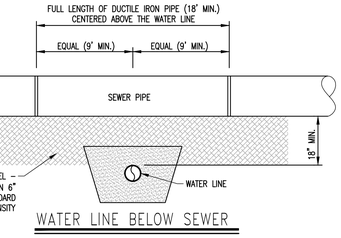
NOTES:
1. TEFLON THREADED SEALANT TAPE WILL BE USED ON ALL CORPORATION STOPS PRIOR TO INSTALLATION.
    A. SPIRAL WRAP COMPLETELY COVERING THE THREAD AREA WITH TWO WRAPS.
    B. PIPE DOPE OR OTHER LIQUID THREAD SEALANTS ARE NOT ACCEPTABLE.
2. LEAVE UP TO THREE THREADS SHOWING OUTSIDE OF PIPE. A TORQUE OF 35 POUNDS IS RECOMMENDED.

COPPER SERVICE CONNECTION DETAIL (8)
NOT TO SCALE

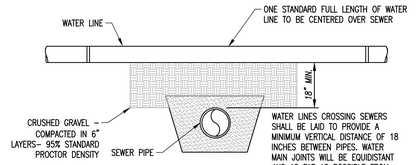


NOTE:
1. TANK DRAIN DISCHARGE POINT:
    - 18" (MIN.) ABOVE GROUND SURFACE
    - DOWNWARD FACING 90 DEGREE BEND
    - RESTRAINED #24 NON–CORRODIBLE SCREEN

OVERFLOW DISCHARGE (9)
NOT TO SCALE



WATER LINE BELOW SEWER



WATER LINE ABOVE SEWER
(PREFERED CROSSING ORIENTATION)

NOTE:

PROTECTION OF WATER SUPPLIES

a. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN ANY CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.

b. NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADII ESTABLISHED IN ~~ENV–WS 300~~ FOR ANY PUBLIC WATER SUPPLY WELL OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.

c. SEWERS SHALL BE LOCATED AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.

d. A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (b) or (c) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ~~ENV–Wq 704.06~~.

e. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:

1.) VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND

2.) SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 9 FEET HORIZONTALLY FROM THE WATER MAIN.

f. WATER–SEWER SEPARATION SHALL COMPLY WITH ~~NYS STANDARDS~~

TYPICAL SEWER/WATER SEPARATION DETAILS (10)
NOT TO SCALE

No.	Description	Date

Stamp

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Sheet Title: WATER DETAILS (1 OF 2)

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	6/2/2023

C103

S:\PROJECTS\2022\2621 SE Broadway Development\Data\Civil Files\2621 – 11X17.dwg, – Fold Me

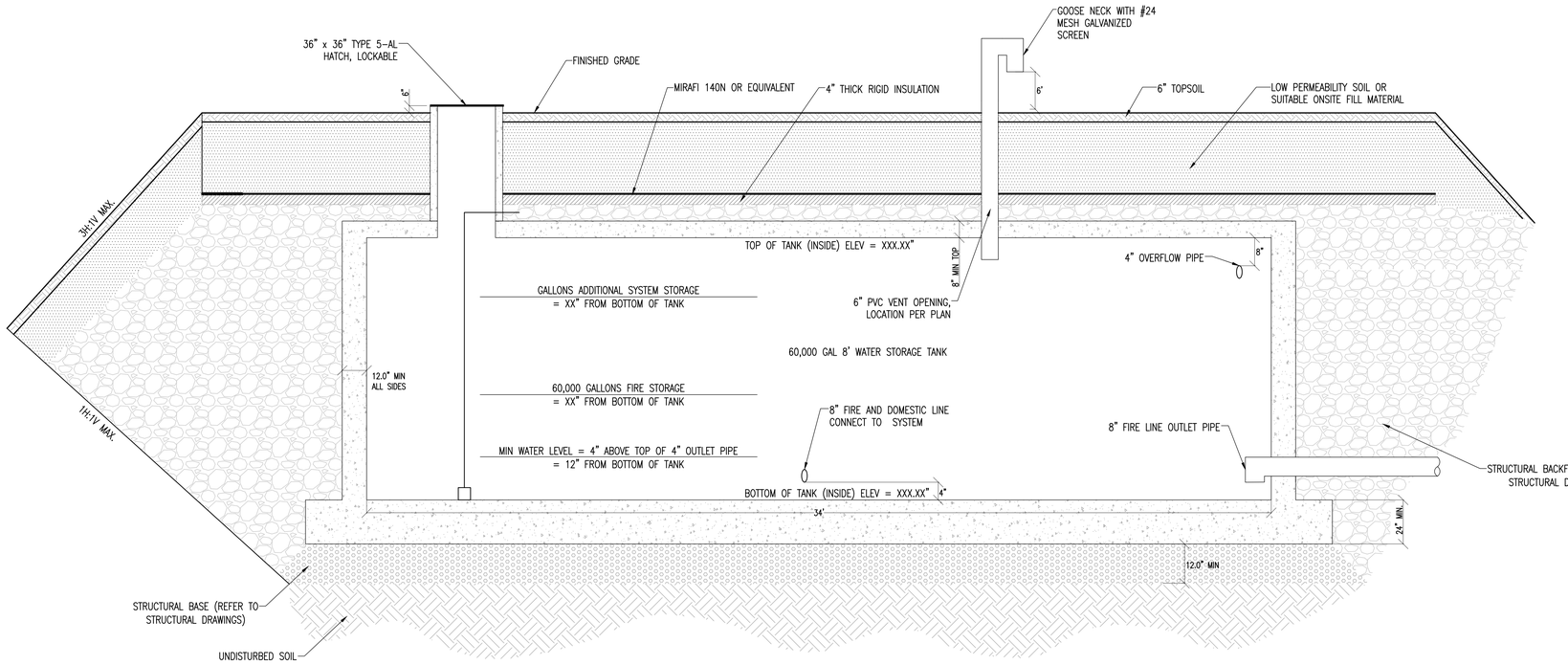
WATER TANK ELEVATION CONTROL INDEX:

SETTINGS	DISTANCE ABOVE TANK BOTTOM (IN)
LOW WATER ALARM	XX"
WELL PUMP ON	XX"
WELL PUMP OFF	XX"
HIGH ALARM LEVEL	XX"

*ALARMS TO BE INTEGRATED INTO SECURITY SYSTEM

WATER TANK NOTES:

1. ITEMS OF WORK SHALL INCLUDE ALL NECESSARY MATERIALS AND THEIR INSTALLATION AS REQUIRED TO OPERATE THE POTABLE WATER SYSTEM AND ALL NEW COMPONENTS.
2. TANKS, PIPING AND APPURTENANCES SHALL BE MANUFACTURED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES (UL) STANDARD 1316 AND NATIONAL SANITATION FOUNDATION (NSF) STANDARD 61.
3. WATER TANK PIPE PENETRATIONS SHALL BE MADE WITH FLEXIBLE CONNECTORS.
4. BURIED WATER PIPING SHALL BE CONSTRUCTED ACCORDING TO THE NOTES AND DETAILS ON SHEET C103.
5. TANKS, PIPING AND APPURTENANCES INVOLVED WITH THE PROPOSED WATER SYSTEM IMPROVEMENTS SHALL BE INSTALLED, CLEANED, AND DISINFECTED IN ACCORDANCE WITH THE CURRENT NEW YORK STATE DEPARTMENT OF HEALTH REGULATIONS AND THE TANK MANUFACTURER'S INSTALLATION MANUAL AND OPERATING GUIDELINES. DISINFECTION OF TANK, PIPING AND APPURTENANCES SHALL COMPLY WITH ALL PERTINENT PROCEDURES AND REQUIREMENTS OF THE LATEST EDITIONS OF AWWA C651 AND AWWA C652.
6. UPON COMPLETION OF CONSTRUCTION, THE WATER TANKS SHALL BE FILLED WITH POTABLE WATER TO THE OVERFLOW ELEVATION AND SUBJECTED TO A 24 HOUR HYDROSTATIC LEAKAGE TEST. VISUAL OR MEASURABLE WATER LOSS DURING THIS TEST PERIOD SHALL NOT BE ACCEPTABLE. THE TANKS MAY BE DISINFECTED ONLY AFTER A SATISFACTORY LEAKAGE TEST HAS BEEN OBSERVED BY THE ENGINEER.
7. CHLORINATED WATER SHALL BE NEUTRALIZED AS OUTLINED IN AWWA STANDARD C652, APPENDIX B, BEFORE BEING RELEASED INTO THE ENVIRONMENT.
8. SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY THE OWNER AND ENGINEER. THE CONTRACTOR SHALL BE AWARE THAT WATER SYSTEM MODIFICATIONS MAY BE SUBJECT TO STATE REVIEW AND PERMIT AMENDMENT.
9. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE.

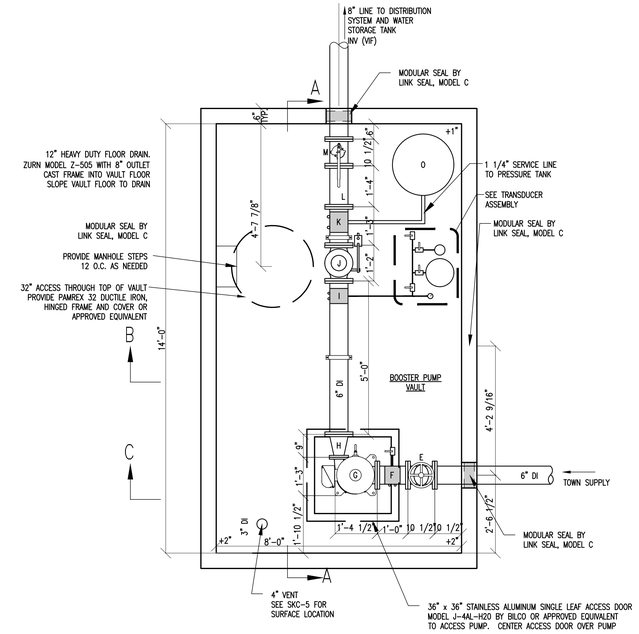


NOTES:

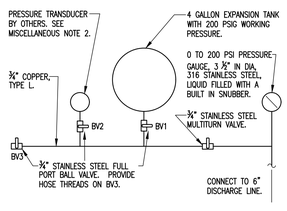
1. THE BACKFILL SHALL MEET THE REQUIREMENTS SHOWN ON THE STRUCTURAL PLANS. COMPACT IN 12" LIFTS OR PER MANUFACTURER'S REQUIREMENT OR RECOMMENDATION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRY AND STABLE SUBGRADES IN THE EXCAVATION AND SHALL USE PROTECTIVE WORKING MATS AS NEEDED. PROTECTIVE WORKING MATS MAY CONSIST OF 6 INCHES OF COMPACTED GRANULAR FILL OR 3 INCHES OF 3/4" CRUSHED STONE.

60,000 GALLON STORAGE TANK DETAILS

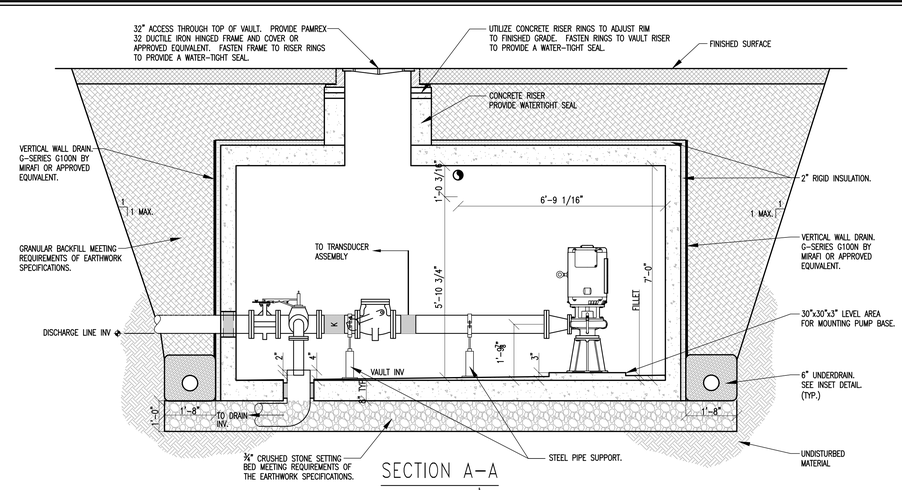
NOT TO SCALE (1)



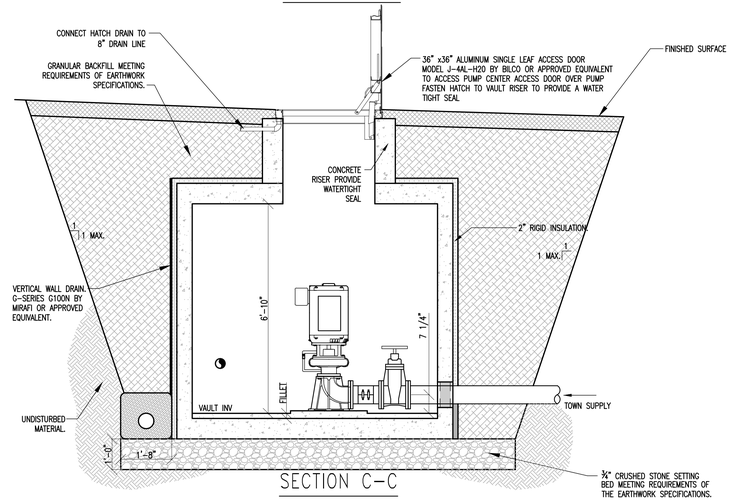
PLAN



TRANSDUCER ASSEMBLY



SECTION A–A



SECTION C–C

WATER BOOSTER STATION DETAILS

NOT TO SCALE (2)

Stamp

Date

Description

No.

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5933
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title: WATER DETAILS (2 OF 2)

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	6/2/2023

C104

SEWER NOTES

A-01. BUILDING SEWERS

A. MATERIALS: THE BUILDING SEWER SHALL BE CONSTRUCTED IN A MANNER WHICH WILL PREVENT LEAKING, BREAKING OR CLOGGING. ACCEPTABLE MATERIALS FOR THE SEWER ARE RUBBER-RING-JOINTED PVC GRAVITY SEWER PIPE SDR35 ASTM D3034.
B. SIZING AND SLOPE: MINIMUM BUILDING SEWER SIZE IS 4 INCHES (UNLESS SHOWN ON THE PLAN) AND A MINIMUM SLOPE IS 1/4 INCH PER FOOT.
C. MANHOLES: BUILDING SEWERS DISCHARGING TO A COLLECTION SEWER SHALL BE CONNECTED THROUGH A MANHOLE OR WITH A WYE FITTING SO AS TO DIRECT FLOW AND MINIMIZE IN-LINE TURBULENCE.
D. CLEANOUTS: CLEANOUTS SHALL BE PROVIDED AT EACH HORIZONTAL CHANGE IN DIRECTION OF THE BUILDING SEWER GREATER THAN 45 DEGREES, NOT GREATER THAN EVERY 100' AND WHERE INDICATED ON THE DESIGN DRAWINGS. BUILDING SEWER CHANGES IN DIRECTION WHICH EXCEED 45 DEGREES SHOULD BE MADE WITH TWO 45 DEGREE ELLS OR LONG SWEEP FITTINGS. MANHOLES ARE ACCEPTABLE IN LIEU OF CLEANOUTS. WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH OF LESS THAN 3 FEET UNDER DRIVEWAYS ARE ANTICIPATED, EXTRA HEAVY CAST IRON PIPE SHALL BE USED.
E. LEAKAGE: BUILDING SEWERS SHALL MEET THE LEAKAGE STANDARDS PRESCRIBED IN THE STATE OF NEW YORK SPECIFICATIONS. SEE "A-02, J" BELOW FOR MORE DETAIL.

A-02. SEWER COLLECTION SYSTEMS:

A. A SEWER COLLECTION SYSTEM IS THAT SYSTEM OF SEWERS THAT TRANSPORT WASTEWATER FROM BUILDING SEWERS TO THE WASTEWATER TREATMENT/DISPOSAL SYSTEM.
B. NO CONNECTIONS OF ROOF DRAINS, AREA DRAINS, FOUNDATION DRAINS, CELLAR DRAINS OR OTHER CLEAN WATER SOURCES OR ANY STORM DRAINS WILL BE ALLOWED TO BUILDING OR COLLECTION SEWERS.
C. THE SIZE OF COLLECTION SEWERS SHALL BE AS SHOWN ON THESE DRAWINGS.
D. DEPTH: SEWERS SHALL BE SUFFICIENTLY DEEP TO PREVENT FREEZING. RIGID FOAM INSULATION SHALL BE USED, WHERE INDICATED ON DRAWINGS.
E. SLOPE, VELOCITY: ALL SEWERS SHALL BE INSTALLED WITH NOT LESS THAN THE SLOPES SHOWN BELOW:

PIPE SIZE (INCHES)	SLOPE (FEET/100 FEET)
6"	0.60
8"	0.40

F. CHANGES IN PIPE SIZE: WHEN A SMALLER SEWER JOINS A LARGE ONE, THE INVERT OF THE LARGER SEWER SHALL BE LOWERED SUFFICIENTLY TO MAINTAIN THE SAME ENERGY GRADIENT.
G. MATERIAL: PVC SDR 35, ASTM D3034, WITH PUSH-ON GASKETED JOINTS. GASKETS SHALL CONFORM TO ASTM D3212. SEWER JOINTS SHALL BE CONSTRUCTED TO MINIMIZE INFILTRATION AND TO PREVENT THE ENTRANCE OF ROOTS INTO THE SYSTEM.
H. TRENCHING: LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
I. BEDDING: SEE TRENCH DETAILS THIS DRAWING FOR MATERIALS. TRENCH BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL FREE FROM DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS.
J. LEAKAGE TESTS: UPON COMPLETION OF SEWER MAIN CONSTRUCTION, THE SEWER LINE SHALL BE TESTED IN ACCORDANCE WITH THE STATE OF NEW YORK SPECIFICATIONS.

LEAKAGE TESTS FOR GRAVITY SEWERS

PERFORM A PRESSURIZED AIR TEST ON THE GRAVITY LINE IN ACCORDANCE WITH THE LATEST VERSION OF DESIGN STANDARDS FOR WASTEWATER TREATMENT WORKS ON EACH SECTION OF THE GRAVITY SEWER. THE ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.

PLUG ALL OPENINGS IN THE TEST SECTION. ADD AIR UNTIL THE INTERNAL PRESSURE OF THE LINE IS RAISED TO APPROXIMATELY 4.0 POUNDS/SQUARE INCH (PSI) GREATER THAN THE AVERAGE PRESSURE OF ANY GROUND WATER. AFTER THIS PRESSURE IS REACHED, ALLOW THE PRESSURE TO STABILIZE. THE PRESSURE WILL NORMALLY DROP AS THE AIR TEMPERATURE STABILIZES. THIS USUALLY TAKES 2 TO 5 MINUTES DEPENDING ON THE PIPE SIZE. THE PRESSURE MAY BE REDUCED TO 3.5 PSI BEFORE STARTING THE TEST.

START THE TEST WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE THE STARTING TEST PRESSURE OF 3.5 PSI ABOVE THE PIPE. IF THE PRESSURE DROPS MORE THAN 1.0 PSI DURING THE TEST TIME, THE LINE IS PRESUMED TO HAVE FAILED THE TEST. IF A 1.0 PSI DROP DOES NOT OCCUR WITHIN THE TEST TIME, THE LINE HAS PASSED THE TEST. THE TEST TIME SHALL BE DERIVED FROM THE FOLLOWING TABLE. IF THE SECTION OF LINE TO BE TESTED INCLUDES MORE THAN ONE PIPE SIZE, CALCULATE THE TEST TIME FOR EACH SIZE AND ADD THE TEST TIMES TO ARRIVE AT THE TOTAL TEST TIME FOR THE SECTION.

PIPE SIZE (INCHES)	T (TIME) (MIN/100 FT.)
3	0.2
4	0.3
6	0.7
8	1.2
10	1.5
12	1.8

K. INSTALLATION: PIPE SHALL BE LAID WITH BELL ENDS FACING UPGRADE AND LAYING SHALL START AT THE DOWNGRADE END.
L. WATER LINE SEPARATION

a. HORIZONTAL SEPARATION: SEWERS SHALL BE LAID FLAT AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER LINE. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WHERE IMPOSSIBLE OR IMPRACTICABLE, DUE TO LEDGE, BOULDERS OR OTHER UNUSUAL CONDITIONS, TO MAINTAIN THE TEN FOOT SEWER/WATER PIPE HORIZONTAL SEPARATION BETWEEN SEWER AND WATER LINES, THE WATER LINE MAY BE IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF IN THE SEWER TRENCH PROVIDED THAT THE BOTTOM OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHEREVER IMPOSSIBLE OR IMPRACTICAL TO MAINTAIN THE 18 INCH VERTICAL SEPARATION, THE SEWER LINE SHALL BE CONSTRUCTED TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO 50 PSI FOR 15 MINUTE PRIOR TO BACKFILLING. NO LEAKAGE SHALL BE ALLOWED FOR THIS TEST.

b. CROSSINGS: SEWERS CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATER MAIN WITH AT LEAST 18 INCHES VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE SEWER AND THE OUTSIDE OF THE WATER MAIN. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION:

1. THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AWAY AS POSSIBLE FROM WATER JOINTS;
2. THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER;
3. THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS;
4. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

A-03. MANHOLES

A. DIAMETER: THE MINIMUM DIAMETER OF MANHOLES SHALL BE 48 INCHES; LARGE DIAMETERS ARE PREFERRED FOR CONNECTION TO LARGE DIAMETER SEWERS. A MINIMUM ACCESS DIAMETER OF 24 INCHES SHALL BE PROVIDED.
B. FLOW CHANNEL: FLOW CHANNELS SHALL BE PROVIDED IN THE BASE OF ALL MANHOLES AND THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
C. MANHOLES SHALL BE OF THE PRE-CAST CONCRETE OR POUR-IN PLACE CONCRETE TYPE. MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR.
D. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A RUBBER-GASKETED FLEXIBLE WATERTIGHT CONNECTION THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL TO TAKE PLACE.
E. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTING OF GRAVITY SEWERS UTILIZING THE WATER TESTING PROCEDURES TAKES INTO ACCOUNT THE LEAKAGE FROM ONE MANHOLE IN THE TEST SECTION. OTHERWISE, MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

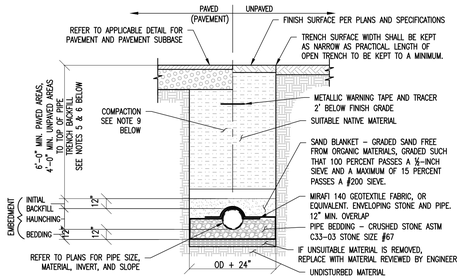
AFTER THE MANHOLE HAS BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED WITH AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED AND THE PLUGS PLACED TO PREVENT BLOWOUT.

EACH MANHOLE SHALL BE CHECKED FOR INFILTRATION BY FILLING WITH WATER TO THE TOP OF THE CONE SECTION. A STABILIZATION PERIOD OF ONE HOUR SHALL BE PROVIDED TO ALLOW FOR ABSORPTION. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST SIX HOURS BEGUN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BEREFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE CONVERTED TO A 24 HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24 HOUR PERIOD FOR EXFILTRATION AND THERE SHALL BE NO VISIBLE INFILTRATION.

REQUIRED SEPARATION DISTANCES FROM WASTEWATER COMPONENTS

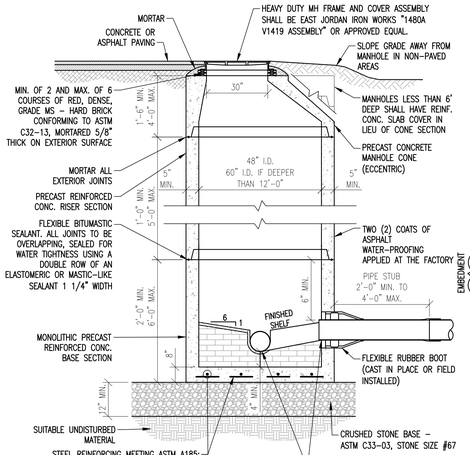
SYSTEM COMPONENTS	WELL (d) OR SUCTION LINE	TO STREAM, LAKE, WATERCOURSE (b) OR WETLAND	DWELLING	PROPERTY LINE	DRAINAGE DITCH
HOUSE SEWER (WATERTIGHT JOINTS)	25' IF CAST IRON OR PVC W/O-RING JOINTS; 50' IF NOT	25'	3'	10'	.....
SEPTIC TANK	50'	50'	10'	10'	10'
EFFLUENT LINE TO D-BOX	50'	50'	10'	10'	10'
DISTRIBUTION BOX	100'	100'	20'	10'	20'
ABSORPTION FIELD (c) (INCL. REPLACEMENT AREA)	100' (a)	100'	20'	10'	20'
DRY WELL (ROOF & FOOTING)	50'	25'	20'	10'	10'
SANITARY PRIVY PIT	100'	50'	20'	10'	20'
PRIVY, WATERTIGHT VAULT	50'	50'	20'	10'	10'

NOTES:
(a) WHEN SEWAGE TREATMENT SYSTEMS ARE LOCATED IN COARSE GRAVEL OR UPGRADE AND IN THE GENERAL PATH OF DRAINAGE TO A WELL, THE CLOSEST PART OF THE TREATMENT SYSTEM SHALL BE AT LEAST 200' AWAY FROM THE WELL. THE LEACH FIELD MUST ALSO BE 200' AWAY FROM ANY PUBLIC WATER SUPPLY WELLS.
(b) MEAN HIGH WATER MARK.
(c) FOR ALL SYSTEMS INVOLVING THE PLACEMENT OF FILL MATERIAL, SEPARATION DISTANCES ARE MEASURED FROM THE TOE OF SLOPE OF THE FILL.
(d) ANY WATER SERVICE UNDER PRESSURE LOCATED WITHIN 10' OF ANY ABSORPTION FIELD, SEEPAGE PIT OR SANITARY PRIVY SHALL BE INSTALLED INSIDE A LARGER DIAMETER WATER MAIN TO PROTECT THE POTABLE WATER SUPPLY



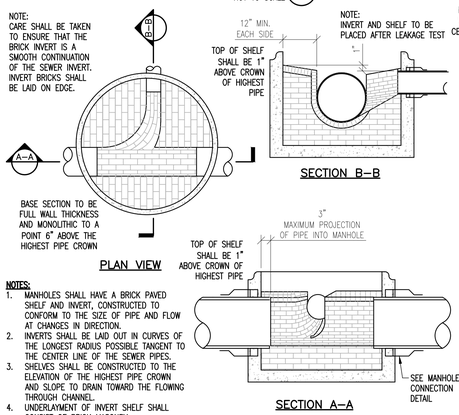
NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. FOR SEWER LINES THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'-0" IN PAVED AREAS AND 4'-0" IN UNPAVED AREAS. SHALLOWER DEPTHS REQUIRE APPROVAL FROM THE ENGINEER. REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.
4. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED IN THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
6. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW SEWER SYSTEM DURING CONSTRUCTION.
7. ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER.
8. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
9. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

GRAVITY SEWER TRENCH DETAIL
NOT TO SCALE (1)

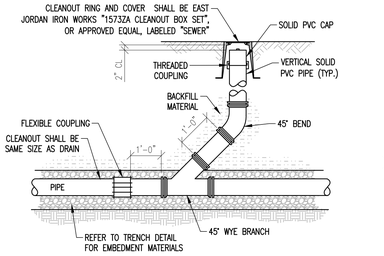


NOTES:
1. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION.
2. INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES.
3. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL.
4. UNDERLAYMENT OF INVERT SHELF SHALL CONSIST OF BRICK MASONRY.
5. MANHOLE AND COVER SHALL BE DESIGNED FOR H20 LOADING.
6. MANHOLE SHALL CONFORM TO ASTM C478 SPECIFICATIONS FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
7. CONCRETE FC=4,000 PSI @ 28 DAYS MINIMUM
8. BASE SECTION SHALL BE A ONE POUR MONOLITHIC SECTION

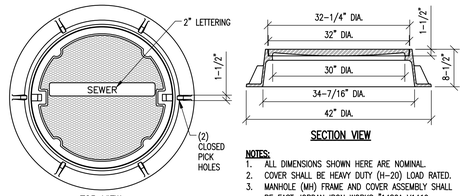
SEWER MANHOLE DETAIL
NOT TO SCALE (2)



SEWER MANHOLE INVERT AND SHELF DETAIL
NOT TO SCALE (3)

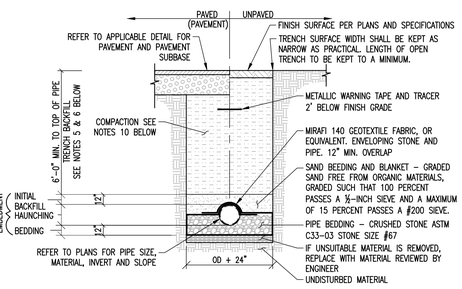


SEWER CLEANOUT DETAIL
NOT TO SCALE (4)



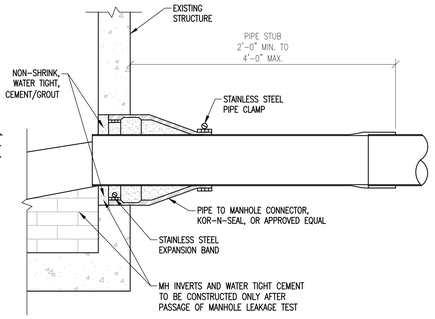
NOTES:
1. ALL DIMENSIONS SHOWN HERE ARE NOMINAL.
2. COVER SHALL BE HEAVY DUTY (H-20) LOAD RATED.
3. MANHOLE (MH) FRAME AND COVER ASSEMBLY SHALL BE EAST JORDAN IRON WORKS "1480A V1419 ASSEMBLY" OR APPROVED EQUAL.

SEWER MANHOLE FRAME & COVER
NOT TO SCALE (5)



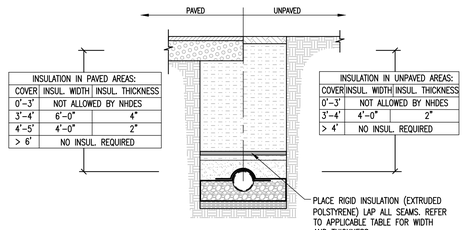
SANITARY FORCE MAIN TRENCH NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. FOR SEWER FORCE MAINS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'-0".
4. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED BY NHDOT 203.2.7, ENV-WQ-704.11(b), AND THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
6. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW SEWER FORCE MAIN SYSTEM DURING CONSTRUCTION.
7. ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER.
8. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
9. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

SEWER FORCE MAIN TRENCH DETAIL
NOT TO SCALE (6)



NOTES:
1. CORE HOLE SHALL BE SMOOTH, SYMMETRICAL, AND APPROPRIATELY SIZED FOR SEWER PIPE INSTALLATION.
2. WHEN APPLICABLE CONTRACTOR SHALL RECONSTRUCT EXISTING SHELF IN MANHOLES TO PROVIDE POSITIVE FLOW TO INVERT OUT.

MANHOLE CONNECTION
NOT TO SCALE (7)

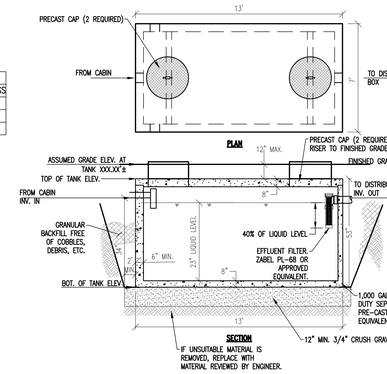


INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	NOT ALLOWED BY NHDES	
3'–4'	6'–0"	4"
4'–5'	4'–0"	2"
> 6'	NO INSUL. REQUIRED	

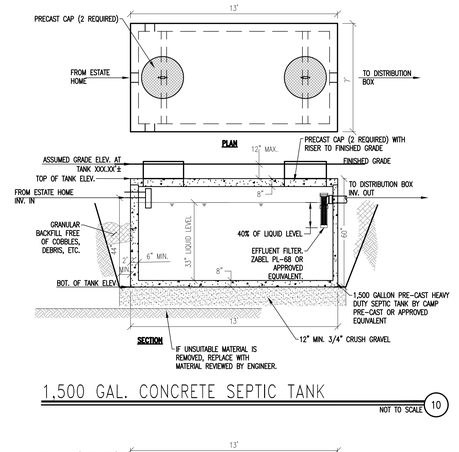
INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'–3'	NOT ALLOWED BY NHDES	
3'–4'	4'–0"	2"
> 4'	NO INSUL. REQUIRED	

NOTES:
1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. NOTIFY DEPARTMENT OF PUBLIC WORKS TO REVIEW INSTALLATION AND BACKFILL.
3. ALL SHALLOW SEWER INSTALLATIONS MUST BE APPROVED BY ENGINEER.
4. THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'–0" IN PAVED AREAS AND 4'–0" IN UNPAVED AREAS. SHALLOWER DEPTHS REQUIRE APPROVAL FROM THE ENGINEER. REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.

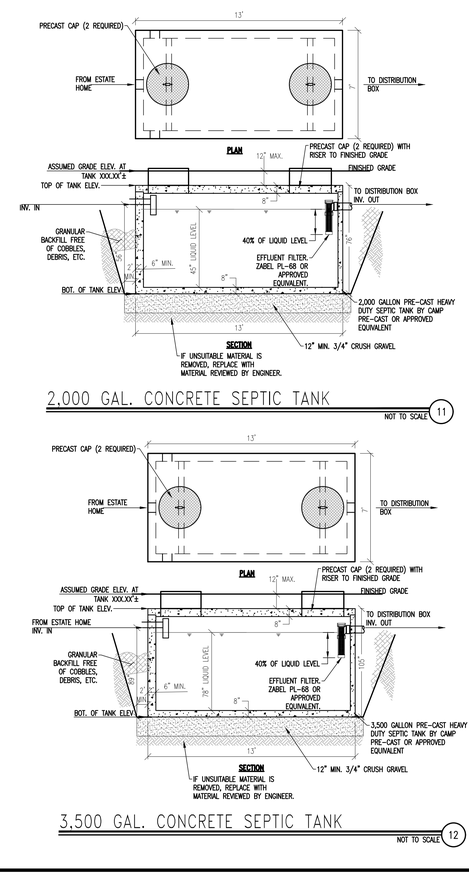
SHALLOW SEWER LINE INSULATION DETAIL
NOT TO SCALE (8)



1,000 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE (9)



1,500 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE (10)



2,000 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE (11)

3,500 GAL. CONCRETE SEPTIC TANK
NOT TO SCALE (12)

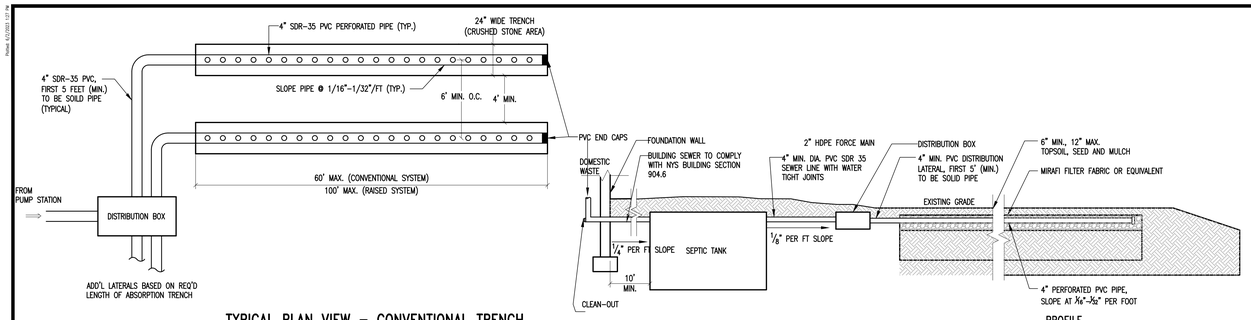
Stamp

Date

Description

No.

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mech

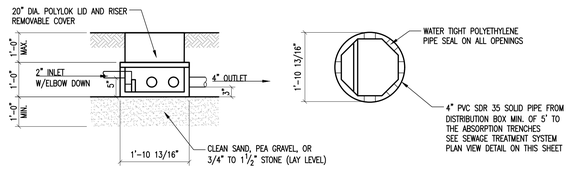


TYPICAL PLAN VIEW – CONVENTIONAL TRENCH

PROFILE

CONVENTIONAL ABSORPTION TRENCH SYSTEM DETAIL

NOT TO SCALE (1)



SECTION

NOTES:

1. DISTRIBUTION BOX BY CAMP PRECAST OR APPROVED EQUIVALENT.
2. PIPE JOINTS TO BE SEALED WITH ASPHALTIC MATERIAL OR EQUIVALENT.
3. INVERT ELEVATIONS OF ALL OUTLET PIPES MUST BE EQUAL.
4. THE SLOPE OF OUTLET PIPES BETWEEN THE DISTRIBUTION BOX AND DISTRIBUTOR LATERALS SHOULD BE A MINIMUM OF 1/16" PER FOOT.
5. INSTALL FLOW EQUALIZATION DEVICES AT EACH OUTLET TO PROVIDE EQUAL FLOW TO EACH LATERAL.
6. DIMENSIONS ARE AS PER MANUFACTURER

TYPICAL DISTRIBUTION BOX DETAIL

NOT TO SCALE (2)

BASIS OF DESIGN

BUILDING TYPE	DAILY FLOW, Q (GPD) (a)	MINIMUM EFFECTIVE TANK CAPACITY (GAL) (b)	REQUIRED LF OF ABSORPTION TRENCH (c)	REQUIRED LATERALS	WATER SOUTCE
SUITE B	5540	7905 GALLONS (USE 5,000 GAL TANK FOLLOWED BY 3,000 GAL TANK = 8,000 GAL)	2770	USE 2 FIELDS EACH WITH 7 x 200' LATERALS = 2800 LF OF TRENCH	PUBLIC WATER SUPPLY
SUITE A					
CLUB AND RESTAURANTS					
SPA AND WELLNESS					
EVENT SPACE					
SUITE C					
GUEST HOUSE #1	3520	5280 (USE 3,500 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,500 GAL)	1760	USE 1 FIELD WITH 9 x 200' LATERALS = 1800 LF OF TRENCH	PUBLIC WATER SUPPLY
GUEST HOUSE #2					
GUEST HOUSE #3	3520	5280 (USE 3,500 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,500 GAL)	1760	USE 1 FIELD WITH 9 x 200' LATERALS = 1800 LF OF TRENCH	PUBLIC WATER SUPPLY
GUEST HOUSE #4					
GUEST HOUSE #5	3520	5280 (USE 3,500 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,500 GAL)	1760	USE 1 FIELD WITH 9 x 200' LATERALS = 1800 LF OF TRENCH	PUBLIC WATER SUPPLY
GUEST HOUSE #6					
TOWN HOUSES #1–#10	4400	6600 (USE 5,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 7,000 GAL)	2200	USE 1 FIELD WITH 11 x 200' LATERALS = 2200 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #11–#17	3080	4620 (USE 3,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,000 GAL)	1540	USE 1 FIELD WITH 16 x 100' LATERALS = 1600 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #18–#22	2200	3300 (USE 3,500 GAL TANK)	1100	USE 1 FIELD WITH 11 x 100' LATERALS = 1100 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #23–#29	3080	4620 (USE 3,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 5,000 GAL)	1540	USE 1 FIELD WITH 8 x 200' LATERALS = 1600 LF OF TRENCH	PUBLIC WATER SUPPLY
TOWN HOUSES #30–#39	4400	6600 (USE 5,000 GAL TANK FOLLOWED BY 2,000 GAL TANK = 7,000 GAL)	2200	USE 1 FIELD WITH 11 x 200' LATERALS = 2200 LF OF TRENCH	PUBLIC WATER SUPPLY
TYPICAL ESTATE HOME	440	1,250 (USE 1,500 GAL TANK**)	220	USE 1 FIELD WITH 4 x 55' LATERALS = 220 LF OF TRENCH	PUBLIC WATER SUPPLY
TYPICAL CABIN	150	225 (USE 1,000 GAL TANK)	75	USE 1 FIELD WITH 3 x 25' LATERALS = 75 LF OF TRENCH	BOTTLED WATER OR DRILLED PRIVATE WELL

NOTES:

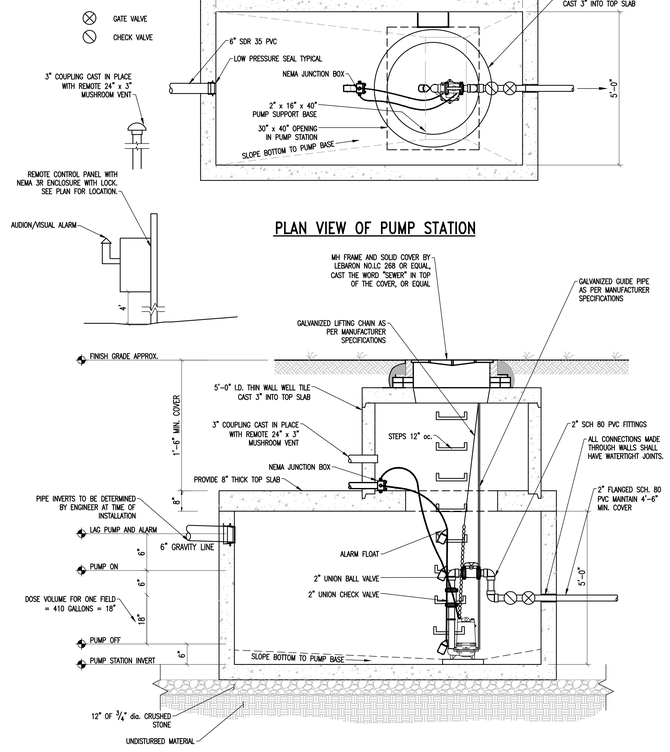
(a) TOTAL DESIGN FLOW (Q) (TABLE B–3*):

SUITE A, B, AND C:	8 BEDROOMS X 110 GPD/BEDROOM	=	880 GPD
CLUB AND RESTAURANT:	50 SEATS X 35 GPD/EMPLOYEE	=	1750 GPD
SPA AND WELLNESS:	20 PATRONS X 20 GPD/PATRON	=	400 GPD
EVENT SPACE:	75 SEATS X 10 GPD/SEAT	=	750 GPD
		=	5540 GPD
GUEST HOUSE #1:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
GUEST HOUSE #2:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
		=	3520 GPD
GUEST HOUSE #3:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
GUEST HOUSE #4:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
		=	3520 GPD
GUEST HOUSE #5:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
GUEST HOUSE #6:	16 BEDROOMS X 110 GPD/BEDROOM	=	1760 GPD
		=	3520 GPD
TYPICAL TOWN HOUSE:	4 BEDROOMS X 110 GPD/BEDROOM	=	440 GPD
TYPICAL ESTATE HOME:	4 BEDROOMS X 110 GPD/BEDROOM	=	440 GPD
TYPICAL CABIN:	10 PATRONS X 15 GPD/PATRON	=	150 GPD

(b) MINIMUM EFFECTIVE TANK CAPACITY (GAL) (TABLE D–2*):
FOR Q < 5,000 GPD, MINIMUM EFFECTIVE TANK CAPACITY (GAL) = 1.5 x Q
FOR Q > 5,000 GPD AND Q < 15,000 GPD, MINIMUM EFFECTIVE TANK CAPACITY (GAL) = 3,750 + 0.75 x Q

(c) FOR 6–7 MIN/INCH, USE APPLICATION RATE OF 1.0 GPD/SF (TABLE E–1*)
REQUIRED LINEAR FEET OF ABSORPTION TRENCH = Q / 1.0 GPD/SF / 2 FT WIDE TRENCH

* NEW YORK STATE DESIGN STANDARDS FOR INTERMEDIATE SIZED WASTEWATER TREATMENT SYSTEMS, LAST REVISED MARCH 5, 2014
** APPENDIX 75–A WASTEWATER TREATMENT STANDARDS – RESIDENTIAL ONSITE SYSTEMS, LAST REVISED MARCH 16, 2016



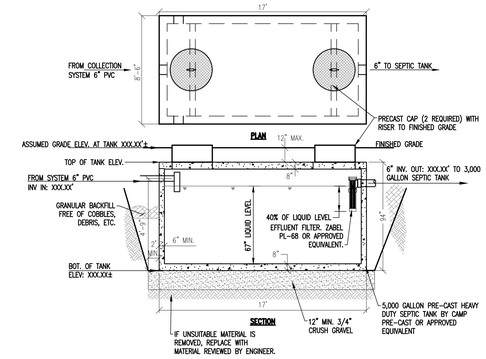
ELEVATION VIEW PUMP STATION

PUMP STATION NOTES:

1. 1000 GALLON WATER PROOF, PUMP STATION SUPPLIED BY CAMP PRE–CAST, OR EQUIVALENT.
2. CONTROL PANEL TO BE LOCATED IN THE VICINITY OF THE PUMP STATION AND SHALL CONTAIN:
   A. PUMP ALTERNATOR
   B. RUN LIGHTS
   C. MANUAL ON/OFF AUTOMATIC CONTROL
   D. ALARM SILENCE BUTTON
   E. AUDIO AND VISUAL ALARM TO BE MOUNTED ON THE CONTROL PANEL BOX.
   F. 120 VOLT RECEPTICLE.
   G. DIAL UP ALARM OPTION
   H. PUMP TIMER AND COUNTER
3. PUMP STATION SHALL BE REINFORCED CONCRETE (4000psi AT 28 DAYS AND REINFORCED WITH WELDED WIRE FABRIC) ABLE TO SUPPORT H20 LOADING.
4. SPARE PARTS TO BE SUPPLIED TO INCLUDE:
   A. EXTRA FLOAT SWITCH
   B. TWO EXTRA RESET BLOCKS IN CONTROL PANEL.
   C. TWO ORIGINAL SETS OF MANUALS FOR BOTH THE PUMPS AND CONTROL PANELS.
5. ALL ELECTRICAL COMPONENTS TO BE UNDERWRITERS LABORATORY APPROVED, INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
6. PUMP TO BE MYERS MODEL, ME100 SUBMERSIBLE EFFLUENT PUMP.
7. ALL PIPE AND FITTINGS IN PUMP STATION SHALL BE FLANGED SCHEDULE 80 PVC.
8. TANK SHALL BE INSTALLED LEVEL ON A COMPACTED 12" GRAVEL BASE.
9. STEPS TO BE COPOLYMER POLYPROPYLENE PLASTIC WITH 3/8" GRADE 60 REBAR CONTINUOUS THROUGHOUT.
10. PIPE INVERTS TO BE DETERMINED BY ENGINEER AT TIME OF INSTALLATION.

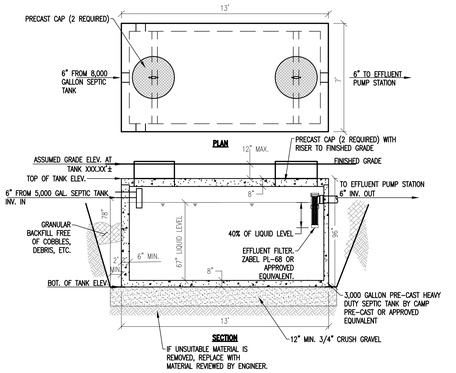
SIMPLEX PUMP STATION DETAIL

NOT TO SCALE (3)



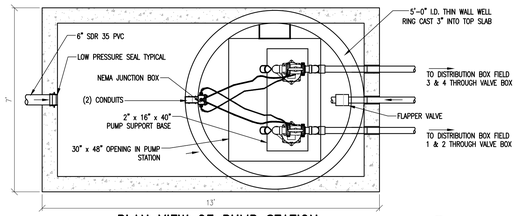
5,000 GAL. CONCRETE SEPTIC TANK

NOT TO SCALE (4)

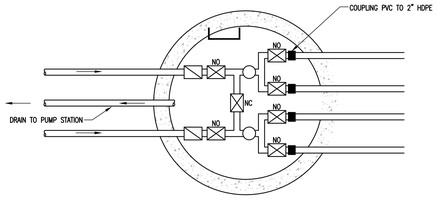


3,000 GAL. CONCRETE SEPTIC TANK

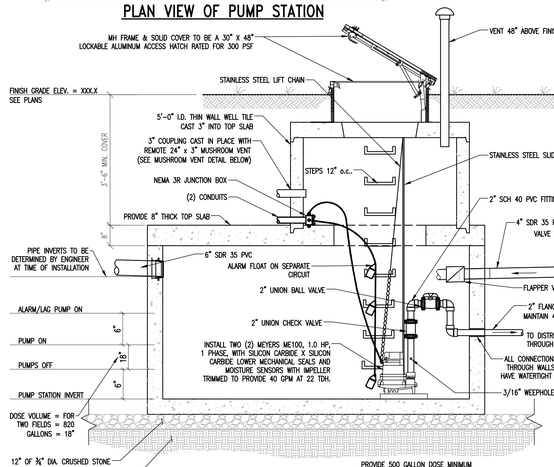
NOT TO SCALE (5)



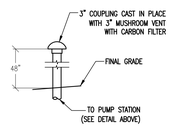
PLAN VIEW OF PUMP STATION



PLAN VIEW OF VALVE CHAMBER



2,500 GALLON DUPLEX EFFLUENT PUMP STATION



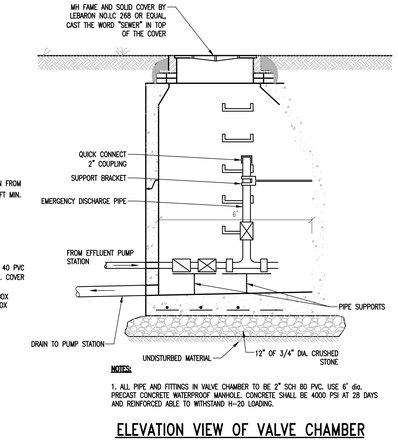
MUSHROOM VENT DETAIL

PUMP STATION NOTES:

1. ITEMS OF WORK SHALL INCLUDE ALL NECESSARY MATERIALS AND THEIR INSTALLATION AS REQUIRED TO OPERATE THE PUMPING SYSTEM.
2. 2,500 GALLON WATER PROOF, PUMP STATION SUPPLIED BY CAMP PRE–CAST, OR EQUIVALENT.
3. CONTROL PANEL TO BE LOCATED IN THE VICINITY OF THE PUMP STATION AND SHALL CONTAIN:
   A. PUMP ALTERNATOR
   B. RUN LIGHTS
   C. MANUAL ON/OFF AUTOMATIC CONTROL
   D. ALARM SILENCE BUTTON
   E. AUDIO AND VISUAL ALARM TO BE MOUNTED ON THE CONTROL PANEL BOX.
   F. 120 VOLT RECEPTACLE.
   G. PROVIDE ONLY AN EXTRA DRY CONTACT FOR A DIAL UP ALARM (A COMPLETE DIAL UP MODEM SHOULD NOT BE INCLUDED).
   H. PUMP TIMER AND COUNTER SHALL BE AN ELAPSED TIME METER FOR EACH PUMP AND AN EVENT COUNTER TO TRACK SYSTEM CYCLES.
   I. SEAL FAILURE INDICATORS
4. PUMP STATION SHALL BE REINFORCED CONCRETE (4000psi AT 28 DAYS AND REINFORCED WITH WELDED WIRE FABRIC) ABLE TO SUPPORT H20 LOADING.
5. SPARE PARTS TO BE SUPPLIED TO INCLUDE:
   A. EXTRA FLOAT SWITCH
   B. EXTRA MAGNETIC CONTACTORS.
   C. TWO ORIGINAL SETS OF MANUALS FOR BOTH THE PUMPS AND CONTROL PANELS.
6. ALL ELECTRICAL COMPONENTS TO BE UNDERWRITERS LABORATORY APPROVED, INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
7. ALL PIPE AND FITTINGS IN PUMP STATION SHALL BE FLANGED SCHEDULE 40 PVC.
8. TANK SHALL BE INSTALLED LEVEL ON A COMPACTED 12" GRAVEL BASE.
9. STEPS TO BE COPOLYMER POLYPROPYLENE PLASTIC WITH 3/8" GRADE 60 REBAR CONTINUOUS THROUGHOUT.
10. SLIDE RAILS AND DISCONNECT FITTINGS SHALL BE INSTALLED SO THAT THE PUMPS CAN BE REMOVED WITHOUT ENTERING THE PUMP STATION. A REMOVABLE STAINLESS STEEL HOIST (SIZED FOR THE SPECIFIED PUMPS) AND REQUIRED MOUNTING HARDWARE WILL BE PROVIDED WITH THE PUMP STATION.
11. THE PUMP CHAMBER AND VALVE PIT SHALL BE FILLED WITH WATER AND SUBJECTED TO A 24 HOUR HYDROSTATIC LEAKAGE TEST. NO LEAKAGE WILL BE ALLOWED DURING THE TEST PERIOD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A WATERTIGHT STRUCTURE.
12. THE FORCE MAIN LEAKAGE TEST SHALL EXTEND FROM THE DISPOSAL FIELD INTO THE 2,500 GALLON PUMP CHAMBER INTERIOR.
13. SHOP DRAWINGS OF THE PUMP STATION, VALVE PIT, AND COMPONENTS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
14. PIPE INVERTS TO BE DETERMINED BY ENGINEER AT TIME OF INSTALLATION.

DUPLEX EFFLUENT PUMP STATION DETAIL

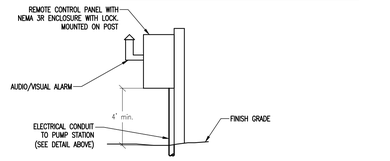
NOT TO SCALE (6)



NOTES:

1. ALL PIPE AND FITTINGS IN VALVE CHAMBER TO BE 2" SCH 80 PVC. USE 6' dia. PRECAST CONCRETE WATERPROOF MANHOLE. CONCRETE SHALL BE 4000 PSI AT 28 DAYS AND REINFORCED ABLE TO WITHSTAND H–20 LOADING.

ELEVATION VIEW OF VALVE CHAMBER



CONTROL PANEL AND ALARM DETAIL

Date

Description

No.

Stamp

ENGINEERING VENTURES PC
209 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-5225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

Sheet Title:
SANITARY DETAILS (2 OF 2)

Project Title:
Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	6/2/2023

C106

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

No.	Description	Date

Stamp

Client:
Eric Stackman
713 W Treasure Drive
North Bay Village, FL
erickstackman@bellsouth.net

Sheet Title: VISITOR AREA PART PLAN

Project Title: Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22021
Drawn By:	HMB
Checked By:	MID
Scale:	AS NOTED
Date:	6/2/2023

C201

GRAPHIC SCALE
0 10 20 40 80
1 inch = 40 ft.
(for sheet size 30" x 42")

N E

SANITARY MANHOLE (TYP.)
(DETAIL 7/C106)

5,000 GALLON SEPTIC TANK (DETAIL 4/C106)

3,000 GALLON SEPTIC TANK (DETAIL 5/C106)

2,000 GALLON DUPLEX EFFLUENT PUMP TANK (DETAIL 6/C106)

VALVE BOX WITH DISTRIBUTION HEADER

PLAN VIEW: VISITOR AREA SEWER SYSTEM

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9353
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
erickstackman@bellsouth.net

Project Title:
Stackman Property Concept
Au Sable Forks, Town of Jay, Essex County, NY

Sheet Title:
GUEST HOUSES PART PLAN

EV Project #	22021
Drawn By:	HMB
Checked By:	MID
Scale:	AS NOTED
Date:	6/2/2023

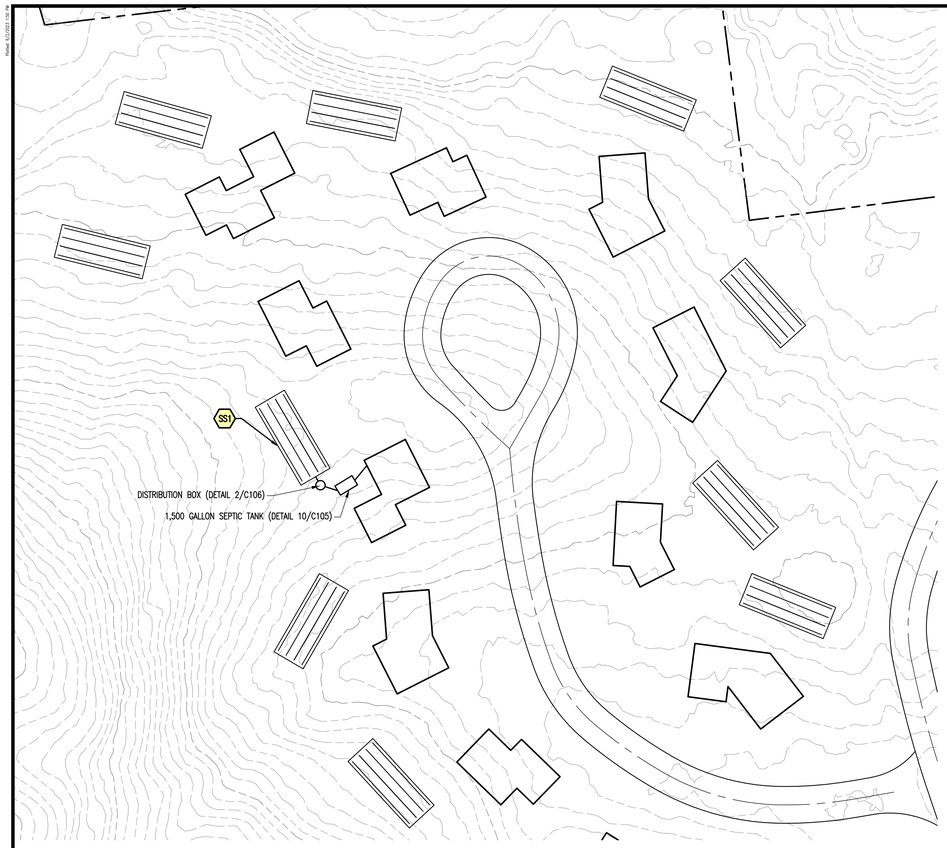
C202

No.	Description	Date

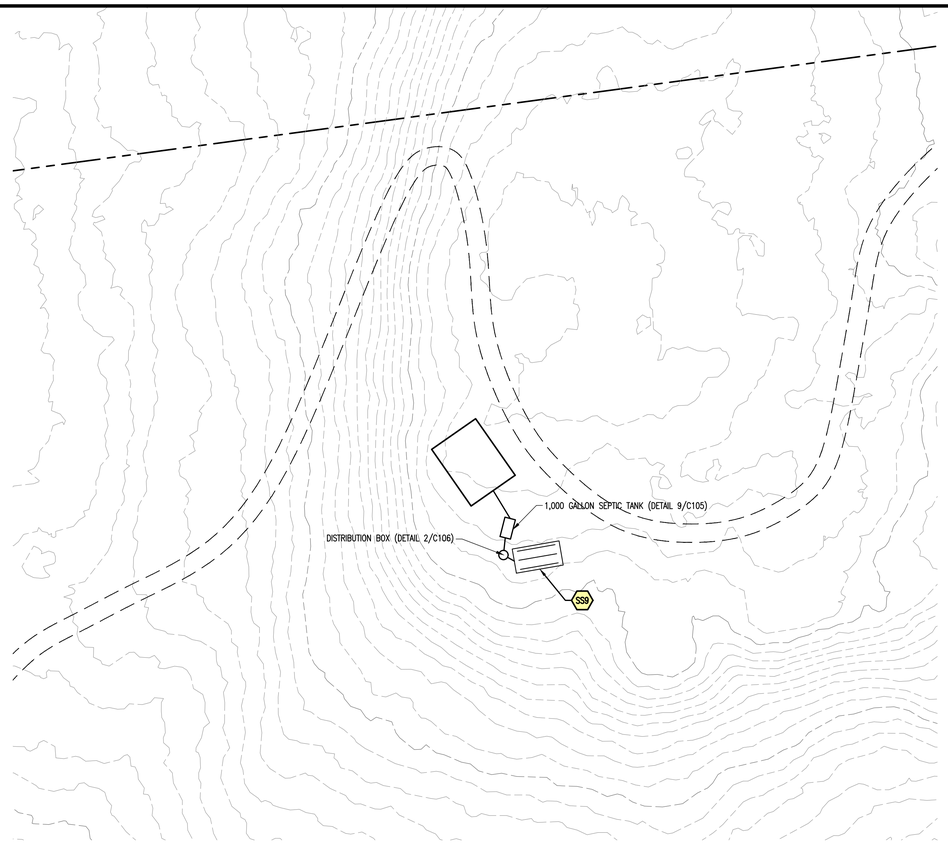
Stamp

PLAN VIEW: GUEST HOUSE SEWER SYSTEMS

I:\Projects\22-2022\2021 W Treasure Development\Civil Files\C202 - 2200 Plot Plan.dwg
Model: 6/2/2023 1:58:39 PM



PLAN VIEW: TYPICAL ESTATE HOME SEWER SYSTEM



PLAN VIEW: TYPICAL CABIN SEWER SYSTEM

N

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.
for sheet size 30" x 42"

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-0225
85 Mechanic Street, Suite B2-3, Lebanon, NH 03766 • 603-442-5333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

Client:
Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
ericstackman@bellsouth.net

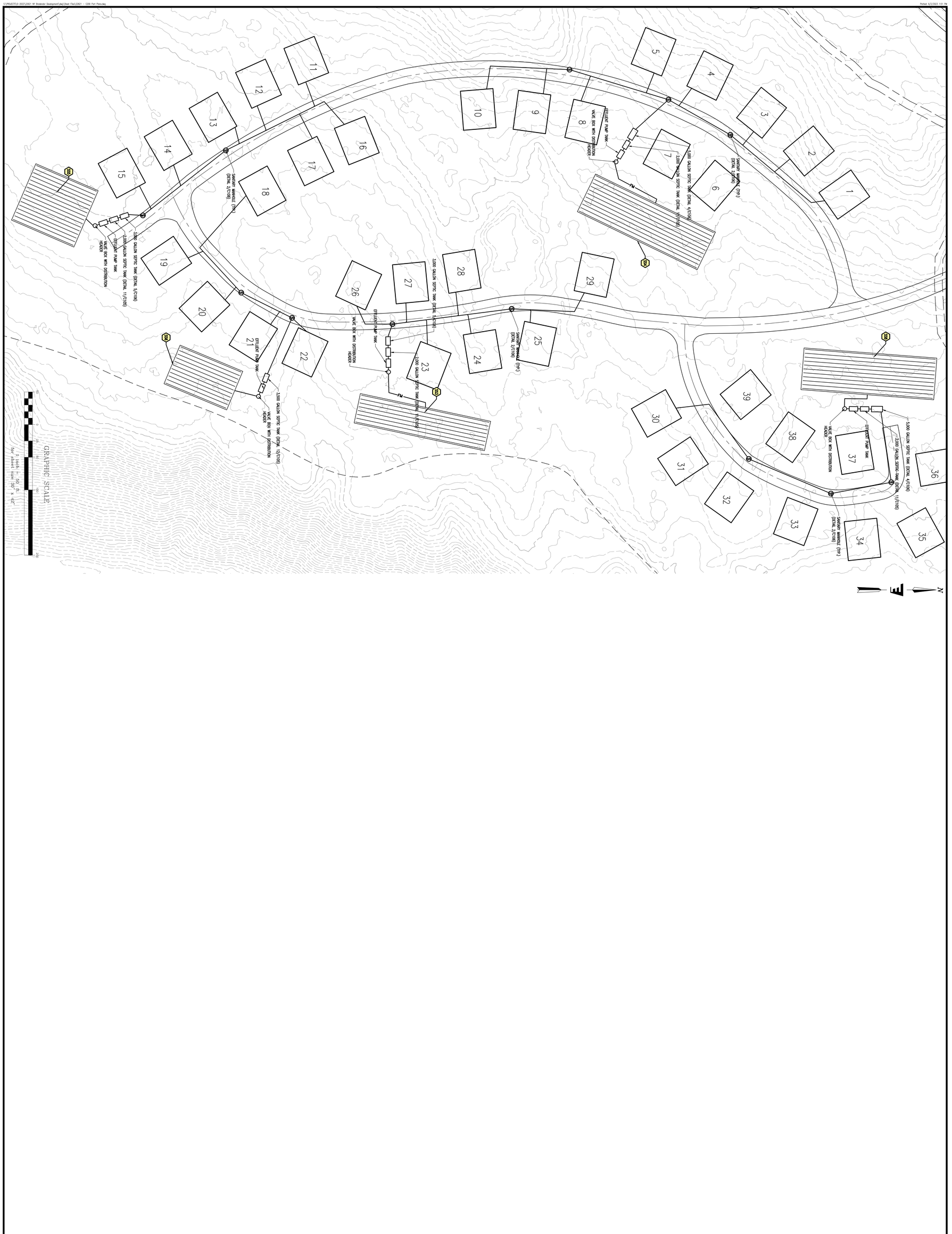
Sheet Title: TYPICAL ESTATE HOME AND TYPICAL CABIN PART PLAN

Project Title: Stackman Property Concept

Au Sable Forks, Town of Jay, Essex County, NY

EV Project #	22621
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	6/2/2023

C204



C203

Sheet Title: TOWN HOUSES PART PLAN

Project Title: Stackman Property Concept

Au Sable Forks, Town of Jay, Essex County, NY

Client:

Eric Stackman
7513 W Treasure Drive
North Bay Village, FL
erickstackman@bellsouth.net

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

No.	Description	Date

Stamp

Eng Project #: 22621
Drawn By: HMB
Checked By: MWD
Scale: AS NOTED
Date: 6/2/2023

Attachment L

Town of Jay Road Dedication
Willingness/Coordination

Municipal coordination

Outlook

Fwd: Conveyance of Roads

From Sri <ericstackman@bellsouth.net>
Date Wed 11/20/2024 9:06 PM
To Roberta Alba <ralba@robertaconsulting.com>

Sent from my iPhone

Begin forwarded message:

> **From:** Sri <ericstackman@bellsouth.net>
> **Date:** November 20, 2024 at 9:01:46 PM EST
> **To:** Matt Stanley <supervisor@townofjayny.gov>
> **Subject: Re: Conveyance of Roads**
>
> Thank you for the quick response..
> Sent from my iPhone
>
> > On Nov 20, 2024, at 1:47 PM, Matt Stanley <supervisor@townofjayny.gov> wrote:
> >
> > Attached is the info from the Town Attorney about the conveyance of the roads in a subdivision...
> >
> > Thank you,
> > Matt.
> >
> > *Matt Stanley*
> > *Town of Jay Supervisor*
> > *11 School Lane*
> > *Au Sable Forks, NY 12912*
> > *Phone: (518)647-2201 x-103*
> > *Cell: (518)907-8269*
> > *Fax: (518)647-5692*
> >
> > ---------- Forwarded message ---------
> > From: **Daniel Manning** <Daniel.Manning@essexcountyny.gov>
> > Date: Wed, Nov 20, 2024 at 12:32 PM

Subject: Re: Conveyance of Roads
To: Matthew Stanley <supervisor@townofjayny.gov>

Yes the roads would need to be built to town specs and he would also need Town Planning Board review of the roads with storm water run off design which would be part of his overall application to the Planning Board.
\

Daniel T. Manning, Esq.
Essex County Attorney
P.O. Box 217
7551 Court Street
Elizabethtown, NY 12932
Phone: (518) 873-3380
Fax: (518) 873-3894
Email: daniel.manning@essexcountyny.gov

From: Matt Stanley <supervisor@townofjayny.gov>
Sent: Wednesday, November 20, 2024 10:35 AM
To: Daniel Manning <Daniel.Manning@essexcountyny.gov>
Subject: Conveyance of Roads

[CAUTION] This email originated outside of the county. DO NOT CLICK links, attachments or provide your credentials unless you recognize the sender and know the content is safe.

Dan,

I just got off the phone with Eric Stackman. He is wondering about Conveyance of Roads in his potential subdivision to the town. I told him they would need to be built to town specifications then he could approach the Town Board for approval to convey them to the town. Is that correct?

Thank you,
Matt.

Matt Stanley
Town of Jay Supervisor
11 School Lane
Au Sable Forks, NY 12912
Phone: (518)647-2201 x-103
Cell: (518)907-8269
Fax: (518)647-5692

The information in this electronic message is confidential and may be legally privileged. It is intended solely for the addressee(s). Any dissemination or use of this electronic email or its contents by persons other than the intended recipient(s) is strictly prohibited. If you are not the intended recipient, any disclosure, copying, distribution or any action taken in reliance on it is prohibited and may be unlawful. If you have received this message in error, please notify us immediately by reply email. Please then delete the original message. Thank you

Stand #: 1 **Forest Type:** Pine - Hardwood

Acreage: 24 **Site:** 2

 # Trees/ acre: 164 (133 AGS) **Ave. Diameter:** 11.8" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 85 AGS only - 68 (49 WP, 8 RP, 6 RM, 3 WS, 1 RO, 1 ASP)

Species Composition: 66% White pine, 14% Red pine, 13% Red maple, 4% White spruce, 2% Aspen, 1% Red oak

Stand Description

This stand is located in the northwestern corner of the property. The soils are sandy and well drained to excessively drained. In this type of soils the pines will dominate. Several small ridges and valleys generally run north-south in the stand. In the north west corner the beaver have moved north and created a small wetland less than an acre in size.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. The poletimber size hardwoods and spruce trees were established when the stand was harvested 40-50 years ago. The quality of trees present in the stand is good with more than 80% tallied as acceptable growing stock. Some white pine blister rust was found on trees.

Numerous old skid trails access this stand. A very old landing was noted along the main skid trail as it turned north. This was probably used 50 years ago when smaller tandem trucks were used to haul the forest products. The severely damaged trees were likely salvaged in the late 1990's following the ice storm in 1998.

Regeneration plots were taken in the stand and there are approximately 3200 saplings per acre. The species percentages are as follows: 62% white pine, 10% red maple, 8% white spruce, 7% red oak, 4% aspen, 3% beech, 2% witch hazel, 2% striped maple, 1% white birch, 1% white oak. Good white pine regeneration is found in the old trails where skidding exposed the mineral soil (scarification).

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the western edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

TOWN OF JAY

Office of DPW
Director / Superintendent of Highways
168 Valley Road
Jay, NY 12941

Phone: (518) 647-2204 ext. 125

Fax (518) 946-1259

email: jayhwysupt@jaydpw.com

"Home of the Covered Bridge"

Town of Jay Highway Department/ Department of Public Works
Roadway Construction Standards for Road Dedication

General

Roadway construction materials which meet the State of New York's Department of Transportation Specifications shall generally be approved for construction. Other materials may be used upon approval by the Town. All roadway construction shall be controlled by stakes for grade and alignment, subject to the approval of the Highway Superintendent.

Sub-grade Preparation

All trees, brush, topsoil, stumps, roots more than one-half inch in diameter, and rubbish shall be removed from the area of the roadway. Boulders shall be removed to a depth of one foot below the sub-grade surface.

Muck, spongy material or other unsuitable material shall be completely removed and the excavation filled with suitable material.

The sub-grade shall be compacted to ninety-five (95) percent Standard Proctor. The final compacted surface shall not be more than one-half inch higher than design subgrade in any location and shall be the same cross-sectional shape as the final design grade. It shall also be proof-rolled, with witnessing by the Town, to determine if stabilization fabric may be required.

Embankment

No organic material, frozen material or other unsuitable material shall be used in embankments. The compacted embankment shall have a minimum dry density of ninety-five (95) percent Standard Proctor.

The slopes of all embankments shall be stabilized by spreading and rolling topsoil and seeding to obtain a satisfactory strand of grass.

Sub-base Construction

Materials and construction methods for the pavement base course shall conform to the Town Highway Standards and shall be six (6) inches minimum of item 4 compacted.

Surface Construction

Materials and construction methods for the binder course and wearing course shall conform to the Town Highway Standards. The layer requirement is two (2) inches of dense number 403.13 after being compressed with one (1) percent grade from the center for run off plus one (1) inch of State top; with width no less than twenty (20) feet. A hammerhead style turnaround is required and should be 75' X 75' square.

Attachment M

Forest Management Plan
Open space management

Forest Management Plan

for

Eric Stackman

Prepared By:

Northwoods Forest Consultants, LLC
Deborah Boyce, CF
PO Box 307
Jay, NY 12941
(518) 946-7040

December 2023

Table of Contents

	Page
Introduction	1
Goals	1
Topography	1
Access	1
Boundaries	1
History	2
Timber Management	2
Forest and Stand Descriptions	4
Stand 1 Pine - Hardwood	5
Stand 2 Pine - Hardwood	7
Stand 3 Pine - Hardwood	9
Stand 4 Hardwood - Pine	11
Stand 5 Pine - Hardwood	13
Stand 6 White Pine - Red Pine	15
Stand 7 Pine - Hardwood	17
Stand 8 Pine	19
Stand 9 Pine - Hardwood	21
Stands 10, 11 Hardwood - Pine	23
Stands 12, 13 White Pine	25
Inoperable	26
Recreation	27
Soil and Water Protection	27
Wildlife and Flora Management	28
Insects and Diseases	29
Soils	31
Fire Protection	32
Endangered Species	32
Summary	34
Appendix	
Forest Type Map- topo	
Forest Type Map - aerial	
Soil Type Map	
Special Sites and Invasie Species Map	
Glossary of Terms	

Introduction

This management plan was authorized by Eric Stackman to determine the forest resources present on the property and options for management of those resources. The property is located in parts of lots 120 and 121 Maule's Patent, Town of Jay, Essex County, New York.

The property encompasses three tax parcels: 17.2-1-4.000, 17.2-1-5.100, 17.2-1-20.110. The property was surveyed in 2008 by Robert M. Southerland PC and is 385 acres in size. The chart on page 4 outlines the commercial forest, wetlands, inoperable, river and road acres.

Goals

The goals of the landowner are to manage the health of the forest, open and maintain old logging trails, create new trails and enhance wildlife habitat in the areas that will be designated open spaces.

Topography

The terrain of the property is gentle to moderate. A small hill rises in the north-central portion of the property. Several small ridges follow drainages in the western half. Except for the area just west of NYS Route 9N, all areas are accessible for forest management.

Access

The property lies along NYS Route 9N. A ROW gives access across a dirt woods road. This enters the property from the north and parallels NYS Route 9N. A landing is located in the central portion of the property and was the main landing area for the southern two thirds. Many old logging trails are present from previous harvesting. Some of the main trails have been kept open by 4 wheelers. Other trails are reforesting to pine and hardwood.

An old road crossed the wetland in the southern half of the property. Two culverts were washed out, most likely during high water events.

Boundaries

The property was surveyed in 2008 by Robert M. Southerland. The north line and northern half of the west line have flagging and scattered blazes. The boundaries have not been painted or marked more clearly. The southern half of the west line and the southern line are painted red by Cold Spring Granite. These lines are blazed with pipes in the corners. Little evidence of boundaries were found along the out parcels in the southeast corner.

The boundaries should be painted or more clearly marked prior to any forest management activity. If evidence of the boundary is not found, a surveyor will need to return to establish the boundary.

History

This property was purchased from three owners between 2006 and 2009. Many areas of the property were used for agriculture in the 1900's. The older aerial photos through the 1960's show the fields in the southern half. The northern areas where it is steeper, the lands were grazed or timbered for lumber & pulp production. Charcoal kilns were found in the AuSable valley to make charcoal from the hardwood trees for the iron ore furnaces.

The sandy soils on the property allowed the white pine to reforest and grow quickly when agricultural uses were abandoned. Several white pine sawmills were present in the region up until the late 1980's. White pine sawlogs have been harvested periodically throughout the property.

In January 1998 an ice storm hit the northeastern New York. An inversion occurred, which trapped the cold air at the surface. Between 1 and 3 inches of ice were deposited over a three-day period. In many of the lower valley areas the ice melted on the fourth day but in the higher elevations the ice remained on the trees for a much longer period. The trees in the forest sustained light to heavy damage from the ice storm. The damaged trees in the northern lot were salvaged. Many of the oaks were damaged severely. The damage is easily identifiable on some of the oaks that remain. The white pine did not sustain as much damage. Evidence can still be seen where there is a crook in the top of the tree. The main stem broke and a side limb became the main stem of the tree. The salvage harvest in the southern parcel was lighter.

The last harvest occurred approximately 3 years ago. White pine was harvested and sawn to provide siding for the barn.

Timber Management

The stands of the property can be managed under even-aged or uneven-aged systems. The two systems are described below and options are given in the individual stand prescriptions.

In an uneven-aged management system only a portion of the trees are removed at one time and is the most aesthetically pleasing system. In an uneven-aged management system there is a distribution of trees in multiple age & diameter classes. This distribution of diameters is plotted on a graph. The Arbogast curve is one of the curves used by foresters to determine how many trees are needed in each diameter class to manage the stand in an uneven-aged system. The stands found on a property are then compared to the Arbogast curve to see where there are deficiencies in diameter classes and where there are excesses. In a timber harvest the excess trees in each diameter class are removed. In most cases unmanaged stands take several harvests before they have the proper age distribution to be truly managed in an uneven-aged system.

In properties without previous forest management, the first harvest scheduled is usually an improvement harvest. In the improvement harvest the poorest quality trees are removed leaving the best to grow in size and quality. The new regeneration that becomes established will also be from the trees with the best genetics in the stand since the poor trees were removed.

The harvests following an improvement harvest are termed a selection harvest. When marking the excess trees to be removed the forester will remove the poor quality trees and allow the best quality trees to remain in the stand. Through the years as the stand is managed, the quality of the trees in the forest will improve. The selection harvests can periodically occur every

10 to 20 years. 15 - 20 years is the average in most hardwood stands while pine can be 10-15 years.

Individual and group tree selection are the types of harvests used in an uneven-aged management system. In individual tree selection, a single tree is marked in a given area for harvesting thus creating only a small opening in the stand. This is done throughout the stand so that there are only small pockets where the regeneration is released. Individual tree selection is done when there is more shade tolerant species in the stand. It is also done to minimize the effects of certain insect problems like the white pine weevil. In group tree selection, several trees in a group are marked for removal. This creates a larger opening in the forest. This allows more sunlight to reach the forest floor. Species of trees that are shade intolerant such as the oaks and cherry can then regenerate in the stand.

In contrast in an even-aged management system the trees in the stand are thinned several times while they mature. It is not the goal to regenerate portions of the stand during these thinnings. When the stand has reached its maturity, a regeneration harvest is scheduled. The regeneration harvest can be a clearcut, a shelterwood harvest, or a seed tree harvest. In a clearcut harvest all the overstory trees in the stand or a portion of the stand are removed at the same time. In a shelterwood harvest approximately 40 to 60% of the overstory trees are removed. The remaining trees are left for seed and shelter for the new regeneration. When the regeneration has become established, the overstory is then removed. In a seed tree harvest, 10 to 20% of the trees are left to provide seed for new regeneration. These seed trees are then removed when the regeneration has become established. The overstory removal in the seed tree and shelterwood harvests usually occur in 5 to 10 years.

Even-aged stands may be converted to uneven-aged systems as the trees within the stand mature. Even-aged management is used in small stands and in stands where the goal is to regenerate primarily shade intolerant species.

The harvesting of timber on the property could be influenced by several regulations of the Adirondack Park Agency. No clearcuts more than 25 acres are permitted without a permit from the Agency. If less than 30 sq.ft. of basal area is left after a harvest it is considered a clearcut by the Agency. No clearcuts greater than 3 acres within a wetland are permitted.

The property also lies along the East Branch of the AuSable River. Where this river flows through the property, it is classified as a recreational river. Based on that classification, the following restrictions apply:

1) Within 100 feet of the river - no new woods roads, no felling trees into the river, lop hardwood tops to 4' piles, and conifers to 3" trunk diameter, no more than 5% of the basal area can be cut over any 10-year period.

2) Between 100' and 1320' from the river - must adhere to the NY Society of American Foresters timber harvesting guidelines, no more than 15 contiguous acres can be clearcut, no more than 50% of the basal area of any tract more than 30 acres may be cut over any 10 year period, and regeneration cuts of even-aged stands may remove no more than 1/3 of the main crown canopy during any 10 year period.

These restrictions will be taken into account when the timber harvesting is planned for the various stands. An APA permit can be applied for if the planned harvest will exceed these harvest restrictions.

Forest/ Stand Description

The forest was divided into the following stands based on the species present, size and recent harvesting. They are as follows:

Forested Stands		Acres
Stand	1 Pine - Hardwood	24
	2 Pine - Hardwood	25
	3 Pine - Hardwood	40
	4 Hardwood - Pine	31
	5 Pine - Hardwood	26
	6 White Pine - Red Pine	39
	7 Pine - Hardwood	56
	8 Pine	30
	9 Pine - Hardwood	19
	10 Hardwood - Pine	8
	11 Hardwood - Pine	8
	12 White Pine	27
	13 White Pine	5
	Total	338
Inoperable		8
Wetlands (4 areas)		24.4
Route 9N & River		14.6
	Total	47
	Totals for property	385

The following pages outline the descriptions and prescriptions for each stand.

Stand #: 1 **Forest Type:** Pine - Hardwood

Acreage: 24 **Site:** 2

 # Trees/ acre: 164 (133 AGS) **Ave. Diameter:** 11.8" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 85 AGS only - 68 (49 WP, 8 RP, 6 RM, 3 WS, 1 RO, 1 ASP)

Species Composition: 66% White pine, 14% Red pine, 13% Red maple, 4% White spruce, 2% Aspen, 1% Red oak

Stand Description

This stand is located in the northwestern corner of the property. The soils are sandy and well drained to excessively drained. In this type of soils the pines will dominate. Several small ridges and valleys generally run north-south in the stand. In the north west corner the beaver have moved north and created a small wetland less than an acre in size.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. The poletimber size hardwoods and spruce trees were established when the stand was harvested 40-50 years ago. The quality of trees present in the stand is good with more than 80% tallied as acceptable growing stock. Some white pine blister rust was found on trees.

Numerous old skid trails access this stand. A very old landing was noted along the main skid trail as it turned north. This was probably used 50 years ago when smaller tandem trucks were used to haul the forest products. The severely damaged trees were likely salvaged in the late 1990's following the ice storm in 1998.

Regeneration plots were taken in the stand and there are approximately 3200 saplings per acre. The species percentages are as follows: 62% white pine, 10% red maple, 8% white spruce, 7% red oak, 4% aspen, 3% beech, 2% witch hazel, 2% striped maple, 1% white birch, 1% white oak. Good white pine regeneration is found in the old trails where skidding exposed the mineral soil (scarification).

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the western edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Tall white pine will be left along near the wetlands to for raptors to watch for prey and provide nesting sites. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned once more then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. The hardwoods would remain in the stand to provide seed for added diversity in the forest. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 2 **Forest Type:** Pine - Hardwood

Acreage: 25 **Site:** 2

 # Trees/ acre: 154 (120 AGS) **Ave. Diameter:** 12.5" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 82 AGS only - 58 (39 WP, 6 RM, 4 RP, 2 RO, 2 WB, 1 WO, 1 HM, 1 BC, 1 WS, 1 BF)

Species Composition: 65% White pine, 11% Red maple, 5% Red pine, 4% Red oak, 4% Hard maple, 3% Balsam fir, 2% White birch, 2% White oak, 1% Aspen, 1% Black cherry, 1% White spruce, 1% Hophornbeam

Stand Description

This stand is located along the northern boundary. The stand is similar to stand 1 in trees per acre and basal area per acre. The soils are sandy and but internal drainage may be slower. A wetland is found in the valley between the two ridges.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. There is greater diversity in the hardwood trees present. The quality of trees present in the stand is good with 77% tallied as acceptable growing stock. Some white pine blister rust was found on trees. Few trees have old logging damage and ice damage.

One main skid trail accesses either side of the wetland area. Old trails crossed the wetland in the north. Harvesting occurred in the stand several times in the last 50 years with the most recent following the 1998 ice storm. The trees were likely skidded to the small landing in stand 1 50 years ago and the main landing after the 1998 ice storm.

Regeneration plots were taken in the stand and there are approximately 2300 saplings per acre. The species percentages are as follows: 19% red maple, 17% white pine, 15% hophornbeam, 13% witch hazel, 11% red oak, 5% aspen, 4% white spruce, 4% hornbeam, 3% alder, 3% white birch, 1% red pine, 1% hemlock. Hardwoods regenerated following the ice salvage. The hardwoods will out compete the white pine on sites that have more moisture. The hornbeam and alder are found at the wetland edges. The witch hazel is a shrub that grows to 20' tall.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is better in this stand than stand 1 with the diversity of hardwood trees. Water is present in the wetland at the edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or

are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine and oak component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. The oaks and other mast crop trees will provide food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Tall white pine will be left along near the wetlands to for raptors to watch for prey and provide nesting sites. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned once more then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine and hardwoods. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. The hardwoods would remain in the stand to provide seed for added diversity in the forest. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 3 **Forest Type:** Pine - Hardwood

Acreage: 40 **Site:** 2

 # Trees/ acre: 222 (151 AGS) **Ave. Diameter:** 10.5" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 91 AGS only - 65 (37 WP, 17 RP, 7 RO, 3 RM)

Species Composition: 48% White pine, 23% Red pine, 10% Red oak, 8% Red maple, 5% Beech, 3% White birch, 3% Aspen

Stand Description

This stand lies on the western slopes of the small hill in the north-central part of the property. The slopes are gentle to moderate. The soils are sandy and well drained to excessively drained. In this type of soils the pines will dominate. Numerous small ridges and valleys generally run northeast to southwest. A small wetland lies along the western edge of the stand.

The stand is a mixture of sawtimber size white pine, red pine and aspen trees. The hardwoods are near the top of the ridge. The quality of trees present in the stand is good with more than 68% tallied as acceptable growing stock. Some white pine blister rust was found on trees.

Numerous old skid trails access this stand. Many run southwest to north east. A few of run north-south along gentle slopes. The stand has been harvested several times in the last 50 years. The last harvest was a salvage of the 1998 ice damaged timber. Dense small poletimber trees are growing in pockets where openings were created.

Regeneration plots were taken in the stand and there are approximately 2300 saplings per acre. The species percentages are as follows: 42% white pine, 18% beech, 11% red oak, 11% aspen, 6% red maple, 3% red pine, 2% sugar maple, 2% jack pine. Good white pine regeneration is found in the old trails where skidding scarified the soils.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the western edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances

create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. The hardwoods would remain in the stand to provide seed for added diversity in the forest. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 4 **Forest Type:** Hardwood - Pine

Acreage: 31 **Site:** 2

 # Trees/ acre: 204 (102 AGS) **Ave. Diameter:** 10.0" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 79 AGS only -46 (17 WP, 14 RO, 8 RM, 4 RP, 2 WO, 1 HM)

Species Composition: 25% White pine, 24% Red oak, 23% Red maple, 11% Beech, 6% Red pine, 3% Hard maple, 3% Aspen, 3% White Oak, 2% White birch

Stand Description

This stand lies on the eastern slopes of the small hill in the north-central part of the property. The slopes are gentle to moderate. The soils are sandy and well drained. Several small ridges and valleys generally run east - west. A small wetland lies along the eastern edge of the stand.

The stand is a mixture of sawtimber size pine and oak. The remaining hardwoods are poletimber in size. This stand has the highest percentage of beech on the property. The quality of trees present in the stand is medium to good with 50% tallied as acceptable growing stock. The beech are infected with beech bark disease. The ice damage can still be seen in some of the hardwood crowns.

One main trail runs up the hill on the southern edge of the stand. Numerous old skid trails run north across the slope. The stand has been harvested several times in the last 50 years. It is one of the easiest accessible stand and has been harvested several times in the last 50 years. The last harvest was a salvage of the 1998 ice damaged timber.

Regeneration plots were taken in the stand and there are approximately 2100 saplings per acre. The species percentages are as follows: 42% hophornbeam, 31% beech, 16% white pine, 6% red maple, 4% witch hazel, 1% white birch. The stand has not regenerated well to quality species.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The pine and mast trees are providing food for wildlife. Water is present in the wetland along the eastern edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for

recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The diseased beech will keep sprouting from the roots and without disturbance the quality of the stand will decline.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens. Any disease free beech will be identified and left since wildlife use the beech nuts for food.

Timber management can occur in the stand. Even-age management is recommended for this stand. A regeneration harvest should occur. Quality trees will be left to provide seed and shelter and all other trees will be harvested. The harvest should occur in the summer months to allow scarification. The harvest should occur the year of a good white pine cone crop or acorn crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 5 **Forest Type:** Pine - Hardwood

Acreage: 26 **Site:** 2

 # Trees/ acre: 218 (106 AGS) **Ave. Diameter:** 11.4" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 103 AGS only 64 (21 WP, 19 RO, 17 RP, 6 RM, 1 ASP)

Species Composition: 31% White pine, 24% Red oak, 19% Red pine, 13% Red maple, 8% Aspen, 5% Beech

Stand Description

This stand lies on the southern slopes of the small hill in the north-central part of the property. The slopes are gentle to moderate. The soils are sandy and well drained. The stand is a mixture of sawtimber size pine and oak. This stand has the highest percentage of red oak on the property. The quality of trees present in the stand is medium with 48% tallied as acceptable growing stock. Many of the trees have poor form. Some of the red oak are found in clumps. They are stump sprouts from harvesting 60+ years ago. The ice damage can still be seen in some of the hardwood crowns.

Several trails cross through the stand from previous harvesting. Many have been kept open by 4 wheelers. The stand has been harvested several times in the last 50 years. This stand was part of the southern tax parcel. Very little salvage harvesting occurred after the 1998 ice storm.

In 2021-2022 a severe spongy moth infestation spread across the Champlain and AuSable Valleys. The red oak on this property were partially defoliated. Old egg masses can be seen on some of the oak and white pine throughout the property. The oak can withstand 1-2 years of defoliation. While it may be decades before another severe defoliation, this should be monitored when it occurs to see if it has caused death in the oak.

Regeneration plots were taken in the stand and there are approximately 2100 saplings per acre. The species percentages are as follows: 38% beech, 18% hophornbeam, 15% witch hazel, 10% white pine, 8% red maple, 6% striped maple, 5% red oak. The stand did not regenerate to quality species. The beech are root sprouts and are dense thickets.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The pine and mast trees are providing food for wildlife.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The diseased beech will keep sprouting from the roots and without disturbance the quality of the stand will decline.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens. Any disease free beech will be identified and left since wildlife use the beech nuts for food.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Larger openings would be created to regenerate the red oak and pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the fewer, larger openings during each harvest. In each opening, the beech and other poor quality regeneration needs to be cut to the ground to allow other species to regenerate.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of an acorn crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 6 **Forest Type:** White Pine- Red Pine

Acreage: 39 **Site:** 2

 # Trees/ acre: 161 (110 AGS) **Ave. Diameter:** 12.3" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 98 AGS only 65 (49 WP, 13 RP, 2 RM, 1 ASP)

Species Composition: 72% White pine, 21% Red pine, 4% Red maple, 3% Aspen

Stand Description

This stand lies in the eastern part of the property. This stand developed from old agricultural areas that reforested naturally to white pine. Some small areas of planted Scotch pine are found along the main woods road. These were likely planted for Christmas trees.

The soils are very sandy and well drained. White and red pine will dominate the hardwoods on these types of soils. The quality of trees present in the stand is good with 68% tallied as acceptable growing stock. The larger white pine have poor open grown form. The large limbs are a result of growing with little competition. Multiple leaders in the crown result from damage by the white pine weevil.

Several harvests have occurred in this stand in the past 50 years. The most recent was approximately 15 years ago. The trees were marked by a forester from Mill River sawmill in Vermont.

The main woods road travels through this stand. A small landing was located the road in the northern end. Many trails cross through the stand from previous harvesting. Some have been kept open by 4 wheelers. A small sand pit is found in the southern part of the stand, north of the woods road.

Regeneration plots were taken in the stand and there are approximately 4100 saplings per acre. The species percentages are as follows: 78% white pine, 7% red oak, 5% witch hazel, 2% red maple, 2% beech, 1% aspen, 1% white spruce, 1% striped maple, 1% white birch, 1% hophornbeam, 1% serviceberry. The white pine has regenerated well following the past harvesting.

There is little cover for wildlife in most of the stand. The understory is open. The only food for wildlife is the pine cones. Good cone crops will occur on 3-5 year intervals.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for

recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. The pines will provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 7 **Forest Type:** Pine - Hardwood

Acreage: 56 **Site:** 2

 # Trees/ acre: 148 (87 AGS) **Ave. Diameter:** 12.1" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 83 AGS only 48 (32 WP, 8 RM, 5 RO, 1 RP, 1 ASP, 1 BC)

Species Composition: 59% White pine, 17% Red maple, 9% Aspen, 8% Red oak, 2% Jack pine, 2% Red pine, 1% White birch, 1% Black cherry, 1% White oak

Stand Description

This stand lies in an east-west band north of the wetland area and main woods road. This area was designated as a separate stand since the most recent harvest was 3 years ago. This stand is similar to the stands to the north and eventually as harvesting occurs it may be merged with those stands. The soils are very sandy and well drained. The small valleys allow more moisture to accumulate and hardwoods can compete with the pine.

The quality of trees present in the stand is medium to good with 58% tallied as acceptable growing stock. The larger white pine have poor form or are rotten. Some of the hardwoods have damage as a result of the 1998 ice storm.

Several harvests have occurred in the stand in the past 50 years. The last harvest removed the better quality white pine. The pine were sawed and used for siding on the barn along the AuSable River.

Many trails are present from the harvesting. The main trails have been kept open by the 4 wheelers. Many trails cross through the stand from previous harvesting. Some have been kept open by 4 wheelers. A small sand pit is found in the southern part of the stand, north of the woods road.

Regeneration plots were taken in the stand and there are approximately 5100 saplings per acre. The species percentages are as follows: 84% white pine, 5% witch hazel, 4% red maple, 3% beech, 1% white spruce, 1% white birch, 1% hophornbeam, 1% black cherry. Most of the saplings are those that were present prior to the last harvest. The deer have browsed the stump sprouts of the maple and other hardwoods.

The hardwood stumps continue to send sprouts that the deer eat. Soon they root systems will be exhausted and the stumps will not longer sprout. The openings from the harvesting should allow other hardwoods to regenerate. The deed will eat those as well. Since white pine is not a preferred food, the white pine should successfully regenerate and grow. Tree shelters may need to be put around hardwood seedlings until they are tall enough to be out of reach of the deer.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow and fill in the openings created by the last harvest. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting is providing cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned in 15 years and then a regeneration harvest scheduled. Five to ten years following the regeneration harvest, the remaining overstory would be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest. The next harvest would not be scheduled for another 10-15 years.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand #: 8 **Forest Type:** Pine

Acreage: 30 **Site:** 2

 # Trees/ acre: 212 (146 AGS) **Ave. Diameter:** 11.1" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 105 AGS only 70 (51 WP, 11 RP, 5 PP, 1 BC, 1 RO, 1 RM)

Species Composition: 62% White pine, 16% Red pine, 9% Pitch pine, 4% Jack pine, 4% Aspen, 3% Red maple, 1% Black cherry, 1% Red oak

Stand Description

This stand lies in the southern part of the property north of the wetland. This stand developed from old agricultural areas that reforested naturally to white pine. The soils are very sandy and are well to excessively drained. Jack pine and pitch pine are found in the stands which indicate the low moisture availability. These species were a higher percentage of the stand but many were severely damaged by the 1998 ice storm.

The quality of trees present in the stand is good with 68% tallied as acceptable growing stock. The larger white pine have poor open grown form. The large limbs are a result of growing with little competition. Multiple leaders in the crown result from damage by the white pine weevil. The Jack pine and pitch pine are struggling and have small thin crowns. Aspen along the wetland are being toppled by the beaver.

Several harvests have occurred in this stand in the past 50 years. The most recent was approximately 15 years ago. The trees were marked by a forester from Mill River sawmill in Vermont.

The main woods road travels through this stand. The main landing for the property occurs in this stand. Many trails cross through the stand from previous harvesting. Some have been kept open by 4 wheelers.

Regeneration plots were taken in the stand and there are approximately 4300 saplings per acre. The species percentages are as follows: 81% white pine, 8% beech, 5% white spruce, 3% red maple, 1% hophornbeam, 1% white oak, 1% honeysuckle. The white pine have regenerated well. Little hardwood regeneration is present from the harvest 15 years ago due to deer browse.

There is little cover for wildlife in most of the stand. The understory is open. The only food for wildlife is the pine cones. Good cone crops will occur on 3-5 year intervals.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and

nesting sites for small mammals and birds. The trails in the stand would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. The pines will provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Honeysuckle is present near the wetland. This is an invasive species. The stems should be cut and treated with herbicide or a basal stem herbicide treatment applied. The wildlife will eat the berries and spread the plant. It will form a thick understory and not allow trees to regenerate. It also may provide too much shade for the meadow horsetail to thrive if it is present.

Stand #: 9 **Forest Type:** Pine - Hardwood

Acreage: 19 **Site:** 2

 # Trees/ acre: 179 (94 AGS) **Ave. Diameter:** 13.3" **Size:** small sawtimber

Basal Area(sq.ft./acre): All trees - 121 AGS only 73 (49 WP, 13 RP, 4 WS, 3 RO, 2 RM, 2 ASP)

Species Composition: 64% White pine, 16% Red pine, 7% Red maple, 5% Aspen, 4% Red oak, 4% White spruce

Stand Description

This stand lies south of the wetland area along the western boundary line. The slopes are gentle with some steeper slopes along the brook and wetland. The soils are sandy and well drained. Pines have dominated in this stand. Hardwoods the hardwoods are smaller in diameter and are in the intermediate to codominant position. A small wetland crosses through the stand.

The quality of trees present in the stand is medium with 52% tallied as acceptable growing stock. Some white pine blister rust was found on trees. The red pine have not been harvested in the past. Some are good pole quality and others have thin crowns and large branch scars.

One old skid trail was found that crossed north-south through the stand. The last harvest in the stand was 50-60 years ago when most of the white pine was harvested. The wood was skidded to the south to the old road in stand 10. A stream crossing could occur in the stand. The location is shown on the forest type map.

Regeneration plots were taken in the stand and there are approximately 2300 saplings per acre. The species percentages are as follows: 54% white pine, 15% red maple, 13% red oak, 8% hornbeam, 6% white spruce, 4% hophornbeam. Most of these saplings are 2-4 inches in size.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with most coming from seeds from the pine trees. These produce cone crops every 3-5 years. Water is present in the wetland along the northern edge of the stand.

Stand Prescription

Several options are available for managing this forest stand. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trail in the stand would be need to be cut open and kept open for recreational use. The understory will remain fairly open unless death or natural

disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stand. If even-age management is used, the stand would be thinned and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Larger openings would be created to regenerate the oak and pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest. The harvest may be split into two units to avoid crossing the wetland that is within the stand.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stands #: 10, 11 **Forest Type:** Hardwood - Pine

Acreage: st 10 (8ac), st 11 (8 ac) **Site:** 2

 # Trees/ acre: 171 (94 AGS) **Ave. Diameter:** 14.1" **Size:** medium sawtimber

Basal Area(sq.ft./acre): All trees - 113 AGS only 65 (25 WP, 19 RM, 11 RO, 9 RP, 1 ASP)

Species Composition: 38% White pine, 31% Red maple, 14% Red oak, 9% Red pine, 8% Aspen

Stand Description

These stands lie south of the wetland area in the southwest corner of the property. The strip of wetland separates the stands. The slopes are gentle with one steeper ridge in stand 10. some steeper slopes along the brook and wetland. The soils are sandy and well drained to somewhat poorly drained along the wetland. The stands are a varying mixture of hardwoods and pine. An old pasture fence runs north south on the west side of the wetland in stand 10.

The quality of trees present in the stands is medium with 54% tallied as acceptable growing stock. Some white pine blister rust was found on trees. Many of the white pine are larger and were left in previous harvesting.

An old road crosses the narrow wetland strip from stand 12. This then crosses onto the neighbors to the west. This road appears on the 1953 USGS AuSable topographic map. One old skid trail was found to access stand 9. The old trails have grown in.

Regeneration plots were taken in the stands and there are approximately 2300 saplings per acre. The species percentages are as follows: 35% hophornbeam, 27% white pine, 8% white spruce, 6% white birch, 6% red maple, 4% red oak, 4% alder, 4% hornbeam, 3% beech, 3% striped maple. The lack of periodic harvesting and scarification has allowed the hophornbeam to dominate in the understory. This is a noncommercial tree species.

There is little younger hardwood regeneration present for browse for deer or cover for small mammals. The variety of food is small with little diversity in the overstory trees. Water is present in the wetlands that split the stands.

Stand Prescription

Several options are available for managing these forest stands. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trail in the stands would be need to be cut open and kept open for recreational use. The understory will remain fairly open unless death or natural disturbances create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands. The white pine component will slowly

decrease with little natural light reaching the forest floor and allowing the white pine seed to germinate and grow.

Another option is to manage the area for wildlife. Mast crop trees are present to provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stands. If even-age management is used, the stands would be thinned and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In this stand, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Larger openings would be created to regenerate the oak and pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated with the openings during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a good white pine cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stands #: 12, 13 **Forest Type:** White Pine

Acreage: st 12 (27ac), st 13 (5 ac) **Site:** 2

 # Trees/ acre: 191 (119 AGS) **Ave. Diameter:** 14.1" **Size:** medium sawtimber

Basal Area(sq.ft./acre): All trees - 131 AGS only 76 (58 WP, 11 RP, 6 RM, 1 WS)

Species Composition: 78% White pine, 10% Red pine, 5% Red maple, 3% White spruce, 2% Aspen, 1% White birch, 1% Black cherry

Stand Description

These stands lie in the southern part of the property south of the wetland. They are separated by a strip of wetland. The stands developed from old agricultural areas that reforested naturally to white pine. Remnants of stone walls are present. The soils are sandy and are well to somewhat poorly drained along the wetland.

The quality of trees present in the stands is good with 62% tallied as acceptable growing stock. Some of the larger white pine have poor open grown form. The older white spruce also have large dead lower limbs showing they were open grown for years. Aspen along the wetland are being toppled by the beaver.

Very little harvesting has been done in these stands. Some trees may have been removed along the old road. The beaver are toppling aspen and other hardwoods on the edges of the wetland. The beaver periodically flood the edges of the stand when they are active in the wetland.

An old road travels crosses the brook and wetland from the main woods road into stand 12. This road has not been used in decades and has grown in with thick white pine regeneration. This old road shows on the 1953 USGS AuSable topographic map. Two old culverts are present where it crossed the wetland area.

Regeneration plots were taken in the stands and there are approximately 2700 saplings per acre. The species percentages are as follows: 56% white pine, 25% red maple, 13% white spruce, 3% hophornbeam, 1% balsam fir, 1% striped maple.

There is little cover for wildlife in most of the stands. The understory is open. There's some diversity in the trees in the stand and hard and soft mast. Water is present in the wetlands.

Stand Prescription

Several options are available for managing these forest stands. The first is to not intentionally do any management. Trees will continue to grow. Trees will die as they grow old or are killed by insects or diseases. The dead stems standing or on the forest floor provide den and nesting sites for small mammals and birds. The trails in the stands would be kept open for recreational use. The understory will remain fairly open unless death or natural disturbances

create openings in the canopy. Through the years the wildlife and bird species present will be those that thrive on undisturbed stands.

Another option is to manage the area for wildlife. The pines will provide some food. Browse and ground cover would be improved by periodic harvesting. The harvesting will allow more sunlight to reach the forest floor and new regeneration will grow. The goal would be to encourage more hardwoods to regenerate to increase the diversity of food present. Debris from the harvesting will also provide cover for small mammals. Dead trees and those trees with large cavities will be left for dens.

Timber management can occur in the stands. If even-age management is used, the stands would be thinned several times and then a regeneration harvest scheduled. At some point when sufficient regeneration is present, the overstory will be removed. In these stands, uneven-aged management is recommended. The poor quality, diseased and dying trees would be harvested. Openings would be created to regenerate the pine. The remaining trees would be thinned. Approximately 10-20% of the stand is regenerated during each harvest.

If weather conditions permit, the harvest should occur in the summer months to allow for scarification of the soils. The harvest should occur the year of a cone crop. Any danger trees along the trails would be cut to allow for recreational use of the trails. Grading of the trails and water diversion installation may be needed following harvesting.

Stand: Inoperable

Acreage: 8

This stand includes the steep bank west of NYS Route 9N. The stand is a mixture of white pine, red pine and red oak. Near the top of the bank there are some moderate slopes where harvesting could occur. The remaining areas are too steep for timber harvesting. Any removal of trees could possibly cause sections of the slope to slip. Occasionally dead and leaning trees along NYS Route 9N are removed.

Recreation

Recreation is one of the primary goals of the landowner. Several trails have been established from old logging roads and skid trails. Other trails are and will be created to loop together to provide better access throughout the property. The trails can be used for walking, skiing, hunting, snowshoeing and a variety of other activities. Dead limbs on the pines along the trails should be pruned to minimize hazards.

Soil and water protection

Roads and trails built need to be laid out to minimize the impact of erosion. A few of the current trails and the main woods road are eroding in several spots where the slopes are steeper. On the trails, water bars or other water diversion devices should be installed. This will direct the water across and off the trail. The main woods road should be ditched and turnouts for the water added. Additional gravel may be needed. The NYS DEC publishes a Best Management Plan Guide that is a good resource when planning water diversion. The file forestybmp.pdf can be found on the NYS DEC website.

Two brooks on the property are classified as C with a standard of C(T). These streams will require permits for any crossings. Temporary crossings for timber harvesting will require a permit from the NYS DEC. If permanent crossings are desired, a three agency permit (APA, DEC, Army Corp) will be needed. Varying width buffers will occur along the streams will occur where timber harvesting would be limited. In areas of steep slopes, the width will be wider. If a tree poses a safety risk in a buffer where a trail occurs, it will be removed.

Several options were noted for crossing the brook in the southern part of the property. These are noted on the forest type map. In the western side of the property, the crossings would be bank to bank with a skidding bridge. An old crossing is present in the wetland area. Two old culverts are laying at the edge of the forest where a skid trail crossed the brook. The beaver used the old road as a base of their dam. The dam has not been maintained and most of the water is gone. This crossing is still an option for use for timber harvesting but would have to occur in winter months.

Wildlife and Flora Management

The property has many bird and wildlife species present that are common in the Adirondacks. Habitat improvement can occur with active forest management. Three critical factors will determine the abundance of wildlife populations on any property. These factors are cover, water and food. Specific habitat management activities that may be undertaken include:

1.) Placement of brush piles for snowshoe hare and cottontail rabbit shelters.
2.) Developing or preserving trees that contain cavities.
3.) The propagation of plant species that specifically benefit wildlife.

a.) Seeding of landings fields, or allowing native herbaceous plants to reclaim the site.
b.) Seeding of skid trails or secondary roads, or allowing native herbaceous plants to reclaim the road and trails.
c.) Planting of wildlife shrubs along roads or in landing areas.
d.) Allowing of noncommercial species to develop in stands that would normally be eradicated for timber growing purposes (i.e. Striped maple and hophornbeam).
e.) Plantings of wetland or shallow water plants along ponds or streams.

4.) Maintaining and or creating dead woody material standing or on the forest floor.

General activities that will be done in order to improve the habitat of wildlife in a timber harvest operation are:

1.) Leaving scattered existing or potential den trees during silvicultural operations.
2.) To maintain varying buffers along the wet areas in stand 1to maintain shade and keep waters cool.
3.) Maintain quality hard and soft mast producing trees.
4.) Maintain wildlife travel corridors.
5.) Maintain deer wintering areas.

A half acre pond is located on the east side of Sam Spear Road. This report does not include any information about the quality of the water in the pond or its fisheries. Experts need to be consulted to determine if it is good fish habitat and for what species. It does provide a source for water for wildlife. However since it is in the middle of the field, there is no cover for wildlife as they come to drink.

Insects and Diseases

The **Beech Bark** disease has been infecting the beech on the property. Beech scales (*Cryptococcus fagisuga)* first attack the tree and create small holes in the bark where they feed. They produce a cotton like substance that makes the bark look white. The Nectria fungus (*Nectria coccinea faginata)* then infects the beech through these holes. The Nectria spread and eventually girdle the tree. The disease is widespread throughout the Adirondacks and little can be done to contain the disease. Diseased trees should be harvested when possible and any trees that show resistance to the disease should be left as a future seed source.

The **white pine weevil** (*Pissodes strobi)* damaged some of the trees as the agricultural areas were reforesting in stands 6 and 8. Some of these large multi-stem trees remain in the stand. The weevil may become a problem with the regeneration in the future. The weevil attacks and kills the leader of the tree. A side branch will then become the new leader thus forming a crook. The weevil often attack the new leaders again and again until the trees reach 20-25' in height. The best defense against the weevil is to plant a mixture of species in new plantations or to plant white pine with a tree that will shade them quickly such as larch or aspen. In areas where new regeneration is being established, overstory trees should be kept in order to shade and protect the

new seedlings. The weevil aren't likely to attack the new seedlings when there is an overstory present. Once the seedlings reach 20-25' tall then it is usually safe to remove some or all of the overstory. In thinning operations the weeviled trees will be thinned first, leaving the straighter, better quality trees.

The **white pine blister rust** (*Cronartium ribicola)* is also present in white pine across the property. This fungus lives half of its life cycle on the gooseberry plant (*Ribes* sp.) and the other half on the white pine. When it attacks the white pine it will cause the tree to "weep". Sap will be exuded from the face of the tree where the rust is. The fungus will begin to girdle the tree and you will then notice a sunken area at the point of infection. If the infected area is on the main stem, the tree will begin to die above the infected area from the top down. If the infection occurs below the live crown, the tree will die. If a branch is infected, the branch will die. The blister rust can be controlled by removing the infected trees as soon as possible after they are found. By removing them you try to get rid of the rust before it forms aceiospores which will then return to the gooseberry plant to start the life cycle again. Through proper management the nonresistant trees will be removed from the stand which will increase the ability to genetically improve the future stand with potentially more resistant trees.

The **Spongy moth** (*Lymantria dispar*)was accidentally released into the United States in 1870. Since that time it has spread and now infests more than 200,000 square miles in the northeast. The larvae hatch from early April to late May. A few days after the larvae hatch, they climb the tree to feed on the leaves. As the caterpillar matures the feeding habits change. It begins to feed at night and descends off the tree during the day to a shady location. They will continue to feed all day on a heavily infested tree. The caterpillars feed on the leaves of a number of trees including: apple, alder, basswood, hawthorn, oaks, some poplars and willows. Larvae from a massive population may feed on almost every tree in the northern forest. Oaks suffer from the spongy moths attack more than the other trees. Most deciduous trees can withstand one or two consecutive defoliations before severe decline or death occurs. Most conifers will die after one complete defoliation. The larval stage lasts about 7 weeks. The larvae then pupate and the moths emerge in July. The females do not fly. After mating the adults soon die without feeding. Human manipulations, bacterial pathogens, and parasites and predators from Europe have been used to help control the moths.

The **emerald ash borer** (*Agrilus planipennis)* is not present on the property at this time, but could pose a threat to the white ash if it migrates to northern New York. There is a relatively small percentage of white ash on the property. This is an exotic beetle from Asia that was discovered in Michigan in 2002. It had probably been there 6 to 10 years prior to discovery. The borer generally has a one-year life cycle in Michigan but may need two years to complete the cycle in colder climates. Adult beetles emerge in early June. Beetles live for about three weeks and are present until mid August. Beetles feed on ash foliage along the margins of the leaf. Females can lay 60 to 90 eggs and they are deposited individually in bark crevices on the trunk or branches. The eggs will hatch in 7 to 10 days. The larvae feed on the phloem and outer sapwood for several weeks. The S-shaped galleries wind over an area 20 to 30 cm in length. Feeding is completed in late autumn and the pre-pupal larvae overwinter in shallow chambers in the outer sapwood. New adults remain in the papal chamber for 1 to 2 weeks before they emerge through a D-shaped exit hole. The S-shaped galleries interrupt the transport of nutrients and water within

the tree during the summer. Foliage wilts and the tree canopy becomes thin as branches die. Most trees die 3-4 years after infestation. The borer is found in the Lake States and in southern Ontario.

The **Hemlock Wooly Adelgid** (*Adeleges tsugae*) is an insect that attacks hemlock exclusively. This species was first discovered in western North America in 1924 and near Virginia in 1951. In 2017 three trees near Lake George were identified as having HWA. The presence of HWA can be identified by its egg sacs, which resemble small tufts of cotton clinging to the underside of hemlock branches. Hemlocks stricken by HWA frequently become grayish-green rather than the dark green of healthy hemlocks. In North America, the hemlock woolly adelgid asexually reproduces and can have two generations per year. The hemlock woolly adelgid feeds on the phloem sap of tender hemlock shoots. It may also inject a toxin while feeding. The resulting desiccation causes the tree to lose needles and not produce new growth. In the northern portion of the hemlock's range, death typically occurs four to ten years after infestation. Since 2017 areas surrounding Lake George were found infected and treated. The insect continues to move north and may eventually will be a threat to the hemlock on this property.

Soils

A detailed soils map of Essex County has been compiled by the Natural Resources Conservation Service and can be viewed on the Web Soil Survey by the Natural Resources Conservation Service. The soils of the property fall into the following associations: 1) Adams, 2) Adirondack, 3) Champlain, 4) Croghan, 5) Fernlake, 6) Herman, 7) Monadnock, 8) Nicholville, 9) Roundabout, 10) Rumney, 10) Rumney-Burnt Vly, and 11) Sunapee.

The **Adams** soils are loamy sands, formed in low lime glacial outwash. They are very deep and excessively drained. Available water capacity is very low and permeability is rapid to very rapid. These soils, where cleared, and found on 3 to 8% slopes are considered farmland of statewide importance. These soils are found in most stands north of the brook.

The **Adirondack** soils are loams, formed in low lime glacial till underlain with a dense substratum. They are very deep and somewhat poorly drained. Available water capacity and permeability are moderate. This association contains possible inclusions of hydric soils. These soils where cleared are considered farmland of statewide importance. These soils along the southern boundary in the wetland.

The **Champlain** soils are loamy sands that are very deep, excessively to somewhat excessively drained. They are formed in glaciofluvial deposits on sandy deltas, outwash plains and terraces. Depth to bedrock is greater than 60". These soils are found along the western boundary in stand 9.

The **Croghan** soils are fine loamy sands that are very deep. They lie on gently sloping terrain. They are moderately well drained soils that are formed in sandy low lime glacial outwash. The available water capacity low and permeability is rapid. These soils are found in stands 2&3 along the northern boundary.

The **Fernlake** soils are loamy sands that are very deep. They are somewhat excessively drained, low lime, formed in glacial till. Surface runoff and permeability are rapid. Available

water capacity is low. These soils are found in stands 1 and 9 along the western boundary.

The **Hermon** soils are deep, well drained and somewhat excessively drained, moderately coarse developed in glacial till on uplands. This association occupies gently sloping plains and dome shaped rounded hills. There are many cobblestones, boulders and gravel in the till. Minor soils in this association are poorly drained soils on small flats or depressional areas where water tends to accumulate. Rock outcrop can also be found in this association. These are found in stands 3, 4 and 5 on the hill in the north-central part of the property.

The **Monadnock** soils are fine sandy loams formed in low lime glacial till on uplands. They are deep and well drained. Boulders cover up to 3% of ground surface. Available water capacity and permeability are moderate. These soils are found in stand 4 and 5 at the top o f the hill and the inoperable area.

The **Nicholville** soils are stoney fine sandy loams that are moderately well drained and have developed on glaciolacustrine deposits of fine sand and silt. Deposits of parent material are thin. They occur on broad smooth slopes. Surface runoff is medium and internal drainage is medium to slow. These soils are found in stands 2, 3, 6, 12 and 13.

The **Roundabout** soils are silt loams that are very deep and poorly drained. They are formed in glaciolacustrine deposits on lake plains. Depth to bedrock is more than 60 inches. These soils are found in stand 13.

The **Rumney-Burnt Vly** soils are deep, somewhat poorly drained to very poorly drained, moderately coarse textured, developed in recent alluvium. This association occupies nearly level floodplains of large streams. These are found in the wetland areas.

The **Sunapee** soils are fine sandy loams. They are very deep, moderately well drained, formed in low lime glacial till on uplands. Boulders cover up to 3% of the ground surface. Available water capacity is moderate and permeability is moderate. These soils are found in stand 12.

Fire Protection

There are numerous skid trails and roads to serve as fire breaks. Future skid trails and recreational trails may also serve as breaks. Some trails should be wide enough to allow ATV access. Any brush or trees that are cut will be left close to the ground to minimize the fire danger.

Fire danger is low in hardwoods except during droughty periods and in early spring. The cut tops must be lopped to 4" in the softwood stands during any harvesting as required by NYS law. If the tops are left high, they pose a danger of spreading a ground fire into the canopy of the softwood trees.

Invasives

During the inventory of the property the only invasive noted was honeysuckle. They were introduced in the 1800's as ornamentals, wildlife cover and erosion control. They will leaf out

early in spring and retain their leaves later in the fall. They thrive in the shaded forest understory. They will form a thick understory that limits the sunlight for regeneration of native plants and trees. They can be controlled by: 1) pulling when plants are small, 2) Cut the shrub and apply herbicide to the cut stem, 3) apply foliar herbicide to the leaves, 4) apply herbicide to the bark of the tree 12 to 15 inches above the ground, and 5) controlled fire. A certified herbicide applicator must apply any herbicides to the cut stump, leaves or stems.

Endangered Species

According to DEC Resource Mapper, the property lies within 5 miles of a known northern long-eared bat hibernaculum. The northern long-eared bat has been listed as threatened. Harvest restrictions apply within a quarter mile of the hibernaculum. Within the 5 miles there are guidelines to leave shaggy bark hardwoods and snags. The harvest regulations for the northern long-eared bat may be updated if the bat is listed as endangered.

The New York Natural Heritage Program has also indicated the Meadow Horsetail (*Equisetum pratense),* a rare plant that could be found growing in the wetlands or banks of the small brooks that feed into the East Branch of the AuSable River. These plants like moist to wet woods. They reproduce by spores. They differ from the common horsetail in that their shoots are green and have whorls of branches. They can be poisonous to livestock and humans. Prior to marking timber in drainages or near wetlands, the existence of these plants or any of the horsetail species will be noted. Small areas may be left unmarked to preserve the habitat of these plants. The New York Heritage database indicates that open wetland areas where these plants occur should not be allowed to succeed into shrubs or trees. Often buffers are installed around wetland areas were timber harvesting or other activities are limited. If horsetails are found along the wetland, removal of the understory, honeysuckle or other shrubs may be recommended.

The New York Natural Heritage Program also indicated that the Appalachian Tiger Beetle (*Cicindela ancocisconensis),* an imperiled beetle was documented within 250 yards of the property. This beetle lives in riparian zones in low mountain regions. It inhabits the edges of forested streams on sand bars, gravel areas and sandy beach. Flooding, primarily due to dam construction is a major threat to this species. These are found along the East Branch of the AuSable River and are not within the forest management area.

The DEC Resource mapper also indicated a significant natural community on this property. The maps have recently been updated and indicate a pine - hardwood forest community through the central portion of the property. The threats to the pine-hardwood community include clearing, forest fragmentation, recreation overuse, invasive species, over browsing by deer, fire suppression and air pollution. They recommend management focus on activities to help regenerate and maintain the species associated with this community.

Summary

The forests of this property have developed from disturbances. The southern areas were used for agriculture and the northern areas for charcoal and lumber production. Harvests have occurred periodically by the previous owners. The NY Natural Heritage Program identifies the Pine - Hardwood forest as a significant natural community. This community developed from the past uses and site conditions present on the property. If no forest management occurs, the hardwoods will eventually become dominant. Site disturbance and sunlight are needed to keep the pine growing and regenerating in the forest.

As the plans for the property are finalized, more specific management practices and a time frame can be prescribed. This plan is a guide for the management of the forest. It is a working document that will be updated as practices are completed.

Respectfully submitted,
Northwoods Forest Consultants, LLC

Deborah Boyce, CF
Forest Management Plan.wpd

APPENDIX

Glossary of Terms

AGS - Acceptable growing stock. Trees of acceptable quality for future growth for sawlogs.

Basal Area - The area of the cross-section of a tree stem at breast height (4.5') and inclusive of bark. Expressed as square feet per acre. This measurement is used by foresters to determine the density of a stand.

Clearcutting - The removal of all trees in a given area

Commercial Forest - Forest land capable of bearing merchantable timber, currently or prospectively accessible.

Commercial Value - Value placed on products grown in the forest.

Conks - A fruit of a wood destroying fungus which projects beyond the tree.

Cords - Unit of measure for roundwood. One cord equals a stack of wood 4'wide x 4'deep x 8'long. Contains 128 cubic feet of wood.

Den Tree - A tree with holes and cavities that provide shelter and nest sites for various wildlife species.

Forest Type - Forest community defined by the composition of overstory tree species.

Girdling - making continuous incisions around a living stem through the bark and cambium with the object of killing the tree.

Improvement Harvest - Cutting of poor quality trees to stimulate growth on better quality trees.

MBF - Thousand board feet. Board feet is a unit of measure 12"x 12"x 1" thick.

Pruning - removal, close or flush with stem, of side branches, live or dead, and of multiple leaders.

Regeneration - Young crop of trees.

Seams - Crack in the stem of the tree. Most are results of freezing in the winter months.

Spring Seeps - Areas where underground water sources percolate to the ground surface.

Shrubs - Woody perennial plant, differing from a tree in its lower stature and general absence of a well defined main stem.

Site - An area considered in terms of its environment, particularly as it determines the type and quality of the vegetation the area can carry. Site class 1 is given to the best sites with deep, well drained soils. Site 3 is given to those sites with very shallow soils or very poorly drained soils where commercial timber growth is not likely to occur. Site class 2 is given to those sites that lie between 1 and 3.

Snag - A standing dead tree from which the leaves and most of the branches have fallen. Wildlife use these trees for dens, nests and perches.

Species Percentage - the percentage of species found within the stand. This is based on basal area.

Stand - A community of trees possessing sufficient uniformity as regards to composition, age, spatial arrangement, or condition to be distinguished from adjacent communities, so forming a silvicultural or management entity.

Timber Stand Improvement (TSI) - Thinning, pruning, or other activites that improve the condition of the stand.

Thinning - felling of immature trees primarily to accelerate diameter growth, or improve the form of the trees that remain. Products are sold from the harvest.

UGS - unacceptable growing stock. Trees of poor form, position, quality, or defect. Unacceptable for future growth for sawlogs.

Attachment N

Design & Architectural Narrative
Architectural Site
&
General Building plans

Design & Architectural Narrative

Drawing from the Land and Its Legacy

Our design intent has woven the feedback received during the public comment period of our APA application and shifted our approach, to incorporate these considerations towards an architectural and site plan revision.

From the outset, the project has been guided by the principle of *building with the land rather than upon it*. Following Adirondack Park Agency guidelines for low-intensity use, the resort plan places fewer homes per acre than allowed, clusters structures to preserve large tracts of untouched forest, and maintains significant open space to ensure the park's most remote and sensitive locations remain accessible, healthy, and protected.

This approach not only protects scenic views and ecological integrity, but also affirms the importance of **being good stewards of the land**—a sentiment shared by many local residents who value the Park's "forever wild" character.

A Village of Purposeful Structures

The resort is envisioned as a constellation of buildings—each with a clear identity and purpose—yet unified by material palette, human scale, and a craft ethos:

- **The Clubhouse**, with expansive windows and broad gabled roofs, is the social heart of the community—anchoring gatherings much like the main lodges of the original Great Camps.
- **The Restaurant**, grounded in stone and timber, offers indoor-outdoor dining on generous terraces, supporting both residents and visitors and bringing welcome foot traffic to the region's economy.
- **The Event Center**, clad in wood and glass, invites the surrounding forest indoors while serving as a flexible venue for cultural and community programming.
- **The Spa**, modest and tucked among trees, provides quiet refuge, honoring the restorative power of the surrounding landscape.

By careful siting, these structures protect wetland buffers, maintain natural hydrology, and are screened from major view corridors—echoing public support for *minimizing visual and environmental impact*.

Materials That Speak of Place

Like the Great Camps before it, the resort celebrates locally sourced materials: **native fieldstone, regional timber, and rusticated siding** that harmonize with the Adirondack vernacular. Materials are left warm and unpainted, stone is shown in its raw ruggedness, and glass is used sparingly yet purposefully—to frame forest and mountain vistas and bathe interiors in natural light.

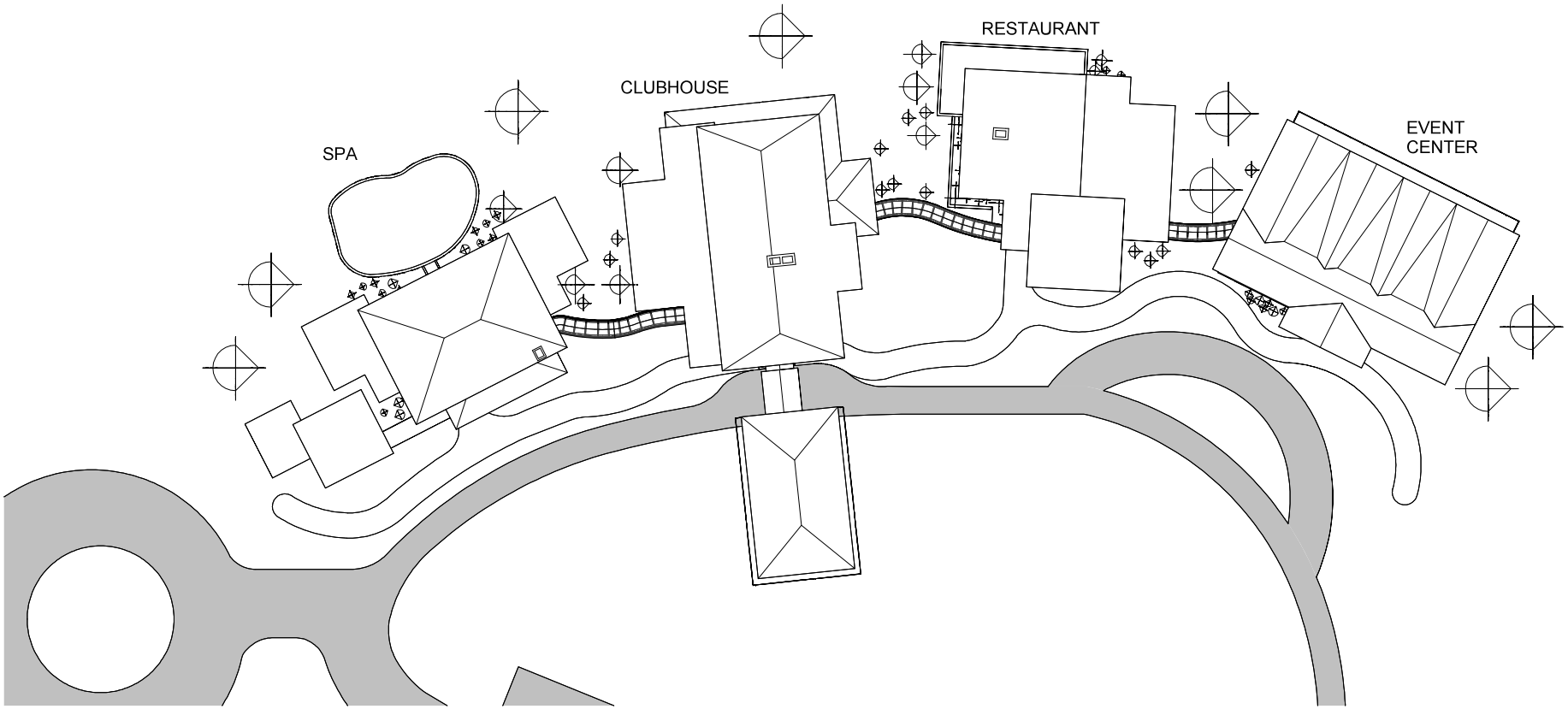
Rooflines are low and sheltering, in keeping with traditional forms, while deep overhangs and covered porches offer both weather protection and an authentic sense of shelter in the wilderness.

Craft, Community, and Local Benefit

The resort's mix of residences, guest houses, and public amenities—interconnected via footpaths and trails—encourages both *community cohesion* and public access. Hiking, biking, cross-country skiing, and nature walking networks will be open to residents and visitors alike, ensuring the project is not an enclave, but a place integrated into the broader fabric of the Town of Jay —an aspect that some community members have welcomed for its potential to strengthen the local economy.

IMAGE AND SITE PLAN DISCLAIMER

All images used are for illustrative purposes only and are intended to convey the concept and vision for the project and may change as work progresses. These do not necessarily represent a true and accurate depiction of the finished product. Site Plans are intended to give a general indication of the proposed layout pending APA approval. All images and dimensions are not intended to form part any contract or warranty.



N

1 SITE PLAN
1" = 20' - 0"

Stackman Resort

Owner

REVISIONS

No.	Description	Date

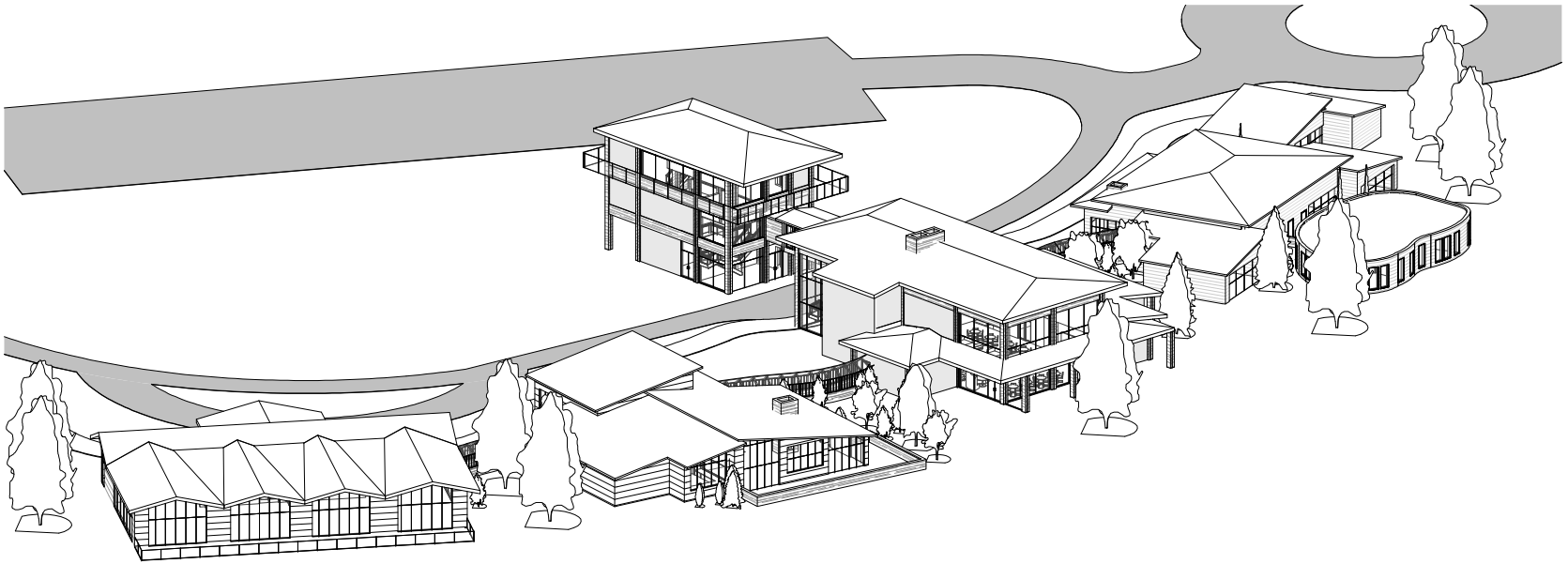
SITE PLAN

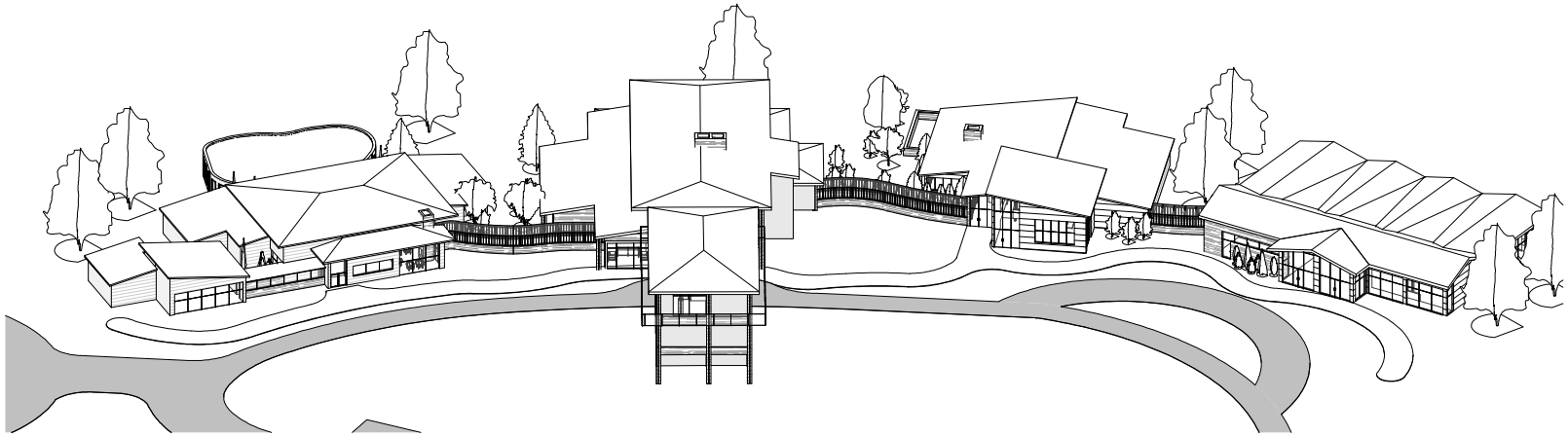
SHEET TITLE

DATE 07.23.2025
DRAWN BY B.C.
REVIEWED BY C.J.B.

PROJECT NUMBER
2240

SHEET A-00





Stackman Resort

Owner

REVISIONS

No.	Description	Date

GENERAL PERSPECTIVES

SHEET TITLE

DATE 07.23.2025
DRAWN BY B.C.
REVIEWED BY C.J.B.

PROJECT NUMBER 2240

SHEET A-01