

MEETING MEMO

TO: LAMOILLE BASIN WATER QUALITY COUNCIL (BWQC)
FR: LAMOILLE BASIN CLEAN WATER SERVICE PROVIDER (CWSP) STAFF
RE: MEETING ON DECEMBER 4, 2025
DA: NOVEMBER 26, 2025

=====

Greetings. The BWQC's next meeting will be held on December 4th, and materials are attached. The agenda for the meeting will include: 1) review of applications and 2) a presentation by DEC's Chris Rottler regarding the "Cost Rate Methodology," which is described briefly below and later in this memo. There will also be updates relating to ongoing efforts to fill the vacant on the Basin Council. A few brief notes on the agenda are provided:

Introductions/Meeting protocols/Conflict of interest disclosures, if any

As is customary, time will be set aside for introductions, review of meeting protocols, and announcement of any Conflict of Interest.

Approval of Minutes

Please let us know if any part of the minutes for the July meeting need to be corrected.

Seating of members

This is a standing agenda item.

Budget Adjustments

This is a standing agenda item. As of this writing, no budget adjustment requests have been received since the last meeting. (And requests received in the meantime will be processed consistent with the Budget Adjustment policy.)

Applications for funding

Five project applications were submitted in response to the 9th Call for Applications issued in the Lamoille Basin. The enclosed material includes comprehensive summary tables of phosphorus reduction estimates, cost effectiveness, and scheduling, along with the full copies of applications (WPD IDs 11773, 14066, 14171, 14428, and 14441). These projects cover Preliminary Design, Final Design, and Implementation phases across Roads/Stormwater, Riparian, and Floodplain/Stream Restoration. The total amount of funding requested for the upcoming phase of work is \$229,217. **Owing to the large number of pages the applications (and their attachments) require, the applications are being provided via a download link rather than included as part of the meeting packet emailed directly to members).** Versions of the packets containing the applications will be available for downloading from a page on the NRPC CWSP website: <https://www.nrpcvt.com/services-programs/water-resources/cwsp-agendas-minutes/>

Cost Rate Methodology

Vermont DEC's Cost Rate Methodology (CRM) is used to set phosphorus reduction targets and funding levels for Clean Water Service Providers (CWSPs). As previously announced, DEC proposed a new version of the CRM in late summer. Public comments on the proposal were accepted through October 17 as part of a formal review period. As of this writing, the new methodology is either now in effect or that status is imminent. Adoption of the new CRPM means there will be a decrease in the size of the Lamoille basin's P reduction targets. Chris Rottler of DEC will be attending the December 4 meeting to provide more details.

Updates

In addition to providing a brief verbal note regarding the eligibility of legal expenses for Clean Water funding, we will provide an update

Conclusion

Please let us know if you have suggestions for future meeting topics. Sincere thanks to all who participate.

AGENDA

Lamoille Basin Water Quality Council (BWQC) regular meeting
Thursday, December 4, 2025
9:00-11:00 AM

Zoom meeting
(Zoom details below)

1. Welcome and introductions
2. Meeting protocols
3. Conflict of interest declarations, if any
4. Review/adjust and approve agenda
5. Approval of minutes
6. Public comment not related to items on agenda
7. Seating of members/alternates
8. Budget Adjustment requests (if any)
9. APPLICATION REVIEW
10. Revised Cost Rate Methodology
11. Updates/in brief
12. Conclusion

NEXT FUNDING ROUND

Round #	Open	Deadline
10	February 5, 2026	March 12, 2026

Join Zoom Meeting

<https://us02web.zoom.us/j/86562460349?pwd=dCtISjdHSGI1OFZ6Z2ZndTRPQ1pRQT09>

Meeting ID: 865 6246 0349

Passcode: 031502

Dial by your location

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

+1 646 931 3860 US

Staffing provided by Northwest Regional Planning Commission (NRPC), the Basin 6 Clean Water Service Provider. NRPC's physical / mailing address is 75 Fairfield Street, St. Albans, Vermont 05482.

In accordance with provisions of the Americans with Disabilities Act (ADA) of 1990, and Vermont's Open Meeting Law, the NRPC will ensure public meeting sites are accessible to all people or provide an opportunity to request accommodations. Requests for free interpretive or translation services, assistive devices, designation of a physical meeting location, electronic access to a meeting, or other requested accommodations, should be made to Amy Adams, NRPC Title VI Coordinator, at 802- 524-5958 or aadams@nrpcvt.com, no later than 2 business days prior to the meeting for which services are requested.

- **Welcome and introductions**
- **Meeting protocols**

Zoom Norms and Inclusive Language

- Introductions of all participants at each meeting
- As possible, BWQC members should have in their Zoom Name/Title the following: Name, Organization, “Voting” or “Alternate”, and pronouns (if desired)
- BWQC members are expected to have cameras turned on during entirety of meeting, as technically possible.
- BWQC members are expected to stay focused / avoid multi-tasking and follow the guidance of: “if you wouldn’t do something in an in-person meeting don’t do it in a virtual meeting”
- BWQC members will use the “raise hand” function on Zoom to indicate a request to speak / come off mute – this is in an effort to make sure all are heard in turn.
- All members will stay muted until called upon; if needed, CWSP staff may mute participants to avoid background noise
- Any comments made in the chat will be read aloud at the appropriate time by the CWSP staff in full for the public record / record.

Inclusive Language

<https://pronouns.org/what-and-why>

- **Conflict of interest declarations, if any**
- **Review/adjust and approve agenda**

AGENDA

Lamoille Basin Water Quality Council (BWQC) regular meeting
Thursday, December 4, 2025
9:00-11:00 AM

Zoom meeting
(Zoom details below)

1. Welcome and introductions
2. Meeting protocols
3. Conflict of interest declarations, if any
4. Review/adjust and approve agenda
5. Approval of minutes
6. Public comment not related to items on agenda
7. Seating of members/alternates
8. Budget Adjustment requests (if any)
9. APPLICATION REVIEW
10. Revised Cost Rate Methodology
11. Updates/in brief
12. Conclusion

NEXT FUNDING ROUND

Round #	Open	Deadline
10	February 5, 2026	March 12, 2026

Join Zoom Meeting

<https://us02web.zoom.us/j/86562460349?pwd=dCtISjdHSGI1OFZ6Z2ZndTRPQ1pRQT09>

Meeting ID: 865 6246 0349

Passcode: 031502

Dial by your location

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

+1 646 931 3860 US

Staffing provided by Northwest Regional Planning Commission (NRPC), the Basin 6 Clean Water Service Provider. NRPC's physical / mailing address is 75 Fairfield Street, St. Albans, Vermont 05482.

In accordance with provisions of the Americans with Disabilities Act (ADA) of 1990, and Vermont's Open Meeting Law, the NRPC will ensure public meeting sites are accessible to all people or provide an opportunity to request accommodations. Requests for free interpretive or translation services, assistive devices, designation of a physical meeting location, electronic access to a meeting, or other requested accommodations, should be made to Amy Adams, NRPC Title VI Coordinator, at 802- 524-5958 or aadams@nrpcvt.com, no later than 2 business days prior to the meeting for which services are requested.

- **Approval of minutes**

Lamoille Basin Water Quality Council (BWQC)

Thursday, September 25, 2025

9:00 to 11:00 AM

Virtual Meeting

Meeting video posted at <https://youtu.be/OO4FJrwm8s>

**A VIDEO RECORDING OF THE MEETING IS AVAILABLE THROUGH THE NRPC
YOUTUBE CHANNEL (Link above).**

**THE WRITTEN MINUTES ARE A SYNOPSIS OF THE DISCUSSION AT THE MEETING.
MOTIONS ARE AS STATED. MINUTES WILL BE SUBJECT TO CORRECTION BY THE
COUNCIL. CHANGES, IF ANY, WILL BE RECORDED IN THE MINUTES OF THE NEXT
MEETING OF THE COUNCIL**

Council Members: Meghan Rodier (Q), Lauren Weston (Q), Ken Minck (Q), JoAnn Hanowski (Q), Brent Sheets (Q), Erin De Vries (Q), Brad Holden (Q)

Q= towards quorum q= towards quorum when representative has recused

Staff: Dean Pierce, Cliff Jenkins, Lorna Peters

Others present: Dan Koenemanne (WNRCD), Mel Auffredou (FCNRCD), Peter Danforth's AI Notetaker, Brent Raymond (Town of Morristown), Richard Goff, Karen Bates, Chris Rottler

1. Welcome and introductions

Meghan Rodier opened the meeting at 9:02am as Chair. A round of introductions was made.

2. Meeting protocols

Peter Danforth reviewed norms for meeting on Zoom.

3. Conflict of interest declarations, if any

No conflict-of-interest declarations were made.

4. Review/adjust and approve agenda

No changes to the agenda were made. Meghan Rodier approved the agenda.

5. Approval of minutes

Richard Goff was noted as quorum in the previous meeting minutes and should be taken off.

Brent Sheets motioned to approve the minutes. JoAnn Hanowski seconded. Brad Holden and Lauren Weston abstained. Motion carried.

6. Public comment not related to items on agenda

No public comments were made.

7. Seating of members (if any)

Christine Armstrong is stepping down from the Watershed Organization and Chris Steele will be taking over as her replacement. They are both affiliated with the Stewards of Greensboro Watersheds. JoAnn Hanowski vouched for Chris Steele, saying he will be a very engaged member of the council. JoAnn will be Chris' alternate.

8. Budget adjustment requests (if any)

No adjustments were made.

9. Bonding for construction projects

Dean Pierce gave a presentation on bonding within the BWQC. There must be both performance and payment bonds. Performance bonds ensure that contractors complete projects as agreed and payment bonds ensure that subcontractors and suppliers are paid. This protects CWSP from financial and performative risks. Both bonds are required when projects are valued at over half a million dollars at the implementation stage. Performance bonds are recommended when a project is valued at over \$250,000. People included in the bond are the contractor, the surety (company providing the bond), and the owner (CWSP). Bonds have been tailored to the CWSP and BWQC process.

Dean presented a flowchart of the flow of funds and bonding obligations. The subgrantee is not included in the bond, only the owner, contractor, and bond issuer. If the contractor defaults, the surety steps in to finance completion or find a replacement contractor. Payment bonds ensure the coverage of subgrantee being paid. Bonds can be obtained through licensed surety/bonding companies and are typically 1-3% of the project cost. Bonding costs themselves are eligible part of funding process. By having forms specifically for CWSP, people are not required to buy forms from a third party. Key information included is the date, amount, and contract details. The contract encompasses exhibits, schedules, amendments, change orders and other agreements.

Payment bonds ensure that anyone providing materials, labor, and other services are paid. In performance bonds, language guarantees "faithful performance" of contractors.

Lauren asked a if the contractor would need a bond for the whole cost of the project, not just the CWSP-funded part. Dean said the whole cost. Lauren also asked who is in charge of all the paperwork, noting she was previously in charge. Dan Koenemann asked the same question in the chat. Dean said that partner/project sponsor organizations could be a reference point for contractors, but they can also reach out to CWSP for questions. Forms should specify that the owner is CWSP for questions. Lauren also asked why the subgrantee does not need a bond in this situation. Dean acknowledged that this is a possibility. But having two bonds could be redundant. The issue will be explored and perhaps an adjustment could be made for the bond to be assignable to the subgrantee in the future. Lauren asked for the language from the law that established bonds as necessary.

Ken asked if this would come into play during the implementation phase of the project. He asked if you have to go back to the CWSP to add in the surety if a selected bid is over \$250,000. Dean explained that hopefully budgeting will be comprehensive enough during the application approval process so that you do not have to go back to CWSP at that stage. He reminded the group that minor adjustments do not have to go back to the BWQP

Lauren had a follow up question on when change orders happen during implementation. Dean said that bonds have a feature that means that coverage is issued with an understanding that budgets may change. The CWSP should be in the loop on changes but does not need to be overly involved in change orders. Lauren asked if all performance and payment bonds automatically adjust or just ones that she has used, and Dean said that is the function of the form; Lauren proceeded to ask that if the contractor is asking for more than a 10% increase in funding, does this amount also come into the bond. Dean was unsure.

Ken asked how the surety company gets paid. Dean said that the surety company gets a request from the surety company, and it is submitted to the subgrantee as part of the contract costs.

Lauren requested some written guidance on when the CWSP should be involved in funding changes, and if some template contract language could be shared with the subgrantee. This would be useful when bids are being made. She requested that roles of the participants should be clarified with site access agreements. Dean took note of these requests.

Meghan Rodier suggested that larger change orders line up with change in budget requests to the CWSP.

Lauren made a comment that BWQC meetings should be publicized as council meetings for anyone interested in applying to the CWSP. Dean said that training courses for subgrantees/project managers will be coming soon.

Template contracts can be found in the meeting packet.

Dean said that site access agreement should be given consideration in the application phase.

10. Updating of policy relating to expedited project development funds

Dean also brought up the Expedited Project Development Funds policy adopted in 2024, which expedited the application process for CWSP funding for prequalified partners. He explained that the sum total of the policy is \$5,000 times the number of prequalified organizations with increases in the number of prequalified partners, but so far requests have been lower than that. Dean clarified that new prequalified partners can also request \$5,000.

Ken asked Cliff about the status of their application to be prequalified.

Lauren asked if the FCNRCD's expedited grant needed to be announced to the council. She followed up with a question about when contracts will be dated. Dean said that often they are dated as the approval date but is unsure about the future. Lauren asked for a standardized time frame on signed contracts after BWQC approval, and Dean said he can share the concern on the time frame for contracts.

Brad Holden explained how VTrans grants work, and that the grant is predated to the date when the notice of award was given.

Dean showed a list of prequalified partners.

11. Legal Review associated with projects

Dean explained that when multiple easements are involved in a project it can take significantly more time. A note has been added to the CWSP application form that explains that an estimate of legal expenses along with the application will be presented to the BWQC.

Lauren asked if this impacts project cost effectiveness and if the project manager can also bill for legal fees that will not count towards project cost effectiveness. Dean said that given the threshold amount for when easements are required there will be a moderate change to cost effectiveness. Regarding whether the project manager can bill for legal expenses, Dean asked what the legal charges would be for. Lauren was unsure. She then requested more clarity on the role of the project manager versus the CWSP for site access easements.

Meghan had a statement on O&M contracts. Meghan asked if there could be a quote for legal fees included in the application budget, but Dean explained that there will likely not be a simple amount to include and will require a review of the project to estimate an amount. Lauren was wondering if these costs should be incurred in implementation or final design. Dean replied that much of this should be happening in final design with the deliverables.

Erin De Vries recommends that the CWSP provides a range for legal fees, similarly to how the state provides a range for river corridor easements with the Vermont River Conservancy to give

some guidance to subgrantees and project coordinators. Dean made the point that there is a difference between the CWSP site access easements and other conservation easements where partner organizations are also part-owners. He clarified that this process will be a request presented to the BWQC so the BWQC can recommend whether legal fees are treated as part of the overall cost of a project.

Chris Rottler made a comment that pre-award legal fees may not be eligible for CWSP funding.

12. Updates

Dean announced that the next funding round opens October 9 and closes November 13. DEC has made a few new proposals, but specifically one to revise project cost method. There is a Microsoft Teams presentation on October 8 and comments can be made until October 17th. Dean explained that by changing the cost-rate methodology, the Phosphorus reduction target for the Lamoille basin will have a 58% reduction. The contract between the DEC and CWSP would reflect these numbers and the target associated would drop.

Lauren asked if the project cost effectiveness ratio will no longer be capped at \$30,000. Dean says this will be revisited later.

Ken asked why the P-reduction number is being reduced. Chris replied saying that the formula for the cost-rate methodology is being revised because the historical project cost data is changing with inflation. The cost to implement projects has increased, so achieving the Total Maximum Daily Load is more expensive and the P-reduction is decreasing.

Dean explained the implications of this change in a chart. The total project costs for projects with big impact, moderate impact, and small impact varies considerably. An approach that focuses on the best-performing projects might be more effective given this change in project costs and reduction in the P-reduction targets.

Lauren added that the P-reduction formula does not work very well pre-implementation and that should be considered. It would be helpful for either DEC or NRPC to verify that project managers are doing the P-reductions correctly for their projects.

Dean encouraged the BWQC that we get projects in the ground, and Lauren explained that the process to get applications submitted is a lengthy, rigid process that contributes to the lack of projects. Chris agreed.

13. Conclusion

As the next meeting conflicts with Thanksgiving holiday, Dean proposed alternates. Temporary date was set for December 4th at 9AM.

Lauren Weston moved to adjourn. Ken Mink seconded. Meeting adjourned at 11:04.

- **Public comment not related to items on agenda**
- **Seating of members**
- **Budget Adjustment requests (if any)**

(None at the time of meeting packet preparation)

- **Application review**

MEMO

TO: LAMOILLE BASIN WATER QUALITY COUNCIL (BWQC)
FR: LAMOILLE BASIN CLEAN WATER SERVICE PROVIDER (CWSP) STAFF
RE: ROUND 9 APPLICATIONS
DA: November 26, 2025

=====

Five project applications were submitted in response to the 9th Call for Applications issued in the Lamoille Basin. The enclosed material includes comprehensive summary tables of phosphorus reduction estimates, cost effectiveness, and scheduling, along with the full copies of applications (WPD IDs 11773, 14066, 14171, 14428, and 14441). These projects cover Preliminary Design, Final Design, and Implementation phases across Roads/Stormwater, Riparian, and Floodplain/Stream Restoration. The total amount of funding requested for the upcoming phase of work is \$229,217.

The proposals offer substantial water quality benefits. The amount of phosphorus reduction represented in the applications is almost 31 kilograms. The largest project, Holmes Meadow Floodplain Restoration (14428), is projected to yield an estimated annual phosphorus reduction of 13/7 kg.

The small-scale Riparian Buffer Planting project (14171) demonstrates high annual cost effectiveness at approximately \$4,846 per kilogram of phosphorus reduced per year. The total project costs across all five applications range from \$\$8,433 to over \$1.1 million. The larger cost projects would necessitate development and signing of site access easements.

This is a very large set of application materials. But I encourage Council members to review the summary data and applications to prioritize the projects that best align with clean water goals.

LINK TO COMPLETE SET OF APPLICATIONS (over 100 megabytes) IS BELOW:

https://northwestregionalvt-my.sharepoint.com/:b:/g/personal/dpierce_nrpcvt_com/Ef4BoUsPQs1KpjbxbICh-FwBj7Bx2hjkJ6p7uJqfVL7SWQ?e=0dnXND

Phosphorus Reduction Details

Phosphorus (P) reduction estimates are detailed in the following table. These estimates include annual reductions, one-time credits, and total estimated credits, depending on the project type and calculation methodology used.

WPD Project ID	Project Name / Type	Annual P Reduction (kg/yr)
11773	Range Road & South Hill Infiltration – Preliminary Design	2.65
14066	Floodplain/Stream Restoration on lower Cemetery Brook (Implementation)	11.585
14171	Riparian Buffer Planting along Haynesville Brook (Implementation)	1.74
14428	Holmes Meadow Floodplain Restoration (Implementation)	13.7 (Annual P reduction after year one)
14441	Vermont Studio Center (VSC) Floodplain Restoration (Final Design)	1.1 (Annual P reduction after year one)

- **Project 11773:** The annual phosphorus reduction estimate of **2.65 kg/yr** for the Range Road & South Hill Infiltration project was calculated using the "Outlet and Gully Erosion" calculator, based on gully dimensions and age.
- **Project 14428 (Holmes Meadow):** This floodplain restoration project anticipates a **total phosphorus credit of 218 kg**. This project utilizes two distinct annual reduction numbers: **27.2 kg/yr** for the annual year one reduction, and **13.7 kg/yr** for the annual P reduction after year one. The goal of the project is to increase sediment attenuation and provide flood storage capacity by removing a berm and excavating soils.
- **Project 14441 (VSC Floodplain):** The estimated **total phosphorus credit is 17.5 kg** for restoring natural floodplain conditions along the Gihon River. This credit is composed of a stream stability credit (3 kg) and a storage credit (14.5 kg), calculated using the Functioning Floodplain Initiative (FFI) tool. Similar to project 14428, this project separates the annual reduction into an initial amount of **2 kg/yr** (Year 1) and a sustained amount of **1.1 kg/yr** (after year one). The earlier estimated P reduction for this project was 5.82 kg/yr.
- **Project 14066 (Cemetery Brook):** The current Annual P Reduction is listed as **11.585 kg/yr**, which is higher than the earlier estimated P reduction of 10.09 kg/yr.
- **Project 14171 (Haynesville Brook):** This Riparian Buffer Planting project expects an Annual P Reduction of **1.74 kg/yr**.

		WPD ID	Project type	Annual p reduction kg	Funding request (next project stage)	Proposed cost (next project stage)	Estimated Total cost (all project stages) using midpoint of ranges where provided	Estimated Total cost minus other funding sources CWSP STAFF ADJUSTMENTS/ or BWQC action	cost per kg annual P reduction fully loaded	cost per kg annual P reduction state dollars? (best case?)	design life (yr)	Est Annual Cost of Operations and maintenance \$/kg (lower is better)	Conformance with the Basin plan (Imp. Table, elsewhere in TBP, or not)	Cobenefits (How many of six CoBenefit elements)
Chris Dubin	Range Road & South Hill Infiltration-Preliminary Design-Underhill	11773	Preliminary Design	2.65	\$11,557.00	\$ 11,557	\$ 125,000	\$125,000	\$47,170	\$47,170	8	\$189	5	2
Meghan Rodier	The Vermont Studio Center (VSC) removed a campus building (Former Johnson Town Garage site) due to substantial flood damage during the July 2023 flood. VSC is looking to restore natural floodplain conditions along the banks of the Gihon River. This would entail removing existing fill and riprap as well as reducing the gradient of the current riverbank. This project would slow the velocity of the river and provide more water storage for future flooding. Near the Wolf Kahn Building the VSC recently planted a native pollinator garden and installed an educational pathway. A 30% design for proposed floodplain restoration on this site was completed by SLR as of November 1, 2025. See attached 30% design memo from SLR and letter of support from the Vermont Studio Center for a more detailed project description and background on the preliminary design planning process. This project will yield an estimated total phosphorus credit of 17.5 kg with the annual year one reduction of 2kg/yr and an after year one annual P reduction of 1.1 kg/yr.	14441	Final Design	1.1	\$35,237.76	\$ 35,238	\$ 242,520	\$245,520	\$223,200	\$67,745	10	\$2,727	10	3
Victoria Hellwig	The Lamoille River Hydraulic Flood Model identified this location as an area for restoration to improve floodplain access and flood storage and increase sediment attenuation. The Town of Johnson is working with SLR consulting on a floodplain restoration project, to remove a berm along the river, excavate soils to provide additional flood storage capacity, and revegetate the field with native trees and shrubs. Final Designs and Permitting was completed by SLR in 2025. See attached final design plans and letter of support from the Town for a more detailed project description. The project will yield an estimated total phosphorus credit of 218 kg with annual year one reduction of 27.2 kg/yr and an after year one annual P reduction of 13.7 kg/yr.	14428	Implementation	13.7	\$137,856.31	\$ 735,277	\$ 1,100,222	\$1,100,222	\$80,308	\$10,063	10	\$365	10	3
Will Marlier	This is a wetland/floodplain project on lower Cemetery Brook. A 30% design was made through the Caspian LWAP in 2023, and a 100% design was completed in 2025. This project is to restore wetland plants and vegetation on an existing hayfield, establish a new buffer zone, and add post-assisted log structures to promote floodplain access and riparian plantings along the stream corridor to reduce bank erosion.	14066	Implementation	11.6	\$37,627.00	\$ 37,627	\$ 58,134	\$58,134	\$5,018	\$5,018	15	\$432	10	2
Karina Morales	Streamside buffer planting along Haynesville Brook (tributary to Lamoille River) to minimize flood and fluvial erosion hazards, filter nutrient and sediment pollution, and restore riparian habitats. Project implementation with the Stewards of the Greensboro Watershed volunteers provides additional community engagement and collaboration benefits. Implementation and stewardship collaboration with USFWS Partners for Fish and Wildlife staff will enhance the success of this project. The project site is a privately owned pasture within a floodplain forest, primarily composed of native species such as alders, willows, and spruce, and classified as prime farmland with podunk fine sandy loam soil that is occasionally flooded. The project would include planting three separate areas along the stream, with the buffer starting 10-15 ft back from the streambank in sections where the stream is more dynamic. Because of this, the buffer width will range from 35 ft to 80 ft in the northwestern portions of the site, and 100 ft in the southeastern portion (road-side). The planting will total 1.24 acres with a target of 400 stems per acre, will be an average of 60 ft. buffer width and 1,043 ft. buffer length.	14171	Final DesignImplementation	1.7	\$6,939.00	\$8,433	\$ 8,433	\$8,433	\$4,847	\$4,847	20	\$490	10	5
sums				30.78	\$ 229,217	\$ 828,131	1,534,309.15	1,537,309.15	49,953.18	13,125.69	last 2 weighted avg			

		WPD ID	Project type	Annual p reduction kg	Funding request (next project stage)	Proposed cost (next project stage)	Estimated Total cost (all project stages) using midpoint of ranges where provided	Estimated Total cost minus other funding sources CWSP STAFF ADJUSTMENTS/ or BWQC action	cost per kg annual P reduction fully loaded	cost per kg annual P reduction state dollars? (best case?)	design life (yr)	Est Annual Cost of Operations and maintenance \$/kg (lower is better)	Conformance with the Basin plan (Imp. Table, elsewhere in TBP, or not)	Cobenefit (How many of six CoBenefit elements)	Dean Pierce: Application says 15 in one place and 8 in another but more appropriately is 8 or 10 -for non regulatory project
Chris Dubin	Range Road & South Hill Infiltration-Preliminary Design-Underhill	11773	Preliminary Design	2.65	\$11,557.00	\$ 11,557	\$ 125,000	\$125,000	\$47,170	\$47,170	8	\$189	5	2	
Meghan Rodier	The Vermont Studio Center (VSC) removed a campus building (Former Johnson Town Garage site) due to substantial flood damage during the July 2023 flood. VSC is looking to restore natural floodplain conditions along the banks of the Gihon River. This would entail removing existing fill and riprap as well as reducing the gradient of the current riverbank. This project would slow the velocity of the river and provide more water storage for future flooding. Near the Wolf Kahn Building the VSC recently planted a native pollinator garden and installed an educational pathway. A 30% design for proposed floodplain restoration on this site was completed by SLR as of November 1, 2025. See attached 30% design memo from SLR and letter of support from the Vermont Studio Center for a more detailed project description and background on the preliminary design planning process. This project will yield an estimated total phosphorus credit of 17.5 kg with the annual year one reduction of 2kg/yr and an after year one annual P reduction of 1.1 kg/yr.	14441	Final Design	1.1	\$35,237.76	\$ 35,238	\$ 242,520	\$245,520	\$223,200	\$67,745	10	\$2,727	10	3	Dean Pierce: application had specified perpetual, which in some contexts is 99
Victoria Hellwig	The Lamoille River Hydraulic Flood Model identified this location as an area for restoration to improve floodplain access and flood storage and increase sediment attenuation. The Town of Johnson is working with SLR consulting on a floodplain restoration project, to remove a berm along the river, excavate soils to provide additional flood storage capacity, and revegetate the field with native trees and shrubs. Final Designs and Permitting was completed by SLR in 2025. See attached final design plans and letter of support from the Town for a more detailed project description. The project will yield an estimated total phosphorus credit of 218 kg with annual year one reduction of 27.2 kg/yr and an after year one annual P reduction of 13.7 kg/yr.	14428	Implementation	13.7	\$137,856.31	\$ 735,277	\$ 1,100,222	\$1,100,222	\$80,308	\$10,063	10	\$365	10	3	Dean Pierce: application had specified perpetual, which in some contexts is 99
Will Marlier	This is a wetland/floodplain project on lower Cemetery Brook. A 30% design was made through the Caspian LWAP in 2023, and a 100% design was completed in 2025. This project is to restore wetland plants and vegetation on an existing hayfield, establish a new buffer zone, and add post-assisted log structures to promote floodplain access and riparian plantings along the stream corridor to reduce bank erosion.	14066	Implementation	11.6	\$37,627.00	\$ 37,627	\$ 58,134	\$58,134	\$5,018	\$5,018	15	\$432	10	2	Dean Pierce: Legal costs: Site Access License Agreement can be utilized for clean water
Karina Morales	Streamside buffer planting along Haynesville Brook (tributary to Lamoille River) to minimize flood and fluvial erosion hazards, filter nutrient and sediment pollution, and restore riparian habitats. Project implementation with the Stewards of the Greensboro Watershed volunteers provides additional community engagement and collaboration benefits. Implementation and stewardship collaboration with USFWS Partners for Fish and Wildlife staff will enhance the success of this project. The project site is a privately owned pasture within a floodplain forest, primarily composed of native species such as alders, willows, and spruce, and classified as prime farmland with podunk fine sandy loam soil that is occasionally flooded. The project would include planting three separate areas along the stream, with the buffer starting 10-15 ft back from the streambank in sections where the stream is more dynamic. Because of this, the buffer width will range from 35 ft to 80 ft in the northwestern portions of the site, and 100 ft in the southeastern portion (road-side). The planting will total 1.24 acres with a target of 400 stems per acre, will be an average of 60 ft. buffer width and 1,043 ft. buffer length.	14171	Final Design/Implementation	1.7	\$6,939.00	\$8,433	\$ 8,433	\$8,433	\$4,847	\$4,847	20	\$490	10	5	Dean Pierce: Assumes entire implementation cost covered by non reporting entity
sums				30.78	\$ 229,217	\$ 828,131	1,534,309.15	1,537,309.15	49,953.18	13,125.69	last 2 weighted avg				

Step/Phase	Preliminary Design	Final Design	Implementation	Implementation	Implementation
Basic Eligibility	Yes	Yes	Yes	Yes	Yes
Applicant Name	Chris Dubin	Meghan Rodier	Victoria Hellwig	Will Marlier	Karina Morales
Applicant Organization	Chittenden County RPC	Lamoille County Planning Commission	Lamoille County Planning Commission	Orleans County NRCD	Caledonia County Natural Resources Conservation District
Applicant Email	cdubin@ccrpcvt.org	meghan@lcpvcvt.org	victoria@lcpvcvt.org	will.marlier@orleanscountynrncd.org	karina@caledoniacountynrncd.org
Applicant telephone	+1 (908) 420-8542	+1 (802) 851-6337	+1 (802) 851-6342	+1 (802) 595-4538	+1 (802) 239-4159
Project ID from WPD	11773	14441	14428	14066	14171
Description of Project	Range Road & South Hill Infiltration-Preliminary Design-Underhill	The Vermont Studio Center (VSC) removed a campus building (Former Johnson Town Garage site) due to substantial flood damage during the July 2023 flood. VSC is looking to restore natural floodplain conditions along the banks of the Gihon River. This would entail removing existing fill and riprap as well as reducing the gradient of the current riverbank. This project would slow the velocity of the river and provide more water storage for future flooding. Near the Wolf Kahn Building the VSC recently planted a native pollinator garden and installed an educational pathway. A 30% design for proposed floodplain restoration on this site was completed by SLR as of November 1, 2025. See attached 30% design memo from SLR and letter of support from the Vermont Studio Center for a more detailed project description and background on the preliminary design planning process. This project will yield an estimated total phosphorus credit of 17.5 kg with the annual year one reduction of 2kg/yr and an after year one annual P reduction of 1.1 kg/yr.	The Lamoille River Hydraulic Flood Model identified this location as an area for restoration to improve floodplain access and flood storage and increase sediment attenuation. The Town of Johnson is working with SLR consulting on a floodplain restoration project, to remove a berm along the river, excavate soils to provide additional flood storage capacity, and revegetate the field with native trees and shrubs. Final Designs and Permitting was completed by SLR in 2025. See attached final design plans and letter of support from the Town for a more detailed project description. The project will yield an estimated total phosphorus credit of 218 kg with annual year one reduction of 27.2 kg/yr and an after year one annual P reduction of 13.7 kg/yr.	This is a wetland/floodplain project on lower Cemetery Brook. A 30% design was made through the Caspian LWAP in 2023, and a 100% design was completed in 2025. This project is to restore wetland plants and vegetation on an existing hayfield, establish a new buffer zone, and add post-assisted log structures to promote floodplain access and riparian plantings along the stream corridor to reduce bank erosion.	Streamside buffer planting along Haynesville Brook (tributary to Lamoille River) to minimize flood and fluvial erosion hazards, filter nutrient and sediment pollution, and restore riparian habitats. Project implementation with the Stewards of the Greensboro Watershed volunteers provides additional community engagement and collaboration benefits. Implementation and stewardship collaboration with USFWS Partners for Fish and Wildlife staff will enhance the success of this project. The project site is a privately owned pasture within a floodplain forest, primarily composed of native species such as alders, willows, and spruce, and classified as prime farmland with podunk fine sandy loam soil that is occasionally flooded. The project would include planting three separate areas along the stream, with the buffer starting 10-15 ft back from the streambank in sections where the stream is more dynamic. Because of this, the buffer width will range from 35 ft to 80 ft in the northwestern portions of the site, and 100 ft in the southeastern portion (road-side). The planting will total 1.24 acres with a target of 400 stems per acre, will be an average of 60 ft. buffer width and 1,043 ft. buffer length.
Project Latitude	44.50591	44.6364	44.63488	44.5901	44.49597
Project Longitude	-7.90509	-72.67876	72.68929	-72.32796	-72.31797
Project Phase	Preliminary Design	Final Design	Implementation	Implementation	Final Design Implementation
Annual P Reduction KG	2.65	1.1 kg/yr (after year 1), 17.5 kg (total P reduction)	13.7	11.585	1.74
Any one time P reduction KG		2 kg/yr (Year 1 p reduction)	27.2		
Total Cost of Proposed Phase	\$11,557	\$35,237.76	735276.50	37627	8433
Amount of funding requested (Proposed Phase)	\$11,557.00	\$35,237.76	\$137,856.31	\$37,627.00	\$6,939.00
Matching Funds Available	\$0.00	\$0.00	\$969,222.50	\$0.00	\$1,494.00
Total Project Costs (All Phases)	\$125,000.00	\$242,519.9 (includes preliminary design phase that is complete)	Legal expense amount to be estimated → \$1,100,222.25	\$58,134.00	\$8,433.00
KG/\$ Current Phase	0.000229298	#INVALID OPERATION	1.86324E-05	0.000307891	0.000206332
KG/\$ Overall	0.0000212	#INVALID OPERATION	1.2452E-05	0.000199281	0.000206332
Design Life	15	Perpetual	Perpetual	15	20
Estimated Annual O&M cost total	\$500.00	3,000/ year for the first three years.	\$5,000.00	\$5,000.00	\$568 to \$1136 per year based on one or two O&M visits per year.
Conformance with Tactical Basin Plan TBP	5	10	10	10	10
Number of Co-benefit Areas	2	3	3	2	5
DEC Screening Form Uploaded	Yes	Yes	Yes	Yes	Yes
Map of Project Area Uploaded	Yes	Yes	Yes	Yes	Yes
Project Budget Uploaded	Yes	Yes	Yes	Yes	Yes
Project Schedule Uploaded	Yes	Yes	Yes	Yes	Yes
Landowner Support uploaded	Yes	Yes	Yes	Yes	Yes
Phosphorus Calculator Tool uploaded	Yes	Yes	Yes	Yes	Yes
Design/Imp Costs Requested	11557	35237.76	137856.31	37627	6939
Design-imp Costs Total	125000	\$242,519.9 (includes preliminary design phase that is complete)	1100222.25	58134	8433
Using_As_Match	No	No	Yes	No	No
Cultural Resource Review	No	Yes	Yes	Yes	No
O&M interest	No	No	Yes	Not sure	Yes
continued project	Yes	Yes	No	Yes	No
earlier P estimate	2.65	5.82		10.09	

11773-Range

Project Details	
WPD ID	11773
Status	Proposed
Project Name	Range Road & South Hill Infiltration-Preliminary Design-Underhill
Project Type	Stormwater - Preliminary Design
Sector	Stormwater
Lat/Long	44.50607, -72.90521
Stream Segment	
Technical Project Manager	
Description	Infiltrate stormwater in Right of Way. And stabilize gully erosion on adjacent parcel.
Development Notes	
Submission Number	HQ1-JAD7-1WJP3

Town/County/Region Underhill	Basin/Sub Basin Upper Browns River	Potential Partners Underhill Town Winooski Natural Resources Conservation District	Potential Funding Source DEC Municipal Roads Grants-in-Aid Program Design and Implementation Block Grant
--	--	---	---

Event Date	Event Type	State Amount	Match	Grant Total	Funding Source	Grant Num	Funded Partner
3/13/2024	Project Created in Database						

Performance Measure	Value	Status

Related Projects				
	Relationship	WPD ID	Project Name	Status
View	Child	12308	Range Road & South Hill Stormwater Project Development	Funded

Records			
	Date	Record Type	Record Title

Project Type	
TypeList	Stormwater – Preliminary Engineering Design
Step/Phase	Preliminary Design
Basic Eligibility	Yes
Applicant Name	Chris Dubin
Applicant Organization	Chittenden County RPC
Applicant Email	cdubin@ccrpcvt.org
Applicant telephone	+1 (908) 420-8542
Project ID from WPD	11773
Description of Project	Range Road & South Hill Infiltration-Preliminary Design-Underhill
Project Latitude	44.50591
Project Longitude	-7.90509
Project Phase	Preliminary Design
Annual P Reduction KG	2.65
Any one time P reduction KG	
Total Cost of Proposed Phase	\$11,557
Amount of funding requested (Proposed Phase)	\$11,557.00
Matching Funds Available	\$0.00
Total Project Costs (All Phases)	\$125,000.00
KG/\$ Current Phase	0.000229298
KG/\$ Overall	0.0000212
Design Life	15
Estimated Annual O&M cost total	\$500.00
Conformance with Tactical Basin Plan TBP	5
Number of Co-benefit Areas	2
DEC Screening Form Uploaded	Yes
Map of Project Area Uploaded	Yes
Project Budget Uploaded	Yes
Project Schedule Uploaded	Yes
Landowner Support uploaded	Yes
Phosphorus Calculator Tool uploaded	Yes
Design/Imp Costs Requested	11557
Design-Imp Costs Total	125000
Using_As_Match	No
Cultural Resource Review	No
O&M interest	No
continued project	Yes
earlier P estimate	2.65

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Minimize flood and fluvial erosion	Minimize anthropogenic nutrient and organic pollution <input type="checkbox"/>

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see [CWIP Funding Policy](#) for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	11773
Watershed Project Database Project Name	Range Road & South Hill Infiltration-Preliminary Design-Underhill

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts³

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. ⁴

- 1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. ⁵ Please note that “project site” may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
- 2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
 - a. Proponents should send the identified permitting staff the following:
 - i. The watersheds project database identification number (WPD-ID) (if available),
 - ii. Project location (GPS coordinates)
 - iii. Summary of proposed scope of work, and
 - iv. Any other relevant information they request that will be utilized in their review.
 - b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
 - c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

³ Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

⁴ In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

⁵ Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The [ANR Permit Navigator](#) and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

- 3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
 - a. Which permits or permit amendment are needed or might be needed? ⁶
 - b. What type might be needed? (e.g., a general or individual permit?)⁷
 - c. What concerns were voiced by permitting staff?
 - d. How will the proposed scope of work address these concerns?⁸

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont’s Land Use and Development Control Law) Permits been issued in the project site’s parcel location?⁹	Yes <input type="radio"/>	No <input checked="" type="radio"/>
If yes , please provide the permit number and list any water resource issues or natural resource issues found ¹⁰ : PermitNumber: ResourceIssues: _____ If yes , use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. Regulatory Point of Contact Name/Position: _____		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	Yes <input type="radio"/>	No <input checked="" type="radio"/>

⁶ Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

⁷ Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

⁸ Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

⁹ An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named “Clean Water Initiative Program Grant Screening.”

¹⁰Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? ¹¹	
<p>If yes, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
III. Rivers, River Corridors, and Flood Hazard Areas	
<p>1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area¹²? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>If yes, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>2. Is any portion of the project site within a perennial river or stream channel?</p> <p>¹³</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>If yes, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
IV. Wetland	

¹¹ The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

¹² FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: <https://msc.fema.gov/portal/home>. ANR Floodplain Managers are available to provide technical assistance if needed.

¹³ Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

<p>1. Does the Wetland Screening Tool¹⁴ provide a result of wetlands likely, very likely, or present at the project site?</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>2. Does your project site involve land that is in or near an area that has <u>any</u> of the following characteristics:</p> <ul style="list-style-type: none"> o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.) 	<p>Yes <input type="radio"/></p> <p>No <input checked="" type="radio"/></p> <p>Not Sure <input type="radio"/></p>
<p>If you answered yes or not sure to <u>either</u> of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered yes or not sure to <u>either</u> of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an “allowed use” under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>1. Is your project a Wetland Restoration project type?</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>If you answered yes, under the Vermont Wetland Rules you will need an “allowed use” determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>V. Fish and Wildlife</p>	
<p>State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit.</p> <p>1. Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns? Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>

¹⁴ To view the Wetland Screening Tool introduction video, see <https://youtu.be/6lv5en0AB1o>

2. Is the project site within 1 mile of a mapped¹⁵ Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes , forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. Regulatory Point of Contact Name/Position:	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? ¹⁶	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
Provide below or attach a narrative summary of Table 4 findings. Please include: <ol style="list-style-type: none"> Which permits or permit amendment are needed or might be needed? What type might be needed? (e.g. a general or individual permit)? What concerns were voiced by permitting staff? How will the proposed scope of work address these concerns? 	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes <input checked="" type="radio"/> No <input type="radio"/>

¹⁵ Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

¹⁶ If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a [licensed solid waste hauler](#) and bring the material to a certified facility.

<p>determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.</p>	<p><input checked="" type="radio"/> No¹⁸ - There is no additional requirements related to agricultural review for these projects.</p>
<p>2. Is the proposed project an agricultural project?</p> <p>Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.</p>	<p><input type="radio"/> Yes - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization.</p> <p><input checked="" type="radio"/> No- The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFAM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below.</p> <p>Step 1- Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFAM at AGR.WaterQuality@Vermont.gov .</p> <p>Step 2- Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.</p>
<p>Agricultural Project Review Status & Summary:</p>	
<p>Check as Applicable</p>	<p>Status</p>
<p><input type="checkbox"/></p>	<p>Submitted/ Pending</p>
<p><input type="checkbox"/></p>	<p>Approved</p>
<p><input type="checkbox"/></p>	<p>Denied</p>

¹⁸ Note CWIP’s Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the [Appendix B. Project Types Table](#) are not subject to review by VAAFAM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status “submitted/pending” will be “approved” prior to a project approval for funding.

APPLICATION REQUEST BUDGET:			
Expense/Item	Grant Request	Leverage / Match Funds	Sub-Totals
APPLICANT			
Project Management/Completion (including salary/hourly costs and fringe benefits). Include any volunteers or ad hoc employees if applicable.	\$1,247		\$1,247
Mileage Charges (use Federal 2025 rate)			
Supplies / Materials not purchased by subcontractors			
Equipment Rentals or Equipment Use charges			
SUBCONTRACTORS			
Engineering/Design Services for 30% Design or Final Design	\$9,156		\$9,156
Other eligible costs (see 2023 CWIP Funding Policy)			
<i>Project Completion</i> SUBTOTAL	\$10,403		\$10,403
Indirect**: If you have a negotiated indirect rate, you typically charge, please use that. Otherwise, you may charge up to 10% on all APPLICANT costs and 10% on the first \$50,000 of SUBCONTRACTORS costs, noted in the rows above.	\$1,153		\$1,153
<i>Project Completion</i> TOTAL (<i>Project Completion</i> SUBTOTAL + Indirect)	\$11,556		\$11,556

Final Report



To: Chittenden County Regional Planning Commission

From: Watershed Consulting

Date: June 25, 2025

Re: ***Range Road Water Quality Project in Underhill - Summary Report***

ATTACHMENTS:

A –Site Overview Map

B - Project Eligibility Screening Form

Introduction

A significant gully has formed as a result of stormwater runoff on the private residential property at 15 Range Rd in Underhill, Vermont. An overview map of the relevant drainage patterns and gully location can be found in Attachment A. The gully is approximately 34 ft in length, 4 ft in depth, and 6 ft in width (Figure 1).

Watershed Consulting has completed a review of the potential phosphorus reduction crediting options applicable to this site to assess the potential for funding through the Clean Water Service Provider’s (CWSP) formula grant.



Figure 1. Gully erosion is present along 15 Range Road. Photos provided by landowner Dan Lee.

Conceptual Mitigation Strategy

The soils in this area are mapped as Hydrologic Soil Group (HSG) A, indicating that soils are generally sandy and well infiltrating. Potential solutions for this area include surface or subsurface infiltration practices along Range Road to reduce stormwater volumes and limit stormwater flows to the gully area. Additionally, the gully itself would be stabilized and revegetated. Solutions could include rock gabions, stone stabilization, a plunge pool, and grading and slope stabilization.

Phosphorus Reduction Calculations

Upon review of the previous email correspondence with the Vermont Department of Environmental Conservation (VT DEC) staff, preliminary phosphorus (P) reduction estimates were calculated utilizing the interim phosphorus reduction calculator.

This site was deemed to be applicable for crediting through the “Outlet and Gully Erosion” calculator. Gully dimensions and gully age were provided by Dan Lee, the homeowner at 15 Range Road. The specifics for the phosphorus reduction calculations are provided in Table 1 below. In total mitigation of the gully will result in a phosphorus reduction of 2.65 kg/yr. Note that while stormwater management is recommended to address the contributing drainage to the gully in addition to in-gully stabilization, the phosphorus reduction crediting for the site (regardless of the specifics of the stormwater treatment practice(s)) is limited to the gully stabilization credit shown below (Table 1). The stated design life for this project type is eight years¹, though it is expected that this design life could be increased with proper operations and maintenance.

Table 1. Phosphorus reduction calculation summary.

Gully Length (ft)	34
Gully Depth (ft)	4
Gully Width (ft)	6
Gully Age (years)	6
Level of Erosion Mitigation	Fully mitigated (80% of load reduction)
Gully Volume (ft ³)	816 ft ³
Estimated P Load Reduction (kg/yr)	2.65 kg/yr

Project Eligibility

The applicable CWIP Funding Policy Project Type for this site is Roads/ Stormwater Gully – Design with a practice type of Outlet and Gully Stabilization. The practices proposed should address both upstream stormwater flows and stabilize the in-gully erosion per the Funding Policy Definition quoted below. A Project Eligibility Screening Form has been completed for the site to confirm eligibility (Attachment B).

1

<https://dec.vermont.gov/sites/dec/files/wsm/erp/docs/TrackingAccounting/Standard%20Operating%20Procedures%20for%20Tracking%20%26%20Accounting%20of%20Developed%20Lands%20Regulatory%20Projects%20%26%20Non-Regulatory%20Clean%20Water%20Projects.pdf>

Preliminary and final design of high priority practices that stabilize an eroding stormwater gully from outlet through a flow path to connection with a surface water. Outlet and gully stabilization projects restore eroding channels to a state where sediment loss is minimized or eliminated. Restoration techniques include but are not limited to rock aprons, plunge pools, riprap, step pools, check dams, armored turnouts, outlet headwalls, seeding/mulching, and vegetated or structural bank and slope stabilization techniques. Stormwater and road outlet gully channels must be caused or exacerbated by human activity that concentrates stormwater flow onto steep slopes and channels must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program. Project must address upstream stormwater flow for in-gully work to be eligible. Work includes preparing permit application(s) and documentation of operation and maintenance plan(s).²

Recommendations

It is recommended that project development proceed with obtainment of CWSP funding for conceptual design.

Please let us know if you have any questions or comments via email (andres@watershedca.com or kerrie@watershedca.com) or phone (802-497-2367).

Sincerely,



Andres Torizzo
Principal



Kerrie Garvey
GIS Program Manager

² WID_CWIP – Guide to phosphorus accounting eligibility – v1.1 accessed via <https://dec.vermont.gov/document/wid-cwip-guide-phosphorus-accounting-eligibility>



LEGEND

- Wetland - VSWI**
 - Class 1 Wetland
 - Class 2 Wetland
 - Wetland Buffer
- Wetlands Advisory Layer
- River Main Stem Waterbodies
- WBID Watersheds
- River Corridors (Aug 27, 2019)
 - .5 - 2 sqmi.
 - .25- .5 sqmi.
- DFIRM Flood Hazard Areas (C FEMA-digitized data)
 - AE (1-percent annual chance flood)
 - A (1-percent annual chance flood)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- Soils - Hydric
- Parcels (standardized)
- ACT250 Permits
- Town Boundary

1: 1,626
November 12, 2025

83.0 0 42.00 83.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 136 Ft. 1cm = 16 Meters
© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

NOTES

For preliminary design application



15 Range Rd Stormwater Improvements and Gully Stabilization Preliminary Design

Scope of Work and Quotation

SUBMITTED TO:

Dan Albrecht
Chittenden County Regional Planning Commission
Natural Resources Program Manager
110 W Canal St #202
Winooski, VT 05404
dalbrecht@ccrcvt.org

SUBMITTED BY:

Andres Torizzo
Watershed Consulting
208 Flynn Ave Suite 2H | PO Box 4413
Burlington, VT 05406
(802) 497-2367
www.watershedca.com



Scope of Work

1. Conceptual Design Map and Revised P Crediting
 - Options for stormwater improvements within the Range Rd right-of-way (ROW) and management of the eroding gully on the private parcel owned by Daniel Lee will be developed. The contributing drainage area will be further investigated in the field. A site visit will be scheduled with the landowner to fully assess the gully. A conceptual map or maps will be developed to illustrate the proposed concept and other viable alternatives as applicable. The concept will include in-gully restoration and stabilization as well as stormwater treatment upstream of the site to reduce flows and improve water quality. Updated phosphorus (P) reduction benefits of the concept will be calculated. The developed concept will be presented to CVPRC and reviewed with other stakeholders such as the landowner and VT DEC. If necessary, the concept will be updated based on stakeholder feedback.
 - *Deliverables: Conceptual design map, updated P reduction credit*
2. Existing Conditions Base Plan
 - A site survey will be completed to define the existing conditions including drainage along Range Rd, through Daniel Lee's property, and to the eroding gully. The gully extent will also be defined at this time. This information will be used to develop an existing conditions base plan.
 - *Deliverables: Existing conditions base plan*
3. Permitting Review
 - Project permit review will be completed. This will include desktop review and project inquiries as warranted with Wetlands, Rivers, and other identified permitting concerns. Where warranted, site visits will be carried out with regulatory officials to confirm jurisdiction. Permitting assessments will be documented and summarized.
 - *Deliverables: Permitting review summary*
4. 30% Design
 - A draft 30% design will be completed. This design will include the practice or practices determined to be appropriate for the site based on previous tasks. The plans will be provided to CVRPC and stakeholders for review and comment. The draft 30% design will be updated based on stakeholder feedback as needed. A Preliminary Design Report consistent with DEC Clean Water Funding Policy and including a rough estimate of Final Design Costs, Bid Doc Preparation/Review & Award Consultation, Construction Costs, and Construction Oversight/Management will be prepared. P reduction estimates will be provided.
 - *Deliverables: 30% design plans, Preliminary Design Report*

Project Team

Watershed Consulting will be the primary consultant for this project. Project partners include Lakeside Environmental Group (LEG) and Trafton Engineering Associates, LLC.

Lakeside Environmental Group

Lakeside Environmental Group (LEG) is a small Burlington, VT consulting firm that specializes in stormwater treatment design, wastewater and potable water supply design, complex grading designs, land use planning, project management and permitting, GPS and GIS mapping, topographic surveying and modeling, CAD drafting, environmental mediation, and related resource evaluations (aesthetics, agricultural soils, wetlands, etc.). LEG was formed in the spring of 2010 with partners who had worked together previously at Heindel & Noyes for over eight years. LEG frequently teams with other development consultants including Watershed Consulting.

Trafton Engineering Associates, LLC

Plans and details will be reviewed and stamped by Trafton Crandall, a Vermont-licensed professional engineer (P.E.). Trafton is the Owner and Principal Engineer of Trafton Engineering Associates, LLC and has extensive experience in stormwater BMP design and permitting. Trafton's expertise complements and enhances the skills of the remainder of the project team.

Cost Proposal

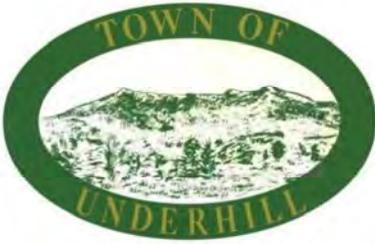
A proposed cost table is included below for the project.

Task #	Category & Task	Firm Staff Title Rate (\$/hr)	Watershed Consulting				LEG		Trafton Engineering	Mileage (\$0.7/mi)	Total Estimate
			A. Torizzo	K. Garvey	A. Sherman	L. Kovacevic	A. Stout	S. Smith	T. Crandall		
			Principal	GIS Program Manager	Water Resources Scientist	GIS Technician	Senior Planner	CAD / GIS Specialist	Principal, P.E.		
			\$ 195	\$ 145	\$ 125	\$ 125	\$ 105	\$ 75	\$ 140		
1	Conceptual Design Map and Revised P Crediting		2	6	2	4				44	
	Subtotal		2	6	2	4	0	0	0	\$30.80	\$ 2,040.80
2	Existing Conditions Base Plan		1		8	8				44	
	Subtotal		1	0	8	8	0	0	0	\$30.80	\$ 2,225.80
3	Permitting Review		1	1	4						
	Subtotal		1	1	4	0	0	0	0	\$0.00	\$ 840.00
4	30% Design		4	8	4	2	6	6	2		
	Subtotal		4	8	4	2	6	6	2	\$0.00	\$ 4,050.00
Total Hours by Staff			8	15	18	14	6	6	2	--	69
Total			\$ 1,560	\$ 2,175	\$ 2,250	\$ 1,750	\$ 630	\$ 450	\$ 280	\$61.60	\$ 9,156.60

Schedule

The proposed project schedule is included in the table below.

Project Task	2025				2026		
	Nov	Dec	Jan	Feb	Mar	Apr	May
Task 1. Conceptual Design Map and Revised P	[Orange bar]						
Task 2. Existing Conditions Base Plan	[Orange bar]						
Task 3. Permitting Review	[Orange bar]						
Task 4. 30% Design	[Orange bar]						



Town of Underhill
P.O Box 120, Underhill, VT 05489
underhillvt.gov
Phone: (802) 899-4434
Fax: (802) 899-2137

SELECTBOARD MEETING MINUTES
Thursday, February 22, 2024, 6:00 P.M.
Underhill Town Hall

Present:

Selectboard Members: Bob Stone, Patricia Richards

Town Staff: Brad Holden, Russ Clark, Jennifer Silpe-Katz, Amanda Bosley (remote), Dan Manz,

Committee Members: Seth Friedman, Kurt Johnson

Others: Graham Chapek, David Demarest, Daniel Lee

Absent: Dan Steinbauer

Note: All votes taken are unanimous unless otherwise noted.

1. *Call Meeting to Order / Adjustments to Agenda*

Bob called the meeting to order at 6:00. It was agreed to add an item related to a grant for Harvest Crossing.

2. *Opening Public Comment (6:01)*

No members of the public wished to comment.

3. *Harvest Crossing Grant (6:01)*

Dan Manz said the church successfully completed the Vermont Community Development Program planning grant and now they have the opportunity to apply for an implementation grant. Funding is only available to municipalities so the town and church would have to have same subgrantee relationship as with the previous grant. The grant application is due to VCDP April 9. Before we can apply the selectboard needs to have a public hearing about the application. The meeting has to be warned 15 days ahead of time. Brad had asked if we could wait 6 months to apply. Dan learned that the state is about to be required by the federal government to meet Build America, Buy America (BABA) requirements, which means grantees would have to document that everything used in the project was made in America. We get lumber from Canada.

Apparently there is only one company in the U.S. known to make PVC pipe. Meeting those requirements is likely to raise the cost of the project – maybe to the point where it would not be worth applying for the grant – and it creates huge administrative headaches. VCDP has \$500K of leftover money from FY2023 and the only BABA requirements on that are for iron and steel. If we don't apply by April 9 they will give all that away and the next round of grants will be subject to BABA requirements.

Patty moved to schedule a public hearing on the Harvest Crossing implementation grant prior to April 9, Bob seconded and the motion was passed.

4. *Proposed Pavilion in Moore Park – Development Review Application (6:10)*

Seth Friedman said he is here on behalf of the rec committee. They would like permission to submit the site plan for the pavilion at Moore Park to the DRB for review. The pavilion would hopefully be in the southwest corner of the park. A private member of the community is interested in building and funding it. The committee has staked out an area they believe will work but they will get it surveyed to make sure it is not in the riparian buffer.

Bob asked who will manage the construction. Seth said he thinks the rec committee would have purview over it but the person who will be building it is a builder. Bob asked who from the town will oversee the

construction. Seth said the rec committee can do that if the selectboard wants them to. Brad said he thinks it is likely that construction will only take a day. There are some logistics to be worked out regarding power, etc. He is happy to do what he can and the rec committee can fill in the gaps. Seth said the energy committee is trying to get a grant to put solar panels on the roof. Brad said the building would be oriented for solar panels.

Patty moved to accept the rec committee's proposal to submit an application to the DRB for construction of a pavilion at Moore Park. She said she highly encourages having solar sited there. **Bob seconded and the motion was passed.**

5. ***2024 ADA Traffic Control Contract (6:17)***

Russ said we contract with ADA in case we need them for traffic control so we know their rates. Brad said last year he ran the contract by the town's attorney and he said it was satisfactory. **Bob moved and Patty seconded to authorize the vice chair to sign the 2024 contract with ADA Traffic Control Ltd. for traffic control.** Patty said on the first page the contract refers to "the following Project(s) and Project Site(s): All jobs." Could we make that say "jobs as requested by the Town of Underhill" instead? Brad agreed that would be better. **The motion was passed.**

6. ***Replacement Plow Blades***

Russ said there is a new plow blade on the market designed for plowing soft roads. It is very difficult to plow roads that are soft because the blade has a tendency to dig in. He would like to purchase 33 ft. of this style of blade in order to set up 3 plows with the blades.

Jennifer said in 2020 we bought \$7500 worth of new plow blades and in December 2021 we spent \$5K on new blades. Do other blades also need replacement? It looks to her like we purchase new plow blades every 2 years. Russ said right now we have a good stock of carbide blades – plenty for this fiscal year.

Patty asked if we have funds in the budget for this. Jennifer said there is a budget line for dump truck maintenance. Russ said that line is still pretty healthy. He thinks it had \$60K or \$65K originally and we have spent about half of it.

Patty said we have done without these plow blades until now. Could we wait until the end of the fiscal year and see how much is left and then buy them for next winter? Russ said that is a possibility. Plowing dirt roads is very difficult. It can be nerve racking. He has seen trucks go over when the blades dig in.

Bob asked if we know of anyone who is using these. Russ said no. This blade was just brought to his attention last week.

Bob moved and Patty seconded to purchase 33 feet of blades for soft road plowing from Eastern Wear Parts at \$89 per foot. Patty said she will vote no because she would like to wait and purchase the blades at the end of the fiscal year. **The motion failed with Bob voting in favor and Patty opposed.**

7. ***Spring 2024 Mud Season Posting***

Bob moved to post roads effective February 23 at 8:00 am as presented in the meeting packet, Patty seconded and the motion was passed.

8. ***Town Garage Heating Service Contract (6:34)***

Russ said we have a contract with Alliance Mechanical dated 2015 for maintenance of the town garage heating system. They called recently to schedule a time to come do maintenance. He wanted to see if the board wants to continue the contract. Brad suggested maybe we should shop around for new estimates. We also have a contract with Alliance for maintenance at the post office. The service location address is wrong for the post office. Patty said she doesn't like the automatic renewal in the contract. She thinks there should

be a new contract every year. It was agreed that Brad should investigate heating system service contracts with different vendors and report back to the board.

9. *FY25 VTrans Structures Grant Application – Pleasant Valley Road, Bridge 7 (6:39)*

Kurt said we applied for this grant last year but were not quite high enough on the priority list. It is a \$200K grant. He asked Cricket McCusker about the cost figure and she recommended increasing last year's amount by 10%.

Patty moved to approve and sign the FY25 VTrans Structures Grant Application for Pleasant Valley Road, Bridge 7, Bob seconded and the motion was passed.

10. *Irish Settlement Road Paving Bid Documents (6:43)*

Kurt said the due date for bids is April 12. Russ gave input about some side roads to include. We usually end up getting our paving work done in late September or early October. Sometimes that is pushing the edge of the envelope for temperature. Also, the asphalt pricing index the state puts out typically goes up over the course of the year. This time we asked bidder to give us a bid for paving this year and also one for paving next year between May and June 30.

Bob said he is concerned about having paving done when there is school traffic. It was agreed to revise the bid documents to say that paving of the section from Pleasant Valley to Pine Ridge must be done at a time when students are not in school.

Bob moved to send out the Irish Settlement Road bid documents with the changes discussed, Patty seconded and the motion was passed.

11. *Consider Clean Water Grant Application – Range Road (6:54)*

Dan Lee said he lives on Range Road. There is a cross culvert that goes under Range Road and is channelized through his property and then hits a steep slope. There is erosion at one end. He previously asked if the town might be able to do something about it, but it was quite a ways out of the right of way so that wasn't an option. Now Vermont has a funding mechanism for clean water projects that are not regulatory (not mandated by the state.). He thinks this project falls into that category. Brad said the money is for private projects. He thinks there is a good chance of getting a grant. Dan wants to know if the town would support an application to the Basin Water Quality Council for the Lamoille drainage. Dan would work on the application with advice from Brad. Brad said it would be a design grant. Dan said he thinks this may be for preliminary design and then he could apply for a design grant and in the future could get a grant to do the work.

Jennifer said she used to live on South Hill and she brought that catch basin to the town's attention 6 or 7 years ago because it was caved in. It has been getting worse. The board looked at some pictures showing the erosion. Brad explained the infiltration system that is proposed to fix the problem.

Patty moved to submit an application to the Northwest Regional Planning Commission for a Clean Water grant, Bob seconded and the motion was passed.

Dan said he read that individuals are not allowed to apply so the town would be the grantee.

12. *Recess (7:04)*

Bob recessed the meeting from 7:04 to 7:07.

13. *Continue Discussion and Review Draft Amendment to Ordinance (7:08)*

Amanda had sent out a new version of the street naming, numbering and addressing ordinance. Patty said one sentence says, "No new road shall have any currently used name in the Town of Underhill or other town serviced by the UJFD." Should we make it more generic and say "shared emergency services" instead of UJFD? Amanda said she would be worried about making it too broad. Do

we really need to include Bolton or Westford? Patty asked what other emergency services we share. Brad said the state police. Bob said Essex Rescue. Brad said if the other towns don't have the same restriction on duplicate names our restriction won't do any good. Currently Jericho and Underhill collaborate but it would be difficult to reach out to all the other towns that might share emergency services. Bob said right now he isn't aware of it being a problem. Brad said he thinks our E911 coordinator can help us determine whether there are any other roads with the same name in neighboring towns. Amanda said she would research it before suggesting a name to the selectboard.

There was discussion about whether the policy should say that vanity road signs are not permitted. After some discussion, Amanda said she would try to come up with different wording that is less strict. Bob suggested checking with some less rural communities to see what they do.

Patty asked to have Underhill Jericho Fire Department spelled out in the policy instead of using UJFD.

14. 2024 Underhill Land Contracts Changes (7:23)

Amanda said the Weir property sold. The two new owners that needed to transfer the contract have signed. The third owner is a relative and not required to transfer.

Bob moved to sign the new land contract dated February 2, 2024 with Jordan and Rachel Wyckoff for the property containing 48.9 acres located at 204 Poker Hill Road, Patty seconded and the motion was passed.

Bob moved to sign the new land contract dated January 26, 2024 with Dylan Haden and Tory Wilder for the property containing approximately 50 acres located at 178 Poker Hill Road, Patty seconded and the motion was passed.

15. April 8, 2024 Solar Eclipse Discussion (7:26)

Brad said VLCT has been having weekly eclipse briefings. The state emergency operations center will be open that day. They are encouraging towns to use the eclipse like a practice event and to coordinate. Cell providers are claiming bandwidth won't be an issue. There was discussion about mud season. The state is encouraging towns to close roads to all but local traffic. We can create a municipal account for the Waze app and show roads as closed on the app. They are encouraging us to do that. The state will be placing signs saying that the state park is closed. Brad thinks we can coordinate with them and decide where we would like signs saying "local traffic only." Cambridge selectboard chair Jeff Coslett wondered if Cambridge and Underhill should coordinate, for instance on Pleasant Valley Road. Stowe will be open. They will keep everyone at the top while the eclipse happens and then open the trails when the light comes back. Jay Peak is closing and maybe running the tram. Some towns are doing their own events. He thinks the state parks that will be open will be more toward the islands. He talked to sheriff to see if our deputy could be available. The sheriff said he would ask him. Bob said he thinks having a sheriff's deputy here for the afternoon or the entire day would be to the residents' advantage. Patty suggested having them at the entrance to either Stevensville or Mountain Road. Brad will coordinate with the sheriff. Bob suggested getting 4 "local traffic only" signs. Russ will get prices.

16. Closing Public Comment Period (7:28)

No members of the public wished to comment.

17. Member Items, Correspondence, Announcement, Schedule, Dates for Special Meeting (7:39)

The next meeting is the February 26 informational hearing.

Bob congratulated Dan Steinbauer on his 50th wedding anniversary. Dan is celebrating with his wife tonight.

18. Executive Session (7:40)

Bob moved to go into executive session under 1 V.S.A. Section 313(a)(1)(A) for the appointment or employment or evaluation of a public officer or employee, Patty seconded and the motion was passed at 7:40.

Bob moved to come out of executive session at 8:01, Patty seconded and the motion was passed.

Bob said the board will continue to examine a personnel matter.

19. Warrants and Minutes

Bob moved to approve the warrants dated February 15, 2024, Patty seconded and the motion was passed.

Bob moved to approve the warrants dated February 12, 2024, Patty seconded and the motion was passed.

Bob moved to approve the selectboard minutes dated January 18, 2024, Patty seconded and the motion was passed.

Bob moved to approve the selectboard minutes dated January 25, 2024, Patty seconded and the motion was passed.

Bob moved to approve the selectboard minutes dated February 8, 2024, Patty seconded and the motion was passed.

20. Adjourn (8:03)

Bob moved to adjourn, Patty seconded and the motion was passed at 8:03.

Minutes submitted by Donna Griffiths

Read and approved as submitted/amended:

Dan Steinbauer, Chair

Date Signed

Date Approved

On Thu, Apr 24, 2025 at 6:23 AM Daniel D. Lee <dandonlee@gmail.com> wrote:

Thanks Chris, yes I am referring to that deadline.

I very much appreciate your support on this issue and I'm doing my best to keep in touch (hopefully) without being an irritant!

The state sure makes these funding requests tricky...& they gatekeep hard!

Thanks again for all your work on this!

Best,

Dan Lee

From: Daniel D. Lee <dandonlee@gmail.com>

Sent: Tuesday, April 22, 2025 9:22 PM

To: Chris Dubin <cdubin@ccrpcvt.org>

Subject: 15 Range Rd, CWSP Application

Hi Chris,

I'm seeing a deadline quickly approaching for the Lamoille CWSP and wondering if we might be able to submit an application for funding. I know there is a lot still unknown but it seems most everyone who has had eyes on it agree there is the possibility of a project. I guess it just comes down to studying it further and getting the numbers nailed down.

Thanks for your continued support on this, it really takes a lot to get folks to come along!

Best,

Dan Lee

14441 - VSC

Project Details	
WPD ID	14441
Status	Proposed
Project Name	Vermont Studio Center Floodplain Restoration-Final Design
Project Type	Floodplain/Stream Restoration - Final Design
Sector	River
Lat/Long	44.6364, -72.67876
Stream Segment	85_M01
Technical Project Manager	
Description	The Vermont Studio Center (VSC) is removing a campus building and is looking to restore natural floodplain conditions along the banks of the Gihon River. This would entail removing existing fill and riprap as well as reducing the gradient of the current riverbank. This project would slow the velocity of the river and provide more water storage for future flooding. The programming on the site of the former building is planned to be a native pollinator plant garden and educational pathway. The 30% designs will be completed as of November 1, 2025.
Development Notes	
Submission Number	HQG-J781-9QXDM

Town/County/Region	Basin/Sub Basin	Potential Partners	Potential Funding Source
Johnson	Lamoille River Basin	Vermont Youth Conservation Corps Lamoille County Conservation District Lamoille County Planning Commission	

Event Date	Event Type	State Amount	Match	Grant Total	Funding Source	Grant Num	Funded Partner
11/3/2025	Project Created in Database						

Performance Measure	Value	Status

Related Projects				
	Relationship	WPD ID	Project Name	Status
View	Parent	11304	Clean Water Service Provider Formula Grant - Basin 7 (Lamoille)	Funded

Records			
	Date	Record Type	Record Title

Project Type	
TypeList	Floodplain/Stream Restoration – Final Engineering Design
Step/Phase	Final Design
Basic Eligibility	Yes
Applicant Name	Meghan Rodier
Applicant Organization	Lamoille County Planning Commission
Applicant Email	meghan@lcpvt.org
Applicant telephone	+1 (802) 851-6337
Project ID from WPD	14441
Description of Project	The Vermont Studio Center (VSC) removed a campus building (Former Johnson Town Garage site) due to substantial flood damage during the July 2023 flood. VSC is looking to restore natural floodplain conditions along the banks of the Gihon River. This would entail removing existing fill and riprap as well as reducing the gradient of the current riverbank. This project would slow the velocity of the river and provide more water storage for future flooding. Near the Wolf Kahn Building the VSC recently planted a native pollinator garden and installed an educational pathway. A 30% design for proposed floodplain restoration on this site was completed by SLR as of November 1, 2025. See attached 30% design memo from SLR and letter of support from the Vermont Studio Center for a more detailed project description and background on the preliminary design planning process. This project will yield an estimated total phosphorus credit of 17.5 kg with the annual year one reduction of 2kg/yr and an after year one annual P reduction of 1.1 kg/yr.
Project Latitude	44.6364
Project Longitude	-72.67876
Project Phase	Final Design
Annual P Reduction KG	1.1 kg/yr (after year 1), 17.5 kg (total P reduction)
Any one time P reduction KG	2 kg/yr (Year 1 p reduction)
Total Cost of Proposed Phase	\$35,237.76
Amount of funding requested (Proposed Phase)	\$35,237.76
Matching Funds Available	\$0.00
Total Project Costs (All Phases)	\$242,519.9 (includes preliminary design phase that is complete)
KG/\$ Current Phase	#INVALID OPERATION
KG/\$ Overall	#INVALID OPERATION
Design Life	Perpetual
Estimated Annual O&M cost total	3,000/ year for the first three years.
Conformance with Tactical Basin Plan TBP	10
Number of Co-benefit Areas	3
DEC Screening Form Uploaded	Yes
Map of Project Area Uploaded	Yes
Project Budget Uploaded	Yes
Project Schedule Uploaded	Yes
Landowner Support uploaded	Yes
Phosphorus Calculator Tool uploaded	Yes
Design/Imp Costs Requested	35237.76
Design-imp Costs Total	\$242,519.9 (includes preliminary design phase that is complete)
Using_As_Match	No
Cultural Resource Review	Yes
O&M interest continued project	Yes
earlier P estimate	5.82

Lamoille CWSP Grant Application Attachments:

Vermont Studio Center Floodplain Restoration

- 1. Letter of Support from VSC**
- 2. VT DEC Project Screening Form**
- 3. FFI Tool Phosphorus Reduction Outputs**
- 4. Project Budget/ Cost Estimate**
- 5. Project Locator Map**
- 6. Project Schedule**
- 7. VDHP Review Form/ Concurrence on Phase I Investigation**
- 8. 30% Design Plans**
- 9. Site Photos**
- 10. 30% Design comments from River Scientist**



November 3, 2025

Trevor Corp
Director of Buildings and Grounds
he/him/his
(802) 730-2678 cell
(802) 635-2727 ext. 221 office
80 Pearl Street, P.O. Box 613, Johnson, VT 05656

RE: Final Design Application for Vermont Studio Center Floodplain Restoration Project

Dear Dean Pierce,

This letter expresses the Vermont Studio Center's (VSC) support for the Lamoille County Planning Commission's application for the Lamoille Clean Water Service Provider Grant - for Final Design of the VSC Floodplain Restoration Project. This project will restore natural floodplain connection, increase flood storage capacity, and enhance the stream buffer along the Gihon River. This project is located on Vermont Studio Center property at 113 Pearl Street in the center of Johnson Village. It is located on a 0.5-acre parcel near Pearl Street Bridge. This project will improve water quality, reduce phosphorus, and reduce the intensity and damaging effects of re-occurring flooding events in Johnson Village. Given the proximity of this project to the Pearl Street Bridge, this floodplain restoration project will reduce debris and ice jams by reconnecting the Gihon River to its natural floodplain and providing space for debris and ice to settled out during flooding and backwatering events.

In the Fall of 2023, the Vermont Studio Center reached out to LCPC to inquire about using the Wolf Kahn building river access area as a floodplain mitigation and educational area. In winter of 2024, LCPC, VSC, and state partners from the Vermont Department of Environmental Conservation met to evaluate this site for a potential flooding mitigation project. Spring of 2024, LCPC applied for funding through the Lamoille Basin Clean Water Service Provider to pursue preliminary design engineering for this site. Over the past year, the Vermont Studio Center has worked in partnership with the LCPC, SLR (the engineering team), and state partners from VT DEC to explore alternatives for floodplain restoration. The alternative selected will preserve the existing pollinator garden and walking path while restoring floodplain connection and the stream buffer along the Gihon River. This scoping study included a flood analysis and alternatives analysis to explore different options for the site. There is a fair amount of fill due to the site being the former site of the Town Garage. The Final design work will further plan for a partial removal of fill and restore the floodplain.

This project aligns with goals from Johnson's 2022-2027 Local Hazard Mitigation Plan. The Hazard Mitigation Plan advocates for projects that prioritize the mitigation of inundation flooding

and fluvial erosion. The Vermont Studio Center is happy to provide support for this project and continue the partnership with the Lamoille County Planning Commission to secure funding for the Final Design Phase.

Sincerely,

A stylized handwritten signature consisting of a horizontal line with a vertical stroke extending downwards from its center, and a small horizontal dash below the vertical stroke.A large, fluid handwritten signature that appears to be a stylized 'P' or 'R' with a large loop at the top and a long, sweeping tail.

Trevor Corp
VSC Director of Buildings and Grounds

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Minimize nutrient/organic pollution, flood/fluvial erosion hazards, and protect and restore aquatic/ riparian habitat.	Multiple

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see [CWIP Funding Policy](#) for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	14441
Watershed Project Database Project Name	Vermont Studio Center Floodplain Restoration-Final Design

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts³

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. ⁴

- 1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. ⁵ Please note that “project site” may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
- 2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
 - a. Proponents should send the identified permitting staff the following:
 - i. The watersheds project database identification number (WPD-ID) (if available),
 - ii. Project location (GPS coordinates)
 - iii. Summary of proposed scope of work, and
 - iv. Any other relevant information they request that will be utilized in their review.
 - b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
 - c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

³ Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

⁴ In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

⁵ Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The [ANR Permit Navigator](#) and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

- 3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
 - a. Which permits or permit amendment are needed or might be needed?⁶
 - b. What type might be needed? (e.g., a general or individual permit?)⁷
 - c. What concerns were voiced by permitting staff?
 - d. How will the proposed scope of work address these concerns?⁸

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont’s Land Use and Development Control Law) Permits been issued in the project site’s parcel location?⁹	Yes <input checked="" type="radio"/>	No <input type="radio"/>
If yes , please provide the permit number and list any water resource issues or natural resource issues found ¹⁰ :		
PermitNumber: 5L0814-16		
ResourceIssues: N/A		
If yes , use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation.		
Regulatory Point of Contact Name/Position: Susan Baird, District Coordinator		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	Yes <input type="radio"/>	No <input checked="" type="radio"/>

⁶ Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

⁷ Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

⁸ Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

⁹ An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named “Clean Water Initiative Program Grant Screening.”

¹⁰ Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? ¹¹	
<p>If yes, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
III. Rivers, River Corridors, and Flood Hazard Areas	
<p>1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area¹²? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>If yes, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p> <p>Alexis Nevins, Regional Floodplain Coordinator</p>	
<p>2. Is any portion of the project site within a perennial river or stream channel? ¹³</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>If yes, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p> <p>Chris Brunelle, Stream Alterations Engineer</p>	
IV. Wetland	

¹¹ The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

¹² FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: <https://msc.fema.gov/portal/home>. ANR Floodplain Managers are available to provide technical assistance if needed.

¹³ Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

<p>1. Does the Wetland Screening Tool¹⁴ provide a result of wetlands likely, very likely, or present at the project site?</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;"><input checked="" type="radio"/> <input type="radio"/></p>
<p>2. Does your project site involve land that is in or near an area that has <u>any</u> of the following characteristics:</p> <ul style="list-style-type: none"> o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.) 	<p style="text-align: center;">Yes <input type="radio"/></p> <p style="text-align: center;">No <input checked="" type="radio"/></p> <p style="text-align: center;">Not Sure <input type="radio"/></p>
<p>If you answered yes or not sure to <u>either</u> of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered yes or not sure to <u>either</u> of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an “allowed use” under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.</p> <p>Regulatory Point of Contact Name/Position: Shannon Morrison, Wetlands Ecologist</p>	
<p>1. Is your project a Wetland Restoration project type?</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;"><input type="radio"/> <input checked="" type="radio"/></p>
<p>If you answered yes, under the Vermont Wetland Rules you will need an “allowed use” determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>V. Fish and Wildlife</p>	
<p>State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit.</p> <p>1. Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns? Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;"><input type="radio"/> <input checked="" type="radio"/></p>

¹⁴ To view the Wetland Screening Tool introduction video, see <https://youtu.be/6lv5en0AB1o>

2. Is the project site within 1 mile of a mapped¹⁵ Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes , forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. Regulatory Point of Contact Name/Position:	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? ¹⁶	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
Provide below or attach a narrative summary of Table 4 findings. Please include: <ol style="list-style-type: none"> Which permits or permit amendment are needed or might be needed? What type might be needed? (e.g. a general or individual permit)? What concerns were voiced by permitting staff? How will the proposed scope of work address these concerns? Permit needs include the following: Floodplain Permit Stream Alterations Permit Amendment to existing Act 250 Permit Project is not located in a wetland. It involves removing historic fill and restoring the natural floodplain.	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes <input checked="" type="radio"/> No <input type="radio"/>

¹⁵ Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

¹⁶ If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a [licensed solid waste hauler](#) and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	
--	--

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes <input checked="" type="radio"/> No <input type="radio"/>
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes <input type="radio"/> No <input checked="" type="radio"/>
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes <input type="radio"/> No <input type="radio"/> N/A <input checked="" type="radio"/>
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes <input checked="" type="radio"/> No <input type="radio"/>

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See [CWIP Project Types Table](#) for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation ¹⁷ ? Complete a preliminary review to	<input type="radio"/> Yes - Proceed to next question below.

¹⁷ Jurisdictional farm operations are required to meet Vermont’s Required Agricultural Practices (RAPs).

<p>determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.</p>	<p><input checked="" type="radio"/> No¹⁸ - There is no additional requirements related to agricultural review for these projects.</p>
<p>2. Is the proposed project an agricultural project?</p> <p>Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.</p>	<p><input type="radio"/> Yes - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization.</p> <p><input checked="" type="radio"/> No- The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFAM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below.</p> <p>Step 1- Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFAM at AGR.WaterQuality@Vermont.gov .</p> <p>Step 2- Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.</p>
<p>Agricultural Project Review Status & Summary:</p>	
<p>Check as Applicable</p>	<p>Status</p>
<p><input type="checkbox"/></p>	<p>Submitted/ Pending</p>
<p><input type="checkbox"/></p>	<p>Approved</p>
<p><input type="checkbox"/></p>	<p>Denied</p>

¹⁸ Note CWIP’s Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the [Appendix B. Project Types Table](#) are not subject to review by VAAFAM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status “submitted/pending” will be “approved” prior to a project approval for funding.

Both alternatives, predict minor reductions in flow velocities (0.6 to 1.9 cfs) through the project area depending on the flow conditions (2-year, 5-yr flood, 25-yr flood, etc.). Water surface elevations were slightly lower (0.1 to 0.3 ft) upstream of the project area and slightly higher (0.1 to 0.3 ft) through the project area (Appendix B). Neither alternative produced significant change to either the proposed water surface elevations or velocity. A reconnected floodplain in this location will allow more space for floodwater, remove historic fill, add benefit to the contamination cleanup excavation occurring at this location, smooth the slope transition through the project site, and create capacity to catch wood, sediment, and ice that flows down the Gihon before entering Johnson Village. After discussion with the project stakeholders, Alternative B was selected to move forward with 30% concept design.

Concept Design

The concept design includes lowering the floodplain and replanting with vegetation. The lowered floodplain would flood at the 5-year flood. The area would be graded to create a 2:1 maximum slope along the new floodplain edge to tie into the existing gravel path and allow water to drain across the floodplain to the river edge with a 2% slope. The floodplain restoration at the site would not disturb the existing pollinator garden or the historic stone wall just downstream of the Pearl Street bridge. Grades would tie into the exposed bedrock outcrop at the upstream end and well-connected downstream vegetated floodplain. River access could be maintained with simple mowed trails as currently exists on the property. It is expected that river access would be improved as many of the tall steep banks along the river edge would be removed and a more gradually sloped riverbank would exist along more of the property.

Reducing the confinement through the project area will reduce erosion risk near the project site. By restoring the floodplain, flood waters can spread out and slow down reducing erosion. Additionally, proposed floodplain area would provide locations where debris or ice can deposit which can help reduce ice jams and related flooding. The providing an ice and debris deposition area have not been quantified in the hydraulic modeling, but have been observed to be important benefits of connected floodplains upstream of Village centers during past flood events.

Floodplain restoration would improve sediment attenuation improving water quality through uptake of phosphorus. This project would receive credit for both channel stability and floodplain storage for the Lake Champlain TMDL. Using the Functioning Floodplain Initiative (FFI) tool, we estimate a stream stability credit of 3 kg and storage credit of 14.5 kg for a total phosphorus credit of 17.5 kg (Appendix C).

The restoration area is approximately 0.4 acres with an average cut of 3.5 feet, resulting in an average cut volume of 1,500 cubic yards. A ballpark cost estimate for the project is \$209,000 including final design, permitting, bidding, construction, and post-construction monitoring.

Possible Project Constraints & Permitting Needs

Some utilities may be present on the site. The VTANR Atlas mapping shows stormwater infrastructure in the project area (Figure 13), which will be incorporated into the final design. Other utilities remain a possible constraint and additional checks with utility providers and the Town should be completed.

The site is mapped as “Urban Soil Background Areas”, which would need to be placed in another area also designated in the same way. Excavation and removal of soils contaminated by petroleum will need to be coordinated with REA.





EXPORT CSV EXPAND ALL CLEAR RESULTS

River Corridor ID	Floodplain (Lat-Vert) Connectivity (Score of 0-100)	Total Feasibility (Score of 0-100)	TP Load Assigned to Floodplains (kg)	Incision Ratio	Existing Inundation Vulnerability	Existing Erosion Vulnerability	Habitat Priority	Number of Priority Projects	Add to Project Calculations
▼ 85_M018_1_C00	26.4	35.4	6.9	1.5	High	High	-	4	<input checked="" type="checkbox"/>
Project Type	Connectivity Priority		Typical Project Unit Cost (\$)			Simulated Watershed Average P Credit (kg/ac-yr)			
Plant 50-Foot Riparian Area	Medium		\$500-\$5,000 per acre			0.1			
Create Flood Bench	Medium		\$20,000-\$200,000 per acre			0.3			
Remove Minor Constraint	Low		\$10,000-\$100,000 each			0.2			
Adopt River Corridor Bylaws	Medium		\$10,000-\$10,000 per acre			0.1			
Stream Segment ID	Stream (Long-Temp) Connectivity (Score of 0-100)	TP Load Assigned to Streams (kg)	Number of Priority Projects		Add to Project Calculations				
▼ 85_M01B	75.3	0.7	0		<input checked="" type="checkbox"/>				

PROJECT SCREENING

CALCULATION INPUTS

WATER QUALITY BENEFIT

FLOODPLAIN RESILIENCY BENEFIT

HABITAT BENEFIT

BENEFIT SUMMARY

COST EFFECTIVENESS

EXPORT CSV

CLEAR RESULTS

Enter Proposed Information for Potential Stream Stability Projects Below:

CALCULATE

▼ Floodplain Connectivity (Lateral-Vertical) and Storage Crediting

Proposed River Corridor and Floodplain Projects:

- Restore Channel Slope
- Plant Floodplain
- Plant River Corridor
- Reconnect Flood Chute
- NRCS Wetland Reserve
- Restore Channel Roughness and Wood

- Remove Minor Constraint
- Adopt River Corridor Bylaws
- Create Flood Bench
- Plant 50-Foot Riparian Area
- Raise Channel

- Remove Berm
- Restore Wetland
- Remove Major Constraint
- Implement River Corridor Easement
- Lower Floodplain

STREAM STABILITY (FLOODPLAINS)

STORAGE

River Corridor ID	River Corridor Area (acres)	50-ft Riparian Area (acres)	Existing Incision Ratio	Unconstrained River Corridor Area (acres)	Robust Protection Area (acres)	Moderate Protection Area (acres)	Low Protections Area (acres)	No Protection Area (acres)	Naturally Vegetated Buffer Area (acres)	Proposed Incision Ratio	Area with Vertical Change (acres)
85_M01B_1_C00Existing	19.3	4.3	1.5	8.3	0	7.4	10.1	1.8	2.1	-	-
Proposed Project Values	-	-	1.9						0.4	1.1	0.4

Enter Proposed Information for Potential Stream Stability Projects Below:

CALCULATE

▼ Floodplain Connectivity (Lateral-Vertical) and Storage Crediting

Proposed River Corridor and Floodplain Projects:

- Restore Channel Slope
- Plant Floodplain
- Plant River Corridor
- Reconnect Flood Chute
- NRCS Wetland Reserve
- Restore Channel Roughness and Wood

- Remove Minor Constraint
- Adopt River Corridor Bylaws
- Create Flood Bench
- Plant 50-Foot Riparian Area
- Raise Channel

- Remove Berm
- Restore Wetland
- Remove Major Constraint
- Implement River Corridor Easement
- Lower Floodplain

STREAM STABILITY (FLOODPLAINS)		STORAGE	
River Corridor ID	Existing Reach Connectivity	Project Area Connectivity	Proposed Project Area (acres)
85_M01B_1_C00	Existing	-	-
Proposed Project Values	Medium	High	0.4

► Stream Connectivity (Longitudinal-Temporal) Crediting

Stream Names: Gihon River

Project Area (acres): 0.4

Stream Stability and Storage Credit Summary

	Year 1 Credit (kg)	Year 2+ Credit (kg/yr)	Estimated 15 Yr Lifespan Credit (kg)
Floodplain Connectivity (Lateral - Vertical)			
Stream Stability	0.2	0.2	3.0
Storage	1.0	0.9	14.5
Stream Connectivity (Longitudinal - Temporal)			
Stream Stability	0.0	0.0	0.0
TOTAL	2.0	1.1	17.5

Stream Stability Credit and Connectivity Details

Floodplain Connectivity (Lateral-Vertical)

River Corridor ID	Project Connectivity Credit Score	Existing Subunit Floodplain/Corridor Connectivity Score	Proposed Lateral Credit Score	Proposed Vertical Credit Score	Proposed Subunit Floodplain/Connectivity Score	Lateral P Reduction Credit (kg/yr)	Vertical P Reduction Credit (kg/yr)	Total P Reduction Credit (kg/yr)	Total P Reduction Credit (lb/yr)
85_M01B_1_C00	1.1	26.4	1.4	0	27.5	0.1	0.1	0.2	0.3

Stream Connectivity (Longitudinal-Temporal)

Stream ID	Project Connectivity Credit Score	Existing Stream Segment Connectivity Score	Proposed Longitudinal Credit Score	Proposed Temporal Credit Score	Proposed Stream Segment Connectivity Score	Longitudinal P Reduction Credit (kg/yr)	Temporal P Reduction Credit (kg/yr)	Total Stream Connectivity P Credit (kg/yr)	Total Stream Connectivity P Credit (lb/yr)
85_M01B	0.2	75.3	0.3	0	75.4	0	0	0	0

Predicted Floodplain Resiliency Benefit

SubUnit(s) IDs: 85_M01B_1_C00, 85_M01B
Town: JOHNSON
Projects Included: -
Stream Names: Gihon River
Project Area (acres): 0.4

Potential Reduction in Vulnerability (Including Upstream and Downstream Benefits)

Corridor or Floodplain Id	Vulnerability Process	Value of Vulnerable Infrastructure and Property (\$)				Potential Reduction in Vulnerability (\$)			
		Building	Transportation	Agriculture	Total	Building	Transportation	Agriculture	Total
▶ Total	Inundation (floodplain)	2,863,800	222,500	1,900	3,088,200	0	0	0	0
▶ Total	Erosion (Corridor)	5,327,300	3,162,700	1,100	8,491,100	0	0	0	0

Local Vulnerability Reduction (Based on Single Corridor or Floodplain Subunit)

Corridor or Floodplain ID	Vulnerability Process	Existing		Proposed		Vulnerability Reduction (%)
		Initial Value of Vulnerable Infrastructure and Property (\$)	Vulnerability Rank	Remaining Value of Vulnerable Infrastructure and Property (\$)	Vulnerability Rank	
85_M01B_1_0F0	Inundation (floodplain)	3,088,200	High	3,088,200	High	0
85_M01B_1_C00	Erosion (corridor)	8,491,100	High	8,491,100	High	0

Final Design Phase Budget

Lamoille County Planning Commission
VSC Floodplain Restoration Project

Gray cells auto-calculate, do not edit. Enter white cells only.

SUB-GRANT ADMINISTRATION AND PROJECT MANAGEMENT EXPENSES

Personnel (Name, Title)	Tasks/Responsibilities	Hours	Hourly Rate (including Fringe)	Total Salary Expense	Match*	Amount requested
Meghan Rodier, LCPC Regional/Natural Resources Planner	Meghan will provide both project coordination and grant management services.	44	\$36.54	\$1,607.76	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Personnel Subtotal				\$1,607.76		

Indirect Costs	Indirect Rate	Cost related to Indirect rate	Total Indirect cost	Match*	Amount Requested
	99.2%	\$1,607.76	\$1,594.90	Do not write in this space	
Indirect Subtotal			\$1,594.90		

Anticipated Travel	Purpose	Miles	Mileage Rate	Total Travel Expense	Match*	Amount Requested
Site Visits/Community Meetings	Travel to site visits (2), and meetings (1) with project partners. Mileage budgeted for 1 LCPC staff member.	48	\$0.70	\$33.60	Do not write in this space.	
		0	\$0.00	\$0.00		
Travel Subtotal				\$33.60		

NA

Supplies/Other	Description/Use	# of Units	Unit Cost	Total Supplies Expense	Match*	Amount Requested
Printing Costs (.5/copy)	Printing documents for site visits/ stakeholder meetings	30	\$0.05	\$1.50	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Supplies & Other Subtotal				\$1.50		

TOTAL GRANTEE ADMINISTRATION AND PROJECT MANAGEMENT EXPENSES				\$3,237.76		\$3,237.76
---	--	--	--	-------------------	--	-------------------

* Enter match amount for Total Grantee Expenses in F26 above. Must be 50% for MS4 projects.

PROJECT IMPLEMENTATION

Contractual/Construction	Description/Use (attach any quotes from consultants/contractors)	# of Units	Unit Cost	Total Contract. Expense	Match*	Amount Requested
Final Design - Floodplain Restoration	Floodplain Restoration project final design plans and final cost estimate. See cost estimate attached to CWSP application.	1	\$20,000.00	\$20,000.00	Do not write in this space.	
Drafting Permit Documents	Drafting permits/ documentation. See cost estimate attached to CWSP application.	1	\$12,000.00	\$12,000.00		
		0	\$0.00	\$0.00		
Contractual Subtotal				\$32,000.00		

Equipment Rental	Description/Use	# of Units	Unit Cost	Total Contract. Expense	Match*	Amount Requested
		0	\$0.00	\$0.00	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Rental Subtotal				\$0.00		

Supplies/Other	Description/Use	# of Units	Unit Cost	Total Supplies Expense	Match*	Amount Requested
		0	\$0.00	\$0.00	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Supplies & Other Subtotal				\$0.00		

TOTAL PROJECT IMPLEMENTATION				\$32,000.00		\$32,000.00
-------------------------------------	--	--	--	--------------------	--	--------------------

* Enter match amount for Total Project Implementation in F47 above. Must be 50% for MS4 projects.

Project Total	\$35,237.76	\$0.00	\$35,237.76
----------------------	--------------------	---------------	--------------------

Notes:

BALLPARK OPINION OF PROBABLE CONSTRUCTION COSTS
Vermont Studio Center - Floodplain Restoration

Johnson, Vermont

October 23, 2025
 SLR # 12911.00024



Description	Unit	Quantity	Unit Price (\$)	Amount (\$)
SITE PREPARATION				
MOBILIZATION	LS	1	15,000	15,000
SEDIMENT AND EROSION CONTROLS	LS	1	5,000	5,000
TEMPORARY CONSTRUCTION FENCING	LS	1	2,000	2,000
CLEARING AND GRUBBING	LS	1	10,000	10,000
CONSTRUCTION STAKING/SURVEY	LS	1	2,000	2,000
FLOODPLAIN RESTORATION				
EXCAVATION AT FLOODPLAIN AND HAUL	CY	1,500	30	45,000
RESTORATION OF SITE				
RESTORATION OF ACCESS & STAGING	LS	1	5,000	5,000
TOPSOIL AND FINAL GRADING	LS	1	10,000	10,000
SEED AND MULCH	ACRE	0.5	10,000	5,000
RIPARIAN TREES AND VEGETATION	LS	1	15,000	15,000
CONSTRUCTION SUBTOTAL				\$ 114,000
FINAL DESIGN				\$ 20,000
PERMITTING				\$ 12,000
BID MANAGEMENT				\$ 8,000
CONSTRUCTION OVERSIGHT AND DOCUMENTATION (PART-TIME)				\$ 35,000
POST-CONSTRUCTION MONITORING (3 YEARS)				\$ 9,000
CONSTRUCTION CONTINGENCY (10%)				\$ 11,000
TOTAL				\$ 209,000

* Contaminated soil excavation, haul, and disposal of sediments associated with Corrective Action Plan not included



LEGEND

- Wetland - VSWI
 - Class 1 Wetland
 - Class 2 Wetland
 - Wetland Buffer
- Wetlands Advisory Layer
- River Main Stem Waterbodies
- WBID Watersheds
- Flood Hazard Areas (Only FEM)
 - AE (1-percent annual chance floodpl)
 - A (1-percent annual chance floodpl)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- River Corridors (Aug 27, 2019)
 - .5 - 2 sqmi.
 - .25-.5 sqmi.
- Soils - Hydric
- Parcels (standardized)
- ACT250 Permits
- Town Boundary

1: 2,724
March 7, 2024

138.0 0 69.00 138.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 227 Ft. 1cm = 27 Meters
© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

NOTES

Map created using ANR's Natural Resources Atlas

Project Schedule

Final Design – Vermont Studio Center Floodplain Restoration

Please see below a proposed project schedule for the final design phase based on anticipated milestones. This schedule is subject to change based on when this project receives funding.

Milestone	Milestone Completion Timeline
Project Initiated: RFP issued	February 15 th , 2026
Final Design consultant selected	April 1 st , 2026
Final design phase kick-off meeting/ site visit with stakeholders	May 15 th , 2026
60% design plans complete/review meeting with stakeholders	September 1 st , 2026
Draft Operations & Maintenance Plan	October 1 st , 2026
Draft site access agreement	October 1 st , 2026
100% design plans completed	November 1 st , 2026
Draft permit applications	December 1 st , 2026
Final VDHP Review/Sign off on Final Design plans	December 15 th , 2026
Final reporting/Invoicing submitted and project complete	December 30 th , 2026

Vermont Division for Historic Preservation
Project Review Form
DEC Clean Water Initiative Program

This form is to be used for both the Preliminary and Final Project Review for clean water projects funded by the Department of Environmental Conservation (DEC) Clean Water Initiative Program (CWIP). See applicable sections below.

Preliminary Project Review Section

To start the consultation process for CWIP-funded Clean Water Projects, please complete this form and submit it to the Vermont Division for Historic Preservation (VDHP) at ACCD.projectreview@vermont.gov with the information requested below. This Preliminary Project Review form once completed and signed by VDHP should be submitted as a project deliverable.

This is for non-exempt CWIP project types or conditionally exempt that have failed to meet the project qualifications. Exempt project types should NOT submit this form. Please refer to the CWIP Funding Policy for a listing of exempt and conditionally exempt project types. The CWIP Funding Policy can be found here: <https://dec.vermont.gov/water-investment/cwi/grants>

For questions on architectural resources, archaeology, and below-ground resources, please contact Scott Dillon at (802) 272-7358 or scott.dillon@vermont.gov.

1. **Contact information:**

- a. Contact name: Meghan Rodier
- b. Email address: meghan@lcpvvt.org
- c. Phone number:

2. **WPD Project Title:** Vermont Studio Center Floodplain Restoration

3. **WPD – ID:** 11772

4. **Town Project is Located In:** Johnson

5. **Project site map:** Please attach a project site map. An annotated Google map or [ANR Atlas](#) map will suffice but professional design plans indicating location are also welcome. An example image is provided below. Site map should outline:

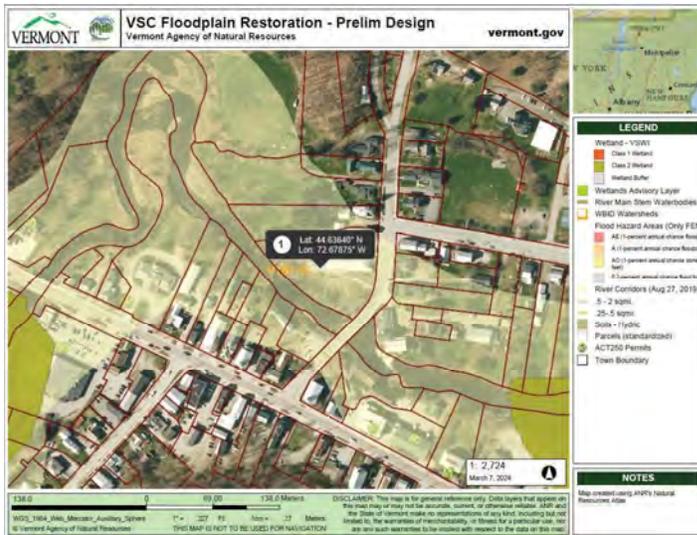
- a. Project Area of Potential Effects (APE)¹ with clearly marked GPS coordinates for project boundaries.

¹ The project APE or “area of potential effects” means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The

§106 Project Review Form

For Clean Water Projects funded by the DEC Clean Water Initiative Program

- b. Proposed ground disturbance locations. Note that stream bank regrading is considered ground disturbance.



Ground disturbance to be determined by preliminary design.

6. Project information:

- a. Select CWIP project type from drop down (if not listed, it's categorically exempt)
 - i. Floodplain/Stream Resto
- b. Please provide a short description of the project's proposed scope of work (CWIP Preliminary Design Report is acceptable instead)

The Vermont Studio Center (VSC) is removing a campus building and is looking to restore natural floodplain conditions along the banks of the Gihon River. This would entail removing existing fill and riprap as well as reducing the gradient of the current.

- c. Are there other Agencies or funding partners involved?: Yes No
 - i. If yes, which? Vermont Studio Center

- d. Does the project involves ground disturbance?: Yes No
 - i. If yes, please describe type and extent of ground disturbance.

Specifically,

1. Whether disturbance will be performed by hand or heavy machinery,
2. The estimated total acreage and maximum depth of disturbance, and

APE is influenced by the scale and nature of an undertaking and may be different from different kinds of effects caused by the undertaking [36 C.F.R. § 800.16(d)]. When determining a project's APE remember to consider/include extent of restoration footprint; new, upgraded or existing access or haul roads; staging, storage, and stockpile areas; disposal sites or waste areas; borrow areas and other source locations for fill material; and areas impacted by drainage diversions or mechanical tree clearing and similar landscape alterations.

§106 Project Review Form

For Clean Water Projects funded by the DEC Clean Water Initiative Program

- 3. The history of prior natural caused or man-made ground disturbance to the site (if known):

The project will involve regrading the stream bank back to a natural state. This will occur on the project site, which is less than an acre. The maximum depth of disturbance is unknown. The site was preciously the location of the Johnson Village Garage, which accounts for artificial fill on the site.

- e. Will the project cause direct or indirect impact/alterations or disturbance to any building or structure more than 50 years old (including dams, culverts, and bridges) or to any federally-listed historic building or structure?

Yes No Unknown

- i. **If yes or unknown**, provide any known details on the buildings or structure(s), location/condition and extent of proposed impact or disturbance. Please include whether the resource is listed in the National Register of Historic Places if known:

- f. Is the project APE located within, intersect with, or adjacent to/immediately abutting to a State- or National Register listed historic district, Designated Downtown, or Village Center?

Yes No Unknown

Email this form and supporting materials to ACCD.ProjectReview@vermont.gov

Please copy scott.dillon@vermont.gov

TO BE COMPLETED BY VDHP:

- No Historic Properties/Sites Affected
 - No Historic Resource Present; or
 - No Effect on Historic Resource

Comments:

- No Adverse Effect

Comments:

Historic Properties Affected

Potential for Historic Architectural Properties to be affected - a Qualified Architectural Historian/Historian* will be required (*please see list of consultants)

Determination of Eligibility required

Comments:

Potential for Archaeological Historic Properties to be affected - a Qualified Archaeological Consultant* will be required (*please see list of consultants)

Archaeological Resource Assessment (ARA) required

Phase 1 archeological investigation required

Comments:

Floodplain identified as archaeologically sensitive during 2016 Master Pla



Vermont State Historic Preservation Office Preliminary Concurrence:

scott dillon Digitally signed by scott dillon
Date: 2025.01.08 10:56:58 -05'00'

X: _____

Date: 1/8/25

**END OF FIELD REPORT FOR AN ARCHAEOLOGICAL PHASE I SITE
IDENTIFICATION SURVEY OF THE PROPOSED VERMONT STUDIO CENTER
FLOODPLAIN RESTORATION PROJECT, JOHNSON, LAMOILLE COUNTY,
VERMONT**



CONCUR
Vermont Division for Historic Preservation

DocuSigned by:
Scott Dillon
B920F8A4E1B1464...

Date: 8/22/2025

State Historic Preservation Office

**University of Vermont
Consulting Archaeology Program
180 Colchester Ave
111 Delehanty Hall
Burlington, VT 05405
Report No. 1706**

July 2025

**END OF FIELD REPORT FOR AN ARCHAEOLOGICAL PHASE I SITE
IDENTIFICATION SURVEY OF THE PROPOSED VERMONT STUDIO CENTER
FLOODPLAIN RESTORATION PROJECT, JOHNSON, LAMOILLE COUNTY,
VERMONT**

Prepared for:

**Meghan Rodier
Regional Planner
Lamoille County Planning Commission
P.O. Box 1637
Morrisville, VT 05661**

Prepared by:

**Meghan E. Eaton
&
Jorge L. Garcia, Ph.D.**

**University of Vermont
Consulting Archaeology Program
180 Colchester Ave
111 Delehanty Hall
Burlington, VT 05405
Report No. 1706**

July 2025

TABLE OF CONTENTS

LIST OF FIGURES ii

INTRODUCTION 1

ENVIRONMENTAL SETTING..... 2

 Project Area Precontact Era Native American Sites 2

PHASE I FIELD METHODS AND RESULTS 5

CONCLUSIONS AND RECOMMENDATIONS 16

REFERENCES CITED..... 17

APPENDIX 1: Test Pit Soil Profiles..... 19

LIST OF FIGURES

Figure 1. USGS Topographic map of Johnson showing the location of the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont.....	2
Figure 2. Plan showing existing conditions and the archaeologically sensitive area for the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont.	
Figure 3. Concept plans of the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont.	1
Figure 4. Aerial image showing the location of the Vermont Studio Center Floodplain Restoration Project APE and the archaeologically sensitive area (ASA), Johnson, Lamoille County, Vermont.....	3
Figure 5. Aerial photo showing the Vermont Studio Center Master Plan (2016) project area and areas marked sensitive for the presence of precontact era Native American archaeological sites during the 2016 ARA (Crock et al. 2016).....	1
Figure 6. Aerial map showing the approximate location of the Vermont Studio Center Floodplain Restoration project in relation to.....	3
Figure 7. Aerial view map of the Vermont Studio Center Floodplain Restoration project area in relation to known precontact Native American sites nearby listed in the VAI, Johnson, Lamoille County, Vermont. Note: only precontact sites are labeled.....	4
Figure 8. View west of UVM CAP archaeologists excavating test pits along Transect 1 during the Phase I Survey of the Vermont Studio Center Floodplain Restoration project APE, Johnson, Lamoille County, Vermont.....	5
Figure 9. Aerial image showing the location of the Vermont Studio Center Floodplain Restoration Project APE, the archaeologically sensitive area (ASA), and Phase I testing locations in relation to areas of disturbance, Johnson, Lamoille County, Vermont.....	6
Figure 10. Detail of 1962 aerial imagery with approximate project area outlined in red. Note: former garage building (Kahn Barn) behind gymnasium and gravel lot between buildings and Gihon River (Geotechnics & Resources Inc. 1962).....	8
Figure 11. Detail of 1995 aerial imagery with approximate project area outlined in red. Note: parking area to south of Kahn Gymnasium (Vermont Mapping Program 1995).....	9
Figure 12. Close up of 2009 aerial imagery with approximate project area outlined in red. Note: temporary bridge and approach (Google Earth 2009).	10
Figure 13. Detail of 2018 aerial imagery with approximate project area outlined in red (State of Vermont 2018).	11
Figure 14. View southeast of ‘Mason Green’ area to the south of the Kahn Gymnasium with soil contamination area stakes and landscaped path in image center.	12
Figure 15. Image of Transect 1 Test Pit 1 during the Phase I Survey of the Vermont Studio Center Floodplain Restoration Project APE, Johnson, Lamoille County, Vermont.	13
Figure 16. Schematic profiles of test pits along Transect 1 and 2, along with corresponding images, during the Phase I study of the Vermont Studio Center Floodplain Restoration Project APE, Johnson, Lamoille County, Vermont.	14
Figure 17. Image of the west wall soil profile, with stratigraphic breaks, of Transect 3 Test Pit 1 for the Phase I Survey of the Vermont Studio Center Floodplain Restoration Project APE, Johnson, Lamoille County, Vermont.....	15

INTRODUCTION

The Lamoille County Planning Commission (LCPC) is assisting the Vermont Studio Center (VSC) in completing a floodplain restoration project along the Gihon River, located on a 0.5-acre parcel near 80 Pearl Street, close to the Pearl Street Bridge in Johnson, Lamoille County Vermont (Figure 1). The goal of the preliminary design work is to help reestablish a natural stream channel to enhance water capacity and improve water quality. This project would slow the velocity of the river and provide more water storage for future flooding. Project work includes the demolition of one structure, removal of existing fill and riprap, reducing the gradient of the current riverbank, and the preparation of staging areas (Figures 2 and 3). The proposed project's APE encompasses all areas to be impacted by this ground disturbance, including the construction access and staging area, which will be cut 0-2 ft, and the floodplain restoration area, which will be excavated 0-7 ft (Figure 4; see Figure 3).

The University of Vermont Consulting Archaeology Program (UVM CAP) conducted an Archaeological Resources Assessment (ARA) and Historic Resources Review (HRR) of the entire VSC campus in 2016, as part of the Vermont Studio Center Master Plan project (Crock et al. 2016). At this time, two segments within the overall VSC campus were deemed sensitive for precontact archaeological sites, beyond disturbed areas (Figure 5). These segments include the backyard (north) of the Barbara White Studio on Lower Main Street, located outside the current project area, and the undeveloped portion of the property located along the Gihon River to the west of the Kahn Gymnasium, within the current APE for this project (see Figures 4 and 5).

The archaeologically sensitive area (ASA) within the current project APE was defined based on a site visit of the APE, the Vermont Division for Historic Preservation's (VDHP) *Environmental Predictive Model for Identifying Precontact Archaeological Sites*, and historic research which removed considerable areas disturbed by development and flooding (Garcia 2025) (see Figure 4). Due to the extent of construction and reconstruction that has occurred within the APE over time, along with the parcel's complicated ownership history, it was determined that any significant historic era resources were likely removed or extensively disturbed, and unable to be attributed to a specific occupation or event on the property (Crock et al. 2016).

Based on the results of the ARA, it was determined that the floodplain restoration project, as currently planned, is likely to affect the archaeologically sensitive area for precontact sites to the west of the Kahn Gymnasium, within the current APE, and an archaeological Phase I Site Identification Survey was recommended by VDHP and UVM CAP (Crock et al. 2016; Garcia 2025). On June 25th, 2025, the UVM CAP completed the Phase I Survey of the proposed Vermont Studio Center Floodplain Restoration project. This study included the excavation of subsurface test pits and hand soil coring throughout the archaeologically sensitive portion of the project's APE. As a result of the Phase I study, no precontact Native American or significant historic sites were identified. This work was designed to comply with state and federal permitting, including Vermont Act 250 and Section 106 of the National Historic Preservation Act, as amended, if needed.

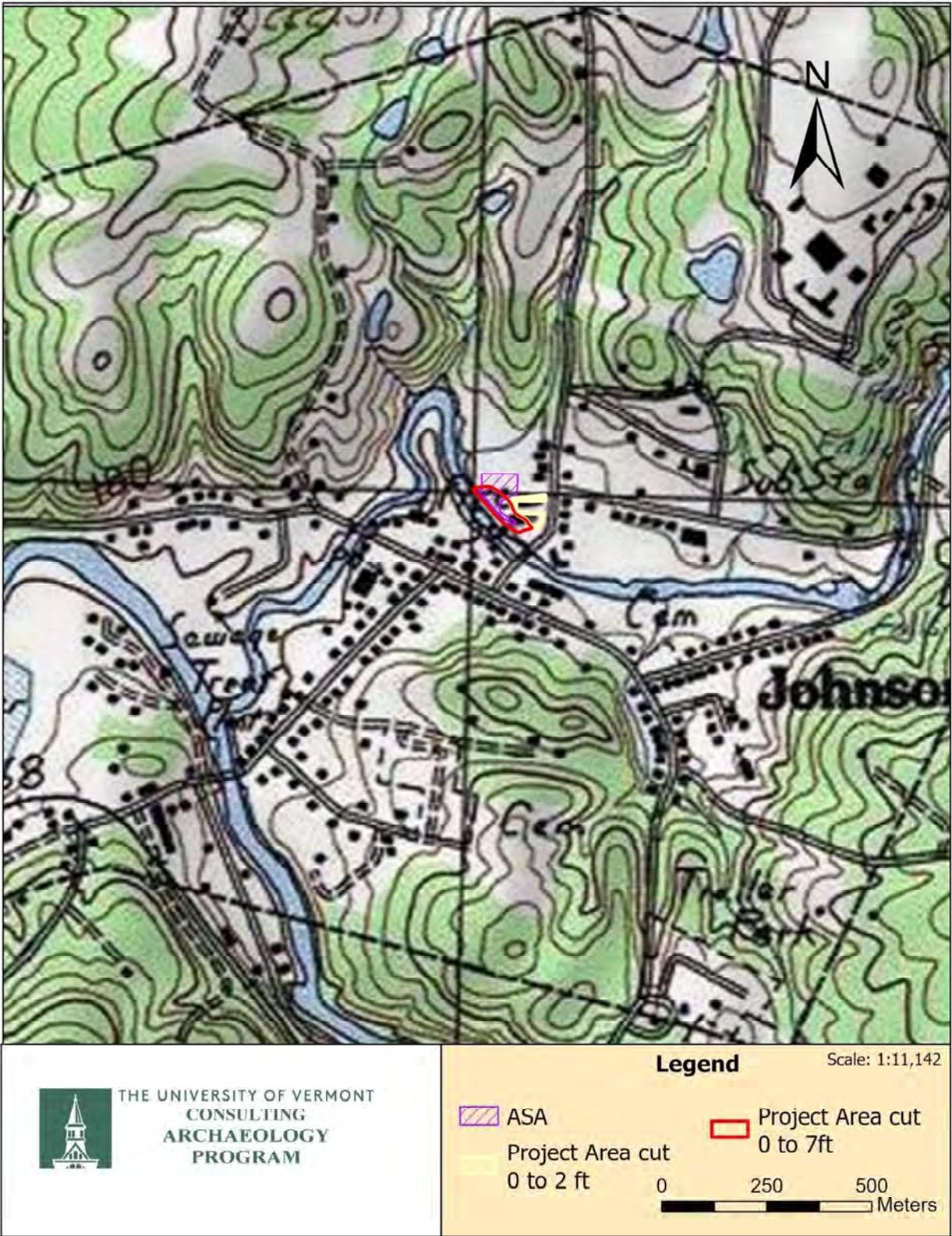


Figure 1. USGS Topographic map of Johnson showing the location of the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont.



Figure 2. Plan showing existing conditions and the archaeologically sensitive area for the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont.

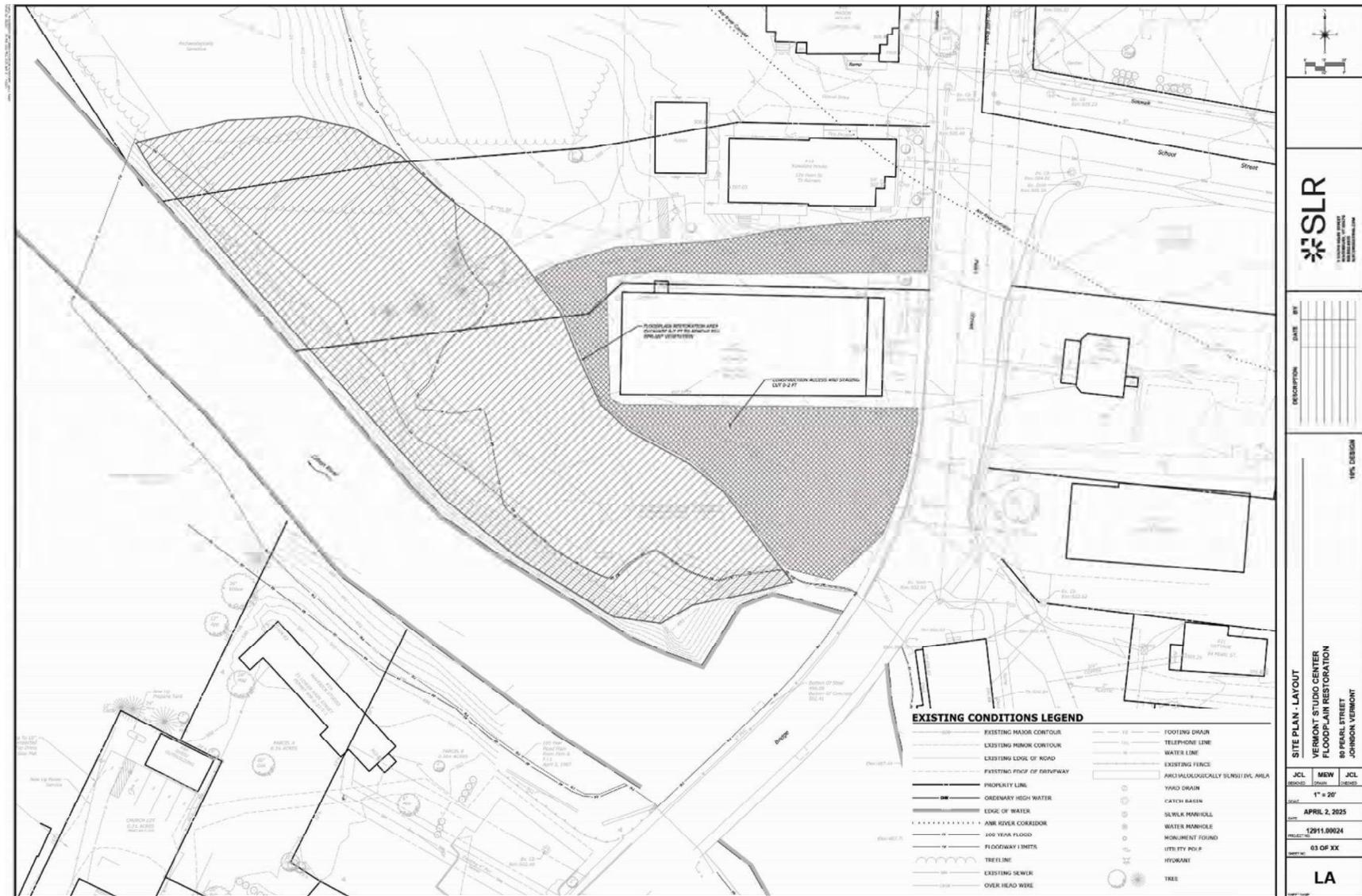


Figure 3. Concept plans of the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont.

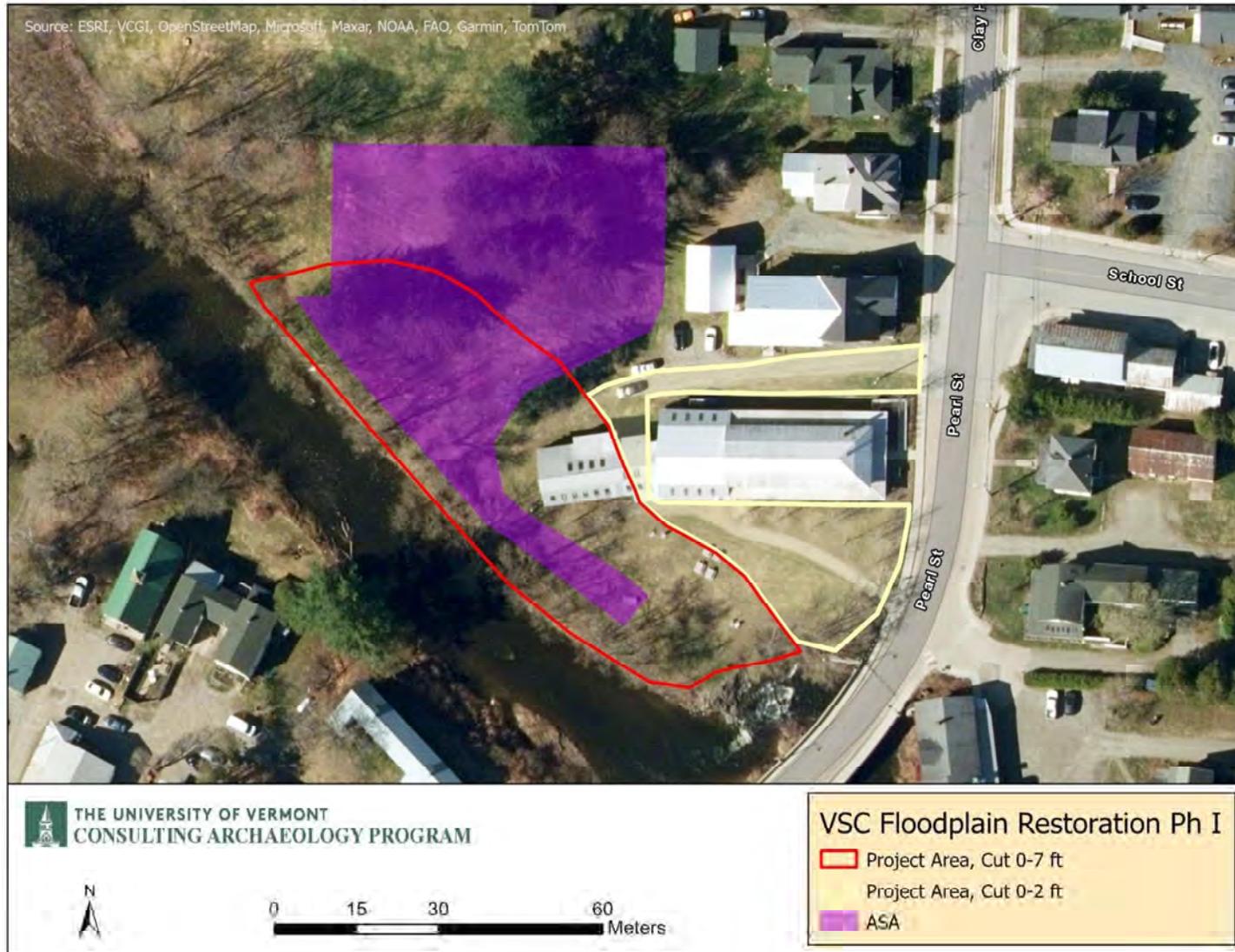


Figure 4. Aerial image showing the location of the Vermont Studio Center Floodplain Restoration Project APE and the archaeologically sensitive area (ASA), Johnson, Lamoille County, Vermont.

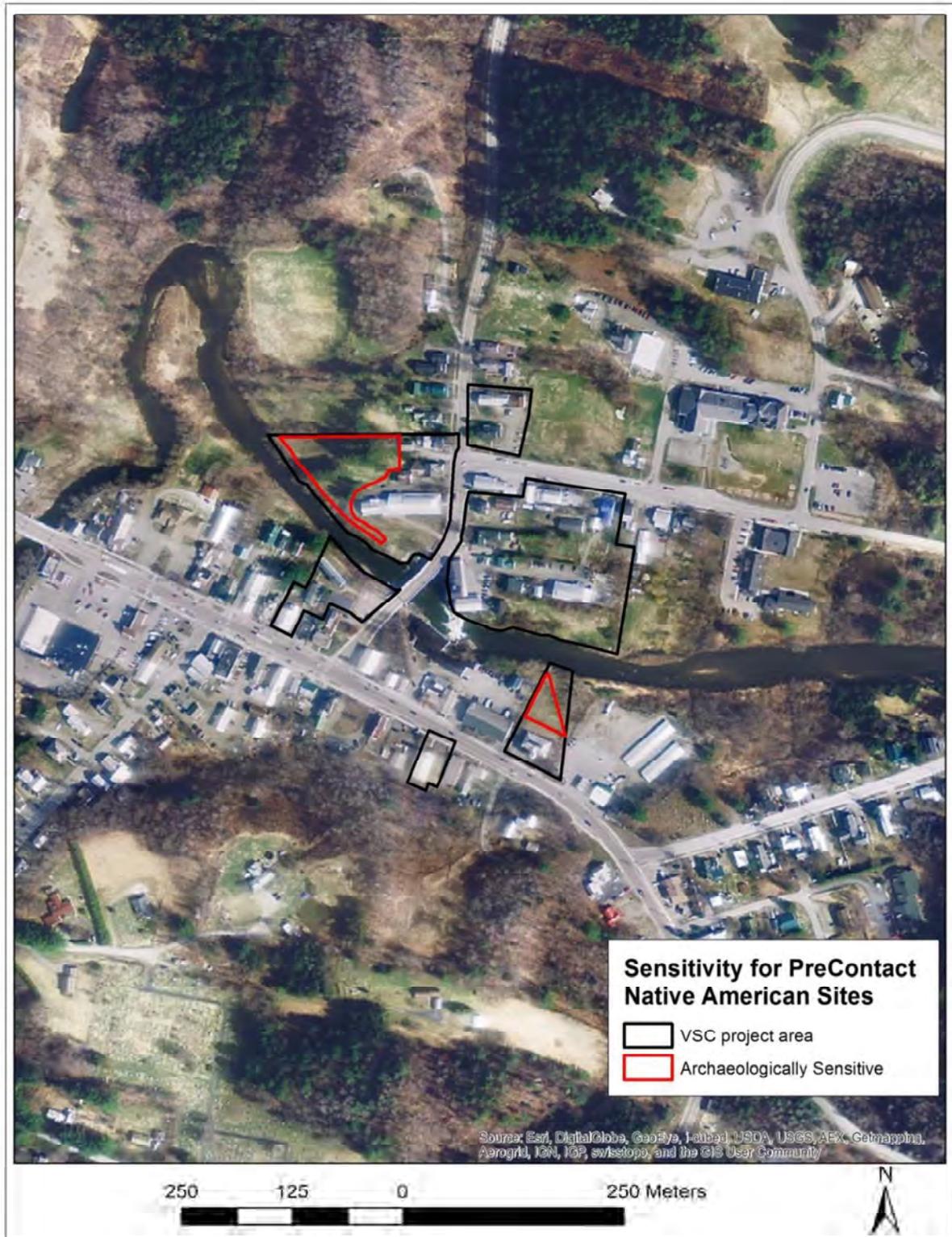


Figure 5. Aerial photo showing the Vermont Studio Center Master Plan (2016) project area and areas marked sensitive for the presence of precontact era Native American archaeological sites during the 2016 ARA (Crock et al. 2016).

ENVIRONMENTAL SETTING

The Vermont Studio Center Floodplain Restoration project is located within the Northern Green Mountains physiographic region of Vermont. This zone is a part of the Appalachian Mountain system and is characterized by rugged slopes, glacial till, and narrow river and stream valleys (Thompson et al. 2019). Topographic diversity is plentiful in the region. Some of the state's highest elevation peaks including Mt. Mansfield (4,393 ft), Mt. Ellen (4,135 ft), and Camel's Hump (4,083 ft), can be found here along with low, level floodplains surrounding the Winooski, Lamoille, and Missisquoi River valleys (Thompson et al. 2019).

The proposed project area is situated on the northern bank of the Gihon River, on the west side of Pearl Street, and approximately .57 km (.35 mi) northeast of its confluence with the Lamoille River (Figure 6). The Gihon River watershed drains an area of approximately 64.75 square miles, flowing south from its headwaters in Eden Notch and "the southern flanks of Belvedere and Hadley Mountains" (Bear Creek Environmental, LLC and LCPC 2009). Once the Gihon joins the Lamoille River, the Lamoille travels westerly before ultimately reaching its outlet at Lake Champlain (Bear Creek Environmental, LLC and LCPC 2009). Most of the Gihon watershed is forested, with lesser amounts of agricultural land and urban development along the river's edge, particularly in Johnson Village (Bear Creek Environmental, LLC and LCPC 2009).

The project's APE is found on a gently sloping outwash delta at an elevation range of 149-155 m (490-510 ft) above mean sea level (amsl). The landform in this area has been drastically shaped by the retreat of the Laurentide Ice Sheet, which overlaid much of the United States until about 14,000 years ago (Thompson et al. 2019). This glacial retreat, ablation, or processes related to it, left behind vast amounts of till and allowed for the formation of Glacial Lake Winooski, Mansfield, and Vermont which likely covered the project area until at least 13,000 calendar years before present (cal yr B.P.) (VTANR DEC 2025). Surficial geology here reflects this and is characterized as lake sand and alluvium. The National Resources Conservation Service (NRCS) identifies the soil as Adams loamy sand, 3-8 percent slopes. Adams loamy sand derives from sandy glaciofluvial deposits and is typically found on outwash deltas (NRCS USDA 2025).

CULTURAL CONTEXT

Project Area Precontact Era Native American Sites

As part of the archaeological investigation for the proposed Vermont Studio Center Floodplain Restoration project, state records and archaeological reports were referenced to identify any known precontact era Native American sites in the vicinity. A review of the VDHP's Vermont Archaeological Inventory (VAI) indicates that there are no known precontact era Native American archaeological sites within the project area and only one (VT-LA-0031) is reported within a 1.5 km (.93 mi) radius of the APE (Figure 7). Site VT-LA-0031 contains both precontact Native American and historic Euroamerican components and was identified by a consulting organization during Phase I subsurface testing. The precontact occupation at the site appears to date to the Early to Middle Woodland period c. 3,000-1,000 calendar years before present (cal yr B.P.) (VDHP 2025).

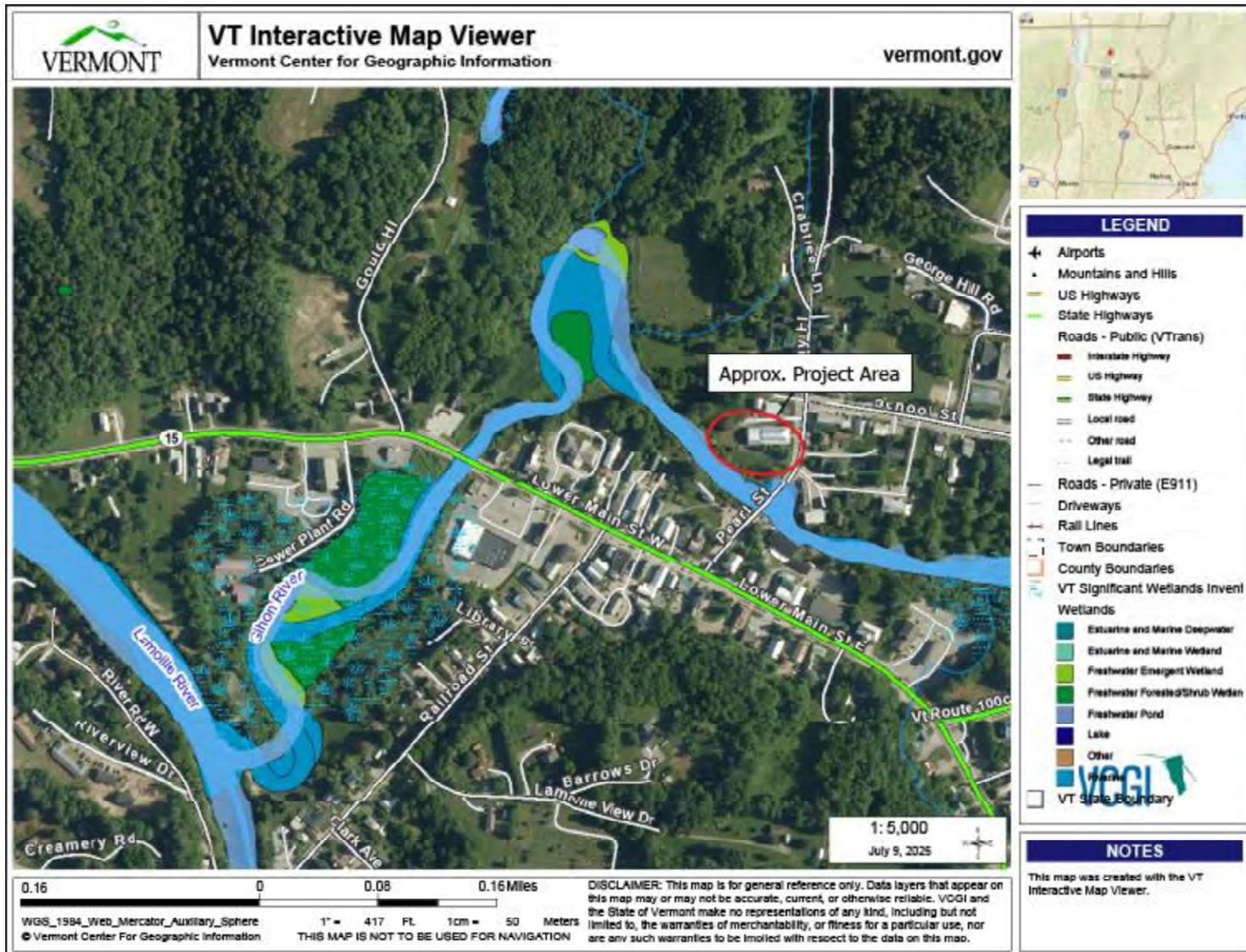


Figure 6. Aerial map showing the approximate location of the Vermont Studio Center Floodplain Restoration project in relation to hydrological features in the vicinity, Johnson, Lamoille County, Vermont.

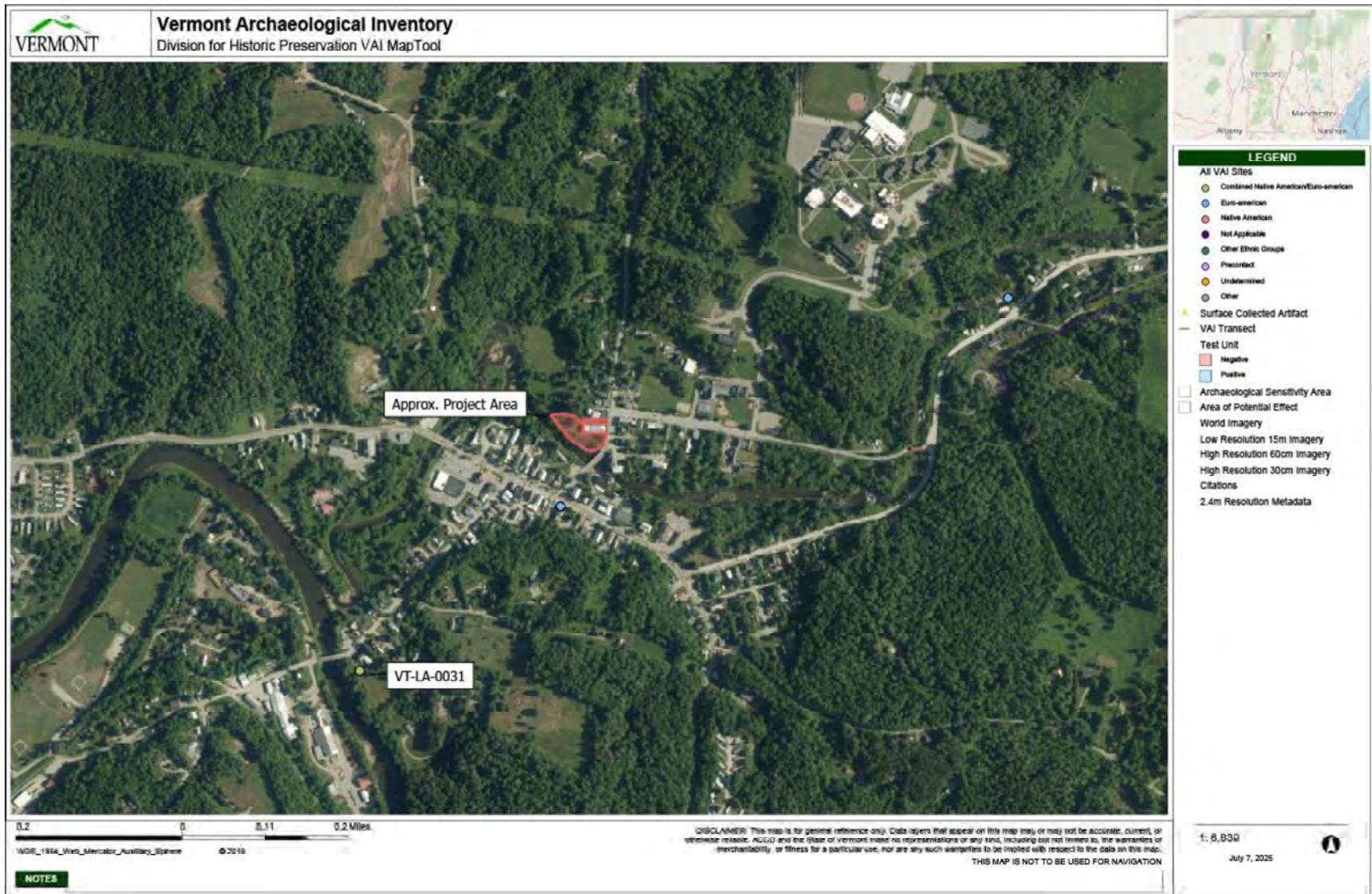


Figure 7. Aerial view map of the Vermont Studio Center Floodplain Restoration project area in relation to known precontact Native American sites nearby listed in the VAI, Johnson, Lamoille County, Vermont. Note: only precontact sites are labeled.

PHASE I FIELD METHODS AND RESULTS

The goals of the Phase I Site Identification Survey of the proposed Vermont Studio Center Floodplain Restoration project, based on the *Guidelines for Conducting Archaeology in Vermont* (2017) produced by the VDHP, were to: 1) determine the existence and location of any precontact Native American and/or historic sites within the sensitive areas defined within the project's APE, if any; and 2) present preliminary information that could form the basis and framework for a more intensive archaeological evaluation should one or more sites be identified.

The UVM CAP completed the Phase I Survey on June 25th, 2025. The field work consisted of the excavation of a total of seven 50 x 50 cm (20 x 20 in) subsurface test pits arrayed along four linear transects to sample the archaeologically sensitive area defined within the project's APE (Figures 8 and 9). The archaeologically sensitive area is comprised of a gentle westerly sloping landform, along the northern bank of the Gihon River. At its western extent is a line of spruce trees bisected by a broad, meandering intermittent drainage channel which continues west beyond the project area. To the south of the drainage is the low floodplain and to the north is a slightly elevated knoll. Transects 1 and 3 were emplaced in the low floodplain area, while Transect 4 was excavated to the north on the higher elevation knoll. Transect 2 was excavated at the head of the drainage channel (see Figure 9).



Figure 8. View west of UVM CAP archaeologists excavating test pits along Transect 1 during the Phase I Survey of the Vermont Studio Center Floodplain Restoration project APE, Johnson, Lamoille County, Vermont.

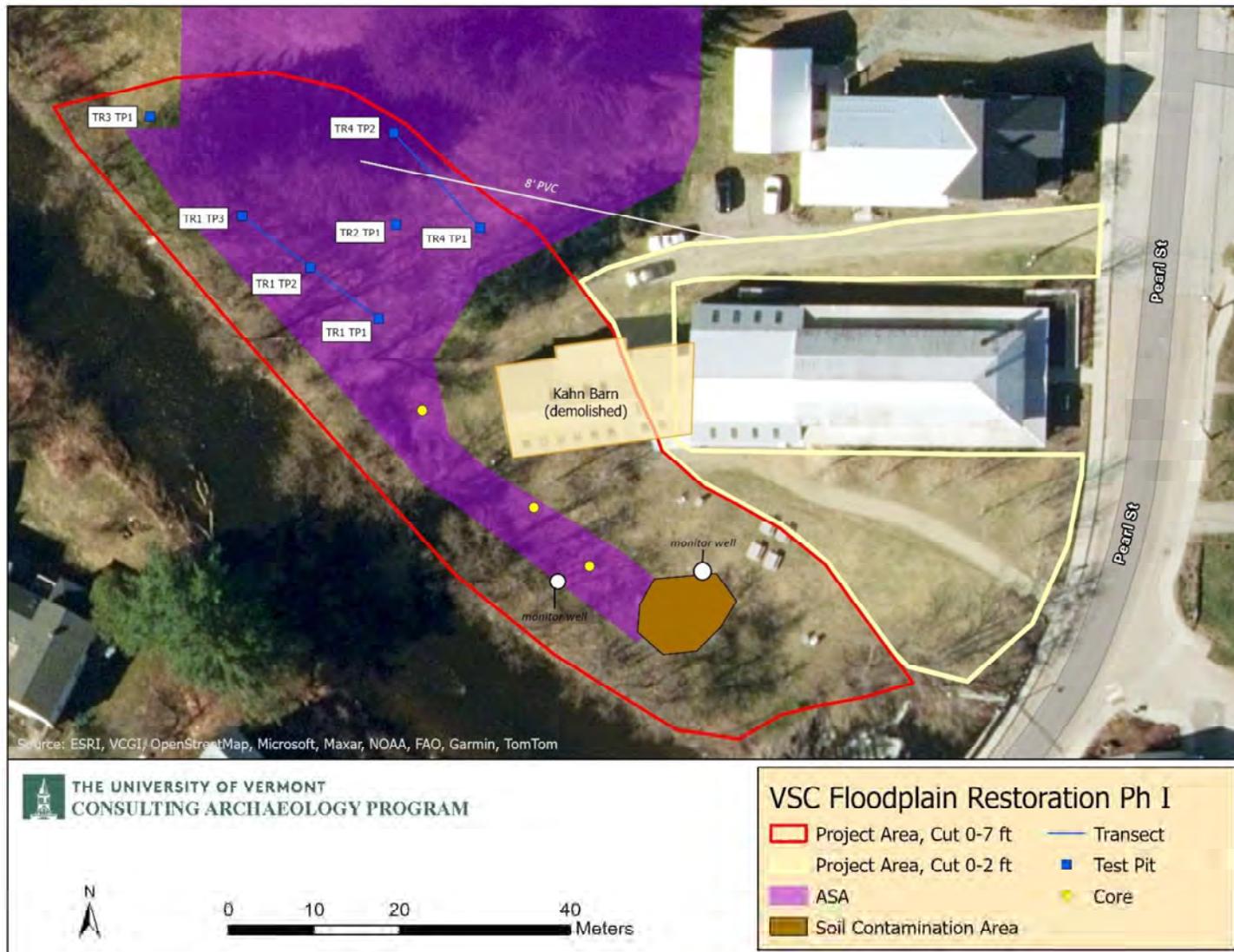


Figure 9. Aerial image showing the location of the Vermont Studio Center Floodplain Restoration Project APE, the archaeologically sensitive area (ASA), and Phase I testing locations in relation to areas of disturbance, Johnson, Lamoille County, Vermont.

All transects were oriented roughly north-south. Transect 1 contained three test pits spaced 10 m (33 ft) apart and Transect 2 was comprised of one test pit spaced 5 m (16 ft) to the east and offset by 5 m from Test Pits 1 and 2 along Transect 1. Transect 3 contained one test pit and the test pits along Transect 4 were spaced 15 m (49 ft) apart due to the presence of PVC piping (see Figure 9).

Vertical measurements were obtained from the ground surface and all pertinent stratigraphy and artifact depths were recorded as below ground surface (bs). Soils within the project area were excavated in arbitrary 10 cm (4 in) vertical levels with respect to the identified soil stratigraphy and processed through 0.64 cm (1/4 in) mesh screens. Field soil stratigraphy designation followed the standard nomenclature such as “Ap” (historic plowzone), “Apb” (buried plowzone), “Al” (alluvium), “B/Bs/BC” (intact subsoil), and “Fill” (historic or modern disturbance). Test pit walls were schematically profiled according to soil texture and color, and select profiles were photographed in digital color format. To ensure accurate data collection and translation onto appropriate maps and design plans, the locations of test pits, and select tie-in points were recorded with an EOS Arrow Global Positioning System (GPS) with sub-meter accuracy and were schematically mapped with the use of metric tapes and a Brunton compass. Upon completion of documentation, each test pit was backfilled and returned as close as possible to its original state. All field notes, records, photographs, and other data are curated at the University of Vermont Consulting Archaeology Program laboratory.

Because ubiquitous and modern examples of certain artifact classes were identified across the APE, such as wire nails, recent bottle glass, small brick fragments, and synthetics, only examples of these artifact classes were collected. Other less common and temporally informative artifacts were collected to assist with assessing the age and structure of the soil layers and the overall context of the APE.

A review of historic aerial imagery, and the prior background research conducted during the 2016 ARA, indicated a high level of disturbance in the area south of the now demolished Kahn Barn (known as the ‘Mason Green’) (Figures 10 through 14).¹ Prior development in this portion of the APE includes the building of the gym and its additions, the construction and razing of the Buck Store (1881-1961) and Kahn Barn (c. 1950-2025), use of the area as the Johnson Village Garage, a municipal parking lot (c. 1950), and an approach for a temporary bridge (c. 2009). Additionally, the property was landscaped in the fall of 2010, has been subject to flood episodes in the past, and contains an area of soil contamination with nearby monitor wells (VSC Campus Master Plan October 9, 2014; Crock et al. 2016) (see Figures 9 and 14). Due to significant development in this portion of the parcel, hand soil coring was employed in the ‘Mason Green’ area to determine the level of historic and modern disturbance present. Three soil cores were taken, all of which contained a shallow, approximately 20 cm (8 in) thick, silt loam underlain by an impenetrable rocky fill. As a result, no subsurface testing was conducted in the southeastern part of the APE (see Figure 9).

¹ Extensive historic background research of the parcel was previously conducted in 2016 and can be found in the Vermont Studio Center Master Plan ARA and HRR (Crock et al. 2016).



Figure 10. Detail of 1962 aerial imagery with approximate project area outlined in red. Note: former garage building (Kahn Barn) behind gymnasium and gravel lot between buildings and Gihon River (Geotechnics & Resources Inc. 1962).



Figure 11. Detail of 1995 aerial imagery with approximate project area outlined in red. Note: parking area to south of Kahn Gymnasium (Vermont Mapping Program 1995).

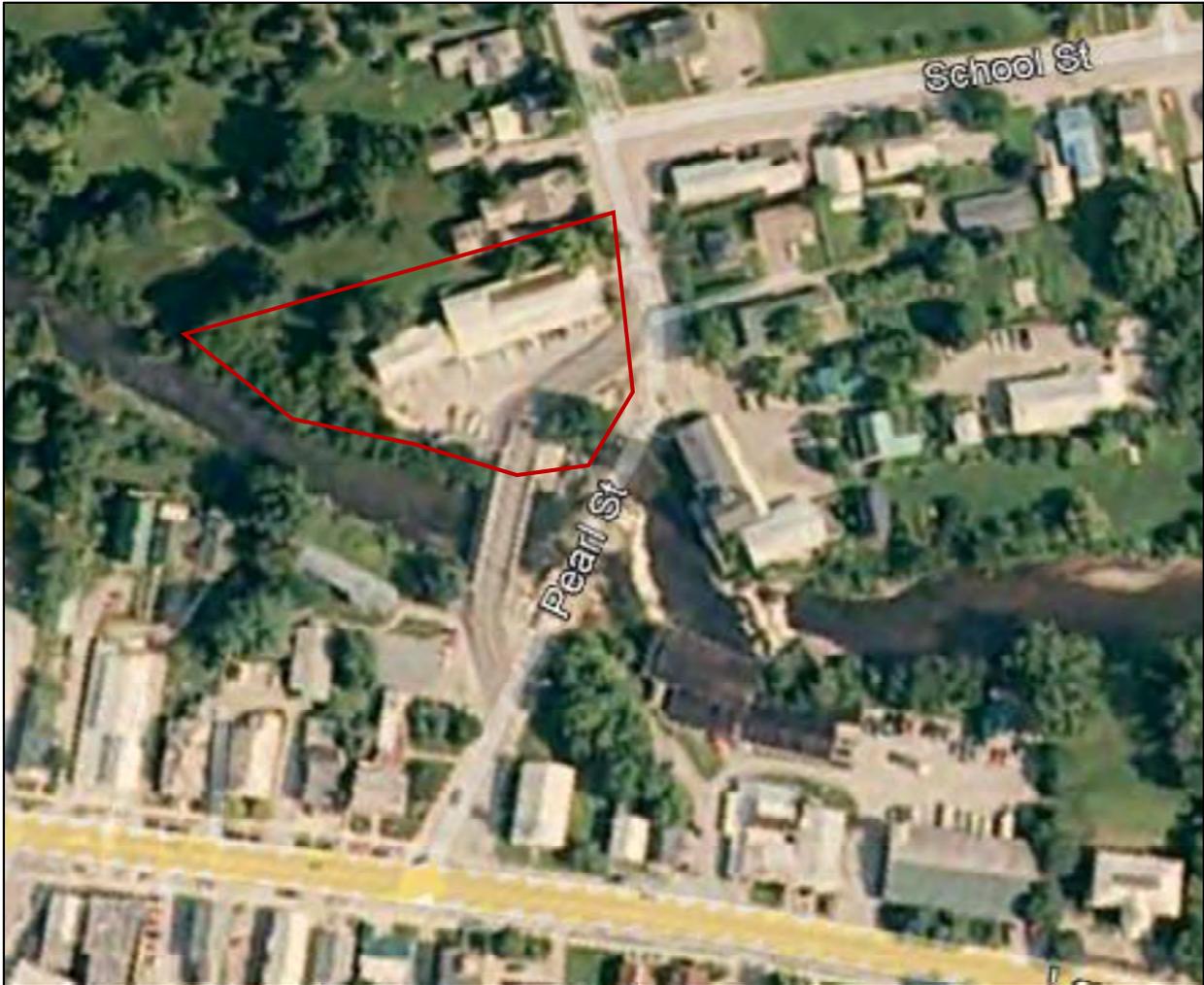


Figure 12. Close up of 2009 aerial imagery with approximate project area outlined in red. Note: temporary bridge and approach (Google Earth 2009).

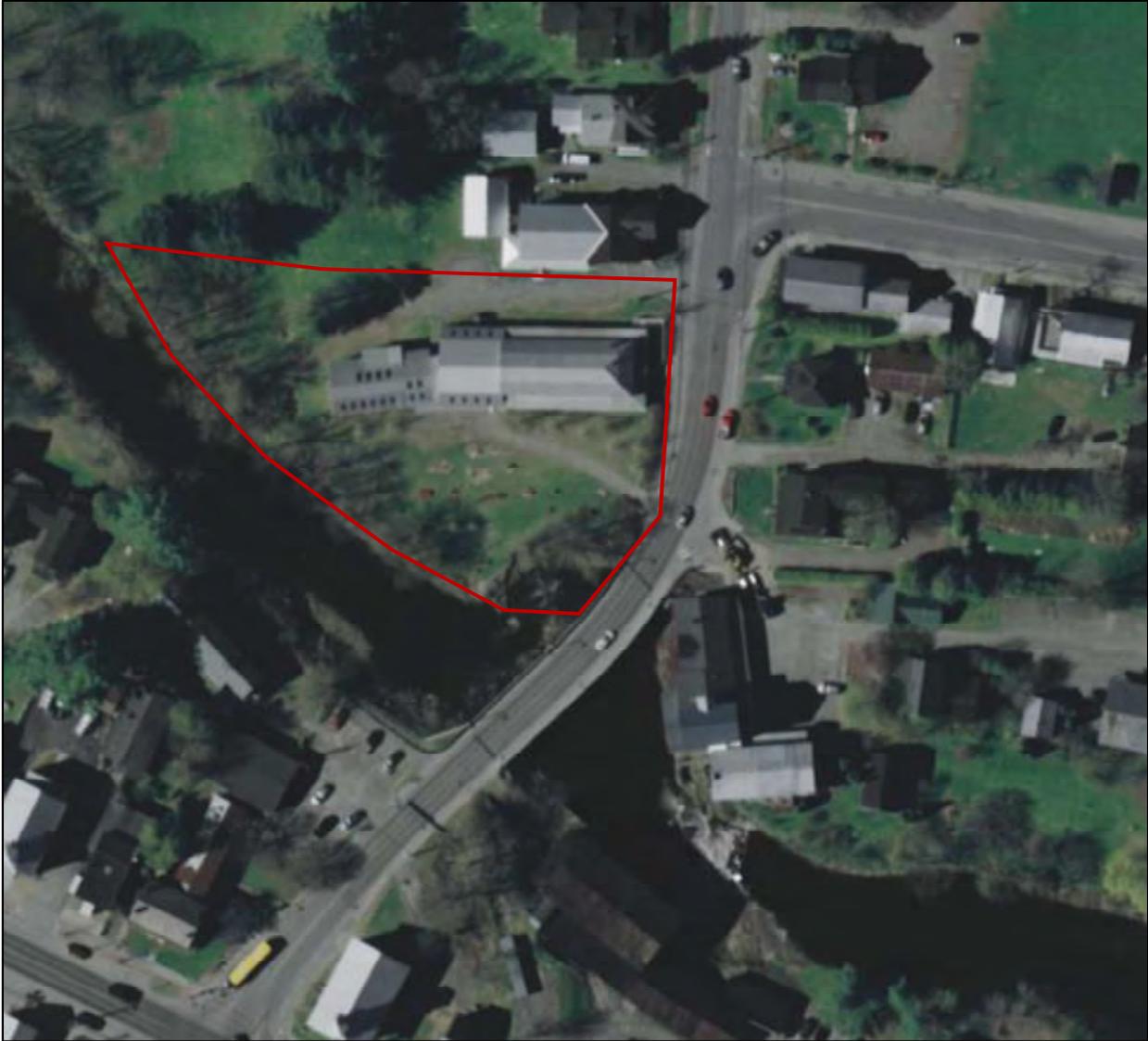


Figure 13. Detail of 2018 aerial imagery with approximate project area outlined in red (State of Vermont 2018).



Figure 14. View southeast of ‘Mason Green’ area to the south of the Kahn Gymnasium with soil contamination area stakes and landscaped path in image center.

Transect 1 was emplaced approximately 10 m north of the Gihon River, and oriented parallel to the terrace edge (see Figure 9). The first test pit excavated along this transect, TR1 TP1, contained three fill episodes extending to at least 115 cm (45 in) below ground surface (bs) (Figure 15). The first two fill layers contained large pieces of rotting logs and varying degrees of angular gravel, while the third fill layer was comprised of a higher clay content. A sparse variety of historic materials were observed throughout and included a mix of ceramic fragments, glass, plastic, and unidentifiable nail fragments. The deepest fill episode, from 45-115 cmbs (17-45 in) produced a plastic cap, which, based on its brand marking, appears to date to the 1940s.

The excavation of the remaining two test pits along Transect 1, TR1 TP2 and TR1 TP3, revealed three to four fill episodes, extending to depths between 41-64 cmbs (16-25 in), underlain by a series of buried plowzones and alluvial episodes which were excavated to 95 cmbs (37 in) and hand soil cored to 118-138 cmbs (46-54 in) (Figure 16). The fills were comprised of varying degrees and sizes of gravel, while the buried plowzones were described as brown to olive brown sandy loam. The alluvial stratum which separated the buried plowzones were characterized as thin sandy deposits, typically around 5-10 cm (2-4 in) in thickness. In TR1 TP3, a quartzite lithic debitage specimen was identified from 20-30 cmbs (8-12 in) within the second fill stratum. Along with this probable precontact Native American artifact, various historic artifacts were collected from the same depth and fill episode including beer bottle glass, corroded pennies, and metal and plastic buttons. As the lithic debitage was recovered from a fill context with a preponderance of associated historic deposits, its original provenience has been disturbed and therefore it is not considered significant.



Figure 15. Image of Transect 1 Test Pit 1 during the Phase I Survey of the Vermont Studio Center Floodplain Restoration Project APE, Johnson, Lamoille County, Vermont.

Several historic materials were also recovered from the third fill stratum in both test pits and included beer bottle glass, a corroded penny, pieces of a stoneware pipe, and fragments of a Rockingham Ware vessel (popularized in the United States c. 1850). Additionally, the third and deepest buried plowzone in TR1 TP3 produced a pearlware plate fragment.

Approximately 16 m (52 ft) north of Transect 1, Transect 3 Test Pit 1 (TR3 TP1) was excavated to the north of the line of spruce trees and west of the drainage channel (see Figure 9). The stratigraphy identified here was similar to that observed along Transect 1, with three fill episodes extending to 34 cmbs (13 in) underneath which was a series of buried plowzones separated by thin alluvial episodes (Figure 17). TR3 TP1 was excavated to 110 cmbs (43 in) and hand soil cored to 130 cmbs (51 in). Transect 2 Test Pit 1 (TR2 TP1) was excavated at the head of the drainage channel, approximately 5 m east of Transect 1 (see Figure 9). The three fill episodes identified here extended to a depth of 66 cmbs (26 in) and contained modern beer bottle glass, fragments of a stoneware drainage pipe, c. 1940 Pepsi bottle glass, and rusted nails (see Figure 16). Beneath the fill, a possible developing Ab was observed underneath which a buried plowzone was excavated to a depth of 90 cmbs (35 in). No artifacts were observed in conjunction with the possible developing Ab, and window glass and redware fragments were noted in the buried plowzone.

The stratigraphy identified within much of the lower floodplain area indicates that the parcel has undergone several flood events in the past in which thin sandy sediments were deposited. Following these historic flood events, it appears that new topsoil may have been added and subsequently plowed, thus slowly raising the level of the landform in this area. The artifact range suggests this plow/flood sequence may have occurred between the mid-19th–mid-20th century. Additionally, several rocky fills were likely added to the landform in the more recent past. These fill strata contained a mix of modern and historic materials, such as beer bottle glass, plastic buttons and caps, and ceramic fragments, along with a precontact Native American artifact, devoid of its original provenience.

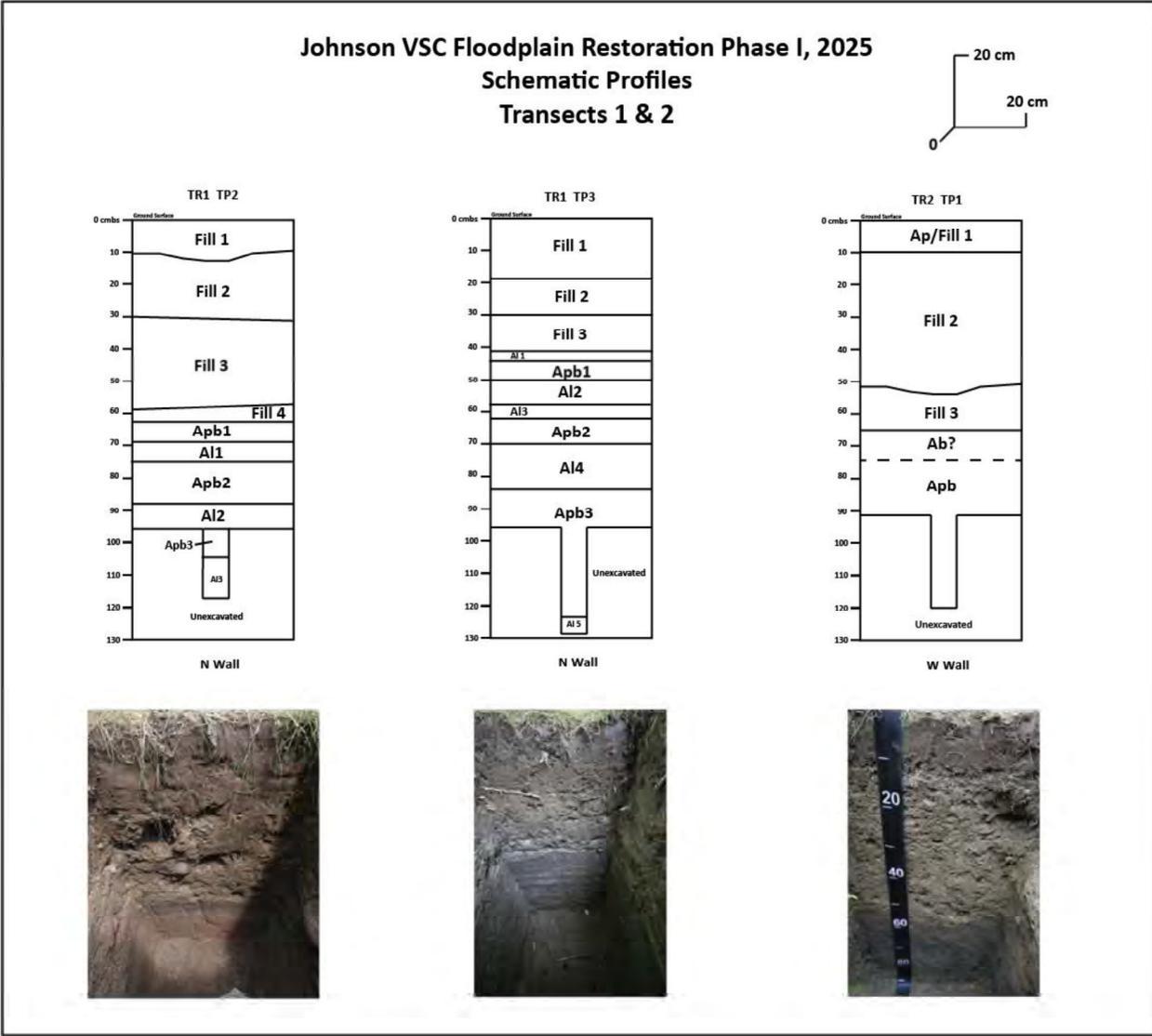


Figure 16. Schematic profiles of test pits along Transect 1 and 2, along with corresponding images, during the Phase I study of the Vermont Studio Center Floodplain Restoration Project APE, Johnson, Lamoille County, Vermont.

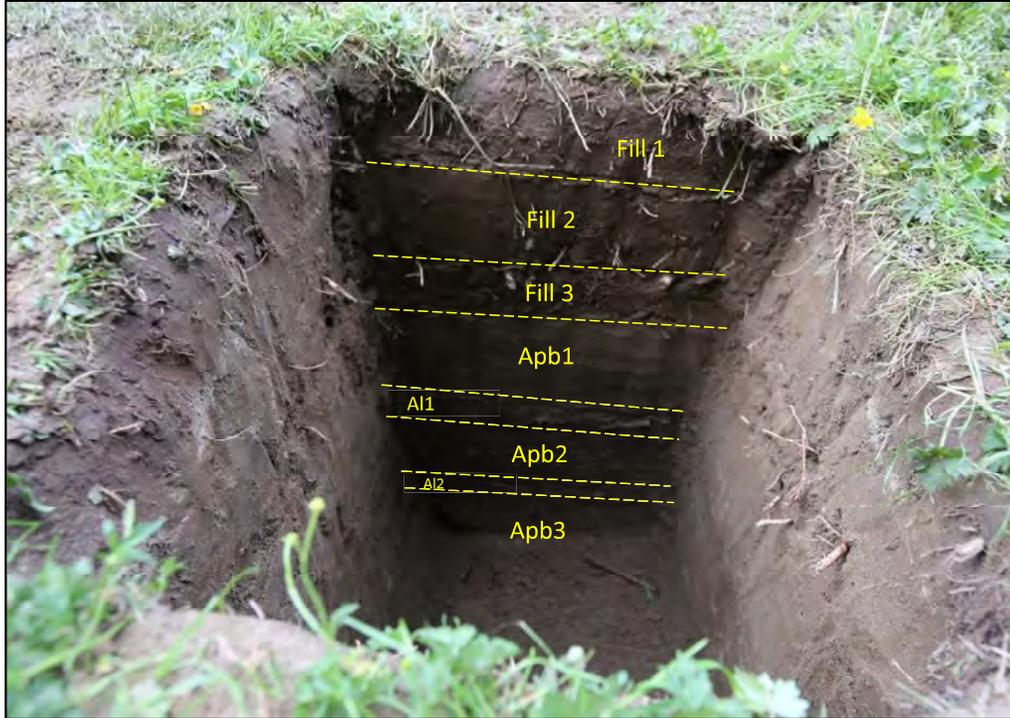


Figure 17. Image of the west wall soil profile, with stratigraphic breaks, of Transect 3 Test Pit 1 for the Phase I Survey of the Vermont Studio Center Floodplain Restoration Project APE, Johnson, Lamoille County, Vermont.

Two test pits were excavated along Transect 4, along the edge of the slightly elevated knoll found east of the intermittent drainage channel. Both test pits along Transect 4 displayed a 28-35 cm (11-14 in) thick plowzone underlain by subsoil (B/C) which was excavated to depths between 40-48 cm (16-19 in). The plowzone is comprised of a brown silt loam and the subsoil sediments were noted as olive yellow to light yellow brown loamy sand. A small array of historic materials was observed in the plowzone including brick, plastic, glass, nails, coal, and a piece of unidentifiable ceramic.

CONCLUSIONS AND RECOMMENDATIONS

The University of Vermont Consulting Archaeology Program (UVM CAP) conducted a Phase I Site Identification Survey for the Vermont Studio Center Floodplain Restoration Project APE located in Johnson, Lamoille County, Vermont. A segment of the project's APE was deemed sensitive for precontact Native American archaeological sites based on a site visit, application of the Vermont Division for Historic Preservation's (VDHP) *Environmental Predictive Model for Identifying Precontact Archaeological Sites*, and background research (Crock et al. 2016). The Phase I study involved the excavation of seven subsurface test pits and hand soil coring throughout the archaeologically sensitive area within the project APE to determine the presence/absence of significant cultural deposits.

As a result of the Phase I Survey, no precontact era Native American or historic sites were identified within the project's APE. Test pit sampling and coring undertaken within the APE revealed varying levels of disturbance present throughout. An impenetrable rocky fill was encountered in the southern portion of the archaeologically sensitive area (ASA), likely related to the extensive development history in the vicinity. In the northern portion of the ASA, a low floodplain, on the northern bank of the Gihon River, and a slightly elevated knoll at the APE's northern extent were tested. Within much of the lower floodplain, soil stratigraphy indicates that the parcel has historically undergone several flood events followed by the addition of topsoil and subsequent plowing, and later the addition of rocky fill, slowly raising the level of the floodplain over time. On the elevated landform to the north, a relatively intact soil sequence was identified with a plowzone underlain by subsoil.

A small number of historic deposits were recovered within the fills, plowzone(s), and buried plowzone(s) throughout the ASA. The artifact range appears to span from the mid-19th–20th century and in most cases, deposits were found with mixed temporal context. Given the low density of historic deposits, the lack of cultural features such as middens, wells, or refuse pits, the mixed temporal context of deposits, and the parcel's complicated ownership history, these finds are not considered significant. Additionally, a single specimen of probable Native American quartzite debitage was recovered from a historic fill stratum, in association with numerous temporally mixed historic remains. The original provenience of the debitage is therefore unknown, and thus, no significant precontact Native American deposits were identified during the Phase I Survey.

Based on the Phase I survey, the project APE does not contain significant archaeological resources. However, due to the presence of relatively intact soils at the northern extent of the project area, it is possible that a precontact Native American site exists beyond the limits of the currently defined APE. Any future ground disturbing work outside of the current APE may therefore require further archaeological testing. As a result, UVM CAP recommends that no further archaeological work is necessary prior to project construction and that the project receives a determination of No Historic Properties Affected.

REFERENCES CITED

- Bear Creek Environmental, LLC, and The Lamoille County Planning Commission (LCPC)
2009 *Gihon River Corridor Plan: Johnson, Hyde Park, & Eden, Vermont*. Retrieved July 7, 2025 from <https://lcpvvt.org/index.asp?SEC=47276E07-D00C-4A34-8434-8E493A431B93>.
- Crock, John G., Kathleen Kenny and Catherine Quinn
2016 *Archaeological Resources Assessment and Historic Resources Review for the Vermont Studio Center Master Plan, Johnson, Lamoille County, Vermont*. University of Vermont Consulting Archaeology Program, Report No. 940. Burlington, Vermont.
- Garcia, Jorge L.
2025 *A Proposal for an Archaeological Phase I Survey for the Vermont Studio Center Floodplain Restoration Project, Johnson, Lamoille County, Vermont*. On file at the University of Vermont Consulting Archaeology Program. Burlington, Vermont.
- Geotechnics & Resources Inc.
1962 *Aerial Photograph: VT-62-L 6-35*. Geotechnics & Resources Inc., Amman International Corp. Division, San Antonio, Texas. Image on file: Vermont Center for Geographic Information's website at https://maps.vcgi.vermont.gov/gisdata/vcgi/imagery/HISTORIC/1960s/1962/62L/NONGEOREFERENCED/62L_1962_06-035_nongeoref.jpg.
- Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA)
2025 *Web Soil Survey*. Retrieved on July 7, 2025 from <https://www.nrcs.usda.gov>.
- Thompson, Elizabeth H., Eric R. Sorenson, and Robert J. Zaino
2019 *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*. Vermont Department of Fish and Wildlife, the Nature Conservancy, and Vermont Land Trust. Chelsea Green Publishing, White River Junction, Vermont.
- Vermont Agency of Natural Resources (VTANR), Department of Environmental Conservation (DEC)
2025 *Glacial Lakes, Central Vermont*. Retrieved July 7, 2025 from <https://dec.vermont.gov/geological-survey/vermont-geology/glaciallake>.
- Vermont Division for Historic Preservation (VDHP)
2017 *Guidelines for Conducting Archaeology in Vermont*. Montpelier, Vermont.
2025 *Vermont Archaeological Inventory Map Tool*. Online Resource Center. Retrieved July 7, 2025 from <https://maps.vermont.gov/accd>.

Vermont Studio Center

2014 *Vermont Studio Center Campus Master Plan Presentation: Appendices*. Dated:
October 9, 2014.

APPENDIX 1: TEST PIT SOIL PROFILES

Johnson

Project: VSC Floodplain I	Supervisor: MCE	Test Pit: TR1TP1
Site:	Excavators: PLY LMA	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1002	Date: 6/24/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Ap/Fill 1	100	NAR	Ap/Fill 1: 0-25 cmbs 104R 4/2 silt 12k 27k
20				Fill 2: 25-45 cmbs 2.54 S/1 sand + gravel
30				Fill 3: 45-95 cmbs 2.54 4/ silt
40	Fill 2			
50	Fill 3			
60				
70				
80				
90				
100	<p>100-115 cmbs NOT EXCAVATED</p>			
110				
120				
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: This test pit is located in a mowed path next to a low wetland/swale. It is 110m north of the entrance to the path and 105m east of the bank of the Gihou River. A1ST found throughout the pit not kept. Ap/Fill 1 contained PLST. Fill 2 contained CERM, GLAS, PLST. Fill 3 contained a PLST cap dating to 1940s @ 60cmbs and pieces of NAIL @ 80cmbs and 95cmbs. Core to 115 cmbs showed no strat changes below 75cmbs. Many areas of large rotting logs (flood deposit?) between 10 and 60cmbs, especially in SW corner.

Project: Johnson VSC Floodplain	Supervisor: MEE	Test Pit: TR1 TP2
Site:	Excavators: TLB, MEE, ERP	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 300's	Date: 6-25-89

0 cmts	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Fill 1 11 cmts			Fill 1: 0-11 cmts SA 10
20		300	28-30 cmts Fill 2 CERM (3)	
30	Fill 2 32 cmts			Fill 2: 11-32 cmts
40		301	42-50 cmts Fill 3 BONE (1)	grav/cob
50		302	65-58 cmts Fill 3 HIST (2)	Fill 3: 32-58 cmts
60	Fill 3 58 cmts			grav/cob
70	Fill 4 64 cmts Apb 2 69 cmts			Fill 4: 58-64 cmts sandy
80	A1 74 cmts			
90	Apb 2 88 cmts			Apb 2: 64-69 cmts Fi si sa
100	A1 2 95 cmts			2.5Y 3/3 dark olive brown
110	Apb 3 103 cmts			A1 1: 69-74 cmts Fi si sa
120	A1 3 118 cmts			2.5Y 4/2 dark grayish brown
130				Apb 2: 74-88 cmts Fi si sa
140				10YR 4/3 brown
150	NOT EXCAV.			A1 2: 88-95 cmts Fi sa

Wall: N

10YR 3/4 dark yellowish brown

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located on grassy path approx 15-20m East of the Lamoille River and ~35-40m NW of the old gymnasium. NAJL, BRK, & GLAS in fill layers and in A1 2 (not retained). Cored to 118 cmts which revealed an Apb 3 and below that an A1 3. Large rock protruding from SW corner. Fills 2 and 3 filled w/ gravels, cobbles, and large rocks.

Project: Johnson VSC Modification	Supervisor: MEE	Test Pit: TR1 TP3
Site: PHASE I	Excavators: FRP, BFS	Feat #:
Area and/or Locus:	PN Block: 200-	Mesh:
		Date: 6/25/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Fill ₁			Fill ₁ : 0-19 cmbs
20	Fill ₂			Fill ₂ : 19-30 cmbs
30	Fill ₂	200	LDEB (1QT), HIST 20-30 cmbs	Fill ₂ : 30-41 cmbs
40	Fill ₃	201	HIST 30-40 cmbs	Fill ₃ : 41-43 cmbs 2.5Y 6/3 LOT YLWISH BRN VF-FSA
50	Apb1			Apb1: 43-50 cmbs 2.5Y 3/3 DRK OLV BRN LOVFA
60	Al ₂			Al ₂ : sand bands 50-59 cmbs 2.5Y 3/3 DRK OLV BRN LOVFA
70	Apb2			Apb2: 59-63 cmbs 2.5Y 6/2 LOT BRNISH GR mix of sands VF-F
80	Al ₄			Al ₄ : 63-70 cmbs 2.5Y 3/3 DRK OLV BRN LOVFA
90	Apb3			Apb3: Bedded sands 70-85 cmbs 2.5Y 4/4 OLV BRN SIVF's
100	Apb3	202	CERM (1) 90-96 cmbs	Apb3: 85-96 cmbs 2.5Y 4/2 DRK GRNISH BRN LOVFA
110				Al ₅ : 124-138 cmbs VFSA
120				
130				
140				
150	NOT EXCAV.			

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: 1 QT LDEB recovered from Fill₂ at 20-30 cmbs along w/ HIST such as BRK, GLAS & a METL BTN. Only diagnostic HIST was retained. HIST including GLAS, COIL BTN was recovered from Fill₃ at 30-40 cmbs. 1 CERM recovered from the Apb3 at 90-96. Carved 42 cm into bottom of pit to a total depth of 138 cmbs - Apb3 continued until 124 cmbs & then came Al₅. Pit located on mowed trailway approximately 40-60m northwest of old gymnasium & ~10-20m east of Camaille River.

Project: Johnson USC Floodplain I **Supervisor:** MEE **Test Pit:** TR2 TP1
Site: — **Excavators:** FCH KMK **Feat #:** — **Mesh:** 1/4
Area and/or Locus: — **PN Block:** 1003 **Date:** 6/24/85

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	10 Ap/Fill ₁ (LAW)	101	NCR (But see notes)	0-10cmbs Ap/Fill ₁ (Fill placed + war into a lawn/grass area) 2.54 3/4
20				dk olive bn loam a little on silty olive bn gravel
30				WV - light blue TPA + modern Brown Beer Btlr
40	Fill 2			10-53cmbs Fill 2 mixed v. granular soils 2.54 4/2 dk olive bn
50				sil Av 2.54 4/3 olive bn lumpy f sand gravel small
60	53 50 52 66 FILL 3			Rounded Artifacts clear used glass wire nail, Part of Com Drain P.
70	73 At boundary slightly darker			Flora Mulch w/ JEST (1835-186 Asphalt Brick Part of
80	Apb 7			Pepsi Btlr 1940's, 1950's Prob after Nails
90	90			53-66cmbs Fill 3 2.54 3/3 dk olive bn sil - heavy silt
100			One piece melted water worn glass - w/ Brick Fing.	Flow - no gravel - Redox Features throughout
110	Solid colored iron concentration Band			66-90cmbs Apb 9 Top 66-73 cmbs slightly darker
120				Pass Ab dustlings? - slightly gray 5Y 2.5/2 black sil, w/ Redox
130	Holder fill w/ organic Prob. washed. Plus masses of Al - now Bul			73-90cmbs Apb cont. 5Y 4/2 olive gray fill NO gravel
140				w/ Redox - Thins w/ mottling 1800's, w/ olive green glass/Redox
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: TP in open area of high grass Prob abt 20m E of top of River bank and abt 13m S of a tree in a line of similar street type trees. Pass mark old property boundary?

Project: Johnson - VSC Hardspring Ph. I	Supervisor: MEE	Test Pit: TR3 TP 2
Site:	Excavators: BPS, FMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block:	Date: 6/25/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Fill 1	203	NAIL	Fill 1
20	AL/Fill	↓ ↓	↓ ↓	Fill 2
30	Fill 2	↓ ↓	↓ ↓	Fill 3
40	Fill 3			APB
50	APB			
60	AL1			VFLSA AL1: 10YR-3/3/Dark Brown
70				
80	APB2			APB2: 10YR-4/3/1 Brown FLSA
90	AL2			VFLSA AL2: 10YR-6/2/Dark Yellow Brown
100	APB3			APB3: 10YR/5/3/Brown VFLSA
110	AL3			VFLSA AL3: 10YR/3-3 Dark Brown
120	AB			AB: 10YR/3-3-Dark Brown Sandy/IC
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAIL

Johnson

Project: VSC Floodplain E	Supervisor: MEE	Test Pit: TR 4 TP1
Site: -	Excavators: FELI EEP	Feat #: Mesh: 1/4"
Area and/or Locus: -	PN Block: 100s	Date: 6/24/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<p>Ap</p> <p>B/C</p> <p>48</p> <p>11/7 11/11 11/11</p> <p>NOT EXCAVATED</p>	102	NAR	<p>0-35 cmbs 104R S/S</p> <p>Ap: silo: Br</p> <p>B/C: 35-48 cmbs 2.54 6/15</p> <p>S/C: 15 4/14 Br</p>
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test pit is located in a maintained grass lawn on a level terrace overlooking the Gilman River and associated small flood plains. The test pit is located 25-30m north of the green and white VSC building and 1m east of the edge of the terrace. HIST noted in Ap - BRK, SYNT, CERM, GLAS NAIL, COAL, but not kept.

Johnson

Project: VSC Floodplain I	Supervisor: MEE	Test Pit: TR4 TP2
Site: —	Excavators: EMK, ERP	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 3005	Date: 6/25/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AP			Ap: 0-30 10/12/13 brown silt loam
20				
30		303	1 CERM	
40	B			B: 30-40 olive yellow silt sand 2.5/4/6
50				
60				
70				
80				
90				
100				
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

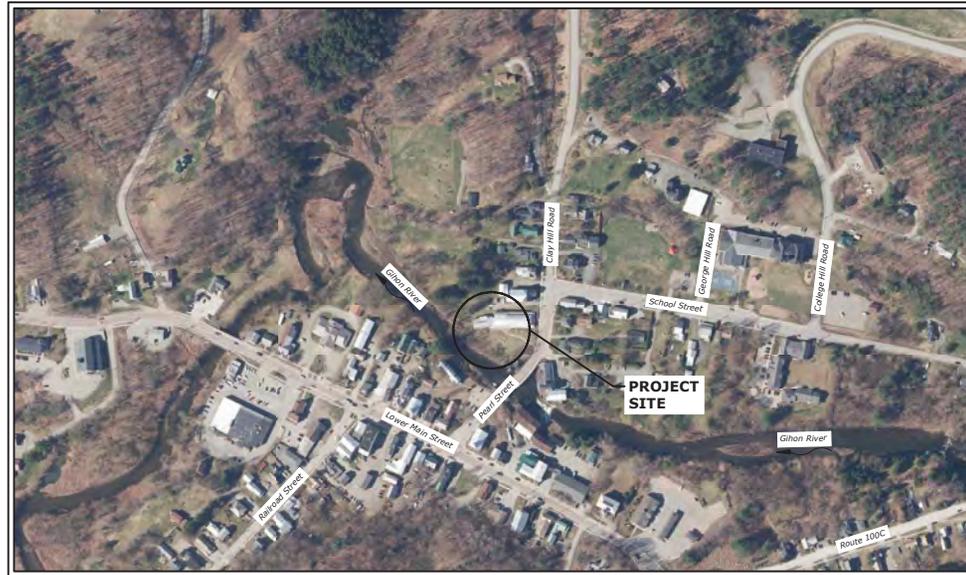
Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: 1 Cerm recovered in AP 28-30 cmbs
 HQT observed in Ap (GLAS, METL, SLAG) and B (METL, SLAG)
 pit is on terrace 40 m east of tree line/brooks edge, 75 m north of parking area

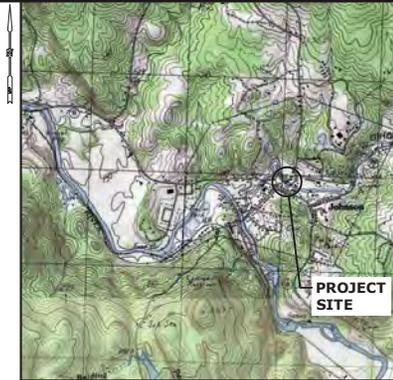
VERMONT STUDIO CENTER FLOODPLAIN RESTORATION

80 PEARL STREET
JOHNSON, VERMONT

30% CONCEPT DESIGN
OCTOBER 21, 2025



PROJECT SITE VICINITY MAP:



LOCATION MAP:



PREPARED FOR:

LAMOILLE COUNTY PLANNING COMMISSION
52 PORTLAND STREET
MORRISTOWN, VERMONT 05661



LIST OF DRAWINGS

NO.	NAME	TITLE
01	-	TITLE SHEET
02	EX	SITE PLAN - EXISTING CONDITIONS
03	PR	SITE PLAN - PROPOSED CONDITIONS
04	XS	SECTIONS

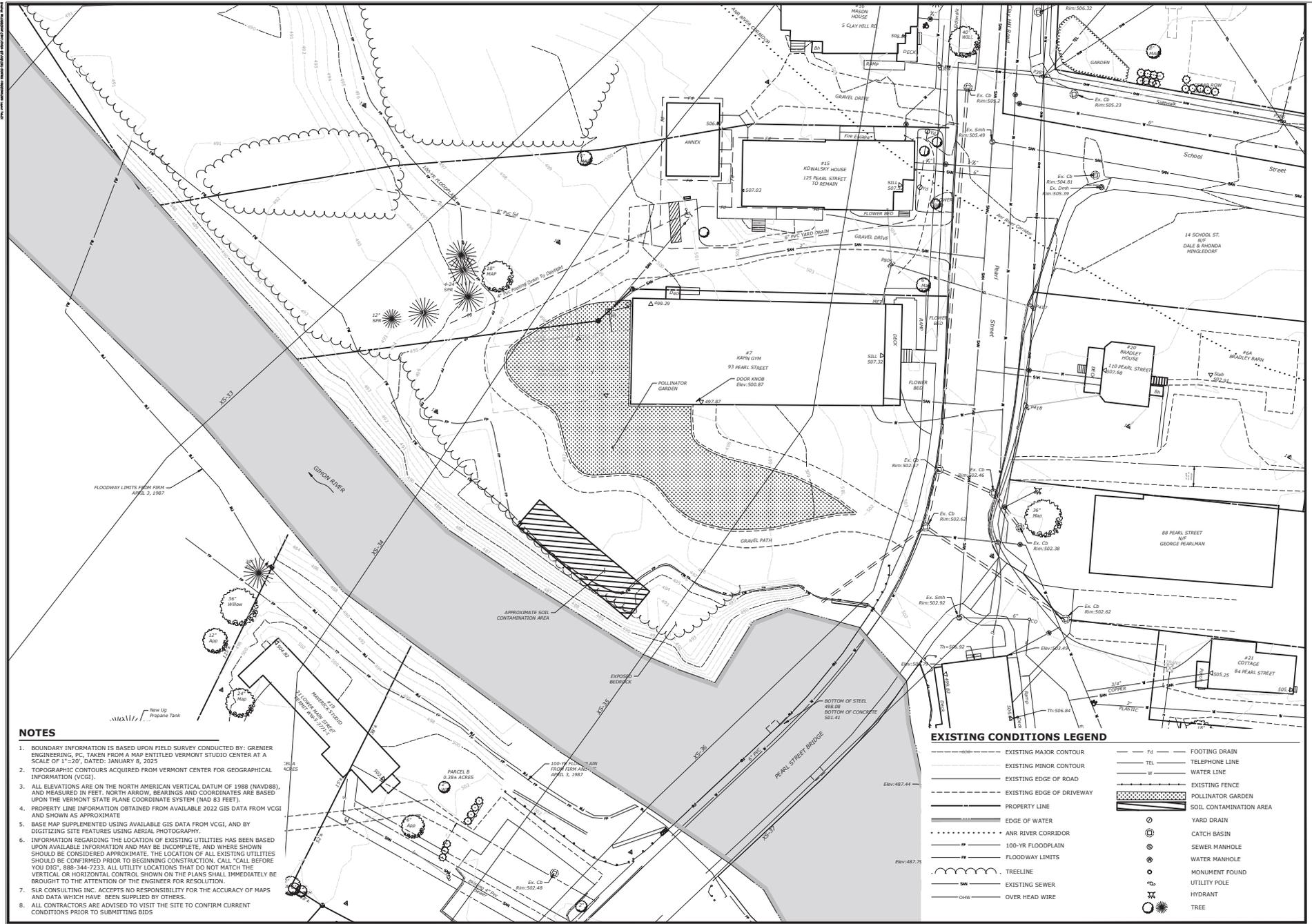
PREPARED BY:



1 SOUTH MAIN STREET
WATERBURY, VT 05676
802.882.2676
SLRCONSULTING.COM



Know what's below.
Call before you dig.
www.cbyd.com



- NOTES**
- BOUNDARY INFORMATION IS BASED UPON FIELD SURVEY CONDUCTED BY: GRENER ENGINEERING, PC, TAKEN FROM A MAP ENTITLED VERMONT STUDIO CENTER AT A SCALE OF 1"=20', DATED: JANUARY 8, 2023
 - TOPOGRAPHIC CONTOURS ACQUIRED FROM VERMONT CENTER FOR GEOGRAPHICAL INFORMATION (VCGI).
 - ALL ELEVATIONS ARE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AND MEASURED IN FEET. NORTH ARROW, BEARINGS AND COORDINATES ARE BASED UPON THE VERMONT STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
 - PROPERTY LINE INFORMATION OBTAINED FROM AVAILABLE 2022 GIS DATA FROM VCGI AND SHOWN AS APPROXIMATE
 - BASE MAP SUPPLEMENTED USING AVAILABLE GIS DATA FROM VCGI, AND BY DIGITIZING SITE FEATURES USING AERIAL PHOTOGRAPHY.
 - INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "CALL BEFORE YOU DIG", 888-346-7233. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
 - SLR CONSULTING INC. ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.
 - ALL CONTRACTORS ARE ADVISED TO VISIT THE SITE TO CONFIRM CURRENT CONDITIONS PRIOR TO SUBMITTING BIDS

EXISTING CONDITIONS LEGEND

---	EXISTING MAJOR CONTOUR	---	FD	FOOTING DRAIN
---	EXISTING MINOR CONTOUR	---	TEL	TELEPHONE LINE
---	EXISTING EDGE OF ROAD	---	W	WATER LINE
---	EXISTING EDGE OF DRIVEWAY	---	---	EXISTING FENCE
---	PROPERTY LINE	---	---	POLLINATOR GARDEN
---	EDGE OF WATER	---	---	SOIL CONTAMINATION AREA
---	EXISTING RIVER CORRIDOR	---	---	YARD DRAIN
---	100-YR FLOODPLAIN	---	---	CATCH BASIN
---	FLOODWAY LIMITS	---	---	SEWER MANHOLE
---	TREELINE	---	---	WATER MANHOLE
---	EXISTING SEWER	---	---	MONUMENT FOUND
---	OVER HEAD WIRE	---	---	UTILITY POLE
---		---	---	HYDRANT
---		---	---	TREE




1 SOUTH MAIN STREET
WATERBURY, VT 05671
SLRCONSULTING.COM

DATE	BY	DESCRIPTION

SITE PLAN - EXISTING CONDITIONS

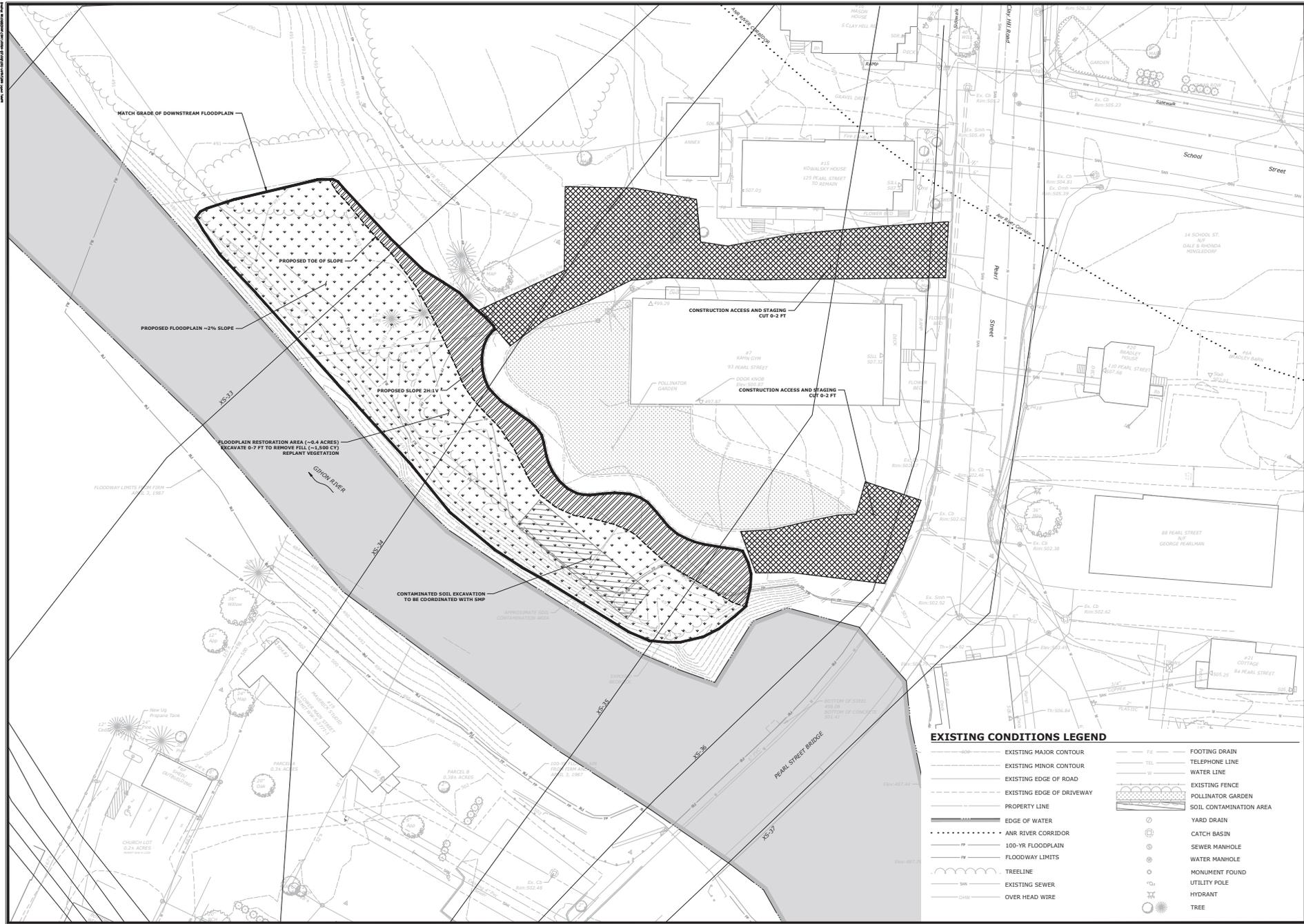
VERMONT STUDIO CENTER

FLOODPLAIN RESTORATION

80 PEARL STREET
JOHNSON, VERMONT

30% CONCEPT DESIGN

JCL	JAG	JCL
(DATE)	(DATE)	(DATE)
1" = 20'		
OCTOBER 21, 2025		
12911.00024		
PROJECT NO.		
02 OF 04		
EX		
SHEET NO.		



EXISTING CONDITIONS LEGEND

- 100' — EXISTING MAJOR CONTOUR
- 20' — EXISTING MINOR CONTOUR
- — EXISTING EDGE OF ROAD
- — EXISTING EDGE OF DRIVEWAY
- — PROPERTY LINE
- — EDGE OF WATER
- — ANR RIVER CORRIDOR
- — 100-YR FLOODPLAIN
- — FLOODWAY LIMITS
- — TREELINE
- — EXISTING SEWER
- — OVER HEAD WIRE
- — FOOTING DRAIN
- — TELEPHONE LINE
- — WATER LINE
- — EXISTING FENCE
- — POLLINATOR GARDEN
- — SOIL CONTAMINATION AREA
- ⊙ — YARD DRAIN
- ⊙ — CATCH BASIN
- ⊙ — SEWER MANHOLE
- ⊙ — WATER MANHOLE
- ⊙ — MONUMENT FOUND
- ⊙ — UTILITY POLE
- ⊙ — HYDRANT
- ⊙ — TREE





1 SOUTH MAIN STREET
WATERBURY, VT 05671
SLRCONSTRUCTION.COM

DESCRIPTION	DATE	BY

SITE PLAN - PROPOSED CONDITIONS

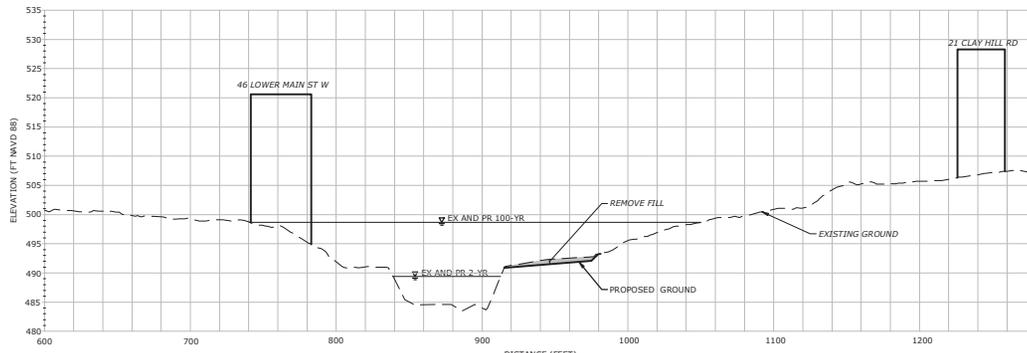
VERMONT STUDIO CENTER

FLOODPLAIN RESTORATION

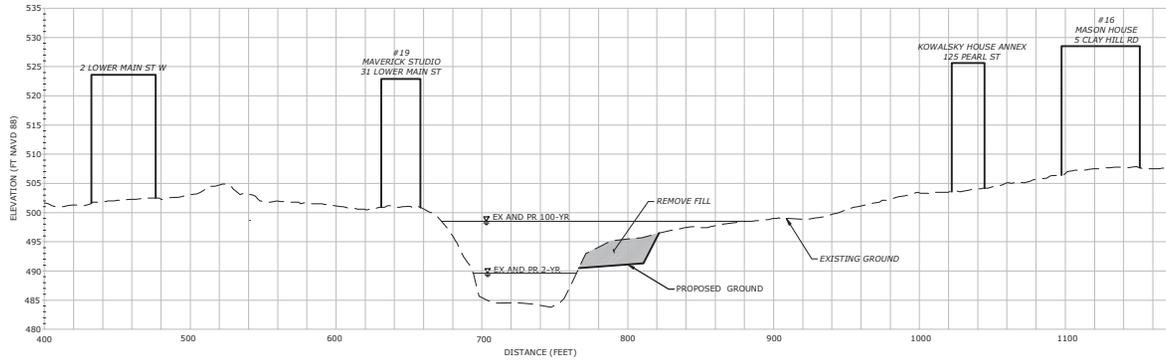
80 PEARL STREET
JOHNSON, VERMONT

30% CONCEPT DESIGN

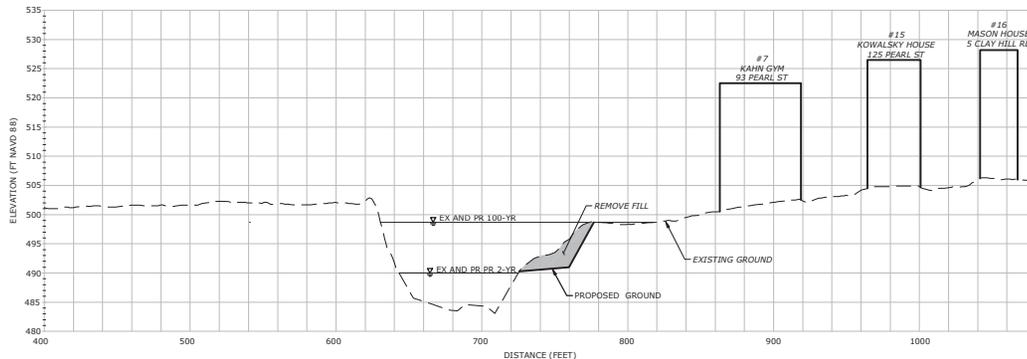
JCL	JAG	JCL
(DESIGNED)	(DRAWN)	(CHECKED)
SCALE: 1" = 20'		
DATE: OCTOBER 21, 2025		
PROJECT NO.: 12911.00024		
SHEET NO.: 03 OF 04		
PR		



XS - 33
SCALE: H: 1"=40', V: 1"=10'



XS - 34
SCALE: H: 1"=40', V: 1"=10'



XS - 35
SCALE: H: 1"=40', V: 1"=10'



DESCRIPTION	DATE	BY

SECTIONS
VERMONT STUDIO CENTER
FLOODPLAIN RESTORATION
80 PEARL STREET
JOHNSON, VERMONT

JCL DESIGNED	JAG DRAWN	JCL CHECKED
SCALE VARIES		
DATE OCTOBER 21, 2025		
PROJECT NO. 12911.00024		
SHEET NO. 04 OF 04		

XS

SHEET NAME

Vermont Studio Center Floodplain Restoration

Project Site Photos



VSC Site Visit



VSC Site by the Gihon River





VSC walking path installed





VSC Site and Pollinator Garden



30% Design Plans Comments from River Scientist: VSC Floodplain Restoration Project

Hi Jessica,

I've copied in Alexis Nevins, our new FPM, for this region.

I do not have any concerns with the current design plans. The site has some opportunity for floodplain restoration, and with other efforts the community is making toward identifying areas for floodplain restoration, this site becomes a good opportunity for local improvements, as well as education/outreach in an area the public has access to.

Please keep me in the loop as further design work is done. Thank you.

Have a good day.

Staci

Staci Pomeroy, River Scientist
Vermont Department of Conservation
Watershed Management, Rivers Program
111 West Street | Essex Jct., VT 05452
802-490-6191 cell
staci.pomeroy@vermont.gov
<http://dec.vermont.gov/watershed/rivers>

Technical Memorandum



To: Meghan Rodier
From: Jessica Louisos, PE, Doug Osborne, PE, and Josephine Alling, EIT
Company: Lamoille County Planning Commission
SLR International Corporation
cc: Jim MacDowell, Vermont Studio Center
Date: October 31, 2025
Project No. 12911.00024
RE: Vermont Studio Center Floodplain Restoration, Johnson, Vermont

A floodplain restoration opportunity was identified at the Vermont Studio Center in the location of the former Johnson Town Garage (Figure 1). In 1990, two underground storage tanks (USTs) were removed from the site, but elevated concentrations of petroleum contamination remain (Appendix A). Ross Environmental Associates, Inc. (REA) conducted an Evaluation of Corrective Action Alternatives (ECAA) and recommended the removal of approximately 360 cubic yards of petroleum contaminated soil. Building upon the limited soil excavation proposed by REA, we were tasked with exploring a more comprehensive floodplain restoration project along the Gihon River in partnership with the Vermont Studio Center and Lamoille County Planning Commission (LCPC). A concept design was completed for a floodplain restoration project for the selected Alternative B that preserves the existing pollinator garden and walking path. The alternatives analysis and details on the concept design follow.



Figure 1: Vermont Studio Center Floodplain Restoration Project Site, Johnson, Vermont

Existing Conditions

The proposed floodplain is along the Gihon River, downstream of the Pearl Street bridge and adjacent to the Wolf Kahn Studio Building. In 2024, VSC created the Junebug Pollinator Garden and Trail which established a vibrant pollinator garden and gravel path that meanders between the studio building and the river and provides an alternate path to the Johnson Arboretum (Figure 2). A grass lawn spans the space between the gravel path and a strip of trees and shrubs that grow along the Gihon's sloping riverbank. The is a small river access where the lawn slopes down to a bedrock outcrop (Figure 3).



Figure 2: Junebug Pollinator Garden and Trail





Figure 3: Bedrock outcrop looking downstream from the Pearl Street Bridge

The Gihon River flows over a small bedrock falls and through the Pearl Street Bridge, just upstream of the project area (Figure 4). Through the project area, the Gihon is incised and confined by steep banks. Downstream of the project area, the Gihon has a less steep slope resulting in slower moving water and larger meanders (Jesus Beach area) before flowing under Route 15 and entering the Lamoille River (Figure 5). The project site is located in this slope transition zone and is also under the influence of backwater from the Lamoille at higher flows.





Figure 4: Bedrock falls (Left) and Pearl Street bridge (Right) upstream of project area



Figure 5: Jesus Beach meander looking upstream



An existing one-dimensional (1D) steady flow hydraulic model of the Lamoille River and select tributaries was extended to evaluate flood reduction benefits using the United States Army Corps of Engineers Hydrologic Engineering Center River Analysis System (HEC-RAS) software (USACE, 2023). Water surface elevations, flow depths, and velocities are computed at each cross section. Frictional energy losses are computed based on Manning's roughness coefficient (n) derived from field observations and contraction/expansion coefficients at bridges.

The existing model was extended up the Gihon River through the project site (Figure 6). Cross section geometry was derived from 2023 statewide LiDAR (0.35-meter resolution), FEMA FIS profile, and bridge plans for the Route 15 Main Street bridge and Pearl Street bridge. Cross sections were updated with high accuracy GPS and four model sections at the project site were based on field survey performed by Genier Engineering in 2024.

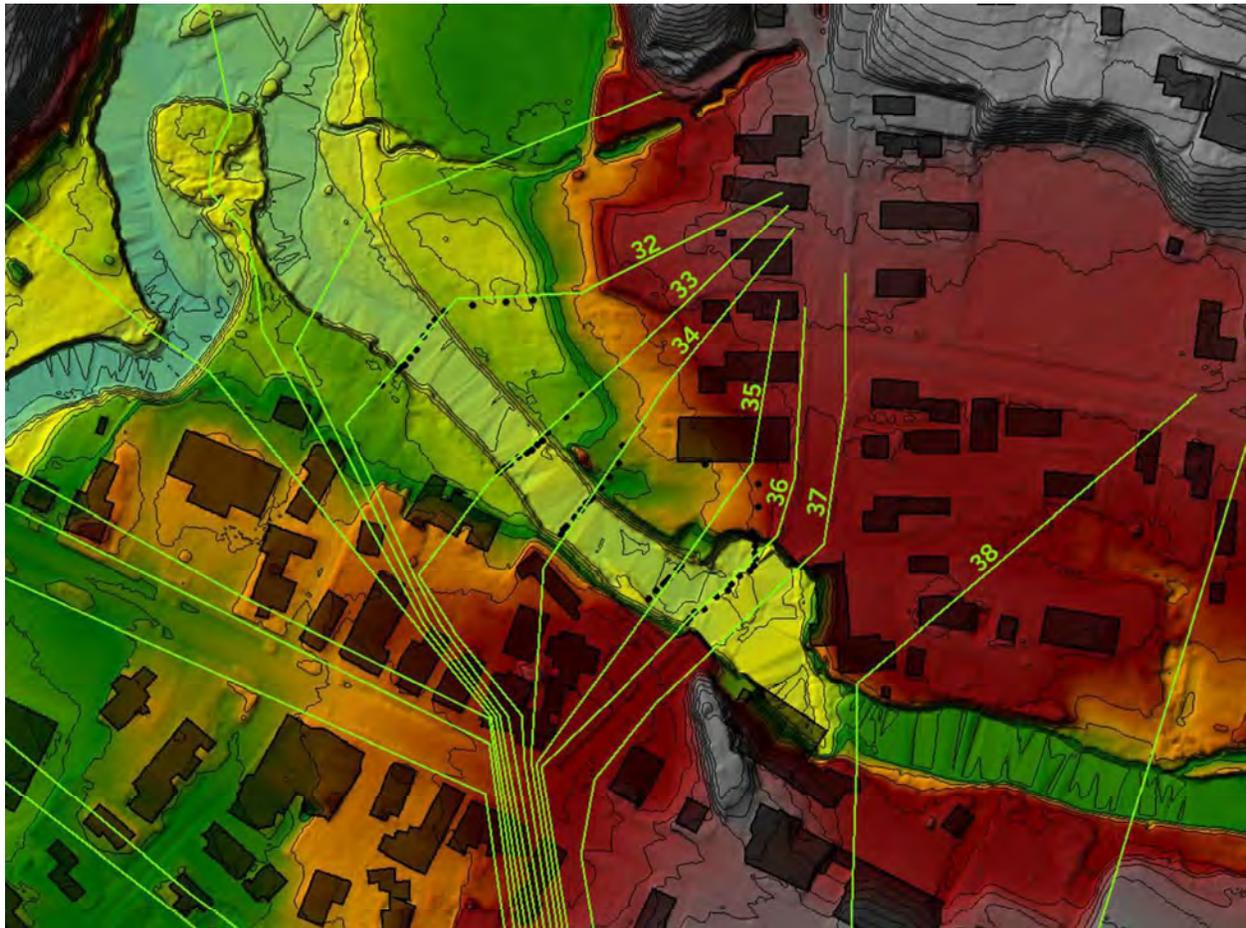


Figure 6: Gihon River model terrain with cross sections (green lines), buildings (grey polygons), and Grenier Engineering survey (black dots)



The model results confirm the incised conditions of the Gihon River through the project area, as flood waters will not spill out onto the banks until the 50-year flood (Figure 7). For comparison, the floodplain just downstream of the project site activates (allows flood water to spill out onto the floodplain) at the 5-year flood and has been used as a reference for potential floodplain conditions at the Vermont Studio Center site (see cross section 32 in Figure 6).

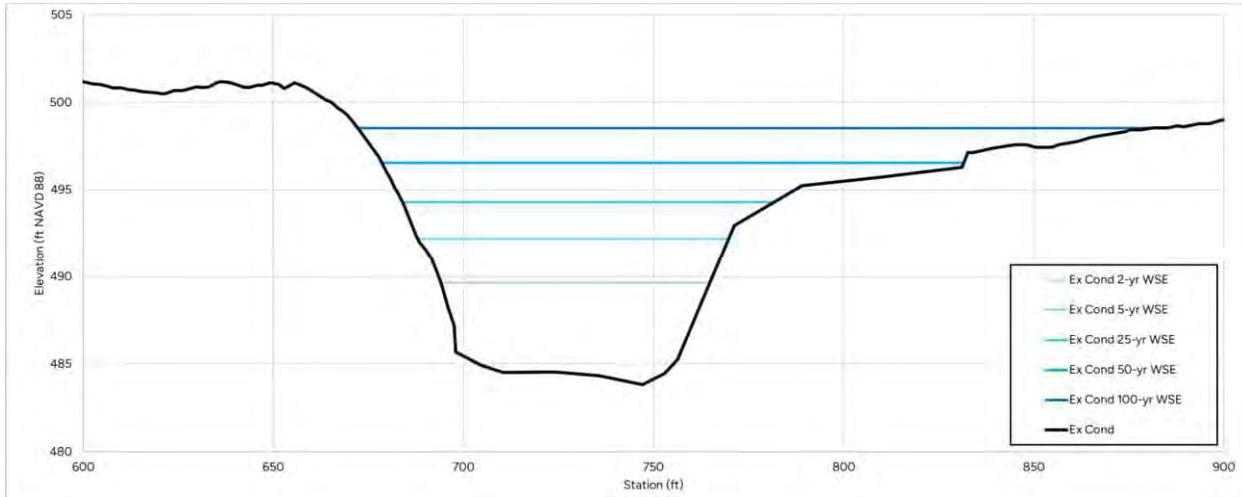


Figure 7: Hydraulic model cross section 34 looking downstream with existing conditions terrain and water surface elevations

Additionally, the model highlighted the impact of the backwatering from the Lamoille (Figure 8). We compared the water surface elevation profile of the 100-yr flood on both the Lamoille and Gihon with the profile of a 5-yr flood on the Lamoille and a 100-yr flood on the Gihon. This illustrates the strong influence of the Lamoille in Johnson's Village center as the backwatering of the Lamoille extends to just upstream of the Pearl Street Bridge.

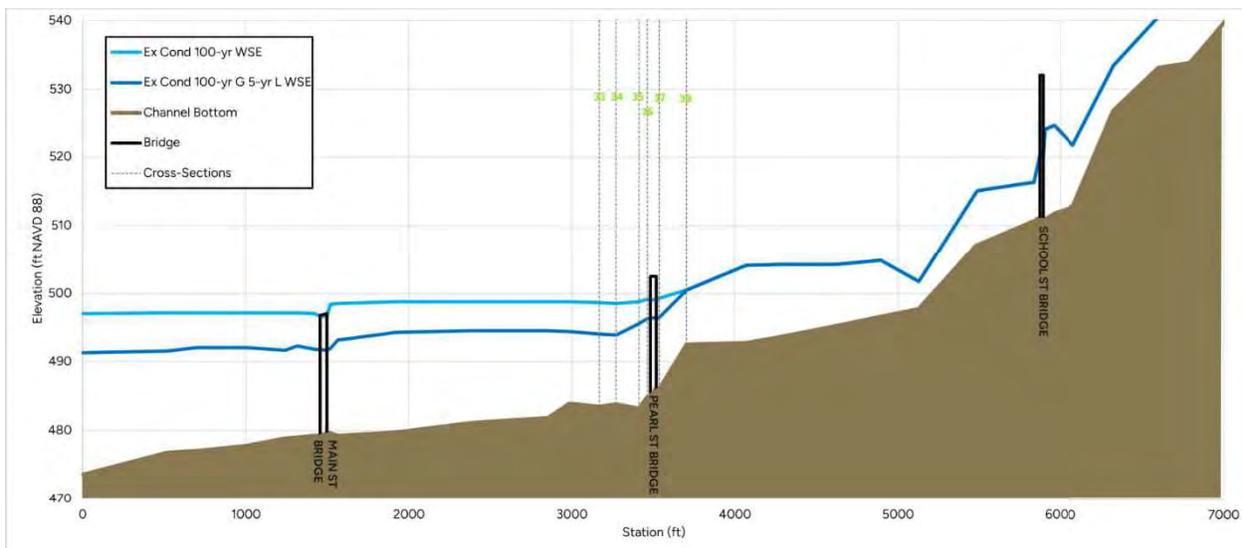


Figure 8: Longitudinal profile of the Gihon River with the existing conditions



Alternative Evaluation

This project evaluated five floodplain restoration alternatives with different footprints and elevations. In the first iteration of the alternative analysis, three alternatives were considered (Figure 9 and Figure 10).

- Alternative 1: Larger floodplain lowered to 2-yr flood
- Alternative 2: Smaller floodplain lowered to 5-yr flood
- Alternative 3: Flood chute floodplain lowered to 5-yr flood preserving trees and vegetation along the river



Figure 9: Proposed floodplain footprints for alternatives 1, 2, and 3

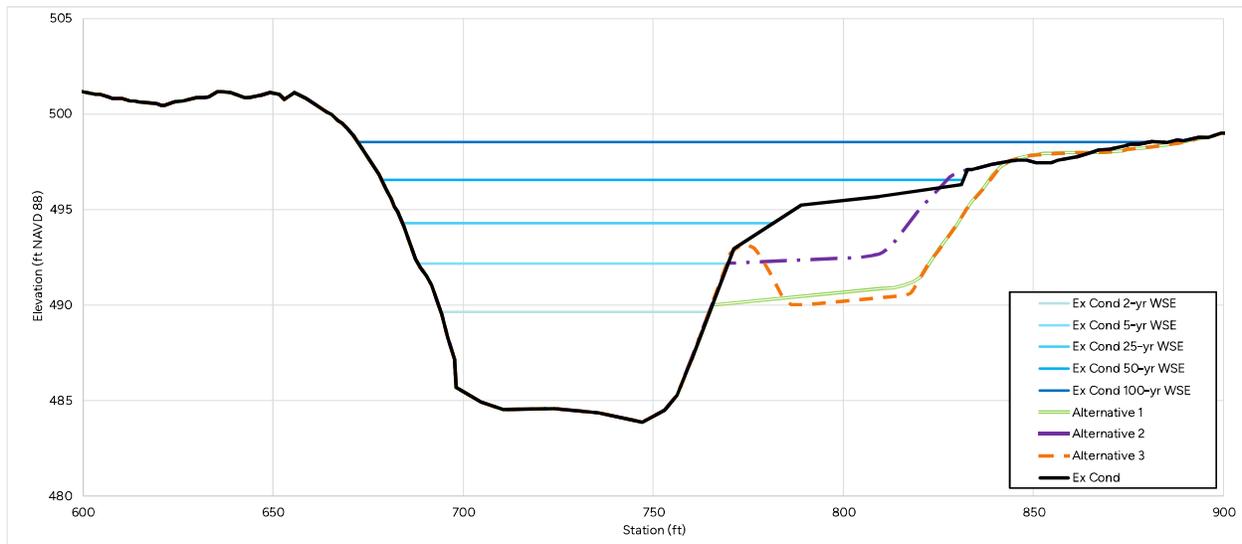


Figure 10: Hydraulic model cross section 34 looking downstream with existing and proposed alternatives terrain and existing conditions water surface elevations



After meeting with the project stakeholders on the site, two additional floodplain alternatives were identified for further modeling to refine configurations of Alternative 3 (Figure 11). This meeting highlighted Vermont Studio Center’s desire for the floodplain design to preserve the newly planted pollinator garden and gravel path unless the model provided strong evidence of benefits to disturbing the area.

- Alternative A: Floodplain lowered to 5-yr flood
- Alternative B: Floodplain lowered to 5-yr flood and preserves pollinator garden and path

Alternative B has been selected for concept design.



Figure 11: Proposed floodplain footprints for alternatives A and B

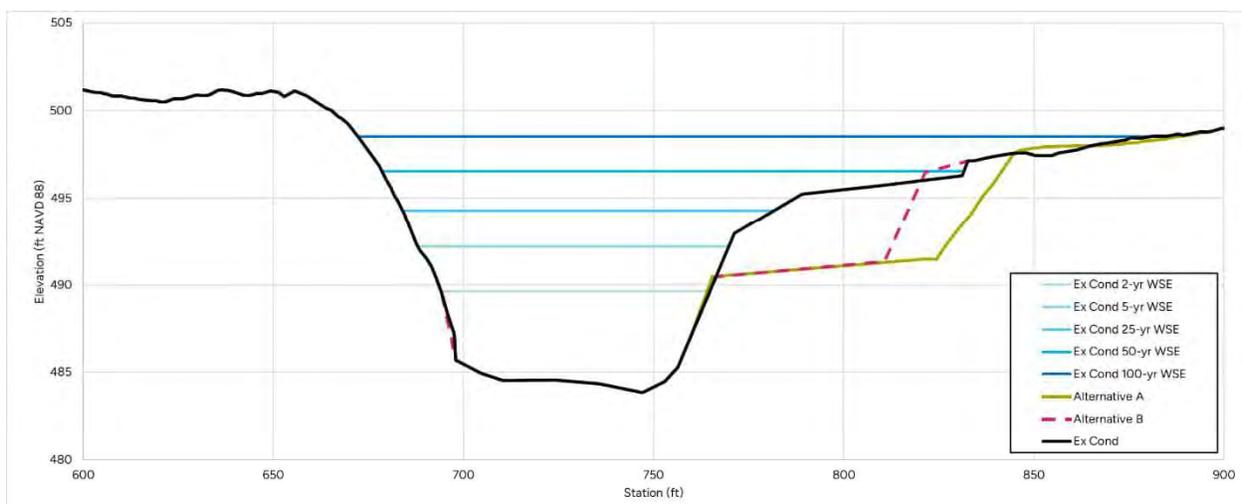


Figure 12: Hydraulic model cross section 34 looking downstream with existing and proposed alternatives terrain and existing conditions water surface elevations



Both alternatives, predict minor reductions in flow velocities (0.6 to 1.9 cfs) through the project area depending on the flow conditions (2-year, 5-yr flood, 25-yr flood, etc.). Water surface elevations were slightly lower (0.1 to 0.3 ft) upstream of the project area and slightly higher (0.1 to 0.3 ft) through the project area (Appendix B). Neither alternative produced significant change to either the proposed water surface elevations or velocity. A reconnected floodplain in this location will allow more space for floodwater, remove historic fill, add benefit to the contamination cleanup excavation occurring at this location, smooth the slope transition through the project site, and create capacity to catch wood, sediment, and ice that flows down the Gihon before entering Johnson Village. After discussion with the project stakeholders, Alternative B was selected to move forward with 30% concept design.

Concept Design

The concept design includes lowering the floodplain and replanting with vegetation. The lowered floodplain would flood at the 5-year flood. The area would be graded to create a 2:1 maximum slope along the new floodplain edge to tie into the existing gravel path and allow water to drain across the floodplain to the river edge with a 2% slope. The floodplain restoration at the site would not disturb the existing pollinator garden or the historic stone wall just downstream of the Pearl Street bridge. Grades would tie into the exposed bedrock outcrop at the upstream end and well-connected downstream vegetated floodplain. River access could be maintained with simple mowed trails as currently exists on the property. It is expected that river access would be improved as many of the tall steep banks along the river edge would be removed and a more gradually sloped riverbank would exist along more of the property.

Reducing the confinement through the project area will reduce erosion risk near the project site. By restoring the floodplain, flood waters can spread out and slow down reducing erosion. Additionally, proposed floodplain area would provide locations where debris or ice can deposit which can help reduce ice jams and related flooding. The providing an ice and debris deposition area have not been quantified in the hydraulic modeling, but have been observed to be important benefits of connected floodplains upstream of Village centers during past flood events.

Floodplain restoration would improve sediment attenuation improving water quality through uptake of phosphorus. This project would receive credit for both channel stability and floodplain storage for the Lake Champlain TMDL. Using the Functioning Floodplain Initiative (FFI) tool, we estimate a stream stability credit of 3 kg and storage credit of 14.5 kg for a total phosphorus credit of 17.5 kg (Appendix C).

The restoration area is approximately 0.4 acres with an average cut of 3.5 feet, resulting in an average cut volume of 1,500 cubic yards. A ballpark cost estimate for the project is \$209,000 including final design, permitting, bidding, construction, and post-construction monitoring.

Possible Project Constraints & Permitting Needs

Some utilities may be present on the site. The VTANR Atlas mapping shows stormwater infrastructure in the project area (Figure 13), which will be incorporated into the final design. Other utilities remain a possible constraint and additional checks with utility providers and the Town should be completed.

The site is mapped as “Urban Soil Background Areas”, which would need to be placed in another area also designated in the same way. Excavation and removal of soils contaminated by petroleum will need to be coordinated with REA.



The project is partially located within the FEMA Special Flood Hazard Area (Zone AE) and partially within the FEMA Floodway. At this time the design is not expected to require a permit, as there is no addition of fill and the current local regulations do not require a permit for removal of material from the floodplain.

An initial review of natural resources shows that the property is within the mapped Vermont River Corridor. Although floodplain restoration is an allowed use in river corridors, a review or permitting may be needed under the Vermont Flood Hazard and River Corridor Rule.

The property appears to have an existing Act250 permit. It is expected that a minor amendment to the existing Act250 permit will be required to address Criteria 1(B), 1(D), 1(F), 1(E), and 8.

Based on VTANR Atlas mapping, the project site is in a Federally Endangered Bat Range for the Tricolored Bat, which will likely limit any tree cutting to the winter months.

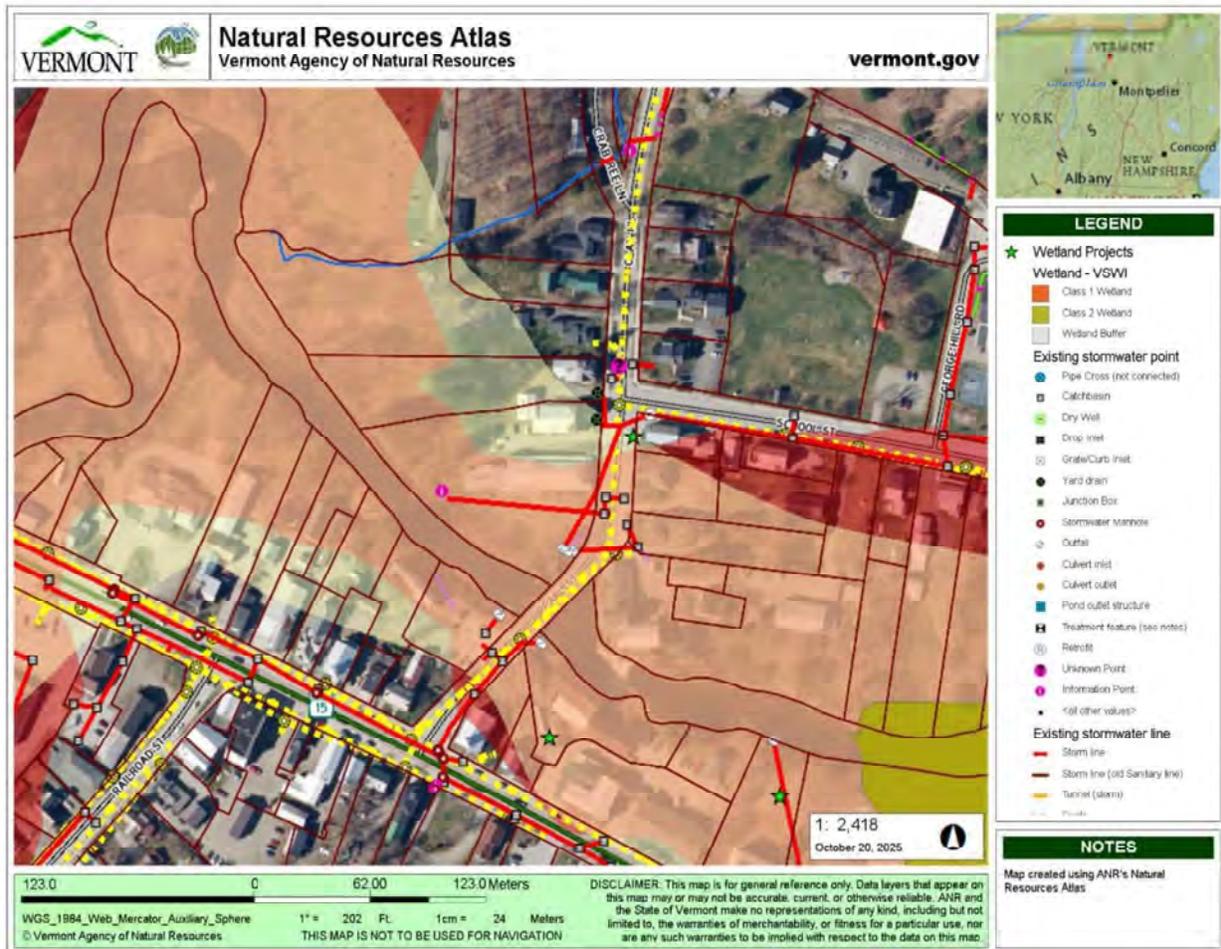


Figure 13: Natural Resources mapping from VTANR

An archaeological phase 1 site identification survey was completed by University of Vermont Consulting Archaeology Program in July 2025. The report received concurrence from the State Historic Preservation Office that the floodplain restoration project, as currently planned, receives a determination of No Historic Properties Affected. A final sign off will be needed for the final design plans.



The design is currently under the ground disturbance area (>1 acre) to need the Vermont Construction Stormwater permit, but should be checked again at final design to ensure the project remains under this threshold or receives a permit.

There are currently no in-stream project elements included that would require permitting under the US Army Corps of Engineers or the Vermont Stream Alteration programs.



Appendix A: ECAA Report



ROSS ENVIRONMENTAL ASSOCIATES, INC.

Hydrogeology, Water Quality, Regulatory Compliance and
Permitting, Environmental Site Assessments, Contaminant
Fate & Transport, Petroleum Investigations and Remediation



Evaluation of Corrective Action Alternatives Report

**Former Johnson Town Garage
Pearl Street
Johnson, Vermont**

**SMS Site #: 90-0657
Site Coordinates: 44° 38' 10.1" N 72° 40' 42.8" W**

31 August 2023

Prepared For:

**Mr. Jim Macdowell
Vermont Studio Center
80 Pearl Street
Johnson, Vermont 05656
Phone: 802-730-9307
Email: jmacdowell@vermontstudiocenter.org**

Prepared By:

**Ross Environmental Associates, Inc.
P.O. Box 1533
Stowe, Vermont 05672

Phone: (802) 253-4280**

***R.E.A.* Project No. 2021-011
R.E.A. Document #: 2021011ECAA**

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY.....	I
1.0 INTRODUCTION.....	1
1.1 Site Location and Setting.....	1
1.2 Site History.....	2
1.3 Land Use and Adjacent Property Ownership.....	4
2.0 FIELD INVESTIGATION RESULTS AND PROCEDURES.....	4
2.1 Contaminants of Concern.....	4
2.2 Source Area Evaluation.....	4
2.3 Groundwater Elevations and Flow Direction.....	5
2.4 Groundwater Sampling and Analysis.....	5
2.5 Natural Attenuation Data.....	6
2.6 Investigation Procedures.....	8
3.0 EVALUATION OF CORRECTIVE ACTION ALTERNATIVES.....	8
3.1 No Action.....	8
3.2 Soil Excavation with Off Site Disposal.....	9
3.3 Soil Vapor Extraction (SVE) with Air Sparging (AS).....	10
3.4 In-situ Chemical Injection.....	11
4.0 RECOMMENDATIONS.....	12
5.0 LIMITATIONS.....	133
6.0 CERTIFICATION.....	13

Figures

Tables

List of Appendices

- Appendix A Conceptual Site Model (CSM)
- Appendix B Soil Boring/Monitoring Well Logs
- Appendix C Laboratory Reports – Groundwater
- Appendix D Natural Attenuation Data
- Appendix E Cost Estimate

EXECUTIVE SUMMARY

Ross Environmental Associates, Inc. (R.E.A.) has conducted an Evaluation of Corrective Action Alternatives (ECAA) at the former Johnson Town Garage located on Pearl Street in Johnson, Vermont. The evaluation was conducted with VT DEC approval.

Contaminant concentrations in groundwater beneath the site continue to remain above the Vermont Groundwater Enforcement Standards (VGESs) and have shown an increase in total VOC concentrations in the vicinity of RMW-3 and RMW-4 since August 2020. Historically, the highest concentration of petroleum contamination was detected in the sample collected from RMW-3. Based on the field screening and laboratory data collected in June 2023, the area of residual petroleum contaminated soil (PCS) is estimated to encompass approximately 1,200 square feet with an average thickness of about eight feet (approximately 360 cubic yards).

The significant findings of this assessment are outlined below:

- Subsurface petroleum contamination was first discovered in 1990 when two, 1,000-gallon underground storage tanks (USTs) —one gasoline & one diesel— were removed from the Site.
- No significant decrease in contaminant concentrations has been observed since monitoring began in the early 1990s (approximately 30 years).
- The residual petroleum contamination and presence of free-phase petroleum on-site presents an on-going threat to the Gihon River.
- Residual PCS is limited to an area of approximately 1,200 square feet in the area between RMW-3 and RMW-4.
- Approximately 0.10 feet of free product was observed in RMW-3 indicating the presence of an apparent smear zone in the area of the site.
- The extreme precipitation events in the spring and early summer of 2023 may have caused groundwater levels to extended into a smear zone above the water table, which has liberated free-phase petroleum.

- The Vermont Groundwater Enforcement Standards (VGESs) for naphthalene 1,3,5-trimethylbenzene, 1,2,3-trimethylbenzene, & 1,2,4-trimethylbenzene (combined) were exceeded in the RMW-2 and RMW-4 samples.
- Low concentrations of several other volatile petroleum compounds were detected in the samples collected from RMW-2 and RMW-4, but at concentrations below the corresponding VGESs.
- Petroleum odors were noted in RMW-2, RMW-3 and RMW-4 during purging and sample collection.
- No bio-sheening and iron oxidations were noted along the riverbank located immediately downgradient of the subject property.
- Review of the natural attenuation data indicates mixed results with conditions in the vicinity of the former Johnson Town Garage being generally favorable for natural attenuation, except for the area immediately adjacent to RMW-3 due to the presence of free-phase petroleum.

Due to the persistent elevated concentrations of dissolved-phase petroleum compounds and recent discovery of free-phase petroleum on-site, **R.E.A.** recommends removing approximately 360 cubic yards of petroleum contaminated soil (PCS) from the area between RMW-3 and RMW-4 with disposal at the Waste USA Landfill in Coventry, Vermont. Following removal of the PCS, the site should be considered for sites management activities completed (SMAC) status.

1.0 INTRODUCTION

In January 2023, Mr. Jim Macdowell retained the services of **Ross Environmental Associates, Inc. (R.E.A.)** to complete an Evaluation of Corrective Action Alternatives (ECAA) at the former Johnson Town Garage located on Pearl Street in Johnson, Vermont. The additional work was requested in an email from Mr. Michael Nahmias of the Vermont Department of Environmental Conservation (VT DEC) dated 15 November 2022. The ECAA identified a limited area of residual petroleum contamination along the Gihon River on the southwestern portion of the property. Based on this information, the VT DEC approved the work plan and cost estimate for the completion of an ECAA in the email dated 13 July 2022.

This report has been prepared by **R.E.A.** under the direction of Mr. Jim Macdowell and the VT DEC, unauthorized use or reproduction of this report is prohibited without written authorization from **R.E.A.**, or Mr. Macdowell.

1.1 Site Location and Setting

The subject property is located at 103 Pearl Street (parcel number 400-035) in a mixed residential and commercial area of Johnson, Vermont. The former Town Garage property was located on an open parcel between the Gihon River and the Wolf Kahn Studio. The subject property is surrounded by Pearl Street to the east, the Gihon River to the west and other VT Studio Center owned properties to the north and south. Drinking water for the subject and surrounding properties is provided by the Johnson Public Water System (WSID #5156). Wastewater disposal for the nearby residences and surrounding properties is provided by the Johnson Municipal Wastewater System. The Gihon River abuts the site to the west-southwest. The geographic coordinates of the site are: latitude 44° 38' 10.1" North, and longitude 72° 40' 42.8" West.

Native surficial materials in the vicinity of the site are mapped as lake sand and recent alluvium deposits. Bedrock in the area is mapped as the Jay Peak Formation (CZj), which is Light-grayish-green, fine-grained, chlorite-muscovite-quartz phyllite or schist and quartzite, white quartzo-feldspathic layers alternate with green chloritic phyllitic layers, locally albitic of Cambrian and Neoproterozoic in age. Several bedrock outcrops were observed along the Gihon River and bedrock refusal was encountered the soil boring programs completed on-site.

1.2 Site History

A summary of the site history was obtained from the Supplemental Site Investigation Report prepared by KAS dated 8 May 2020.

“The former Johnson Town Garage was previously a building complex consisting of three sections: a garage, municipal offices, and gymnasium. Before 1990, the garage operated a pump station for gasoline and diesel. The Site is currently part of the Vermont Studio Center campus, which operates as an artists’ and writers’ residency program.

Subsurface petroleum impacts were first encountered in 1990 when two, 1,000-gallon underground storage tanks (USTs) —one gasoline & one diesel— were removed from the Site. The USTs were owned and installed by Mr. Jack Corse of Jack F Corse, Inc. in Cambridge, VT. The tanks were said to be located on the south side of the property, about 30 feet from the Gihon River. Contaminated soils and groundwater were observed during excavation of the tanks. During the tank pull, a State Environmental Technician screened soils under and around the tanks and reported photoionization detector (PID) readings of 100-250 parts per million (ppm). Approximately 20 yards of contaminated soils were excavated and taken to the Johnson Town Landfill.”

During the soil boring program completed by KAS in March 2020, PID readings on subsurface soils ranged between 0.2 and 1,358 ppmv. Removal of petroleum contaminated soil during the UST closure has greatly reduced the threat to nearby receptors from the residual source area; however, residual petroleum contamination remains in the area of the site previously occupied by the former Town Garage. Approximate soil boring locations are shown on the Figure in **Appendix B**.

Information collected during the KAS soil boring program in March 2020 indicate

“Soils observed in the borings consisted primarily of well- and poorly graded sands, gravelly sands, sand-silt mixtures, and silt. Bedrock was not encountered in any soil borings and exploration ended between 5.0 and 20.0 ft bgs depending on the boring. Volatile Organic Compounds (VOCs) as measured with a photoionization detector (PID) ranged from 0.2 to 1,358 parts per million by volume (ppm) from the soil borings. The highest PID reading was measured in soil boring SB-2 (later completed as RMW-3) approximately

40 feet west of the former underground storage tank (UST) area. Strong petroleum odors, dark staining, and high PID readings were encountered in many borings, indicating widespread contamination at the Site.”

Following the UST removal in 1990, approximately 20 cubic yards of PCS were removed from the excavation and transported to the Johnson town landfill. To date, no additional soil has been removed from the site.

On 29 July 2020, **R.E.A.** provided oversight during the advancement of eight soil borings and the installation of five monitoring wells. Subsurface soils at the site ranged from brown sand and gravel with some silt. Groundwater was encountered between 6.5 to 8.0 feet bgs at the time of drilling. Bedrock refusal was encountered between 6 and 13 feet bgs. The soil borings were completed to depths ranging between 6 to 14 feet bgs. Data collected during the soil boring program suggests the surficial geology is consistent with the mapped unit

Based on current site use and review of field observations, the threat of direct contact exposure to petroleum contaminated soil is not considered to be an issue at this time. The removal of 20 cubic yards of PCS has greatly reduced the threat to soil and the underlying groundwater formation; however, residual contamination remains on site within 30 feet of the Gihon River in the area between RMW-3 and RMW-4. In addition, a likely smear zone is present within the vadose zone at the water table in the vicinity of RMW-3. Approximately 0.10 feet of free-phase petroleum was discovered in RMW-3 during the June 2003 sampling event.

In March 2022, the VT DEC requested that groundwater monitoring for the Wolf Kahn Studio and former Johnson Town Garage be completed during the same sampling event and that one report be prepared summarizing the data for both sites. The March 2022 data indicated that dissolved-phase concentrations increased significantly since August 2020 in the vicinity of the former Johnson Town Garage, but that no VOCs were detected in the Wolf Kahn Studio monitoring wells. Based on this information, the Wolf Kahn Studio site was assigned a SMAC designation, but additional work was requested by the VT DEC for the former Johnson Town Garage site.

In November 2022, the VT DEC requested additional work to evaluate subsurface conditions related petroleum contamination discovered during previous investigations and to collected data

to support site closure. The additional work was requested in a letter from Mr. Michael Nahmias of the VT DEC dated 21 January 2023.

1.3 Land Use and Adjacent Property Ownership

The subject property is located on Pearl Street approximately 600 feet northeast of downtown Johnson, Vermont (Parcel # 21-01-75). Pearl Street abuts the property to the east and the Gihon River forms the south-southwestern property boundary. The Wolf Kahn Studio and the Kowalsky House occupy the adjoining properties to the north. The former Johnson Town Garage was located on the southern portion of the parcel abutting the Gihon River, which is currently a landscaped open area.

An aerial photograph showing adjacent property site features and sensitive receptors is included as **Figure 2**.

2.0 FIELD INVESTIGATION RESULTS AND PROCEDURES

R.E.A.'s field investigation included the collection and analysis of groundwater samples from three existing monitoring wells, and a receptor survey to identify potential risks to the environment and human health. *R.E.A.* also reviewed data collected during previous investigations including soil boring data from a subsurface investigation completed by KAS in March 2020. Monitoring wells, soil borings and significant site features are shown on **Figure 3**.

2.1 Contaminants of Concern

Based on available information, the contaminants of concern (COC) at former Johnson Town Garage appear to be related to the petroleum products related to two underground storage tanks (USTs) were removed from the Site in 1990 and historic site operations. During the most recent groundwater sampling event (June 2023), 0.10 feet of free-phase petroleum was discovered in RMW-3. Several VOCs, characteristic of weathered petroleum, were also detected in the groundwater samples collected from RMW-2 and RMW-4. All of these compounds are typically associated with petroleum products such as gasoline, fuel oil, and diesel.

2.2 Source Area Evaluation

Subsurface petroleum impacts were first encountered in 1990 when two underground storage tanks (USTs) were removed from the Site; one 1,000-gallon gasoline tank and one 1,000-gallon

diesel tank. The tanks were reportedly located on the south side of the property, about 30 feet from the Gihon River. Contaminated soils and groundwater were observed during excavation of the tanks with photoionization detector (PID) readings of 100 to 250 parts per million (ppm). At that time, approximately 20 yards of contaminated soils were excavated and taken to the Johnson Town Landfill. Based on available information, the petroleum contamination identified during removal of USTs and subsequent groundwater monitoring, is the likely source of petroleum contamination discovered along the Gihon River.

2.3 Ground Water Elevations and Flow Direction

On 27 June 2023, groundwater flow was to the west-southwest with an estimated hydraulic gradient of about two percent. Water level measurements and elevation calculations for 27 June 2023 are presented in **Table 1** and the groundwater contour map prepared using this data is presented as **Figure 4**.

The depth to groundwater ranged between 3.99 (MW-2) and 10.73 (RMW-4) feet bgs. MW-3 was dry so a depth to groundwater could not be measured. No free-phase product was detected during this sampling event. Static water-table elevations were computed for each monitoring well by subtracting measured depth-to-water or corrected depth to water readings from the surveyed top-of-casing (TOC) elevations, which are relative to an arbitrary site datum of 100.00 feet.

2.4 Ground-Water Sampling and Analysis

During the 27 June 2023 sampling event, the Vermont Groundwater Enforcement Standard (VGES¹) for naphthalene, 1,3,5-trimethylbenzene, 1,2,3-trimethylbenzene, & 1,2,4-trimethylbenzene (combined) were exceeded in samples collected from RMW-2 and RMW-4. Approximately 0.10 feet of free-phase petroleum was detected in the RMW-3 sample; therefore, no sample was collected for VOC analysis. Historically, the highest concentration of dissolved-phase petroleum contamination have been found in the sample collected from RMW-3, which is located upgradient of the Gihon River. In general, volatile petroleum compound concentrations appear to fluctuate seasonally. Several other volatile petroleum compounds were also detected at

¹The Vermont DEC has established groundwater enforcement standards for eight petroleum related VOCs, as follows: benzene - 5 µg/L; toluene - 1,000 µg/L; ethylbenzene - 700 µg/L; xylenes - 10,000 µg/L; MTBE - 11 µg/L; naphthalene – 0.5 µg/L; and 1,3,5-trimethyl benzene, 1,2,3-trimethyl benzene & 1,2,4-trimethyl benzene – 23 µg/L (combined).

low concentrations, below the corresponding VGESs, in the samples collected from RMW-2 and RMW-4.

No volatile petroleum compounds were detected in the trip-blank sample, and the duplicate sample results (RMW-4) were generally within the EPA acceptable range of the original sample results. Contaminant distribution, based on samples collected on 27 June 2023, is shown on **Figure 5**. The analytical results are summarized on **Table 2**, time-series graphs showing contaminant concentrations versus time are included in **Attachment B**, and copies of the laboratory analytical reports are included as **Attachment C**.

Prior to sample collection, **R.E.A.** field personnel measured the water level in each monitoring well and purged approximately three to five standing volumes of water from each well. All of the groundwater samples were collected with a peristaltic pump using dedicated polyethylene tubing. Groundwater was pumped directly into 40-milliliter glass vials with Teflon-lined septum lids. Each 40-milliliter volatile organic compound (VOC) sample vial was preserved with hydrochloric acid to reduce the pH to less than two standard units. Immediately after sample collection, field measurements were obtained for pH, specific conductivity, temperature, total dissolved solids (TDS), and oxygen reduction potential (ORP). A summary of the field measurement data is included on **Table 3**.

On 27 June 2023, groundwater samples were collected from two on-site monitoring wells (RMW-2, and RMW-4). Free-phase petroleum was detected in RMW-3; therefore, no sample was collected during the sampling event. All of the samples were analyzed for the possible presence of volatile petroleum compounds in accordance with U.S. EPA Methods 8260. All samples were transported under chain-of-custody in an ice-filled cooler to ENDYNE Inc. in Williston, Vermont for analysis.

2.5 Natural Attenuation Data

Historically, the highest concentration of dissolved-phase petroleum contamination have been found in the sample collected from RMW-3, which is located upgradient of the Gihon River. During the June 2023 sampling event approximately 0.10 feet of free-product was detected in the RMW-3 monitoring well.

On 27 June 2023, **R.E.A.** collected groundwater samples for natural attenuation in order to further characterize the site conditions and determine whether natural attenuation is reducing or

could assist with reducing contaminant concentrations at the site. Review of the natural attenuation data indicates mixed results with conditions in the vicinity of the former Johnson Town Garage being generally favorable for natural attenuation, except for the area immediately adjacent to RMW-3 due to the presence of free-phase petroleum. An inverse correlation (i.e., corresponding decrease in contaminant concentrations along with an increase in concentrations of geochemical parameters) between petroleum contaminant concentrations and alkalinity and methane are an indication of favorable conditions for natural attenuation. Also, the depletion of dissolved oxygen, nitrate and sulfate within the plume are an indication of biodegradation. Both of these conditions were observed on site suggesting that site conditions are conducive to natural attenuation. However, the historically persistent high contaminant concentrations in RMW-3 and recent discovery of free-phase petroleum, indicate that subsurface conditions in the area of RMW-3 are not favorable for natural attenuation.

The highest concentrations of methane were detected in the RMW-3 and RMW-4 samples which is located downgradient of the former source area. Alkalinity concentrations show a similar trend with the highest concentrations corresponding to the highest VOC concentrations, but with some variation. Also, the oxygen reduction potential (ORP) measurements in the samples collected during this assessment ranged between -193.4 and -54.3, which suggests an aerobic condition exists in the area of the dissolved-phase plume.

The analytical results for natural attenuation data are summarized on **Table 4**, charts and graphs showing water quality trends versus distance along the contaminant flow path between RMW-2 and RMW-4 and copies of the laboratory analytical reports for geochemical parameters are included in **Appendix E**.

Temperature, pH, ORP, dissolved oxygen, and Specific Conductivity were measured in the field using a YSI Multimeter. In addition, a sample was collected from each selected monitoring well for laboratory analysis to measure alkalinity, methane, nitrate, sulfate, total organic carbon (TOC), and chemical oxygen demand (COD). Concentrations of carbon dioxide (CO₂) for each sample location were evaluated using a nomograph, which uses the relationship between temperature, pH, and bicarbonate alkalinity to determine the CO₂ concentrations. Monitoring wells RMW-2, RMW-3, and RMW-4 were included for this evaluation.

2.6 Investigation Procedures

All of the work will be completed in accordance with state guidelines following current industry standards; specifically, Subchapter 3, SITE INVESTIGATION and Subchapter 5, CORRECTIVE ACTION of the *INVESTIGATION AND REMEDIATION OF CONTAMINATED PROPERTIES RULE*, July 2019.

3.0 EVALUATION OF CORRECTIVE ACTION ALTERNATIVES

Based on available information, residual petroleum contamination appears to be limited to the area on the southwestern portion of the property bordering the Gihon River. Free-phase petroleum was detected in RMW-3 during the most recent groundwater sampling event. In addition, the Vermont Groundwater Enforcement Standards (VGESs) for several petroleum compounds have been historically exceeded and the VGESs for naphthalene, 1,3,5-trimethylbenzene, 1,2,3-trimethylbenzene and 1,2,4-trimethylbenzene were exceeded during groundwater sampling completed in June 2013. The approximate locations of nearby sensitive receptors are shown on **Figure 2**.

3.1 No Action

No action, also referred to as “natural attenuation” and “intrinsic bioremediation”, simply allows natural processes, such as biodegradation, adsorption, dilution, dispersion, and volatilization, to reduce contaminant levels without active remediation.

3.1.1 Advantages

- Low cost.
- Requires no active remediation.
- Easily implemented with no periodic operation and maintenance.

3.1.2 Disadvantages

- Does not actively reduce residual contaminant levels in the shallow soil.
- The timeframe needed to achieve remediation goals (contaminant levels below Vermont regulatory standards) is on the order of tens to several tens of years.
- Does not mitigate the threat to the underlying groundwater formation.

3.1.3 Evaluation

No Action was rejected as a remedial alternative because it does not mitigate the risk to sensitive receptors, and the time frame necessary to achieve remedial goals is excessive. In addition, contaminant concentrations in groundwater beneath the site have not significantly changed since monitoring began in the 1990s.

3.2 Soil Excavation with Off Site Disposal

Source removal involves the physical removal and subsequent treatment or disposal of contaminated material from the area of concern. Based on available information, *R.E.A.* conservatively estimates that about 360 cubic yards (about 450 tons) of residual contaminated soil is present at the Site. This estimate assumes a contaminated area of 1,200 square feet, and a contaminated thickness of 8 feet. The approximate area of soil excavation is shown on **Figure 6**. This evaluation assumes that 360 cubic yards of soil would be excavated and transported to Waste USA in Coventry, Vermont as Added Daily Cover. In order for this technology to be most effective, it would need to be combined with another technology such as application of an oxygen release compound (ORC), Persulfox or similar compound.

3.2.1 Advantages

- Reduces the long-term source of residual contamination threatening the underlying groundwater formation at the Site and mitigates the long-term risk to potential direct contact exposure.
- Low to moderate cost for small volume of soil.
- Majority of the intrusive remediation activities are completed within a short time frame, typically on the order of one to two days.
- The timeframe needed to achieve source area remediation would be minimal.
- Easily implemented with standard construction equipment.

3.2.2 Disadvantages

- The potential for fugitive emissions of VOCs during excavation of contaminated soil is possible that may create health and safety risks to the general public.
- Excavated soils would require off-site treatment such as asphalt batching, thermal desorption, or disposal at a certified landfill.
- Health and safety consideration in handling the oxygen release compound (ORC), or Persulfox during addition to the open excavation.

3.2.3 Evaluation

Source removal by excavation appears to be a suitable technology based on favorable costs, ease of implementation, overall effectiveness, and timeliness for achieving remedial goals. Therefore, source removal by excavation is recommended.

3.3 Soil Vapor Extraction with Air Sparging

Soil vapor extraction (SVE) involves the removal of volatile contaminants adsorbed on the soils above the water table under a vacuum from extraction wells screened within the unsaturated zone. Air Sparging (AS) is often combined with SVE to maximize contaminant removal beneath the water table, thereby increasing the amount of gasoline recovered by the SVE system. Recovered vapors from the SVE system are treated through a catalytic oxidizer or activated carbon prior to atmospheric discharge.

3.3.1 Advantages

The advantages of SVE with AS are as follows:

- SVE is a proven technology for remediation of gasoline contamination within the unsaturated soils above the water table.
- AS is a proven technology for remediation of gasoline contamination below the water table in shallow overburden aquifers.
- Relatively rapid timeframe (2 -3 years) for remediation of the source area and unsaturated soils above the water table.
- Conditions at this site including depth to ground water and contaminant type are favorable for the implementation of SVE and AS.
- Contaminated ground water is treated in-situ, eliminating the need to store and treat large volumes of contaminated water.
- Well established operation and maintenance costs.

3.3.2 Disadvantages

The disadvantages of SVE/AS are as follows:

- Potential for fugitive emissions from the AS system to migrated to underground utilities or basements of nearby buildings.

- Due to the presence of free-phase petroleum, the timeframe needed to achieve remediation goals (contaminant levels below Vermont regulatory standards) is on the order of tens to several tens of years.
- Soil type (predominantly silt with varying amounts of sand and gravel) and soil-air permeability at this site are not conducive to SVE and air sparging.
- Limits future use of the property and may require a Deed restriction and notice to the land record.

3.3.3 Evaluation

Overall soil type and soil-air permeability at this site are not conducive to SVE and air sparging, and the presence of free-product would greatly increase the timeframe for achieving remedial goals.

3.4 In situ Chemical Injection

In-situ chemical injection involves injection an oxygen release compound (ORC), persulfate or similar product in to the underlying groundwater formation. An array of injection points are necessary to cover the area of concern.

3.3.1 Advantages

The advantages of In-situ chemical injection are as follows:

- In-situ chemical injection is a proven technology for remediation of gasoline contamination within the saturated zone beneath the water table.
- Under ideal conditions treatment goals can be achieved in a relatively short timeframe (2 -3 years).
- Conditions at this site including depth to ground water and contaminant type are favorable for the implementation of In-situ chemical injection.
- Contaminated groundwater is treated in-situ, eliminating the need to store and treat large volumes of contaminated water.
- No long term operation and maintenance costs.

3.3.2 Disadvantages

The disadvantages of In-situ chemical injection are as follows:

- Increased monitoring and sampling costs compared to other technologies.

- Due to the presence of free-phase petroleum and a smear zone, the timeframe needed to achieve remediation goals (contaminant levels below Vermont regulatory standards) is on the order of tens to several tens of years.
- In-situ chemical injection will not treat the residual contamination present in the smear zone above the water table.
- May require several injections to achieve remediation goals.

3.3.3 Evaluation

In-situ chemical injection at this site is not likely to be effective due to the presence of residual contamination within the smear zone above the water table. conducive to SVE.

4.0 RECOMMENDATIONS

Based on an evaluation of possible remedial options and due to the presence of free-phase petroleum and residual soil contamination, *R.E.A.* recommends removing approximately 360 cubic yards of PCS from the area of concern with disposal at the Waste USA Landfill in Coventry, Vermont. Following removal of the PCS, the site should be considered for sites management activities completed (SMAC) status. Based on available information, the extent of residual PCS is limited to an area of approximately 1,200 square feet. Removal of the PCS will allow for a site closure without significant land use restrictions. A general cost comparison for the various remedial alternatives is included in **Appendix D**.

5.0 LIMITATIONS

This report was completed by *Ross Environmental Associates, Inc. (R.E.A.)* for the sole use of Mr. Jim Macdowell in connection with an assessment of on-site environmental conditions. Use of this report by any other person or for any other use is not authorized except with prior written consent of *R.E.A.* or Mr. Macdowell.

The work was undertaken to assess environmental conditions specifically on the subject property in accordance with generally accepted engineering and hydrogeological practices. No other warranty, express or implied, is made. Absolute assurance that any and all possible contamination at the site was identified cannot be provided.

The report conclusions are based, in part, on information provided by the client, their agents, or third parties, including state or local officials. *R.E.A.* assumes no responsibility for the accuracy and completeness of the information. Where visual observations are included in the report, they represent conditions at the time of the inspection, and may not be indicative of past or future site conditions.

6.0 CERTIFICATION

“I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.”

Ross Environmental Associates, Inc.



Robert J. Ross, CGWP
Principal Hydrogeologist

F I G U R E S



Subject Property



USGS: Newpprt, Vermont Quadrangle, 1:24,000, 1986

All Locations Are Approximate



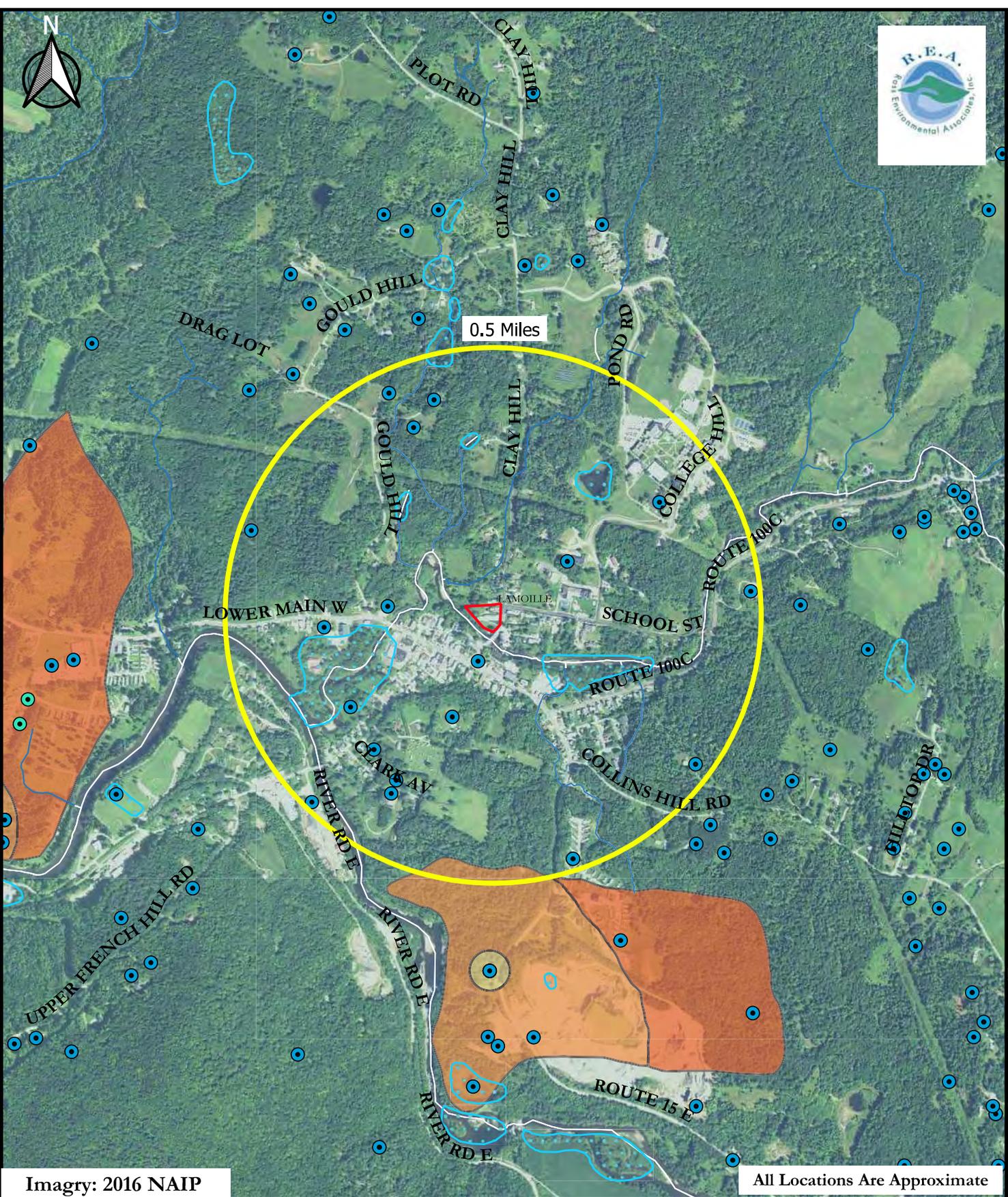
Site Coordinates: N 44 38 10.1 W 72 40 42.8 (NAD 83)

 Subject Property

Figure 1
USGS Map
Former Johnson Town Garage
103 Pearl Street Johnson-VT



0.5 Miles



Imagery: 2016 NAIP

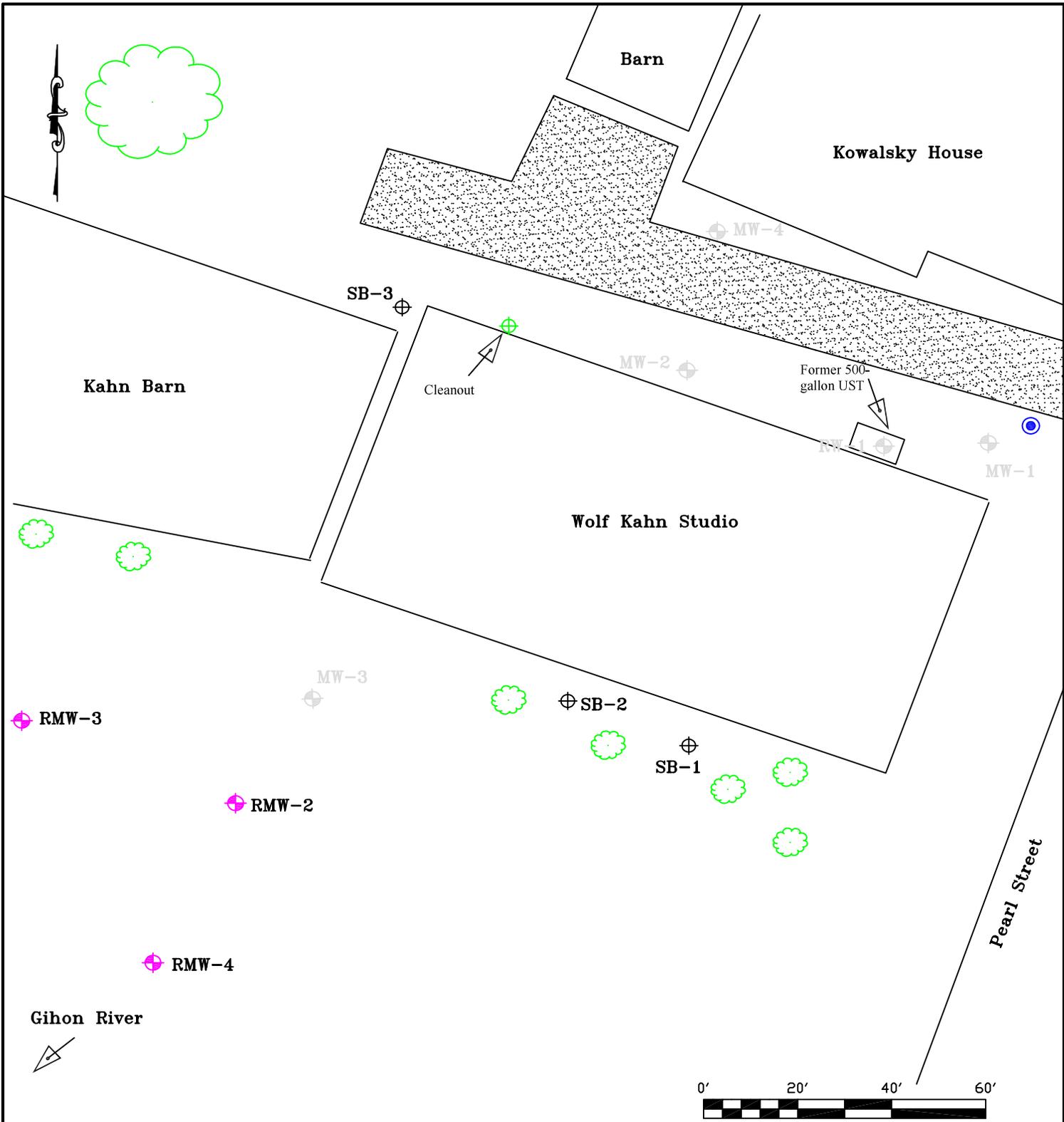
All Locations Are Approximate



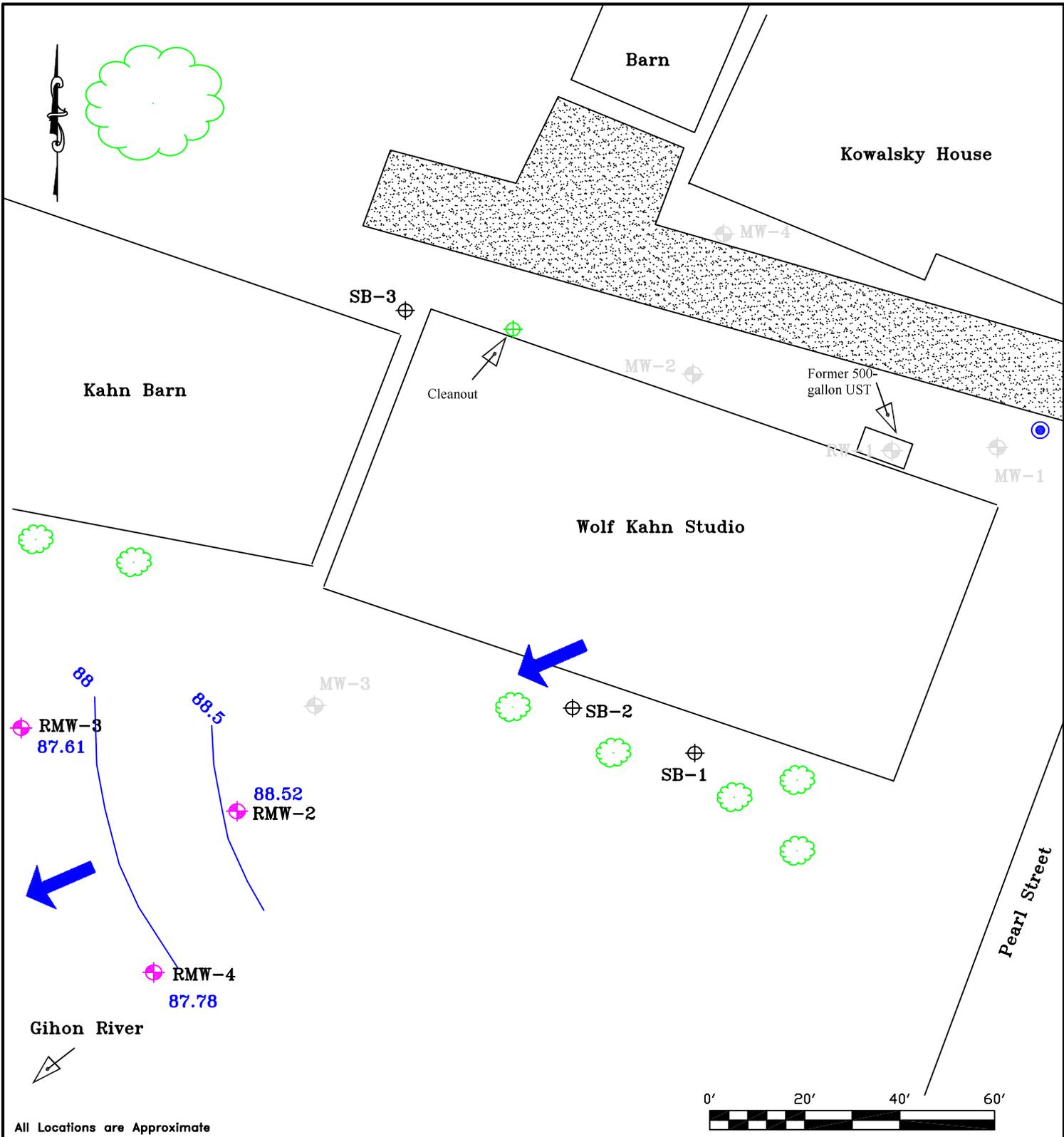
Site Coordinates: N 44° 38' 10.1" W 72° 40' 42.8" (NAD 83)

Subject Property	Streams, Rivers	Wetlands Class 1	Ground Water SP/ZONE 1
Private_Wells	Lakes	Wetlands Class 2	ZONE 2
Public_Water_Sources	Lakes		ZONE 3

Figure 2
Nearby Sensitive Receptors
Former Johnson Town Garage
103 Pearl Street
Johnson, VT



Legend: Monitoring Well Location Tree Soil Boring Location Utility Pole	Scale: bar scale	Date: 25 Aug. 2020
	File Name: 2020051Wolf.dwg	Drawn By: RJR
FIGURE 3. SITE PLAN (with monitoring well locations) Former Johnson Town Garage Pearl Street - Johnson, VT		
Ross Environmental Associates, Inc. P.O. Box 1533 Stowe, Vt 05672 (802) 253-4280		



All Locations are Approximate

Legend:	Monitoring Well Location	Tree
	Soil Boring Location	

Scale: bar scale

Date: 21 July 2021

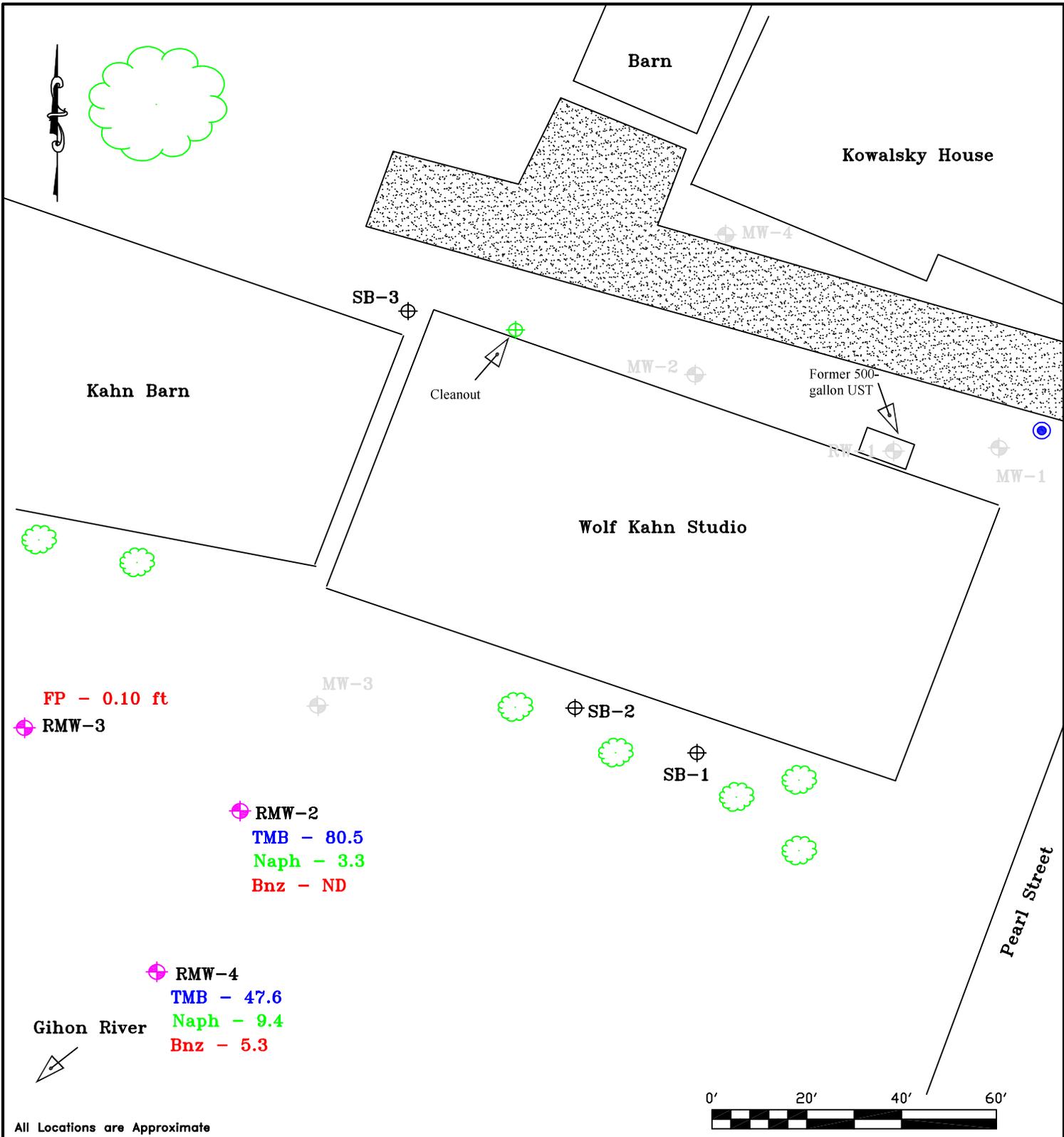
File Name: 2020051wolf.dwg

Drawn By: RJR



Ross Environmental Associates, Inc.
P.O. Box 1533 Stowe, Vt 05672
(802) 253-4280

FIGURE 4.
GROUNDWATER CONTOUR MAP
(Monitoring Date: 37 June 2023)
Former Johnson Town Garage
Pearl St. - Johnson, VT



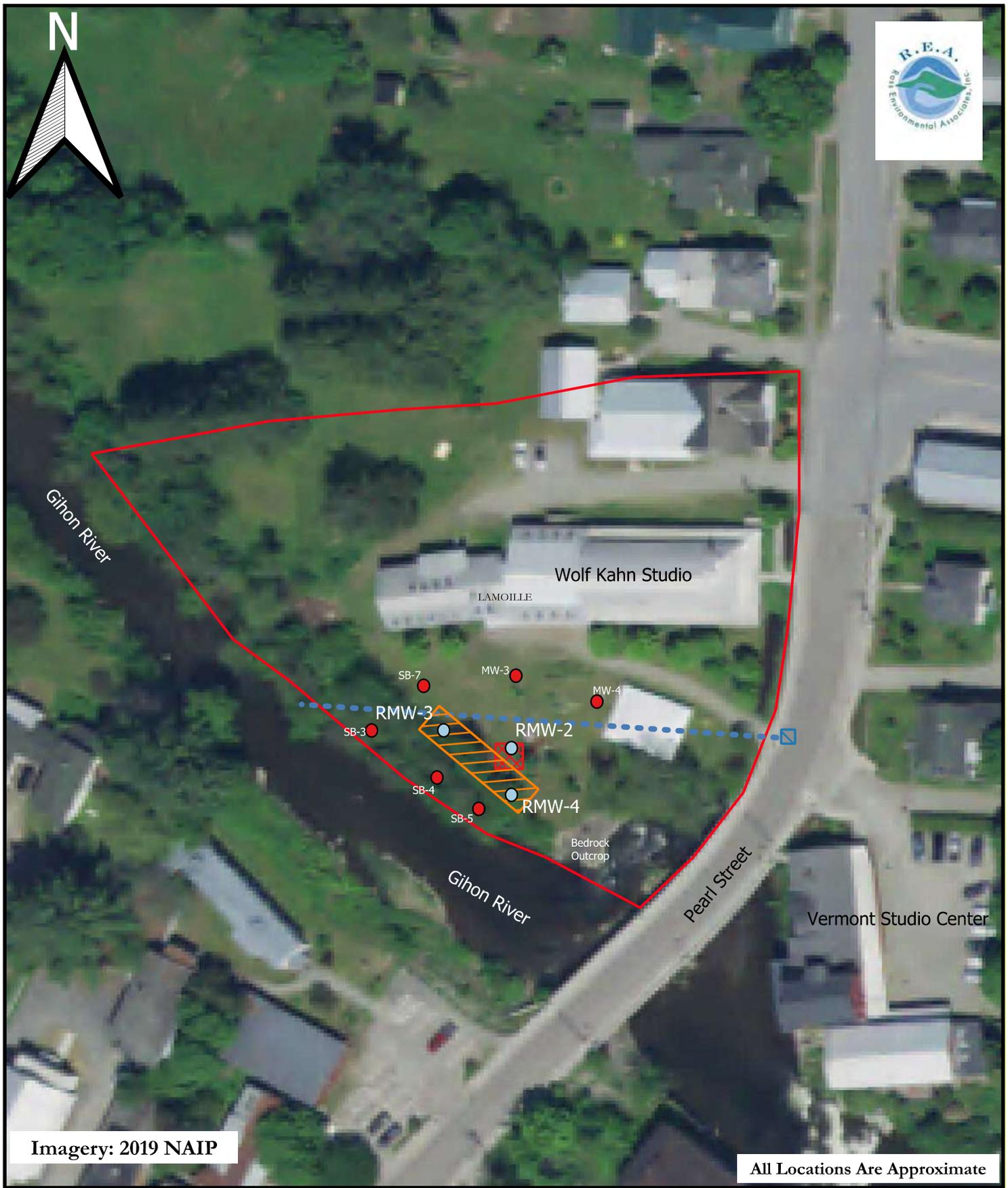
Legend:	Monitoring Well Location	Tree
----------------	--------------------------	------

Scale:	bar scale	Date:	21 July 2021
---------------	-----------	--------------	--------------

File Name:	2020051wolf.dwg	Drawn By:	RJR
-------------------	-----------------	------------------	-----

Ross Environmental Associates, Inc.
P.O. Box 1533 Stowe, Vt 05672
(802) 253-4280

FIGURE 5.
CONTAMINANT DISTRIBUTION
(Monitoring Date: 27 June 2023)
Former Johnson Town Garage
Pearl St. - Johnson, VT



Imagery: 2019 NAIP

All Locations Are Approximate

0 100 200 ft

Site Coordinates: N 44° 38' 10.3" W 72° 40' 43.5" (NAD 83)

Subject Property

Area of Concern

Catch Basin

Monitoring Well Location

Area of former UST

Stormwater line

former Soil Boring Location

Figure 6
Area of Concern
former Johnson Town Garage
103 Pearl Street
Johnson, Vermont

T A B L E S

TABLE 1
GROUND WATER ELEVATION CALCULATIONS

Former Johnson Town Garage
Vermont Studio Center
Johnson, Vermont

Monitoring Date: 27 June 2023

Well I.D.	Top of Casing Elevation (ft)	Depth to Product (feet, TOC)	Depth to Water (feet, TOC)	Product Thickness (feet)	Corrected Depth to Water (feet)	Water Table Elevation (ft)
RMW-2	98.31	---	9.79	---	---	88.52
RMW-3	97.62	10.00	10.10	0.10	10.01	87.61
RMW-4	98.57	---	10.79	---	---	87.78

Notes:

All values reported in feet relative to arbitrary site datum of 100.00 feet

**TABLE 2
GROUND-WATER ANALYTICAL RESULTS**

Former Johnson Town Garage
Johnson, Vermont

Monitoring Date: 27 June 2023

Sample ID	MTBE	Benzene	Toluene	Ethyl benzene	Total Xylenes	1,3,5 TMB	1,2,3 TMB	1,2,4 TMB	Naphthalene	n butyl benzene	isopropyl benzene	n-Propyl benzene	sec butyl benzene	t-butyl benzene	4-Isopropyl toluene	Total VOCs
Groundwater Samples																
RMW-2	ND<2.0	ND<0.5	ND <1.0	18.6	81.1	16.9	13.4	50.2	3.3	ND<1.0	2.2	5.3	ND<1.0	ND<1.0	ND<1.0	191.0
RMW-3	0.10 ft FREE PRODUCT DETECTED - NO SAMPLE COLLECTED															FP
RMW-4	ND<2.0	5.3	ND <1.0	15.0	11.1	6.4	10.1	31.1	9.1	3.2	10.0	19.8	4.4	ND<1.0	ND <1.0	125.5
VGES	11	5.0	1,000	700	10,000	23 combined			0.5	---	---	---	---	---	---	---
QA/QC Samples																
RMW-4	ND<2.0	6.1	ND <1.0	16.7	10.9	6.8	10.1	31.7	9.4	3.9	10.8	21.6	5.6	ND<1.0	1.2	134.8
Dup (RMW-4)	ND<2.0	5.3	ND <1.0	15.0	11.1	6.4	10.1	31.1	9.1	3.2	10.0	19.8	4.4	ND<1.0	ND <1.0	125.5
% Difference	---	13.1	---	10.2	1.8	5.9	0.0	1.9	3.2	17.9	7.4	8.3	21.4	---	---	6.9
Trip Blank	ND <2.0	ND <0.5	ND <1.0	ND<1.0	ND <2.0	ND <1.0	ND <1.0	ND <1.0	ND <0.5	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND

Notes: All results reported as micrograms per liter (ug/L). ND: None detected at indicated detection limit.
 UIP: Unidentified Peaks.
 Shaded values indicate exceedance of Vermont Groundwater Enforcement Standards (VGESs).
 1,3,5-TMB = 1,3,5-trimethylbenzene, 1,2,3-TMB = 1,2,3-trimethylbenzene and 1,2,4-TMB = 1,2,4-trimethylbenzene.

**TABLE 3
FIELD MEASUREMENT DATA**

Former Johnson Town Garage
Johnson, Vermont

Monitoring Date: 27 June 2023

Well ID	depth to water	sample time	Temperature (°C)	DO (mg/L)	Specific conductivity (µS/cm)	pH (su)	ORP (mV)	Comments
RMW-2	9.79	12:20	10.3	1.88	370	6.57	-54.3	purged dry, slow recharge
RWM-3	10.10	10:40	9.2	0.38	594	6.91	-128.4	slightly silty, petro odor, oil sheen in bucket on water, 0.10 ft free-phase
RMW-4	10.79	10:15	9.4	0.57	711	8.42	-193.4	initially very dark silty then clear. slight odor

Notes: pH reported in standard units (s.u).
 Specific conductivity reported in microsiemens per centimeter (µS/cm) or millisiemens per centimeter (mS/cm)
 Oxidation-reduction potential (ORP) reported in millivolts (mV).
 DO - Dissolved Oxygen

TABLE 4
Summary of Water Quality Data - Natural Attenuation

Former Johnson Town Garage
 Johnson, Vermont

Monitoring Date: 27 June 2023

Parameter	RMW-2	RMW-3	RMW-4
temperature (°C)	10.3	9.2	9.4
Carbon Dioxide	65	42	3.0
alkalinity	181	203	316
nitrate	0.3	ND< 0.040	ND< 0.040
sulfate	10.0	1.1	8.6
Methane	ND< 0.940	252	525
COD	190	130	48
ORP (mV)	-54.3	-128.4	-193.4
pH	6.57	6.91	8.42
DO	1.88	0.38	0.57
TOC	13.0	7.5	9.7
VOCs (ug/L)	191	19,446	125.5

Notes:

Results reported as milligrams per liter (mg/L), unless noted otherwise.

ND = Not detected above indicated detection limit.

0.10 feet of free product detected in RMW-3 on 6/27/2023. data from May 2022 used for graph.

**A
P
P
E
N
D
I
X

A**

CONCEPTUAL MODEL AND SIGNIFICANT FINDINGS

The following Conceptual Site Model (CSM) was developed in accordance with § 35-303 of the Investigation and Remediation of Contaminated Properties Rule (July 2019) using data from previous investigations and updated to include site specific data collected during this investigation. The CSM includes a discussion of the possible source(s) and nature of contamination discovered on site, hydrogeologic setting of the Site and surrounding area, contaminant fate mechanisms and transport pathways, and potential routes of exposure to nearby ecological and human receptors, if any.

A.1 Geology and Hydrogeology

Native surficial materials in the vicinity of the site are mapped as lake sand and recent alluvium deposits. Bedrock in the area is mapped as the Jay Peak Formation (CZj), which is Light-grayish-green, fine-grained, chlorite-muscovite-quartz phyllite or schist and quartzite, white quartzofeldspathic layers alternate with green chloritic phyllitic layers, locally albitic of Cambrian and Neoproterozoic in age. Several bedrock outcrops were observed along the Gihon River and bedrock refusal was encountered during the soil boring program.

Subsurface soils at the site consisted of well- and poorly-graded sands, gravelly sands, sand-silt mixtures, and silt extending to the top of bedrock. Groundwater was encountered at approximately between 8 and 12 feet bgs. Data collected during the KAS soil boring program suggests the surficial geology is consistent with the mapped unit. Groundwater flow beneath the site toward the west-southwest and appears to follow the site topography. Based on this information, a hydraulic connection may exist between the overburden and bedrock groundwater formations with seasonal fluctuations of groundwater between the overburden and bedrock formations.

A.2 Release Mechanisms

Subsurface petroleum impacts were first encountered in 1990 when two underground storage tanks (USTs) were removed from the Site; one 1,000-gallon gasoline tank and one 1,000-gallon diesel tank. The tanks were reportedly located on the south side of the property, about 30 feet from the Gihon River. Contaminated soils and groundwater were observed during excavation of the tanks with photoionization detector (PID) readings of 100 to 250 parts per million (ppm). At that time, approximately 20 yards of contaminated soils were excavated and taken to the Johnson Town Landfill. Based on available information, the petroleum contamination identified during removal of USTs, is the likely source of petroleum contamination discovered along the Gihon River.

A.3 Nature of Contaminants and Distribution

During the soil boring program completed by KAS in March 2020, PID readings on subsurface soils ranged between 0.2 and 1,358 ppmv. Removal of petroleum contaminated soil during the UST closure has greatly reduced the threat to nearby receptors from the residual source area; however, residual petroleum contamination remains in the area of the site previously occupied by the former Town Garage.

Subsequent groundwater sampling completed in August 2020, identified the presence of two possible source areas on site, one related to the Wolf Kahn Studio UST and the other related to the former Johnson Town Garage (SMS Site # #90-0657). Review of the groundwater analytical results for the August 2020 sampling event does not show a direct connection between these two sites, but the data was inconclusive since two monitoring wells located between the two sites were dry at the time of the sampling event. The chemical pattern and contaminant distribution is similar in the groundwater samples collected from both sites; however, the highest dissolved phase concentration was detected in the RMW-3 sample located downgradient of the Wolf Kahn Studio UST system. Due to the shallow depth to bedrock and visible bedrock outcrops along the Gihon River, dissolved-phase petroleum contamination may extend into the underlying bedrock formation.

Approximately 0.10 feet of free product was observed in RMW-3 indicating the presence of an apparent smear zone in the area of the site. The extreme precipitation events in the spring and early summer of 2023 may have caused groundwater levels to extend into a smear zone above the water table, which has liberated free-phase petroleum.

A.4 Sensitive Receptor Evaluation

Based on the current CSM, potential exposure pathways to human and/or ecological receptors are evaluated below. The Vermont Agency of Natural Resources Atlas (NRA) was utilized to search for potential sensitive receptors within 0.5-mile of the Site.

A.4.1 Soil

Information collected during the KAS soil boring program in March 2020 indicate “Soils observed in the borings consisted primarily of well- and poorly-graded sands, gravelly sands, sand-silt mixtures, and silt. Bedrock was not encountered in any soil borings and exploration ended between 5.0 and 20.0 ft bgs depending on the boring. Volatile Organic Compounds (VOCs) as measured with a photoionization detector (PID) ranged from 0.2 to 1,358 parts per million by volume (ppm) from the soil borings. The highest PID reading was measured in soil boring SB-2 (later completed as RMW-3) approximately 40 feet west of the former underground storage tank (UST) area. Strong

petroleum odors, dark staining, and high PID readings were encountered in many borings, indicating widespread contamination at the Site.”

Following the UST removal in 1990, approximately 20 cubic yards of PCS were removed from the excavation and transported to the Johnson town landfill. To date, no other PCS has been removed from the site.

Based on current site use and review of field observations, the threat of direct contact exposure to petroleum contaminated soil is not considered to be an issue at this time. The removal of 20 cubic yards of PCS has greatly reduced the threat to soil and the underlying groundwater formation; however, residual contamination remains on site within 20 feet of the Gihon River in the area between RMW-3 and RMW-4.

A.4.2 Soil Vapor

The area of the former Johnson Town area is currently undeveloped open land. During the KAS soil boring program, PID readings on soil samples collected from the subsurface ranged between 0.2 to 1,358 ppm.

Based on this information, the threat of vapor intrusion into the building is considered to be moderate to low due to the possible contaminant migration beneath the building; however, removal of approximately 15.5 tons of PCS from the UST excavation has greatly reduced the threat to indoor air. In addition, no buildings are located in the area of residual petroleum contamination.

A.4.3 Groundwater

Based on available information, the underlying groundwater formation in the immediate vicinity of the former UST on the north side of the Wolf Kahn Studio and in the area of the former Johnson Town Garage have been impacted by petroleum compounds. Review of the groundwater analytical results for the August 2020 June 2021 and May 2022 sampling events do not show a direct connection between these two sites. No petroleum contamination was detected in the monitoring wells adjacent to the former UST at the Wolf Kahn Studio; however, the dissolved-phase concentrations detected in the RMW-3 sample, located in the area of the former Johnson Town Garage, have increased significantly since the August 2020 sampling event.

Approximately 0.10 feet of free product was observed in RMW-3 indicating the presence of an apparent smear zone in the area of the site. The extreme precipitation events in the spring and early summer of 2023 may have caused groundwater levels to extend into a smear zone above the water table, which has liberated free-phase petroleum.

Groundwater is not the primary source of drinking water for the Johnson area. Review of the Vermont NRA shows only one private drinking water supply well within 0.5 miles of the subject property.

Based on available information, the threat to nearby drinking water supplies is considered to be very low, no completed pathway has been identified between residual contamination at the site and the nearby drinking water wells.

A.4.4 Surface Water

The nearest surface water body to the subject property is the Gihon River, which is located within 30 feet to the south and west of the former Johnson Town Garage. Available information indicates groundwater flows toward the Gihon River and that groundwater contamination related to the former Johnson Town Garage site is located within 30 feet of the river bank.

Based on available information, the Gihon River is threatened by contamination related to the former Johnson Town Garage site. Current data regarding the potential hydraulic connection between the underlying ground water formation and Gihon River is inconclusive and the possible threat to the Gihon River should be evaluated further.

A.4.5 Utility Corridors

Based on available information no underground utilities are located downgradient of the former Johnson Town Garage. A stormwater line is reported to pass just to the north of RMW-2 and RMW-3, but no evidence of an impact to this stormwater lined has been documented. To date, no utilities in the general area of the site appear to have been impacted by Site-derived contaminants. Based on available information, the threat to underground utilities is considered to be low; however, the stormwater line and associated outfall pipe should be inspected periodically.

A.4.6 Ecological Receptors

Using the VT ANR Natural Resource Atlas, *R.E.A.* determined that no ecological receptors are located within 1,000 feet of the Site, except for a habitat block located approximately 300 feet to the northeast and a Class 2 wetland located along the Gihon River about 650 feet to the southwest. This habitat block has a threat weighted score of 5 and a final weighted score of 4.

Neither the habitat block nor the wetland are located directly downgradient of the site. Based on available site information and relative location of these features to the site, the risk of an impact to these ecological receptors is expected to be low.

**A
P
P
E
N
D
I
X

B**

SOIL BORING LOG

Soil Boring No: SB-1, converted to RMW-2



Former Johnson Town Garage
Johnson, VT

KAS Project #: 406050210	Date Advanced: 3/18/2020	
Drilled by: KAS, Inc.	Drilling Method: Geoprobe - Dual Tube	
Driller: Eric Deratzian	Boring Diameter: 2"	
Supervised by: Haley Grigel	Development Method: Bailers	
Logged by: Haley Grigel	Screened Length: 10 feet	
TOC Elevation: 93.98'	Lat/Long: 1593916.31 / 778708.53	

Letter Symbol
Graphic Symbol

Well Construction	Pen/Rec (*)	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol
	Blow Count	PID (ppmv)			
<div style="display: flex; align-items: center;"> <div style="width: 20px; text-align: center;">Grade = 0</div> </div>	48/27	0-4	Grass Topsoil; organic matter		
		0.2	Dry, fine sand with gravel 80% sand, 20% gravel	SW	
		0.3	Moist sand with gravel and silt 70% sand, 15% gravel, 15% silt	SW	
	48/20	4-8	Moist silt	ML	
		0.3	100% silt		
		0.4	Moist sand-gravel mixture with other materials 50% sand, 50% gravel Rust, white, gray colors; possibly brick, ash, white fill	GW	
	48/33	8-12	Saturated silt	ML	
		0.4	100% silt		
	48/46	12-16	Saturated silt	ML	
		0.5	100% silt		
		0.6	Saturated sand with silt 85% sand, 15% silt	SM	
		0.6			

Perched groundwater encountered at 3', static at 8'
Exploration ended at 16' bg
Converted to monitoring well RMW-2

Legend

- | | |
|--|--|
| <ul style="list-style-type: none"> Road Box with Bolt Down Cover, Set in Cement. Existing Surface. Bentonite Seal Placed in Annulus. Grade #1 Silica Sand Pack Placed in Annulus. Drill Cuttings Placed in Annulus. NA Not Applicable | <ul style="list-style-type: none"> Locking Plug. 1" ID, Schedule 40 PVC Riser. 1" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen Plug Point Approximate Water Level During Drilling Perched Water Level During Drilling |
|--|--|

SOIL BORING LOG

Soil Boring No: SB-2, converted to RMW-3



Former Johnson Town Garage
Johnson, VT

KAS Project #: 406050210	Date Advanced: 3/18/2020
Drilled by: KAS, Inc.	Drilling Method: Geoprobe - Dual Tube
Driller: Eric Deratzian	Boring Diameter: 2"
Supervised by: Haley Grigel	Development Method: Bailers
Logged by: Haley Grigel	Screened Length: 10 feet
TOC Elevation: 93.14'	Lat/Long: 1593879.06 / 778713.84

Letter Symbol
Graphic Symbol

Depth (ft)	Well Construction	Pen/Rec (")	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
		Blow Count	PID (ppmv)	Grass			
0.5		48/28	0-4	Dry sand with gravel and silt	SW		
1.0			16.1	70% sand, 15% gravel, 15% silt			
4.5		48/28	4-8	Moist silt with sand	ML		
5.0			69.0	70% silt, 20% sand, 10% gravel Moderate petroleum odor			
6.5			1,358	Moist fine sand with silt	SM		
7.0				80% sand, 20% silt Strong petroleum odor			
8.5		48/18	8-12	Saturated silt	ML		
9.0			655	100% silt			
9.5				Moderate petroleum odor			
12.5		48/48	12-16	Saturated silt	ML		
13.0			11.5	100% silt			
13.5				Moderate petroleum odor 12-13 dark staining			
16.0				3.5			

Exploration ended at 16' bg
Groundwater encountered at 8' bg
Converted into monitoring well RMW-3

Legend

- | | |
|--|--|
| <ul style="list-style-type: none"> Road Box with Bolt Down Cover, Set in Cement. Existing Surface. Bentonite Seal Placed in Annulus. Grade #1 Silica Sand Pack Placed in Annulus. Drill Cuttings Placed in Annulus. NA Not Applicable | <ul style="list-style-type: none"> Locking Plug. 1" ID, Schedule 40 PVC Riser. 1" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen Plug Point Approximate Water Level During Drilling
Perched Water Level During Drilling |
|--|--|

SOIL BORING LOG

Soil Boring No: SB-4



Former Johnson Town Garage
Johnson, VT

KAS Project #: 406050210	Date Advanced: 3/18/2020	
Drilled by: KAS, Inc.	Drilling Method: Geoprobe - Dual Tube	
Driller: Eric Deratzian	Boring Diameter: 2"	
Supervised by: Haley Grigel	Development Method: N/A	
Logged by: Haley Grigel	Screened Length: N/A	
TOC Elevation: N/A	Lat/Long: 1593875.75 / 778697.34	

Letter Symbol
Graphic Symbol

	Well Construction	Pen/Rec (")	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
Grade = 0				Grass			
0.5		48/29	0-4	Topsoil; organic matter			
1.0							
1.5				0.7	Dry sand with silt and gravel 70% sand, 15% gravel, 15% silt	SW	
2.0							
2.5							
3.0							
3.5							
4.0							
4.5			48/5	4-8	Moist sand with silt and gravel		
5.0				0.7	70% sand, 15% gravel, 15% silt	SW	
5.5							
6.0							
6.5							
7.0							
7.5							
8.0							
8.5		48/6	8-12	Saturated fine sand with silt			
9.0			743.9	60% sand, 40% fines Strong petroleum odor Dark staining throughout	SM		
9.5							
10.0							
10.5							
11.0							
11.5							
12.0							
12.5		48/35	12-16	Saturated coarse sand			
13.0			270.4	100% sand; strong petroleum odor; staining	SP		
13.5				Saturated silt			
14.0				100% silt	ML		
14.5				High water retention			
15.0							
15.5							
16.0			14.7				

GW encountered at 8' bg
Exploration ended at 16' bg

Legend

- Drill Cuttings Placed in Annulus.
- Approximate Water Level During Drilling
- NA Not Applicable

SOIL BORING LOG

Soil Boring No: SB-5



Former Johnson Town Garage
Johnson, VT

KAS Project #: 406050210	Date Advanced: 3/18/2020	
Drilled by: KAS, Inc.	Drilling Method: Geoprobe - Dual Tube	
Driller: Eric Deratzian	Boring Diameter: 2"	
Supervised by: Haley Grigel	Development Method: N/A	
Logged by: Haley Grigel	Screened Length: N/A	
TOC Elevation: N/A	Lat/Long: 1593894.17 / 778685.08	

	Well Construction	Pen/Rec (")	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
		Blow Count	PID (ppmv)				
Grade = 0				Grass			
0.5		48/19	0-4	Topsoil; organic matter			
1.0							
1.5				3.0	Dry medium sand with gravel 75% sand, 25% gravel	SW	
2.0							
2.5				2.2	Dry silt with sand 70% fines, 20% sand, 10% gravel	ML	
3.0							
3.5							
4.0							
4.5			48/24	4-8	Dry coarse sand with gravel 70% sand, 20% gravel, 10% silt	SW	
5.0				6.6	Moderate petroleum odor		
5.5							
6.0				10.1	Dry silt with sand 85% silt, 15% sand	ML	
6.5					Weak petroleum odor		
7.0							
7.5				293	Dry coarse sand with gravel 100% sand; Moderate petroleum odor	SP	
8.0							
8.5			8-12	Moist to wet medium sand	SP		
9.0			479	100% sand Moderate petroleum odor			
9.5							
10.0							
10.5							
11.0							
11.5							
12.0	GW 12' ▼						
12.5			12-16	Saturated coarse sand with gravel	SW		
13.0			501.8	80% sand, 20% gravel Strong petroleum odor			
13.5							
14.0			22.3	Saturated silt 100% fines	ML		
14.5				Strong petroleum odor			
15.0				Sheen on groundwater			
15.5							
16.0			5.7				

GW encountered at 12' bg
Exploration ended at 16' bg

Legend

- Drill Cuttings Placed in Annulus.
- Approximate Water Level During Drilling
- NA Not Applicable

SOIL BORING LOG

Soil Boring No: SB-6, converted into MW-4



Former Johnson Town Garage
Johnson, VT

KAS Project #: 406050210	Date Advanced: 3/18/2020	
Drilled by: KAS, Inc.	Drilling Method: Geoprobe - Dual Tube	
Driller: Eric Deratzian	Boring Diameter: 2"	
Supervised by: Haley Grigel	Development Method: Bailer	
Logged by: Haley Grigel	Screened Length: 10 feet	
TOC Elevation: 94.09'	Lat/Long: 1593886.14 / 778713.03	

	Well Construction	Pen/Rec (")	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
0.5		48/25	0-4	Grass Topsoil; organic matter			
1.0			2.6	Dry medium sand with gravel 75% sand, 25% gravel	SW		
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5			48/27	1.2	Dry medium sand with gravel 75% sand, 25% gravel	SW	
5.0							
5.5							
6.0							
6.5				1.3	Dry silt with fine sand 70% silt, 30% sand	ML	
7.0							
7.5							
8.0							
8.5		48/27	2.0	Dry medium sand 100% sand Weak petroleum odor	SP		
9.0							
9.5							
10.0							
10.5							
11.0	GW 11' ▼						
11.5			505.9	Saturated coarse sand 100% sand; Strong petroleum odor; Staining	SP		
12.0							
12.5		48/29	489.1	Saturated coarse sand with gravel 60% sand, 40% gravel; River pebbles; Staining; Strong petroleum odor	SW		
13.0							
13.5			2.6	Saturated silt 100% silt	ML		
14.0							
14.5							
15.0							
15.5							
16.0			2.8				

GW encountered at 11' bg
Exploration ended at 16' bg
Converted into monitoring well MW-4

Legend

- | | |
|--|--|
| <ul style="list-style-type: none"> Road Box with Bolt Down Cover, Set in Cement. Existing Surface. Bentonite Seal Placed in Annulus. Grade #1 Silica Sand Pack Placed in Annulus. Drill Cuttings Placed in Annulus. NA Not Applicable | <ul style="list-style-type: none"> Locking Plug. 1" ID, Schedule 40 PVC Riser. 1" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen Plug Point Approximate Water Level During Drilling Perched Water Level During Drilling |
|--|--|

SOIL BORING LOG

Soil Boring No: SB-7



Former Johnson Town Garage
Johnson, VT

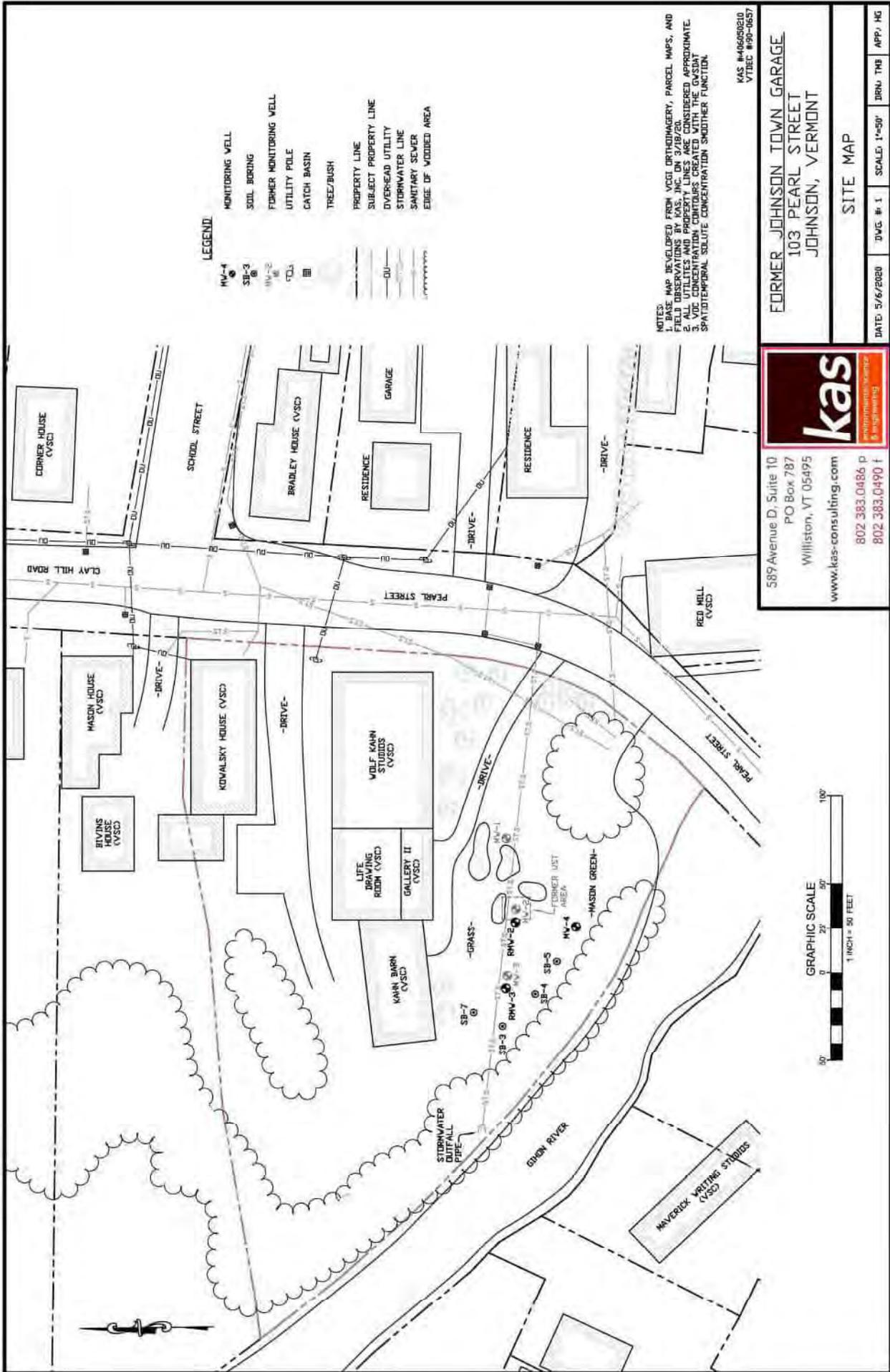
KAS Project #: 406050210	Date Advanced: 3/18/2020	Letter Symbol	Graphic Symbol
Drilled by: KAS, Inc.	Drilling Method: Geoprobe - Dual Tube		
Driller: Eric Deratzian	Boring Diameter: 2"		
Supervised by: Haley Grigel	Development Method: N/A		
Logged by: Haley Grigel	Screened Length: N/A		
TOC Elevation: N/A		Lat/Long: 1593865.19 / 778732.09	

	Well Construction	Pen/Rec (")	Interval (')	Soil Characteristics			
		Blow Count	PID (ppmv)				
0.5		48/35	0-4	Grass Topsoil; organic matter			
1.0							
1.5				3.1	Dry sand with silt and gravel 70% sand, 15% gravel, 15% silt	SW	
2.0				2.5	Dry silt 90% silt, 10% sand	ML	
2.5							
3.0							
3.5							
4.0							
4.5		48/9	1.6	Saturated silt 100% silt	ML		
5.0							

Perched GW encountered at 4' bg
Refusal at 5' bg

Legend

- | | |
|-----------------------------------|---|
| Drill Cuttings Placed in Annulus. | Approximate Water Level During Drilling |
| NA Not Applicable | Perched Water Level During Drilling |





BORING / WELL IDENTIFICATION: MW-1

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: 12.0'

Boring Depth: 12'

Installation Date: July 29, 2020

Depth to Water (during drilling): 8.0'

Job Number: 2020-051

Screen Diameter: 2"

Depth: 2.0-12.0'

REA Representative: B. Ross

Screen Type Size: 0.01' slotted schedule 40 PVC

Drilling Company: Technical Driling Services

Riser Diameter: 2"

Depth: 0-2.0'

Sampling Method: GeoProbe - 7822DDT

Riser Type Size: Schedule 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			Top 2" - top soil			
	0-5	24"	SAND & GRAVEL			Concrete
				0.0		Native Material
5			fine SAND & SILT, trace Gravel (moist)			Bentonite
	5-10	36"		0.0		Filter Sand
			fine SAND & GRAVEL with oxidized layers (wet)			Riser
10				0.0		Screen
	10-15	36"	light brown fine SAND			Water Level
			brown SAND & GRAVEL with broken rock (Saturated)			
			refusal @ 13' - Well set at 12' bgs.			
15						
20						
25						
PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



BORING / WELL IDENTIFICATION: MW-2

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: 14.0'

Boring Depth: 15'

Installation Date: July 29, 2020

Depth to Water (during drilling): 8.0'

Job Number: 2020-051

Screen Diameter: 2"

Depth: 4.0-14.0'

REA Representative: B. Ross

Screen Type/Size: 0.01' slotted schedule 40 PVC

Drilling Company: Technical Drilling Services

Riser Diameter: 2"

Depth: 0-4.0'

Sampling Method: GeoProbe - 7822DDT

Riser Type/Size: Schedule 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend	
			Top 2" - top soil			Concrete Native Material Bentonite Filter Sand Riser Screen Water Level	
	0-5	32"	brown fine SAND & GRAVEL	0.0			
5			brown fine SAND and SILT				
	5-10	40"	gray fine SAND (wet)	0.0			
			gray medium to fine SAND	0.0			
10							
	10-15	48"	gray/brown SAND & GRAVEL with oxidized layers (Saturated)	0.0			
15							
			Well set at 14' bgs.				
20							
25							
PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:	
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE		30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE		>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE			



BORING / WELL IDENTIFICATION: MW-3

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: 8.0'

Boring Depth: 8'

Installation Date: July 29, 2020

Depth to Water (during drilling): 8.0'

Job Number: 2020-051

Screen Diameter: 2"

Depth: 3.0-8.0'

REA Representative: B. Ross

Screen Type/Size: 0.01' slotted schedule 40 PVC

Drilling Company: Technical Drilling Services

Riser Diameter: 2"

Depth: 0-3.0'

Sampling Method: GeoProbe - 7822DDT

Riser Type/Size: Schedule 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			Top 4" top soil			<ul style="list-style-type: none"> Concrete Native Material Bentonite Filter Sand Riser Screen Water Level
	0-5	38"	brown fine SAND & SILT	0.0		
5			gray fine SAND, some Gravel (Moist) weathered rock in tip of barrel	0.0		
	5-10	20"				
10			Refusal - Well set at 8' bgs.			
15						
20						
25						

PROPORTIONS USED

BLOW COUNT (COHESIVE SOILS)

BLOW COUNT (GRANULAR SOILS)

NOTES:

AND 33-50%
SOME 20-33%

LITTLE 10-20%
TRACE 0-10%

<2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF

8-15 STIFF
15-30 VERY STIFF
>30 HARD

0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE

30-50 DENSE
>50 VERY DENSE

IonScience Tiger



BORING / WELL IDENTIFICATION: MW-4

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: 8.0'

Boring Depth: 9.5'

Installation Date: July 29, 2020

Depth to Water (during drilling): 7.0'

Job Number: 2020-051

Screen Diameter: 1"

Depth: 3.0-8.0'

REA Representative: B. Ross

Screen Type Size: 0.01' slotted schedule 40 PVC

Drilling Company: Technical Driling Services

Riser Diameter: 1"

Depth: 0-3.0'

Sampling Method: GeoProbe - 7822DDT

Riser Type Size: Schedule 40 PVC

Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			Top 4" top soil			Concrete
	0-5	24"	brown SAND & GRAVEL			Native Material
5			brown fine SAND some Silt	0.0		Bentonite
	5-10	18"	brown SAND & GRAVEL (oxidized)			Filter Sand
		▼	weathered rock in top of barrel	0.0		Riser
10			Well set at 8' bgs.			Screen
						Water Level
15						
20						
25						
PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



BORING / WELL IDENTIFICATION: RW-1

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: 14.0' Boring Depth: 14' Installation Date: July 29, 2020

Depth to Water (during drilling): 6.5' Job Number: 2020-051

Screen Diameter: 4" Depth: 4.0-14.0' REA Representative: B. Ross

Screen Type/Size: 0.01' slotted schedule 40 PVC Drilling Company: Technical Drilling Services

Riser Diameter: 4" Depth: 0-4.0' Sampling Method: GeoProbe - 782DDT

Riser Type/Size: -- Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			installed in UST excavation - Fill			Concrete
						Native Material
5			petroleum odor			Bentonite
			Auger cuttings place in soil stockpile			Filter Sand
						Riser
10						Screen
						Water Level
15			Well set at 14' bgs.			
20						
25						
PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



BORING / WELL IDENTIFICATION: SB-3

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: Boring Depth: 10' Installation Date: July 29, 2020

Depth to Water (during drilling): Job Number: 2020-051

Screen Diameter: Depth: REA Representative: B. Ross

Screen Type/Size: Drilling Company: Technical Drilling Services

Riser Diameter: Depth: Sampling Method: GeoProbe - 782DDT

Riser Type/Size: -- Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			Top 4" - top soil			Concrete
	0-5	30"	brown fine SAND	0.0		Native Material
5	5-10	30" ▼		0.0		Bentonite
			gray SAND & GRAVEL (dry)	0.0		Filter Sand
10				0.0		Riser
			refusal at 10 feet			Screen
						Water Level
15						
20						
25						
PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



BORING / WELL IDENTIFICATION: SB-2

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: Boring Depth: 6' Installation Date: July 29, 2020

Depth to Water (during drilling): Job Number: 2020-051

Screen Diameter: Depth: REA Representative: B. Ross

Screen Type/Size: Drilling Company: Technical Drilling Services

Riser Diameter: Depth: Sampling Method: GeoProbe - 7822DDT

Riser Type/Size: -- Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			Top 6" - top soil			Concrete
	0-5	30"	gray/brown SAND & GRAVEL	0.0		Native Material
5			-----			Bentonite
	5-10	30"	dark brown SAND & GRAVEL	0.0		Filter Sand
			refusal at 6 feet			Riser
10						Screen
						Water Level
15						
20						
25						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		



BORING / WELL IDENTIFICATION: SB-1

Site Name: VT Studio Center - Wolf Kahn Studio

Site Location: Johnson, Vermont

Well Depth: Boring Depth: 6' Installation Date: July 29, 2020

Depth to Water (during drilling): Job Number: 2020-051

Screen Diameter: Depth: REA Representative: B. Ross

Screen Type/Size: Drilling Company: Technical Drilling Services

Riser Diameter: Depth: Sampling Method: GeoProbe - 7822DDT

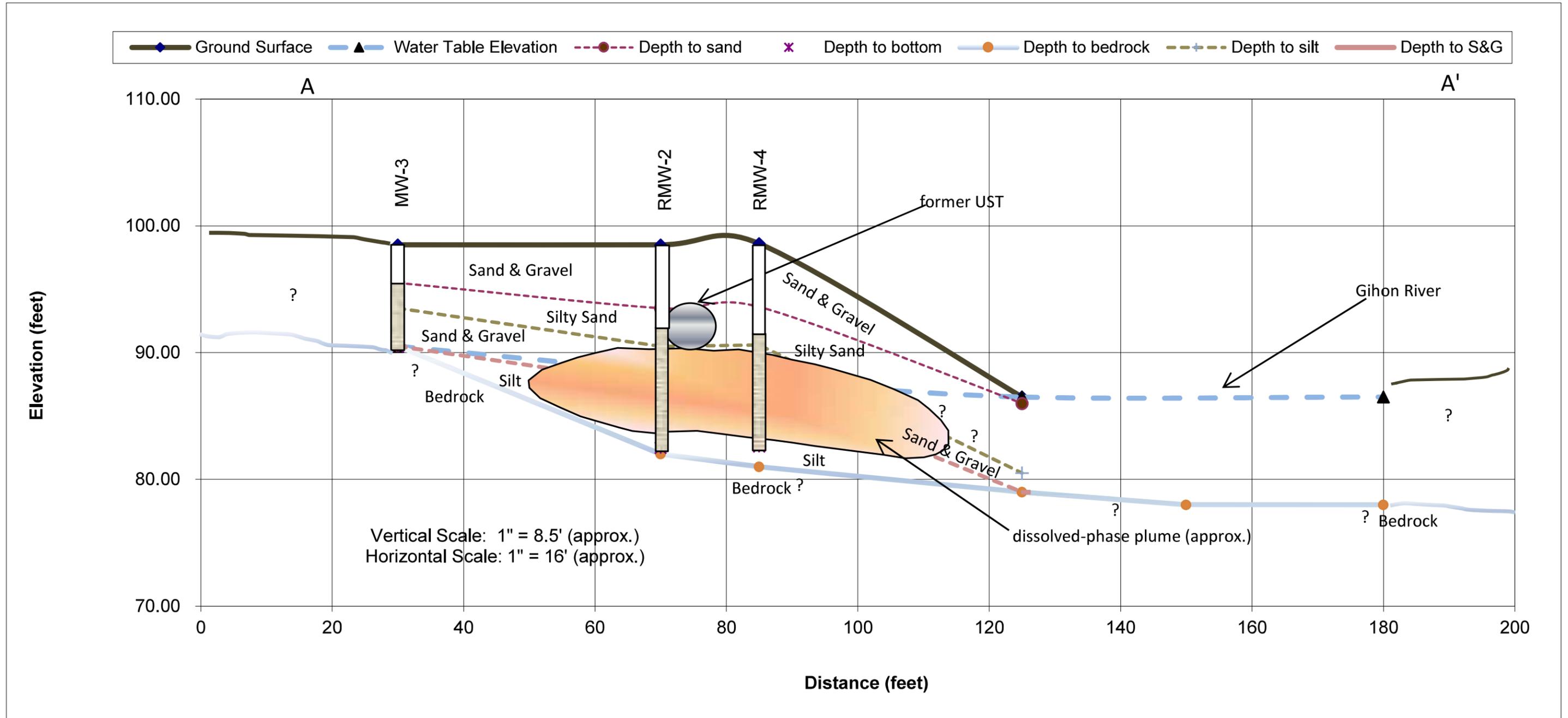
Riser Type/Size: -- Reference Point (RP):

Depth (ft)	Sample Depth (ft)	Blows/6" and Recovery (in)	Sample Description / Notes	PID (ppm)	Well Profile	Legend
			Top 6" - top soil			Concrete
	0-5	30"	gray/brown SAND & GRAVEL (moist)	0.0		Native Material
5			-----			Bentonite
	5-10	30"	brown fine SAND	0.0		Filter Sand
			refusal at 6 feet			Riser
10						Screen
						Water Level
15						
20						
25						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		NOTES:
AND 33-50%	LITTLE 10-20%	<2 VERY SOFT	8-15 STIFF	0-4 VERY LOOSE	30-50 DENSE	IonScience Tiger
SOME 20-33%	TRACE 0-10%	2-4 SOFT	15-30 VERY STIFF	4-10 LOOSE	>50 VERY DENSE	
		4-8 MEDIUM STIFF	>30 HARD	10-30 MEDIUM DENSE		

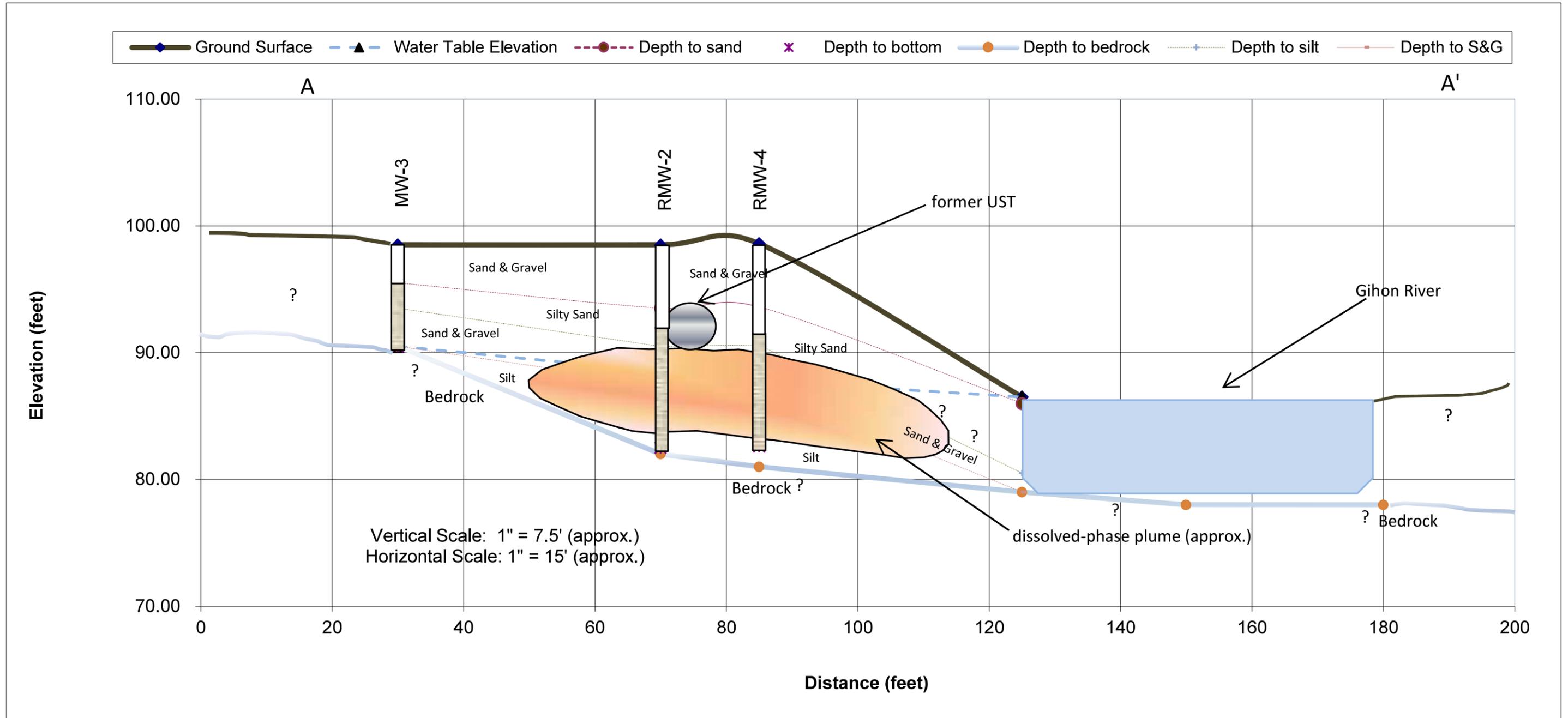
**Geologic Cross Section
A - A'**

Former Johnson Town Garge
Johnson, Vermont



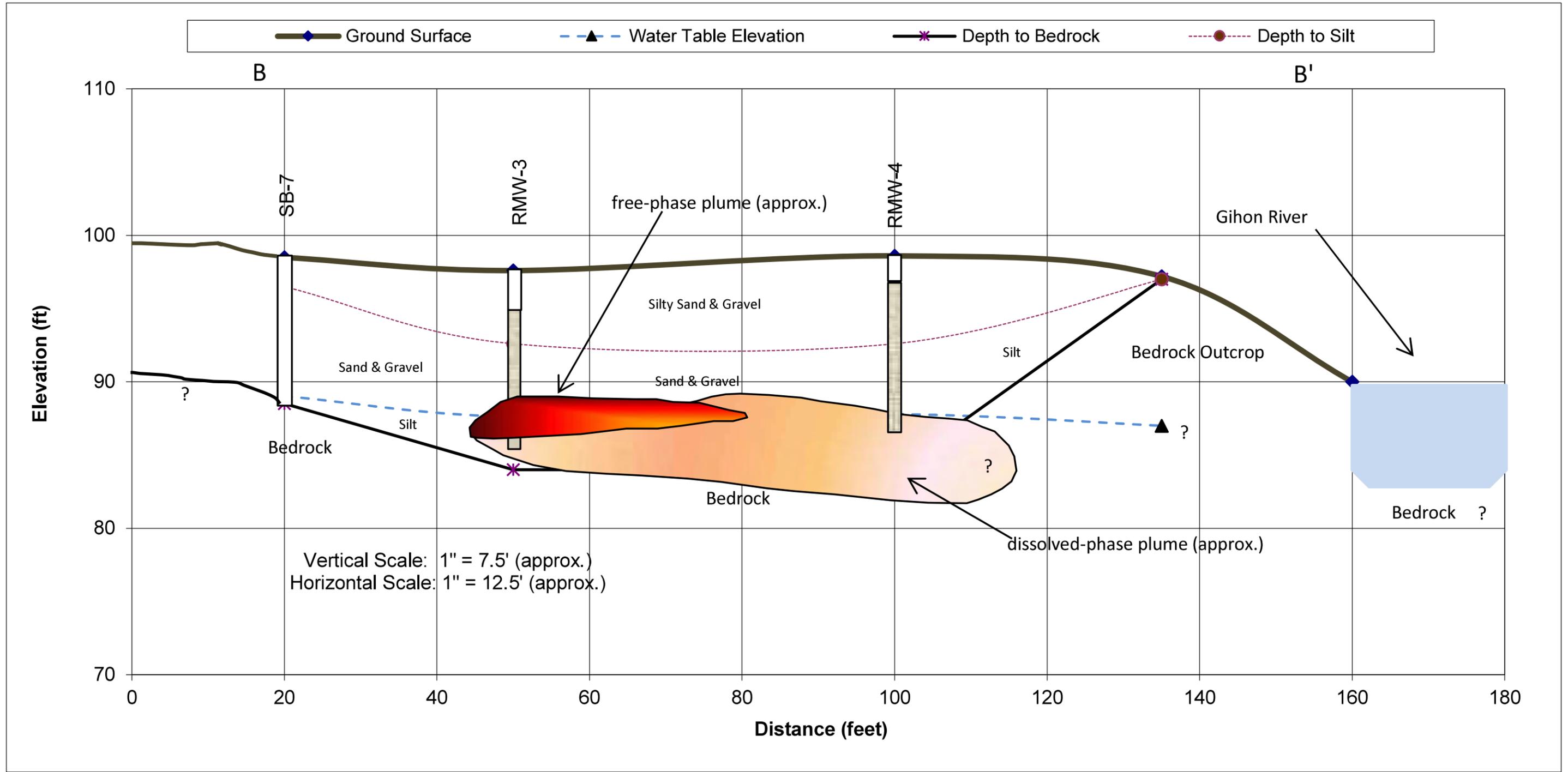
**Geologic Cross Section
A - A'**

Former Johnson Town Garge
Johnson, Vermont



**Geologic Cross Section
B-B'**

Former Johnson Town Garage
Johnson, Vermont



**A
P
P
E
N
D
I
X

C**

Ross Environmental Associates
PO Box 1533 090219
Stowe, VT 05672

Atten: Bob Ross

PROJECT: Former Johnson Town Garage
WORK ORDER: **2306-17960**
DATE RECEIVED: June 28, 2023
DATE REPORTED: July 17, 2023
SAMPLER: B. Ross

Laboratory Report

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. All required method quality control elements including instrument calibration were performed in accordance with method requirements and determined to be acceptable unless otherwise noted.

The column labeled Lab/Tech in the accompanying report denotes the laboratory facility where the testing was performed and the technician who conducted the assay. A "W" designates the Williston, VT lab under NELAC certification ELAP 11263; "R" designates the Lebanon, NH facility under certification NH 2037 and "N" the Plattsburgh, NY lab under certification ELAP 11892. "Sub" indicates the testing was performed by a subcontracted laboratory. The accreditation status of the subcontracted lab is referenced in the corresponding NELAC and Qual fields. The Williston, VT facility is also ISO/IEC 17025:2017 accredited for Total Coliform and E coli by SM9223B.

The NELAC column also denotes the accreditation status of each laboratory for each reported parameter. "A" indicates the referenced laboratory is NELAC accredited for the parameter reported. "N" indicates the laboratory is not accredited. "U" indicates that NELAC does not offer accreditation for that parameter in that specific matrix. Test results denoted with an "A" meet all National Environmental Laboratory Accreditation Program requirements except where denoted by pertinent data qualifiers. Test results are representative of the samples as they were received at the laboratory

Endyne, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose.

Reviewed by:



Harry B. Locker, Ph.D.
Laboratory Director

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
 PROJECT: Former Johnson Town Garage

WORK ORDER: 2306-17960
 DATE RECEIVED: 06/28/2023

001 Site: RMW-4 Date Sampled: 6/27/23 Time: 10:15

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Alkalinity, as CaCO ₃ , to pH 4.5	316	mg/L, pH 4	SM 2320B-2011	7/12/23	W JSS	N	E
Total Organic Carbon	9.7	mg/L	SM 5310C-2014	7/13/23	N CAL	A	
COD	48	mg/L	EPA 410.4	7/3/23	N MAP	A	
Nitrate as N	< 0.040	mg/L	EPA 300.0	6/28/23 16:39	W ECM	A	
Sulfate	8.6	mg/L	EPA 300.0	6/28/23 16:39	W ECM	A	
VOC w/ Oxygenates, Water 8260C							
Dichlorodifluoromethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloromethane	< 3.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Vinyl chloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromomethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichlorofluoromethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Diethyl ether	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethene	< 0.7	ug/L	EPA 8260C	6/30/23	W TRP	A	
Acetone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon disulfide	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	QA-
Methylene chloride	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butanol	< 20.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
2-Butanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2,2-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
cis-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromochloromethane	< 0.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroform	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrahydrofuran	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1,1-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon tetrachloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Benzene	5.3	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Amylmethyl ether (TAME)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,2-Dichloroethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichloropropane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromomethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromodichloromethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
cis-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Toluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrachloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

001 Site: RMW-4 Date Sampled: 6/27/23 Time: 10:15

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
2-Hexanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromochloromethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromoethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethylbenzene	15.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,1,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Xylenes, Total	11.1	ug/L	EPA 8260C	6/30/23	W TRP	A	
Styrene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromoform	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Isopropylbenzene	10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
n-Propylbenzene	19.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trimethylbenzene	6.4	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trimethylbenzene	31.1	ug/L	EPA 8260C	6/30/23	W TRP	A	
s-Butylbenzene	4.4	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Isopropyltoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,4-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trimethylbenzene	10.1	ug/L	EPA 8260C	6/30/23	W TRP	U	
n-Butylbenzene	3.2	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Hexachlorobutadiene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Naphthalene	9.1	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichlorobenzene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Surr. 1 (Dibromofluoromethane)	102	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 2 (Toluene d8)	101	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 3 (4-Bromofluorobenzene)	102	%	EPA 8260C	6/30/23	W TRP	A	
Unidentified Peaks	>10		EPA 8260C	6/30/23	W TRP	U	

002 Site: RMW-3 Date Sampled: 6/27/23 Time: 10:40

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Alkalinity, as CaCO ₃ , to pH 4.5	203	mg/L, pH 4	SM 2320B-2011	7/12/23	W JSS	N	E
Total Organic Carbon	7.5	mg/L	SM 5310C-2014	7/13/23	N CAL	A	
COD	130	mg/L	EPA 410.4	7/3/23	N MAP	A	
Nitrate as N	< 0.040	mg/L	EPA 300.0	6/28/23	16:59 W ECM	A	
Sulfate	1.1	mg/L	EPA 300.0	6/28/23	16:59 W ECM	A	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

003 Site: RMW-2 Date Sampled: 6/27/23 Time: 12:20

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Alkalinity, as CaCO ₃ , to pH 4.5	181	mg/L, pH 4	SM 2320B-2011	7/12/23	W JSS	N	E
Total Organic Carbon	13	mg/L	SM 5310C-2014	7/13/23	N CAL	A	
COD	190	mg/L	EPA 410.4	7/3/23	N MAP	A	
Nitrate as N	0.27	mg/L	EPA 300.0	6/28/23 17:18	W ECM	A	
Sulfate	10	mg/L	EPA 300.0	6/28/23 17:18	W ECM	A	
VOC w/ Oxygenates, Water 8260C							
Dichlorodifluoromethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloromethane	< 3.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Vinyl chloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromomethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichlorofluoromethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Diethyl ether	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethene	< 0.7	ug/L	EPA 8260C	6/30/23	W TRP	A	
Acetone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon disulfide	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	QA-
Methylene chloride	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butanol	< 20.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
2-Butanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2,2-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
cis-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromochloromethane	< 0.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroform	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrahydrofuran	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1,1-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon tetrachloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Benzene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Amylmethyl ether (TAME)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,2-Dichloroethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichloropropane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromomethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromodichloromethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
cis-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Toluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrachloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

003 Site: RMW-2 Date Sampled: 6/27/23 Time: 12:20

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
2-Hexanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromochloromethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromoethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethylbenzene	18.6	ug/L	EPA 8260C	6/30/23	W TRP	A	M+
1,1,1,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Xylenes, Total	81.1	ug/L	EPA 8260C	6/30/23	W TRP	A	M+
Styrene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromoform	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Isopropylbenzene	2.2	ug/L	EPA 8260C	6/30/23	W TRP	A	M+
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
n-Propylbenzene	5.3	ug/L	EPA 8260C	6/30/23	W TRP	A	M+
1,2,3-Trichloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trimethylbenzene	16.9	ug/L	EPA 8260C	6/30/23	W TRP	A	M+
4-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trimethylbenzene	50.2	ug/L	EPA 8260C	6/30/23	W TRP	A	
s-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Isopropyltoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,4-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trimethylbenzene	13.4	ug/L	EPA 8260C	6/30/23	W TRP	U	M+
n-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Hexachlorobutadiene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Naphthalene	3.3	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichlorobenzene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Surr. 1 (Dibromofluoromethane)	101	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 2 (Toluene d8)	100	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 3 (4-Bromofluorobenzene)	102	%	EPA 8260C	6/30/23	W TRP	A	
Unidentified Peaks	>10		EPA 8260C	6/30/23	W TRP	U	

004 Site: Dup-01 Date Sampled: 6/27/23 0:00

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
VOC w/ Oxygenates, Water 8260C							
Dichlorodifluoromethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloromethane	< 3.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Vinyl chloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromomethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

004 Site: Dup-01 Date Sampled: 6/27/23 0:00

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Trichlorofluoromethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Diethyl ether	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethene	< 0.7	ug/L	EPA 8260C	6/30/23	W TRP	A	
Acetone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon disulfide	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	QA-
Methylene chloride	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butanol	< 20.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
2-Butanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2,2-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
cis-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromochloromethane	< 0.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroform	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrahydrofuran	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1,1-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon tetrachloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Benzene	6.1	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Amylmethyl ether (TAME)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,2-Dichloroethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichloropropane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromomethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromodichloromethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
cis-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Toluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrachloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
2-Hexanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromochloromethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromoethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethylbenzene	16.7	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,1,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Xylenes, Total	10.9	ug/L	EPA 8260C	6/30/23	W TRP	A	
Styrene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromoform	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Isopropylbenzene	10.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

004 Site: Dup-01 Date Sampled: 6/27/23 0:00

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Bromobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
n-Propylbenzene	21.6	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trimethylbenzene	6.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trimethylbenzene	31.7	ug/L	EPA 8260C	6/30/23	W TRP	A	
s-Butylbenzene	5.6	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Isopropyltoluene	1.2	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,4-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trimethylbenzene	10.1	ug/L	EPA 8260C	6/30/23	W TRP	U	
n-Butylbenzene	3.9	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Hexachlorobutadiene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Naphthalene	9.4	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichlorobenzene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Surr. 1 (Dibromofluoromethane)	102	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 2 (Toluene d8)	101	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 3 (4-Bromofluorobenzene)	103	%	EPA 8260C	6/30/23	W TRP	A	
Unidentified Peaks	>10		EPA 8260C	6/30/23	W TRP	U	

005 Site: TB-01 Date Sampled: 6/26/23 0:00

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
VOC w/ Oxygenates, Water 8260C							
Dichlorodifluoromethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloromethane	< 3.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Vinyl chloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromomethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroethane	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichlorofluoromethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Diethyl ether	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethene	< 0.7	ug/L	EPA 8260C	6/30/23	W TRP	A	
Acetone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon disulfide	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	QA-
Methylene chloride	< 5.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butanol	< 20.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1-Dichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

005	Site: TB-01	Date Sampled: 6/26/23		0:00			
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
2-Butanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2,2-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
cis-1,2-Dichloroethene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromochloromethane	< 0.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chloroform	3.8	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrahydrofuran	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,1,1-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Carbon tetrachloride	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Benzene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Amylmethyl ether (TAME)	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
1,2-Dichloroethane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Trichloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichloropropane	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromomethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromodichloromethane	4.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
cis-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Toluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2-Trichloroethane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Tetrachloroethene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichloropropane	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
2-Hexanone	< 10.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Dibromochloromethane	3.2	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromoethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Chlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Ethylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,1,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Xylenes, Total	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Styrene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromoform	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Isopropylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
Bromobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
n-Propylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
2-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trimethylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Chlorotoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
t-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
s-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
4-Isopropyltoluene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	

Laboratory Report

DATE REPORTED: 07/17/2023

CLIENT: Ross Environmental Associates
PROJECT: Former Johnson Town GarageWORK ORDER: 2306-17960
DATE RECEIVED: 06/28/2023

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
005	Site: TB-01		Date Sampled: 6/26/23		0:00		
1,4-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trimethylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	U	
n-Butylbenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dichlorobenzene	< 1.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,4-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	EPA 8260C	6/30/23	W TRP	N	
Hexachlorobutadiene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Naphthalene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
1,2,3-Trichlorobenzene	< 0.5	ug/L	EPA 8260C	6/30/23	W TRP	A	
Surr. 1 (Dibromofluoromethane)	101	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 2 (Toluene d8)	100	%	EPA 8260C	6/30/23	W TRP	A	
Surr. 3 (4-Bromofluorobenzene)	102	%	EPA 8260C	6/30/23	W TRP	A	
Unidentified Peaks	0		EPA 8260C	6/30/23	W TRP	U	

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
006	Site: RMW-4		Date Sampled: 6/27/23		Time: 12:02		
Hydrocarbon Gases							
Methane	525	ug/L	EPA 8015B (Modified)	6/29/23	W DPD	N	

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
007	Site: RMW-3		Date Sampled: 6/27/23		Time: 12:10		
Hydrocarbon Gases							
Methane	252	ug/L	EPA 8015B (Modified)	6/29/23	W DPD	N	

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
008	Site: RMW-2		Date Sampled: 6/27/23		Time: 12:20		
Hydrocarbon Gases							
Methane	< 0.94	ug/L	EPA 8015B (Modified)	6/29/23	W DPD	N	

Report Summary of Qualifiers and Notes

QA-: QA/QC associated with this analysis did not meet laboratory acceptance limits indicating the results may be biased low.

M+: The Laboratory Fortified Matrix (LFM) analysis had a recovery greater than defined acceptance limits. This indicates a potential positive bias in the reported value or a difficult sample matrix that resulted in poor reproducibility between sample aliquots selected for analysis.

E: Sample was analyzed past Method specified holding time.

CHAIN-OF-CUSTODY-RECORD

Special Reporting Instructions/PO#:

Project Name: Former Johnson Town Garage	Client/Contact Name: REA B. Bess	Sampler Name: B. Bess
State of Origin: VT NY NH Other	Phone #: (802) 253-4280	Phone #: (802) 275-5258
Endyne WO #	Mailing Address: Po Box 1533 Stowe, VT	Billing Address: Same

Sample Location	Matrix	Container No.	Type/Size	Sample Preservation	Analysis Required	Field Results/Remarks	Due Date
R MW-4	water	7	various	various	5/16/10	18/37/22	
R MW-3	↓	7	↓	↓	↓	↓	NO VOC for R MW-3
R MW-2	↓	7	↓	↓	↓	↓	NO VOC for R MW-2
Dug-01	↓	2	yellow HCL	HCL	24		per client 6/18/15
TB-01	↓	2	yellow HCL	HCL	24		
R MW-4	water	2	yellow	yellow	33		Slight odor
R MW-3	↓	2	yellow	yellow	33		Strong odor
R MW-2	↓	2	yellow	yellow	33		

Relinquished by: *[Signature]* Date/Time: **6/27/23 1350** Received by: *[Signature]* Date/Time: **6/28/23 8:17**

1	6	11	16	21	26	30
pH	TKN	Total Solids	Sulfate	1664 TPH/FOG	8270 PAH Only	
2	7	Total P	Coliform (Specify)	8015 GRO	8081 Pest	
3	8	Total Diss. P	COD	8015 DRO	8082 PCR	
4	9	BOD	VT PCR	8260B		
5	10	Alkalinity	VOC Halocarbons	8270 B/N or Acid		

31 Metals (Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Tl, U, V, Zn

32 TCLP (Volatiles, semi-volatiles, metals, pesticides, herbicides) **Other Methane**

34 Corrosivity **37** Other **TOC**



Ross Environmental Associates
 Former Johnson Town Garage
 2306-17960
 2386-17968

**A
P
P
E
N
D
I
X

D**

Chart 1
Natural Attenuation Data

Former Johnson Town Garage
Johnson, VT

Monitoring Date: 27 June 2023

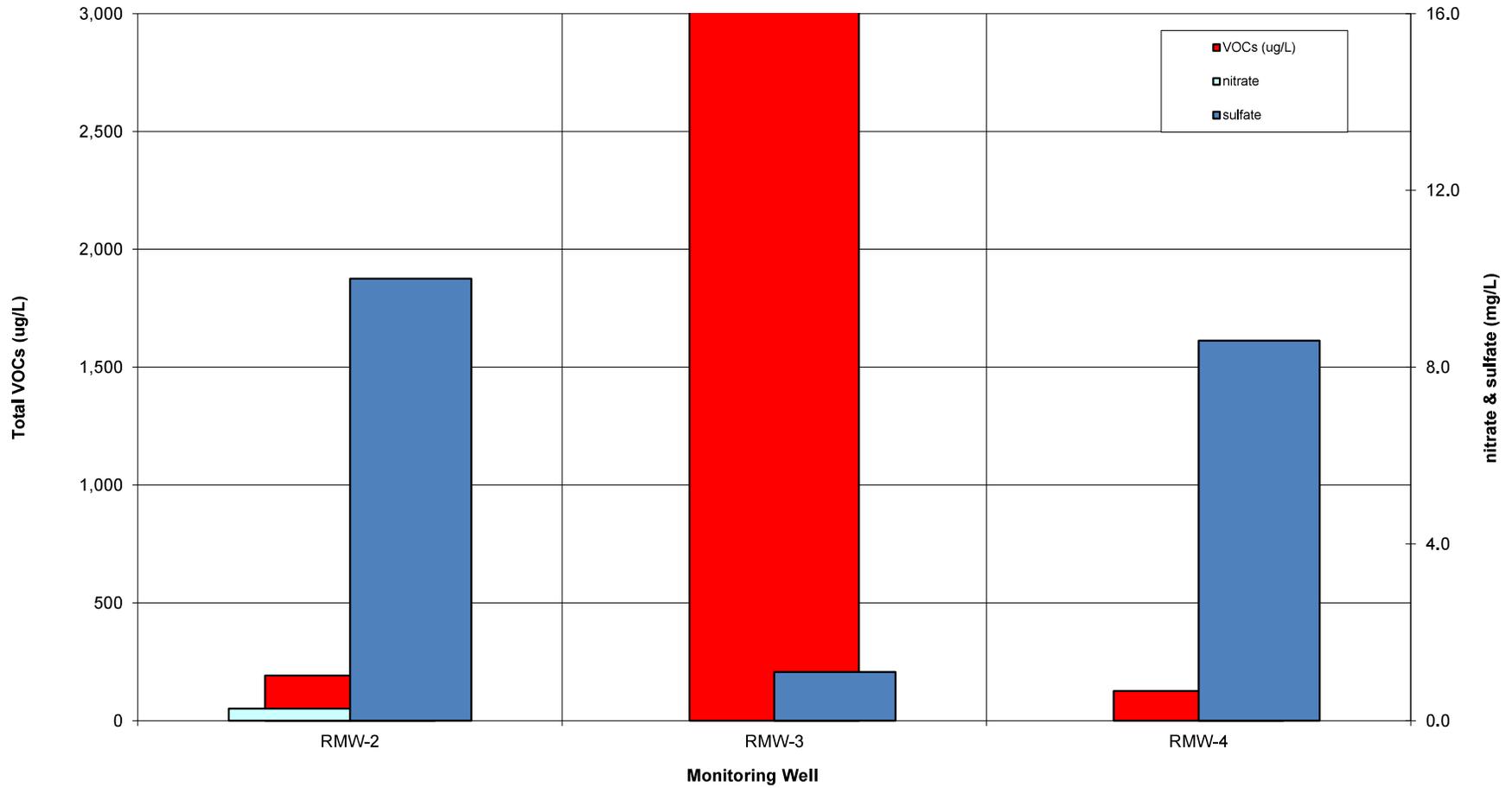
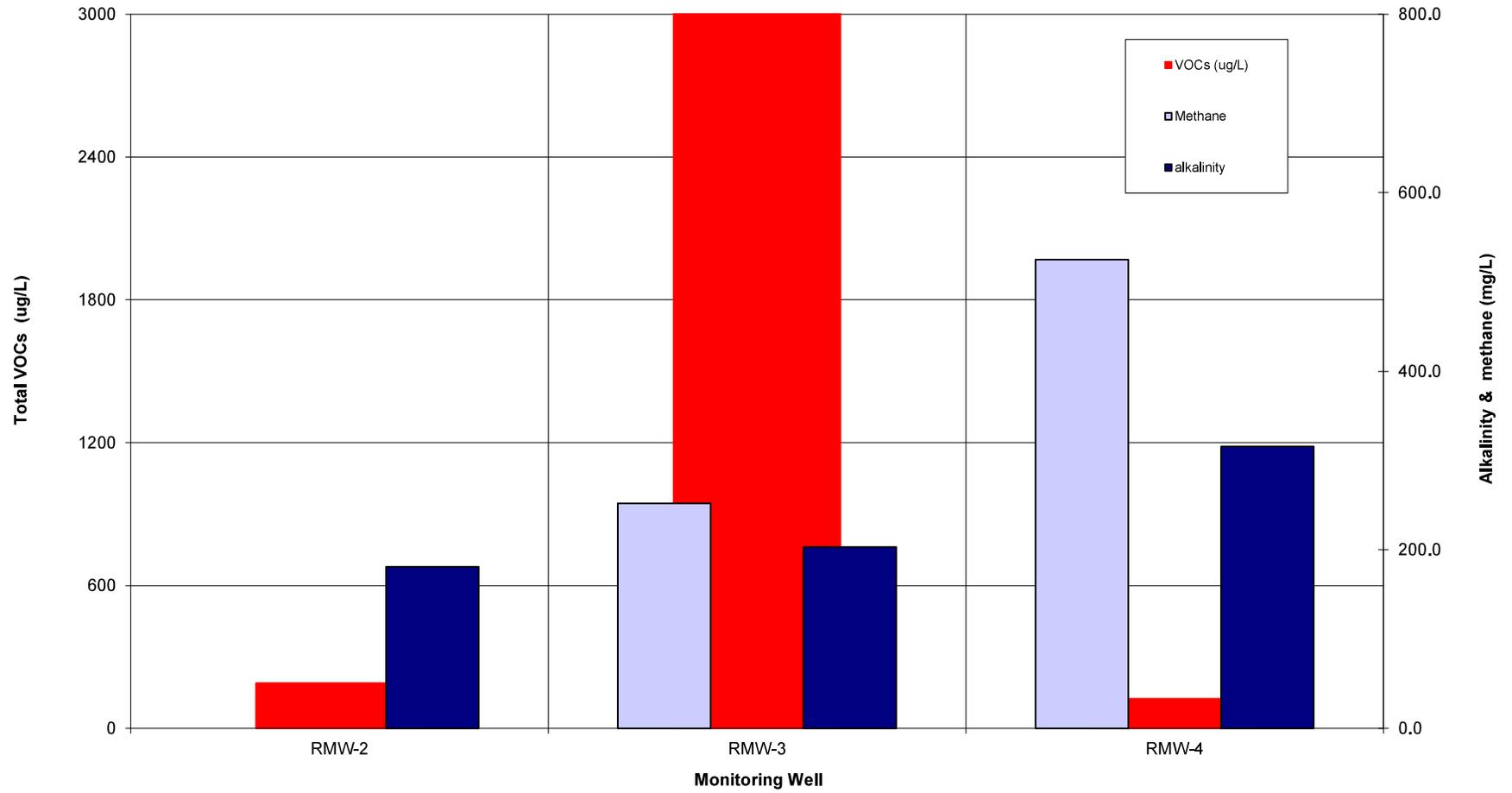


Chart 2 - Natural Attenuation Data

Former Johnson Town Garage
Johnson, VT

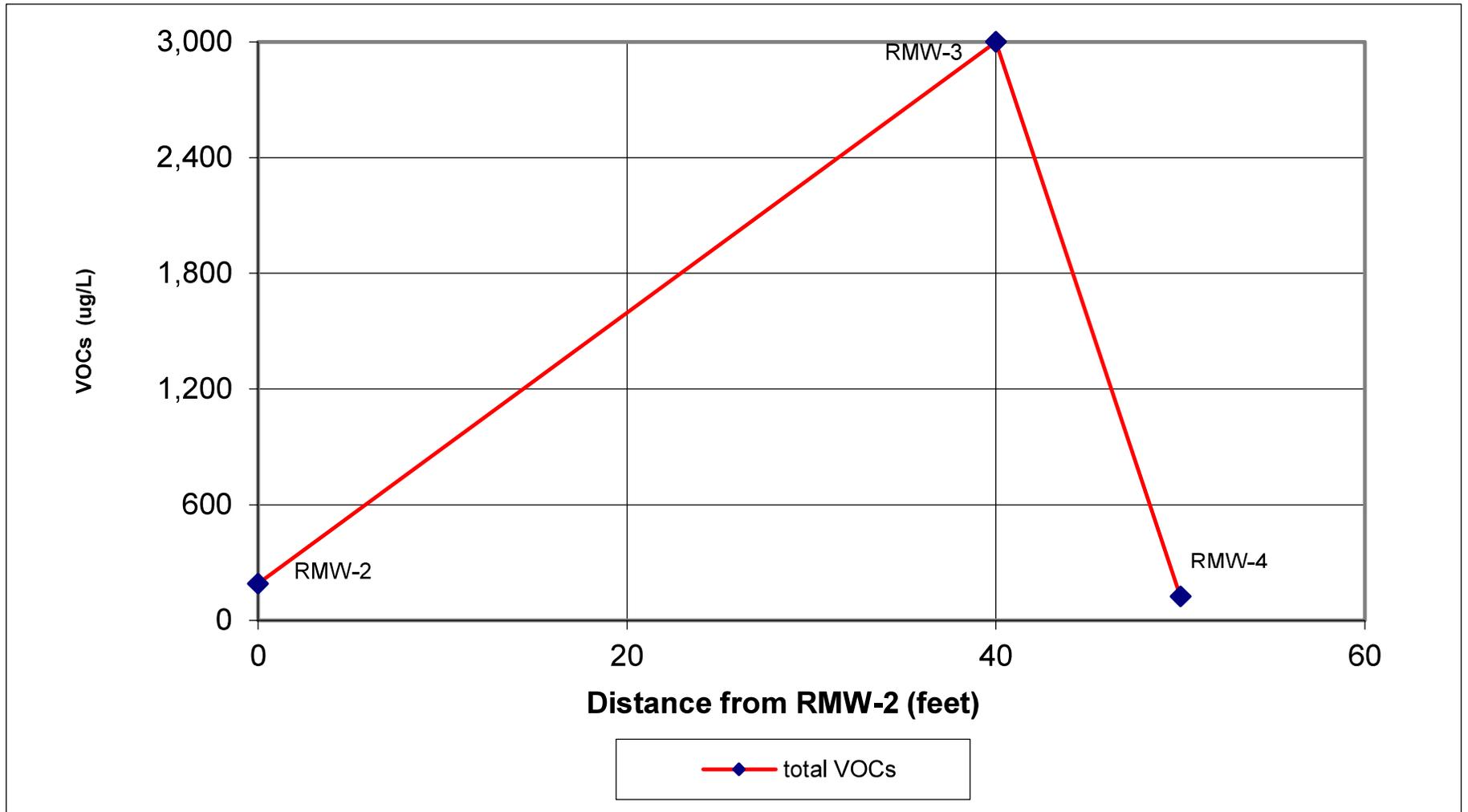
Monitoring Date: 27 June 2023



Gaph 1.
Total VOCs Vs. Distance

Former Johnson Town Garage
Johnson, VT

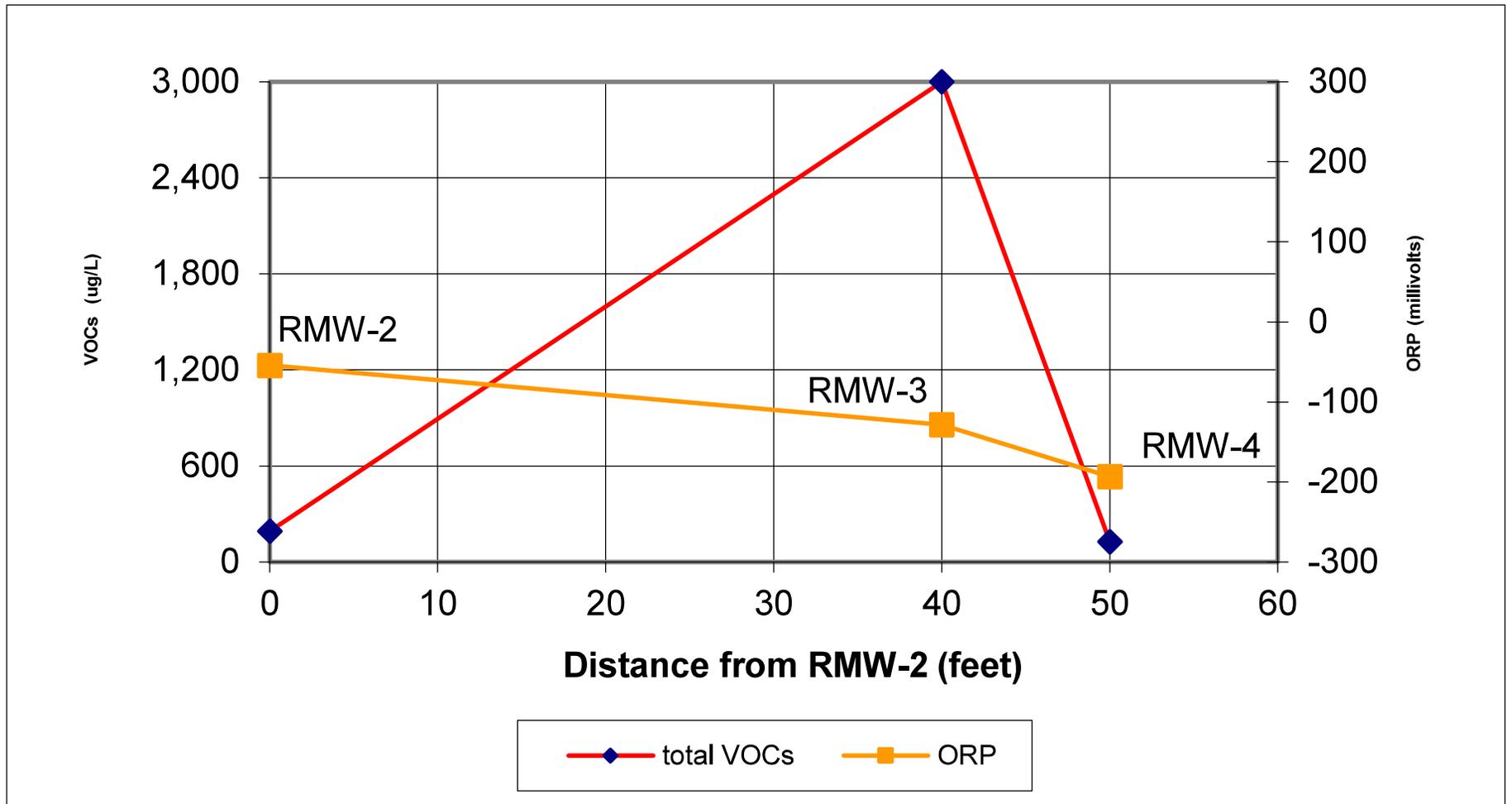
Monitoring Date: 27 June 2023



Graph 2.
Total VOCs and Oxygen Reduction Potential Vs. Distance

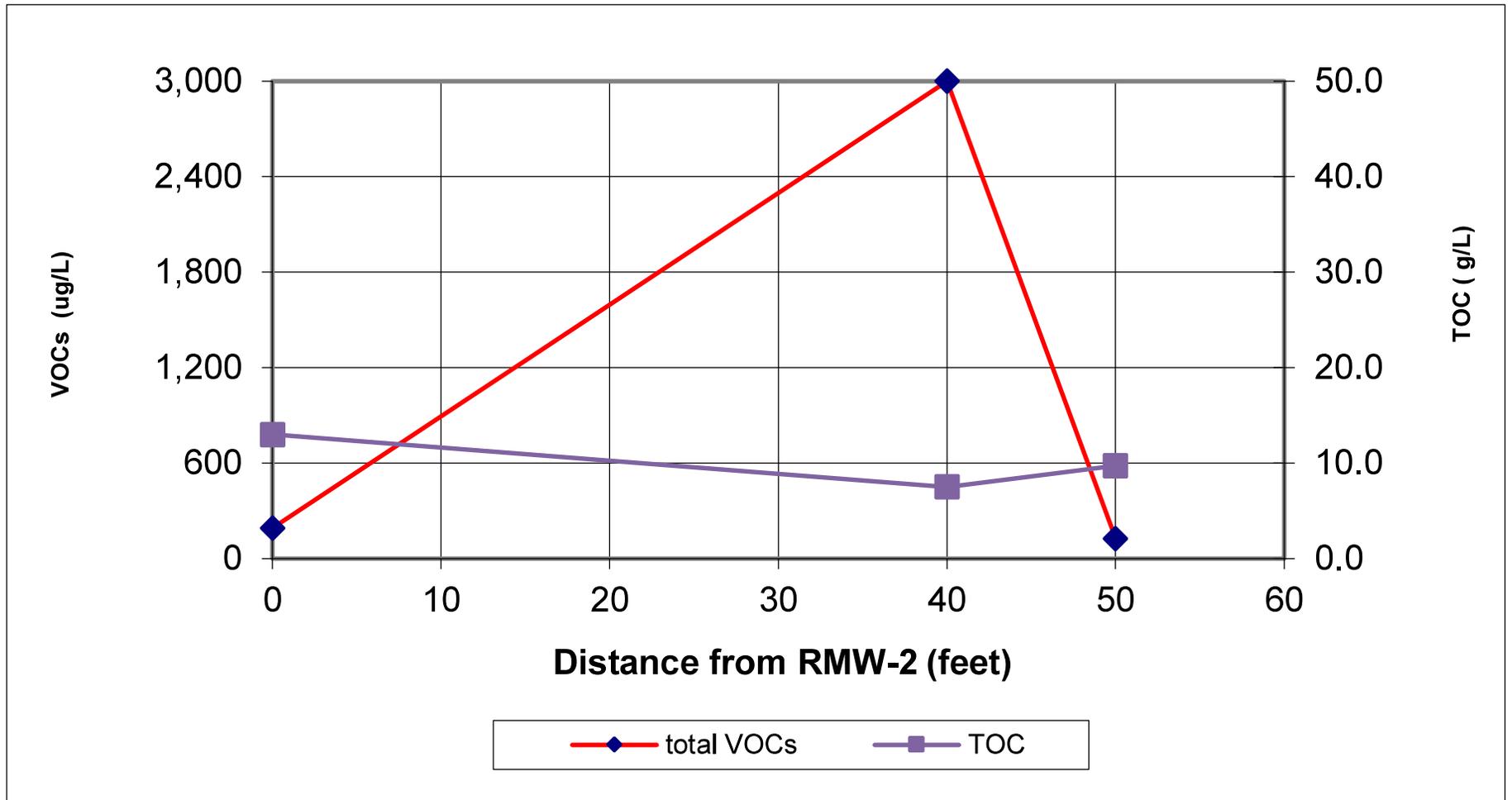
Former Johnson Town Garage Johnson, VT

Monitoring Date: 27 June 2023



Graph 3.
Total VOCs and TOC Vs. Distance
Former Johnson town Garage
Johnson, VT

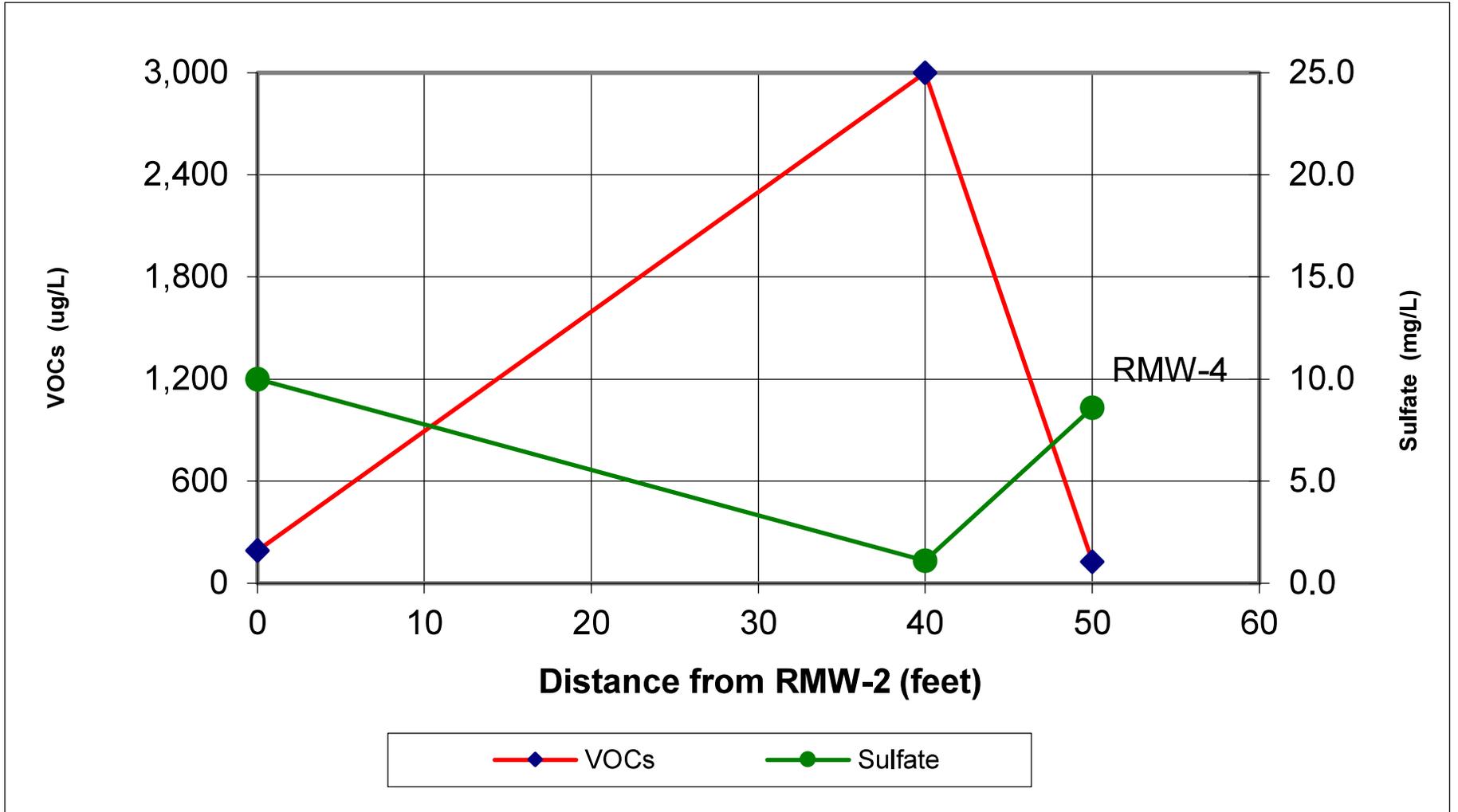
Monitoring Date: 27 June 2023



Graph 4.
Total VOCs and Sulfate Vs. Distance

Former Johnson town Garage
Johnson, VT

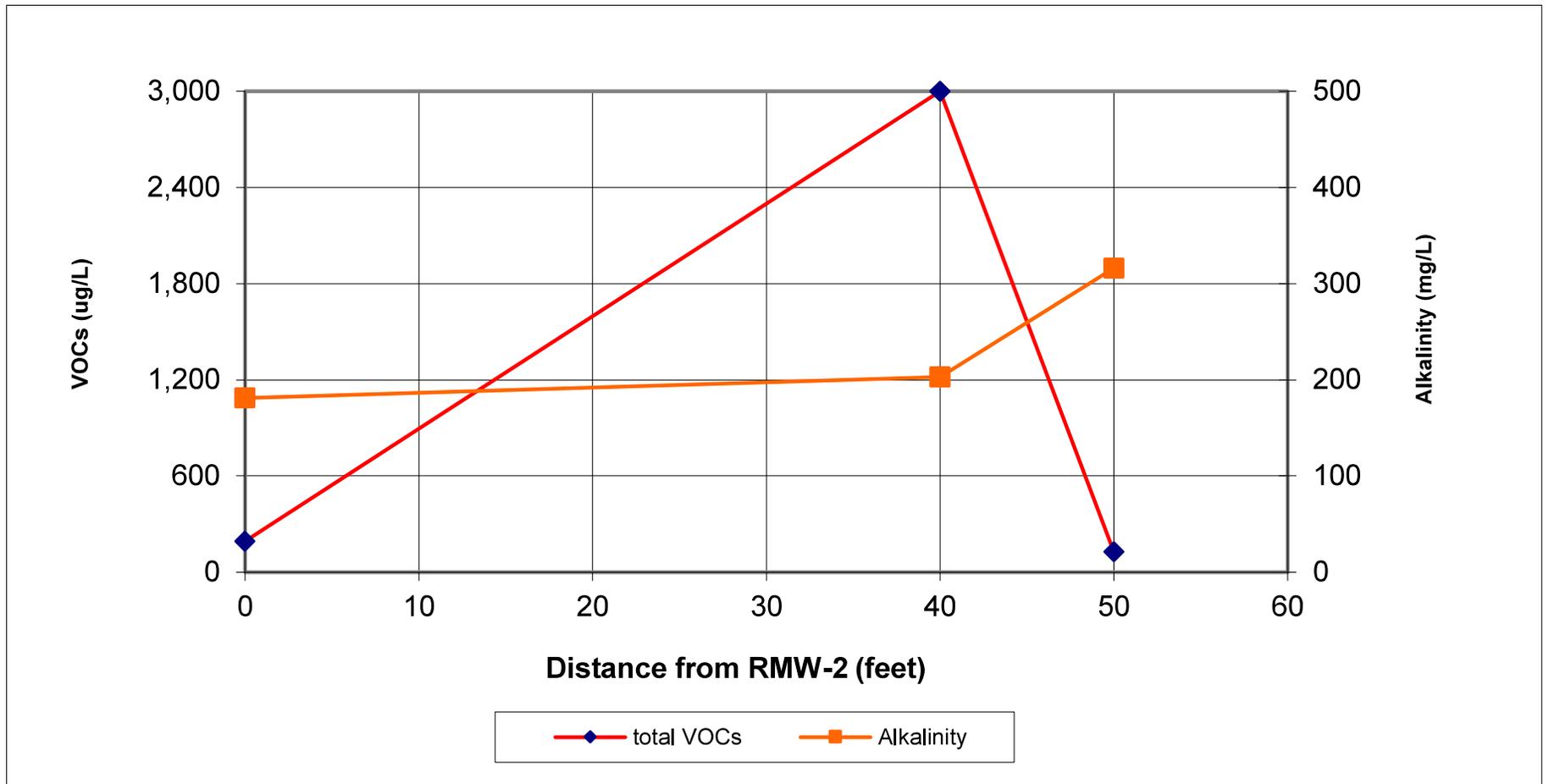
Monitoring Date: 27 June 2023



Graph 5.
Total VOCs and Alkalinity vs Distance

Former Johnson Town Garage
Johnson, VT

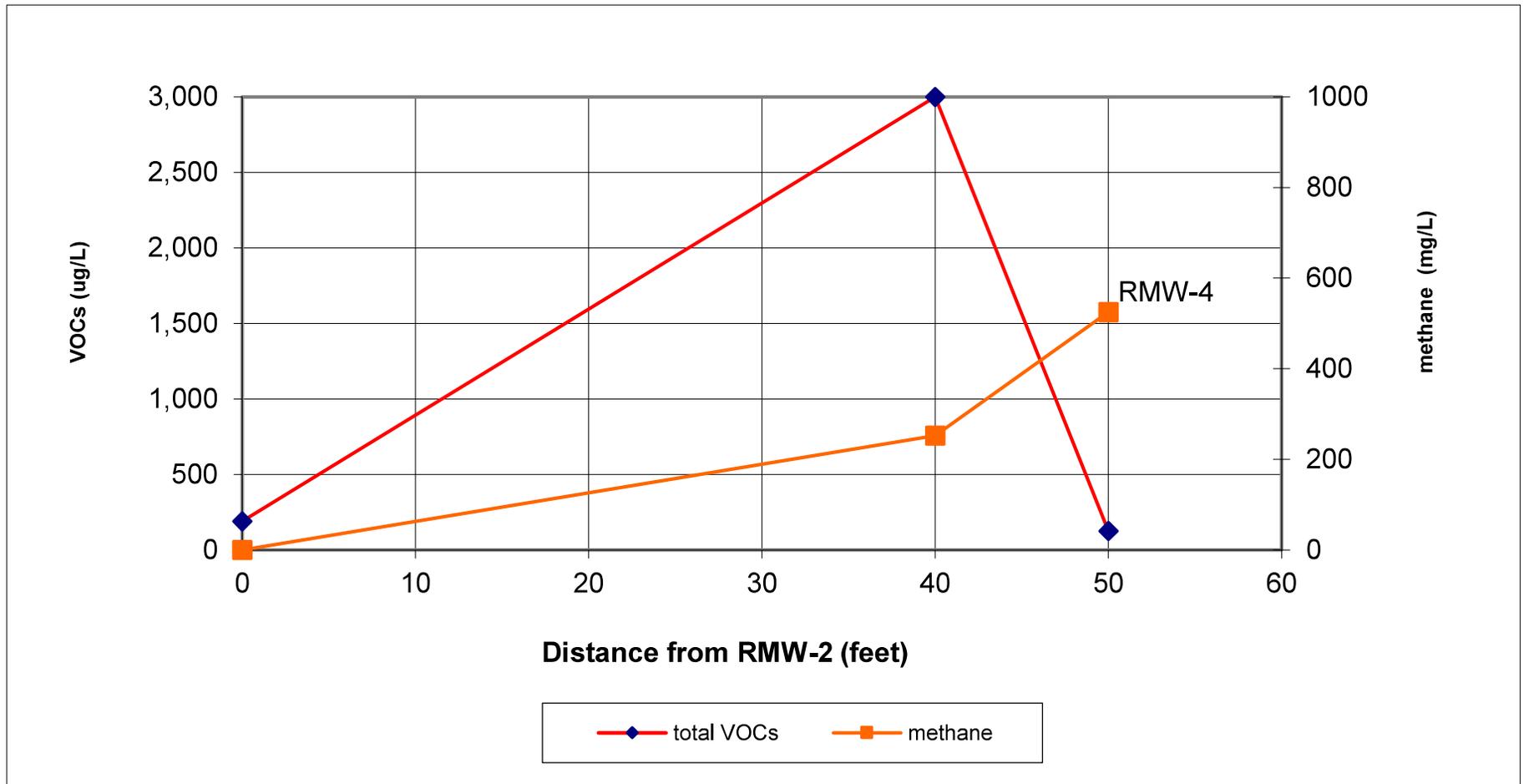
Monitoring Date: 27 June 2023



Graph 6.
Total VOCs and Methane Vs. Distance

Former Johnson Town Garage
Johnson, VT

Monitoring Date: 27 June 2023



**A
P
P
E
N
D
I
X

E**

**Former Johnson Town Garage
ECAA Alternatives
Cost Estimate For Remediation**

Task	Description	Quantity	Rate	Sub Total	Total	
Alternative #1 - No Action, Natural Attenuation						
	Project Coordination			2,550		
	Sampling & Analysis (assumes 6 years)	6	8725	52,350		
	Reporting	6	2480	14,880		
		Alternative I Total			69,780	
		TOTAL			69,780	
Task	Description	Units	Quantity	Rate	Sub Total	Total
Alternative #2 - Soil Excavation with ORC						
	Project Coordination				2,550	
	Soil Sampling & Analysis				8,725	
	Excavation & Transportation	cubic yards	400		25,600	
	PCS Disposal	ton	540	42	22,680	
	ORC				20,355	
	Post Excavation				2,480	
		Alternative II Total				79,840
		TOTAL				79,840
Task	Description	Units	Quantity	Rate	Sub Total	Total
Alternative #3 - Soil Vapor Extraction (SVE) with Air Sparging (AS)						
	CAP/Project Coordination				4,459	
	SVE Installation				37,760	
	SVE System (trailer unit)				64,000	
	Groundwater sampling (2 years)				25,200	
	O+M (monthly 2 years)				30,280	
	As-built Report				2,720	
		Alternative III Total				157,240
		TOTAL				157,240
Task	Description	Units	Quantity	Rate	Sub Total	Total
Alternative #4 - In-situ Chemical Injection						
	CAP/Project Coordination				4,459	
	Drilling - Chemical Injection (two events)				21,980	
	ORC supplies (two events)				37,950	
	Sampling & Analysis (2 years)				19,970	
	As-built Report				2,720	
		Alternative IV Total				82,620
		TOTAL				82,620

Note: The above costs are estimates. Detailed costs will be developed for the selected alternative following approval by the VT DEC.

Appendix B: Alternative Analysis Slide





Vermont Studio Center Floodplain Restoration Alternatives

Johnson, Vermont

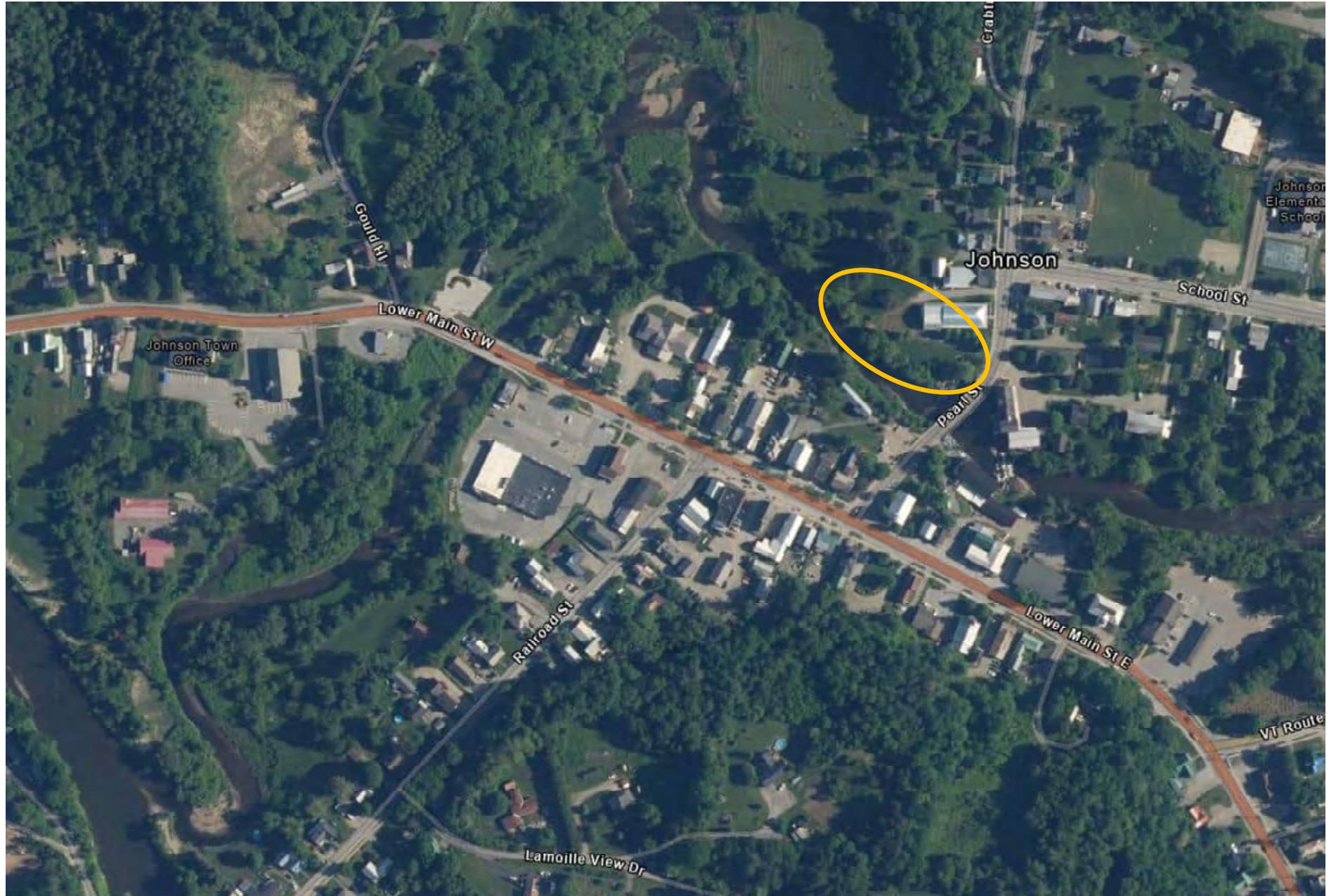
SLRCONSULTING.COM

April 7, 2024





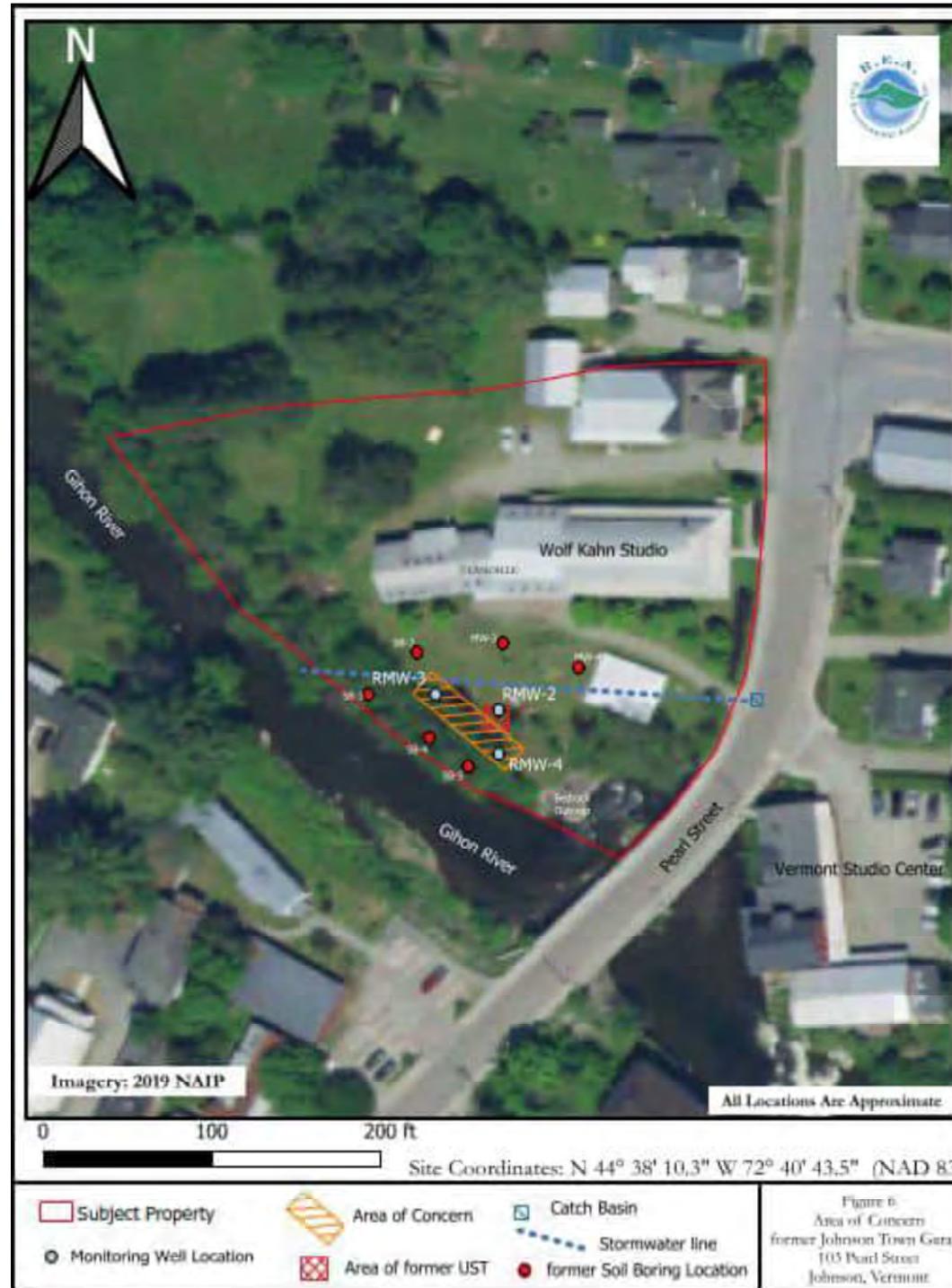
Location





Former Town Garage Contaminated Soil Map

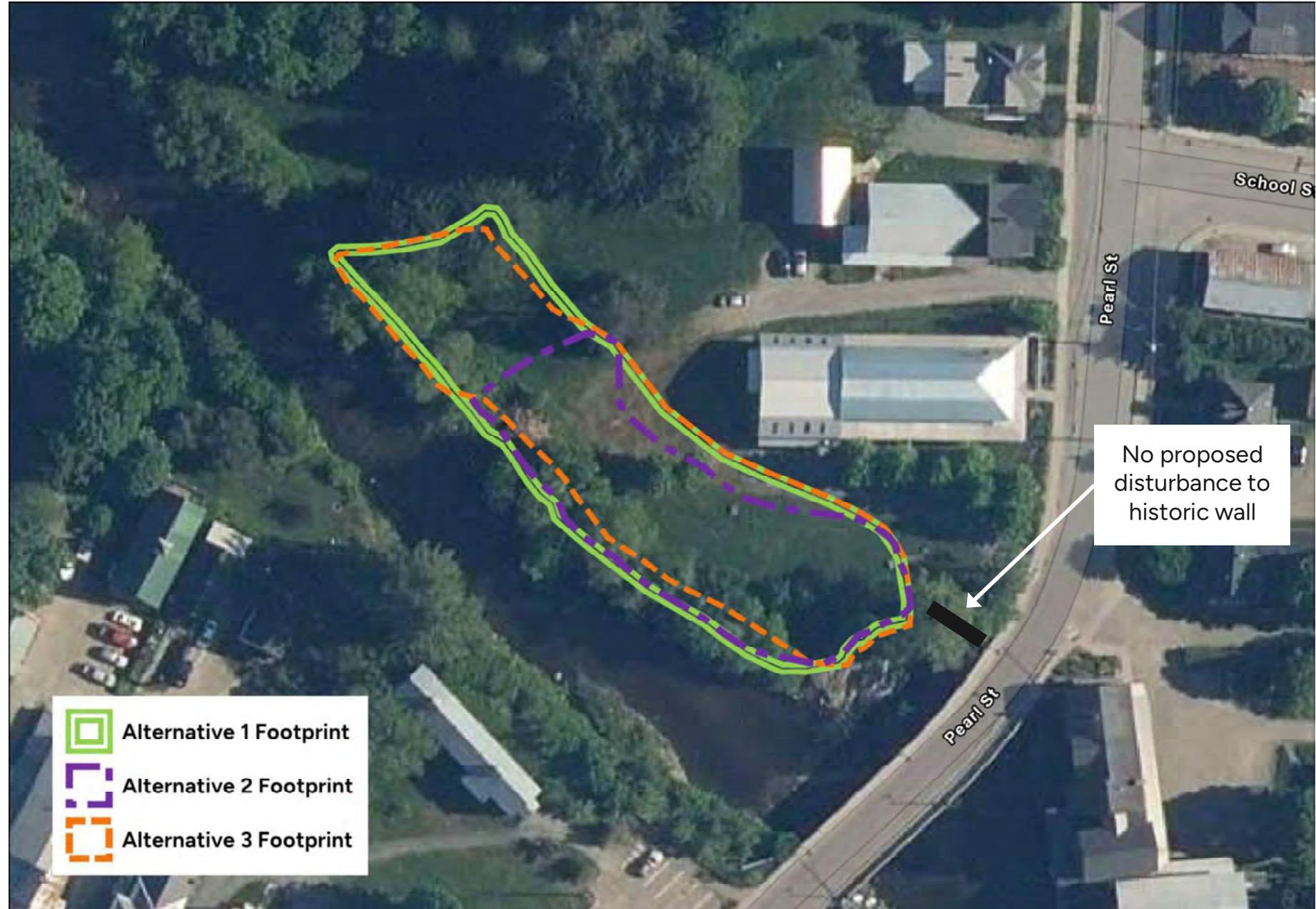
Ross Environmental Associates,
Inc.



Proposed removal of
360 cubic yards
contaminated soil
(1,200 sq. ft area x 8 ft
depth)



Proposed Floodplain Footprints





Alternative 1:

Floodplain lowered to 2-yr flood





Alternative 2:

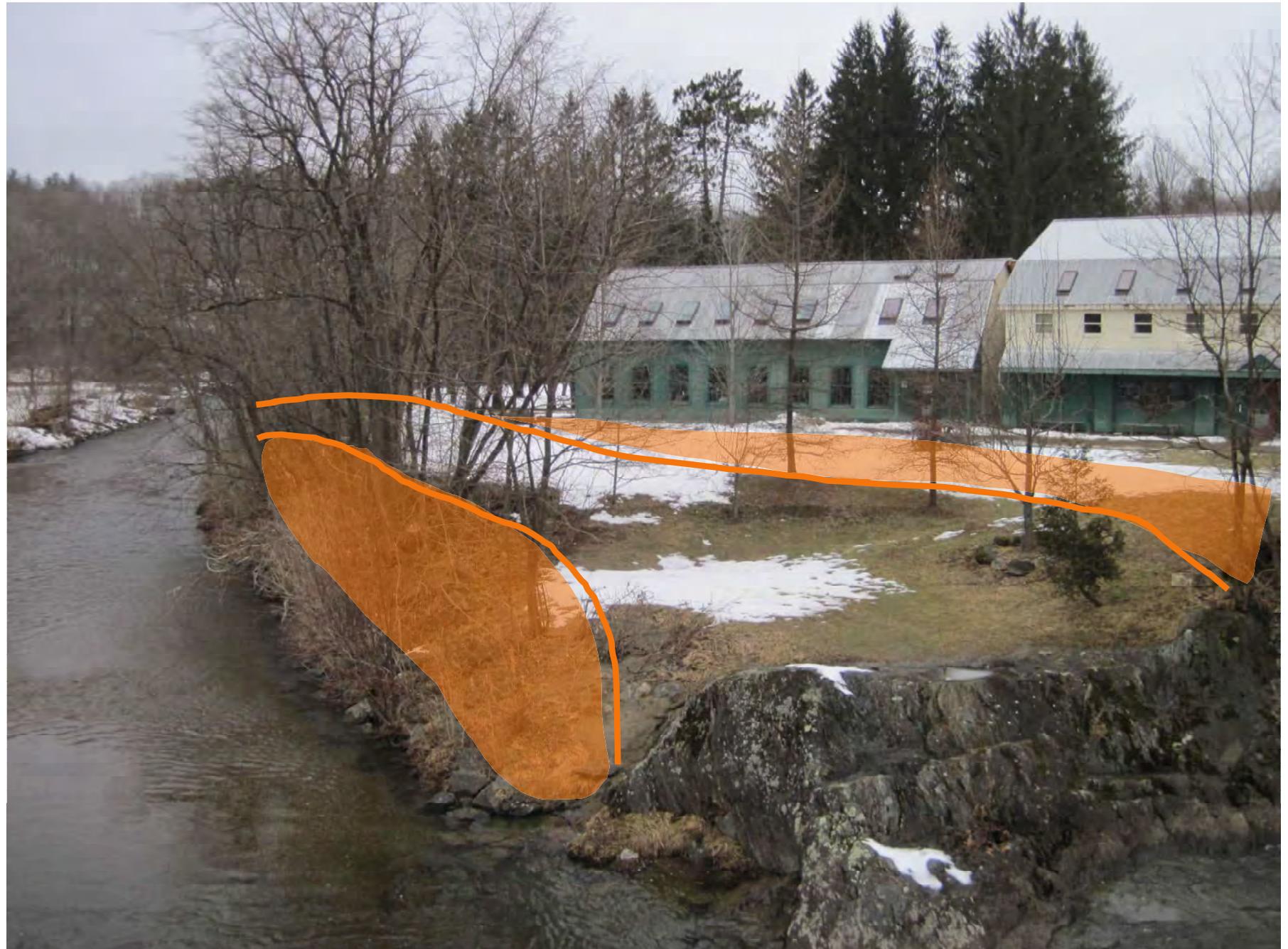
Smaller floodplain lowered to
5-yr flood





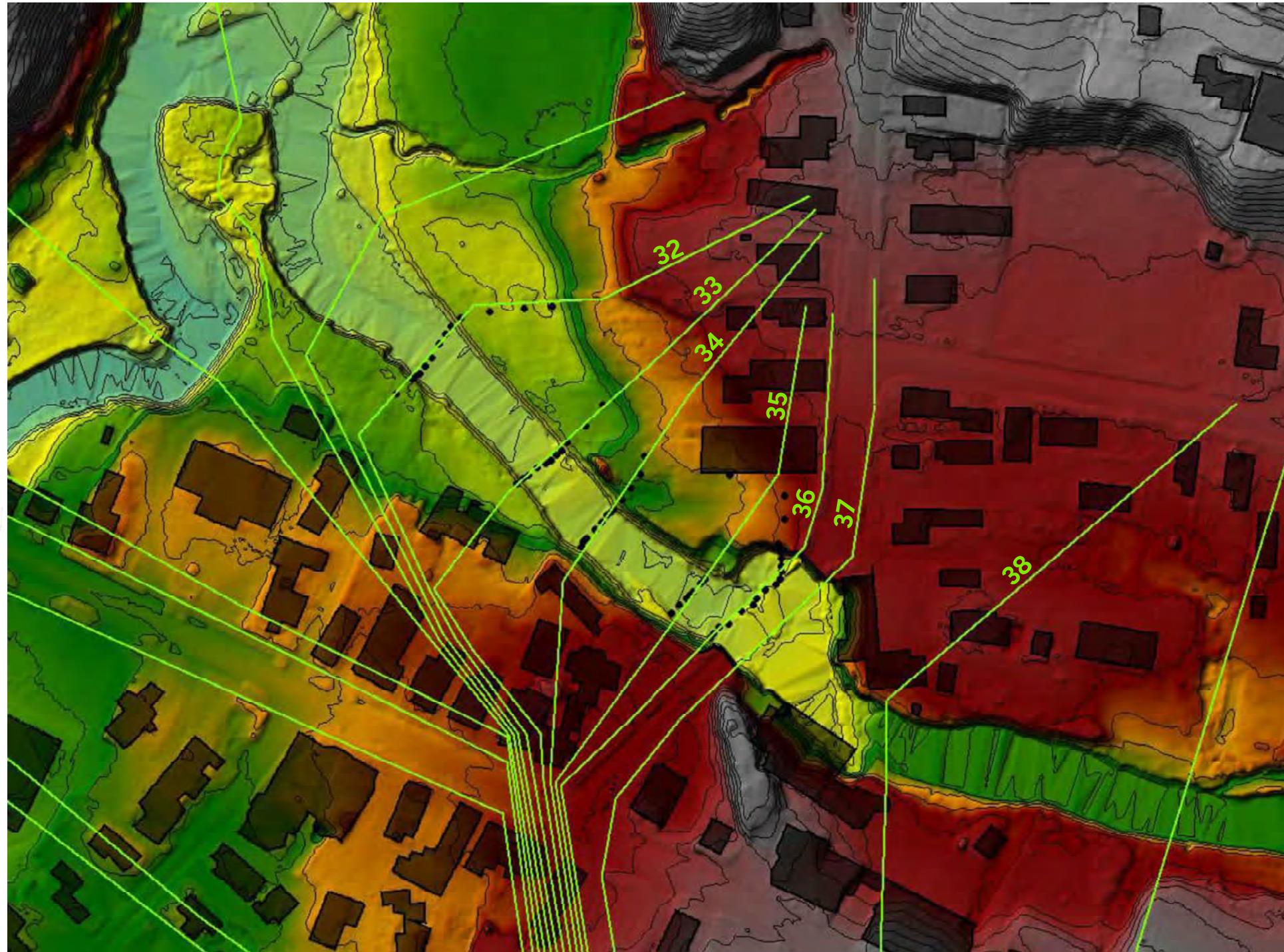
Alternative 3:

Flood chute lowered to 5-yr
flood preserving
trees/vegetation the river



Existing Conditions Model of the Gihon River

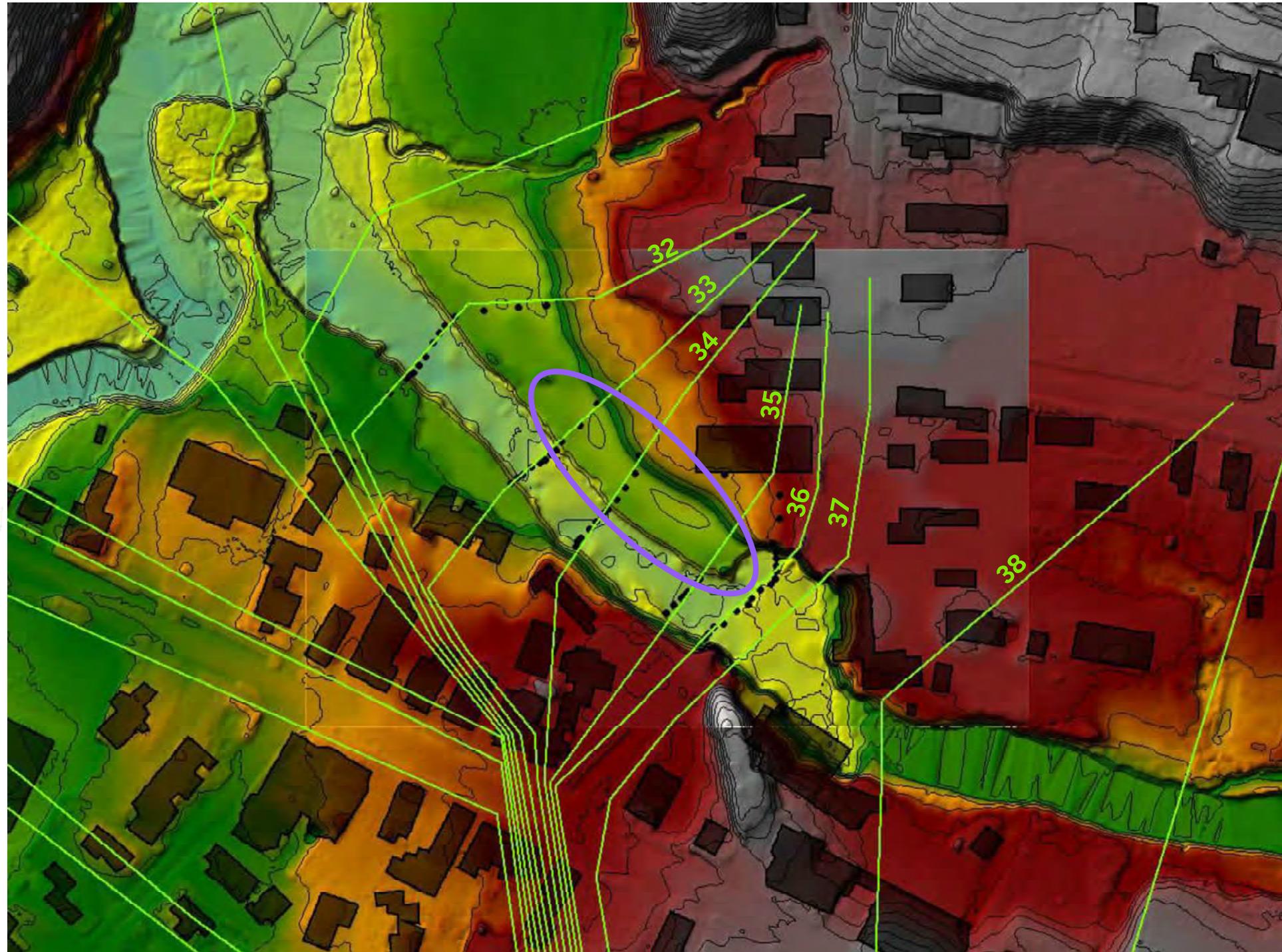
- Model Cross Sections  #
- Terrain (2-ft contour) 
- Grenier Survey  •
- Buildings 



Alternative 1:

Larger floodplain that extends through sections 35, 34, and 33. Lowers banks to approx. 2-year flood and connects with existing downstream floodplain.

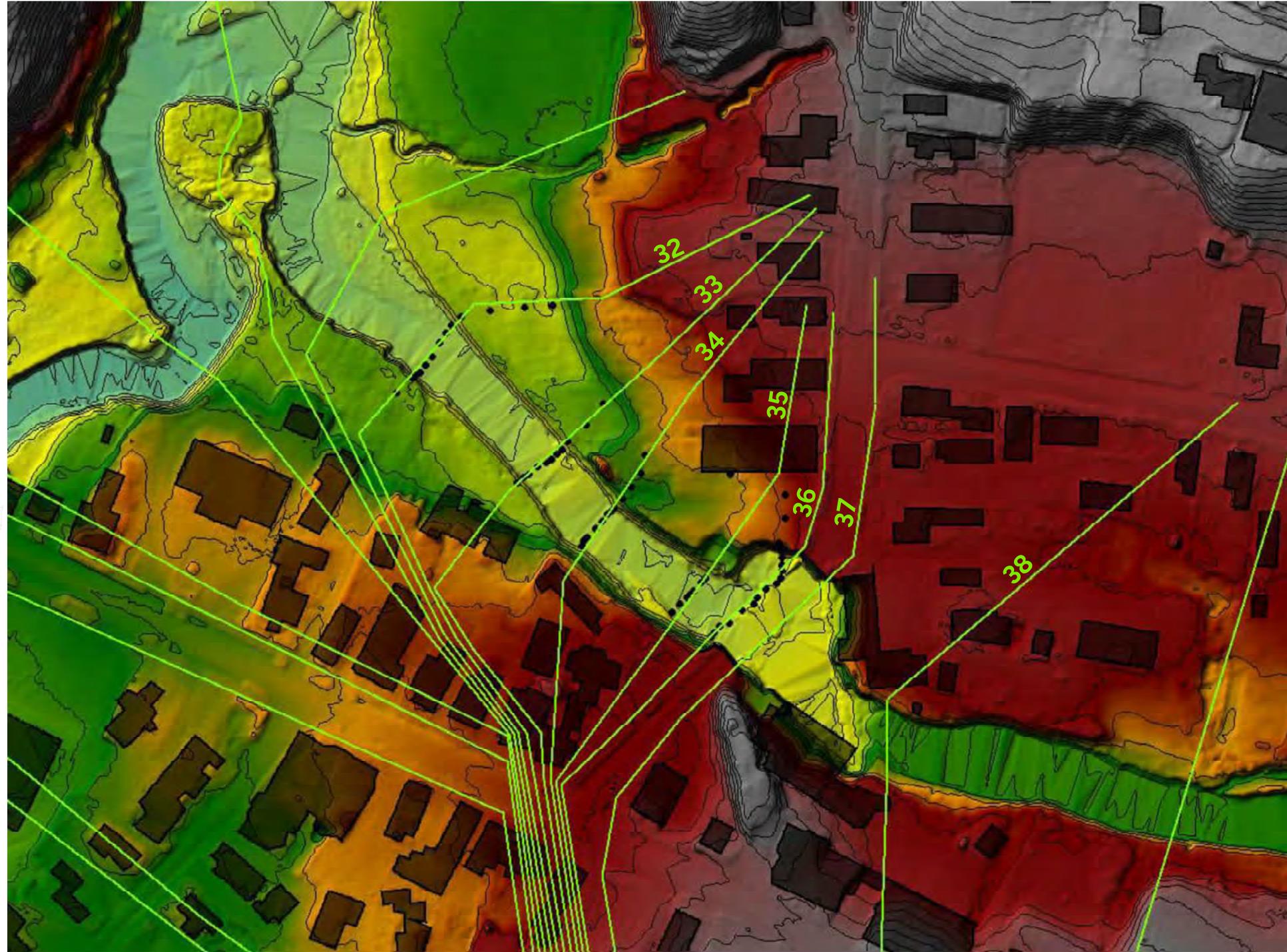
- Model Cross Sections  #
- Terrain (2-ft contour) 
- Grenier Survey 
- Buildings 
- Approx. Floodplain Footprint 



Existing Conditions Model of the Gihon River

(Repeated for reference)

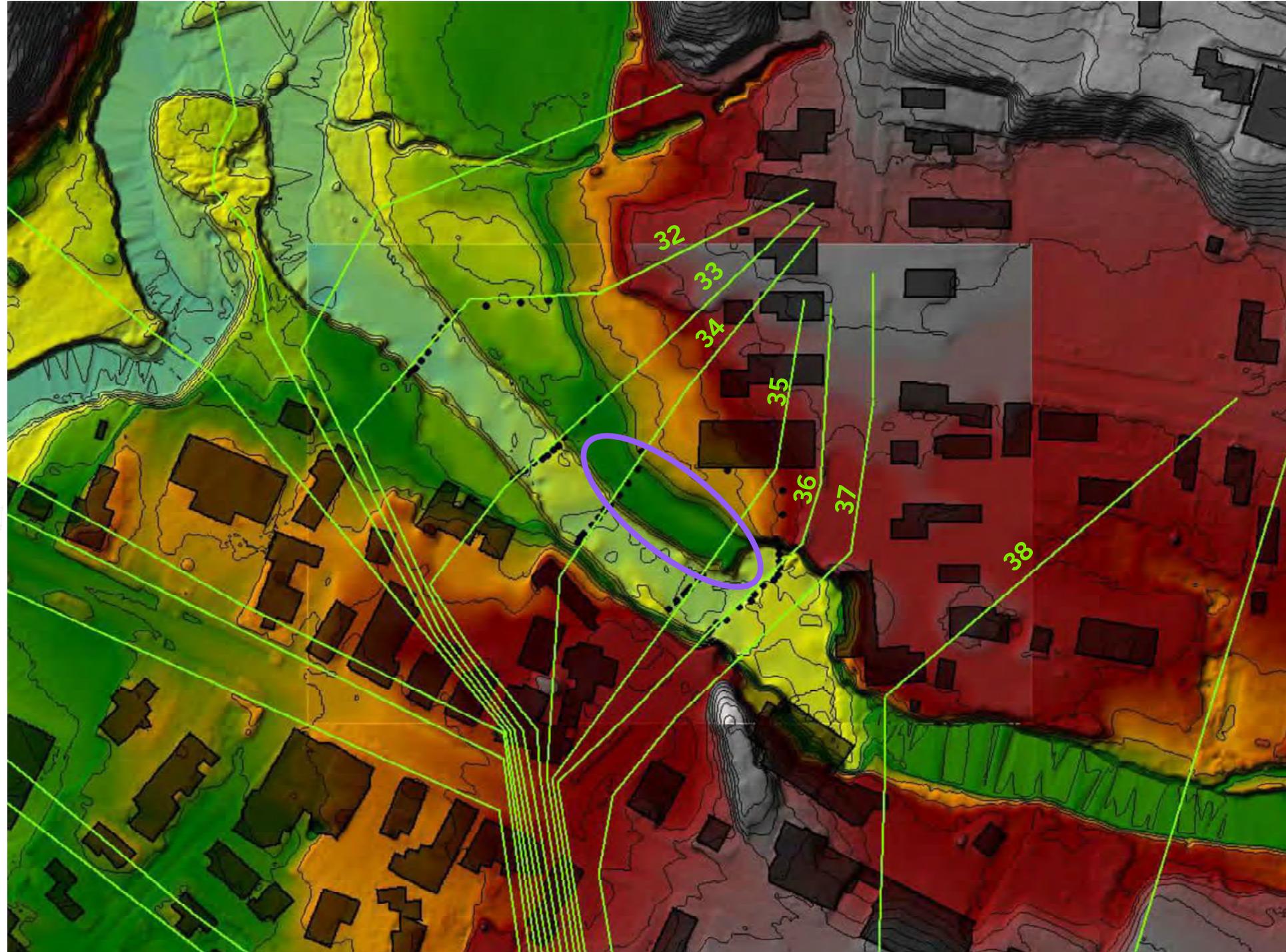
- Model Cross Sections  #
- Terrain (2-ft contour) 
- Grenier Survey  •
- Buildings 



Alternative 2:

Smaller floodplain that extends through sections 35 and 34. Lowers banks to approx. 5-year flood with smaller footprint.

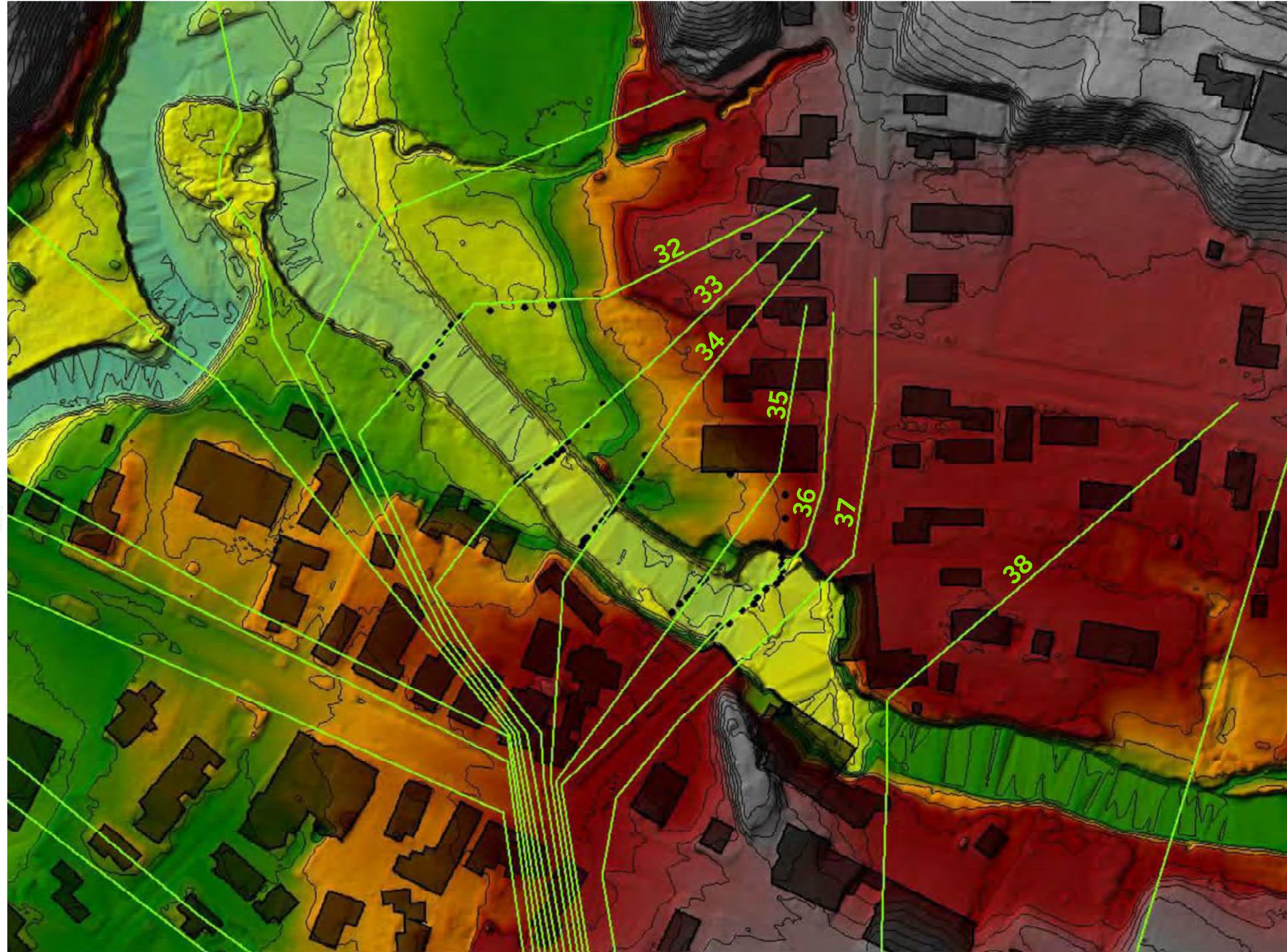
- Model Cross Sections  #
- Terrain (2-ft contour) 
- Grenier Survey 
- Buildings 
- Approx. Floodplain Footprint 



Existing Conditions Model of the Gihon River

(Repeated for reference)

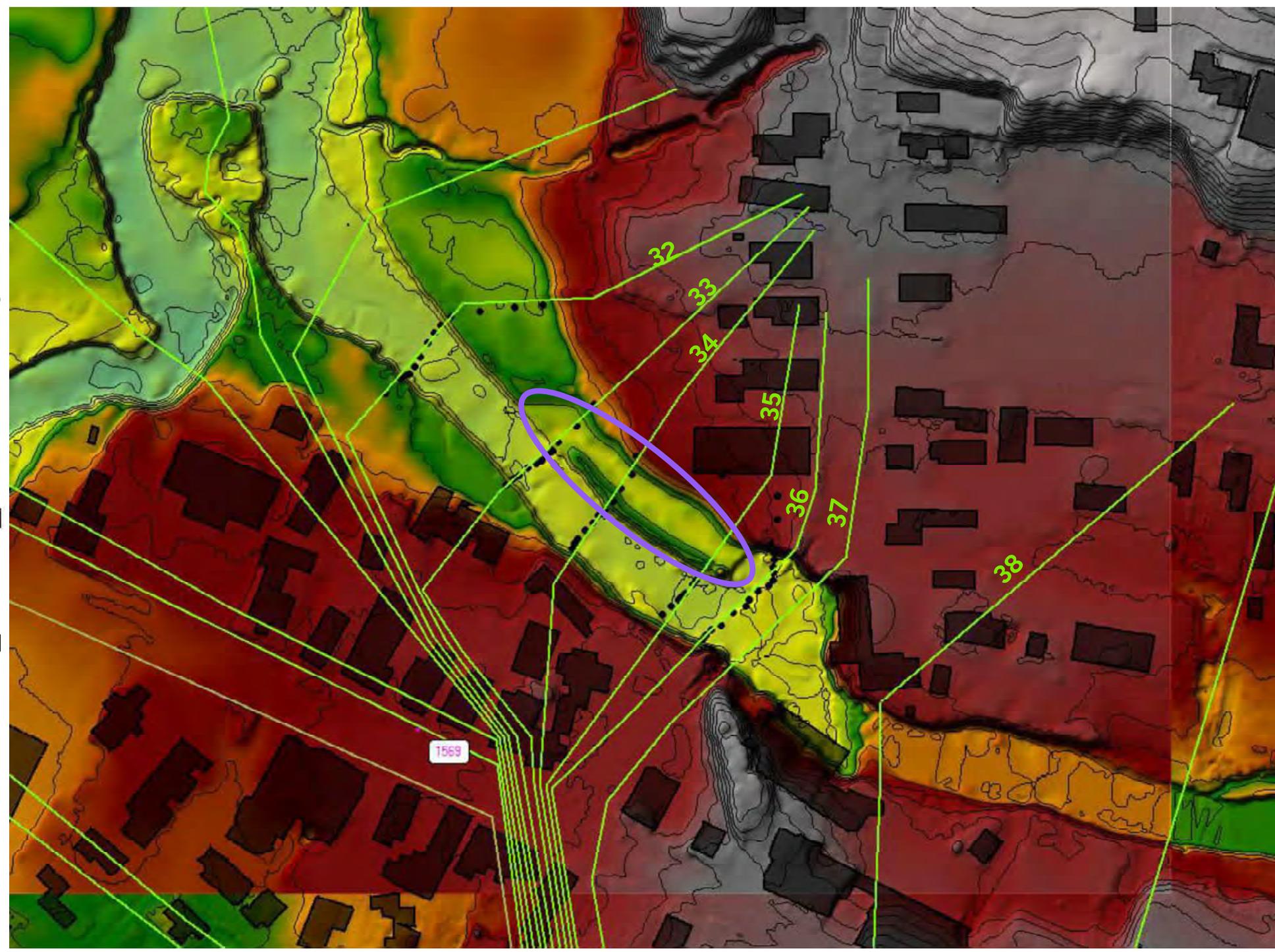
- Model Cross Sections  #
- Terrain (2-ft contour) 
- Grenier Survey  •
- Buildings 



Alternative 3:

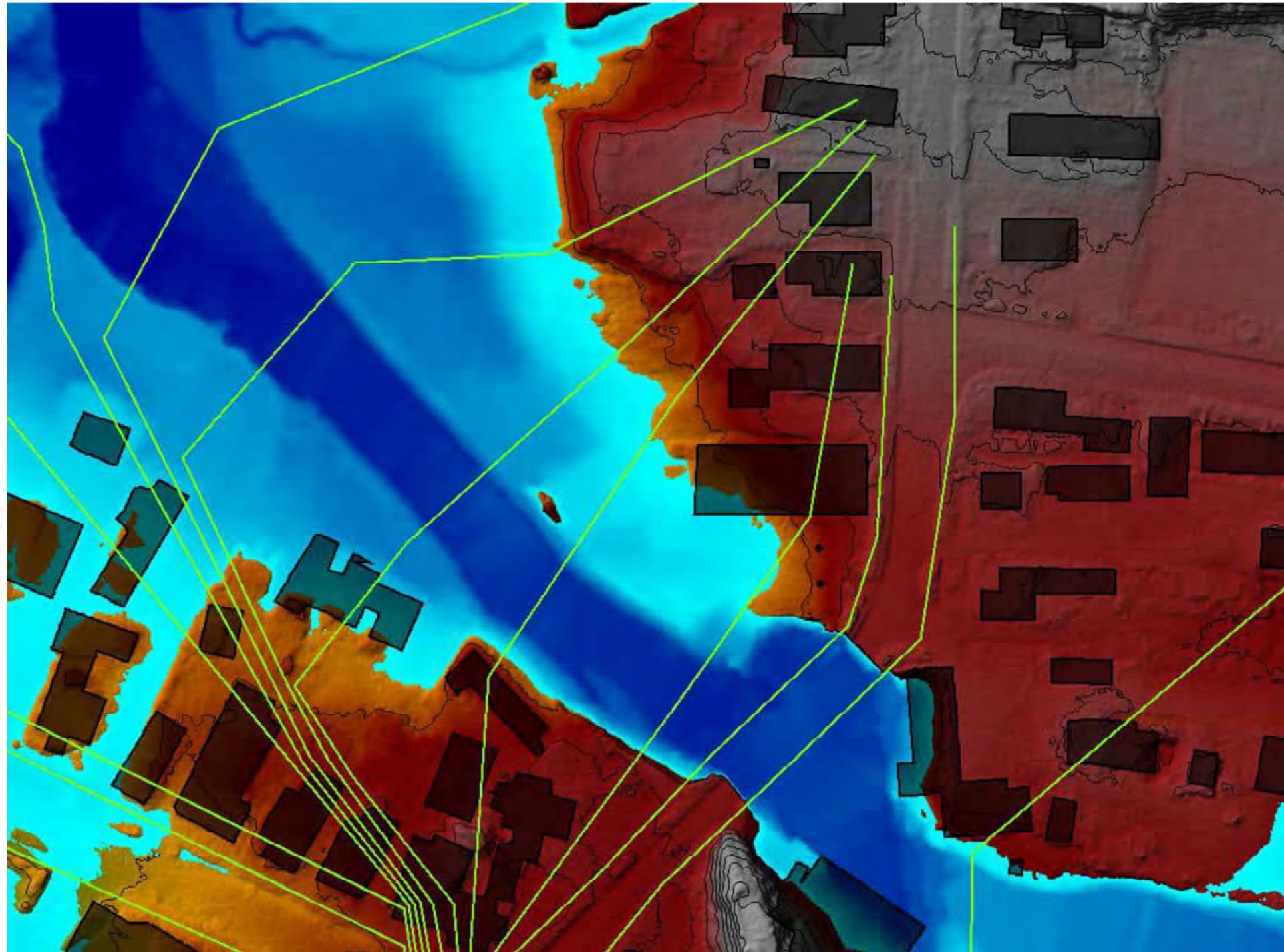
Flood chute that extends through sections 35, 34, and 33. Preserves established trees and vegetation along banks. Lowers floodplain to approx. 2-year flood.

- Model Cross Sections  #
- Terrain (2-ft contour) 
- Grenier Survey 
- Buildings 
- Approx. Floodplain Footprint 



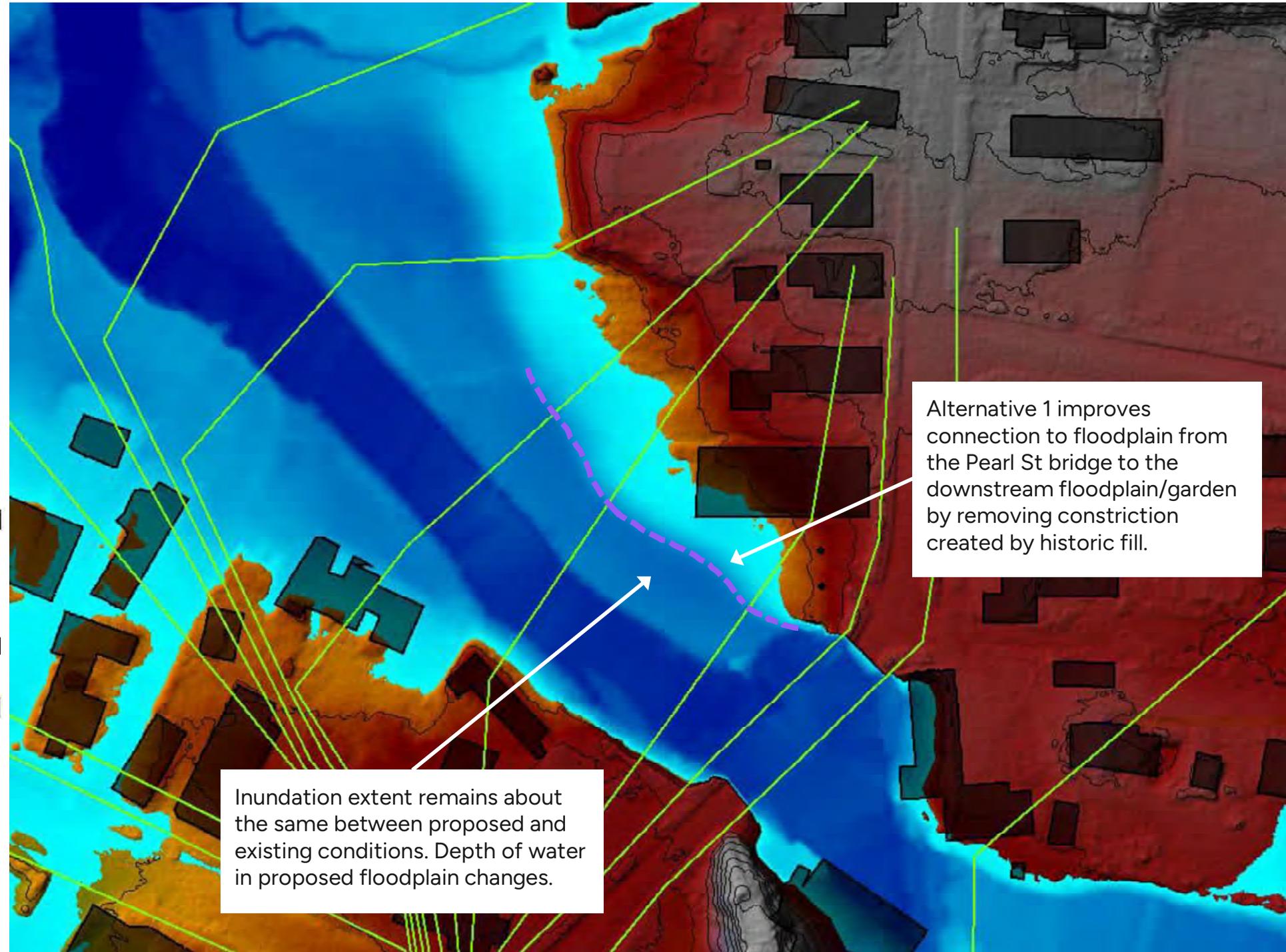
Existing Conditions Results: 100-yr Flood

- Model Cross Sections 
- Terrain (2-ft contour) 
- Grenier Survey 
- Buildings 
- Water Depth 



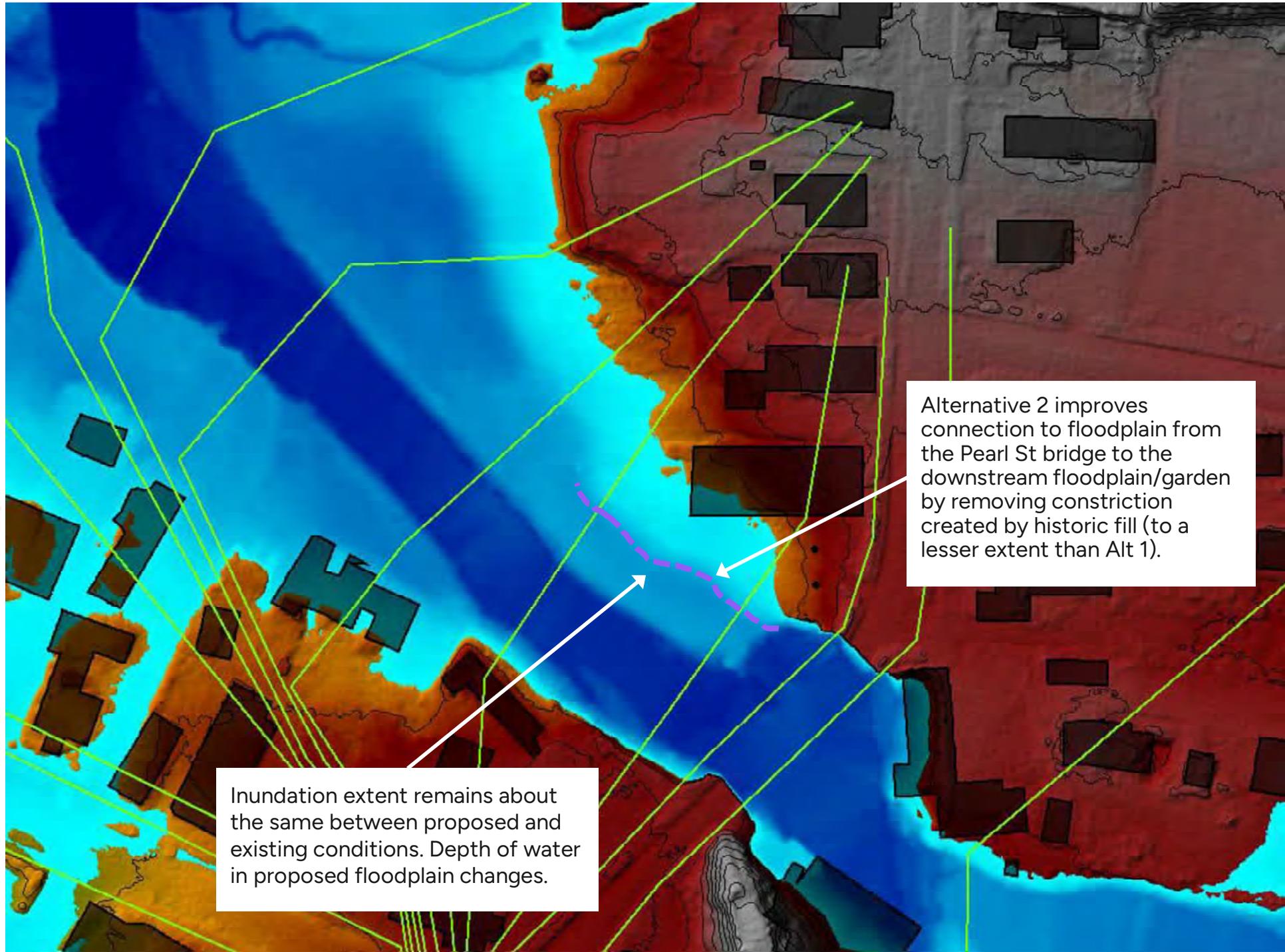
Alternative 1: 100-yr Flood

- Model Cross Sections 
- Terrain (2-ft contour) 
- Grenier Survey 
- Buildings 
- Water Depth 



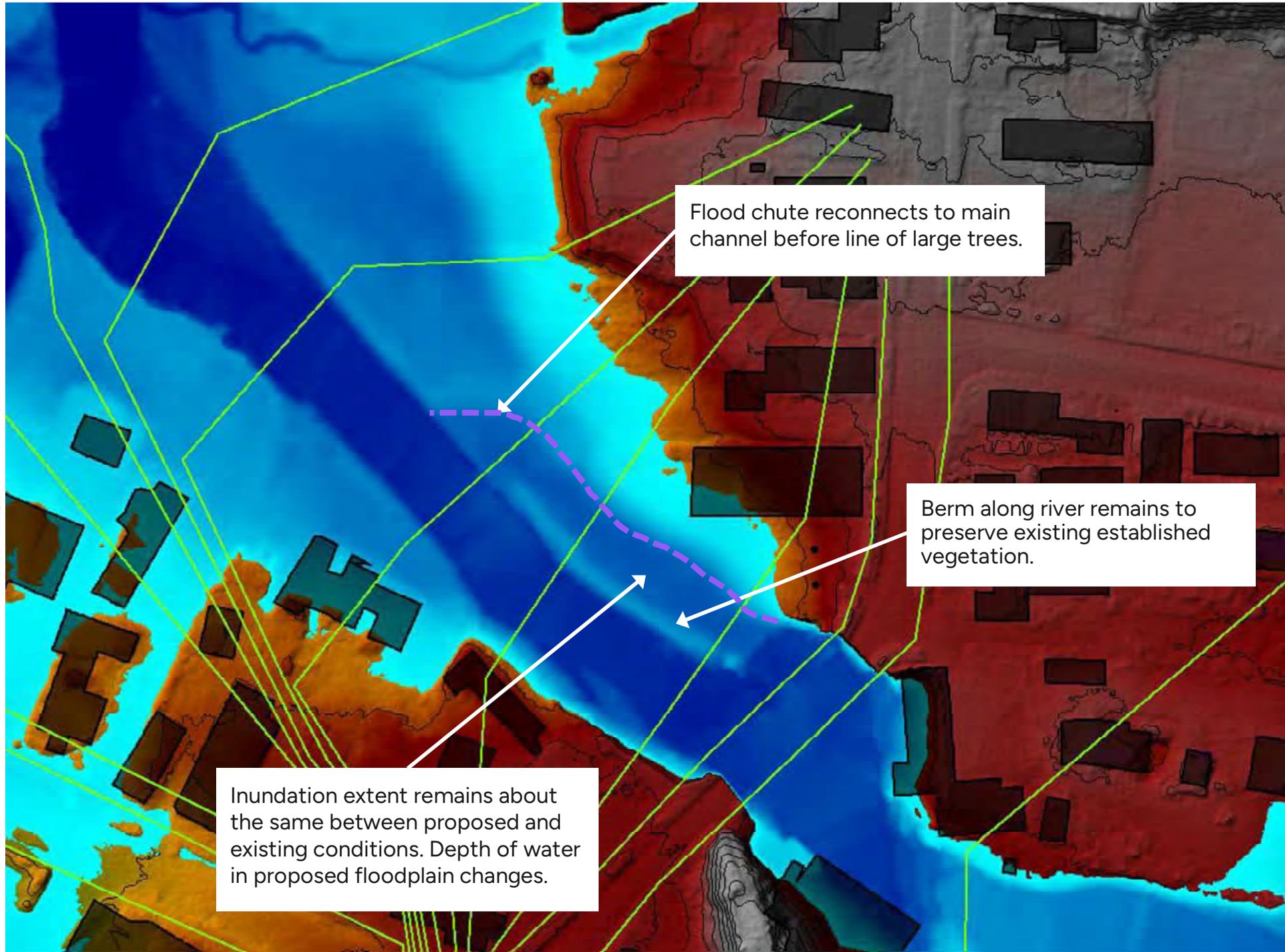
Alternative 2: 100-yr Flood

- Model Cross Sections ———
- Terrain (2-ft contour) ———
- Grenier Survey ●
- Buildings ———
- Water Depth ———



Alternative 3: 100-yr Flood

- Model Cross Sections ———
- Terrain (2-ft contour) ———
- Grenier Survey ●
- Buildings ———
- Water Depth ———



Flood chute reconnects to main channel before line of large trees.

Berm along river remains to preserve existing established vegetation.

Inundation extent remains about the same between proposed and existing conditions. Depth of water in proposed floodplain changes.



Changes in Water Surface Elevation (ft) from Existing Conditions

Reference	Cross-Section	Est 5-yr (ND)				Est 25-yr (ND)				50-yr (ND)				100-yr (ND)			
		Ex Cond	Alt. 1	Alt. 2	Alt. 3	Ex Cond	Alt. 1	Alt. 2	Alt. 3	Ex Cond	Alt. 1	Alt. 2	Alt. 3	Ex Cond	Alt. 1	Alt. 2	Alt. 3
	38	497.44	0.0	0.0	0.0	499.1	0.0	0.0	0.0	499.8	0.0	0.0	0.0	500.5	0.0	0.0	0.0
US Pearl St Bridge	37	492.84	-0.1	0.0	-0.1	495.4	-0.3	-0.1	-0.3	497.4	-0.3	-0.1	-0.2	499.3	-0.2	-0.1	-0.1
DS Pearl St Bridge	36	492.8	-0.1	0.0	-0.1	495.3	-0.3	-0.1	-0.3	497.3	-0.2	-0.1	-0.2	499.1	-0.2	-0.1	-0.1
Proposed Floodplain	35	492.52	0.0	0.0	0.0	494.9	-0.1	0.0	-0.1	497.0	0.0	0.0	0.0	498.8	0.0	0.0	0.1
Proposed Floodplain	34	492.18	0.1	0.0	0.1	494.3	0.2	0.1	0.2	496.6	0.2	0.1	0.2	498.5	0.2	0.1	0.2
Proposed Floodplain	33	492.09	0.1	0.0	0.0	494.4	0.1	0.0	0.1	496.7	0.0	0.0	0.0	498.7	0.0	0.0	0.0
	32	492.11	0.0	0.0	0.0	494.5	0.0	0.0	0.0	496.9	0.0	0.0	0.0	498.8	0.0	0.0	0.0

Alternatives adjust floodplain geometry at **highlighted** cross-sections

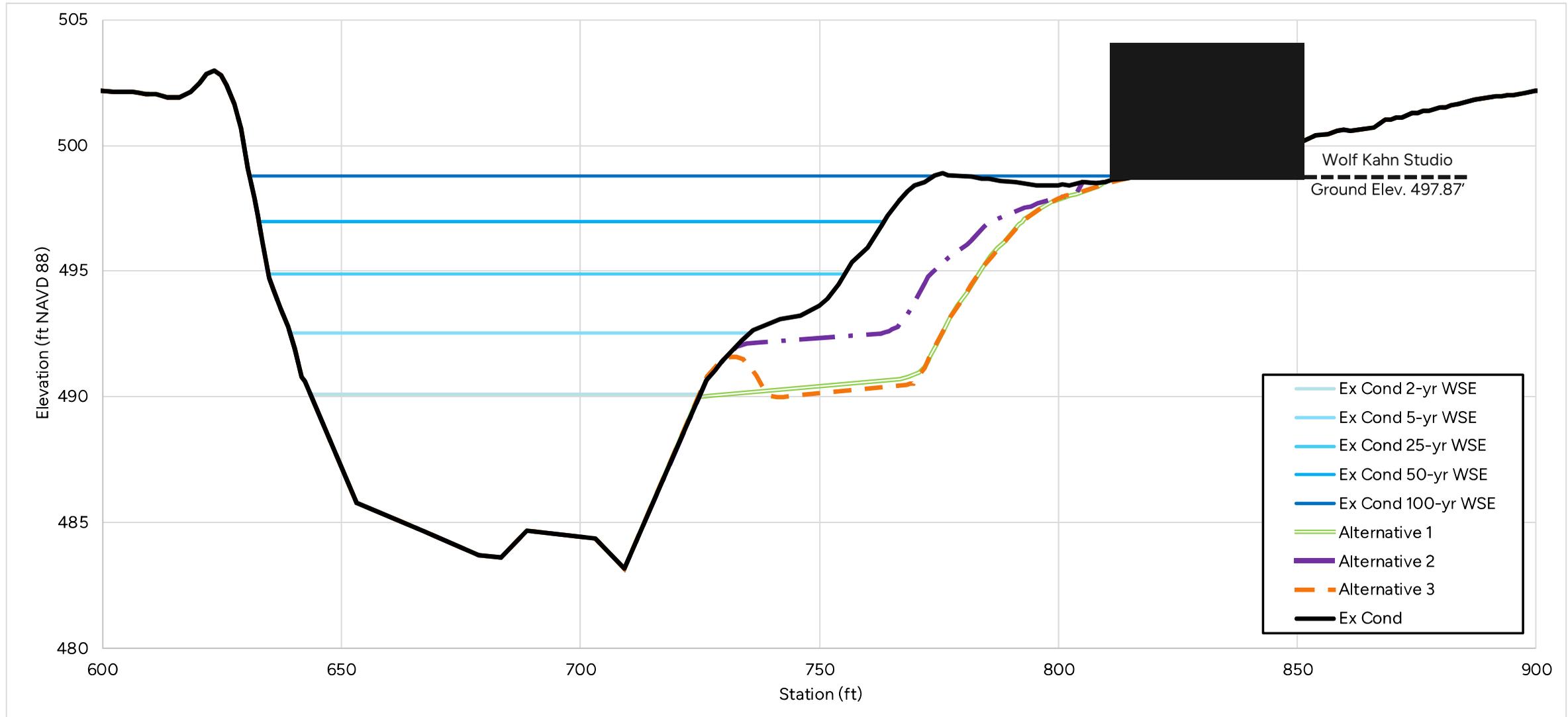
Changes in Velocity (cfs) from Existing Conditions

Reference	Cross-Section	Est 5-yr (ND)				Est 25-yr (ND)				50-yr (ND)				100-yr (ND)			
		Ex Cond	Alt. 1	Alt. 2	Alt. 3	Ex Cond	Alt. 1	Alt. 2	Alt. 3	Ex Cond	Alt. 1	Alt. 2	Alt. 3	Ex Cond	Alt. 1	Alt. 2	Alt. 3
	38	10.4	0.0	0.0	0.0	12.5	0.0	0.0	0.0	13.3	0.0	0.0	0.0	13.9	0.0	0.0	0.0
US Pearl St Bridge	37	3.5	0.1	0.0	0.1	4.4	0.2	0.0	0.1	4.2	0.1	0.0	0.1	4.2	0.1	0.0	0.1
DS Pearl St Bridge	36	3.2	0.1	0.0	0.0	4.1	0.2	0.0	0.1	4.0	0.1	0.0	0.1	4.1	0.1	0.0	0.0
Proposed Floodplain	35	4.9	-0.3	0.0	-0.3	6.5	-0.7	-0.2	-0.8	6.2	-0.9	-0.3	-0.9	6.1	-0.8	-0.4	-0.9
Proposed Floodplain	34	5.9	-0.5	0.0	-0.4	8.1	-1.5	-0.4	-1.3	7.5	-1.7	-0.8	-1.6	7.1	-1.2	-0.5	-1.1
Proposed Floodplain	33	5.6	-0.4	0.0	-0.3	6.8	-0.8	0.0	-0.5	5.8	-0.5	0.0	-0.3	5.4	-0.4	0.0	-0.2
	32	3.9	0.0	0.0	0.0	4.2	0.0	0.0	0.0	3.3	0.0	0.0	0.0	2.9	0.0	0.0	0.0

Cross Section 35



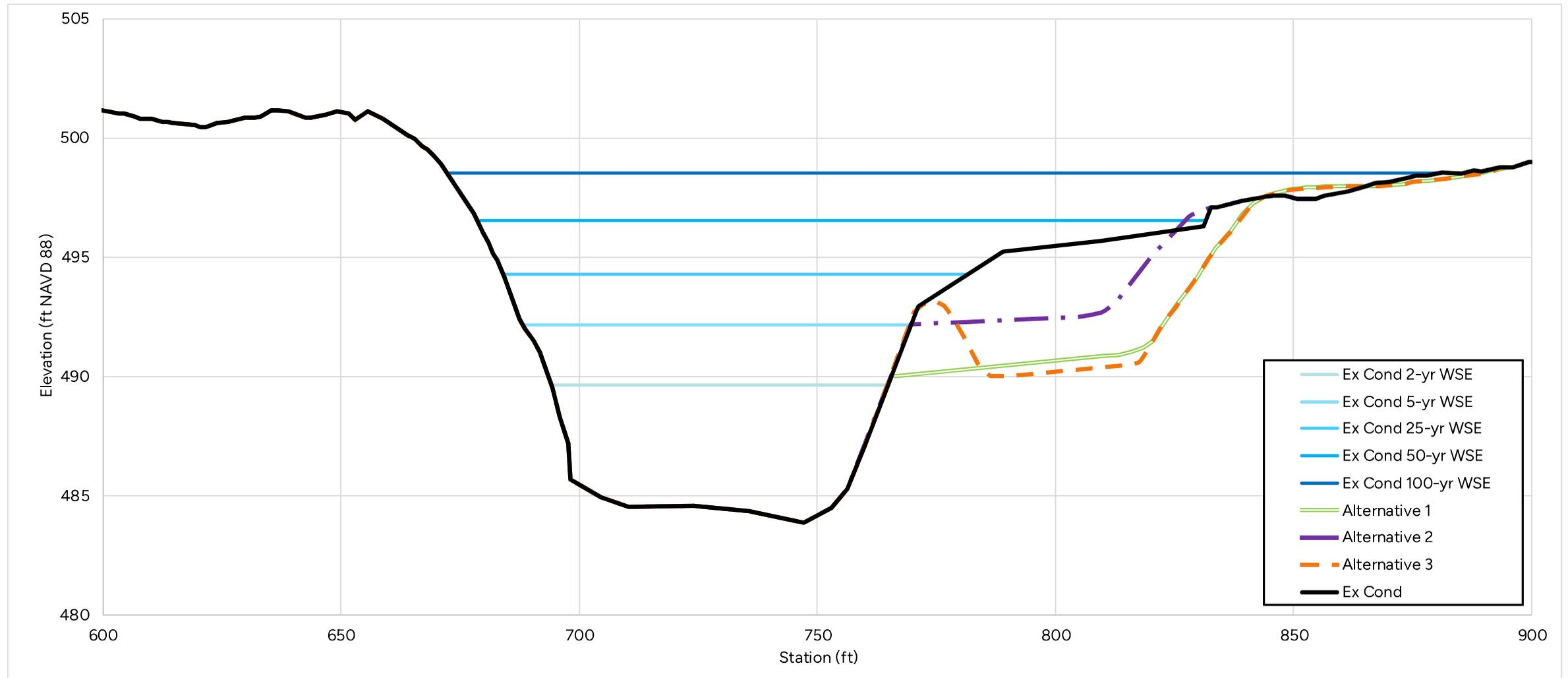
Water surface elevations (WSE) for existing conditions with elevation profile of each alternative.



Cross Section 34



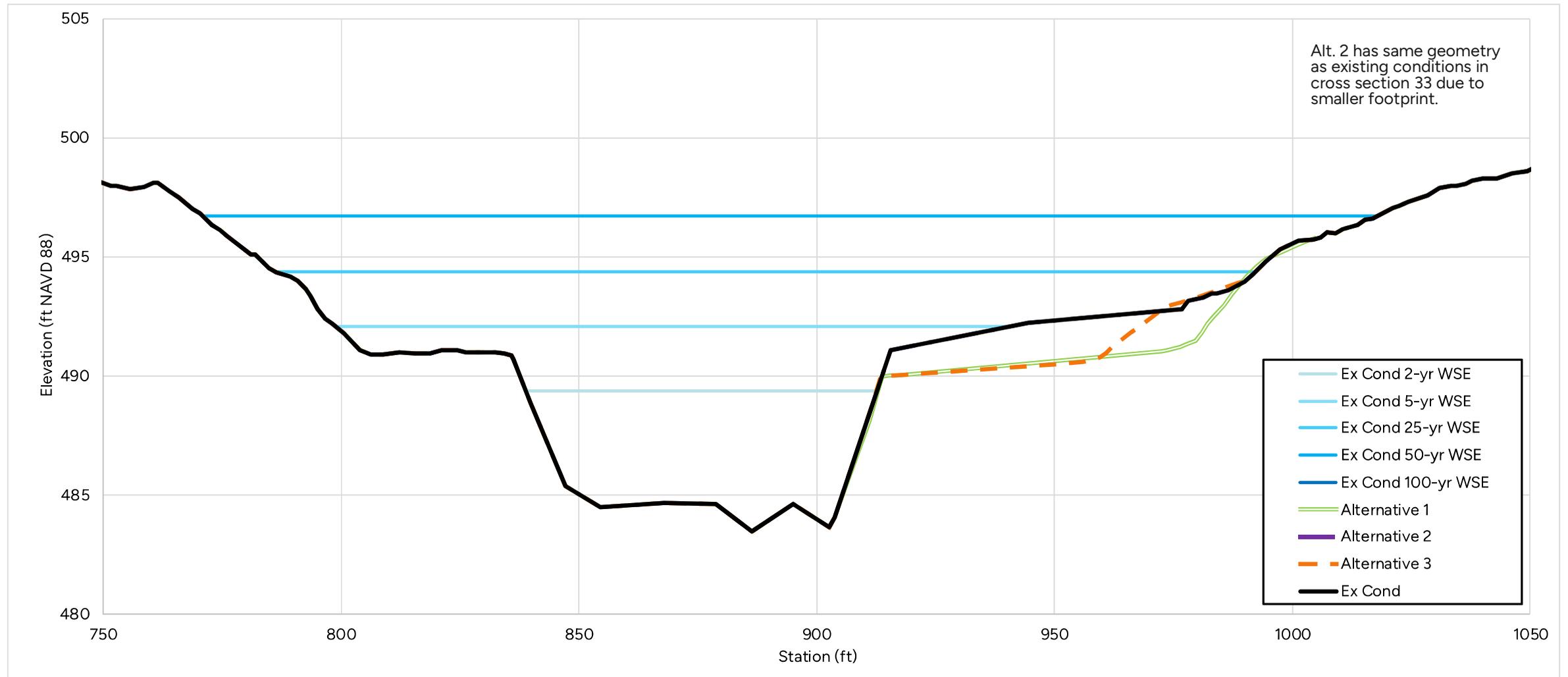
Water surface elevations (WSE) for existing conditions with elevation profile of each alternative.



Cross Section 33



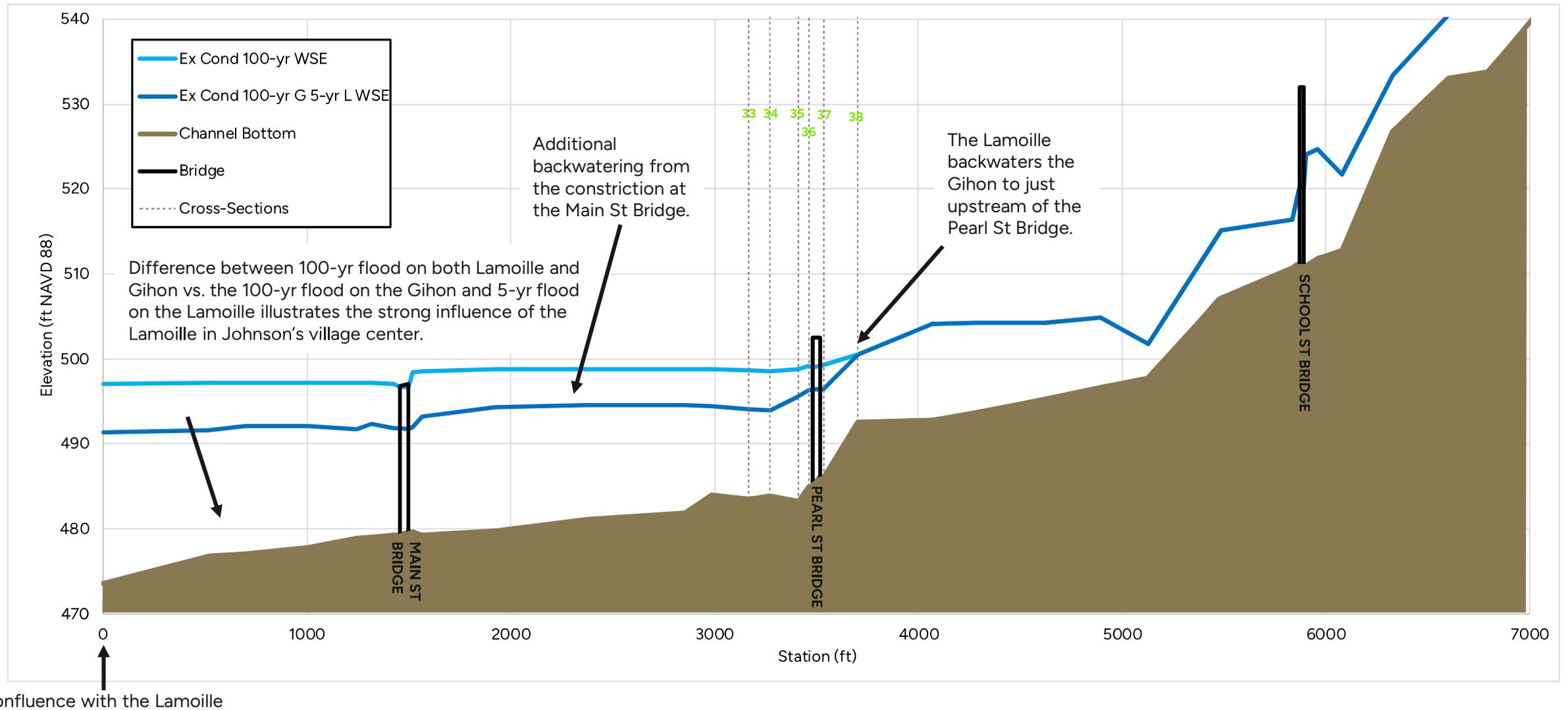
Water surface elevations (WSE) for existing conditions with elevation profile of each alternative.



Profile



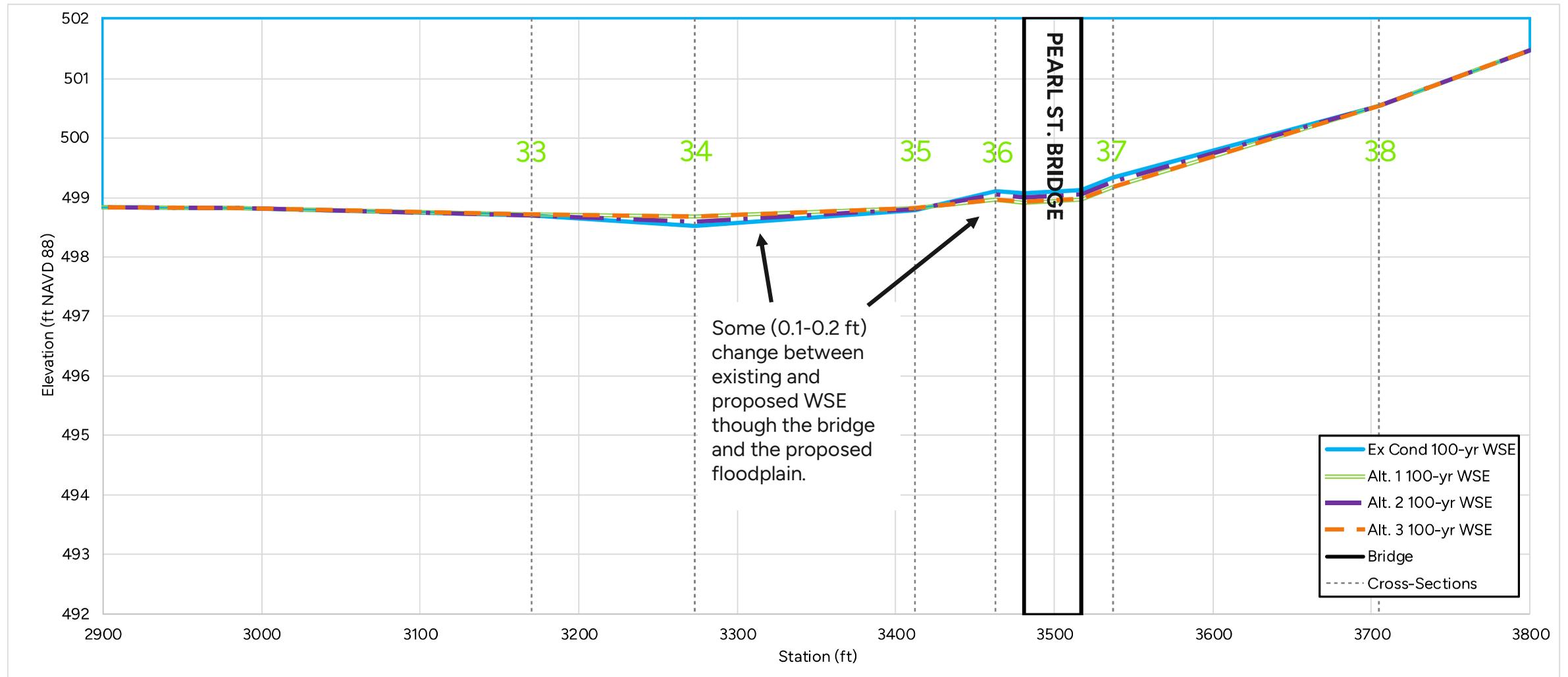
Longitudinal profile of Gihon river WSE comparing a **100-yr flood** on both rivers and when the **Gihon is at the 100-yr flood and the Lamoille is at the 5-yr flood** for existing conditions.



Profile



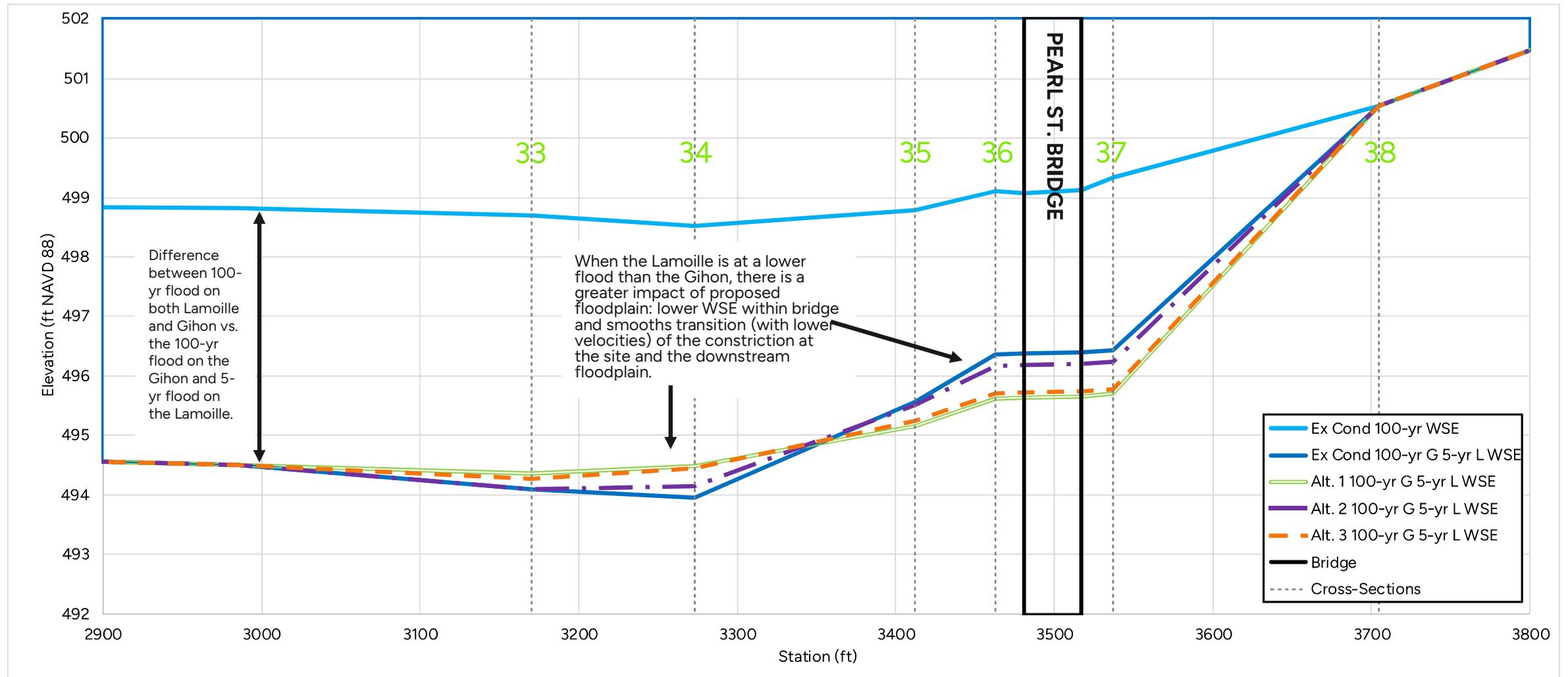
Longitudinal profile of Gihon river WSE at the **100-yr flood** for existing conditions and alternatives.



Profile



Longitudinal profile of Gihon river WSE when the **Gihon is at the 100-yr flood and the Lamoille is at the 5-yr flood** for existing conditions and alternatives.





Examples

- Restored floodplain would look similar to downstream meadow/lawn area – typically dry with plantings. Pollinator garden could be replanted at lower elevation after excavation complete.



Dog River, Northfield, VT September 7, 2018 1 year post construction



Beecher Hill Brook, Hinesburg, VT July 11, 2023 - 4 years post construction



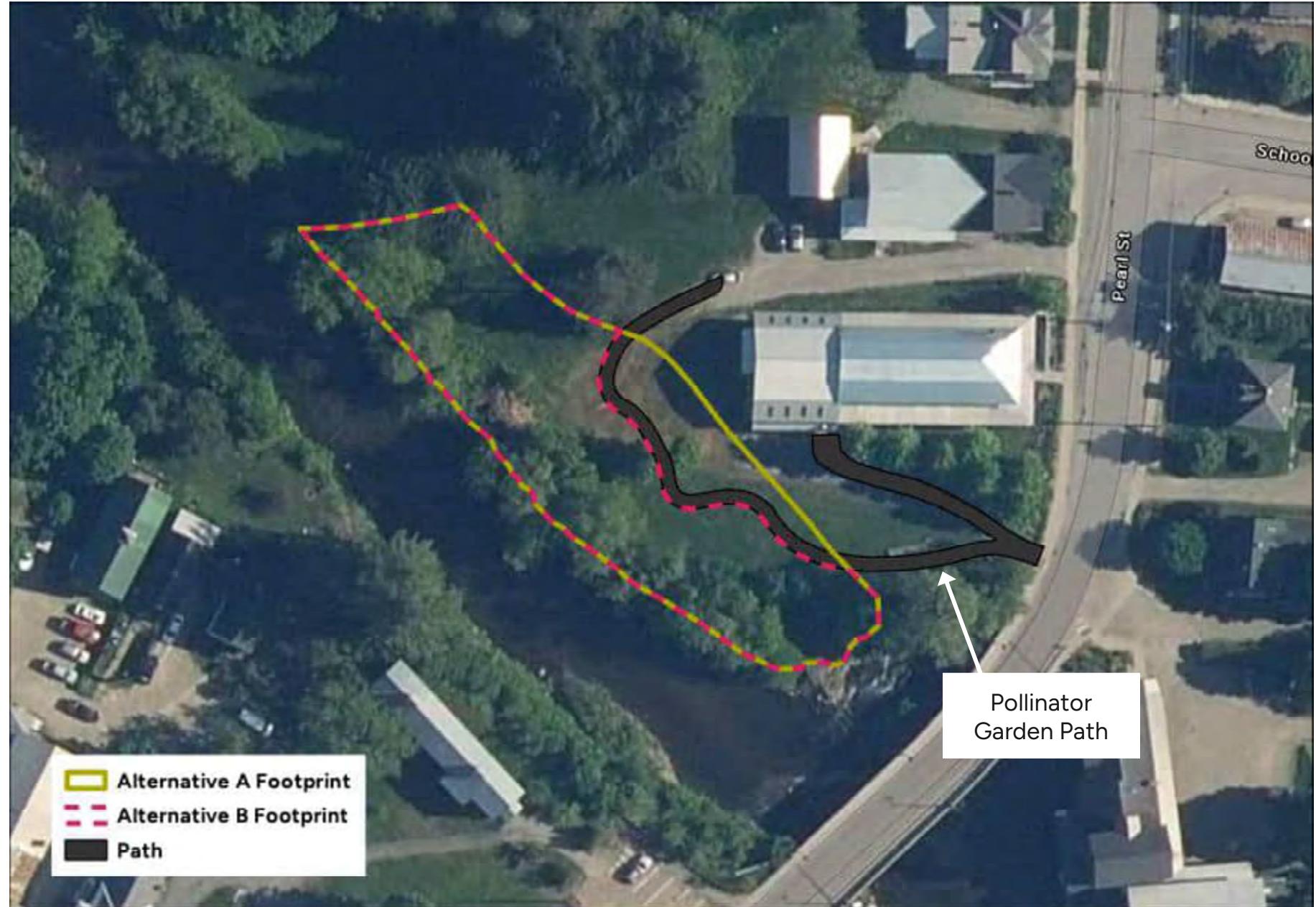
Site Visit June 9, 2025

- SLR met with project stakeholders to walk the site and review proposed floodplain restoration alternatives
- Decided to pursue more analysis on two alternatives:
 - Alternative A: Floodplain with top of bank following stakes set out on site walk
 - Alternative B: Floodplain with top of bank following existing path and preserving pollinator garden





Proposed Floodplain Footprints





Alternative A:

Floodplain lowered to 2-yr flood





Alternative B:

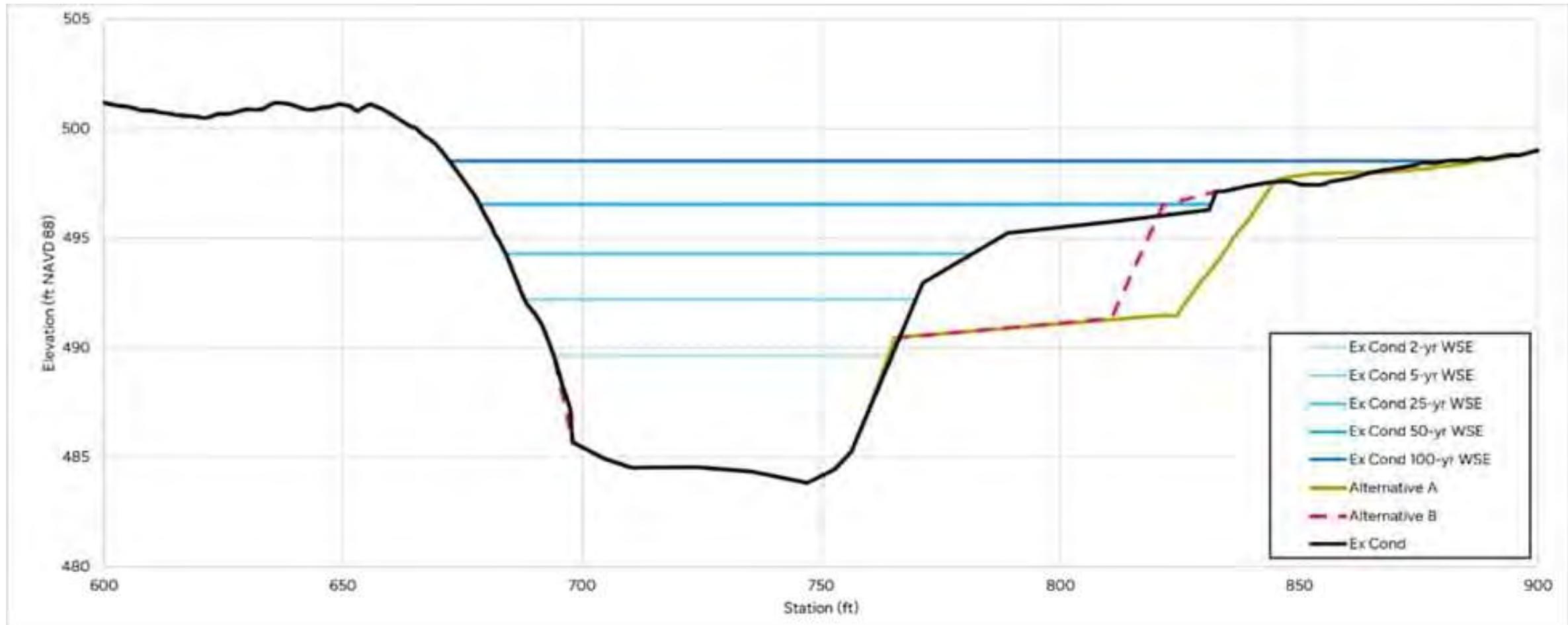
Floodplain lowered to 2-yr flood
and preserves pollinator garden
and path



Cross Section 34



Water surface elevations (WSE) for existing conditions with elevation profile of each alternative.





Changes in Water Surface Elevation (ft) from Existing Conditions

Reference	Cross-Section	Est 5-yr (ND)			Est 25-yr (ND)			Est 50-yr (ND)			Est 100-yr (ND)		
		Ex Cond	Alt A	Alt B	Ex Cond	Alt A	Alt B	Ex Cond	Alt A	Alt B	Ex Cond	Alt A	Alt B
	38	497.4	0.0	0.0	499.1	0.0	0.0	499.8	0.0	0.0	500.5	0.0	0.0
US Pearl St Bridge	37	492.8	-0.1	-0.1	495.4	-0.3	-0.2	497.4	-0.3	-0.1	499.3	-0.2	-0.1
DS Pearl St Bridge	36	492.8	-0.1	-0.1	495.3	-0.3	-0.2	497.3	-0.3	-0.1	499.1	-0.2	-0.1
Proposed Floodplain	35	492.5	0.0	0.0	494.9	-0.1	0.0	497.0	0.0	0.1	498.8	0.0	0.1
Proposed Floodplain	34	492.2	0.1	0.0	494.3	0.3	0.1	496.6	0.2	0.1	498.5	0.2	0.1
Proposed Floodplain	33	492.1	0.1	0.1	494.4	0.1	0.1	496.7	0.0	0.0	498.7	0.0	0.0
	32	492.1	0.0	0.0	494.5	0.0	0.0	496.9	0.0	0.0	498.8	0.0	0.0

Alternatives adjust floodplain geometry at **highlighted** cross-sections

Changes in Velocity (cfs) from Existing Conditions

Reference	Cross-Section	Est 5-yr (ND)			Est 25-yr (ND)			Est 50-yr (ND)			Est 100-yr (ND)		
		Ex Cond	Alt A	Alt B	Ex Cond	Alt A	Alt B	Ex Cond	Alt A	Alt B	Ex Cond	Alt A	Alt B
	38	10.4	0.0	0.0	12.5	0.0	0.0	13.3	0.0	0.0	13.9	0.0	0.0
US Pearl St Bridge	37	3.5	0.1	0.0	4.4	0.2	0.1	4.2	0.1	0.1	4.2	0.1	0.0
DS Pearl St Bridge	36	3.2	0.1	0.0	4.1	0.2	0.1	4.0	0.1	0.1	4.1	0.1	0.0
Proposed Floodplain	35	4.9	-0.3	-0.4	6.5	-0.7	-0.8	6.2	-0.9	-0.9	6.1	-0.8	-0.9
Proposed Floodplain	34	5.9	-0.6	-0.3	8.1	-1.8	-0.9	7.5	-1.9	-0.8	7.1	-1.4	-0.4
Proposed Floodplain	33	5.6	-0.4	-0.4	6.8	-0.6	-0.6	5.8	-0.4	-0.4	5.4	-0.3	-0.3
	32	3.9	0.0	0.0	4.2	0.0	0.0	3.3	0.0	0.0	2.9	0.0	0.0

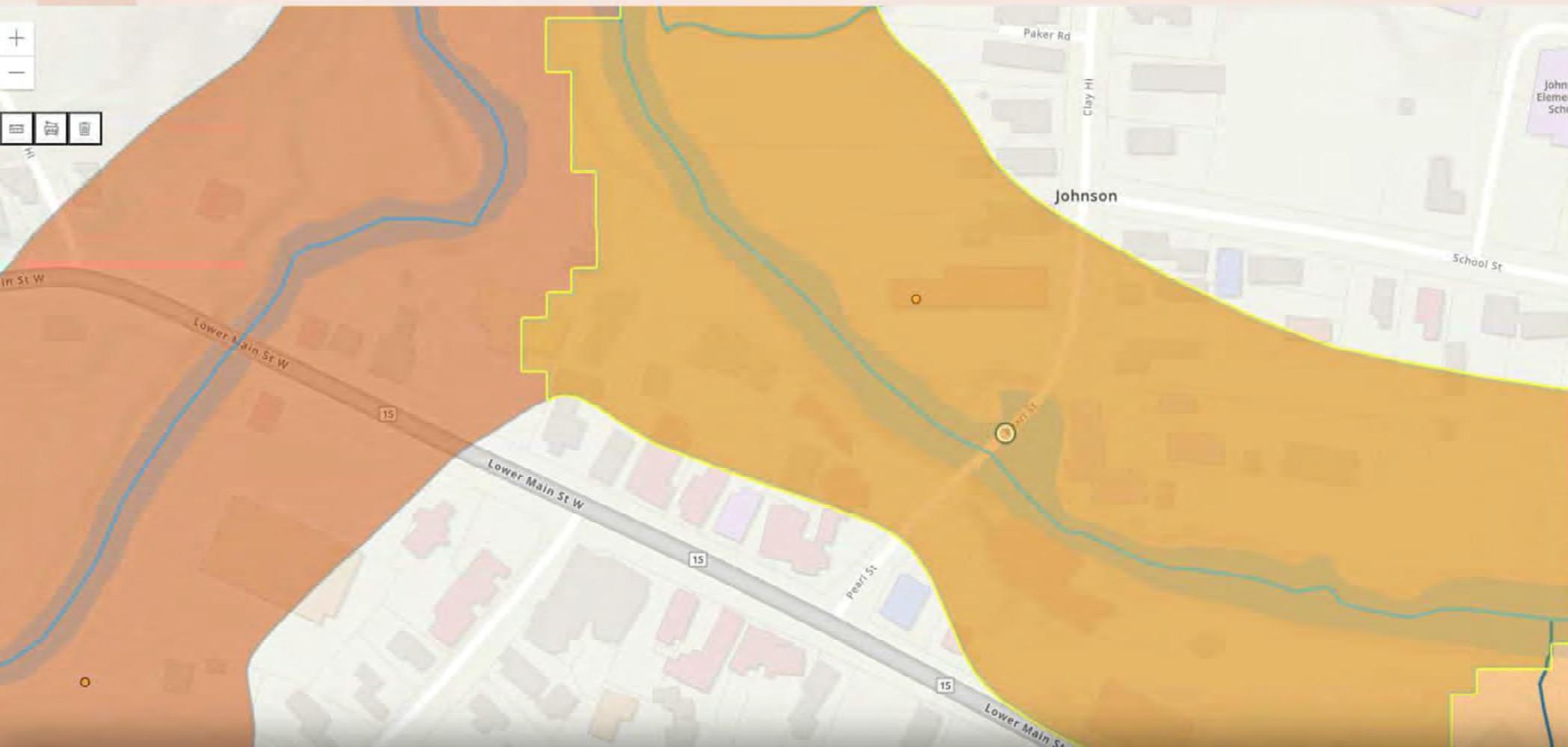


Conclusion

- Floodplain creation would lower land to allow more space for floodwater.
- More floodplain space where the slope transitions from steep to shallower slope at the edge of the Lamoille River backwater area is particularly valuable.
- Lowered floodplain can catch wood, sediment, and ice that comes down the Gihon before entering the Village.
- Opportunity to piggyback on contamination cleanup excavation.

Appendix C: FFI Phosphorus Credit





FEATURE DATA ADD TO PROJECT SCREENING

Stream Connectivity
 FFI ID: 85_M01B
 SGAT ID: 85_M01B

▶ **Connectivity Details**
 ▶ **Priority Projects**

LAYERS

FIND A PLACE

pearl street, johnson, vt

Navigation icons: back, forward, search, close.

PROJECT SCREENING CALCULATION INPUTS WATER QUALITY BENEFIT **FLOODPLAIN RESILIENCY BENEFIT** HABITAT BENEFIT BENEFIT SUMMARY COST EFFECTIVENESS

EXPORT CSV EXPAND ALL CLEAR RESULTS

River Corridor ID	Floodplain (Lat-Vert) Connectivity (Score of 0-100)	Total Feasibility (Score of 0-100)	TP Load Assigned to Floodplains (kg)	Incision Ratio	Existing Inundation Vulnerability	Existing Erosion Vulnerability	Habitat Priority	Number of Priority Projects	Add to Project Calculations
-------------------	---	------------------------------------	--------------------------------------	----------------	-----------------------------------	--------------------------------	------------------	-----------------------------	-----------------------------

▼ 85_M01B_1_C00	26.4	35.4	6.9	1.5	High	High	-	4	<input checked="" type="checkbox"/>
-----------------	------	------	-----	-----	------	------	---	---	-------------------------------------

Project Type	Connectivity Priority	Typical Project Unit Cost (\$)	Simulated Watershed Average P Credit (kg/ac-yr)
Plant 50-Foot Riparian Area	Medium	\$500-\$5,000 per acre	0.1
Create Flood Bench	Medium	\$20,000-\$200,000 per acre	0.3
Remove Minor Constraint	Low	\$10,000-\$100,000 each	0.2
Adopt River Corridor Bylaws	Medium	\$10,000-\$10,000 per acre	0.1

Stream Segment ID	Stream (Long-Temp) Connectivity (Score of 0-100)	TP Load Assigned to Streams (kg)	Number of Priority Projects	Add to Project Calculations
-------------------	--	----------------------------------	-----------------------------	-----------------------------

▼ 85_M01B	75.3	0.7	0	<input checked="" type="checkbox"/>
-----------	------	-----	---	-------------------------------------

PROJECT SCREENING

CALCULATION INPUTS

WATER QUALITY BENEFIT

FLOODPLAIN RESILIENCY BENEFIT

HABITAT BENEFIT

BENEFIT SUMMARY

COST EFFECTIVENESS

EXPORT CSV

CLEAR RESULTS

CALCULATE

Enter Proposed Information for Potential Stream Stability Projects Below:

▼ Floodplain Connectivity (Lateral-Vertical) and Storage Crediting

Proposed River Corridor and Floodplain Projects:

- Restore Channel Slope
- Plant Floodplain
- Plant River Corridor
- Reconnect Flood Chute
- NRCS Wetland Reserve
- Restore Channel Roughness and Wood

- Remove Minor Constraint
- Adopt River Corridor Bylaws
- Create Flood Bench
- Plant 50-Foot Riparian Area
- Raise Channel

- Remove Berm
- Restore Wetland
- Remove Major Constraint
- Implement River Corridor Easement
- Lower Floodplain

STREAM STABILITY (FLOODPLAINS)

STORAGE

River Corridor ID	River Corridor Area (acres)	50-ft Riparian Area (acres)	Existing Incision Ratio	Unconstrained River Corridor Area (acres)	Robust Protection Area (acres)	Moderate Protection Area (acres)	Low Protections Area (acres)	No Protection Area (acres)	Naturally Vegetated Buffer Area (acres)	Proposed Incision Ratio	Area with Vertical Change (acres)
85_M01B_1_C00Existing	19.3	4.3	1.5	8.3	0	7.4	10.1	1.8	2.1	-	-
Proposed Project Values	-	-	1.9						0.4	1.1	0.4

Enter Proposed Information for Potential Stream Stability Projects Below:

CALCULATE

▼ Floodplain Connectivity (Lateral-Vertical) and Storage Crediting

Proposed River Corridor and Floodplain Projects:

- Restore Channel Slope
- Plant Floodplain
- Plant River Corridor
- Reconnect Flood Chute
- NRCS Wetland Reserve
- Restore Channel Roughness and Wood

- Remove Minor Constraint
- Adopt River Corridor Bylaws
- Create Flood Bench
- Plant 50-Foot Riparian Area
- Raise Channel

- Remove Berm
- Restore Wetland
- Remove Major Constraint
- Implement River Corridor Easement
- Lower Floodplain

STREAM STABILITY (FLOODPLAINS)

STORAGE

River Corridor ID	Existing Reach Connectivity	Project Area Connectivity	Proposed Project Area (acres)
85_M01B_1_C00	Existing	-	-
	Proposed Project Values		
	Medium	High	0.4

► Stream Connectivity (Longitudinal-Temporal) Crediting

Stream Names: Gihon River

Project Area (acres): 0.4

Stream Stability and Storage Credit Summary

	Year 1 Credit (kg)	Year 2+ Credit (kg/yr)	Estimated 15 Yr Lifespan Credit (kg)
Floodplain Connectivity (Lateral - Vertical)			
Stream Stability	0.2	0.2	3.0
Storage	1.8	0.9	14.5
Stream Connectivity (Longitudinal - Temporal)			
Stream Stability	0.0	0.0	0.0
TOTAL	2.0	1.1	17.5

▼ Stream Stability Credit and Connectivity Details

Floodplain Connectivity (Lateral-Vertical)									
River Corridor ID	Project Connectivity Credit Score	Existing Subunit Floodplain/Corridor Connectivity Score	Proposed Lateral Credit Score	Proposed Vertical Credit Score	Proposed Subunit Floodplain/Connectivity Score	Lateral P Reduction Credit (kg/yr)	Vertical P Reduction Credit (kg/yr)	Total P Reduction Credit (kg/yr)	Total P Reduction Credit (lb/yr)
85_M01B_1_C00	1.1	26.4	1.4	0	27.5	0.1	0.1	0.2	0.3

Stream Connectivity (Longitudinal-Temporal)									
Stream ID	Project Connectivity Credit Score	Existing Stream Segment Connectivity Score	Proposed Longitudinal Credit Score	Proposed Temporal Credit Score	Proposed Stream Segment Connectivity Score	Longitudinal P Reduction Credit (kg/yr)	Temporal P Reduction Credit (kg/yr)	Total Stream Connectivity P Credit (kg/yr)	Total Stream Connectivity P Credit (lb/yr)
85_M01B	0.2	75.3	0.3	0	75.4	0	0	0	0

Predicted Floodplain Resiliency Benefit

SubUnit(s) IDs: 85_M01B_1_C00, 85_M01B

Town: JOHNSON

Projects Included: -

Stream Names: Gihon River

Project Area (acres): 0.4

Potential Reduction in Vulnerability (Including Upstream and Downstream Benefits)

Value of Vulnerable Infrastructure and Property (\$)

Potential Reduction in Vulnerability (\$)

Corridor or Floodplain Id	Vulnerability Process	Value of Vulnerable Infrastructure and Property (\$)				Potential Reduction in Vulnerability (\$)			
		Building	Transportation	Agriculture	Total	Building	Transportation	Agriculture	Total
▶ Total	Inundation (floodplain)	2,863,800	222,500	1,900	3,088,200	0	0	0	0
▶ Total	Erosion (Corridor)	5,327,300	3,162,700	1,100	8,491,100	0	0	0	0

Local Vulnerability Reduction (Based on Single Corridor or Floodplain Subunit)

Existing

Proposed

Corridor or Floodplain ID	Vulnerability Process	Initial Value of Vulnerable Infrastructure and Property (\$)	Vulnerability Rank	Remaining Value of Vulnerable Infrastructure and Property (\$)	Vulnerability Rank	Vulnerability Reduction (%)
85_M01B_1_0F0	Inundation (floodplain)	3,088,200	High	3,088,200	High	0
85_M01B_1_C00	Erosion (corridor)	8,491,100	High	8,491,100	High	0

Appendix D: 30% Design



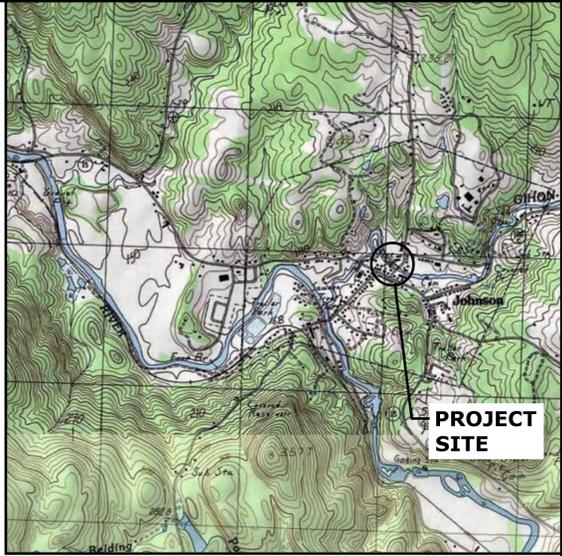
VERMONT STUDIO CENTER FLOODPLAIN RESTORATION

80 PEARL STREET
JOHNSON, VERMONT

30% CONCEPT DESIGN
OCTOBER 21, 2025



PROJECT SITE VICINITY MAP:



LOCATION MAP:



PREPARED FOR:

LAMOILLE COUNTY PLANNING COMMISSION
52 PORTLAND STREET
MORRISTOWN, VERMONT 05661



LIST OF DRAWINGS

NO.	NAME	TITLE
01	-	TITLE SHEET
02	EX	SITE PLAN - EXISTING CONDITIONS
03	PR	SITE PLAN - PROPOSED CONDITIONS
04	XS	SECTIONS

PREPARED BY:

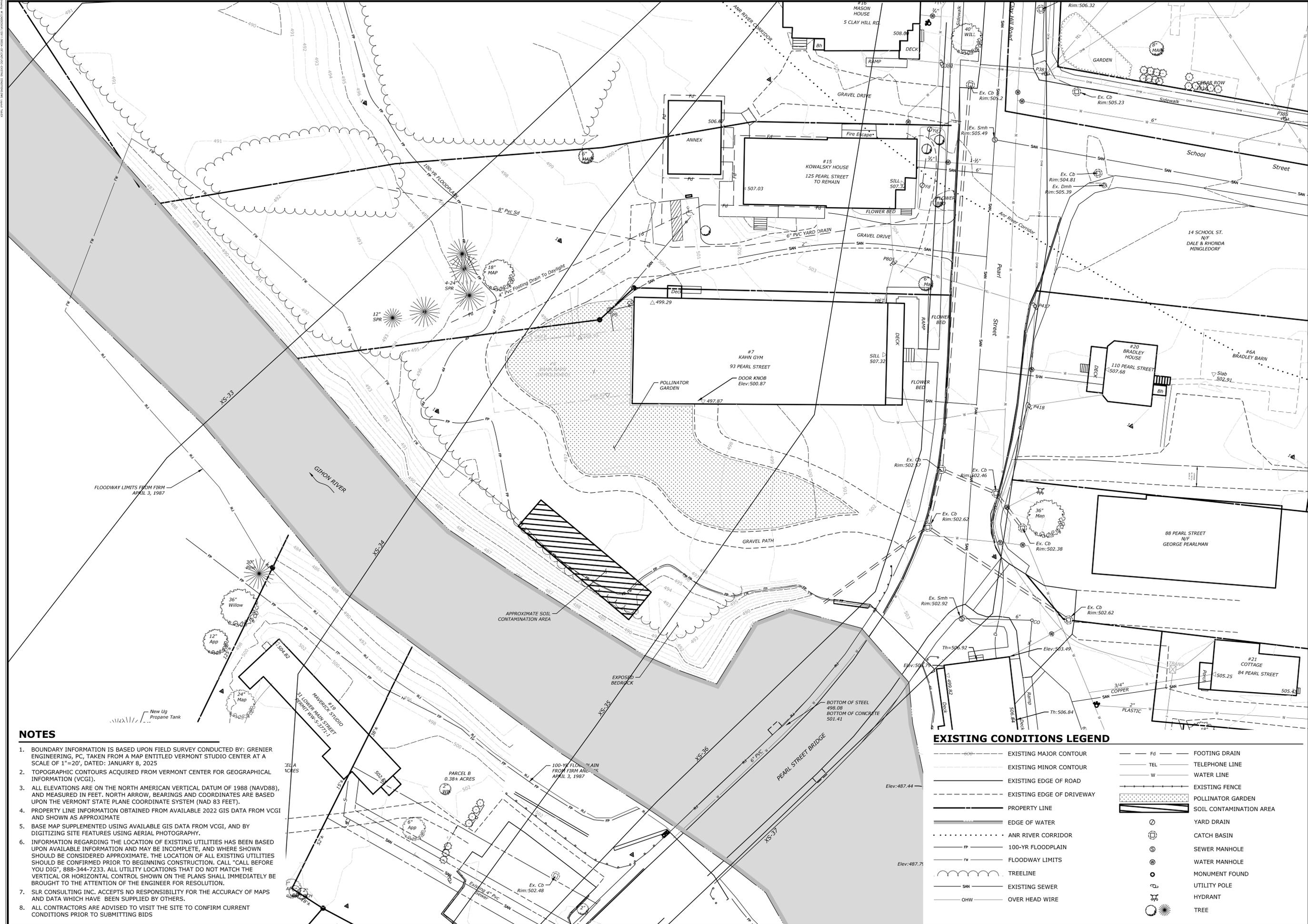


1 SOUTH MAIN STREET
WATERBURY, VT 05676
802.882.8335
SLRCONSULTING.COM



Know what's below.
Call before you dig.
www.cbyd.com

PROJECT: 25-000 VERMONT STUDIO CENTER FLOODPLAIN RESTORATION
 DRAWING: 25-000-01 TITLE SHEET
 DATE: 10/21/25
 SCALE: AS SHOWN
 DRAWN BY: JACOB WILSON
 CHECKED BY: JACOB WILSON
 APPROVED BY: JACOB WILSON
 PROJECT MANAGER: JACOB WILSON
 CLIENT: LAMOILLE COUNTY PLANNING COMMISSION

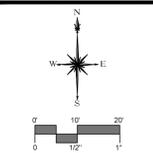


NOTES

- BOUNDARY INFORMATION IS BASED UPON FIELD SURVEY CONDUCTED BY: GRENIER ENGINEERING, PC, TAKEN FROM A MAP ENTITLED VERMONT STUDIO CENTER AT A SCALE OF 1"=20', DATED: JANUARY 8, 2025
- TOPOGRAPHIC CONTOURS ACQUIRED FROM VERMONT CENTER FOR GEOGRAPHICAL INFORMATION (VCGI).
- ALL ELEVATIONS ARE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AND MEASURED IN FEET. NORTH ARROW, BEARINGS AND COORDINATES ARE BASED UPON THE VERMONT STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
- PROPERTY LINE INFORMATION OBTAINED FROM AVAILABLE 2022 GIS DATA FROM VCGI AND SHOWN AS APPROXIMATE
- BASE MAP SUPPLEMENTED USING AVAILABLE GIS DATA FROM VCGI, AND BY DIGITIZING SITE FEATURES USING AERIAL PHOTOGRAPHY.
- INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "CALL BEFORE YOU DIG", 888-344-7233. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
- SLR CONSULTING INC. ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.
- ALL CONTRACTORS ARE ADVISED TO VISIT THE SITE TO CONFIRM CURRENT CONDITIONS PRIOR TO SUBMITTING BIDS

EXISTING CONDITIONS LEGEND

	EXISTING MAJOR CONTOUR		FOOTING DRAIN
	EXISTING MINOR CONTOUR		TELEPHONE LINE
	EXISTING EDGE OF ROAD		WATER LINE
	EXISTING EDGE OF DRIVEWAY		EXISTING FENCE
	PROPERTY LINE		POLLINATOR GARDEN
	EDGE OF WATER		SOIL CONTAMINATION AREA
	ANR RIVER CORRIDOR		YARD DRAIN
	100-YR FLOODPLAIN		CATCH BASIN
	FLOODWAY LIMITS		SEWER MANHOLE
	TREELINE		WATER MANHOLE
	EXISTING SEWER		MONUMENT FOUND
	OVER HEAD WIRE		UTILITY POLE
			HYDRANT
			TREE



DESCRIPTION	DATE	BY

SITE PLAN - EXISTING CONDITIONS
VERMONT STUDIO CENTER
FLOODPLAIN RESTORATION
 80 PEARL STREET
 JOHNSON, VERMONT

JCL	JAG	JCL
DESIGNED	DRAWN	CHECKED
SCALE: 1" = 20'		
DATE: OCTOBER 21, 2025		
PROJECT NO.: 12911.00024		
SHEET NO.: 02 OF 04		
EX		

30% CONCEPT DESIGN

Appendix E: Cost Estimate (30% Design)



BALLPARK OPINION OF PROBABLE CONSTRUCTION COSTS
Vermont Studio Center - Floodplain Restoration

Johnson, Vermont

October 23, 2025
 SLR # 12911.00024



Description	Unit	Quantity	Unit Price (\$)	Amount (\$)
SITE PREPARATION				
MOBILIZATION	LS	1	15,000	15,000
SEDIMENT AND EROSION CONTROLS	LS	1	5,000	5,000
TEMPORARY CONSTRUCTION FENCING	LS	1	2,000	2,000
CLEARING AND GRUBBING	LS	1	10,000	10,000
CONSTRUCTION STAKING/SURVEY	LS	1	2,000	2,000
FLOODPLAIN RESTORATION				
EXCAVATION AT FLOODPLAIN AND HAUL	CY	1,500	30	45,000
RESTORATION OF SITE				
RESTORATION OF ACCESS & STAGING	LS	1	5,000	5,000
TOPSOIL AND FINAL GRADING	LS	1	10,000	10,000
SEED AND MULCH	ACRE	0.5	10,000	5,000
RIPARIAN TREES AND VEGETATION	LS	1	15,000	15,000
CONSTRUCTION SUBTOTAL				\$ 114,000
FINAL DESIGN				\$ 20,000
PERMITTING				\$ 12,000
BID MANAGEMENT				\$ 8,000
CONSTRUCTION OVERSIGHT AND DOCUMENTATION (PART-TIME)				\$ 35,000
POST-CONSTRUCTION MONITORING (3 YEARS)				\$ 9,000
CONSTRUCTION CONTINGENCY (10%)				\$ 11,000
TOTAL				\$ 209,000

* Contaminated soil excavation, haul, and disposal of sediments associated with Corrective Action Plan not included

14428-Holmes

Project Details	
WPD ID	14428
Status	Proposed
Project Name	Holmes Meadow Floodplain Restoration – Implementation
Project Type	Floodplain/Stream Restoration - Implementation
Sector	River
Lat/Long	44.63543, 72.68873
Stream Segment	16_R13
Technical Project Manager	
Description	The Town of Johnson has acquired this property with the flood plain restoration worked to be finished by the end of 2025. The restoration will involve about 3 acres of land with excavation to improve floodplain access, starting at the 2 year storm event. The site will also be replanted and restored with native vegetation to maintain ecological balance and further flood resiliency.
Development Notes	
Submission Number	HQF-T2DV-64W93

Town/County/Region	Basin/Sub Basin	Potential Partners	Potential Funding Source
Johnson	Lamoille River Basin	Johnson Town Lamoille County Planning Commission	Clean Water Fund Hazard Mitigation Grants FEMA Flood Resilience Communities Fund Design and Implementation Block Grant

Event Date	Event Type	State Amount	Match	Grant Total	Funding Source	Grant Num	Funded Partner
10/27/2025	Project Created in Database						

Performance Measure	Value	Status

Related Projects				
Relationship	WPD ID	Project Name	Status	

Records			
Date	Record Type	Record Title	

Project Type	
TypeList	Floodplain/Stream Restoration – Implementation
Step/Phase	Implementation
Basic Eligibility	Yes
Applicant Name	Victoria Hellwig
Applicant Organization	Lamoille County Planning Commission
Applicant Email	victoria@lcpvct.org
Applicant telephone	+1 (802) 851-6342
Project ID from WPD	14428
Description of Project	The Lamoille River Hydraulic Flood Model identified this location as an area for restoration to improve floodplain access and flood storage and increase sediment attenuation. The Town of Johnson is working with SLR consulting on a floodplain restoration project, to remove a berm along the river, excavate soils to provide additional flood storage capacity, and revegetate the field with native trees and shrubs. Final Designs and Permitting was completed by SLR in 2025. See attached final design plans and letter of support from the Town for a more detailed project description. The project will yield an estimated total phosphorus credit of 218 kg with annual year one reduction of 27.2 kg/yr and an after year one annual P reduction of 13.7 kg/yr.
Project Latitude	44.63488
Project Longitude	72.68929
Project Phase	Implementation
Annual P Reduction KG	13.7
Any one time P reduction KG	27.2
Total Cost of Proposed Phase	735276.50
Amount of funding requested (Proposed Phase)	\$137,856.31
Matching Funds Available	\$969,222.50
Total Project Costs (All Phases)	\$1,100,222.25
KG/\$ Current Phase	1.86324E-05
KG/\$ Overall	1.2452E-05
Design Life	Perpetual
Estimated Annual O&M cost total	\$5,000.00
Conformance with Tactical Basin Plan TBP	10
Number of Co-benefit Areas	3
DEC Screening Form Uploaded	Yes
Map of Project Area Uploaded	Yes
Project Budget Uploaded	Yes
Project Schedule Uploaded	Yes
Landowner Support uploaded	Yes
Phosphorus Calculator Tool uploaded	Yes
Design/Imp Costs Requested	137856.31
Design-Imp Costs Total	1100222.25
Using_As_Match	Yes
Cultural Resource Review	Yes
O&M interest	Yes
continued project	No
earlier P estimate	

Lamoille CWSP Grant Application:
Holmes Meadow Floodplain Restoration

- 1. Letter of Support from the Town of Johnson**
- 2. VT DEC Screening Tool**
- 3. FFI Tool Outputs**
- 4. Project Budget**
- 5. Project Locator Map**
- 6. Project Schedule**
- 7. VDHP Concurrence on Phase 1 Site Investigations**
- 8. Final Design Plans**
- 9. Site Permits & Site Work Photos**
- 10. Email from River Scientist in Support of this Project**

November 4, 2025

Thomas Galinat
Town of Johnson
Town Administrator

RE: Implementation Application for Holmes Meadow Floodplain Restoration Project

Dear Dean Pierce,

This letter expresses the Town of Johnson's support for the Lamoille County Planning Commission's application for the Lamoille Clean Water Service Provider Grant - for Implementation of the Holmes Meadow Floodplain Restoration Project. This project will restore natural floodplain connection, increase flood storage capacity, and revegetate the Holmes Meadow. This project is located on Town property at 0 River Road West in Johnson. It is located on a 4.6-acre parcel near Old Mill Park. This project will improve water quality, reduce phosphorus, and reduce the intensity and damaging effects of re-occurring flooding events in Johnson Village. Given the proximity of this project to Route 15, this floodplain restoration project will reduce debris and ice jams by reconnecting the Gihon and Lamoille Rivers back to its natural floodplain and providing space for debris and ice to settle out during flooding and backwatering events.

In 2019, a floodplain restoration opportunity was identified at the Holmes Meadow River Access as a part of the "Hydraulic Modeling and Flood Evaluation in Johnson, Vermont" completed by Milone and MacBroom (now SLR) for the LCPC. The Town and LCPC decided to further explore flood reduction benefits in 2021 through a feasibility study and conceptual design work. A Flood Resilient Communities Fund grant through Vermont Emergency Management was secured in 2021 to acquire the parcel, complete final designs and permitting, and restore the floodplain. The property was acquired in 2024 and final design and permitting were completed in the fall of 2025. A conservation easement will be placed on the property once the project is completed.

This project aligns with goals from Johnson's 2022-2027 Local Hazard Mitigation Plan. The Hazard Mitigation Plan advocates for projects that prioritize the mitigation of inundation flooding and fluvial erosion. It is also a policy in the Municipal Plan to support protection of floodplain access to provide flood storage and reduce future flooding impacts.

The Town of Johnson is happy to provide support for this project and continue the partnership with the Lamoille County Planning Commission to secure funding for the Implementation Phase.

Sincerely,



Thomas Galinat
Town Administrator, Johnson

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below:	Minimize flood and fluvial erosion hazards

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see [CWIP Funding Policy](#) for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	14428
Watershed Project Database Project Name	Holmes Meadow Floodplain Restoration – Implementation

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts³

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. ⁴

- 1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. ⁵ Please note that “project site” may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
- 2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
 - a. Proponents should send the identified permitting staff the following:
 - i. The watersheds project database identification number (WPD-ID) (if available),
 - ii. Project location (GPS coordinates)
 - iii. Summary of proposed scope of work, and
 - iv. Any other relevant information they request that will be utilized in their review.
 - b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
 - c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

³ Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

⁴ In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

⁵ Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The [ANR Permit Navigator](#) and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

- 3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
 - a. Which permits or permit amendment are needed or might be needed?⁶
 - b. What type might be needed? (e.g., a general or individual permit⁷)?
 - c. What concerns were voiced by permitting staff?
 - d. How will the proposed scope of work address these concerns?⁸

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont’s Land Use and Development Control Law) Permits been issued in the project site’s parcel location?⁹	Yes <input checked="" type="radio"/>	No <input type="radio"/>
If yes , please provide the permit number and list any water resource issues or natural resource issues found ¹⁰ : PermitNumber: 5L0015-2 ResourceIssues: _____ If yes , use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. Regulatory Point of Contact Name/Position: Susan Baird		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	Yes <input type="radio"/>	No <input checked="" type="radio"/>

⁶ Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

⁷ Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

⁸ Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

⁹ An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named “Clean Water Initiative Program Grant Screening.”

¹⁰Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? ¹¹	
<p>If yes, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
III. Rivers, River Corridors, and Flood Hazard Areas	
<p>1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area¹²? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>If yes, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p> <p>Alexis Nevins, Regional Floodplain Coordinator</p>	
<p>2. Is any portion of the project site within a perennial river or stream channel?</p> <p>¹³</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>If yes, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
IV. Wetland	

¹¹ The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

¹² FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: <https://msc.fema.gov/portal/home>. ANR Floodplain Managers are available to provide technical assistance if needed.

¹³ Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

<p>1. Does the Wetland Screening Tool¹⁴ provide a result of wetlands likely, very likely, or present at the project site?</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>2. Does your project site involve land that is in or near an area that has <u>any</u> of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/> Not Sure <input type="radio"/></p>
<p>If you answered yes or not sure to <u>either</u> of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered yes or not sure to <u>either</u> of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an “allowed use” under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>1. Is your project a Wetland Restoration project type?</p>	<p>Yes <input type="radio"/> No <input type="radio"/></p>
<p>If you answered yes, under the Vermont Wetland Rules you will need an “allowed use” determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>V. Fish and Wildlife</p>	
<p>State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit.</p> <p>1. Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns? Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>

¹⁴ To view the Wetland Screening Tool introduction video, see <https://youtu.be/6lv5en0AB1o>

2. Is the project site within 1 mile of a mapped¹⁵ Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes <input checked="" type="radio"/> No <input type="radio"/>
If yes to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position: Noel Dodge	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes <input checked="" type="radio"/> No <input type="radio"/>
If yes , forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. Regulatory Point of Contact Name/Position: Thomas Benoit	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? ¹⁶	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
Provide below or attach a narrative summary of Table 4 findings. Please include: <ol style="list-style-type: none"> Which permits or permit amendment are needed or might be needed? What type might be needed? (e.g. a general or individual permit)? What concerns were voiced by permitting staff? How will the proposed scope of work address these concerns? Permit Needs include the following: <ul style="list-style-type: none"> - A Construction General Permit is required and was issued June 9, 2025. - An Act250 permit minor amendment was needed and filed in September, 2025. Attached please find a copy of the permits amendment and input from state agencies. Final comments were received from ANR River Corridor and Floodplain Protection Program and soil disposal locations were provided to the Commission. 	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes <input checked="" type="radio"/> No <input type="radio"/>

¹⁵ Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

¹⁶ If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a [licensed solid waste hauler](#) and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	
--	--

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
<p>Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase.</p> <p>(Answer must be YES to proceed)</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>Budget. Project budget includes ineligible expenses.</p> <p>(Answer must be NO to proceed)</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources</p> <p>(Answer must be YES or N/A to proceed)</p>	<p>Yes <input type="radio"/> No <input type="radio"/> N/A <input checked="" type="radio"/></p>
<p>Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below:</p> <p>Flood Resilient Communities Fund (VEM)</p> <p>(Answer must be YES to proceed)</p> <p>*If Water Quality Restoration Formula Grant, complete Step 6 below</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See [CWIP Project Types Table](#) for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
<p>1. Is the proposed project located on a jurisdictional farm operation¹⁷?</p> <p>Complete a preliminary review to</p>	<p><input type="radio"/> Yes - Proceed to next question below.</p>

¹⁷ Jurisdictional farm operations are required to meet Vermont’s Required Agricultural Practices (RAPs).

<p>determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.</p>	<p><input checked="" type="radio"/> No¹⁸ - There is no additional requirements related to agricultural review for these projects.</p>
<p>2. Is the proposed project an agricultural project?</p> <p>Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.</p>	<p><input type="radio"/> Yes - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization.</p> <p><input checked="" type="radio"/> No- The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFAM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below.</p> <p>Step 1- Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFAM at AGR.WaterQuality@Vermont.gov .</p> <p>Step 2- Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.</p>
<p>Agricultural Project Review Status & Summary:</p>	
<p>Check as Applicable</p>	<p>Status</p>
<p><input type="checkbox"/></p>	<p>Submitted/ Pending</p>
<p><input type="checkbox"/></p>	<p>Approved</p>
<p><input type="checkbox"/></p>	<p>Denied</p>

¹⁸ Note CWIP’s Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the [Appendix B. Project Types Table](#) are not subject to review by VAAFAM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status “submitted/pending” will be “approved” prior to a project approval for funding.



SubUnit(s) IDs: 16_R13-_7_C00, 16_R13-_6_C00

Town: JOHNSON

Projects Included: Remove Minor Constraint, Remove Berm, Plant Floodplain, Plant River Corridor, Plant 50-Foot Riparian Area, Lower Floodplain

Stream Names: -

Project Area (acres): 3

Stream Stability and Storage Credit Summary

	Year 1 Credit (kg)	Year 2+ Credit (kg/yr)	Estimated 15 Yr Lifespan Credit (kg)
Floodplain Connectivity (Lateral - Vertical)			
Stream Stability	0.0	0.0	0.0
Storage	27.2	13.7	217.9
Stream Connectivity (Longitudinal - Temporal)			
Stream Stability	0.0	0.0	0.0
TOTAL	27.2	13.7	217.9

Implementation Budget						
Lamoille County Planning Commission			Gray cells auto-calculate, do not edit. Enter white cells only.			
Holmes Meadow Floodplain Restoration			SUB-GRANT ADMINISTRATION AND PROJECT MANAGEMENT EXPENSES			
Personnel (Name, Title)	Tasks/Responsibilities	Hours	Hourly Rate (Including Fringe)	Total Salary Expense	Match*	Amount requested
Seth Jensen, Deputy Director	Seth will provide grant management oversight.	20	\$53.58	\$1,071.60	Do not write in this space.	
Victoria Hellwig, Regional Planner	Victoria will serve as grant/project coordinator.	20	\$40.73	\$814.60		
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Personnel Subtotal				\$1,886.20		
Indirect Costs		Indirect Rate	Cost related to Indirect rate	Total Indirect cost	Match*	Amount Requested
		99.2%	\$1,886.20	\$1,871.11		Do not write in this space
Indirect Subtotal				\$1,871.11		
Anticipated Travel	Purpose	Miles	Mileage Rate	Total Travel Expense	Match*	Amount Requested
Site Visits/Community Meetings	Travel to site visits (3), and meetings (3) with the community/project partners. Mileage budgeted for 2 staff.	120	\$0.70	\$84.00	Do not write in this space.	
		0	\$0.00	\$0.00		
Travel Subtotal				\$84.00		
NA						
Supplies/Other	Description/Use	# of Units	Unit Cost	Total Supplies Expense	Match*	Amount Requested
Paper/Ink	Printing documents.	1	\$15.00	\$15.00	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Supplies & Other Subtotal				\$15.00		
TOTAL GRANTEE ADMINISTRATION AND PROJECT MANAGEMENT EXPENSES				\$3,856.31		\$3,856.31
					* Enter match amount for Total Grantee Expenses in F26 above. Must be 50% for MS4 projects.	
PROJECT IMPLEMENTATION						
Contractual/Construction	Description/Use (attach any quotes from consultants/contractors)	# of Units	Unit Cost	Total Contract. Expense	Match*	Amount Requested
Implementation - Floodplain Restoration Site Restoration and Revegetation	Floodplain Restoration Planting with native tree and shrub species, as well as a native erosion control seed mix, to be installed after excavation and site work. Please see attached planting plans and cost estimates.	1	\$110,000.00	\$110,000.00	Do not write in this space.	
Vegetation Maintenance & Post Construction Monitoring	Maintenance activities include post-construction monitoring, watering, mulching, replacement of sick or dead plants, and all other care needed for proper growth of the plants. Maintenance will begin immediately after planting and continue until at least 50% of the trees have reached six feet tall.	1	\$24,000.00	\$24,000.00		
Contractual Subtotal				\$134,000.00		
Equipment Rental	Description/Use	# of Units	Unit Cost	Total Contract. Expense	Match*	Amount Requested
		0	\$0.00	\$0.00	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Rental Subtotal				\$0.00		
Supplies/Other	Description/Use	# of Units	Unit Cost	Total Supplies Expense	Match*	Amount Requested
		0	\$0.00	\$0.00	Do not write in this space.	
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
		0	\$0.00	\$0.00		
Supplies & Other Subtotal				\$0.00		
TOTAL PROJECT IMPLEMENTATION				\$134,000.00		\$134,000.00
					* Enter match amount for Total Project Implementation in F47 above. Must be 50% for MS4 projects.	
Project Total				\$137,856.31	\$0.00	\$137,856.31
Notes:						

RE: Holmes-Meadow Conservation Easement next steps

From Jessica Clark Louisos <jlouisos@slrconsulting.com>

Date Thu 11/13/2025 4:02 PM

To Victoria Hellwig <victoria@lpcvvt.org>

Hi Tori,

Revegetation and Site Restoration - \$110,000

Vegetation Maintenance - \$15,000

Post construction Monitoring - \$9,000

We will have the actual numbers next Wednesday at 10 am.

Vegetation became more due to Act250 requirements.

Thanks, Jessica

Jessica Clark Louisos MS, PE

Principal Water Resources Engineer

O 802-882-8335

M 802-578-2016

E jlouisos@slrconsulting.com

SLR International Corporation

1 South Main Street, 2nd Floor, Waterbury, VT, United States 05676



Confidentiality Notice and Disclaimer

This communication and any attachment(s) contain information which is confidential and may also be legally privileged. It is intended for the exclusive use of the recipient(s) to whom it is addressed. If you have received this communication in error, please e-mail us by return e-mail and then delete the e-mail from your system together with any copies of it. Any views or opinions are solely those of the author and do not represent those of SLR International Corporation, or any of its subsidiaries, unless specifically stated.

SLR is committed to the responsible and ethical use of relevant technologies including artificial intelligence (AI). If you have any questions or concerns, please contact us directly.

From: Victoria Hellwig <victoria@lpcvvt.org>

Sent: November 11, 2025 2:51 PM

To: Jessica Clark Louisos <jlouisos@slrconsulting.com>

Subject: Fw: Holmes-Meadow Conservation Easement next steps

Hi Jessica,

I just left a long winded voicemail but I was wondering if you had any updates/cost estimates for the planting portion of the Holmes Meadow project that you could share with me? Attached are the current estimates we have in a spreadsheet for the implementation phase..

Thank you,
Tori

Victoria Hellwig



LEGEND

- Wetland - VSWI**
 - Class 1 Wetland
 - Class 2 Wetland
 - Wetland Buffer
- Wetlands Advisory Layer
- River Main Stem Waterbodies
- WBID Watersheds
- River Corridors (Aug 27, 2019)
 - .5 - 2 sqmi.
 - .25- .5 sqmi.
- DFIRM Flood Hazard Areas (C FEMA-digitized data)
 - AE (1-percent annual chance flood)
 - A (1-percent annual chance flood)
 - AO (1-percent annual chance zone feet)
 - 0.2-percent annual chance flood ha
- Soils - Hydric
- Parcels (standardized)
- ACT250 Permits
- Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

164.0 0 82.00 164.0 Meters
 WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 270 Ft. 1cm = 32 Meters
 © Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

1: 3,234
 November 4, 2025

Project Schedule

Implementation – Holmes Meadow Floodplain Restoration

Please see below a proposed project schedule for the preliminary design phase based on anticipated milestones. This schedule is subject to change based on when this project receives funding.

Milestone	Milestone Completion Timeline
RFP issued and contractor selected	October 30, 2025
Implementation / Excavation begins	December 1, 2025
Tree & Shrub Planting begins	June 1, 2026
Operations & Maintenance	June 15, 2026
Final reporting/Invoicing submitted and project complete	September 30, 2029



The University of Vermont

August 22, 2025

Victoria Hellwig
Assistant Planner
Lamoille County Planning Commission
52 Portland Street, 2nd Floor
Morrisville, VT 05661



RE: End of Field Report for the Archaeological Phase I Survey for the Holmes Meadow Floodplain Restoration Project, Johnson, Lamoille County, Vermont.

Dear Victoria,

Last month, the University of Vermont Consulting Archaeology Program (UVM CAP) completed an Archaeological Phase I Survey for the Holmes Meadow Floodplain Restoration Project in Johnson, Lamoille County, Vermont. The project area includes a 4.46-acre parcel along State Route 15, in the floodplain of the Lamoille Main Stem (Figure 1). The proposed floodplain restoration project includes the removal of a historically constructed berm along the edge of the terrace, lowering the floodplain to an average cut depth of 4.9 ft (1.49 m) below its current level, and revegetating the area with riparian forest (Figure 2). The area will be graded at various levels to create a gentle slope along the new floodplain edge so that floodwater will drain across into the river edge with a 1 % slope (Figure 3). The existing ground level will be mechanically lowered at shallower depths to the south and to greater cut depths below 6 ft (1.8m) at the north segment south of and under the existing berm close to the edge of the terrace (Figure 4).

The project's Area of Potential Effects (APE) includes all locations where ground disturbance is proposed or could result sediment removal and regrading. Based on the project's location adjacent to the Lamoille River, and the results of an Archaeological Resources Assessment and initial Phase I Survey backhoe trenching, the project APE was determined to be archaeologically sensitive for precontact era Native American sites (Garcia 2024; Kenny et al. 2024). As with these earlier investigations, the recently completed subsurface testing part of the Archaeological Phase I study was done in compliance with state and federal permitting requirements, including Section 106 of the National Historic Preservation Act, as amended, given that federal funding is involved in the project.

The archaeological subsurface survey of the project APE was conducted in two episodes of field work, from May 27th to June 6th, 2025 and from July 7th to July 11th, 2025. During the first period of field work, the UVM CAP field crew excavated a total of 61 0.5 m x 0.5 m test pits at 10 m intervals across the project APE, excluding the historically disturbed berm feature that follows the river bank (Figure 5). No precontact Native American artifacts or features were identified during the first episode of field work, though historic artifacts were recovered from the alluvial sequences in a majority of test pits from 0-100 cm below the ground surface (see Figure 5).

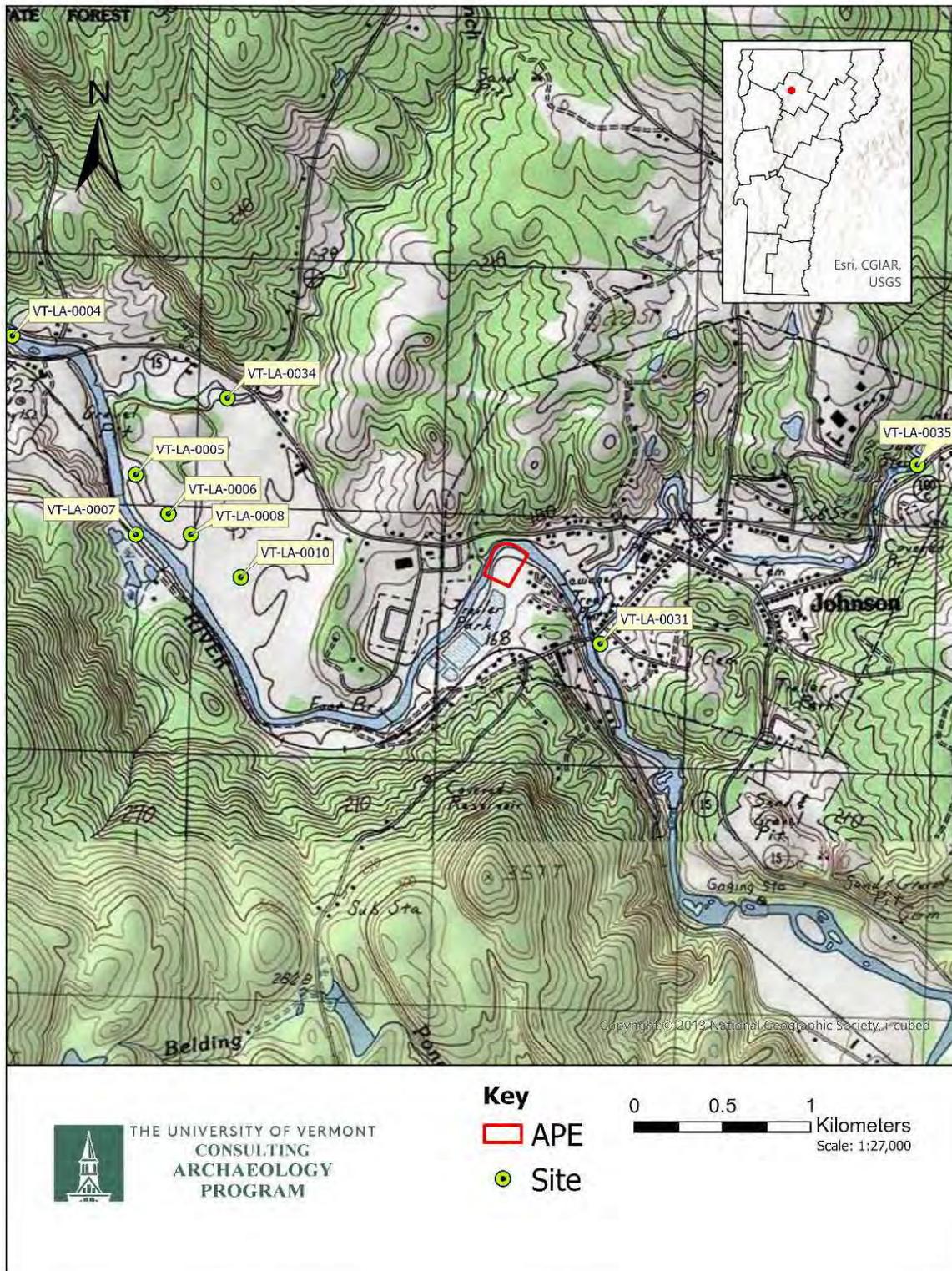


Figure 1. USGS topographic map showing the location of the Holmes Meadow Floodplain Restoration Project, Johnson, Lamoille County, Vermont.



Figure 4. Aerial imagery of the proposed Holmes Meadow Floodplain area, Johnson, Vermont with an overlay of the extent of the depth within the floodplain cut areas.




 THE UNIVERSITY OF VERMONT
 CONSULTING
 ARCHAEOLOGY
 PROGRAM
 Johnson Holmes Meadow Floodplain Restoration
 Phase I
 Upper Portion (0-100 cmbs)

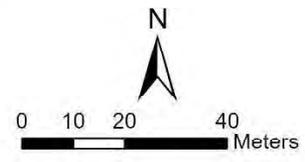


Figure 5. Aerial photo showing the location of Archaeological Phase I Survey test pits excavated from 0-100 cm below the ground surface within the Johnson Holmes Meadow Floodplain Restoration project area, Johnson, Vermont.



Figure 6. UVM CAP crew, facing west, excavating test pits from 0-100 cm below the ground surface within the Johnson Holmes Meadow Floodplain Restoration project area, Johnson, Vermont.

The first episode of test pits indicate a relatively recent series of depositional events formed the upper 100 cm of the project APE, with evidence of buried plow zone (Ap) horizons (Figure 7).

Given that no significant cultural deposits were recovered in the upper 100 cm of the project APE, the UVM CAP, in consultation with VDHP, worked in collaboration with a mechanical excavator to remove the upper 3ft from each test pit location, along with an additional safe work area. Following the mechanical removal of upper horizons at each location, each test pit was “resumed” and excavated to 200 cm below the ground surface (Figures 8 and 9). A total of 59 test pits were excavated to 200 cm below the ground surface (Figure 10). No precontact Native American artifacts were recovered, though a light density of historic period artifacts were recovered indicating a relatively young age for deeper depositional sequences across the project APE (see Figure10).

Test pit profiles for 0-100 cm and 100-200 cm are included in Appendix A and B, respectively. A more complete report on the depositional history of the landform will be prepared in the future.



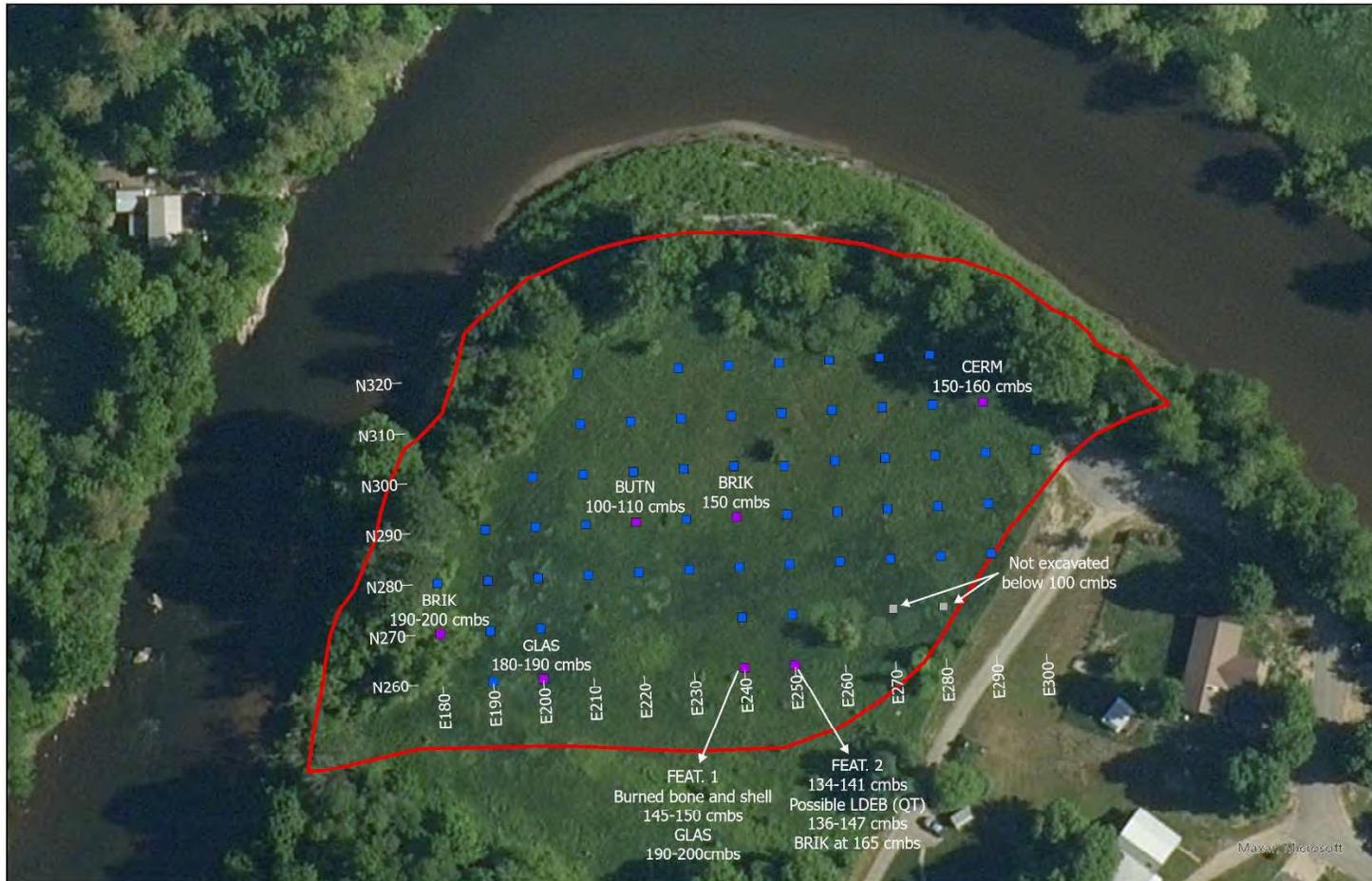
Figure 7. View of profile of 0-100 cm in test pit N300 E 200 within the Johnson Holmes Meadow Floodplain Restoration project area, Johnson, Vermont.



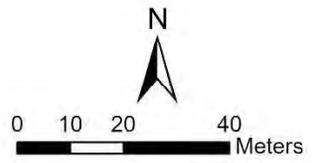
Figure 8. UVM CAP crew excavating test pit from 100-200 cm below the ground surface following removal of upper 3 ft of sediment with an excavator, facing north within the Johnson Holmes Meadow Floodplain Restoration project area, Johnson, Vermont.



Figure 9. View of mechanically excavated trench / work area and 100-200 cm of test pits N280E200 within the Johnson Holmes Meadow Floodplain Restoration project area, Johnson, Vermont..




**THE UNIVERSITY OF VERMONT
CONSULTING
ARCHAEOLOGY
PROGRAM**
 Johnson Holmes Meadow Floodplain Restoration
 Phase I
 Lower Portion (100-200 cmbs)



Legend	
Test Pit, 100-200 cmbs	 APE
 Hist Recovered	
 Negative	
 Not Excavated	

Figure 10. Aerial photo showing the location of test Archaeological Phase I Survey test pits excavated from 0-100 cm below the ground surface within the Johnson Holmes Meadow Floodplain Restoration project area, Johnson, Vermont.

Conclusions and Recommendations

The Archaeological Phase I Survey subsurface sampling across the project APE revealed that the project area includes a very dynamic alluvial landform comprised of multiple depositional (and erosional) events. It appears that the ancient date obtained from charcoal in a buried horizon during initial Phase I mechanical trenching is not consistent with surrounding stratigraphy. This out-of-sequence date therefore may be the result of “old wood”, redeposited carbonized floral remains, or a contaminated sample and is not believed to be associated with a ca. 4500 year old Late Archaic period stable surface in the project area or a Native American occupation in the project APE. Given no Native American artifacts were recovered during the Archaeological Phase I Survey, and historic artifacts that do not represent significant site deposits were recovered in deeply buried contexts, we conclude that there is little to no potential for significant archaeological sites in the project area. Based on these results, we recommend that the project undertaking receive a determination of No Historic Properties Affected.

Thank you for your interest in working with us on this project. Please feel free to contact me if you need additional information or have questions. We also will submit a copy of this report to the VDHP for their review and concurrence.

Sincerely,



John G. Crock, Ph.D.
Associate Professor of Anthropology
Director, UVM Consulting Archaeology Program

References Cited

Garcia, Jorge L.

2024 *Archaeological Resources Assessment of the Proposed Holmes Meadow Floodplain Restoration Project, Johnson, Lamoille County, Vermont*. Submitted by the University of Vermont Consulting Archaeology Program, Report 1643.

Kenny, Kathleen, John G. Crock and Jorge L. Garcia

2024 *Archaeological Phase I Exploratory Backhoe Trenching Holmes Meadow Floodplain Restoration Project Johnson, Lamoille County, Vermont*. University of Vermont Consulting Archaeology Program, Report 1670.

Vermont Department of Historic Preservation

2017 *Guidelines for Conducting Archaeology in Vermont*. Vermont Division for Historic Preservation, Montpelier, VT.

APPENDIX A: TEST PIT PROFILES 0-100 CM BGS

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N260 E190 3C
Site:	Excavators: ERP, T.B. KCL	Feat #: - Mesh: 1/4"
Area and/or Locus:	PN Block: 1400's	Date: 06-05-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 9 cmbs			No Munsells
20	Apbl./Finz 21 cmbs			
30				
40	Fill 2 41 cmbs	1403	GLAS (1) 33-41 cmbs	
50				
60	A12 53 cmbs			
70		1404	BRK (1), NAIL (1) 60-75 cmbs	
80	Apb2 75 cmbs	1405	SYNT (1) wall scrape 0-100 cmbs	
90	B / 86 cmbs rodent burrow?			
100	A13 101 cmbs			
110	/// // // // //			
120				
130	NOT EXCAV.			
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located in grassy field approx. 40-45m East of the Lamaille River and ~40m South of the tree line. The land here slopes downward from the North ^{& East} towards the South and the West. GLAS (1) found at 33-41 cmbs, BRK (1) and NAIL (1) found at 60-75 cmbs, and SYNT (1) found in wall scrape 0-100 cmbs. Possible rodent burrow / tree mark intruding into B strat.

Project: *Dixon Hayes Meadow I* Supervisor: *GAM* Test Pit: *N260 E200 SW*
 Site: *-* Excavators: *EMK RML KCL* Feat #: *-* Mesh: *1/4*
 Area and/or Locus: *-* PN Block: *110013* Date: *6/6/25*

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	5 Flood deposit A1 10 desubstrating to Trace Ap?	-	NCR	0-5 cmbs A1, Light Brownish gray Jf-1 FLUCTY - high sand content
20	FILL	-		5-10 cmbs desubstrating A/ Trace Ap? Brown Jf-1
30		-		10-21 cmbs Fill mix of soils mostly sub soil material dk w/lt to
40	Aph1	-		14 yf-1 w/ brown + grayish by patches
50	45 Aph2	1118	40-45 cmbs App2 HST 1WFRW, 1WV	21-45 cmbs App1 Brown - olive Brown Jf-1 w/ patches of sand mixed.
60	52 Aph2	1119	60-70 cmbs App3 1120T 1WFRW, 1HRSW	
70	70 Aph3 ↑ Eussonal contat.	1120	70-93 cmbs App3 Bw1c (1)	45-52 cmbs App2 Brown Jf-1 w/ lower mixture of 1Hobn
80		-	NCR	52-60 cmbs below m. 1Hobn
90	DW1 70 Reat 2-100T	-		52-59 cmbs A12 - 1Hobn Jf-1 Sand
100	BW2 100	-	Root cut organic Patches + gray	59-73 cmbs App3 olive Brown Jf-1
110		-	Leached patches in dk grayish Bw matrix	73-100 cmbs Bw2 - 1Hobn to 14 yf-1 w/ silty brown soil (w/ w/lt)
120		-		<matrix of silty fs> Above the probable Root disturbance
130		-		The Top is slightly darker and may have been disturbed
140		-		Mottled - more of an olive Bw Jf-1
150		-		↳ Actually make that Bw1 + Bw2 Bw over different Pinct matrix

Wall: *w*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

I

Project: Johnson Holmes Meit	Supervisor: FEH	Test Pit: N 260 E 240 S
Site:	Excavators: AHK D MT BFS	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1600-1699	Date: 6/2/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AP1			
20	AP2			
30	A1 1	1606	BONE	
40	A1 2			
50	A1 3			
60	A1 4			
60	A6	1607	NAIL	
70	B			
80				
90				
100				
110				
120				
130				
140				
150				

Wall: SOIL

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson VT, Holmes Meadows T	Supervisor: GAM, MEE	Test Pit: N260 E250 SW
Site:	Excavators: LLB, MMK, HEB	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1400-1499	Date: 6/2/25

AP1
B
ABL
AL1
AB2
AL2
AB3
AL3

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		0-10	NAR	(0-18) AP1 Dark Brown Loam
20	AP1 18cmbs	10-20	METL AJ1404-B	(18-25) B Light olive Brown Sandy Loam
30	B 25cmbs	20-30	BRK, METL ^{PN1405} AB2	(25-30) AB1 Grey Brown Silty Sand
40	AB1 30cmbs	30-40	NAR	(30-37) AL1 Light yellowish Brk Silty Sand (37-42) AB2 Grey Brown Sandy
50	AL1 37cmbs	40-50	NAR	(42-49) AL2 Light yellowish Brown Silty Sand (49-56) AB3 Dark greyish Brown Lc
60	AB2 42cmbs	50-60	NAR	(56-100) AL3 Yellowish Brown Silty Sand
70	AL2 49cmbs	60-70	NAR	
80	AB3 56cmbs	70-80	NAR	
90		80-90	NAR	
100	AL3 100cmbs	90-100	NAR	
110				
120				
130	UNEXCAVATED			
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:
 30-40cm → Very small piece of charcoal, also charcoal piece in 40-50cm
 long grass field, pit is 70m S of river, 10-15 m SW of ^{small} group of trees

Project: <i>Haystack Meadows I</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N/270E 180 SW</i>
Site: <i>—</i>	Excavators: <i>KCL</i>	Feat #: <i>—</i> Mesh: <i>1/4</i>
Area and/or Locus: <i>—</i>	PN Block: <i>110615</i>	Date: <i>6/6/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10			<i>N/A</i>	
20				<i>NONE</i>
30				<i>TAKEN</i>
40				
50				
60				
70				
80				
90				
100				
110				
120				
130				
140				
150				

Wall: *N*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *Test Pit located 1.5m NE of 63m 15h track side in the vicinity of old quarry road. Men were born located approx 4-5m west end of the concrete base. Soils in this Test Pit consist of 20-21" stratigraphic debris that includes random blocks, shanks, flint, metal end bolts. This fill was dumped to bottom of quarry. No artifacts found.*

Project: Johnson-Holmes Meadow	Supervisor: GAM	Test Pit: N270 E190 SW
Site:	Excavators: ERP, TLB	Feat #: - Mesh: 1/4"
Area and/or Locus:	PN Block: 1900s	Date: 06/05/2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Asp			Ap: 0-18 cmbs
20	18cmbs			Al ₁ /Fill?: 18-52 & 18-55 cmbs
30				Ab: 52-58 & 55-58 cmbs
40	Al ₁ /Fill?			Al ₂ : 58-67 cmbs
50				Apb: 67-87 cmbs
60	55cmbs Ab 58cmbs			Al ₃ : 87-100cmbs
70	67cmbs Al ₂	1900	GLAS (1) 65-70cmbs Apb	
80	Apb	1901	GLAS (2) 70-75cmbs Apb	
90	87cmbs	1902	NAIL (1) 0-90 cmbs. wall scrape	
100	100cmbs Al ₃			
110				
120				
130				
140				
150				

Wall: S

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. 1 GLAS recovered from the Apb at 65-70 cmbs & 2 GLAS from the Apb at 70-75 cmbs. 1 NAIL recovered from wall scrape at 0-90 cmbs (most likely from the Apb). Pit located in field of tall grass approximately 90-120 m west of River Rd. & ~40-60 south of fence line

Project: *Tishomon Meadows Meadow* **Supervisor:** *LAM* **Test Pit:** *N270 E 200 SW*
Site: *-* **Excavators:** *Kyle LAM* **Feat #:** *-* **Mesh:** *1/4*
Area and/or Locus: *-* **PN Block:** *12004* **Date:** *6/3-5/25*

O cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Ap1 (containing debris)	-	NCR	0-10cm olive brown loam - mixed with greyish yellow sand - Fluc
20	Ap2	-		1-20cm Ap2 olive brown silt. uniform color/texture
30	Ap3	-		20-26cm Ap3 olive brown silt mixed with the fill soil ↓
40	Fill	1227	30-35cm Fill (Ceramic)	26-38cm Fill mixed soil but mostly translucent bed soil.
50 <i>Flow Scar</i> →	Dab1	-	NCR	dk yellow br, with white br olive br + lt ol br
60	Apb2	-		ufel.
70	Bw	1228	60-67cm Apb2 METL (1 unit) GLAS (1 unit)	38-40-41 lt ol br loamy ufs (mottled soil)
80	A/2	-	NCR	43-44cm Apb1 olive br + brown JG
90	A/2	-		54-67cm Apb2 olive br to brown ufs but w/ some Bw patches
100	A/3	-		67-76cm Bw lt ol br ufs (almost 100% sand) uniform color & texture
110		-		76-93cm A/2 olive brown ufs silty loam (below ufs + silt)
120		-		93-100cm A/3 olive brown lt ol br ufs (some silt + stones)
130		-		
140		-		
150		-		

Wall: *W*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson Hammerhead II
Supervisor: JGC FEH
Test Pit: N270 E240 SL
Site:
Excavators: LSW, RR, GFE
Feat #: **Mesh:** 1/4
Area and/or Locus:
PN Block: 1500-1599
Date: 06/02/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AL1		NAR	roots, worm remnant
20	Ap1		NAR	
30			NAR	
40	Ap2	1503	GLAS	
50	AL2		NAR	
60	AB4		NAR	
70	AL3		NAR	
80	AL4		NAR	
90	AB2		NAR	
100	AL5		NAR	
110	////////			
120	UN excavated			
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: AT 50cmbs we found a buried horizon, may have been a post-hole
 CHARCOAL/FLECKING NOTICED IN THE ABs

Project: Johnson Hill Meadow	Supervisor: JSC, FEH	Test Pit: N 270 E 250 SW
Site:	Excavators: BCS, RMT, AHK	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block: 1600-1609	Date: 06/02/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AP1			AP1 - Grey, sandy
20	AP2			AP2 - Dark Brown, gritty
30				AP3 - Medium Brown, gritty
40	AP3	1601	NATL, CERM, GLAS	Ab - Dark Brown
50	AL1	1602	BONE	Al1 - sandy grey
60	AL2	1603	GLAS, BRIC, BONE CERM	AL2 - Darker Brown, silt
70	B	1604	BONE	B - orange/light brown, silt
80		1605	BONE	
90				
100				
110				
120				
130				
140				
150				

Wall: South

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson Holmes Roadway I	Supervisor: GAM	Test Pit: N270 E270 S11
Site:	Excavators: CRP, TLB	Feat #: - Mesh: 1/4"
Area and/or Locus:	PN Block: 1300s	Date: 06-06-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1			A1: 0-15 cmbs
20	15 A1b			A1b: 15-27 cmbs
30	27 A1c			A1c: 27-37 cmbs
40	37 A1b2	1306	ARCT (6), NAIL (1) 36-40 cmbs A1b2	A1b2: 37-59 cmbs
50	A1b2	1307	HIST (4), BONE (1) 40-50 cmbs A1b2	A13 (turning into B): 59-75 cmbs
60	59	1308	BRK (5), CERM (1) 50-55 cmbs A1b2	A14: 75-106 cmbs
70	A13			
80	75			
90	A14			
100	100			
110	NOT EXCAV.			
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR, 6 ARCT & 1 NAIL recovered at 36-40 cmbs in the A1b2. 1 BONE & 8 HIST including CERM, ARCT, NAIL & GLAS recovered at 40-50 cmbs in A1b2. 5 BRK & 1 CERM recovered from the A1b2 at 50-55 cmbs. Pit located in field of tall grass approximately 30-50 cmbs south of track R N20-40 m west of River Road. A13 turning into B.

Project: Johnson Weir Meadow 2	Supervisor: GAM	Test Pit: N 270 E 280 3
Site:	Excavators: TLB, ERP	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1003	Date: 6-6-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11 12 cmbs			NO
20	AP 19 cmbs			MUDY CLAY
30				
40	FILL 34 cmbs	1309	35-40 cmbs APB under 2 BRJK (1)	
50		1310	44-50 cmbs APB 2-2L, 1/2L, COAL, CRN	
60	APB 59 cmbs			
70	A12 61 cmbs A13 66 cmbs			
80				
90	A14 81 cmbs			
100	/ / / / /			
110				
120	NOT			
130	EXAV.			
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located in grassy field approx. 15m west of River Road and ~65-75m south of the Lamoille River.

Johnson

Project: Holmes: Meadow I	Supervisor: GJM	Test Pit: N 280 E 180 S
Site:	Excavators: KCL, BAK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1100'	Date: 6/6/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	F ₁₀₁			
20	3cm			
30	F ₁₁₃			
40	41cm			
50	42cm A ₁₁	1122	HIST	
60				
70	70cm A _{pb1}			
80	74cm A ₁₂			
90	88cm A _{pb2}			
100	1m B			
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 280 E 180 SW is located in woods 10 meters east of River Bank edge and 12 meters north of old channel. We recovered Brick at M₁₁₃ in A_{pb1} - No other artifacts recovered.

Johnson

Project: Holmes Meadow T	Supervisor: GAM	Test Pit: N 280 E 190 SW
Site:	Excavators: KCL, FRK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 11005	Date: 6/6/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10				
20	1p1	1115 ¹⁰⁻²⁰	HIST	
30	22cm 1p2	1116 ²¹⁻³⁰	HIST	
40	36cm 1p3	1117 ⁴⁰⁻⁵⁰	HIST	
50				
60	56cm			
70	70cm 85			
80	J			
90				
100				
110				
120				
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 280 E 190 is located in field, 15 meters east of River bank and 20 meters north of old channel. We recovered HISTs in Ap soils including GLAS CERM, BRK and METL. - No other artifacts recovered.

Project: <i>Edwards Meadow I</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N280 E200 SW</i>
Site: —	Excavators: <i>EMK, KCL</i>	Feat #: Mesh: <i>1/4"</i>
Area and/or Locus: —	PN Block: <i>1100r</i>	Date: <i>6/3/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AP 1			
20				
30	AP 2 <i>16 cmbs</i>	1111	CERM x 1 ²⁰⁻²⁸	
40	Dev B <i>28 cmbs</i>			
50				
60	AP 6 1 <i>44 cmbs</i>	1112	HIST x 5 ⁶⁰⁻⁶³ (NAIL, CERM, GLAS)	
70				
80	A1 <i>63 cmbs</i>	1113	HIST x 5 (CERM, METL, <i>End wear</i>) ⁷⁰⁻⁸⁰	
90	AP 6 2	1114	CERM x 1 ⁸⁰⁻⁹⁰	
100	<i>100 cmbs</i>			
110				
120	<i>ed of excav.</i>			
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: HIST recovered at 20-28, 60-63, 70-80, 80-90 cmbs
 in AP 2, AP 6 1, A1/AP 6 2
 pit is located 20 m north of drainage channel, 25 m east of west baseline

Project: Johnson Holmes Meadow 7	Supervisor: GAM	Test Pit: N280 E210 SW
Site:	Excavators: FRP, GAM	Feat #: - Mesh: 1/4"
Area and/or Locus:	PN Block: 1000-1099	Date: 06/03/2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Apr1			Apr: 0-13 cmbs
20	13 cmbs 19 cmbs Apr2			Apr2: 13-19 cmbs
30	Al1			Al1: 19-39 cmbs
40	39 cmbs			Aprb: 39-54 cmbs
50	Aprb			Al2 (turning into B): 54-67 cmbs
60	54 cmbs CROSS SETTING			Al3: 67-70 cmbs
70	67 cmbs 70 cmbs Al2 Al3			Al4: 70-82 cmbs Al4: may be buried plow zone
80	82 cmbs Al4	1022	GLAS(1) 70-75 cmbs Al4	Al5: 82-100 cmbs
90	Al5			
100	100 cmbs	1023	BRK(1) 90-95 cmbs Al5	
110				
120	NOT EXCAV.			
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LECR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. 1 GLAS recovered at 70-75 cmbs in the Al4 & 1 BRK recovered at 90-95 cmbs in the Al5. Pit located in field of tall grass about 40-50 m south of line 8 & 60-100 m west of River Rd.

Project: Johnson Hamm Meadow I
Supervisor: GAM
Test Pit: N280F720561
Site:
Excavators: MEF FRP TLR
Feat #: **Mesh:** 1/4"
Area and/or Locus:
PN Block: 1000-1099
Date: 6/3/2015

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 10			
20	Aph1 33	1024	40-50cm Aph1 COAL?	NO MINERALS-
30		1025	20-30cm Aph1 BURN SWFT	
40	Fill? 65			Fill appears bleached
50		1026	40-50cm Fill? GLASS METL	AD/B SOILS. WITH SOME
60		1027	50-60cm Fill? NAIL	MISC OR?
70	B1? 70	1028	60-65cm Fill? METL	
80	Aph2 91			
90				
100	B2? 100			
110				
120	NOT EXCAV			
130				
140				
150				

Wall: 5

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location
Comments: N280F720561 located on floodplain of Lenoire ~ 40m south of terrace edge and
 ~ 80m west of the rd. Puss fill cracks indicating that it is 33-65cm thick composed of
 mixed AD/B soils & diffuse OR? Spore Hist recorded from

Project: Johnson Holmes Martini	Supervisor: GAM	Test Pit: N280 E230 S40
Site:	Excavators: ERP, KMK	Feat #: — Mesh: 1/4"
Area and/or Locus:	PN Block: 1000-1099	Date: 05-30-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	37 01; 2nd	-	NCR	0-7 cmbs Al1 11 grey bn loamy UFs. Flow deposit
20	41 Apb1	-	↓	7-10 cmbs Reddish-brown on old AP die grey bn loamy
30	45 Al2	-	↓	10-25 cmbs Apb1 Brown - olive bn UFs1 - Reddish sands
40	37 43 Apb2	1014	30-37 cmbs Al2 METL (WORN)	Pit includes incorporated flow deposit material
50	43 Apb3	1015	40-43 cmbs Apb2 1 cluster GLAS (W/REEL) WIRE BRD	25-37 cmbs 11 yellowish bn loamy UFs1 - sand with fine
60	45 - 40 Al3 = 3	-	NCR 2 pms 1920s-1960s	2 silt lenses
70	67 Apb4	1016	60-67 cmbs Apb4 METL (1 Proj CUTN)	2 Lenses in SE cor only. top greyish bn mix of silt and fine sand.
80	70 Bw	-	NCR	Bottom greyish bn UFs1
90	85 ← change "mag" about Al4 slightly darker than above	-	↓	
100	100 015 silt w	-	↓	37-43 cmbs Apb2 Brown to olive bn UFs1 -
110				43-50 cmbs Apb3 Brown to greyish bn UFs1 - Less sandy than
120				Above
130				30-55 cmbs Al3 olive bn loamy UP to CAVE DEPOSIT
140				55-67 cmbs Apb4 olive bn to Brown UFs1
150				67-70 cmbs Bw yellowish bn to yellowish UFs1

Wall: E

could be B1 → 70-95 cmbs Al4 (slight weathering) olive bn UFs1 (P)

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

could be B2 → 95-100 cmbs Al5 - 11 olive to H/Lish
 eg. Burrowing across Bw UFs1
 old Apb1
 deposit

Project: Johnson Hollow Middle Ph I Supervisor: GAN Test Pit: N280 E240 SW
 Site: Excavators: Kunk GAN Reat #: Mesh: YB
 Area and/or Locus: PN Block: 10004 Date: 5/30/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	4 12 16 24 Aph 1 Aph 2 Flood Repair?	-	NCR	0-10 cmbs of greyish brown ufs
20	24 Aph 3	-	↓	4-10 - 101 greyish ufs - (actual long st)
30	40 Aph 3	1007	30-40 cmbs Aph 3 HIST 1 HRSN 1 WTRN	10-16 cmbs Aph 1 Brown ufs
40	40 Aph 4 Plan 2	1008	40-50 cmbs Aph 4 (sand dug HIST 2 CERAM 1 window 1 5+ pottery)	16-24 cmbs Aph 2 post Flood Repair in soil - dominated by
50	59 A12	1009	54-60 cmbs Aph 5 HIST 1 CUTN 3 BRK	5-10 soil - yellow to dk yellow brown u fs mixed w/ greyish brown
60	65 69 73 Aph 5 BS trace A13	-	NCR	24-40 cmbs Aph 3 olive brown to brown u fs
70	73 A13	-		40-54 nbs 4 Brown ufs
80	81 A14 Cinder? Poss Flint	-		40-54 A12 Hollow to light grey fs w/ sand layers of olive silt
90	81 A15	-		54-65 Aph 5 Brown ufs
100	88 A16	-		65-69 cmbs BS trace lt yellow brown loamy ufs - fs
110	103 A16	-		69-73 cmbs A13 olive brown silty fs. (Best description)
120		-		73-84 cmbs A14 post cinder?
130		-		lt yellow brown to lt olive brown u fs
140		-		84-98 cmbs A15 lt olive ufs
150		-		98-100 cmbs A16 lt olive ufs

Wall: W

Lighter than Above

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johasoo ^{Hamer} _{Island} Supervisor: GGM ME Test Pit: N280 E250 SW
 Site: Excavators: LSW, GFE pav Foot #: Mesh: 1/4"
 Area and/or Locus: PN Block: 1500-1599 Date: 5/30/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	0		NAR	0 0-13 cm
20	AP 1		NAR	AP1 13-26 cm
30			NAR	AP2 26-44 cm
40	AP 2	1501	METL (nail) (2), GLAG	B 44-66 cm
50			NAR	A12 65-80 cm
60	B:	1502	CERM (1)	A12 80-100 cm
70			NAR	
80	A1 1		NAR	
90	A1 2		NAR	
100			NAR	
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:
 • Metal Not collected on 20-30 plow zone uniform

Project: Johnson, Holmes I
Site: Meadows
Area and/or Locus:

Supervisor: GAM, MEE
Excavators: LLB, MMK, HRB
PN Block: 1400-1499

Test Pit: N280 E260 SW
Feat #: **Mesh:** 1/4"
Date: 5/30/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AP1 10cmbs		NAR	(0-10) AP1 Grey Brown Sand
20	AP2/FILL Fill		NAR	(10-30) AP2/FILL Dark Brown Silty Sand
30	30 cmbs		NAR	
40	AP3 46 cmbs	1402	BRK, NAIL	(30-46) AP3 Dark Brown Sand
50	B1 52 cmbs	1403	METL, GLAS	(46-52) B1 Yellow Brown Silty Sand
60	AL		NAR	(52-96) AL Dark Yellow Brown Silty S
70			NAR	
80			NAR	
90	96 cmbs		NAR	
100	B2 100 cmbs		NAR	(96-100) B2 Strongly Brown Silty Sand
110	Unexcavated			
120				
130				
140				
150				

Wall: S

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:
 20-30 cm → lots of pebbles and stones
 Long grass field, pit is 50 m South of the river, 45-50 m West of parking lot, 10 m north of low

Johnson Holmes meadows

Project: Phase I	Supervisor: GAM, HEE	Test Pit: N 280 E 270 S1
Site:	Excavators: LLB, HMK, HRB	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1400-1499	Date: 5/30/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	10 cmbs AL1		NAR	AL1 0-10 cmbs
20	22 cmbs Apb1		NAR	Apb1 10-22 cmbs
30	Apb2		NAR	Apb2 22-40 cmbs
40	40 cmbs		NAR	BW1 40-44 cmbs
50	44 cmbs BW1	1400	CERM, BRICK	AL2 44-59 cmbs
60	59 cmbs AL2		NAR	BW2 59-82 cmbs
70	BW2	1401	BRICK	AL3 82-100 cmbs
80	82 cmbs		NAR	
90			NAR	
100	100 cmbs AL3		NAR	
110				
120				
130	UNEXCAVATED			
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: long grass field
 ~ 10 m north of low
 ~ 50 m south of river
 -Historics found ~ 50 cmbs

Project: JOHNSON HOLLOW MIDDLE I	Supervisor: GAM MEE	Test Pit: N280 E280 SW
Site: -	Excavators: LSW GPE PAR	Feat #: - Mesh: 1/4"
Area and/or Locus: -	PN Block: 1500-1599	Date: 5/30

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1		NAR	A1 0-5 cm
20	AP6 1		NAR	AP6 1 5-20 cm
30	AP6 2		NAR	AP6 2 20-35 cm
40	AP6 3		NAR	AP6 3 35-50 cm
50			NAR (GLASS NOT COLLECTED)	B 50-100 cm
60			NAR	
70	B		NAR	
80		1500	GLAS	
90			NAR	
100			NAR	
110				
120	unexcavated			
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: AT 60-70cmbs we found a tiny bit of charcoal
 GLASS FELL OUT OF PLOW ZONE AT 70-80cmbs (NOT COLLECTED).
 50M SOUTH FROM THE RIVER 15M FROM DRIVE
 WAY, tall GRASS field

Project: Johnson Wines Mead ^{WIT}	Supervisor: JGC, FEH	Test Pit: N280 E290 SW
Site:	Excavators: BFS, RMT, AHK	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block: 1600 - 1699	Date: 5/30/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Ap1			Ap1 Grey, sandy
20	Ap2	1600	CERM	Ap2 Dark brown
30	Ap3			Ap3 Olive-green sand
40	B1			
50				
60	Sandier A1			
70				
80	AL2			
90				
100				
110				
120				
130				
140				
150				

Wall: West

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: This pit is west of road, south of river

Project: Johnson Hill - Meads WI **Supervisor:** GAN **Test Pit:** N290 E190 SW
Site: — **Excavators:** GAN Kunk **Feat #:** — **Mesh:** 1/4
Area and/or Locus: — **PN Block:** 1200s **Date:** 6/5/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	5 A1 5 silty clay	1229	NCR	0-5 cmbs A1, - 1/2 greyish br w/ silty fluff
20	0-35 Fillz			5-9 cmbs Fillz, (or possibly A Flaw deposit) either way had
30	35-40 Fillz			Brn or dark brown A, Dark Brown loam
40	A12			
50	50-55 Np6			7-35 cmbs Fillz - Prob old Rowing material, mostly A12
60	59			4-2.54 H. ol bn surface very fine silty - w/ silty w/
70	63			11/16 silty clay
80				35-38 cmbs Fillz (more or less w/ silty mix of olive brown
90	A13 (massive?)			H. ol bn + clay/shale JG1
100	94			35-42- A1 + ol bn loamy JG5. (mostly 50)
110				42-59 cmbs App ol bn to silty olive br JG1
120				59-69 cmbs Pw H. ol bn w/ yellowish crust
130				eg 2.54 3/6
140				68-94 A13 ol bn + H. silty JG1 w/ silty crust
150				94-100 A14 H. ol bn Retainer - silty loam + JG1

Wall: w

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Johnson

Project: Holmes Meadow I	Supervisor: GAM	Test Pit: N 290 E 200 SW
Site:	Excavators: KCL, EMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 11005	Date: 6/3/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	9cm A11			
20	18cm A11			
30	23cm A12			
40	30cm A12			
50	37cm A13			
60	5cm A14			
70	70cm A15			
80	A15	1110 75-80	MESL	
90	A15			
100	1m B5			
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 290 E 200 SW is located in Field, 40 meters East of River bank and 10 meters North of Terrace edge overlooking old channel. We recovered MESL in A15 soil - No other artifacts recovered.

Project: Johnson Home Meadow I	Supervisor: GAM	Test Pit: N 290 E 210 SW
Site:	Excavators: MEE TJB FNE KCL	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1200-1299	Date: 6/3/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 9			
	amics 13			
20	Aph 2 17			Non-mollis -
30	27 B2 25 20 - human episode - diffuse zone -			
40	B2 43			
50	Aph 2 57	1221	50-57 cm Aph 2 NAIL METL	
60	A12 66			
80	Aph 3 79	1222	66-70 cm Aph 3 NAIL	
90	A13 87			
100	A14	1223	0-90 cm wall NAIL	
110				
120				
130	NOT EXCAV			
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N290E210SW located @ western end of Roadway or Linnell ~ 7km west of River Road or ~ 30m south of fence edge. Pit contained a fairly modern human episode likely fire pit and therefore had a thick coating of waste over beer bottle glass bottles and wood fragments. This was spread wall wall. The deposition this episode were not collected. Three buried nails were identified, two of which produced nails & metal fragments. Pit excavated to 3mbs

Project: Johnson Holmes Meadow 2	Supervisor: GAM	Test Pit: N290 E220 SW
Site:	Excavators: TLB, MFE	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1200's	Date: 6-3-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11 9 cmbs			NO MUNSSELLS
20	Apb1 18 cmbs			
30	B1 32 cmbs			
40	A12 41 cmbs	1224	41-49 cmbs Apb2 NAIL (1)	
50	Apb2 49 cmbs	1225	GLAS (1) 49-58 cmbs A13	
60	A13 58 cmbs			
70		1226	Apb3 69-77 CERM (3) cmbs	
80	Apb3 77 cmbs			
90	B/S 83 cmbs			
100				
110	B2 105 cmbs			
120	/ / / /			
130				
140	NOT EXCAV.			
150				

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located in grassy field approx. 40-45m south of the Lamoille River and ~70-80m from River Road.

1 NAIL found at 41-49 cmbs in the Apb2, 1 GLAS found at 49-58 cmbs in the A13, and 3 CERM found at 69-77 cmbs in the Apb3.

Project: Johnson Holm Meadow	Supervisor: GAM	Test Pit: N290 E230 SW
Site:	Excavators: TLB, GAM	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 17005	Date: 6-2-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 7 cmbs			A12: 0-7 cmbs vf si sa
20	Apb2 16 cmbs			gray
30	Bw1 30 cmbs			Apb2: 7-16 cmbs fi si sa
40				dark brown
50	A12 43 cmbs Root stain	1216	28-30 cmbs Bw1 GLAS (1)	Bw1: 16-30 cmbs fi si sa
60	Apb2 58 cmbs			dark yellowish br
70	Bw2 70 cmbs			A12: 30-43 cmbs coarse si sa
80	A13 78 cmbs			grayish brown
90		1217	43-58 cmbs Apb2 pipe (1)	Apb2: 43-58 cmbs fi si sa
100	A14 101 cmbs			dark brown
110	//////			Bw2: 58-70 cmbs fi si sa
120				dark yellowish br
130				A13: 70-78 cmbs vf si sa
140	NOT EXCAV.			grayish brown
150				A14: 78-101 cmbs vf si sa

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located approx. 45-55m south of the Lavoie River and ~75-85m west of River Road. The A12 has the appearance of a possible plowed AL. GLAS found at 28-30 cmbs and a pipe stem was recovered at 43-58 cmbs in the Apb2 layer.

Johnson

Project: Holmes Meadow I	Supervisor: G. Am	Test Pit: N 290 E 240 SW
Site:	Excavators: KCL, EMK	Feat #: Mesh: 4'
Area and/or Locus:	PN Block: 11005	Date: 5/21/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	7cm A11			
20	18cm A16			
30	31cm Dev B	1102 ²⁰⁻²⁵	BRK	
40	38cm A5			
50	42cm A12			
60	51cm A13			
70	64cm A14			
80				
90	Bolded Lamellae			
100	1m			
110				
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 290 E 240 SW is located in field 60 meters west of River Rd cause access abt. 45 meters south of River Bank. We recovered BRK in the development B. No other artifacts recovered. There is a thin band of A6 under the Dev B.

Project: JONAS THOMAS MEADOW I Supervisor: GAM Test Pit: N290E260SW
 Site: Excavators: MFF KMK Feat #: Mesh: 1/4"
 Area and/or Locus: PN Block: 12005 Date: 5/30/2015

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 11			A12 0-11 10YR 5/1-4/4 yellowish drab silty fine sand
20	Apb1 19	1212	20-30 Apb2 GLAS	Apb2 11-19 10YR 3/3 drab silt
30	Apb2 29	1213	30-40 Apb2 METL GLAS	Apb2 19-39 2.5Y 4/4 olive metal particles of 2.5Y 4/4
40	Apb3 44	1214	40-44 Apb3 CERM	Apb3 39-44 2.5Y 4/4 olive VFSL
50				Rx1 44-62 2.5Y 7/6-5/4 olive drab VFS
60	BW 62			FEAS 61-72 2.5Y 3/3 drab VFS (small) charcoal
70	FEAS Ab2 72	1215	61-72 FEAS PALE SAMP (1 bag)	Ab2 62-72 2.5Y 4/4 olive VFL
80	A12 81			A12 72-81 2.5Y 5/6 tan VFS
90	A13 93			A13 81-93 2.5Y 5/3 tan VFS + silt
100	A14 100			A14 93-100 2.5Y 4/4 olive VFS + silt
110	 NOT EXCAV			
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N290E260SW located on slightly elevated point in floodplain above terrace about 40-50m west of river, 50m north of drainage and ~50m south of terrace edge. Pit contained 3 lined Aps, second of which appeared to contain paired sand deposits with sandy patches. The second and third Ap horizons contained sparse historic materials including GLAS, METL and CERM from 20-44cmbs. At base of BW1 ^{Apb2} there piece of charcoal was noted along with organically infused soil in the NW corner of TP. In profile this appeared to be a charcoal infused lined A? likely not cultural in origin. No contact artifacts observed. Sparse appears to be bowl-like and was truncated by erosional contact. Majority of this profile seems to extend to north. A small sample (1 bag) was collected for laboratory analysis.

At base of BW1 ^{Apb2} there piece of charcoal was noted along with organically infused soil in the NW corner of TP. In profile this appeared to be a charcoal infused lined A? likely not cultural in origin. No contact artifacts observed. Sparse appears to be bowl-like and was truncated by erosional contact. Majority of this profile seems to extend to north. A small sample (1 bag) was collected for laboratory analysis.

Project: Johnson Holmes Markau I Supervisor: GAM Test Pit: N290 E270 SW
 Site: Excavators: ERP, MEE Feat #: — Mesh: 1/4"
 Area and/or Locus: PN Block: 12005 Date: 05-30-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	10 A1			A1: 0-10 cmbs GREY
20	10 Apb	1210	GLAS(1) 10-20cmbs Aph	Apb: 10-31 cmbs DRE GRY BRN
30	31 Bw	1211	METL(1), GLAS(1) 20-25 cmbs Aph	Bw: 31-33 cmbs top brownish & light
40	38 A12			A12: 38-44 cmbs lighter
50	44 A13			A13: 44-51 cmbs light grey
60	51 A14			A14: 51-58 cmbs brownish / light grey
70	65 Ab			Ab: 58-65 cmbs BRN
80	79 A15			A15: 65-79 cmbs light grey
90	85 A16			A16: 79-95 cmbs light grey
100				
110				
120				
130				
140				
150				

Wall: 5

NCT
CYCAV.

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NA R. HIST recovered, included 1 GLAS at 10-20 cmbs in the Aph & 1 METL and 1 GLAS recovered at 20-25 cmbs in the Aph. Pit located approximately 20-40m west of River Rd. & 20-30m south of line 100

TAMMUN

Project: HULMEL MOUND	Supervisor: Gam	Test Pit: N290E280SW
Site: —	Excavators: Gam MEE	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 100015	Date: 5/30/25

0 cmbs	Ground Surface	PN # 1512	Artifacts	Soil Descriptions
10	A1 10		None	
20	Apb1 15			None
30	Apb2 35			TAKEN
40	A12 (B)			
50				
60				
70	A13			
80				
90	A14			
100				
110				
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson Holmes Meadow T	Supervisor: GAM	Test Pit: N290E290SW
Site:	Excavators: NEE KMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1000-1099	Date: 5/30/2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10				No minerals-
20	A12 15	1006	20-25cm ⁺ CERM	A1 profiles get
30	A16 25			siltier below.
40	BV1 41			
50				
60	A12 55			
70	A13 63			
80				
90	A14 96			
100	A15 162			
110				
120	NOT EXCAV			
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N290E290SW located on boundary of land - on NW corner of parcel and ~40m from edge of parcel. No artifacts recovered. No pieces of cerm collected. A12 A16 20-25cm. Pit excavated to 1m. Did not see any evidence of wood A in pit.

Project: Johnson Hubers Meadow I **Supervisor:** GMM **Test Pit:** N300 E200 SW
Site: - **Excavators:** LRP Kunk **Feat #:** - **Mesh:** V4
Area and/or Locus: - **PN Block:** 1000'S **Date:** 6/2/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	9 Ap1 (Flour enriched)	-	NCR	0-9 cmbs Ap1 gray on vfgl - Fluffy Ap - Prob enriched w/ a Flour
20	12 Ap2 19 - A11	-	↓	deposit
30	23 Apb1 30 A12	1020	23-30 cmbs B12 Colum (1 Row)	9-17 cmbs Ap2 Brown - olive on vfgl Compact
40	42 Apb2	1021	30-40 cmbs App2 GLAS (1) Metal (nail)	17-19 cmbs A1, olive on vfgl w/ coarse sand / some gravel
50	47 B-1	-	NCR	19-23 cmbs - Timed old Ap Apb1 Brown to olive Bn vfgl
60	54 A13 59 A14	-		23-30 cmbs lt yllsh - lt olive on lumpy fs. (usually sand)
70	65 Ab & P.A. chana 70 A15	-		35-42 cmbs Apb2 Brown vfgl
80	75 A16-17 A16 old Bone? <i>cont'd?</i>	-		42-44 cmbs B-1 yllsh bn (almost dk yllsh bn) vfgl
90	A17	-		49-54 cmbs A13 olive on vfgl
100	100 A18	-	↓	54-59 cmbs A14 olive on vfgl slightly lighter than olive and slightly more silt.
110				
120				59-65 cmbs Ab olive bn (silt) vfgl w/ chn - slightly in hand w organics.
130				
140				65-72 cmbs A15 olive on vfgl
150				72-73 cmbs A16 - light yllsh bn vfgl

Wall: S

81-93 cmbs A17 - lt yllsh bn vfgl - lumpy &
but silt - base firm - sand

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC + sht
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: 93-100 cmbs A16 lt olive bn lumpy &

JOHNSON

Project: <i>Holmes Meadow I</i>	Supervisor: <i>Garn</i>	Test Pit: <i>N 300 E 210 SW</i>
Site: <i>—</i>	Excavators: <i>Garn Knox</i>	Feat #: <i>—</i> Mesh: <i>1/4</i>
Area and/or Locus: <i>—</i>	PN Block: <i>1000's</i>	Date: <i>5/29/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<i>A1</i>	<i>1016</i>	<i>METL (NAIL:1)</i>	<i>1/500</i>
20				<i>T=200</i>
30	<i>28</i>			
40	<i>A2</i>	<i>1017</i>	<i>GLAS (1)</i>	
50	<i>46</i>			
60	<i>A3 52</i>			
70	<i>A2 (B)</i>			
80	<i>A3</i>			
90	<i>A14</i>			
100				
110	<i>''''''''''</i>			
120				
130				
140				
150				

Wall: *5*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *TP located on N side of adjacent E-W pipe with flood sign on
 west & east highway 15m to South of A1 & A2. Most similar than
 TP to A14 on floor, above*

Township

Project: <i>James McEvoy I</i>	Supervisor: <i>GOM</i>	Test Pit: <i>N 300 E 220 S 10'</i>
Site:	Excavators: <i>GOM</i>	Feat #: <i>1/4</i>
Area and/or Locus:	PN Block: <i>1000-1199</i>	Date: <i>6/2/25</i>

O cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<i>A₀</i>			<i>NONE</i>
20	<i>20</i>	<i>1017</i>	<i>HIST</i>	<i>TAKEN</i>
30	<i>A₁₁</i> <i>28</i>			
40	<i>A_{0b}</i>	<i>1018</i>	<i>HIST</i>	
50	<i>46</i>			
60	<i>B</i>			
70	<i>A₂</i>			
80				
90				
100				
110				
120				
130				
140				
150				

Wall: *N*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *Test pit located in Unit T2 James McEvoy 30m South of
Lonsdale River; 20m South of Pt I trench W of kel parcel.
20m chunky soil pits removed from base of soil pit (was nails etc).
No artifacts.*

Project: Johnson Holmes Meadow I		Supervisor: GAN		Test Pit: N300E230SW	
Site:		Excavators: MEE TLB		Feat #: Mesh: 1/4"	
Area and/or Locus:		PN Block: 1200-1299		Date: 6/27/05	
0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions	
10	A12 6	1218	NAR		
20	Apb1 15			Hornshells	
30	A12 22				
40	Apb2 30				
50	B2 37				
60	B2 50				
70	A13 67				
80	Laminaric				
90	A14 96				
100	A15 100				
110					
120	NOT EXCAV				
130					
140					
150					

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N300E230SW located in floodplain of the Laramie in 30' from south of terrace edge and 70' from west of Riverbed. No cultural deposits identified and does not appear to be any evidence of a buried A. Some pebbles (pavement) were observed 5' below in east and south wall. However, this does not appear to be a distinct soil horizon. First buried planar surface may not appear to be truncated by flood episodes. Additionally this section north is Apb2. a log house distance likely part of recent human garden north wall - see profile above. Pit excavated to 1mb5.

Project: Johnson Holmes Meadow
Supervisor: GMM
Test Pit: N300 E24054
Site: -
Excavators: KMK EMK
Feat #: Mesh: 1/4
Area and/or Locus: -
PN Block: 10004
Date: 5/29/85

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	5 A1, Fluvial 11 Ap Tuffate	1005	NK	0-5 light gray loamy fs
20	22 Bw			5-11 Brown N61
30	20-22 A12 Fluvial			11-23 Holbu N61
40	37 A13			23-30 Holbu N61 w/ Lamm
50	52 A14			30-37 Holbu (5/3) N61
60	A15 Lamm			37-52cmbs Holbu (5/3-5/4) loamy N61
70	64 A16			52-64 Holbu loamy fs w/ Lamm
80	76 A17			64-76 Holbu 5/4 w/ loamy fs
90	83 A18			76-83 Holbu 5/4 f. loamy fs
100	1007			83-100 Holbu 5/4 w/ loamy fs
110				
120				
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Johansen

11/99 E 250 NW / flipped South

Project: Holmes Meadow I	Supervisor: MEE	Test Pit: N300 E250 SW
Site: —	Excavators: CMK, KCL	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 1101	Date: 5/28/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Flood Deposit 21cmbs			Flood Dep #1
20	AP 21cmbs			Ap 7-21
30	BW (B weathered) 37cmbs			BW 21-37
40				
50	A12 52cmbs			A12 33-52
60				
70	A12 70cmbs			A12 52-70
80	A13			
90		57cmbs		A13 70-80
100	A14	1101	NAR	A14 57-100
110				
120				
130				
140				
150				

Wall: S

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR

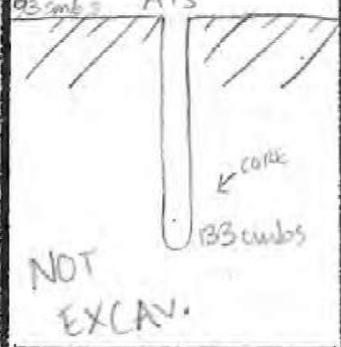
No HHT observed

Pit is located 50m south of Lavoille River, 55m west of River Rd.

Pit was flipped South due to tree immediately north of flag

Project: Johnson Holmes Meadow I Supervisor: MEE Test Pit: N 300 E 260 SW
 Site: Excavators: TLB, ERP Feat #: - Mesh: 1/4"
 Area and/or Locus: PN Block: 1200's Date: 05-28-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	10 cmbs A1			A1: 0-10 cmbs 2.5Y 4/1 DAK GRN. VF20sa
20	23 cmbs Apb			Apb: 10-23 cmbs 2.5Y 4/4 VFsa LO
30		1202	SYNT(?) 20-23 cmbs Apb	Bw: 23-44 cmbs 2.5Y 4/4 VFsa SI
40	Bw			Abl: 44-53 & 44-49 cmbs 2.5Y 4/4 VFsa r darker than
50	49 cmbs A1			A12: 53-65 & 49-65 cmbs 5/4 OL SY → VFsa LO
60	65 cmbs A12			A13: 65-76 cmbs 5Y 5/6 OL 10 VFsa
70	76 cmbs A13			A14: 76-87 cmbs 5Y 5/6 OL VFsa
80	87 cmbs A14			A15: 87-93 cmbs 2.5Y 4/4 GLV BRN VFsa
90	93 cmbs A15			
100				
110				
120				
130				
140				
150				



Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. 1 SYNT recovered at 20-23 cmbs in the Apb. Cored 40 cm to a total depth of 133 cmbs; A15 continued. Lamellae starting in the A12 Pit located in field of tall grass approximately 40-60 m west of River B & ~15-20 m south of line.

Project: Johnson Hammel Meadow I	Supervisor: GAM	Test Pit: N300E780SW
Site:	Excavators: MEE, KMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1000-1099	Date: 5/28/25

O cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1 ₁ 35	1000	0-10 A12 SVNT	A1 0-13 2.5Y 5/1 gray f sand
20	Ap6 21			AP6 13-21 10YR 4/2 clay/mud brown silt
30	BW 30			BW 21-30 2.5Y 5/4 H dk/bn f sa
40	A12 44			A12 30-44 2.5Y 5/3 H dk/bn f sa
50	A13 48			A13 44-48 2.5Y 5/6 dk brown iron rich?
60	A14 60			A14 48-60 2.5Y 5/3 H dk/bn f sa
70	A15 71	1001	60-70 A15 CUTN	A15 60-70 2.5Y 4/1 f sa
80	A16 79			A16 70-79 2.5Y 5/6 H dk/bn iron rich?
90	A17 83			A17 79-83 2.5Y 5/6 H dk/bn f sand
100	A18 95			Ab2 83-88 2.5Y 3/3 dk brown silt
110	A19 100			A18 88-95 2.5Y 4/1 H dk/bn f sand
120				Ab2? 95-105? 2.5Y 3/3 dk brown silt
130				A19 105-120
140				A110 120-?
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N300E780SW located on floodplain on Landille River ~ 30M west of access trail off rd ~ 30-40M south of terrace edge. Pit contained debris plastic in 5cm top recent flood deposit and a (UTM 10030) in 115-60-70cmbs. No precontact artifacts identified.

- A13 + A16 with thin iron iron rich deposit which retained some rust and soot on area on E wall. ^{POSS} Burial A identified ~ 83cmbs and other possible horizon @ 95cmbs at base of excavation. road to 140cmbs - animals returned.

→ technically boneless? (no animal remains identified?)

Project: Johnson Holmes Meadow I
Supervisor: GAM
Test Pit: N300 E290 SW
Site:
Excavators: TLR, ERP
Feat #: **Mesh:** 1/4"
Area and/or Locus:
PN Block: 1200's
Date: 5-28-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1200	SYNT (1) 0-10 cmbs	A12: 0-16 cmbs
20	A12 16 cmbs	1201	METL (2), CERM (2) 30-35 cmbs	light gray vf si sa
30	A12 35 cmbs			A12: 16-35 cmbs
40				dark brown vf si sa
50	A12 47 cmbs			A12: 35-47 cmbs
60				olive brown vf si sa
70	A12 63 cmbs A13 66 cmbs			A12: 47-63 cmbs
80	A14 77 cmbs			light grayish brown vf si
90				A13: 63-66 cmbs
100	A13 94 cmbs			reddish brown vf si sa
110	A16 103 cmbs			A14: 66-77 cmbs
120	/ / / /			light grayish brown vf si sa
130				A15: 77-94 cmbs
140	NOT EXCAV.			light grayish brown F: si s
150				A16: 94-103 cmbs

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test pit located in grassy field approx. 15m SW of the Holmes Meadow River Access sign and ~15m west of River Road. SYNT (plastic) found at 0-10 cmbs and CERM + METL found at 30-40 cmbs. Dotted lines indicate locations in profile.

Johnson

Project: Holmes Meadow I	Supervisor: GAM	Test Pit: N 300 E 300 SW
Site:	Excavators: KCL, EMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 11005	Date: 5/28/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1100	NAR	Fill 70-70cm-65
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
130				
140				
150				

Wall: w

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 300 E 300 SW is located in overgrown field 3.5 meters west of parking area and 20 meters south of river bank. We recovered HEAT - including - modern nails, METL, GLAS, CERM. Pit contains many fills - KMK noticed us that we were digging on top of exist road that was for development expansion. We cored to the Road at 85 cmbs. - Air photo is in the report.

Project: Johnson Wilson Meadow I	Supervisor: GARY	Test Pit: N310 E 210 SW
Site: —	Excavators: GARY KMIC	Feat #: — Mesh: 1/4
Area and/or Locus: —	PN Block: 1000's	Date: 4/2/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	4 developing A/Tan B10 12 Apl	—	NCR	0-4 cm dk greyish br sil w/ some J. f. sand. Prob comba of
20	more mixed	—	?	light flood deposit + developing
30	22 — Ap2 — — — — Less mixed.	1019	20-30 cm — Ap2 MIST (HRSN, WFRN)	4-12 cmbs Bp1 Brown Ufsl.
40	Bul	—	NCR	12-31 cmbs Ap2 mixed soils olive br Ufsl. —
50	46	—	—	dyellish br Ufsl. + H yellowish greyish br Ufsl + H tan Ufsl
60	A11 (slightly irregular) Eumbric?	—	—	This mix is more intense 12-22 from 22 to 31 cmbs Ufsl
70	66	—	—	Soil is mostly olive to lt olive
80	77 — A12a lamella	—	—	31-46 cmbs Bul H yellowish br to lt olive br Ufsl.
90	A13	—	—	—
100	100	—	—	46-66 cmbs A11 - H olive Ufsl Almost leamy Ufsl
110	110	—	—	is possibly very slightly w/rythmic BUT NOT
120	120	—	—	A Bul yet?
130	130	—	—	66-77 cmbs A12 H olive to H yellowish br leamy Ufsl
140	140	—	—	66-100 cmbs A13 lt olive br leamy Ufsl + sand
150	150	—	—	—

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson Hammes meadow #
Supervisor: GAM
Test Pit: N310 E220 SW
Site:
Excavators: TLB, MEE
Feat #: **Mesh:** 1/4"
Area and/or Locus:
PN Block: 1200's
Date: 6-2-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 10cmbs			A12: 0-10 cmbs vf si sa
20	Apb 17cmbs			gray
30		1219	10-17 cmbs apb GLAS (2)	Apb: 10-17 cmbs fi si sa
40	B1 37cmbs			dark brown
50		1220	20-30 cmbs B1 NAIL (1)	B1: 17-37 cmbs fi si sa
60	B2 64cmbs			dark yellowish brown
70	A12 69cmbs			B2: 37-64 cmbs fi si sa
80				yellowish brown
90	A13 86cmbs			A12: 64-69 cmbs vf si sa
100	A14 100cmbs			dark gray
110	/ / / / /			A13: 69-86 cmbs fi si sa
120				grayish brown
130	NOT EXCAV.			A14: 86-100 cmbs fi si
140				grayish brown
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located in grassy field approx 30-35m south of the Lamoille River and 85-95m west of River Road. GLAS (2) found at 10-17 cmbs and 1 NAIL found at 20-30 cmbs. Dotted lines in profile represent lamellae.

Johnson

Project: Holmes Meadow I	Supervisor: GAM	Test Pit: N310 E 230 Sw
Site:	Excavators: KCL KMK	Feat #: Mesh: 41
Area and/or Locus:	PN Block: 11005	Date: 6/2/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1106	NAR	
20	20 cm Ap			
30	28 cm Bs			
40	B			
50	46 cm			
60	A1			
70	70 cm			
80	80 cm Ab			
90	A1 ²			
100	1m			
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N310 E 230 Sw is located in field 35 meters south of River bank, and 30 meters west of tree line. There is a Ab at 70-80 cm and A1² contains stacked lamellae. No artifacts recovered.

JOHNSON

Project: Holmes Meadow I	Supervisor: Gamm	Test Pit: N310 E240 SW
Site: —	Excavators: Gamm KMS	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 1100 ^H	Date: 6/3/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A ₁			
20	A ₂ 16			None
30	A ₁ 31	1108	W/ST	Taken
40	A ₁ 38			
50	A ₂ B	1109	W/ST	
60	A ₂ (B) 62			
70	A ₃			
80	80			
90	A ₄			
100	102			
110	///			
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test Pit located on a shallow slope of E-W valley channel
 level 2m from top of 1.2m thick Bona and 4m Soil of 1.2m thick
 Bona.

Project: Johnson Hollow Meadow Ph I
Supervisor: GOM
Test Pit: N310 E250SW
Site: _____
Excavators: Kunk
Feat #: - **Mesh:** 1/4
Area and/or Locus: _____
PN Block: 10004
Date: 5/29/25

0 cmbs	Ground Surface <small>Profile of JOP</small>	PN #	Artifacts	Soil Descriptions
10	A11 A12	1004	NCR	0-7 1t albn loamy sand
20	13 Aph Terraced			7-12 cmbs greyish loamy sand
30	29 Bw Lomelle			12-18 cmbs Brown Ufsl
40	36 A13			18-29 1t albn to 1t yllsh bn Ufsl
50	41 A14			
50	47 A15			29-36 - 1t albn Ufsl
60	A15 Lomelle 57			36-41 Ufsl to f loamy fs. albn slight yellowish
70	61 A16 60			41-47 cmbs Pass A6 1t albn - 1t grey Uf loamy sand Uf slight infusid w/ organic
80	80 A13 Lomelle 57			
90	85 A14 57			47-69 cmbs D1 1t albn loamy Ufsl
90	95 A19 60			
100	100 A16 60			69-80 1t albn to albn Ufsl to loamy Ufsl
110				80-88 1t albn loamy fs.
120				88-95 - 1t albn loamy Ufsl
130				95-100 D19 1t albn to 1t light Uf loamy Ufsl
140				
150				85-98 - albn to 1t albn loamy fs

Wall: W

98-100 2t albn to 1t albn Uf loamy sand

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson Holmes Meadow 3	Supervisor: GAM	Test Pit: N310 E260S1
Site:	Excavators: TLB, ERP	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1200s	Date: 5-29-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11 9 cmbs	1203	NAR	A11: 0-9 cmbs VF si sa
20	A16 22 cmbs	↓	↓	gray
30				A16: 9-22 cmbs fi si sa
40	Bw 29 cmbs			dark brown
50				Bw: 22-29 cmbs fi si sa
60	A12 55 cmbs			yellowish brown
70	A13 66 cmbs			A12: 39-55 cmbs fi si sa
80	A14 80 cmbs			light yellowish brown
90				A13: 55-66 cmbs fi si sa
100	A15 94 cmbs			light yellowish brown
110	A16 107 cmbs			A14: 66-80 cmbs fi si sa
120	// // // // NOT EXCAV.			light yellowish brown
130				A15: 80-94 cmbs coarse si
140				grayish brown
150				A16: 94-107 cmbs fi si sa

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in grassy field approx. 20-30m south of the Lamoille River and ~40-50m west of River Road. Dotted lines indicate lamellae in profile.

Project: Johnson Holmes Meadow I		Supervisor: GAM		Test Pit: N310E270SW	
Site:		Excavators: MEE KMK		Feat #: Mesh: 1/4"	
Area and/or Locus:		PN Block: 10001099		Date: 5/28/75	
0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions	
10	A12 10	1003	NAR	A12 ⁰⁻¹⁰ same as adj	
20	Apb1 20			Apb1 ¹⁰⁻²⁰ same as adj	
30	Apb2 30			Apb2 ²⁰⁻³⁰ Apb1 NW/ SW	
40	BW 37			BW ³⁰⁻³⁷ same as adj	
50	A12? 50			A12 ³⁷⁻⁵⁰ 2.54 4/4 d/v for W/S + all	
60	A12 58			A12 ⁵⁰⁻⁵⁸ 2.54 5/6 heavy stvls	
70	Local C 68			A13 ⁵⁸⁻⁷⁴ 2.54 5/6 heavy E med sand	
80	A13 74			A14 ⁷⁴⁻⁹³ 2.54 5/6 H d/v for med coarse ss	
90	A14 93			A15 ⁷⁴⁻⁹³ 2.54 4/4 d/v for W/S + all	
100	A15 98			A16 ⁹³⁻⁹⁸ 2.54 4/4 d/v for W/S + all	
110	A16 112			A17 ⁹⁸⁻¹¹² 2.54 4/4 d/v for W/S + all	
120	A17 112-130			A18 ¹¹²⁻¹³⁰ 2.54 4/4 d/v for W/S + all	
130	A18 130			A19 ¹¹²⁻¹³⁰ 2.54 4/4 d/v for W/S + all	
140	A19 130			A20 ¹¹²⁻¹³⁰ 2.54 4/4 d/v for W/S + all	
150	A20 130			A21 ¹¹²⁻¹³⁰ 2.54 4/4 d/v for W/S + all	

Wall: W

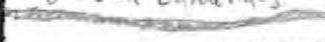
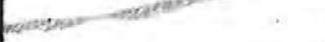
Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N310E270SW / local cd ~ 70M away from road edge in wall and 5
60M west of road. No list of previous artifacts identified. Possible Abs found @
37-50cmbs & 93-98cmbs = both very diffuse.

Holmes

Project: Johnson Meadow I	Supervisor: GAM	Test Pit: N310 E280 SW
Site: —	Excavators: EMK, KCL	Feat #: Mesh: 3/4"
Area and/or Locus: —	PN Block: 1100s	Date: 5/30/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1 1 7			A1 1 0-7cmbs
20	AP b 2 17 A1 2 20			AP b 2 7-17 cmbs A1 2 18-20cmbs
30	AP b 2 29			A1 2 18-20cmbs
40	A1 3 / Dev. B 45			AP b 2 20-29 cmbs
50				A1 3 / Developing B 29-45 cmbs
60	A1 4 61			A1 4 45-61 cmbs
70				Banded Lamellae 61-100cmbs
80				
90				
100		1105	NAR	
110				
120				
130	end of excav.			
140				
150				

Wall: S

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR A
 no deep buried horizons was uncovered Lamelle
 pit is located 20 m west of parking area, 25 m south of river bank

J. H. HARRIS

Project: Holmes Meadow I	Supervisor: Gamm	Test Pit: N320E 210 SW
Site: —	Excavators: Gamm Lewis	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 12005	Date: 6/5/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A _{p1}			
20	A _{p2} 17	1230	GLAS (1)	A/one
30				Taken
40	B (A ₁)			
50	A ₁₂ 42			
60	A ₁₃			
70	vfs			
80	A ₁₄	1231	NAIL (1)	
90				
100	A ₁₅ fs			
110				
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test pit located in NW corner of APE - 10m NE of PWT
 Trench that produced 4000 BP date from Akeley at 90cm. No
 Pottery identified in this test pit. (1/12/25) Historic site from
 Grid with (Mason) to (corner) Area 5 15-20m to W 2nd N.
 Nail in A14-fs.

Johnson

Project: Helms Meadow I	Supervisor: GAM	Test Pit: N320 E230 SW
Site: —	Excavators: EMK, KCL	Feat #: Mesh: 1/4"
Area and/or Locus: —	PN Block: 1125	Date: 6/2/75

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AP			
20	20cm	1107	CERM, METL, BRJK	
30	B2			
40	39cm			
50	B2			
60	63cm			
70	A12 70cm			
80	A12 77cm			
90	A12 86cm			
100	A14 100cm			
110				
120	end of excv.			
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: CERM, METL, BRJK recovered in Ap 10-20cm
 No other artifacts apart from the HIST recovered
 no buried A horizon present
 pit is located 80 m west of parking area, 15 m south of end of field
 (between tree line)

Johnson

Project: <i>Holmes Meadows I</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N 320 E 240 J4</i>
Site: —	Excavators: <i>TIME KCL</i>	Feat #: <i>14</i>
Area and/or Locus: —	PN Block: <i>1100g</i>	Date: <i>5/29/85</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<i>Al 3</i>			<i>Al 3</i>
20	<i>Al 3</i>	<i>1103</i>	<i>GLAS 10-20cmbs</i>	<i>Al 3</i>
30				<i>Bl 11-12</i>
40				<i>Al 3</i>
50				
60				<i>Al 3</i>
70				
80				
90				<i>Al 3</i>
100	<i>Al 3</i>			<i>Al 3</i>
110				
120				
130				
140				
150				

Wall: *E*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *GLAS recovered in 1p strat, no artifacts recovered below this strat.*
Pit is located 20 m south of Canaille River bank, 55 m west of W River Rd.
covered down to 120cmbs, still in Al 3

J. H. HOSAN

Project: <i>Higgins Meadow I</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N325 E 250 SW</i>
Site: <i>-</i>	Excavators: <i>GAM, EAR, TUB</i>	Feat #: <i>-</i> Mesh: <i>1/4</i>
Area and/or Locus: <i>-</i>	PN Block: <i>120015</i>	Date: <i>5/29/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<i>A1</i> 10			
20	<i>Apb1</i> 20	<i>1204</i>	<i>1 cut nail, 1 coal</i>	<i>Native Tephra</i>
30	<i>35</i> <i>AL/BW</i> 38			
40	<i>34 Apb2</i> 34			
50	<i>A13</i> 42			
60	<i>Apb3? A14?</i> 51			
70	<i>A15</i> 64			
80	<i>A16</i>			
90	<i>A12</i>			
100	<i>98</i> <i>A18</i> 97			
110				
120				
130	<i>PHI</i> <i>148 AB</i>			
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *No artifacts were listed. Two brown plastic bags 2nd pass by 2
 have 4264. Cut nail and 1 small shell fragment from Apb1 20-25 cmbs.
 Test Pit located in E of PHI trench located 200' from GS of
 Trench/line. Soils within 1-50, 50-100. A18 is medium
 grey soil.*

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N 320 E 260 SW
Site:	Excavators: TLR, ERP	Feat #: - Mesh: 1/4"
Area and/or Locus:	PN Block: 1200s	Date: 05-29-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	12 cmbs Al ₁			Al ₁ : 0-12 cmbs GREY
20	20 cmbs Apb			Apb: 12-26 cmbs DRK BROWNISH GR
30	26 cmbs	1205	METL (4) 20-26 cmbs Apb	Bw: 26-45 cmbs LIGHT YEL BRN
40	Bw	1206	METL (2) 26-30 cmbs Bw	Al ₆ : 45-61 cmbs LIGHT OLIV
50	48 cmbs			Al ₂ : 61-78 LIGHT YEL BRN
60	61 cmbs Al ₂	1207	HIST (1) 0-60 cmbs WALL SCRAPE	Al ₄ : 78-92 LIGHT OLIV
70	Al ₃			Al ₅ : 92-100 LIGHT OLIV
80	78 cmbs			
90	92 cmbs Al ₄			
100	100 cmbs Al ₅			see adjacent pits / same as pits for
110				mean soil
120				
130				
140				
150				

Wall: U1

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. 4 METL recovered at 20-26 cmbs from the Apb & 2 METL at 26-30 cm from the Bw. HIST recovered from wallscrape between 0-60 cmbs. Lamellae began ~60 cmbs. Pit located approximately 5 m south of tree line & ~40-60 m west of River Rd. Cored 37 m to a depth of 137 cmbs & it was all still alluvial.

window 3

Project: Johnson Holmes	Supervisor: GAM	Test Pit: N 320 E 270 SW
Site:	Excavators: TLR, ERP	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1200's	Date: 5-30-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A12 12 cmbs			A12: 0-12 cmbs Fi si sa
20		1208	12-25 cmbs GLAS(1)	gray
30	AP 28 cmbs			AP: 12-28 cmbs Fi si sa
40	A12 31 cmbs	1209	38-49 cmbs BONE (1)	dark brown
50	Apb 50 cmbs			A12: 28-31 cmbs coarse si
60	A13 60 cmbs			gray
70	B/s 72 cmbs			Apb: 31-50 cmbs Fi si sa
80				dark brown
90	B 90 cmbs			A13: 50-60 cmbs Fi si sa
100	A14 100 cmbs			gray
110	' / ' / ' / ' /			B/s: 60-72 cmbs Fi si s
120				reddish brown
130	NOT EXCAV.			B: 72-90 cmbs Fi si sa
140				grayish brown
150				A14: 90-100 cmbs Fi si s

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located in grassy field approx. 10-15m South of the Lamaille River and 30-40m West of River Road. GLAS(1) found at 12-25 cmbs and burnt bone (1) found at 38-49 cmbs. BONE found in layer w/ charcoal from ^{modern} root burn - had wood and charcoal.

★ Waterproof ★

Project: <i>Huluga Mesa I</i>	Supervisor: <i>CAM</i>	Test Pit: <i>N 320 E 280 SW</i>
Site:	Excavators: <i>KCL FMK</i>	Feat #: <i>40</i>
Area and/or Locus:	PN Block: <i>11005</i>	Date: <i>5/30/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<i>6cm A11</i>			
20	<i>16cm A12</i>			
30	<i>30cm A1b</i>	<i>1104</i>	<i>GLAS, COAL, METL</i>	
40	<i>33cm B5</i>			
50	<i>B</i>			
60	<i>60cm</i>			
70	<i>70cm A17</i>			
80	<i>75cm Ab</i>			
90	<i>A14</i>			
100	<i>1m</i>			
110	<i>2 4 4 7 8</i>			
120				
130				
140				
150				

Wall: *N*

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *N 320 E 280 SW is located in field 5 meters south of River Bank and 20 meters west of river access parking area. We recovered GLAS, COAL and METL in A1b soil. No other artifacts recovered. We did find a buried horizon at 70cm. very dark brown. We labeled Ab in profile above.*

Project: Johnson Halper Meadow I
Supervisor: GAM
Test Pit: N260 E190 SW
Site:
Excavators: ERP, TLR
Feat #: **Mesh:** 1/4"
Area and/or Locus:
PN Block: 1100
Date: 07/08/2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10 110		1103	NAR	A1: 100-130 cmbs 2.5Y 5/4 si 1st OLV BRN
20 120	A11			A2: 130-141 cmbs 2.5Y 5/4 si 2nd OLV BRN
30 130	130 cmbs			A3: 141-153 cmbs 2.5Y 4/3 si OLV BRN
40 140	141 cmbs A12			A4: 153-180 cmbs 2.5Y 4/3 OLV BRN si w/ Fea. ps
50 150	153 cmbs A13			A5: 180-194 cmbs 2.5Y 3/3 DCK OLV BRN si
60 160				A6: 194-200 cmbs 2.5Y 5/4 1st OLV BRN UPS
70 170	A14			
80 180	180 cmbs			
90 190	A15			
100 200	194 cmbs 200 cmbs A16			
110 210	NOT EXCAV.			
120 220				
130 230				
140 240				
150 250				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. No HIST. Pit located in grassy field approximately 10-20m southeast of tweline. Pit started after first loc was dug up using backhoe. Excavated to 2m total.

JOHANSON HOLMES

Project: MEADOW I	Supervisor: GAM	Test Pit: N260E200SW
Site:	Excavators: GAM, FFH	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block:	Date: 7/7/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	DISTURBED RODENT FILL			A1 DE (2.5) h/s
20				(10.48 4/2) Silt sand
30				vfs
40	A11	1101	NAIL BRACK	
50				A12 Grey h/s
60	A12			(2.54 5.6) v-fs w
70				st silt
80	A13	1102	GLAS	A12 Grey (5.4 6.1)
90				vfs sand silt
100				
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: MEADOW I	Supervisor: GAM	Test Pit: N260E240 SW
Site:	Excavators: GAM RAP	Feat #: Mesh: 1/4
Area and/or Locus: 101-210	PN Block:	Date: 7/9/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1			A1 1/4 vltk hor
20				(2.5m 6/4) compact
30				silt vlt
40	A12	183		A12 1/4 vlt hor (2.5m 7/4)
50	FEASVNE 1?	175		
50		151	1208 1209	FEAS (3 6/8) BONE?
60	A13			Feat 1 v dk gray hor
70				hor (10 YR 3/2)
80		177		compact vlt silt
90	A61?	190	1210	SHELL BONE?
100	A6b	206	1211	GLASS
110				A61 3/4 vlt dk
120				hor (10 YR 3/2-2.5) vlt-fs
130				un/organo
140				A6b v dk gray hor
150				(10 YR 3/2) silt hor

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test Pit located in center of E-W residential depression. Encountered a dark stratum at 45 cmbs that showed vitric chemical and some probable skeletal bone fragments. Disturbed this stratum at Feat 1 and highest soils contained numerous of animal and human remains. Another stratum at 77-80 that had possible skeletal bone and small shell fragments - A61? I drilled out to A6b at 190 cmbs and unexpectingly recovered a large quantity silt clear glass shards! Feat 1 Not a Feat 2.

Johnson

Project: Holmes Meadow I	Supervisor: GAM	Test Pit: N260 E250 SW
Site: -	Excavators: FEH BFS	Feat #: Mesh: 1/4"
Area and/or Locus: -	PN Block: 1100	Date: 7/9/25

0 embs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1 1	1110	LDEB: (ART) 136-147 Ab	A1 1: 114-134 cmbs 2.54 6/6 olv Yll Rnc sand
20	134	1111	BR1K 165 cmbs App	Ab (feet. 22434-141 cmbs 2.54 4/3 olv charcoal particles Rnc 30
30	141 Ab 200 30			A1 2: 141-149 cmbs 2.54 5/6 V Rnc sand 14 olv Bn
40	149 A1 2			A1 3: 149-154 cmbs 2.54 6/4 m.c. sand 14 Yll B-
50	154 A1 3			App: 154-174 cmbs 2.54 4/2 Bk 6/4 B-
60	App			A1 4: 174-200 cmbs 2.54 1/4 silt 11 olv B-
70	174			
80	A1 4			
90	200			
100	NOT EXCAVATED.			
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: This test pit is located in an excavator trench in a field of tall grass. Excavation began at 114 cmbs and ended at 200 cmbs. The test pit is located in the vicinity of the original N260 E250 SW which was excavated to 100 cmbs. An Ab unit was identified at 136 cmbs and photographed as Feature 2 due to charcoal content and a possible LDEB. An App was identified below that with a BR1K at 165 cmbs. This test pit is located within a silt drainage channel about 10m south of the small tree.

Project: Johnson Holmstrom	Supervisor: GAM	Test Pit: N270 E180-SW
Site:	Excavators: TLR ERP	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1000	Date: 7-7-25

0 cms	Ground Surface	PN #	Artifacts	Soil Descriptions
10				A11: 100-123 cms VE size
20				2.5Y 5/4 light olive brown
30	A11 123 cms	1001	148-150 cms A12 BRK	A12: 123-164 cms VE size
40				2.5Y 5/3 light olive brown
50				A13: 164-200 cms VE size
60				2.5Y 4/3 olive brown
70	A12 164 cms			
80		1002	148-200 cms A13 BRK	
90				
100	A13 200			
110				
120				
130	NOT			
140	EXPT			
150				

Wall: L

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Pit located in grassy field approx 1m east of the tree line.
BRK (1002) likely from the edge of the larger excavated hole.

100

Johnson

Project: Holmes Meadow I	Supervisor: GAA	Test Pit: N270 6190 SW
Site: -	Excavators: FEL RJS	Feat #: Mesh: 1/4"
Area and/or Locus: -	PN Block: 1000s	Date: 7/7/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11	1000	NAR	A11: 100-172 cmbs 10/16 1/3 SW S. 1/2 sec 20
20				A12: 172-200 cmbs 10/16 1/3 SW S. 1/2 sec 20
30				
40				
50				
60				
70				
80				
90				
100 = 200		A12		
110				
120	NO EXCAVABLE			
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Continuation of TP N270 6190 SW from 100-200 cmbs. Area around pit
 dug to ~90 cmbs and backfilled pit relocated + reexcavated. This pit is
 in a 10' x 10' drainage/swale and is along east of the baseline. NAR below
 100 cmbs.

T. HANSON HUGHES

Project: MEADOW I	Supervisor: GAM	Test Pit: N270E20V SK
Site:	Excavators: GAM	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block: 1100 ¹³	Date: 7/7/25

0 cmbs	Ground Surface	PN #1100	Artifacts	Soil Descriptions
10	A1		NAR	A1 (11/10) brown
20				(2.5 x 4/3) Silt W
30				V. H. UFS
40				
50				
60				A12 (10 x 4/4) UFS 2nd
70				Silt
80				
90				
100				
110	A12			
120				
130				
140				
150				

Wall: S

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: TP Excavated 100-200 cmbs. Only +ve DISTURB STAIN
 visible 2nd subtle horizon change

Johnson

Project: Holmes Meadow I		Supervisor: GJM		Test Pit: N270 6250 SW	
Site: -		Excavators: FEH, MEE		Feat #: Mesh: 1/4"	
Area and/or Locus: -		PN Block: 11005		Date: 7/19/25	
0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions	
10	A11	1109	NAR	A1 1: 0-17cmbs 2.54 6/6 clay silty fine sand	
20				A1 2: 13-34cmbs 2.54 5/3 MVE silt	
30	A12			A1 3: 34-53cmbs 2.54 5/3 HCVF w/ sh. br. in cl.	
40				A1 4: 53-67cmbs 2.54 4/4 clay w/ sh. br. in cl. fine silt	
50	A13			A1 5: 67-79cmbs 2.54 5/6 HCVF fine sand	
60				A1 6: 79-100cmbs 1.01/8 4/6 med sand clay Br.	
70	A14				
80	A15				
90					
100	A16				
110	NOT EXAMINED				
120					
130					
140					
150					

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR test pit in a shallow gravel hole. TP is in a mechanically excavated trench and is in the vicinity of the original N270 6250 SW TP. The backfill soil could not be relocated. TP is a 5-7m part of the slurry wall and stone with of a relief drainage channel. Excavation began at 100 cmbs and ended at 200 cmbs.

Johnson

Project: Holmes Meadow III	Supervisor: GAM	Test Pit: N 280 E 180 SW
Site:	Excavators: KCL, EMK	Feat #: Mesh: 4"
Area and/or Locus:	PN Block: 1200 ^S	Date: 7/7/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11	1200	N/A	A11 20-72cm 3AN 104R 3 5:5a
20				
30				
40				
50				
60				
70				
80	A12			A12 72-1m dlt brn 204R 3/3 5:5a
90				
100				
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 280 E 180 SW is located in field 1m² east of tree line at 30 before mouth of old drainage. No artifacts recovered. Soils in A11 and A12 were very similar with only more soil in A12 that allow for slight change distinction.

Project: Johnson Holmes Meadow I **Supervisor:** GMM **Test Pit:** N280 E190
Site: **Excavators:** FEH, BFS **Feat #:** **Mesh:**
Area and/or Locus: **PN Block:** 1000* **Date:** 7/8/99

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AL1	1004	NAR	silt/10YR - 3/10 Bone yellow Fea
20		↓ ↓	↓ ↓	fine sand/10YR - 5/3 brown
30	AL2			fine sand-10YR - 3/10 yellow
40				fine sand - 10YR - 10/10 brown yellow
50	AL3			
60				
70	AL4			
80				
90	NOT EXCAVATED			
100				
110				
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

JOHNSON HALL

Project: MEADOW	Supervisor: GAM	Test Pit: N 280 E 200 SW
Site:	Excavators: GAM BMC	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block: 1000	Date: 7/8/25

0 cmbs	Ground Surface	PN # 1003	Artifacts	Soil Descriptions
10	A11		NAR	A11: Brown (10YR 5/3)
20				vfs & silt
30				
40				
50				
60	A12			A12: Gray (2.5Y 5/1)
70				vfs
80	A13			A13: Light Brownish Gray
90				(2.5Y 6/2) vfs & silt.
100				
110	A14			A14: see A12
120				
130	A15			A15: see A13
140				
150	A16			A16: see A12

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Homey Window I	Supervisor: GAM	Test Pit: N280 E310 T4
Site:	Excavators: FEH, GAM	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1200	Date: 7/9/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11	1202	NAR	100-85 cmbs 2.54 5/16 cm A11: fine sand - 1/4 sil. Br
20				A12: 136-63 cmbs 2.54 6/4 silo 1/4 sil. Br
30				A13: 143-05 cmbs 2.54 5/4 med sand 1/4 sil. Br
40				A14: 148-20 cmbs 2.54 7/8 coarse sand PL Br
50	A12			41 cmbs 1/4 sil. Br 2.54 5/16 sil. Br med sand
60				
70				
80	A13			
90				
100	A14			
110				
120	NET (120-110)			
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: This test pit is a window of soil showing "ground surface" is 100 cmbs due to mechanical excavation in surrounding area. Test 100 cmbs was previously done in June. 30m east of feature, 20m north of relief drainage. Excavation ended @ 200 cmbs.

J. JOHNSON

Project: HOLMES MEADOW I	Supervisor: GAM	Test Pit: N280 E220 SW
Site:	Excavators: GAM, FEH	Feat #: Mesh: 1/4
Area and/or Locus: 100-200	PN Block: 1000 13	Date: 7/8/25

0 cmbs	Ground Surface	PN #/006	Artifacts	Soil Descriptions
10	A1		NAR	A1 DK VILK 3/20 (11 VA 3/4)
20				Silt
30				A2 DK 01 6/10 (2.5 5/4)
40	A2			Silt
50				A6 SEM. 25 A2 but w/
60	A2			Very lo organic.
70	A13			
80	A14			A6 1st olive lens (2.5 5/4)
90	A15			Silt and vls
100				A14 50-2nd approx
110	7'7'7'7'7'7'7'			Fine sand
120				
130				A5 DK. 6/10 lens
140				(2.5 4/2) vls and silt.
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test Pit located on N. side of road channel 40-50m East of
 Linnick River. Very faint possible A6 visible only in N. wall of
 Test Pit.

T. Johnson

Project: <i>Huron Mound</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N 28° E 230 SW</i>
Site:	Excavators: <i>GAM</i>	Feat #: <i>1/4</i>
Area and/or Locus: <i>145-271</i>	PN Block: <i>110013</i>	Date: <i>7/9/25</i>

O cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11	1108	NAR	A11 H shell brn
20				(2.5g 1/4) silt vfs
30	A12			A12 sl brn (2.5g 1/2)
40				Silt, vfs
50	A13			A13 gray (2.5g 1/4)
60	A14			vfs
70	A15			A15 strong red/brown brn
80	A16			5va 1/6 silt vfs
90	A17			A17 gray (2.5g 1/4) vfs
100	A18			A18 dk gray brn
110				(1.5g 1/4) silt vfs
120				A18 (see A15)
130				A18 (see A16)
140				
150				

Wall: *N*

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *Test pit located on South margin of North side of Huron Mound*
No developed soils, Ab in Aob. Laminar pattern

Project: Johnson Holmes/Markus I	Supervisor: GAM	Test Pit: N280 E240 SW
Site:	Excavators: ERP, GAM	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 12005	Date: 07-09-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Al ₁	1207	NAR	Al ₁ : 0-12cmbs 2.5Y 5/7 LGT OLV BRN VES
20	122cmbs Al ₂			Al ₂ : 122-147cmbs 5Y 4/4 OLV VES
30	147cmbs Lamella ₁			Lamella ₁ : 147-156cmbs 2.5Y 4/4 OLV BRN VES
40	Al ₃			Al ₃ : 156-170/174cmbs 2.5Y 5/2 GRISH BRN VES
50	174cmbs Lamella ₂			Lamella ₂ : 170/174-176cmbs 2.5Y 4/4 OLV BRN VES
60	176cmbs Al ₄			Al ₄ : 176-185cmbs 5Y 4/4 OLV VES
70	185cmbs Al ₅			Al ₅ : 185-200cmbs 5Y 4/4 OLV VES
80	174cmbs Lamella ₂ 176cmbs			
90	185cmbs Al ₄			
100	200cmbs Al ₅			
110	210			
120	220			
130	230			
140	240			
150	250			

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. Pit located in grassy field approximately 15-25m southwest of pine tree & ~50-80m west of road. Started at 1m thanks to backhoe & excavated to 2m total.

Project: Johnson Holmes meadow	Supervisor: GAM	Test Pit: N280 E250 SW
Site:	Excavators: TLB, EMK, MEE	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 10005	Date: 7-9-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	B1 124 cmbs	1012	NAR	B1: 100-124 cmbs v f s s
20		↓	↓	5Y 4/3 olive
30				B2: 124-153 cmbs v f s s
40				5Y 4/4 olive
50				A14: 153-177 cmbs v f s s
60	B2 153 cmbs			2.5Y 4/4 olive brown
70				A12: 177-183 cmbs v f s s
80	A13 177 cmbs A12-----183 cmbs			2.5Y 4/3 olive brown
90	/ / / /			A13: 183-191 cmbs f i s s
100				2.5Y 4/8 dark grayish b
110	NOT EXCAV.			A14: 191-200 cmbs v f s s
120				5Y 4/3 olive
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in grassy field approx. 30 m S of the tree line and ~40 m SW of the Holmes meadow parking area. Above the start of this test pit there appears to have been a buried layer in the soil removed by mechanical trenching. Dotted lines indicate layering.

Project: Johnson Holmes Road #11 Supervisor: GAM Test Pit: N1780E260SW
 Site: Excavators: MEE RES Feat #: Mesh: 1/4"
 Area and/or Locus: 1 MBS PN Block: 10001099 Date: 7/9/05

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1011	NAR	A1 ¹⁰⁰⁻²² 2.54 4/2 drk grey fm sil/Fcs
20	A12 22			A2 ²²⁻⁴¹ 2.54 5/3 Hdk Hk F-VES
30	LOOSELY COMPACTED SILT 28			A3 ⁴¹⁻⁵⁵ 2.54 5/4 Hdk Hk FMS
40	A12 41			A6 ⁵⁵⁻⁶⁶ 2.54 4/4 dk brn sil-bnd sand
50	44			A14 ⁶⁶⁻⁷¹ 2.54 4/3 Hdk Hk Fm sand
60	A13 55			A15 ⁷¹⁻⁸¹ 2.54 3/3 Hdk Hk sil-FMS
70	A6? 66			A16 ⁸¹⁻¹⁰⁰ some higher sil content
80	A14 71			
90	A15 81			> approx slightly weathered
100	A16 100			
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N1780E260SW - mechanical trench removed prev excavated by 1 MBS.
 This all done recorded are from 1 MBS - all excavated in general vicinity of pit-to-10
 location. 1 MBS - reference only. Cultural deposits, some artifacts observed @ ~55 cm
 below excavation surface, approx in same walls. Possible very dense hard A7
 - pits at certain walls, A16 is rather
 slightly weathered - also quite patchy.

Project: <i>Hilary Meadow I</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N280 E270 SW</i>
Site:	Excavators: <i>FEH</i>	Feat #: Mesh: <i>1/4"</i>
Area and/or Locus:	PN Block: <i>1200</i>	Date: <i>7/11/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	<i>A11</i>	<i>1224</i>	<i>NAR</i>	<i>A11 100-120 cmbs clay & silt</i>
20				
30	<i> </i>			
40				
50				
60	<i>A11 to 60 cmbs</i>			
70				
80				
90	<i>NOT EXCAVATED</i>			
100				
110				
120				
130				
140				
150				

Wall: *N*

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: *NAR test pit with a mechanical trench in a tall grass field, excavated to the vicinity of the original N280 E270 SW TP which ended @ 100cmbs. TP excavated from 100 cmbs to 120cmbs and cured to 160cmbs. All homogeneous alluvials. Excavation ended @ 120cmbs due to time constraints.*

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N280 E280 SW
Site:	Excavators: ERP, FKH	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 12005	Date: 07-11-2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1	1223	NAR	A1: 100-120 cmbs
20	120 cmbs			A2: 120-137 cmbs
30	A12			A3: 137-157 cmbs
40	137 cmbs			A4 (Ab?): 157-167/175 cmbs
50	A13			A5: 167/175-178 cmbs
60	157 cmbs			
70	A14/Ab?			
80	175			
90	A15			
100 200	178 cmbs			
110 210				
120 220				
130 230				
140 240	NOT EXCAV			
150 250				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR & no HST. A14/Ab? w/ pocket of A15. A14/Ab? bleeding into A15? Pit located approximately 10-15m west of road.

" Didn't have time for Muncall's.

N 28°

Project: Johnson-Holmes Meadow I	Supervisor: CAM	Test Pit: N270E290SW
Site:	Excavators: MEE, BES	Feat #: Mesh: 1/4"
Area and/or Locus: MB5	PN Block:	Date: 7/11/75

0 cms	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1023	NAR	A1 2.54 x 4/4 olivine siltstone
20	A11 119			A12 2.54 x 3/3 olivine siltstone
30	A12 122			A13 2.54 x 3/3 olivine siltstone
40				A14 2.54 x 3/3 olivine siltstone
50	A13 152			A15 2.54 x 3/3 olivine siltstone
60				A14-A15: gets rarer
70	A14 178			
80				
90				
100	A15 200			
110				
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: No Ab, d, g, or any cultural deposits discovered

Johnson

Project: Holmes Meadow I	Supervisor: GAN	Test Pit: N 790 E 190 3m
Site: ✓	Excavators: EMK KLL	Feat #: Mesh: 1/4
Area and/or Locus: -	PN Block: 1,205	Date: 7/8/85

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1,201	NAR	A13 10-150 2.5Y 4/6
20	A11			
30				
40	136 cmbs			A12 136-160 2.5Y 4/6 light olive brown silt sand
50	A12			
60	160 cmbs			
70	Lombardi 165 cmbs			Lombardi 160-165 2.5Y 4/6 silt sand
80	A13			
90	187 cmbs			A13 187-200 2.5Y 4/6 light olive brown silt sand
100	A14 200 cmbs			A14 187-200 2.5Y 4/6
110				
120	end of excav			
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR

Lombardi likely due to recent rain which caused a fluctuation in the water table
 pit is located 30 m east of Lombardi river bank, 150 m south west of parking area

Johnson

Project: Holmes MEADOW I	Supervisor: GAA	Test Pit: N290 E 200 SW
Site:	Excavators: KCL, BMC	Feat #: Mesh: 4"
Area and/or Locus:	PN Block: 12005	Date: 7/8/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1201	N&E	A12152-82C-61 1.4R 3/6 LGT OLVDAN 51.5cm
20				
30	A11			
40				
50				
60	52cm A12			A12152-82C-61 2.54 3/6 LGT OLVDAN 51.5cm
70	64cm 70cm A13 ← Lantelli			A131164-178C-65 2.54 3/6 LGT OLVDAN 51.5cm
80	A14 8e			A141178-178C-65 2.54 3/6 LGT OLVDAN 51.5cm
90	89cm A15			A151180-188C-61 2.54 3/6 LGT OLVDAN 51.5cm chert
100	1m A15			A151188-200C-61 2.54 3/6 LGT OLVDAN 51.5cm
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N290 E 200 SW is located 20 meters east of Riverbank and 30 meters north of old drainage. We excavated TP to 100cm. We did see a buried horizon at 80cm but specks of chert in it and possible organics but very diffuse. No artifacts revealed.

Project: Johnson Holmes Meadow		Supervisor: GAM	Test Pit: N290 E210 SW	
Site:		Excavators: TLR, ERP	Feat #:	Mesh: 1/4"
Area and/or Locus:		PN Block: 11003	Date: 7-8-85	
0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11 114 cmbs	1104	NAR	A11: 110-114 cmbs VF si 52
20		↓	↓	2.5Y 4/4 olive brown
30				A12: 114-135 cmbs VF si 52
40	A12 135 cmbs			2.5Y 5/3 light olive br
50	A13 146 cmbs			A13: 135-146 cmbs fi si 52
60				2.5Y 5/4 light olive br
70				A14: 146-179 cmbs VF si 5
80	A14 179 cmbs			2.5Y 5/3 light olive br
90				A15: 179-200 cmbs fi si
100	A15 200 cmbs			2.5Y 4/3 olive brown
110	/ / / /			
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in open grassy field approx. 20m East of the tree line and ~35m south of the river bank. Dotted lines indicate lamellae in profile. An orange stain from the water table loc. at the end of A14. Overall, little change in soil color between the alluvial layers.

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N290 E220 SW
Site:	Excavators: FRP, BMS	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1105	Date: 07/08/2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	111 cmbs All/mixed soils	1105	BUTN 100-110 cmbs All/mixed soils	100-111 cmbs SY 5/4 All/mixed soils: OLV 5/4 OLV VFS 5/5
20				111-130 cmbs 2.5Y 4/4 OLV BAN VFS 5/5
30	130 cmbs A12			130-140 cmbs 2.5Y 5/4 A13: LG TOLV BAN VFS 5/5
40	140 cmbs A13			140-153 cmbs SY 5/4 OLV VFS 5/5
50	153 cmbs A14			153-167 cmbs SY 4/4 OLV VFS 5/5
60				167-175 cmbs SY 5/6 A6/lanellae: OLV VFS 5/6
70	167 cmbs A15			175-194 cmbs SY 5/4 OLV VFS 5/5
80	175 cmbs A16			194-200 cmbs SY 5/3 OLV A18: mixed sands VFS 5/5
90				
100	200 174 cmbs 200 cmbs A18			
110	210			
120	220			
130	230			
140	240			
150	250			

Wall: N

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. 1 BUTN recovered at 100-110 cmbs in the All/mixed soils. (Mixed soils from pit being previously dug to 100 cmbs & backhoe excavation to remove first 100 cm and 1m). Dug to 200 cmbs (2 m) total. Pit located approximately 20-30 m east of tree line in grassy field.

JOHANSON

Project: Holmes Meadow	Supervisor: GAM	Test Pit: N290E230 SW
Site:	Excavators: Gam & BECKETT	Feat #: Mesh: 1/4"
Area and/or Locus: 100-200	PN Block:	Date:

0 cmbs	Ground Surface	PN # 1007	Artifacts	Soil Descriptions
10	A1		NAR	A11 DK Vltc brn
20				(10 va 1/16) Silt and Vfs
30	A2			
40				A12 DK Gmsk brn
50	A3			(10 va 1/2) Silt
60				
70	A4			A13 rd or brn (2.5% 6/1)
80				Vfs and Silt
90	A5			
100				A14 Gmsk (2.5% 6/1)
110				Vfs
120				
130				A15 Gmsk (10 va 5/1)
140				Vfs
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test Pit located on level Terrace approx 10m N of shaft and 2m N of modern slope leading down into valley channel.

Project: Johnson, Holmes Meadow I	Supervisor: GAM	Test Pit: N290 E240 SW
Site:	Excavators: RFS, FEH	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1000's	Date: 7/16/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1112	BRICK	AL1: 2.5Y-7/4 - Pale Brown
20	AL1	↓ ↓ ↓ ↓		AL2: 2.5Y-5/3 - light olive brown
30		↓ ↓ ↓ ↓		AL3: 2.5Y-6/4 - light yellowish brown
40	AL2	↓ ↓ ↓ ↓		AL4: 2.5Y-6/3 - light yellow brown
50	T Lameolla	1113	BRICK	AL5: 2.5Y-6/6 - olive yellow
60	AL3	↓ ↓ ↓ ↓		AL6: 2.5Y-5/3 - light olive brown
70				
80	AL4	↓ ↓ ↓ ↓		
90	AL5			
100	AL6			
110				
120	NOT EXCAVATED			
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: BRICK found in 15cm & 50cm - Very sandy soil
 50m West grassline in the backfield, 50m East to the parking lot/pavement

Project: Meadows I	Supervisor: GAM	Test Pit: N290 E250 SW
Site: —	Excavators: EMK, BFJ	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 1200	Date: 7/10/85

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AL 1	1212	N/A	AL 1: 7.57% silt sand
20	AL 2	↓	↓	AL 2: 2.97% silt sand
30				
40				
50	AL 3	↓	↓	AL 3: 7.57% silt sand
60				
70	AL 4	↓	↓	AL 4: ↓ silt sand
80				
90	AL 5	↓	↓	AL 5: ↓ silt sand
100				
110	AL 6 end of area	Lanettes	↓	AL 6: 2.51% silt sand
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N/A
 30 m west of parking area, 40 m north of highest point in field

Project: Johnson Holmes Meadow I
Supervisor: GAM
Test Pit: N 290 E 260 S1
Site:
Excavators: TLR, GAM, MEE
Feat #:
Mesh: 1/4"
Area and/or Locus:
PN Block: 10001
Date: 7-10-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1013	NAR	A14: 100-121 cmbs VF si
20	A12 - - - - - 121 cmbs	↓	↓	2.5Y 5/3 light olive brown
30	A6 - - - - - 129 cmbs			A6: 121-129 cmbs VF si
40	A12 - - - - - 139 cmbs			2.5Y 3/3 dark olive brown
50	A13 - - - - - 150 cmbs			A12: 129-139 cmbs VF si
60	A14 - - - - - 158 cmbs			2.5Y 5/4 light olive brown
70				A13: 139-150 cmbs Fi S2
80	A15 - - - - - 181 cmbs			2.5Y 5/3 light olive brown
90	A16 - - - - - 188 cmbs			A14: 150-158 cmbs Fi S2
100	A17 - - - - - 202 cmbs			2.5Y 6/3 light yellowish brown
110	/ / / / /			A15: 158-181 cmbs Fi S
120				2.5Y 5/4 light olive brown
130	No T			A16: 181-188 cmbs coarse
140	EXCAV.			2.5Y 6/1 gray
150				A17: 188-202 cmbs Fi S2

Wall: N

2.5Y 5/3 light olive brown

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in meadow approx. 30m west of the Holmes Meadow parking area and ~25m SW of the tree line. Dotted lines in profile indicate lamellae.

Project: Johnson Holmes Meadow	Supervisor: GAM	Test Pit: N 210 E 270 S 6
Site:	Excavators: FEH BMC	Feat #: Mesh: 1/4 in
Area and/or Locus:	PN Block: 2005	Date: 7/11/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	Al ₁	1020	NAR	Al ₁ : 2.5 Y 4/4
20				Ol _v Br Silt, fine sand
30				
40	Al ₂	1412		Al ₂ : 5 Y 4/4
50	Ab			Ol _v Silt, fine sand
60				
70	Al ₃			Ab: 2.5 Y 3/3
80		180		DK Ol _v Br fine sand
90				
100	Al ₄	200		Al ₃ : 2.5 Y 4/4
110				Ol _v Br Silt, fine sand
120				
130	Not			Al ₄ : 2.5 Y 5/3
140	Excavated			Lt Ol _v Br Medium sand
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR Test pit with mechanical excavated trench, in tall grass field 25 meters south of tree line 30 meters west of parking area. Excavation began at 100 cmbs, ended at 200 cmbs. First 100 cmbs previously excavated. Burial A noted in 100 cmbs of soil from 142 to 152 cmbs. Level 1 found throughout all original stumps.

THOMAS HOLMES

Project: MEADOW I	Supervisor: GAM	Test Pit: N290E280 SW
Site:	Excavators: GAM EAP	Feat #: Mesh: 1/4
Area and/or Locus: 191-313	PN Block: 1000 ¹⁵	Date: 7/11/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11		NAR	A11 light yellow-brown
20		121		(10 x 6/4) v/s 1
30				A12 1/2 of bin
40	A12			(2.5 x 5/3) v/s 1
50		150		A13 1/2 of bin
60	A13			(2.5 x 5/4) v/s
70				A14 6/24 (10 x 2 6/1)
80		176		v/s
90	A14			
100		100		
110	1 1 1 1 1			
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test Pit located in eastern side of AEF in section 2 level T2 Terrace. Below channel marks 15m to South.

JENNIFER HUNTER

Project: Meadow I	Supervisor: GAM	Test Pit: N290E290 SW
Site:	Excavators: GAM BICKETT	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block: 1000s	Date: 7/11/25

0 cmbs	Ground Surface	PN # 1022	Artifacts	Soil Descriptions
10	A1		NAX	A11 DK Grail bin
20				(1/4 YAS 1/2) Sub 1000
30				
40				A12 (1/4) Brown
50				(2.5-4/4) FS
60	A12			
70				
80				
90				
100				
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Project: Johnson Meadow I	Supervisor: GJM	Test Pit: N305 F200
Site:	Excavators: BFS, EMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 10005	Date: 7/8/85

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1005	NAR	→ silty sand A 1048 - silty light olive brown
20	AL1 Lamotte I	↓ ↓	↓ ↓	
30				
40	AL2			LAMAELLA: 7.5YR-4/6 - strong brown
50				
60	AL3 Lamotte II			
70				AL3 → silty sand 2.5Y-6/4 - light yellow brown
80	AL4			AL4 10YR-4/6 - dark yellowish brown
90				AL5 → silty sand 2.5Y-6/4 - light yellow brown
100	AL5			2.5Y-6/2 - light brown gray
110				
120				
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: No artifacts recovered - Pit located 5m W to the edge of the tree line, 100+M East away from the Pit.

Project: Holmes Mead I		Supervisor: GAH		Test Pit: N300 E2/0 S1	
Site: -		Excavators: FEH, EME		Feat #: Mesh: 1/4"	
Area and/or Locus: -		PN Block: 1200		Date: 7/8/25	
0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions	
10	A11	1204	NATZ	A11: 10-125 cmbs 104E S14 fine sand yllw bn	
20				A12: 125-143 cmbs 104F G/4 fine sand lt yllw bn	
30	A12			A13: 143-150 cmbs 2.54 3/4 104G fine sand w/ 1 st. bn lamell	
40				A14: 150-170 cmbs 2.54 4/3 104H y fine sand	
50	A13			A15: 170-177 cmbs 2.54 5/4 104I med sand w/ 1 st. bn lamell	
60				A16: 177-200 cmbs 2.54 4/3 104J med sand	
70	A14				
80	A15				
90	A16				
100	NOT EXAMINED				
110	NOT EXAMINED				
120	NOT EXAMINED				
130					
140					
150					

Wall: S

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR test pit located in a field of tall grass. "Ground surface" is 1:00 cmbs due to mechanical excavation of the surrounding area. Previous 100 cmbs was excavated in June - TP relocated by its backfill. This pit is ~30m east of the wheelie and ~20-30m south of the Lavoie River. Excavation ended @ 200 cmbs.

Johnson

Project: Holmes Meadow I	Supervisor: CAM	Test Pit: N 300 E 220 SW
Site:	Excavators: TLB, BFS	Feat #: Mesh: 4"
Area and/or Locus:	PN Block: 11005	Date: 7/8/21

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1106	NAR	A11) 10-35cm - br 104R 3/4 Yel BRN Si Sa
20	A11			
30				
40	35cm A12 Laminated			A12) 35-57cm - br 104R 3 LC: BRN GRN Si Sa
50				Pale BRN 104R 2/3 Si Sa
60				
70	A13			A13) 157-176cm - br 104R 3/6 Pale BRN Si Sa
80	76cm			
90	A14			A14) 176-200cm - br 2.54 4/3 OLV BRN Si Sa
100	2m			
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N 300 E 220 is located in field 35 meters east of trees on river bank also 20 meters North of old drainage No artifacts recovered

J. HANSEN HANSEN

Project: MEADWIN I	Supervisor: GAM	Test Pit: N300 E230 SW
Site:	Excavators: GAM, MEE	Feat #: Mesh: 1/4
Area and/or Locus: 187-203	PN Block: 12005	Date: 7/9/25

0 cmbs	Ground Surface	PN # 1205	Artifacts	Soil Descriptions
10	A11		NAK	A11 1/4 x (156) bca
20				(2.57 6/4) vts
30	A12			A12 1/4 brass 9x29
40				(2.57 6/3) vts 4214
50	A13			A13 1/4 brass 9x29 (2.57 7/1)
60				vts
70	A14			A14 oxidized reddish
80				bca (5x4 4/4) vts
90	A15			A15 1/4 brass 9x29
100				(2.57 6/2) vts 3 511
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: n/a Ab of App in this Test Pit No weathered soils.
 A14 heavily oxidized.

701.4300

Project: Millers Meadow I	Supervisor: GAM	Test Pit: N300 E243 20
Site:	Excavators: FEH, TLR	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1000	Date: 7/10/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1014	NAR	A1 100-170cmbs 2.5% 5/4 fine sand 1/4 0/2
20				A1.2 100-135cmbs 2.5% 5/4 fine sand 1/4 0/2
30				A1.3 100-200cmbs 2.5% 7/4 med sand 1/4 0/2
40	A11			
50				
60				
70	170			
80	A12			
90	A11			
100				
110				
120	NOT EXCAVATED			
130				
140				
150				

Wall: 5

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR not yet located within a mechanically excavated area. In a tall grass field. It is in the vicinity of the originally excavated N300 E243 SW 1/4. It was excavated to 100cmbs. Examination of this pit was begun at 100cmbs and ended @ 700cmbs. The pit is 5-10m directly west of the fire tower Lannell (S100) observed throughout all these tests.

Project: Johnson Holmes Meadow I	Supervisor: GMM	Test Pit: N314 E250 NW
Site: —	Excavators: EMK, GMM, BJS	Feat #: Mesh: 1/4"
Area and/or Locus: —	PN Block: 1200	Date: 7/10/75

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AL 1	1214	NAR.	AL 1: silt sand
20	→ 114 AL 2	→ Lenticle (L)		AL 2: silt sand
30	AL 3			
40	140 AL 4	→ L		
50	AL 5 155			AL 3: silt sand
60	AL 6 165			
70	→ L			AL 4: silt sand
80	AL 7 180			AL 5: 25% silt sand
90	→ L AL 8 185	→ L		AL 6: silt sand
100	AL 9			AL 7: 25% silt sand
110				
120	end of core			
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR

pit is 130' W west of casting area, 45' N north of area in field

JOHNSON HOLMES

Project: MEADOW I	Supervisor: GAM	Test Pit: 1/300E260 SW
Site:	Excavators: GAM	Feat #: Mesh: 1/4
Area and/or Locus: 100-200	PN Block: 1200 ¹⁵	Date: 7/10/25

0 cmbs	Ground Surface	PN # 1213	Artifacts	Soil Descriptions
10			NAR	A1 14 of bit (2.5y 5/4)
20	A1			vfs & silt
30				A12 12 bench silt
40		135		(2.5y 6/1) vfs
50	A12	145		A12 silt (2.5y 7/1)
60	A13	152		vfs
70	A13			A14 Grey (2.5y 6/1)
80	A15	170		vfs
90		185		A15 14 of bit (2.5y 5/3)
100	A16	200		vfs silt
110	''''''''			A16 Grey (11y 2 1/1)
120				vfs
130				
140				
150				

Wall: 10

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test Pit located in level T2 Flanking Terrace 20m
40m South of 12m wall. P.M.

JOHNSON HOLMES

Project: MEADOW I	Supervisor: GAM	Test Pit: N300E270 SW
Site:	Excavators: GAM EMK	Feat #: Mesh: 1/4
Area and/or Locus: 105-200	PN Block: 1000 ¹⁵	Date: 7/11/25

O cmbs	Ground Surface	PN # 1019	Artifacts	Soil Descriptions
10	A11		NAR	A11 light yellow loam
20	A12	114	}	(2.5x 6/4) vfs
30		125		A12 dk grey loam (2.5 5/4)
40	A13			vfs 2nd 5/4
50	A6	142		A13 light yellow loam
60	A14			(2.5x 6/4) vfs
70				A6 dk grey loam
80	A15			(1.5x 4 1/2) vfs w
90				of light charcoal -
100				organic staining
110				A14 light olive loam
120			(2.5x 5/4) vfs	
130			A15 grey (1.5x 6/4)	
140			vfs	
150				

Wall: 5

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Test pit leaked in. DSE problem of APE 20000. 3000 Soil of Cornish Run. A6 produced at 20.625 but it is poured in 21.4. vdfs of test pit

Johnson

Project: Hobus Meadow I	Supervisor: GAM	Test Pit: N300 E280 SW
Site: —	Excavators: FMK ERP	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 12005	Date: 7/11/85

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	110	120	NAR	AL 1: 10 YR 3/6. Yell. brown silt
20	AL 1 128			
30				
40	AL 2			AL 2: 10 YR 7/4 Yell. brown silt
50	153			
60	AL 3 164			AL 3: 2.5 Y 6/2 light brown gray
70				
80	AL 4 184			AL 4: 2.5 Y 7/4 light brown silt
90				
100	AL 5 200			AL 5: 2.5 Y 6/4 light brown silt
110				
120				
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR
 pit is 20 m west of parking area, 25 m south of baseline at forest edge

Project: Johnson Holmes Meadow **Supervisor:** GJM **Test Pit:** N300 E290 JW
Site: **Excavators:** TLP, EMK **Feat #:** **Mesh:** 1/4"
Area and/or Locus: **PN Block:** 11005 **Date:** 7-11-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1117	NAR	A11: 100-142 cmbs
20		↓	↓	
30				A12: 142-148 cmbs
40				
50				A13: 148-163 cmbs
60				
70				
80				No Munsells - Jam.
90				
100				
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in meadow approx. 1km north of the Holmes meadow parking area and ~20m west of the tree line. Excavation ended at 163 cmbs due to time - covered to 181 and it showed more alluvials. Bones also indicate low level

Project: Wm. Holmes McAdams I	Supervisor: GAM	Test Pit: H30E290SW
Site:	Excavators: MFE TB	Feat #: Mesh: 1/4"
Area and/or Locus: LM 85	PN Block: 1001199	Date: 7/11/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11 115	1116	NAR	A11 10-15/19 2.54 4/4 2.54 1/1 2.54 1/1
20				A12 15/17-20/65 2.54 4/3 2.54 1/1 2.54 1/1
30	A12			A13 15/55-71 2.54 5/4 1.5 1/1 2.54 1/1
40				A14 17-78 2.54 6/3 1.5 1/1 2.54 1/1
50	A15 155			A15 17-78 1.5 2.54 4/2 2.54 1/1 2.54 1/1
60				A16 17-78 2.54 7/3 1.5 1/1 2.54 1/1 + med sand
70	A13 171			
80	A14 178			
90	A15(?) 197			
100				
110	NOT EXCAV			
120				
130				
140				
150				

Wall: VI

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: H30E290SW located in low west of parking area and in 15M south of the line with
 tracking remains for LM. Thus all debris recorded from 10cm. No cultural deposits identified.
 All vegetation removed and highly disturbed area through do not appear to be altered A
 *samples = 10m scale

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N310 E210 SW
Site: —	Excavators: EMK, BFS	Feat #: Mesh: 1/4
Area and/or Locus: —	PN Block: 1000s	Date: 7/9/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1009	NAR.	AL 1: 100-130 2.5Y 6/4 light yellow brown sand
20	AL 3			
30				
40	AL 2 Laminilla 130 140			AL 2: 130-140 2.5Y 7/3 pale brown sand
50	AL 3 150			AL 3: 140-150 2.5Y 7/6 light olive brown sand
60	AL 4 160			
70	AL 5 170			AL 4: 150-162 2.5Y 7/3 pale brown sand
80	AL 6 180			AL 5: 162-170 2.5Y 7/2 pale brown sand
90				AL 6: 170-180 2.5Y 7/4 light yellowish brown sand
100	AL 7 190	✓	✓	AL 7: 180-200 olive brown sand
110				
120	end of section			Laminilla: 190 and 192 dark yell. o sand
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR

pit is ~70 m west of Holmes Meadow surface/parking area. 5 m west of middle of road
western edge

Project: Johnson Holmes Meadow
 Site:
 Area and/or Locus:
 Supervisor: GAM
 Excavators: ERP, EMK
 PN Block: 1100s
 Test Pit: N310 E220 S1
 Feat #: Mesh: 1/4"
 Date: 07/09/2025

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	106 cmbs A1	1107	NAR	A1: 0-106 cmbs SY 5/6 OLV VFS9
20	120 cmbs A12			A12: 106-120 cmbs Between SY 5/6 OLV VFS9
30	A13			A13: 121-151 cmbs SY 5/4 OLV S: VFS11
40	A13			A14: 151-163 cmbs SY 5/3 OLV S: VFS9
50	157 cmbs A14			A15: 163-180 cmbs SY 5/4 OLV VFS9
60	163 cmbs A14			A16: 180-185 cmbs SY 4/4 OLV JFC
70	A15			A17: 185-200 cmbs SY 6/2 OLV GRT VFS9
80	180 cmbs A16			
90	185 cmbs A16			
100	200 cmbs A17			
110	///			
120	///			
130	NOT EXCAV.			
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR & no H/S. Pit located approximately 10-20m south of edge of field. Pit started at 1m after backhoe removed first 1m. Excavated to a total of 2m.

Project: Johnson Holmes Meadow J
 Site:
 Area and/or Locus:
 Supervisor: GJM
 Excavators: BFS, TLB
 PN Block: 1000
 Test Pit: N310 E230 S
 Feat #: Mesh: 1/4"
 Date: 7/9/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AL1	1010	NAR	AL1 -> 104R/2/8 - very pale brown
20	AL1	↓ ↓	↓ ↓	AL2 -> 104R/6/2 - light brownish gray
30	AL2			AL3 -> 104R/6/3 - pale brown
40	AL3			
50	AL4			AL4 -> 104R/6/3 - pale brown
60	AL4			
70	AL5			AL5 -> 104R - 6/2 - light brownish gray
80	AL5			
90				
100				
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR !!! very sandy soil. walls prone to collapse
 50m East of Holmes Meadow / parking area
 20m W of the edge line of the woods

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N310 E240 SW
Site:	Excavators: DFS, EMK	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1200's	Date: 7/10/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	AL1	115	NAR	AL1: 104R - 5/4 - yellowish brown
20		↓ ↓	↓ ↓	AL2: 2.54R - 6/3 - light yellowish brown
30	AL2	↓ ↓	↓ ↓	AL3: 2.54R - 6/3 - light yellowish brown
40		↓ ↓	↓ ↓	AL4: 2.54R - 6/7 - light brown gray
50	AL3			
60				
70	AL4			
80				
90	NOT EXCAVATED			
100				
110				
120				
130				
140				
150				

Wall: N

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR - North wall recorded - 50m East of the parking lot
30m North to the grass line

Project: MEAD	Supervisor: GAM	Test Pit: N310E250SW
Site:	Excavators: GAM	Feat #: Mesh: 1/4
Area and/or Locus: 101-31A	PN Block: 1100	Date: 7/10/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	gray vt-fs	1114	N/A	No Mammals
20	dk gray to vt fs		}	TOXIN
30				Alternating A1's
40				gray vt-fs and
50				dk gray to vt fs
60				vt and silt.
70				
80				
90				
100				
110				
120				
130				
140				
150				

Wall: 6

Architectural Debris	ARCT	Lithic Debitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments:

Johnson Holmes

Project: <i>Mechanic I</i>	Supervisor: <i>GAM</i>	Test Pit: <i>N310E26152</i>
Site:	Excavators: <i>GAM GML</i>	Feat #: Mesh: <i>1/4</i>
Area and/or Locus: <i>1A-260</i>	PN Block: <i>1016</i>	Date: <i>7/10/25</i>

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1	1016	NAR	Mud TAKEN
20				→ WALL
30				COLLAPSES
40	A2			
50				
60	A3			
70	A4			
80	A5			
90				
100				
110				
120				
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: Soils very unconsolidated - partially collapsed east wall. No evidence of App or Ab. Soils and strata are 1/4-1/2 with sporadic lenses.

Project: Johnson Ho...	Supervisor: GAM	Test Pit: N 310 E 270 S 6
Site:	Excavators: TLB, GAM	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1100F	Date: 7-11-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1115	NAR	A12: 100-124 Fi sa
20		↓	↓	2.5Y 4/4 olive brown
30	A11 124 cmbs	↓	↓	A12: 124-137 Fi sa
40	A12 137 cmbs			2.5Y 6/2 light brownish
50	A13 153 cmbs			A13: 137-153 Fi sa
60				2.5Y 6/3 light yellowish brown
70	A14 167 cmbs			A14: 153-167 Ft sa
80				2.5Y 6/2 1/4 brownish gray
90	A15 190 cmbs			A15: 167-190 Fi sa
100	A16 195 cmbs			2.5Y 5/4 light olive brown
110	///			A16: 190-195 coarse sa
120	NOT EXCAV.			2.5Y 5/3 light olive brown
130				
140				
150				

Wall: W

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in meadow approx. 10m west of the tree line and ~20-25m north of the Hoimes Meadow parking area. Excavation ended quickly early due to wall collapse. Very sandy pit. dotted lines in profile represent wall line.

Project: Johnson-Holmes Meadow I	Supervisor: GAM	Test Pit: N310E280SW
Site:	Excavators: MEE KCL	Feat #: Mesh: 1/4"
Area and/or Locus: IMB5	PN Block: 1200-1299	Date: 7/11/75

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A11 110	1213	1116	A11 10110 2.545/6 Holm/MS/VEB
20	A12 115			A12 1101720 2.545/4 Holm/MS/VEB
30	A13 120			A13 1021040 2.545/3 Holm/MS/VEB
40	A14 140			A14 14045 2.544/2 Hingy for sold
50	A15 155			A15 10135 2.544/2 Hingy for sold
60				A16 10210 50% red of A15 - red soil + 10% sand
70				A17 10220 50% red of A15 - red soil + 10% sand
80				
90	A16 148			
100	A17 200			
110				
120				
130	NOTE: CAV			
140				
150				

Wall: 5

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N310E280SW located ~15m from creek and ~40-50m west of Johnson-Holmes Meadow I. Mechanical trenching from IMB5 has an depth of 1m. TP excavated in general vicinity of original excavation to evidence of red soil, chert, or gravels on any other level.

*Samples above = cancelled

Johnson

N310

Project: Halmel Meadow I	Supervisor: G.M.	Test Pit: N320 E 290 S
Site:	Excavators: KCL, BFS	Feat #: Mesh: 4"
Area and/or Locus:	PN Block: 1200	Date: 7/11/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10				Fill 50-43cm
20				
30	Fill			
40				
43 cm				
50	Apb	1221	40-50 CERM	Apb 43-60cm 1042 3/4 D.K. 4.5L 13.2V 5a Lg
60	Soil	1222	50-60 CERM	
70	B			B 60-78cm 2.54 3/4 LGT 0.2V 13.2V 5i 5a
80	78cm			
90	A1			A1 78-100cm 2.54 3/4 LGT 0.2V 13.2V 5i 5a
100	1m			
110	7 7 7 7			
120				
130				
140				
150				

Wall: 5

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: N320 E 290 S is located in field south west of parking area and 5 meters south of riverbank. We recovered CERM in Ap Soil - No other artifacts recovered.

Project: Johnson Holmes Meadow	Supervisor: GAM	Test Pit: N320 E210 SW
Site:	Excavators: TLB, FEH	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 1000s	Date: 7-9-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1008	NAR	A11: 100 - 130 cmbs Fi sa
20		↓	↓	2.5Y 5/3 light olive brown
30	A11 130 cmbs	↓	↓	A12: 130 - 144 cmbs coarse
40	A12 144 cmbs			2.5Y 5/3 light olive brown
50	A13 154 cmbs			A13: 144 - 154 cmbs Fi sa
60	A14 164 cmbs			2.5Y 5/6 light olive brown
70				A14: 154 - 164 cmbs Fi sa
80				2.5Y 5/4 light olive brown
90	A15 189 cmbs			A15: 164 - 189 cmbs VF sa
100	A16 196 cmbs A17 200 cmbs			2.5Y 4/3 olive brown
110	////			A16: 189 - 196 cmbs coarse s
120				2.5Y 6/1 gray
130	NOT EXCAV.			A17: 196 - 200 cmbs Fi sa
140				2.5Y 4/3 olive brown
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in grassy field approx. 3 m SE of the tree line and ~55-65m SW of the Holmes Meadow parking area. Dotted lines in profile represent laylines.

Project: Johnson Hollows Meadow 3 Supervisor: GAM Test Pit: N 320 E 230 SW
 Site: Excavators: TLB, GAM Feat #: Mesh: 1/4"
 Area and/or Locus: PN Block: 10005 Date: 7-10-25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1015	NAR	A11: 100-124 cmbs
20		↓	↓	
30	A11 124 cmbs A12 130 cmbs	↓	↓	A12: 124-130 cmbs
40				
50	A13 147 cmbs			A13: 130-147 cmbs
60	A14 155 cmbs			
70			"147-155" ←	A14: 147-155 cmbs
80	A15 178 cmbs			
90	A16 187 cmbs			A15: 155-178 cmbs A16: 178-187 cmbs
100	/ / / /			
110				A16: 178-187 cmbs
120	NOT EXCAV.			
130				
140				
150				

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR pit located in Johnson Meadow parking area and 1/2 mile south of the dwelling. Pit was very sandy and excavation was ended early at 187 cmbs due to all four walls repeatedly causing collapse.

Johnson

Project: Holmes Meadow I	Supervisor: GAM	Test Pit: N320 E240 SW
Site:	Excavators: EMK, FEH	Feat #: Mesh: 1/4
Area and/or Locus:	PN Block: 12009	Date: 7/10/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1216	NAR	AL 1: 100-132 light silty clay
20	AL 1			
30				
40	AL 2 133			
50	147			AL 2: 133-147 light silty clay
60				AL 3: 147-200 light silty clay
70				
80	AL 3			
90				
100	200			
110				
120				
130				
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR
 pit is 5 m south of northern edge of field, 35 m west of parking area

Johnson

Project: Holmer Meadow I		Supervisor: GAM		Test Pit: N320 E250 SW	
Site: -		Excavators: FEH, BFB		Feat #: Mesh: 1/4"	
Area and/or Locus: -		PN Block: 1200s		Date: 7/11/25	
0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions	
10		1217	NAR	A1 1: 100-130 cmbs 2.5Y 5/4 10/10 fine sand	
20	A1 1			Ab 1: 100-150 cmbs 2.5Y 3/1 5/10 at TP some sand blk	
30	Ab 1			Ab 2: 130-155 cmbs 2.5Y 4/1 8/10 some sand blk	
40	Ab 2			A1 2: 157-160 cmbs 2.5Y 6/1 4/10 med sand	
50	A1 2			A1 3: 160-165 cmbs 2.5Y 5/1 4/10 med sand	
60					
70					
80					
90	A1 3				
100					
110					
120	NOT EXCAVATED				
130					
140					
150					

Wall: E

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR test pit located within a mechanically excavated trench in a field of tall grass that is in the vicinity of the original N320 E250 SW site which was excavated to 100 cmbs. It is 5m south of the narrow levee and 5m west of the parking area. Excavation began @ 10 cmbs and ended @ 20 cmbs.

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N320 E260 8L
Site:	Excavators: BMC, BPS	Feat #: Mesh: 1/4"
Area and/or Locus:	PN Block: 10005	Date: 7/11/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10		1017	NAR	AL1: 10YR-6M-yellow brown
20	AL1	↓ ↓	↓ ↓	AL2: 10YR-6/6-brownish yellow
30	125	↓ ↓	↓ ↓	AL3: 10YR-5/4-yellow brown
40	AL2 140			AL4: 10YR-6M-yellow brown
50				
60	AL3			
70	130			
80	AL4			
90				
100				
110				
120	NOT EXCAVATED			
130				
140				
150				

Wall: wa

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: 20m East of the honey pot/portelle, 10m South of the tree in the middle of the field. NAR - no artifacts collected nor found

Project: Johnson Holmes Meadow I	Supervisor: GAM	Test Pit: N320 E270 S1
Site:	Excavators: ERP, EMK	Feat #: Mesh: 1/1"
Area and/or Locus:	PN Block: 1000s	Date: 07/11/2005

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1	1013	NAR	A1: 100-117 cmbs 10YR 6/2 LST BRNISH GRN VFS
20	117 cmbs Apb/A1b?			Apb/A1b: 117-125 cmbs 2.5Y 5/2 GRYISH BRN SIVE
30	125 cmbs B (bu?)			B (bu?): 125-139 cmbs 2.5Y 1/4 OLY BRN VFS
40	139 cmbs A12			A12: 139-168 cmbs 5Y 4/0 OLY
50				
60				A13: 168-174 cmbs 5Y 4/4 SIVE
70	168 cmbs A14			A14: 174-200 cmbs 2.5Y 3/3 DRK OLVERN SIVE
80	174 cmbs			
90	A14			
100	200 cmbs			
110	210			
120	220			
130	230			
140	240			
150	250			

Wall: N

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR. Pit started at the E end of excav. at 2m. Pit located ~50 cm south of machine / edge of field.

Project: Johnson Holms Meadow	Supervisor: GAM	Test Pit: N320 E28C SW
Site:	Excavators: FEH BMC	Feat #: Mesh: 1/4 in.
Area and/or Locus:	PN Block: 1200s	Date: 7/27/25

0 cmbs	Ground Surface	PN #	Artifacts	Soil Descriptions
10	A1 ₁	1219	NAR	A1 ₁ : 110-132 cmbs 2.5 Y 4/1
20				0lv Bn silt/fine sand
30				
40	A1 ₂			A1 ₂ : 132-176 cmbs 7.5 Y 5
50				Lt 0lv Bn silt
60				
70	A1 ₃			A1 ₃ : 176-200 cmbs 2.5 Y 6/1
80				Lt Ylw Bn fine sand
90				
100		200		
110				
120	Not			
130	excavated			
140				
150				

Wall:

Architectural Debris	ARCT	Lithic Débitage	LDEB	Miscellaneous	MISC
Bone	BONE	Lithic FCR	LFCR	Manufacturing Scrap	MSHB
Ceramic European	CERM	Lithic Tool Flaked	LTFL	Other	OTHR
Feature Soil	FEAS	Lithic Tool Ground	LTGR	Native American Pottery	PTRY
Floral Remains	FLOR	Lithic Unmodified	LUNM	Shell	SHEL
Glass	GLAS	Metal	METL	Other Soil	SOIL

Provide comments on (1) Artifacts (2) Soil inclusions, staining, and mottling (3) Disturbances and context (4) Test Pit Location

Comments: NAR test pit located in agricultural field in tall grass field. Approx 5m south of hedge and ~25m west of parking lot. Excavation began 10cmbs and ended 200cmbs.

HOLMES MEADOW FLOODPLAIN RESTORATION

RIVER ROAD WEST
JOHNSON, VERMONT

FINAL DESIGN FOR PERMITTING
MAY 15, 2025
REVISED SEPTEMBER 17, 2025



PROJECT SITE VICINITY MAP:



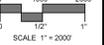
PREPARED BY:



1 SOUTH MAIN STREET
WATERBURY, VT 05676
802.882.8335
SLRCONSULTING.COM



LOCATION MAP:



PREPARED FOR:

TOWN OF JOHNSON
293 LOWER MAIN WEST
JOHNSON, VERMONT 05656

LIST OF DRAWINGS

NO.	NAME	TITLE
01	-	TITLE SHEET
02	SP-1	SITE PLAN - EXISTING CONDITIONS
03	SP-2	SITE PLAN - PROPOSED LAYOUT
04	SP-3	SITE PLAN - PROPOSED GRADING
05	SP-4	SITE PLAN - RESTORATION
06	SP-5	SITE PLAN - CONSTRUCTION
07	XS-1	TYPICAL SECTIONS I
08	XS-2	TYPICAL SECTIONS II
09	SD-1	SITE DETAILS



Know what's below.
Call before you dig.
www.cbyd.com

MAPPING NOTES:

1. SURVEY COLLECTED BY BUTTON PROFESSIONAL LAND SURVEYORS, P.C. OF SOUTH BURLINGTON, VERMONT, IN JULY AND AUGUST 2024.
2. TOPOGRAPHIC CONTOURS DEVELOPED BY BUTTON PROFESSIONAL LAND SURVEYORS, P.C. FROM SURVEY POINTS.
3. ALL ELEVATIONS ARE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AND MEASURED IN FEET. NORTH ARROW, BEARINGS AND COORDINATES ARE BASED UPON THE VERMONT STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
4. PROPERTY LINE INFORMATION OBTAINED FROM AVAILABLE 2017 GIS DATA FROM VCGI AND SHOWN AS APPROXIMATE.
5. BASE MAP SUPPLEMENTED USING AVAILABLE GIS SHAPEFILES, FIELD MEASUREMENTS, AND BY DIGITIZING SITE FEATURES USING AERIAL PHOTOGRAPHY.
6. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER FOR DETERMINATION.
7. ALL CONTRACTORS ARE ADVISED TO VISIT THE SITE TO CONFIRM CURRENT CONDITIONS PRIOR TO SUBMITTING BIDS.



LEGEND

- 600 --- EXISTING MAJOR CONTOUR
- 495 --- EXISTING MINOR CONTOUR
- --- EXISTING EDGE OF ROAD
- --- EXISTING EDGE OF DRIVEWAY
- --- APPROX. PROPERTY LINE
- --- ORDINARY HIGH WATER
- --- EDGE OF WATER
- --- RIVER CORRIDOR
- --- FEMA 100-YEAR FLOODPLAIN
- --- FEMA 500-YEAR FLOODPLAIN
- --- TREELINE
- --- EXISTING SEWER
- --- EXISTING FENCE



DESCRIPTION	DATE	BY
ADDED URBAN BACKGROUND AREA	9/17/2025	DJO

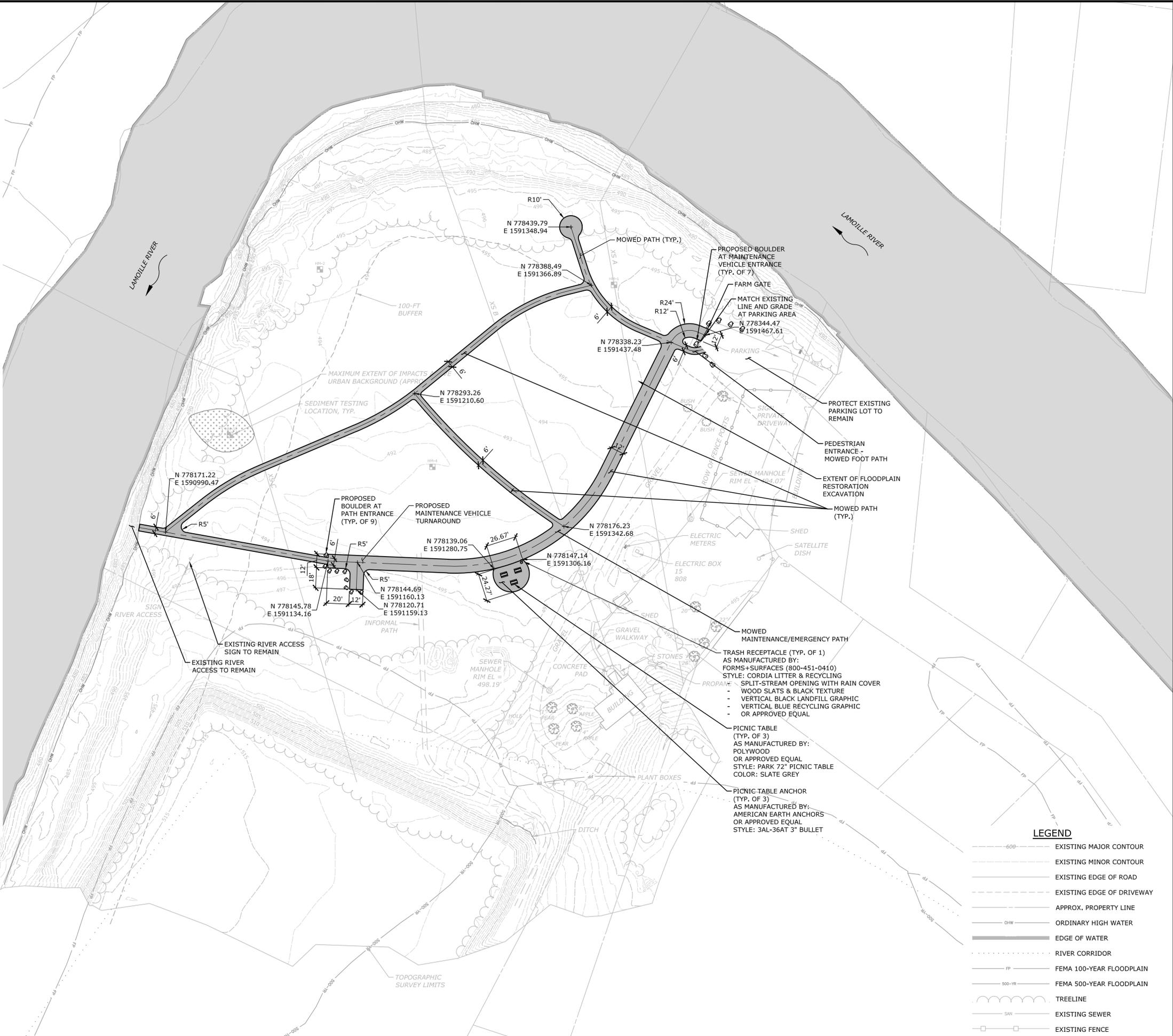
SITE PLAN - EXISTING CONDITIONS
HOLMES MEADOW
FLOODPLAIN RESTORATION
 RIVER ROAD WEST
 JOHNSON, VERMONT

JCL	DJO	JCL
DESIGNED	DRAWN	CHECKED
1"=40'		
DATE: MAY 15, 2025		
PROJECT NO.: 12911.00018		
SHEET NO.: 2 OF 9		
SP-1		

FINAL DESIGN FOR PERMITTING

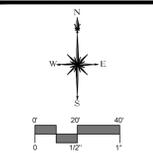
GENERAL NOTES

1. THE CONTRACTOR SHALL DESIGNATE A SUPERINTENDENT AT THE START OF CONSTRUCTION AND THE CONTRACTOR'S SUPERINTENDENT SHALL BE ON-SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR AND THEIR JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR COMPLYING WITH THE JOB SPECIFICATIONS AND PERMIT REQUIREMENTS.
2. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF PLANS ON SITE AT ALL TIMES AND FOLLOW THE SPECIFICATIONS, DETAILS, AND NOTES FOR ALL ASPECTS OF THE PROJECT. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER IMMEDIATELY.
3. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER FOR DETERMINATION. THE CONTRACTOR IS EXPECTED TO PROVIDE FIELD ENGINEERING SERVICES DURING CONSTRUCTION TO ESTABLISH AND RECORD GRADES, LINES, AND ELEVATIONS. EXACT ELEVATIONS, SLOPES, AND CHANNEL SHAPES WILL BE APPROVED IN FIELD BY THE PROJECT ENGINEER.
4. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "DIG SAFE" AT 1-888-DIG-SAFE (344-7233). THE CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO DISTURB EXISTING UTILITIES.
5. CONTRACTOR MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL PERMITS AND REGULATIONS THROUGHOUT DURATION OF PROJECT. COMPLIANCE WITH ALL CONDITIONS OF APPLICABLE AND SECURED PERMITS IS THE RESPONSIBILITY OF BOTH THE CONTRACTOR AND THE PERMITEE. COPIES OF ALL PERMITS AND AUTHORIZATIONS SHALL BE MAINTAINED ON THE PROJECT SITE BY THE CONTRACTOR THROUGHOUT CONSTRUCTION.
6. ALL STORAGE AND ACCESS ROUTES, PEDESTRIAN FENCES/BARRIERS, WORKING HOURS, AND LIMITS OF CLEARING SHALL BE FLAGGED BY CONTRACTOR PRIOR TO CONSTRUCTION AND APPROVED BY TOWN AND PROJECT ENGINEER.
7. ALL EQUIPMENT USED IN OR NEAR TO THE WATER SHALL HAVE TIGHT SEALS, AND SHALL NOT POLLUTE THE WATER. NO CONSTRUCTION VEHICLES SHALL BE STORED, SERVICED, WASHED OR FLUSHED IN A LOCATION WHERE LEAKS, SPILLAGE, WASTE MATERIALS, CLEANERS, OR WATERS WILL BE INTRODUCED OR FLOW INTO WETLANDS OR WATERCOURSES. AN EMERGENCY MANAGEMENT PLAN AND SPILL KIT WILL BE MAINTAINED ON SITE AT ALL TIMES. IN THE EVENT OF AN ACCIDENTAL RELEASE, IMMEDIATELY STOP CONSTRUCTION WORK, CONTAIN THE SPILL, AND NOTIFY THE TOWN, APPROPRIATE AUTHORITIES AND PROJECT ENGINEER.
8. THE PROJECT SITE IS SUBJECT TO FLOODING. THE CONTRACTOR SHALL MONITOR WEATHER FORECASTS AND STABILIZE THE CONSTRUCTION SITE AND REMOVE EQUIPMENT FROM FLOOD PRONE AREAS IN THE EVENT OF FLOOD WARNINGS. ALL WORK SHALL BE PERFORMED DURING NON-FLOOD CONDITIONS. A FLOOD CONTINGENCY AND EMERGENCY ACTION PLAN SHALL BE PROVIDED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
9. THERE SHALL BE NO CLAIMS FOR EXTRA COMPENSATION DUE TO DELAYS IN WATER CONTROL ASSOCIATED WITH HIGH WATER LEVELS FROM NATURAL EVENTS SUCH AS FLOODS.
10. THE CONTRACTOR SHALL MAINTAIN ALL ROADWAYS, SIDEWALKS, AND WALKWAYS IN THE AREA FREE OF SOIL, MUD, AND CONSTRUCTION DEBRIS. CONSTRUCTION ENTRANCES MUST BE MAINTAINED AT EACH SITE ACCESS POINT. SEE PLANS AND DETAILS.
11. TRAFFIC CONTROL, IF NECESSARY, MUST CONFORM TO GUIDELINES SET IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", MOST CURRENT EDITION, AS PUBLISHED BY DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
12. ALL SKETCHES, SHOP DRAWINGS, OR CHANGE ORDERS REQUESTED SHALL BE REVIEWED AND APPROVED BY THE PROJECT ENGINEER IN WRITING PRIOR TO PROCEEDING WITH CONSTRUCTION.
13. EARTH MOVING AND HAULING, ROCK DRILLING OR CRUSHING, JACK HAMMER AND SIMILAR EXCESSIVELY LOUD EQUIPMENT SHALL NOT BE OPERATED ON SUNDAYS OR BETWEEN THE HOURS OF 5:30 P.M. AND 7:00 A.M. EXCEPT IN EMERGENCY SITUATIONS.
14. TEMPORARY STOCKPILE AND STAGING AREAS TO BE FLAGGED BY CONTRACTOR PRIOR TO CONSTRUCTION AND APPROVED BY TOWN AND PROJECT ENGINEER, AND SHALL BE LOCATED AWAY FROM SENSITIVE AREAS INCLUDING BUT NOT LIMITED TO WETLANDS AND WATERCOURSES.
15. AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL PROVIDE A FORM OF BARRIER OR CONSTRUCTION FENCING AT THE SITE ENTRANCE TO PREVENT MOTORIZED VEHICLE ACCESS.
16. NO DISTURBANCE BEYOND THE ESTABLISHED LIMITS IS ALLOWED UNLESS PRIOR PERMISSION IS OBTAINED FROM THE TOWN AND PROJECT ENGINEER.
17. ALL PRECAUTIONS SHALL BE TAKEN TO PREVENT THE POTENTIAL TRANSPORT OF INVASIVE SPECIES TO OR FROM THE CONSTRUCTION SITE OR SPREADING WITHIN THE SITE. THE CONTRACTOR SHALL INSPECT AND CLEAN ALL EQUIPMENT PRIOR TO TRANSPORT TO THE CONSTRUCTION SITE. SEE INVASIVE SPECIES HANDLING NOTES ON SP-5.
18. CONSTRUCTION IS TO TAKE PLACE DURING NON-FLOOD CONDITIONS. SIGNIFICANT WATER CONTROL IS NOT ANTICIPATED. THE CONTRACTOR SHALL BE PREPARED TO PROVIDE MINIMAL WATER HANDLING AS SPECIFIED ON THE CONSTRUCTION PLAN SHOULD THE NEED ARISE DURING CONSTRUCTION. CHANGES OR MODIFICATIONS TO THE WATER HANDLING APPROACH BY THE CONTRACTOR IS SUBJECT TO REVIEW AND APPROVAL BY THE PROJECT ENGINEER.
20. ALL AREAS SURROUNDING THE PROJECT SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED UPON COMPLETION OF CONSTRUCTION. THE RESTORATION OF THE SITE IS SUBJECT TO APPROVAL BY THE TOWN AND THE PROJECT ENGINEER.
21. THE PROJECT SITE IS LOCATED IN A RESIDENTIAL NEIGHBORHOOD. ADEQUATE WARNING OF CONSTRUCTION ACTIVITIES AND SAFETY SIGNS ARE REQUIRED. CONTRACTOR SHALL PROTECT THE PUBLIC AT ALL TIMES. AN ADEQUATE TRAVEL LANE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION, AND IF CONDITIONS WARRANT, A FLAG PERSON SHALL BE POSTED TO ALLOW SAFE PASSAGE THROUGH THE CONSTRUCTION ZONE. PERMISSION AND APPROVAL BY THE TOWN SHALL BE REQUIRED FOR ANY TEMPORARY CLOSURE OF A ROADWAY, LANE, OR SIDEWALK DURING CONSTRUCTION.
22. FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PARTICIPATE IN A FINAL SITE INSPECTION WITH THE TOWN AND PROJECT ENGINEER FOR THE PURPOSE OF VERIFYING THAT THE PROJECT HAS BEEN COMPLETED ACCORDING TO THE CONSTRUCTION PLANS, SPECIFICATIONS AND THE TERMS AND CONDITIONS OF THE CONTRACT.



LEGEND

	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING EDGE OF ROAD
	EXISTING EDGE OF DRIVEWAY
	APPROX. PROPERTY LINE
	ORDINARY HIGH WATER
	EDGE OF WATER
	RIVER CORRIDOR
	FEMA 100-YEAR FLOODPLAIN
	FEMA 500-YEAR FLOODPLAIN
	TREELINE
	EXISTING SEWER
	EXISTING FENCE



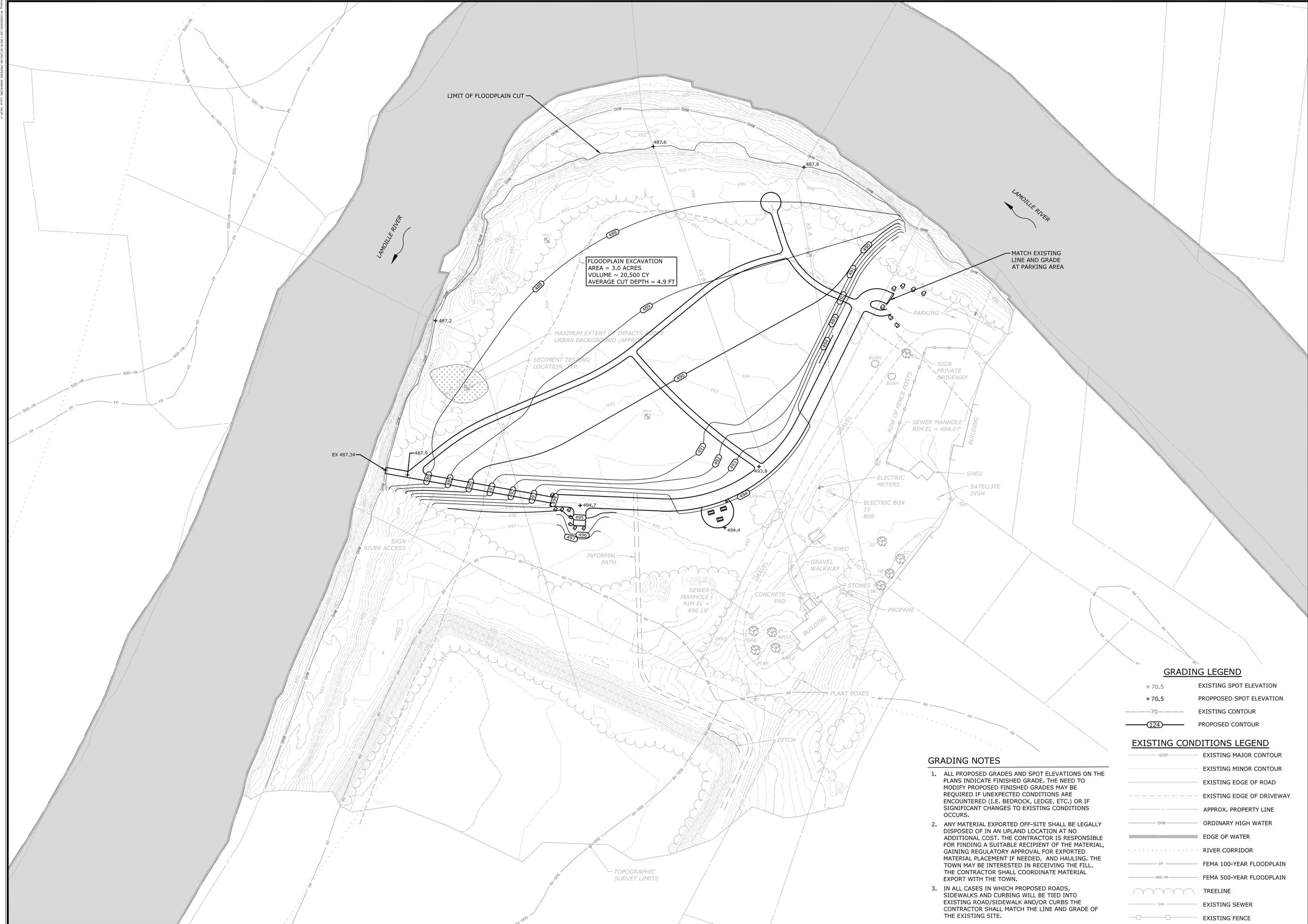
SLR
 SOUTH MAIN STREET
 SUITE 100
 RIVINGTON, VT 05475
 802.882.8335
 SLRCONSULTING.COM

DESCRIPTION	DATE	BY

FINAL DESIGN FOR PERMITTING

SITE PLAN - PROPOSED LAYOUT
HOLMES MEADOW
FLOODPLAIN RESTORATION
 RIVER ROAD WEST
 JOHNSON, VERMONT

JCL	DJO	JCL
DESIGNED	DRAWN	CHECKED
SCALE: 1"=40'		
DATE: MAY 15, 2025		
PROJECT NO.: 12911.00018		
SHEET NO.: 3 OF 9		
SP-2		



LIMIT OF FLOODPLAIN CUT

FLOODPLAIN EXCAVATION
 AREA = 3.0 ACRES
 VOLUME ~ 20,500 CY
 AVERAGE CUT DEPTH = 4.9 FT

LAMOILLE RIVER

MATCH EXISTING
 LINE AND GRADE
 AT PARKING AREA

GRADING LEGEND

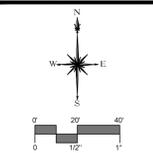
- x 70.5 EXISTING SPOT ELEVATION
- + 70.5 PROPOSED SPOT ELEVATION
- - - - -70- EXISTING CONTOUR
- 124 — PROPOSED CONTOUR

EXISTING CONDITIONS LEGEND

- - - - -600- EXISTING MAJOR CONTOUR
- - - - - EXISTING MINOR CONTOUR
- - - - - EXISTING EDGE OF ROAD
- - - - - EXISTING EDGE OF DRIVEWAY
- - - - - APPROX. PROPERTY LINE
- OHW — ORDINARY HIGH WATER
- — — — — EDGE OF WATER
- - - - - RIVER CORRIDOR
- - - - -FP- FEMA 100-YEAR FLOODPLAIN
- - - - -500-YR- FEMA 500-YEAR FLOODPLAIN
- - - - - TREELINE
- - - - -SAN- EXISTING SEWER
- - - - - EXISTING FENCE

GRADING NOTES

1. ALL PROPOSED GRADES AND SPOT ELEVATIONS ON THE PLANS INDICATE FINISHED GRADE. THE NEED TO MODIFY PROPOSED FINISHED GRADES MAY BE REQUIRED IF UNEXPECTED CONDITIONS ARE ENCOUNTERED (I.E. BEDROCK, LEDGE, ETC.) OR IF SIGNIFICANT CHANGES TO EXISTING CONDITIONS OCCURS.
2. ANY MATERIAL EXPORTED OFF-SITE SHALL BE LEGALLY DISPOSED OF IN AN UPLAND LOCATION AT NO ADDITIONAL COST. THE CONTRACTOR IS RESPONSIBLE FOR FINDING A SUITABLE RECIPIENT OF THE MATERIAL, GAINING REGULATORY APPROVAL FOR EXPORTED MATERIAL PLACEMENT IF NEEDED, AND HAULING THE TOWN MAY BE INTERESTED IN RECEIVING THE FILL. THE CONTRACTOR SHALL COORDINATE MATERIAL EXPORT WITH THE TOWN.
3. IN ALL CASES IN WHICH PROPOSED ROADS, SIDEWALKS AND CURBING WILL BE TIED INTO EXISTING ROAD/SIDEWALK AND/OR CURBS THE CONTRACTOR SHALL MATCH THE LINE AND GRADE OF THE EXISTING SITE.



DESCRIPTION	DATE	BY

FINAL DESIGN FOR PERMITTING

SITE PLAN - PROPOSED GRADING
HOLMES MEADOW
FLOODPLAIN RESTORATION
 RIVER ROAD WEST
 JOHNSON, VERMONT

DESIGNED	MEW	JCL
SCALE	1"=40'	
DATE	MAY 15, 2025	
PROJECT NO.	12911.00018	
SHEET NO.	4 OF 9	
SHEET NAME	SP-3	

- ### SITE RESTORATION NOTES
- PRESERVE EXISTING NON-INVASIVE VEGETATION AND TREES ON THE RIVER BANK TO THE EXTENT POSSIBLE.
 - ALL CLEAN STOCKPILED TOPSOIL WITH NO INVASIVE SPECIES SHOULD BE REINSTALLED ON FLOODPLAINS, UPPER BANKS, OR DISTURBED AREAS FOLLOWING CONSTRUCTION.
 - FLOODPLAIN AND DISTURBED AREAS SHALL RECEIVE 4"-6" OF TOPSOIL AS NEEDED - TBD IN THE FIELD. IF SOIL SURFACES ARE DETERMINED TO MEET STANDARDS ADDITIONAL APPLICATION MAY NOT BE NEEDED. SUBGRADE MUST BE DECOMPACTED TO MEET SOIL RESTORATION DETAIL.
 - SEED IN ACCORDANCE TO SCHEDULE WITH FAST GROWN ANNUAL SUCH AS OAT, RYE OR BUCKWHEAT. APPLICATION RATE VARIES BY SPECIES.
 - APPLY 2 INCHES STRAW MULCH OVER ALL SEEDED AREAS - WEED FREE.
 - ANY DISTURBED SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL BLANKET PER DIRECTION OF PROJECT ENGINEER.
 - RESTORE ALL ACCESS ROUTES USED DURING CONSTRUCTION TO PRE-EXISTING CONDITIONS, FILL RUTS CREATED BY EQUIPMENT TO RESTORE GRADE AND RE-VEGETATE AS NEEDED.
 - CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO THE ROADS, SIDEWALKS, AND CURBS IF DAMAGED BY CONSTRUCTION ACTIVITIES.
 - RESTORE ALL OTHER DISTURBED AREAS WITHIN THE PROJECT SITE SUCH AS TEMPORARY ACCESS ROADS, STOCKPILE AREAS, STAGING AREAS, AND SURPLUS DISPOSAL AREAS TO ORIGINAL OR IMPROVED CONDITION.
 - ALL PLANT MATERIALS SHALL CARRY AN 80% SURVIVAL RATE GUARANTEE FOR A PERIOD OF 2 YEARS FROM THE DATE OF PROJECT COMPLETION. THIS APPLIES TO AREAS OF POOR VEGETATION COVER WHERE SEED DID NOT ESTABLISH WHERE OVER-SEEDING WILL BE REQUIRED. ALL REPLACEMENTS SHALL BE OF THE SAME KIND OF PLANTS SPECIFIED IN THE PLANT LIST.

- ### TREE PLANTING NOTES
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING PLANT PITS.
 - PLANTINGS SHALL BE LIMITED TO THE PERIODS OF APRIL 15 - JULY 15 OR SEPTEMBER 15 - NOVEMBER 30.
 - IN TREE PLANTING HOLES - TOPSOIL TO CONTAIN A MINIMUM OF 12% ORGANIC CEDAR CONTENT (BY WEIGHT), AMEND SOIL WITH ORGANIC MATTER (LEAF COMPOST).
 - THE LANDSCAPE CONTRACTOR SHALL PROVIDE A 4" MIN. DEPTH OF SHREDDED MULCH EXTENDING 1 FOOT BEYOND EACH PLANTING HOLE. NO DYED MULCH IS TO BE USED.
 - QUANTITY AND PLACEMENT OF PLANTS ARE APPROXIMATE AND SHOULD BE ADJUSTED IN THE FIELD TO AVOID IMPACT TO EXISTING WOODY SHRUBS AND SMALL TREES ON THE SITE.
 - WHERE A SIZE RANGE IS SPECIFIED AT LEAST 50% OF PLANTS PROVIDED SHALL BE OF THE LARGER SIZE.
 - MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL AT LEAST 50% OF THE TREES HAVE REACHED 6 FEET TALL. MAINTENANCE SHALL INCLUDE WATERING, MULCHING, REPLACEMENT OF SICK OR DEAD PLANTS, AND ALL OTHER CARE NEEDED FOR PROPER GROWTH OF THE PLANTS.
 - WATER PLANTS SEVERAL TIMES A WEEK FOR THE FIRST FEW WEEKS IF NO SUBSTANTIAL RAIN FALLS. ALSO WATER DURING DRY SPELLS FOR THE FIRST SUMMER.
 - THIS PLANTING PLAN HAS BEEN DEVELOPED TO ACHIEVE FULL REVEGETATION WITH 80% SURVIVAL.
 - TREES TRANSPLANTED FROM THE SITE ARE NOT INCLUDED IN THE EVALUATION OF THE SURVIVAL RATE AND ARE NOT INCLUDED IN THE CONTRACTORS REPLACEMENT REQUIREMENTS.

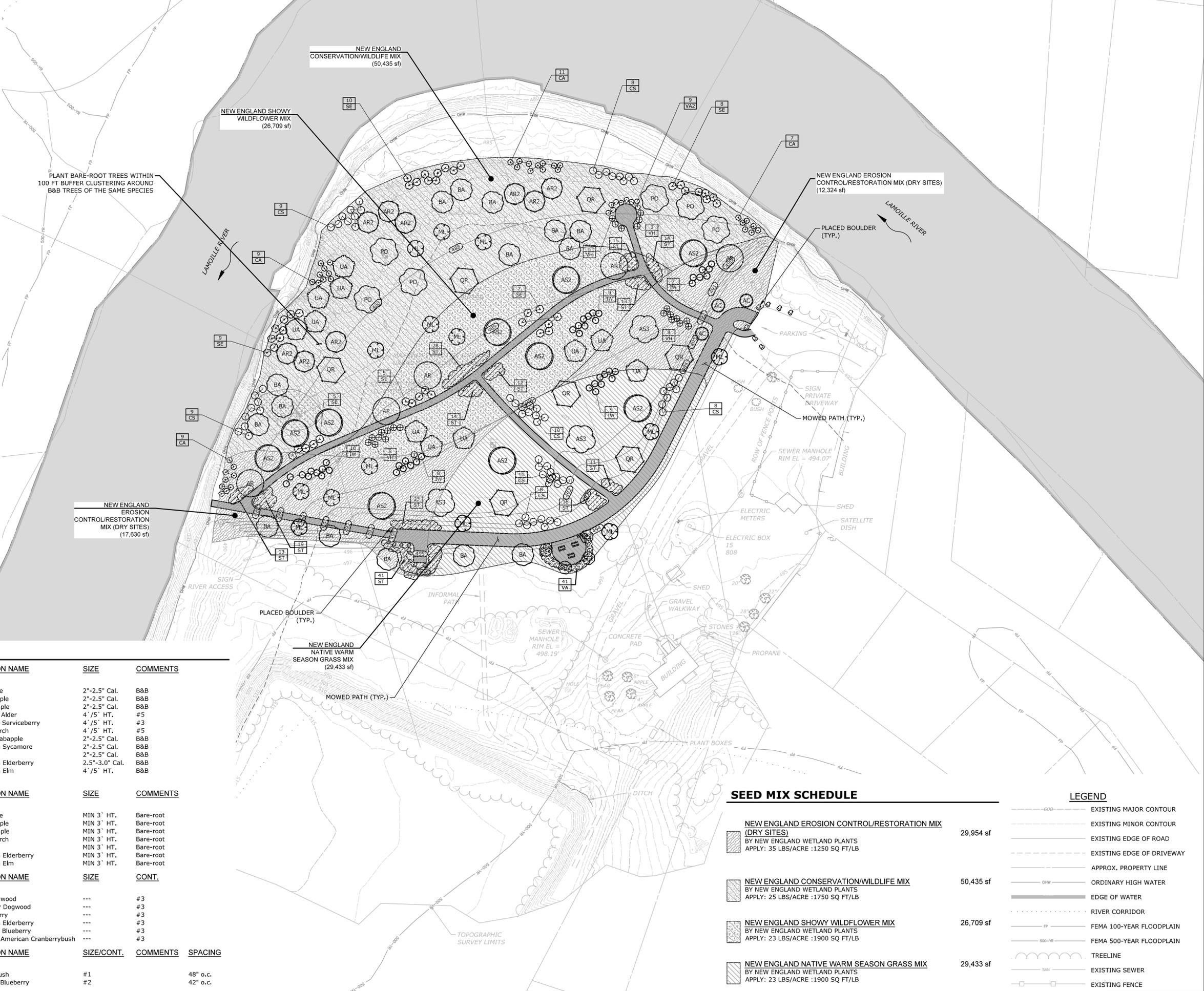
PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
TREES					
AR	5	Acer rubrum	Red Maple	2"-2.5" Cal.	B&B
AS2	10	Acer saccharinum	Silver Maple	2"-2.5" Cal.	B&B
AS3	3	Acer saccharum	Sugar Maple	2"-2.5" Cal.	B&B
AR2	9	Alnus incana rugosa	Speckled Alder	4' / 5' HT.	#5
AC	3	Amelanchier canadensis	Canadian Serviceberry	4' / 5' HT.	#3
BA	15	Betula alleghaniensis	Yellow Birch	4' / 5' HT.	#5
ML	14	Malus coronaria	Sweet Crabapple	2"-2.5" Cal.	B&B
PO	6	Platanus occidentalis	American Sycamore	2"-2.5" Cal.	B&B
QR	7	Quercus rubra	Red Oak	2"-2.5" Cal.	B&B
SE2	4	Sambucus canadensis	American Elderberry	2.5"-3.0" Cal.	B&B
UA	11	Ulmus americana	American Elm	4' / 5' HT.	B&B

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
BARE-ROOT TREES - ALL IN 100 FT BUFFER				
30	Acer rubrum	Red Maple	MIN 3" HT.	Bare-root
60	Acer saccharinum	Silver Maple	MIN 3" HT.	Bare-root
20	Acer saccharum	Sugar Maple	MIN 3" HT.	Bare-root
90	Betula alleghaniensis	Yellow Birch	MIN 3" HT.	Bare-root
40	Quercus rubra	Red Oak	MIN 3" HT.	Bare-root
20	Sambucus canadensis	American Elderberry	MIN 3" HT.	Bare-root
70	Ulmus americana	American Elm	MIN 3" HT.	Bare-root

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONT.
SHRUBS					
CA	36	Cornus amomum	Silky Dogwood	---	#3
CS	62	Cornus sericea	Red Osier Dogwood	---	#3
IW	43	Ilex verticillata	Winterberry	---	#3
SE	44	Sambucus canadensis	American Elderberry	---	#3
VH	23	Vaccinium corymbosum	Highbush Blueberry	---	#3
VA2	9	Viburnum trilobum 'Compactum'	Compact American Cranberrybush	---	#3

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONT.	COMMENTS	SPACING
SHRUB AREAS						
ST	219	Spiraea tomentosa	Steeplebush	#1		48" o.c.
VA	41	Vaccinium angustifolium	Lowbush Blueberry	#2		42" o.c.

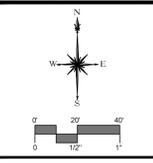


SEED MIX SCHEDULE

	NEW ENGLAND EROSION CONTROL/RESTORATION MIX (DRY SITES) BY NEW ENGLAND WETLAND PLANTS APPLY: 35 LBS/ACRE :1250 SQ FT/LB	29,954 sf
	NEW ENGLAND CONSERVATION/WILDLIFE MIX BY NEW ENGLAND WETLAND PLANTS APPLY: 25 LBS/ACRE :1750 SQ FT/LB	50,435 sf
	NEW ENGLAND SHOWY WILDFLOWER MIX BY NEW ENGLAND WETLAND PLANTS APPLY: 23 LBS/ACRE :1900 SQ FT/LB	26,709 sf
	NEW ENGLAND NATIVE WARM SEASON GRASS MIX BY NEW ENGLAND WETLAND PLANTS APPLY: 23 LBS/ACRE :1900 SQ FT/LB	29,433 sf

LEGEND

- 600--- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING EDGE OF ROAD
- EXISTING EDGE OF DRIVEWAY
- APPROX. PROPERTY LINE
- OHW ORDINARY HIGH WATER
- EDGE OF WATER
- RIVER CORRIDOR
- FP FEMA 100-YEAR FLOODPLAIN
- 500-YR FEMA 500-YEAR FLOODPLAIN
- TREELINE
- EXISTING SEWER
- EXISTING FENCE



DESCRIPTION	DATE	BY
ADDED BARE-ROOT TREES	8/27/2025	DJO

FINAL DESIGN FOR PERMITTING

SITE PLAN - RESTORATION
HOLMES MEADOW
FLOODPLAIN RESTORATION
RIVER ROAD WEST
JOHNSON, VERMONT

MEW	MEW	JCL
DESIGNED	DRAWN	CHECKED

SCALE: 1"=40'

DATE: **MAY 15, 2025**

PROJECT NO.: **12911.00018**

SHEET NO.: **5 OF 9**

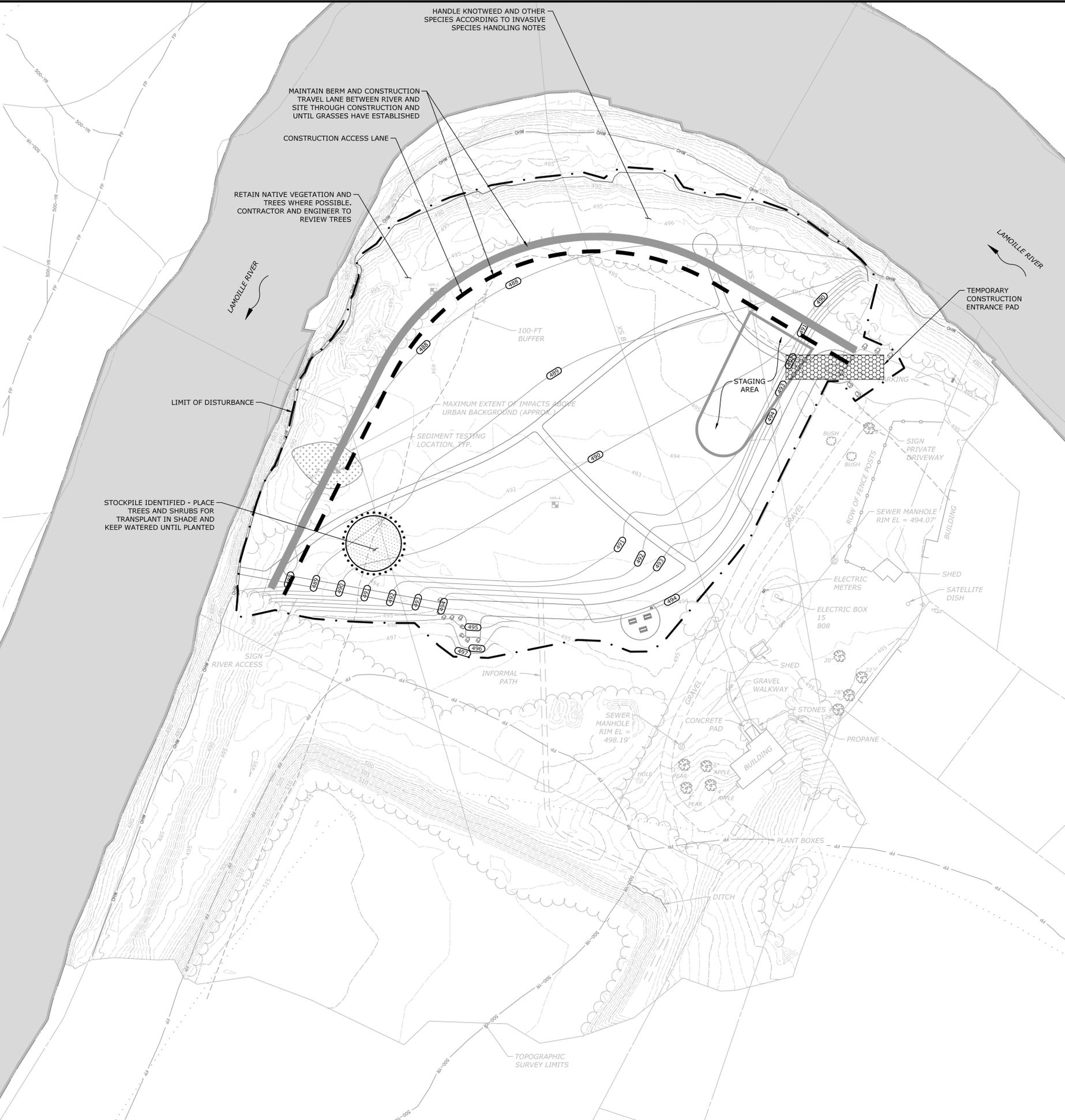
SP-4

INVASIVE SPECIES HANDLING NOTES

1. INVASIVE JAPANESE KNOTWEED (*REYNOUTRIA JAPONICA*) IS PRESENT AT THE SITE. THESE NOTES PROVIDE BEST MANAGEMENT PRACTICES FOR PREVENTING THE SPREAD OF INVASIVE SPECIES. ADDITIONAL INFORMATION ON HANDLING AND IDENTIFICATION OF INVASIVE SPECIES CAN BE FOUND AT WWW.VTINVASIVES.ORG.
2. LOCATE AND USE STAGING AREAS THAT ARE FREE OF INVASIVE SPECIES TO AVOID SPREADING SEEDS AND OTHER VIABLE PLANT PARTS.
3. PLAN WORK SEQUENCE SO CONSTRUCTION EQUIPMENT IS MOVED FROM AREAS NOT INFESTED BY INVASIVE SPECIES, MOVING INTO AREAS INFESTED WITH INVASIVE SPECIES WHENEVER POSSIBLE.
4. ALL EQUIPMENT, MACHINERY, AND HAND TOOLS USED IN AREAS WHERE INVASIVE PLANTS OCCUR SHOULD BE CLEANED OF ALL VISIBLE SOIL AND PLANT MATERIALS BEFORE LEAVING THE SITE OR MOVING TO AREAS NOT ALREADY INFESTED. CLEANING SHOULD OCCUR WITHIN THE AREA ALREADY INFESTED. ACCEPTABLE CLEANING METHODS INCLUDE:
 - 4.1. PORTABLE WASH STATION THAT CONTAINS RUNOFF FROM WASHED EQUIPMENT
 - 4.2. HIGH PRESSURE AIR
 - 4.3. BRUSH, BROOM, OR HAND TOOLS USED WITHOUT WATER.
5. EXCAVATED MATERIAL TAKEN FROM SITES THAT CONTAIN INVASIVE PLANTS CANNOT BE USED AWAY FROM THE SITE OF INFESTATION UNTIL ALL VIABLE PLANT MATERIAL IS RENDERED NONVIALE.
6. EXCAVATED MATERIAL CONTAINING INVASIVE PLANT MATERIAL MUST BE DISPOSED OF BY BURYING 5 FEET BELOW GROUND FOR JAPANESE KNOTWEED OR 3 FEET FOR OTHER SPECIES, OR RENDERED NONVIALE BY ANOTHER METHOD OUTLINED IN ITEM 8.
7. SOIL AND OTHER MATERIALS CONTAINING INVASIVE PLANT MATERIAL MUST BE COVERED DURING TRANSPORT.
8. INVASIVE SPECIES CAN BE RENDERED NONVIALE BY THE FOLLOWING METHODS:
 - 8.1. BAGGING: PLANT MATERIAL MAY BE COLLECTED AND PUT INTO BLACK PLASTIC BAGS THEN PLACED IN THE SUN, AFTER THREE DAYS OR WHEN ALL PLANT MATERIAL IS ROTTEN, THE PLANTS ARE NONVIALE.
 - 8.2. BURNING: PLANT MATERIAL SHOULD BE TAKEN TO A DESIGNATED BURN PILE. OBTAIN ALL NECESSARY PERMITS BEFORE BURNING.
 - 8.3. BURYING: THIS IS ONLY ALLOWED IF NO OTHER OPTION IS AVAILABLE. JAPANESE KNOTWEED MUST BE BURIED 5 FEET BELOW GROUND.

TRAFFIC MANAGEMENT NOTES

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. ALL CONSTRUCTION SIGNS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
5. BARRICADE ACCESS POINTS WHEN NOT WORKING.



HANDLE KNOTWEED AND OTHER SPECIES ACCORDING TO INVASIVE SPECIES HANDLING NOTES

MAINTAIN BERM AND CONSTRUCTION TRAVEL LANE BETWEEN RIVER AND SITE THROUGH CONSTRUCTION AND UNTIL GRASSES HAVE ESTABLISHED

RETAIN NATIVE VEGETATION AND TREES WHERE POSSIBLE. CONTRACTOR AND ENGINEER TO REVIEW TREES

LIMIT OF DISTURBANCE

STOCKPILE IDENTIFIED - PLACE TREES AND SHRUBS FOR TRANSPLANT IN SHADE AND KEEP WATERED UNTIL PLANTED

CONSTRUCTION SEQUENCE NOTES

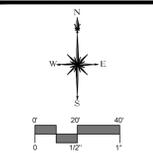
- THIS PROPOSED SEQUENCE OF CONSTRUCTION IS PROVIDED FOR GENERAL INFORMATION ONLY. SEE PLANS FOR ADDITIONAL NOTES. THE OVERALL SEQUENCE OF CONSTRUCTION IS TO BE DETERMINED AND SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE PROJECT ENGINEER.
1. OBTAIN ANY NECESSARY WORK PERMITS AND SUBMIT SCHEDULES, PLANS AND PRODUCT INFORMATION, INCLUDING THE SEDIMENT AND EROSION CONTROL PLAN, CONSTRUCTION SEQUENCE, WATER CONTROL PLAN AND EMERGENCY OPERATION PLAN TO THE PROJECT ENGINEER FOR REVIEW SEVEN (7) DAYS PRIOR TO INITIATION OF CONSTRUCTION. INSTALL CONSTRUCTION WARNING SIGNS.
 2. CONTRACTOR SHALL PARTICIPATE IN A PRE-CONSTRUCTION SITE MEETING WITH THE PROJECT ENGINEER, TOWN, AND OTHERS TO REVIEW PERMIT REQUIREMENTS, CONTRACT PROVISIONS AND SPECIFICATIONS, PROJECT LIMITS AND CONSTRUCTION DETAILS.
 3. STAKE OUT LIMITS OF WORK AND INSTALL SEDIMENT AND EROSION CONTROLS AND SAFETY FENCING.
 4. ESTABLISH CONSTRUCTION SITE ACCESS INCLUDING TEMPORARY IMPROVEMENTS AS NEEDED.
 5. STAKE OUT PROJECT FEATURES SO THAT ALL WORK DURING CONSTRUCTION WILL MOVE TOWARDS THE DESIRED DIMENSIONS AS SHOWN ON THE PLANS. CONSTRUCTION LAYOUT TO BE APPROVED BY THE PROJECT ENGINEER.
 6. SAFELY REMOVE AND EXPORT INVASIVE SPECIES AND ASSOCIATED SOILS FROM THE SITE.
 7. PREPARE THE FLOODPLAIN RESTORATION AREA BY CLEARING, GRUBBING, AND HAULING OFF SOIL. STOCKPILE CLEAN TOPSOIL FOR REAPPLICATION AND SAVE IDENTIFIED TREES AND SHRUBS FOR TRANSPLANT.
 8. BEGIN EXCAVATING MATERIAL FROM THE PREPARED PORTION OF FLOODPLAIN RESTORATION AREA. MAINTAIN BERM BETWEEN THE EXCAVATION AREA AND THE RIVER CHANNEL. EXCESS MATERIAL WILL BE HAULED TO DISPOSAL SITE.
 9. CONTINUE EXCAVATING MATERIAL UNTIL FINISH GRADES ARE ACHIEVED. RESTORE AS MUCH OF THE COMPLETED FLOODPLAIN AS POSSIBLE INCLUDING SPREADING STOCKPILED TOPSOIL AND GRUBBINGS OVER EXCAVATED AREAS, SEEDING, AND MULCHING, SEE SP-3.
 10. RESTORE COMPLETED FLOODPLAINS AND NEWLY FORMED SLOPES AS SHOWN ON SP-3. INSTALL OR IMPROVE TRAILS.
 11. PLANT TREES, SHRUBS, AND DISTRIBUTE SEED MIXES, SEE SP-4.
 12. REMOVE BERM ALONG RIVER AFTER GRASSES HAVE ESTABLISHED AND COMPLETE RESTORATION OF THE FLOODPLAIN.
 13. RESTORE SITE, LEAVING BERM AND ACCESS TO BERM WHILE PLANT MATERIALS ESTABLISH.
 14. WORK ON THE FLOODPLAIN TO OCCUR DURING NON-FLOOD CONDITIONS.
 15. RESTORE REMAINDER OF SITE INCLUDING TEMPORARY CONSTRUCTION ACCESS, STOCKPILE AREAS, STAGING AREAS, AND ANY ADDITIONAL AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL OR IMPROVED CONDITION.
 16. PARTICIPATE IN A FINAL SITE INSPECTION WITH THE TOWN AND PROJECT ENGINEER.

SOIL EROSION & SEDIMENT CONTROL NOTES

1. THE SEDIMENT AND EROSION CONTROL PRACTICES IMPLEMENTED AS PART OF THE PROJECT SHALL BE IMPLEMENTED AND MAINTAINED AS A MODERATE RISK CONSTRUCTION ACTIVITY ACCORDING TO "THE VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PROTECTION AND SEDIMENT CONTROL" GUIDANCE DOCUMENT FROM THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION, WHERE APPLICABLE IN CONSULTATION WITH PROJECT ENGINEER.
2. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
3. CLEARING OF VEGETATION FOR CONSTRUCTION ACCESS SHOULD BE MINIMIZED.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES. THE CONTRACTOR WILL VERIFY THE MAINTENANCE WEEKLY AND AFTER RAIN EVENTS AND REPORT TO THE PROJECT ENGINEER.
5. THE PROJECT ENGINEER IS TO BE NOTIFIED IMMEDIATELY IF EXCESSIVE SEDIMENT EROSION TAKES PLACE, IF SIGNIFICANT FINE GRAIN SEDIMENT IS ENCOUNTERED OR IF POTENTIALLY CONTAMINATED SEDIMENTS ARE ENCOUNTERED (OILY, DARK COLOR, CHEMICAL ODOR).
6. WORK SHALL PROGRESS IN STAGES TO MINIMIZE EXPOSED AREAS AND DISTURBED EARTH. NO MORE THAN TWO (2) ACRES OF DISTURBED EARTH WILL BE ALLOWED AT ANY ONE TIME.
7. NO DISTURBED EARTH SHALL REMAIN EXPOSED FOR MORE THAN SEVEN (7) CONSECUTIVE DAYS WITHOUT APPLYING TEMPORARY OR PERMANENT STABILIZATION MEASURES.
8. EXPOSED AREAS SHALL BE SEEDED AND MULCHED OR PROTECTED WITH EROSION CONTROL MATTING WITHIN 48 HOURS OF ACHIEVING FINAL GRADE.
9. STOCKPILE AREAS TO BE ENCLOSED BY SILT FENCING.
10. THE SITE SHOULD BE KEPT CLEAN OF LOOSE DEBRIS, LITTER, AND OTHER MATERIAL SUCH THAT NONE OF THESE MATERIAL ENTER WATERS OR WETLANDS.
11. PUMPING IS NOT EXPECTED TO BE NECESSARY FOR THIS PROJECT. SHOULD THE CONTRACTOR FEEL PUMPING IS BENEFICIAL, PRIOR APPROVAL WILL BE REQUIRED, AND PUMPING WILL BE PERFORMED AT THE CONTRACTORS EXPENSE. DIRTY WATER SHOULD BE DISCHARGED TO A DEWATERING DISCHARGE BASIN OR OTHER APPROVED DEVICE APPROVED BY THE PROJECT ENGINEER.

LEGEND

- 600— EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING EDGE OF ROAD
- - - EXISTING EDGE OF DRIVEWAY
- - - APPROX. PROPERTY LINE
- OHW — ORDINARY HIGH WATER
- EDGE OF WATER
- RIVER CORRIDOR
- FP — FEMA 100-YEAR FLOODPLAIN
- 500-YR — FEMA 500-YEAR FLOODPLAIN
- TREELINE
- SAN — EXISTING SEWER
- EXISTING FENCE



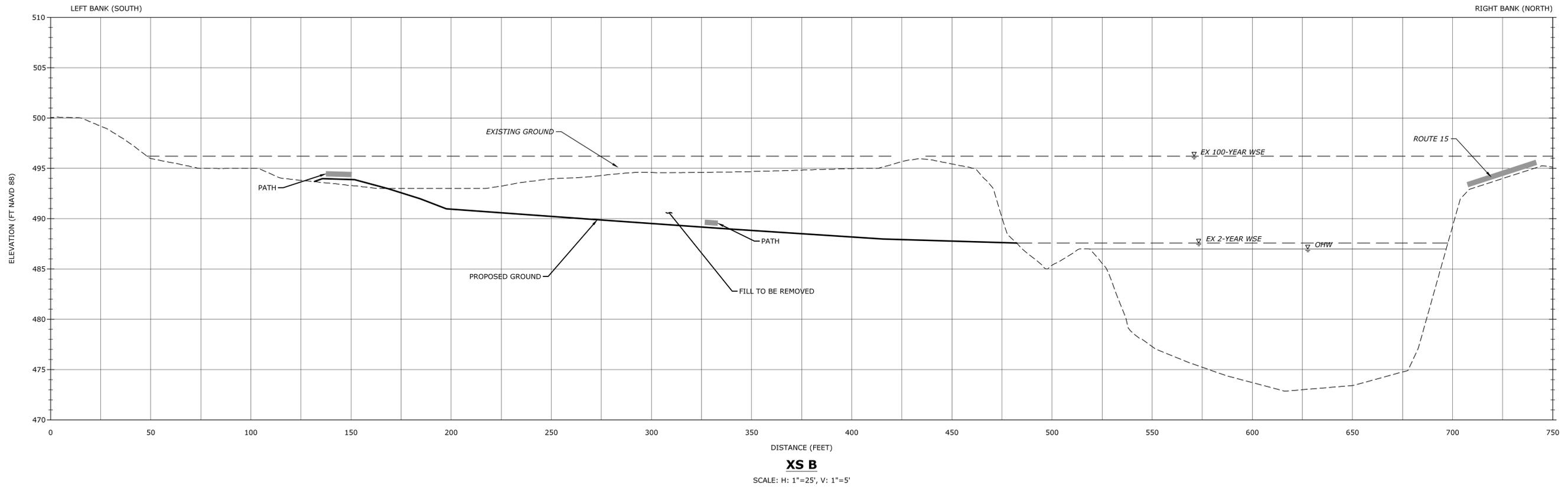
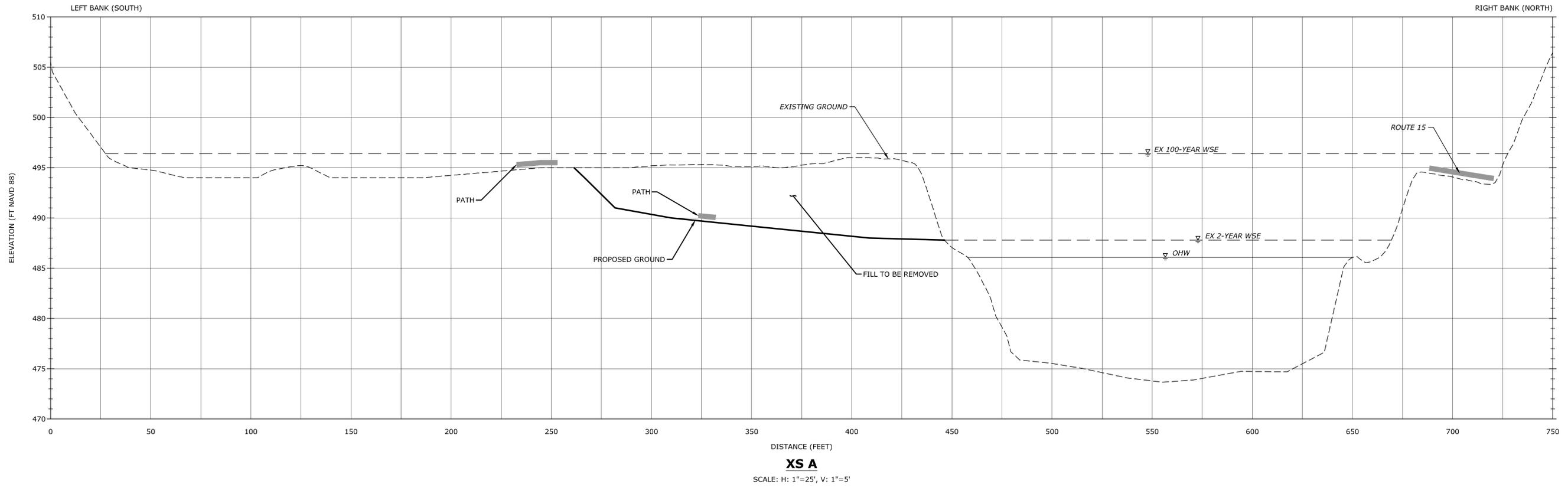
DESCRIPTION	DATE	BY

FINAL DESIGN FOR PERMITTING

SITE PLAN - CONSTRUCTION
HOLMES MEADOW
FLOODPLAIN RESTORATION
 RIVER ROAD WEST
 JOHNSON, VERMONT

MEW	MEW	JCL
DESIGNED	DRAWN	CHECKED
SCALE: 1"=40'		
DATE: MAY 15, 2025		
PROJECT NO. 12911.00018		
SHEET NO. 6 OF 9		
SP-5		
SHEET NAME		

COUNTY OF WASHINGTON
 PLANNING & DEVELOPMENT DEPARTMENT
 100 STATE STREET, SUITE 200
 WASHINGTON, VT 05676



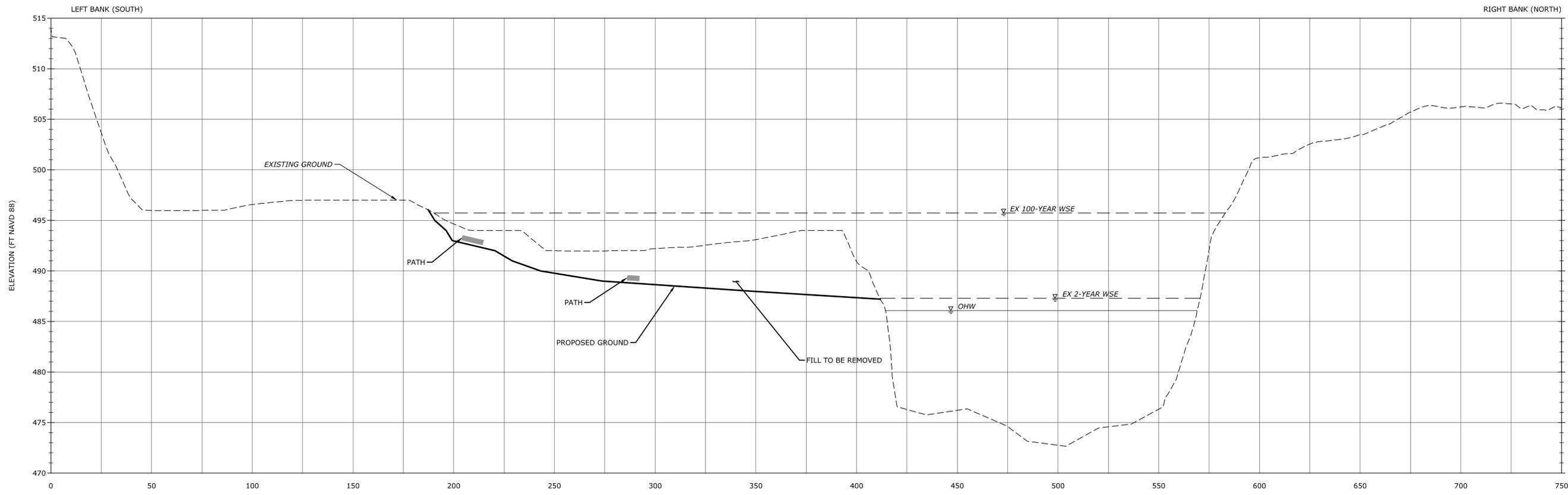
DESCRIPTION	DATE	BY

FINAL DESIGN FOR PERMITTING

TYPICAL SECTIONS I
HOLMES MEADOW
FLOODPLAIN RESTORATION
 RIVER ROAD WEST
 JOHNSON, VERMONT

JCL	DJO	JCL
DESIGNED	DRAWN	CHECKED
SCALE: 1"=40'		
DATE: MAY 15, 2025		
PROJECT NO.: 12911.00018		
SHEET NO.: 7 OF 9		
XS-1		
SHEET NAME		

PROJECT NO. 12911.00018, DRAWING NO. XS-2, SHEET NO. 8 OF 9, DATE: MAY 15, 2025
 ALL RIGHTS RESERVED. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF SLR CONSULTING.



XS C
 SCALE: H: 1"=25', V: 1"=5'



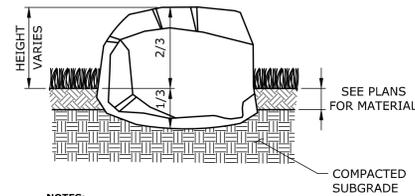
DESCRIPTION	DATE	BY

TYPICAL SECTIONS II
 HOLMES MEADOW
 FLOODPLAIN RESTORATION
 RIVER ROAD WEST
 JOHNSON, VERMONT

FINAL DESIGN FOR PERMITTING

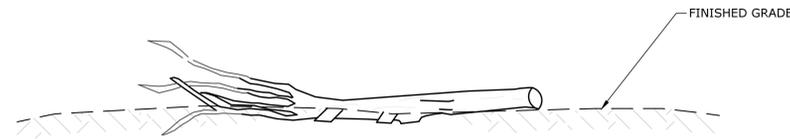
JCL	DJO	JCL
DESIGNED	DRAWN	CHECKED
SCALE: 1"=40'		
DATE: MAY 15, 2025		
PROJECT NO.: 12911.00018		
SHEET NO.: 8 OF 9		

XS-2



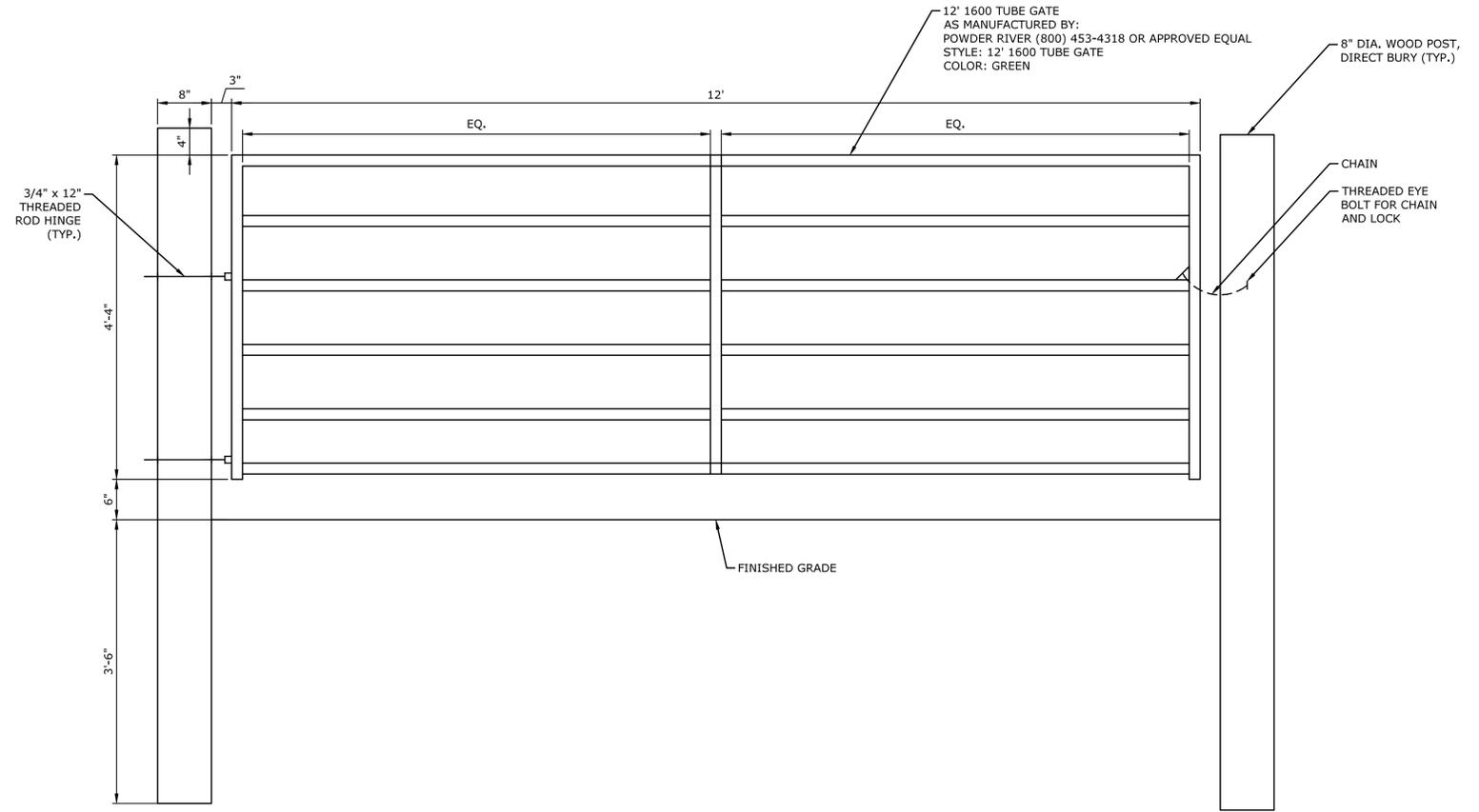
NOTES:
1. ALL LOCATIONS AND ELEVATIONS TO BE APPROVED BY THE ENGINEER.

PLACED BOULDER
NOT TO SCALE

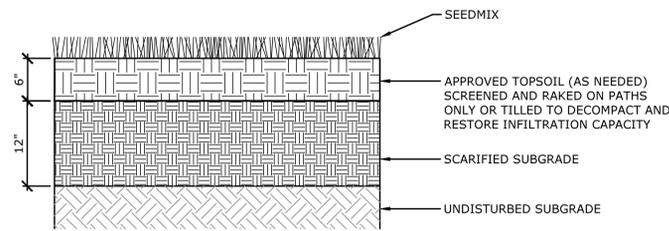


NOTE:
1. LARGE WOODY DEBRIS SHALL BE SMALL ENOUGH TO BE PLACED BY HAND OR USING A SMALL MACHINE.
2. LARGE WOODY DEBRIS TO BE EMBEDDED IN SEDIMENT PER ENGINEER'S DIRECTION IN FIELD.

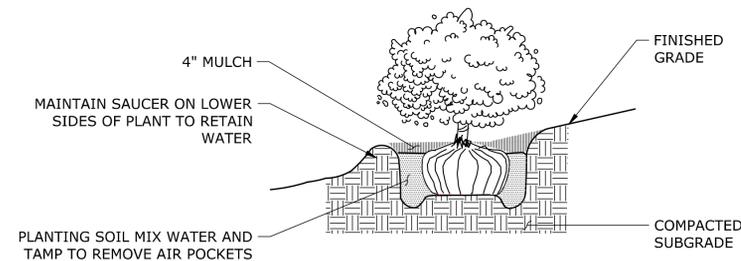
LARGE WOODY DEBRIS
NOT TO SCALE



FARM GATE
NOT TO SCALE

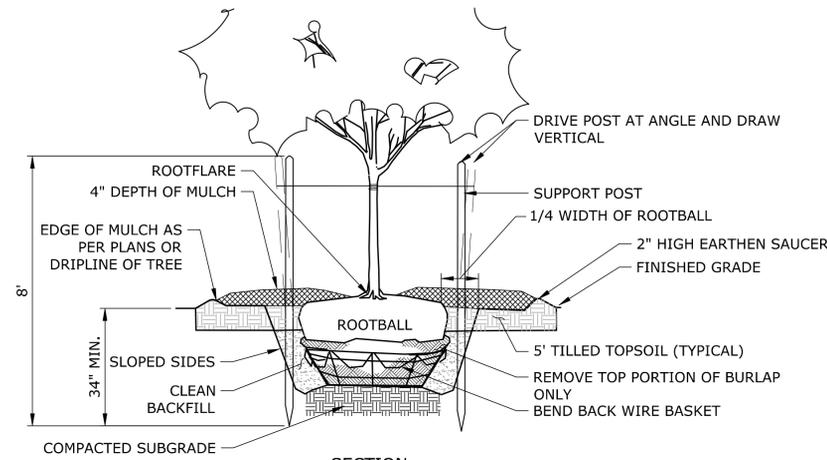


SOIL RESTORATION
NOT TO SCALE



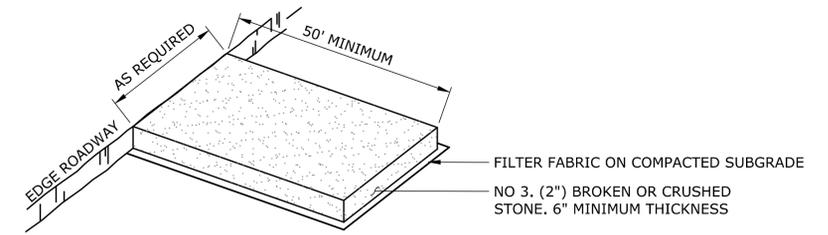
NOTES:
1. UNLESS OTHERWISE DIRECTED SHREDDED MULCH SHALL BE PLACED TO A LIMIT OF ONE FOOT BEYOND THE CENTER OF THE OUTERMOST SHRUBS IN SHRUB BED.

SHRUB PLANTING
NOT TO SCALE



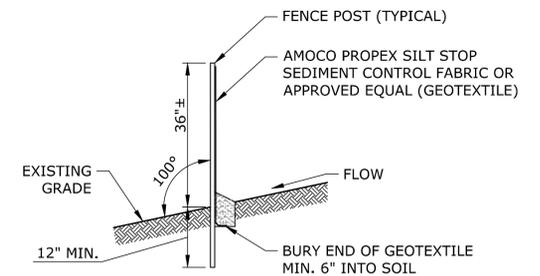
NOTE:
1. SUPPORT STAKES SHALL BE REMOVED BY THE CONTRACTOR ONE YEAR AFTER INSTALLATION.

TREE PLANTING
NOT TO SCALE



NOTES:
1. CONSTRUCTION ENTRANCE PAD SHALL BE INSTALLED AND MAINTAINED DURING OPERATIONS WHICH GENERATE VEHICULAR TRACKING OF MUD.

CONSTRUCTION ENTRANCE PAD
NOT TO SCALE



SEDIMENT FILTER FENCE
NOT TO SCALE



DESCRIPTION	DATE	BY

FINAL DESIGN FOR PERMITTING

TYPICAL SECTIONS I
HOLMES MEADOW
FLOODPLAIN RESTORATION
RIVER ROAD WEST
JOHNSON, VERMONT

JCL	DJO	JCL
DESIGNED	DRAWN	CHECKED
SCALE		
1"=40'		
DATE		
MAY 15, 2025		
PROJECT NO.		
12911.00018		
SHEET NO.		
9 OF 9		

SD-1

6/6/2025

Dear Permittee(s),

The Notice of Intent for the discharge of stormwater runoff from Low Risk Construction Activity under Construction General Permit (CGP) 3-9020 (March 19, 2020) has been authorized. You will need the following documents to maintain compliance with this authorization. Enclosed with this cover letter is your **Authorization to Discharge under General Permit 3-9020** and a copy of the **Notice of Authorization** that you must post at your construction site. In addition, any additional Owners and Operators that were not identified on the Notice of Intent at the time of application must file a **Notice of Addition of Co-Permittee**. See below for more details on these and other permit requirements.

1. **Authorization to Discharge under General Permit 3-9020**

The authorization for Low Risk Construction Activity is valid for five years from the date of the authorization. If the project will proceed past the expiration date, you must reapply for coverage under this or another construction stormwater permit before that time. If the project is completed or is sold before that time, you may terminate the authorization by submitting a Notice of Termination, subject to Subpart 7.4 of CGP 3-9020. Any proposed project changes must be first evaluated in accordance with the terms, conditions, and eligibility provisions set forth in Part 5 of CGP 3-9020.

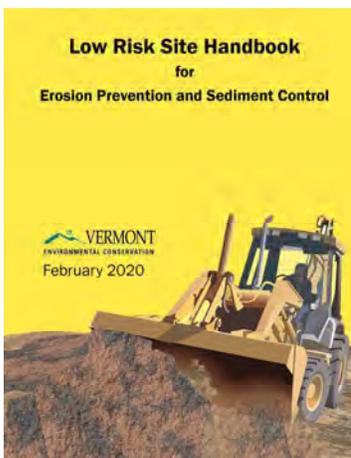
2. **Notice of Authorization for Posting**

The Notice of Authorization, which details the authorization and conditions you selected in completing Appendix A to the CGP, must be posted in a location visible to the public in accordance with Subpart 4.5.C of the CGP.

3. **Notice of Addition of Co-Permittee**

This form must be submitted for every additional Owner and/or Operator who joins the project, in accordance with Subpart 7.3 of the CGP. Use ANR Online to file all Notice of Additions. ANR Online can be accessed using the following link: <https://anronline.vermont.gov>. Instructions on creating an account are available on the main page.

Low Risk Site Handbook for Erosion Prevention and Sediment Control



Please provide the Owner(s) and Operator(s) access to the Low Risk Site Handbook for Erosion Prevention and Sediment Control. This handbook details the practices that must be implemented throughout the construction project to prevent erosion and the discharge of sediment from the construction site. Some practices must be in place before construction begins, so please review the entire handbook before starting the project. The handbook can be found at the website below. Please email anr.wsmdstormwatergeneral@vermont.gov to request a printing of the handbook if you are unable to do so.

The CGP, copies of pertinent forms, and an electronic version of the Low Risk Site Handbook for Erosion Prevention and Sediment Control are available on the [Stormwater Program](#) website. If you have any questions related to your authorization, please contact the Environmental Analyst in the [Stormwater District](#) where your project is located.

Sincerely,
Stormwater Management Program

THIS PAGE WAS INTENTIONALLY LEFT BLANK

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AUTHORIZATION TO DISCHARGE UNDER
GENERAL PERMIT 3-9020

A determination has been made that the applicant(s) (here in after "permittee"):

Town of Johnson
PO BOX 383
Johnson, VT 05656

meets the criteria necessary for inclusion under General Permit 3-9020 for low risk construction activities. Subject to the conditions and eligibility provisions of General Permit 3-9020, the permittee is authorized to discharge stormwater to Lamoille River from the following construction activities: Restoration of 3.4 acres of floodplain at Holmes Meadow in Johnson, Vermont. Work tasks will generally involve installation of construction signs; installation and maintenance of erosion and sediment controls; establishment of construction site access; staking out of project features; clearing the site of select vegetation; excavation and haul of fill; site grading; building of park amenities; landscaping with native species; and site restoration. The project is located at River Road W in Johnson, Vermont.

1. **Effective Date and Expiration Date of this Authorization:** This authorization to discharge shall become effective on June 06, 2025 and shall continue until June 05, 2030. The permittee shall reapply for coverage at least 60 days prior to expiration if the project has not achieved final stabilization or if construction activities are expected after the date of expiration.
2. **Compliance with General Permit 3-9020 and this Authorization:** The permittee shall comply with this authorization and all the terms, conditions, and eligibility provisions of General Permit 3-9020. The completed Notice of Intent (NOI) and Appendix A completed for this project are incorporated by reference into this authorization and are included in the terms of this authorization. These terms include:
 - Implementation and maintenance of erosion prevention and sediment control practices required by the Low Risk Site Handbook for Erosion Prevention and Sediment Control.
 - All areas of disturbance must have temporary or final stabilization within 14 days of the initial disturbance. After this time, disturbed areas must be temporarily or permanently stabilized in advance of any runoff producing event. A runoff producing event is an event that produces runoff from the construction site. The following exception to the above stabilization requirements apply:
 - Temporary stabilization is not required if work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches). Areas of a construction site that drain to sediment basins are not considered eligible for this exemption and the exemption applies only to the excavated area itself.
 - The total authorized disturbance is 3.40 acre(s).
 - No more than 2 acres of land may be disturbed at any one time.
 - Inspections shall be conducted at least once every (7) calendar days and daily during the winter construction period (October 15 through April 15), for all areas that have been disturbed and are not yet finally stabilized. In addition:
 - If visibly discolored stormwater runs off the construction site or discharges to waters of the State, the permittee shall take immediate corrective action to inspect and maintain existing best management practices (BMPs), and to install supplemental BMPs necessary to minimize and prevent the discharge.
 - If, after completing corrective action, there continues to be a discharge of discolored stormwater from the construction site to waters of the State, the permittee shall notify DEC by submitting a Discharge Report within 24 hours of discovering the discharge.
3. **Transferability and Addition of Co-Permittee:** This authorization to discharge is not transferable to any person, nor may any person be added as a permittee, except in compliance with General Permit 3-9020 including submission of a complete Notice of Transfer or Notice of Addition of Co-Permittee.

4. Following receipt of authorization under General Permit 3-9020, additional Owner(s) and Operator(s) not identified on the Notice of Intent at the time of application shall be added as a co-permittee by filing a Notice of Addition of Co-Permittee with the Secretary. The co-permittee shall be subject to all terms and conditions of the permittee's authorization and Construction General Permit 3-9020.
5. Right to Appeal:

(A) Pursuant to 10 V.S.A. Chapter 220, any appeal of this permit, except for appeal of a renewable energy plant as described in (B), must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The notice of appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or the appellant's attorney. In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the notice of appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings.

(B) If this permit relates to a renewable energy plant for which a certificate of public good is required under 30 V.S.A. § 248, any appeal of this decision must be filed with the Vermont Public Utility Commission pursuant to 10 V.S.A. § 8506. This section does not apply to a facility that is subject to 10 V.S.A. § 1004 (dams before the Federal Energy Regulatory Commission), 10 V.S.A. § 1006 (certification of hydroelectric projects), or 10 V.S.A. Chapter 43 (dams). Any appeal under this section must be filed with the clerk of the Public Utility Commission within 30 days of the date of this decision; the appellant must file with the clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. § 8504(c)(2) and shall also serve a copy of the notice of appeal on the Vermont Public Service Department. For further information, see the Rules and General Orders of the Public Utility Commission.

Dated June 06, 2025

Julia S. Moore, Secretary
Agency of Natural Resources

By:



Kevin Burke, Program Manager
Stormwater Management Program

Notice of Authorization
Under Vermont Construction General Permit 3-9020
For Low Risk Construction Activity



Permittee Directions for Posting:

This notice shall be placed near the construction entrance at a location visible to the public. If displaying near the main entrance is infeasible, the notice shall be posted in a local public building such as the municipal office or public library. For linear projects, the notice shall be posted at a publicly accessible location near the active part of the construction project (e.g., where a pipeline project crosses a public road) or, in the event posting in a publicly accessible location near the active part of the project is infeasible, the permittee shall post in a local public building such as the municipal office or public library.

Project Name:	Holmes Meadow Floodplain Restoration
Permittee Name(s):	Town of Johnson
NOI Number:	9923-9020
Date of Authorization:	June 06, 2025
Date of Expiration:	June 05, 2030

The project listed above has received authorization under General Permit 3-9020 to discharge stormwater from the following construction activities:

Restoration of 3.4 acres of floodplain at Holmes Meadow in Johnson, Vermont. Work tasks will generally involve installation of construction signs; installation and maintenance of erosion and sediment controls; establishment of construction site access; staking out of project features; clearing the site of select vegetation; excavation and haul of fill; site grading; building of park amenities; landscaping with native species; and site restoration.

This authorization includes the following requirements:

- Implementation and maintenance of erosion prevention and sediment control practices required by the Low Risk Site Handbook for Erosion Prevention and Sediment Control.
- All areas of disturbance must have temporary or final stabilization within 14 days of the initial disturbance. After this time, disturbed areas must be temporarily or permanently stabilized in advance of any runoff producing event. A runoff producing event is an event that produces runoff from the construction site. The following exception to the above stabilization requirements apply:
 - Temporary stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of two feet or greater (e.g. house foundation excavation, utility trenches). Areas of a construction site that drain to sediment basins are not considered eligible for this exemption and the exemption applies only to the excavated area itself.
- The total authorized disturbance is 3.40 acre(s).
- No more than 2 acres of land may be disturbed at any one time.
- Inspections shall be conducted at least once every (7) calendar days and daily during the winter construction period (October 15 through April 15), for all areas that have been disturbed and are not yet finally stabilized. In addition:
 - If visibly discolored stormwater runs off the construction site or discharges to waters of the State, the permittee shall take immediate corrective action to inspect and maintain existing best management practices (BMPs), and to install supplemental BMPs necessary to minimize and prevent the discharge.
- If, after completing corrective action, there continues to be a discharge of sediment from the construction site to waters of the State, the permittee shall notify DEC by submitting a Discharge Report within 24 hours of discovering the discharge.
- The permittee shall comply with all inspection, maintenance, corrective action, record keeping, and reporting requirements, and all other terms, conditions, and eligibility provisions, including those conditions related to project changes, as set forth in General Permit 3-9020 and this authorization.
- Following receipt of authorization under General Permit 3-9020, additional Owner(s) and Operator(s) not identified on the Notice of Intent at the time of application shall be added as a co-permittee by filing a Notice of Addition of Co-Permittee with the Secretary. The co-permittee shall be subject to all terms and conditions of the permittee's authorization and General Permit 3-9020.

To request information on this authorization, or to report compliance concerns, please contact:

Vermont Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Davis 3
Montpelier, VT 05620



Photo 1. Holmes Meadow River Access sign and map.



Photo 2. Exploratory Trenches and Test pits excavated during environmental review.

RE: Approval for 604B - Holmes Meadow Floodplain Restoration - Final Design

From Pomeroy, Staci <Staci.Pomeroy@vermont.gov>

Date Mon 10/27/2025 9:25 AM

To Victoria Hellwig <victoria@lpcvt.org>

Cc Bates, Karen <Karen.Bates@vermont.gov>; Meghan Rodier <meghan@lpcvt.org>; Marc Mastrangelo <Marc@lpcvt.org>

Hello Victoria,

I am in support of the project to move forward to the next step. I have been kept in the loop for this project and it is great to see it coming together.

Enjoy the day.
Staci



Staci Pomeroy, River Scientist
Vermont Department of Conservation
Watershed Management, Rivers Program
111 West Street | Essex Jct., VT 05452
802-490-6191 cell
staci.pomeroy@vermont.gov
<http://dec.vermont.gov/watershed/rivers>

From: Victoria Hellwig <victoria@lpcvt.org>

Sent: Friday, October 24, 2025 4:57 PM

To: Pomeroy, Staci <Staci.Pomeroy@vermont.gov>

Cc: Bates, Karen <Karen.Bates@vermont.gov>; megan@lpcvt.org; Marc Mastrangelo <Marc@lpcvt.org>

Subject: Approval for 604B - Holmes Meadow Floodplain Restoration - Final Design

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Good Afternoon Staci,

In order for Karen Bates to approve the VT Watershed Database submission for the Final Design Phase of the Holmes Meadow project in Johnson, we need your approval/a quick email response saying you approve this project to move onto the next phase. Attached please find the project final design plans, that were recently submitted and reviewed for an Act 250 permit minor amendment.

As you know having this Watershed Database ID is a requirement of the CWSP application (due Nov. 13). I will be assisting with a CWSP application for the Holmes Meadow project, which is applying for CWSP funds for the open round to advance this project through the Implementation Phase.

Please let me know if you have any questions or need additional information, and thanks so much for your blessing to move this project forward.

Have a great weekend,

Victoria Hellwig
Regional Planner
Lamoille County Planning Commission
52 Portland Street, 2nd Floor
Morrisville, VT 05661
(802) 888-4548
victoria@lpcvt.org

If you would like to meet in person with a member of staff, please make an appointment.



LAND USE PERMIT AMENDMENT

State of Vermont Land Use Review Board
District 5 Environmental Commission 10 Baldwin Street,
Montpelier, VT 05633-3201
<https://act250.vermont.gov/>

This is a **PROPOSED** permit; please submit any written comments to District Coordinator Susan Baird at susan.baird@vermont.gov and Act250.Montpelier@vermont.gov by **September 29, 2025**.

A permit will NOT be issued until the District Commission receives and reviews the following:

1. Final comments from the ANR River Corridor and Floodplain Protection Program.
2. The Permittee shall advise the Commission as to the disposal location for the excavated soils.

Town of Johnson
Attn: Thomas Galinat
P.O. Box 383
Johnson, VT 05656

PERMIT NUMBER:
5L0015-2
LAW/REGULATIONS INVOLVED:
10 V.S.A. §§ 6000 – 6111 (Act 250)

The District 5 Environmental Commission hereby issues Land Use Permit Amendment 5L0015-2, pursuant to the authority vested in it by 10 V.S.A. §§ 6000-6111. This permit amendment applies to the lands identified in Book 167, Pages 210-212 of the land records of Johnson, Vermont as the subject of a deed to the Town of Johnson. This permit specifically authorizes the restoration of the floodplain at Holmes Meadow, located on River Road West, adjacent to the Lamoille River in Johnson, Vermont. The project consists of the excavation of approximately 20,500 cubic yards from the 3.4 acres tract to a depth of 4.9 feet, which will lower the riverbank to the two-year flood elevation and provide enhanced connection to the river and floodplain functions. Once excavation is completed, the area will be graded, walking paths will be created, and extensive landscaping will be installed. No new buildings, roads, or utilities are proposed or authorized herein.

Jurisdiction attaches because the project constitutes a material change pursuant to Act 250 Rule 2(C)(6) and thus requires a permit amendment pursuant to Act 250 Rule 34.

1. The Permittee and its assigns and successors in interest are obligated by this permit to complete, operate, and maintain the project as approved by the District Commission (the "Commission") in accordance with the following conditions.
2. The project shall be completed, operated, and maintained in accordance with the conditions of this permit and the permit application, plans, and exhibits on file with the Commission. In the event of any conflict, the terms and conditions of this permit shall supersede the approved plans and exhibits. The approved plans are:

Site Plan Cover Sheet, Final Design, dated 5/15/25, last revised 8/27/25 (Exhibit 4a);

Sheet SP-1 - "Site Plan-Existing Conditions", dated 5/15/25, last revised 8/27/25 (Exhibit 5a);

Sheet SP-2 - "Proposed Layout", dated 5/15/25, last revised 8/27/25 (Exhibit 6a);
Sheet SP-3 - "Proposed Grading", dated 5/15/25, last revised 8/27/25 (Exhibit 7a);
Sheet SP-4 - "Restoration" dated 5/15/25, last revised 8/27/25 (Exhibit 8a);
Sheet SP-5 - "Construction", dated 5/15/25, last revised 8/27/25 (Exhibit 9a);
Sheet XS-1 - "Typical Sections I", dated 5/15/25, last revised 8/27/25 (Exhibit 10a);
Sheet XS-2 - "Typical Sections II", dated 5/15/25, last revised 8/27/25 (Exhibit 11a);
Sheet SD-1 - "Typical Sections I", dated 5/15/25, last revised 8/27/25 (Exhibit 12a); and
Natural Resources Map depicting SFHA Flood Hazard Areas, dated 8/27/25 (Exhibit 13).

3. All conditions of Land Use Permit 5L0015 and amendments are in full force and effect except as further amended herein.
4. The Permittee shall comply with the conditions of Authorization of Notice of Intent to Discharge Stormwater under Construction General Permit 9923-9020 issued on June 6, 2025 by the ANR Watershed Management Division.
5. Representatives of the State of Vermont shall have access to the property covered by this permit, at reasonable times, for the purpose of ascertaining compliance with Vermont environmental and health statutes and regulations and with this permit.
6. A copy of this permit and plans shall be on the site at all times throughout the construction process.
7. No change shall be made to the design, operation, or use of this project without a permit amendment issued by the Commission or a jurisdictional opinion from the District Coordinator that a permit amendment is not required.
8. No further subdivision, alteration, or development on the tract of land approved herein shall be permitted without a permit amendment issued by the Commission or a jurisdictional opinion from the District Coordinator that a permit is not required.
9. Pursuant to 10 V.S.A. § 8005(c), the Commission or the Land Use Review Board may at any time require that the permit holder file an affidavit certifying that the Project is in compliance with the terms of this permit.
10. The conditions of this permit and the land uses permitted herein shall run with the land and are binding upon and enforceable against the Permittee and its successors and assigns.
11. The authorized deposition location for soils excavated from the site is **TBD**. (Must be determined prior to issuance of the permit.)
12. Construction hours shall be limited to Monday through Friday from 7:00 AM to 5:00 PM, with some construction on Saturday from 7:00 AM to 5:00 PM. No construction on Sunday.
13. The Permittee shall comply with the exhibits for erosion prevention and sediment control. The Permittee shall prevent the transport of any sediment beyond that area necessary for construction approved herein. All erosion prevention and sediment control devices shall be periodically cleaned, replaced, and maintained until vegetation is permanently established on all slopes and disturbed areas.
14. All mulch, siltation dams, water bars and other temporary devices shall be installed immediately upon grading and shall be maintained until all permanent vegetation is

established on all slopes and disturbed areas. Topsoil stockpiles shall have the exposed earth completely mulched and have siltation checks around the base.

15. All areas of disturbance must have temporary or permanent stabilization within 14 days of the initial disturbance. After this time, any disturbance in the area must be stabilized at the end of each workday. The following exception applies: Stabilization is not required if work is to continue in the area within the next 24 hours and there is no precipitation forecast for the next 24 hours.
16. All disturbed areas of the site shall be stabilized, seeded, and mulched immediately upon completion of final grading. All disturbed areas not involved in winter construction shall be mulched and seeded before October 15. During the period between October 15 and April 15, all earth disturbing work shall conform with the "Requirements for Winter Construction" standards and specifications of the Vermont Department of Environmental Conservation's Low Risk Site Handbook for Erosion Prevention and Sediment Control (February 2020).
17. Prior to construction of the approved work, the Permittee shall: a) clearly delineate the construction limits with flagging or snow fencing; b) place diversion ditches on the uphill limits of the construction area; and c) place temporary siltation controls on the downhill limits of construction.
18. In addition to conformance with all erosion prevention and sediment control conditions, the Permittee shall not cause, permit, or allow the discharge of waste material into any surface waters. Compliance with the requirements of this condition does not absolve the Permittees from compliance with 10 V.S.A. (§§ 1250-1284) Chapter 47, Vermont's Water Pollution Control Law.
19. The Permittee shall confine disturbance within the Lamoille River riparian zone solely to the area specifically involved in the scope of the project. Otherwise, the Permittee shall maintain an undisturbed, naturally vegetated riparian zone along the Lamoille River which shall begin at the water's edge at base flow conditions, and shall further extend 100 feet measured inland from, perpendicular to, and horizontally from the Top of Bank as depicted on Exhibits 6a, 7a, 8a and 9a. The term "undisturbed" means that there shall be no activities that may cause or contribute to ground or vegetation disturbance or soil compaction, including but not limited to construction, earth-moving activities, storage of materials, tree trimming or canopy removal, tree, shrub, or groundcover removal; plowing or disposal of snow, grazing, or mowing.
20. Any extracted stumps shall be disposed of on-site above the seasonal high-water table and not in any wetland, or at a state-certified stump and inert waste disposal facility, so as to prevent groundwater pollution.
21. The Permittee shall provide each prospective purchaser of any interest in this project with a copy of the Land Use Permit amendment before entering into any written contract of sale.
22. Pursuant to 10 V.S.A. § 6090(b)(1), this permit amendment is hereby issued for an indefinite term, as long as there is compliance with the conditions herein. Notwithstanding any other provision herein, this permit shall expire three years from the date of issuance if the Permittees has not commenced construction and made substantial progress toward completion within the three-year period in accordance with 10 V.S.A. § 6091(b).
23. All site work shall be completed in accordance with the approved plans by October 15, 2027 unless an extension of this date is approved in writing by the Commission. Such requests to extend must be filed prior to the deadline and approval may be granted without a public hearing.

24. Failure to comply with any condition herein may be grounds for permit revocation pursuant to 10 V.S.A. sec. 6027(g).

Dated this day of 2025.

By _____
Donald Marsh, Chair
District 5 Environmental Commission

Commissioners participating in this decision:

Gary Nolan
David Soucy

Any party, or person denied party status, may file within 15 days from the date of a decision of the District Commission one and only one motion to alter with respect to the decision, pursuant to Act 250 Rule 31(A). Under Rule 31(A), no party, or person denied party status, may file a motion to alter a District Commission decision concerning or resulting from a motion to alter. Per Rule 31(A)(3), the running of the time for filing a notice of appeal is terminated as to all parties by a timely motion to alter.

Any person aggrieved by an act or decision of a District Commission or District Coordinator, or any party by right, may appeal to the Environmental Division of Vermont Superior Court within 30 days of the act or decision pursuant to 10 V.S.A. § 8504. Such appeals are governed by Rule 5 of the Vermont Rules for Environmental Court Proceedings. The appellant must file a notice of appeal with the clerk of the court and pay any fee required under 32 V.S.A. § 1431.

The appellant must also serve a copy of the Notice of Appeal on the Land Use Review Board and on other parties in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. The Land Use Review Board's copy may be sent to act250.legal@vermont.gov and/or 10 Baldwin Street, Montpelier, VT 05633-3201.

Note, there are certain limitations on the right to appeal, including on interlocutory appeals. See, e.g., 10 V.S.A. § 8504(k), 3 V.S.A. § 815, and Vermont Rule of Appellate Procedure 5. There shall be no appeal from a District Commission decision when the Commission has issued a permit and no hearing was requested or held, or no motion to alter was filed following the issuance of an administrative amendment. 10 V.S.A. § 8504(k)(1). If a District Commission issues a partial decision under 10 V.S.A. § 6086(b), any appeal of that decision must be taken with 30 days of the date of that decision. 10 V.S.A. § 8504(k)(3). For additional information on filing appeals, see the Court's website at: <http://www.vermontjudiciary.org/GTC/environmental/default.aspx> or call (802) 951-1740. The Court's mailing address is Vermont Superior Court, Environmental Division, 32 Cherry Street, 2nd Floor, Suite 303, Burlington, VT 05401.

The foregoing statements regarding motions to alter and appeals are intended for informational purposes only. They neither supplant nor augment any rights or obligations provided for by law nor do they constitute a complete statement of the rights or obligations of any person or party.

RE: Holmes Meadow Flood Mitigation project - Johnson

From Pfeiffer, Rebecca <Rebecca.Pfeiffer@vermont.gov>

Date Fri 9/26/2025 4:21 PM

To Victoria Hellwig <victoria@lpcvt.org>

Cc Baird, Susan <Susan.Baird@vermont.gov>; Seth Jensen <seth@lpcvt.org>; Douglas Osborne <dosborne@slrconsulting.com>; jlouisos <jlouisos@slrconsulting.com>; Thomas Galinat <tojadministrator@townofjohnson.com>; Nevins, Alexis <Alexis.Nevins@vermont.gov>; Taft, Kathleen <Kathleen.Taft@vermont.gov>

Hi all –

I apologize for not being able to get back to you. I just sent an email to Kathleen that the project would meet our ANR procedure and that the town should be keeping track of as-built plans for the project to demonstrate it was completed as proposed.

The only thing that we would comment on is an affirmation of what is already on the plans – that the picnic tables are anchored as shown on the plans any time they're on site, and that farm gate is an open style farm gate that would allow water to flow-through during a flood.

Best,
Rebecca

Rebecca J. Pfeiffer, CFM (she/her)

VT DEC Watershed Management Division

River Corridor & Floodplain Protection Program Manager | VT NFIP Coordinator

C 802.490.6157 | Rebecca.Pfeiffer@vermont.gov

From: Victoria Hellwig <victoria@lpcvt.org>

Sent: Wednesday, August 20, 2025 12:44 PM

To: Pfeiffer, Rebecca <Rebecca.Pfeiffer@vermont.gov>

Cc: Baird, Susan <Susan.Baird@vermont.gov>; Seth Jensen <seth@lpcvt.org>; Douglas Osborne <dosborne@slrconsulting.com>; jlouisos <jlouisos@slrconsulting.com>; Thomas Galinat <tojadministrator@townofjohnson.com>

Subject: Holmes Meadow Flood Mitigation project - Johnson

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Rebecca,

Hope all is well. I am reaching out about a floodplan restoration project in Johnson proposed for the "Holmes Meadow" - located at 0 River Road East. The project was identified through the 2019 Lamoille River Flood Model. The project is funded through an FRCF grant and must be completed by the end of this calendar year.

The project parcel is under the jurisdiction of an Act 250 permit. We just discussed with Susan Baird and she suggested we reach out to see whether there would be any concerns from ANR about this proposed project before moving forward with next steps for Act250.

Attached please find:

- Design plans for the project
- Construction General Permit

Could you please review and let us know if you have any questions or concerns?

Happy to discuss further, thank you!!

Best,

Victoria Hellwig
Regional Planner
Lamoille County Planning Commission
52 Portland Street, 2nd Floor
Morrisville, VT 05661
(802) 888-4548
victoria@lpcvt.org

If you would like to meet in person with a member of staff, please make an appointment.



State of Vermont
Division for Historic Preservation
Deane C. Davis Building, 6th Floor
One National Life Drive, Montpelier, VT 05620-0501
<http://accd.vermont.gov/historic-preservation>

*Agency of Commerce and
Community Development*

November 10, 2025

Susan Baird, District Coordinator
District #5 Environmental Commission
10 Baldwin Street
Montpelier, VT 05620-3901

**RE: Town of Johnson Holmes Meadow Floodplain Restoration, River Road West,
Johnson, Vermont. Land Use Permit Application #5L0015-2.**

Dear Susan,

Thank you for the opportunity to comment on the above-referenced project. The Vermont Division for Historic Preservation (VDHP) has reviewed this proposed undertaking for purposes of Criterion 8, 10 V.S.A. Chapter 151 (Act 250). Project review consists of evaluating the project's potential impacts to historic buildings, structures, districts, landscapes, and settings, and known or potential archeological resources. The purpose of the VDHP's review under Act 250 is to provide the District # 5 Environmental Commission with the information necessary for them to make a positive finding under the "historic sites" aspect of Criterion 8.

The proposed project consists of the removal of approximately 20,500 cubic yards of sediment from Holmes Meadow in Johnson to create more flood storage capacity adjacent to the Town. Sediment removal will include excavation up to five (5) feet below the current terrace surface. Three potential disposal areas have been identified for the extracted material; up to 5,000 cubic yards to be placed at the new library location on School Street, the existing Town of Johnson gravel pit on River Road which is expected to have enough room for the remaining soil, and the Nadeau Pit at 1908 VT-Route 15 if necessary. The restored floodplain area will be graded with walking paths and extensive landscaping will be installed.

In 2024, the University of Vermont Consulting Archaeology Program (UVM CAP) completed an Archaeological Resource Assessment including limited backhoe trenching to evaluate the floodplain stratigraphy. Based on this work, the project area was determined to be archaeologically sensitive and UVM CAP recommended that a Phase I site identification survey be completed. VDHP has received the August 22, 2025 Phase I End of Field Report prepared by UVM CAP. No evidence of significant cultural activity was documented throughout the proposed floodplain restoration footprint. VDHP has also reviewed the proposed soil disposal areas and did not identify any historic preservation concerns at these locations

Based on the above considerations, VDHP recommends that the Holmes Meadow Floodplain

Restorations proposed under Land Use Permit Application 5L0015-2 will have **No Effect** on any historic sites that are listed in or eligible for inclusion in the State Register of Historic Places.

Thank you for your cooperation in protecting Vermont's irreplaceable historic and archeological heritage. If you have any questions or need clarification regarding any of the above, please do not hesitate to contact us. R. Scott Dillon and Greg Socinski reviewed this project and prepared this letter. I concur with the findings and conclusions described above.

Sincerely,
VERMONT DIVISION FOR HISTORIC PRESERVATION

Signed by:

B920F8A4E1B1464...

For:
Laura Trieschmann
State Historic Preservation Officer

Cc: Service List



CERTIFICATE OF SERVICE

I hereby certify that I, R. Scott Dillon, sent a copy of the foregoing Vermont Division for Historic Preservation Comment Letter on Minor Application 5L0015-2 on this 10th day of November 2025 to the following email addresses:

District 5 Environmental Commission
10 Baldwin Street
Montpelier, VT 05633-3201
Susan.Baird@vermont.gov
Act250.Montpelier@vermont.gov

Town of Johnson, Attn: Thomas
Galinat PO Box 383
Johnson, VT 05656
toadministrator@townofjohnson.com

Town of Johnson
PO Box 383
Johnson, VT 05656
toadministrator@townofjohnson.com

Lamoille County Planning Commission
PO Box 1637
Morrisville, VT 05661
seth@lcpcvt.org
georgeana@lcpcvt.org

SLR International Corporation
Attn: Jessica Louisos
jlouisos@slrconsulting.com

Johnson Selectboard
PO Box 383
Johnson, VT 05656
toadministrator@townofjohnson.com

Johnson Planning Commission
PO Box 383
Johnson, VT 05656
toadministrator@townofjohnson.com
smeyer@townofjohnson.com

Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05620-3901
anr.act250@vermont.gov

Rosemary Audibert, Town Clerk
PO Box 383
Johnson, VT 05656
raudibert@townofjohnson.com

State of Vermont
Dept. of Public Service
112 State Street, Drawer 20 Montpelier,
VT 05620-2601
barry.murphy@vermont.gov
PSD.VTDPS@vermont.gov

Vermont Agency of Transportation Barre
City Place
219 N. Main Street
Barre, VT 05641
AOT.Act250@vermont.gov

Vermont Agency of Agriculture, Food
and Markets 116 State Street, Drawer
20
Montpelier, VT 05620-2901
AGR.Act250@vermont.gov

14066- Cemetery

Project Details	
WPD ID	14066
Status	Proposed
Project Name	Cemetery Brook Floodplain Restoration
Project Type	Floodplain/Stream Restoration - Implementation
Sector	River
Lat/Long	44.5901, -72.32796
Stream Segment	
Technical Project Manager	
Description	This is a wetland/floodplain project on lower Cemetery Brook. A 30% design was made through the Caspian LWAP in 2023, and a 100% design was completed in 2025. This project is to restore wetland plants and vegetation on an existing hayfield, establish a new buffer zone, and add post-assisted log structures to promote floodplain access and riparian plantings along the stream corridor to reduce bank erosion.
Development Notes	
Submission Number	HQE-97SR-G02P7

Town/County/Region	Basin/Sub Basin	Potential Partners	Potential Funding Source
Greensboro	Upper Headwaters Lamoille River	Orleans County Natural Resources Conservation District NorthWoods Stewardship Center Northwest Regional Planning Commission Vermont Department of Environmental Conservation Stewards of Greensboro Watershed	Clean Water Fund Clean Water Fund (21932)

Event Date	Event Type	State Amount	Match	Grant Total	Funding Source	Grant Num	Funded Partner
8/1/2025	Project Created in Database						

Performance Measure	Value	Status

Related Projects				
	Relationship	WPD ID	Project Name	Status
View	Parent	11953	Cemetery Brook Floodplain Restoration	Funded

Records			
	Date	Record Type	Record Title

Project Type	
TypeList	Floodplain/Stream Restoration – Implementation
Step/Phase	Implementation
Basic Eligibility	Yes
Applicant Name	Will Marlier
Applicant Organization	Orleans County NRCD
Applicant Email	will.marlier@orleanscountynrcd.org
Applicant telephone	+1 (802) 595-4538
Project ID from WPD	14066
Description of Project	This is a wetland/floodplain project on lower Cemetery Brook. A 30% design was made through the Caspian LWAP in 2023, and a 100% design was completed in 2025. This project is to restore wetland plants and vegetation on an existing hayfield, establish a new buffer zone, and add post-assisted log structures to promote floodplain access and riparian plantings along the stream corridor to reduce bank erosion.
Project Latitude	44.5901
Project Longitude	-72.32796
Project Phase	Implementation
Annual P Reduction KG	11.585
Any one time P reduction KG	
Total Cost of Proposed Phase	37627
Amount of funding requested (Proposed Phase)	\$37,627.00
Matching Funds Available	\$0.00
Total Project Costs (All Phases)	\$58,134.00
KG/\$ Current Phase	0.000307891
KG/\$ Overall	0.000199281
Design Life	15
Estimated Annual O&M cost total	\$5,000.00
Conformance with Tactical Basin Plan TBP	10
Number of Co-benefit Areas	2
DEC Screening Form Uploaded	Yes
Map of Project Area Uploaded	Yes
Project Budget Uploaded	Yes
Project Schedule Uploaded	Yes
Landowner Support uploaded	Yes
Phosphorus Calculator Tool uploaded	Yes
Design/Imp Costs Requested	37627
Design-Imp Costs Total	58134
Using_As_Match	No
Cultural Resource Review	Yes
O&M interest	Not sure
continued project	Yes
earlier P estimate	10.09

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
<p>From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below:</p> <ul style="list-style-type: none">Minimize anthropogenic nutrient and organic pollutionProtect and restore aquatic and riparian habitatsProtect and restore aquatic and riparian habitats	<p>Protect and restore aquatic and riparian habitats <input type="button" value="v"/></p>

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see [CWIP Funding Policy](#) for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	14066
Watershed Project Database Project Name	Cemetery Brook Floodplain Restoration

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts³

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. ⁴

- 1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. ⁵ Please note that “project site” may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
- 2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
 - a. Proponents should send the identified permitting staff the following:
 - i. The watersheds project database identification number (WPD-ID) (if available),
 - ii. Project location (GPS coordinates)
 - iii. Summary of proposed scope of work, and
 - iv. Any other relevant information they request that will be utilized in their review.
 - b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
 - c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

³ Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

⁴ In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

⁵ Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The [ANR Permit Navigator](#) and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

- 3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
 - a. Which permits or permit amendment are needed or might be needed?⁶
 - b. What type might be needed? (e.g., a general or individual permit⁷)?
 - c. What concerns were voiced by permitting staff?
 - d. How will the proposed scope of work address these concerns?⁸

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont’s Land Use and Development Control Law) Permits been issued in the project site’s parcel location?⁹	Yes <input type="radio"/>	No <input checked="" type="radio"/>
If yes , please provide the permit number and list any water resource issues or natural resource issues found ¹⁰ : PermitNumber: ResourceIssues: _____ If yes , use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. Regulatory Point of Contact Name/Position: _____		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	Yes <input type="radio"/>	No <input checked="" type="radio"/>

⁶ Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

⁷ Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

⁸ Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

⁹ An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named “Clean Water Initiative Program Grant Screening.”

¹⁰Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? ¹¹	
<p>If yes, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
III. Rivers, River Corridors, and Flood Hazard Areas	
<p>1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area¹²? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>If yes, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>2. Is any portion of the project site within a perennial river or stream channel?</p> <p>¹³</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>If yes, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p> <p>Staci Pomeroy</p>	
IV. Wetland	

¹¹ The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

¹² FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: <https://msc.fema.gov/portal/home>. ANR Floodplain Managers are available to provide technical assistance if needed.

¹³ Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

<p>1. Does the Wetland Screening Tool¹⁴ provide a result of wetlands likely, very likely, or present at the project site?</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;"><input checked="" type="radio"/> <input type="radio"/></p>
<p>2. Does your project site involve land that is in or near an area that has <u>any</u> of the following characteristics:</p> <ul style="list-style-type: none"> o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.) 	<p style="text-align: center;">Yes <input checked="" type="radio"/></p> <p style="text-align: center;">No <input type="radio"/></p> <p style="text-align: center;">Not Sure <input type="radio"/></p>
<p>If you answered yes or not sure to <u>either</u> of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered yes or not sure to <u>either</u> of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an “allowed use” under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.</p> <p>Regulatory Point of Contact Name/Position: Shannon Morrison</p>	
<p>1. Is your project a Wetland Restoration project type?</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;"><input type="radio"/> <input checked="" type="radio"/></p>
<p>If you answered yes, under the Vermont Wetland Rules you will need an “allowed use” determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>V. Fish and Wildlife</p>	
<p>State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit.</p> <p>1. Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns? Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting</p>	<p style="text-align: center;">Yes No</p> <p style="text-align: center;"><input type="radio"/> <input checked="" type="radio"/></p>

¹⁴ To view the Wetland Screening Tool introduction video, see <https://youtu.be/6lv5en0AB1o>

2. Is the project site within 1 mile of a mapped¹⁵ Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes , forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. Regulatory Point of Contact Name/Position:	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? ¹⁶	Yes <input type="radio"/> No <input checked="" type="radio"/>
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
Provide below or attach a narrative summary of Table 4 findings. Please include: <ol style="list-style-type: none"> Which permits or permit amendment are needed or might be needed? What type might be needed? (e.g. a general or individual permit)? What concerns were voiced by permitting staff? How will the proposed scope of work address these concerns? US Army Corps of Engineers - Wetlands Permit and VT DEC Stream Alteration Permit were both filled out and applied for by the project designer and landowners respectively. All regulatory contacts have indicated that this project is permissible, and has their support.	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes <input checked="" type="radio"/> No <input type="radio"/>

¹⁵ Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

¹⁶ If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a [licensed solid waste hauler](#) and bring the material to a certified facility.

<p>determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.</p>	<p><input checked="" type="radio"/> No¹⁸ - There is no additional requirements related to agricultural review for these projects.</p>
<p>2. Is the proposed project an agricultural project?</p> <p>Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.</p>	<p><input type="radio"/> Yes - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization.</p> <p><input type="radio"/> No- The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFAM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below.</p> <p>Step 1- Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFAM at AGR.WaterQuality@Vermont.gov .</p> <p>Step 2- Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.</p>
<p>Agricultural Project Review Status & Summary:</p>	
<p>Check as Applicable</p>	<p>Status</p>
<p><input type="checkbox"/></p>	<p>Submitted/ Pending</p>
<p><input type="checkbox"/></p>	<p>Approved</p>
<p><input type="checkbox"/></p>	<p>Denied</p>

¹⁸ Note CWIP’s Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the [Appendix B. Project Types Table](#) are not subject to review by VAAFAM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status “submitted/pending” will be “approved” prior to a project approval for funding.

Cemetery Brook Stream Restoration Project Timeline - Implementation

Task	Deliverable	Date
Sign Task Award	Receive, review, and sign the task award offered by NRPC.	December 2025
Solicit & Sign Sub-Contractors	Identify all implementation sub-contractors and material vendors. Draft, finalize, and sign contracts that cover the full project scope.	January-March 2026
Site Prep & Material Deliveries	Coordinate with all sub-contractors and vendors to ensure that necessary materials will be delivered to the site in a timely fashion.	Early-September 2026
PAL Installation	Work with implementation crews to install 51 in-stream Post Assisted Log Structures using cedar posts and woody materials.	Mid-September 2026
Buffer Planting	Work with implementation crews to plant ~4,400 trees and shrubs across 11 acres of land at a rate of ~400 stems/acre.	Late-September 2026
Final Report / Grant Close	Final grant reporting to NRPC with all deliverables.	October 2026

Barr Property - Implementation Budget					
Contractor Name	Action / Material	Quantity	Rate	Total	Notes
NorthWoods Stewardship Center	Labor - PAL Installation	1 week	\$8,200.00	\$8,200.00	
NorthWoods Stewardship Center	Labor - Tubestock Planting	1 week	\$8,200.00	\$8,200.00	
NorthWoods Stewardship Center	Tubestock Delivery	1	\$350.00	\$350.00	
Intervale Center	Tubestock Trees	45 (98 stem trays)	\$200.00	\$10,192.50	Using exact quote, includes higher pricepoint for buttonbush
Westwood Fence	Cedar Posts	400	\$4.00	\$1,766.00	6' tall, <4" diameter 306 for PALs (6 per structure) 47 for sentinels (extras as needed) tax & delivery included in final line item
North East Tree Service	Woody Material	3	\$250.00	\$750.00	3 trailers of tree tops (primarily conifer) delivered
OCNRCD	Landowner / Stakeholder Communications	12	\$76	\$912.00	
OCNRCD	Grant Reporting & Management	12	\$76	\$912.00	
OCNRCD	Off-site Project Management	12	\$76	\$912.00	
OCNRCD	On-site Project Management	32	\$76	\$2,432.00	
FluidState Consulting	Construction Oversight	1	\$3,000.00	\$3,000.00	
Total Project Cost:				\$37,626.50	

Cost Effectiveness Calculator for Formula Grant Project Prioritization			Notes					
<p>Cost effectiveness of a project with a design life 15 years or greater: Cost effectiveness (\$/kg/yr) = total capital project cost (dollars) for design and construction / annual average phosphorus load reduction (kg/yr)</p> <p>Cost effectiveness for a project with less than 15-year design life: Cost effectiveness (\$/kg/yr) = (15 years/design life years)*(Total Project Cost \$) /Average annual P load reduction</p>			<p>The calculation of cost effectiveness used in this tool is intended to be used to inform project prioritization for projects proposed to be funded under Formula Grants. The cost effectiveness calculation in this tool considers the project lifespan in the context of the 15-year Formula Grant implementation timeframe and utilizes the cost effectiveness formula presented in Chapter 6 of Act 76 Guidance. The cost effectiveness equation used in this tool is subject to revision following conclusion of the public notice period for Chapter 6 of the Act 76 Guidance Document. Cost effectiveness metrics presented elsewhere, such as in the Vermont Clean Water Initiative Performance Report, may use a different equation to calculate cost effectiveness.</p> <p>For more information on Act 76 and Guidance, please visit https://dec.vermont.gov/water-investment/statuses-rules-policies/act-76</p>					
<p>Enter the project ID exactly entered in the phosphorus calculator tab to autofill calculated estimated P load reduction.</p>			<p>It is recommended that cost effectiveness is calculated with and without inclusion of any anticipated match or leveraged funds, if applicable.</p>		<p>Optional: if different than total project costs. Consider Chapter 6 Guidance on co-funded projects and proportional credit for co-funders that are reporting partners.</p>		<p>Value will autofill based on project ID. If project type is a stormwater treatment practice, calculated estimated P load reduction should be copied and pasted from the STP calculator output.</p>	
Input	Input	Output	Input	Input	Input	Output Value	Output Value	
Project ID	Project Type	Estimated Project Type Design Life	Total Estimated Project Cost (design and construction)	Estimated Project Cost to be Covered by Formula Grant Funds (design and construction)	Calculated Estimated P Load Reduction (kg/yr)	Total Project Estimated Cost Effectiveness (\$/kg/yr)	Formula Grant Estimated Cost Effectiveness (\$/kg/yr)	
Barr - Riparian Buffer Area - 50' Wide	Forested Riparian Buffer	15	\$58,134.00	\$58,134.00	9.925	\$5,857.55	\$5,857.55	
Barr - Wetland Restoration Areas	Native Revegetation	15	\$58,134.00	\$58,134.00	0.461	\$126,065.51	\$126,065.51	
Barr - Buffer <50' Wide	Native Revegetation	15	\$58,134.00	\$58,134.00	0.099	\$585,212.08	\$585,212.08	

Vermont Division for Historic Preservation
Project Review Form

This form is to be used for both the Preliminary and Final Project Review for clean water projects funded by the Department of Environmental Conservation (DEC) Clean Water Initiative Program (CWIP). See applicable sections below.

Preliminary Project Review Section

To start the VDHP review process for CWIP-funded Clean Water Projects, please complete this form and submit it to the Vermont Division for Historic Preservation (VDHP) at ACCD.projectreview@vermont.gov with the information requested below. This Preliminary Project Review form, once completed and signed by VDHP, should be submitted as a project deliverable.

This is for non-exempt CWIP project types or conditionally exempt that have failed to meet the project qualifications. Exempt project types should NOT submit this form. Please refer to the CWIP Funding Policy for a listing of exempt and conditionally exempt project types. The CWIP Funding Policy can be found here: <https://dec.vermont.gov/water-investment/cwi/grants#policy>

For questions on architectural resources, archaeology, and below-ground resources, please contact Scott Dillon at (802) 272-7358 or scott.dillon@vermont.gov.

1. **Contact information:**

- a. Contact name: Will Marlier
- b. Email address: will.marlier@orleanscountynrcd.org
- c. Phone number: (802) 624-7023

2. **WPD Project Title:** Cemetery Brook Floodplain Restoration

3. **WPD – ID:** 14066

4. **Project site map:** Please attach a project site map. An annotated Google map or [ANR Atlas](#) map will suffice but professional design plans are also welcome. An example image is provided below. Site map should outline:

- a. Project Area of Potential Effects¹ with clearly marked GPS coordinates for project boundaries.

¹ The project APE or “area of potential effects” means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The

§106 Project Review Form

For Clean Water Projects funded by the DEC Clean Water Initiative Program

- b. Proposed ground disturbance locations. Note that stream bank regrading is considered ground disturbance.



5. Project information:

- a. Select CWIP project type from drop down (if not listed, it's categorically exempt)

- i. Floodplain/Stream Restoration - Implementation

- a. Please provide a short description of the project's proposed scope of work (CWIP Preliminary Design Report is acceptable instead)

This is a wetland/floodplain project on lower Cemetery Brook. A 30% design was made through the Caspian LWAP in 2023, and a 100% design was completed in 2025. This project is to restore wetland plants and vegetation on an existing hayfield, establish a

- b. Are there other Agencies or funding partners involved?: Yes No

- i. If yes, who? NRPC - Lamoille CWSP

- c. Does the project involves ground disturbance?: Yes No

- i. If yes, please describe type and extent of ground disturbance.

Specifically,

1. Whether disturbance will be performed by hand or heavy machinery,
2. The estimated total acreage and maximum depth of disturbance, and

APE is influenced by the scale and nature of an undertaking and may be different from different kinds of effects caused by the undertaking [36 C.F.R. § 800.16(d)]. When determining a project's APE remember to consider/include extent of restoration footprint; new, upgraded or existing access or haul roads; staging, storage, and stockpile areas; disposal sites or waste areas; borrow areas and other source locations for fill material; and areas impacted by drainage diversions or mechanical tree clearing and similar landscape alterations.

§106 Project Review Form

For Clean Water Projects funded by the DEC Clean Water Initiative Program

- 3. The history of prior naturally-caused or man-made ground disturbance to the site (if known):

Only disturbances will be done by hand, including a buffer planting and woody addition within the stream channel.

- d. Will the project cause direct or indirect impact or disturbance to any man-made building or structure more than 50 years old (including dams, culverts, and bridges) or to any federally listed historic building or structure?

Yes No Unknown

- i. **If yes or unknown**, provide any known details on the buildings or structure(s) location/condition and extent of proposed impact or disturbance. Please include whether the structure is listed in the National Register of Historic Places if known:

- e. Is the project APE located within, intersect with, or adjacent to a state- or federally listed historic district, Designated Downtown or Village Center?

Yes No Unknown

Email this form and supporting materials to ACCD.ProjectReview@vermont.gov

Please copy scott.dillon@vermont.gov

TO BE COMPLETED BY VDHP:

Historic Properties/Sites Affected

Potential for Architectural Historic Properties to be affected – A Qualified Architectural Historian or Historian Consultant* is required (*please see [pre-approved list of consultants](#))

Determination of Eligibility required

Comments:

Potential for Archaeological Historic Properties to be affected – a Qualified Archaeological Consultant* is required (*please see [pre-approved list of consultants](#))

Archaeological Resource Assessment (ARA) required

Phase 1 archaeological investigation required

Comments:

§106 Project Review Form

For Clean Water Projects funded by the DEC Clean Water Initiative Program

- No Historic Properties/Sites Affected/No Effect
- No Historic Resource Present in Area of Potential Effect
- Work will have No Effect on Historic Resource

Comments: Final Plans provided. See Final Comment below.

Vermont State Historic Preservation Office Concurrence and Date:

X: _____

§106 Project Review Form

For Clean Water Projects funded by the DEC Clean Water Initiative Program

Final Project Review Section

To complete Final Project Review, re-submit this VDHP Project Review Form with the following additional elements included. Note that this should be added to the VDHP-signed version of the Preliminary Review Form so VDHP can reference their prior guidance on this project. This Final Project Review Form, once completed and signed by VDHP, should be submitted as a CWIP project deliverable.

1. Please provide a short description of any changes to the project’s proposed scope of work since the Preliminary Project Review:

2. Please attach:
 - a. Final (100%) Design Plans
 - b. Project narrative description of scope of work (CWIP Final Design Report will suffice)
 - c. Any historical resource assessments, or determination of eligibility forms
 - d. Any archaeological resource assessments, other archaeological reports, or end-of-field documents
 - e. Any Treatment Plans

Email this form and supporting materials to ACCD.ProjectReview@vermont.gov

Please copy scott.dillon@vermont.gov

TO BE COMPLETED BY VDHP:

- No Historic Properties/Sites Affected/No Effect
 - No Historic Resource Present in Area of Potential Effect
 - Work will have No Effect on Historic Resource

Comments: 10/8/25 plan set represent 60-100% plans. Planting, boundary marker, and structure placement activities shown on plans will have no effect on any cultural resources. Any changes in the project footprint or proposed +

- No Adverse Effect
- Adverse Effect
 - Project Treatment Plan or other agreement documents executed

Other:

Vermont State Historic Preservation Office Concurrence and Date:

X: _____

Legend

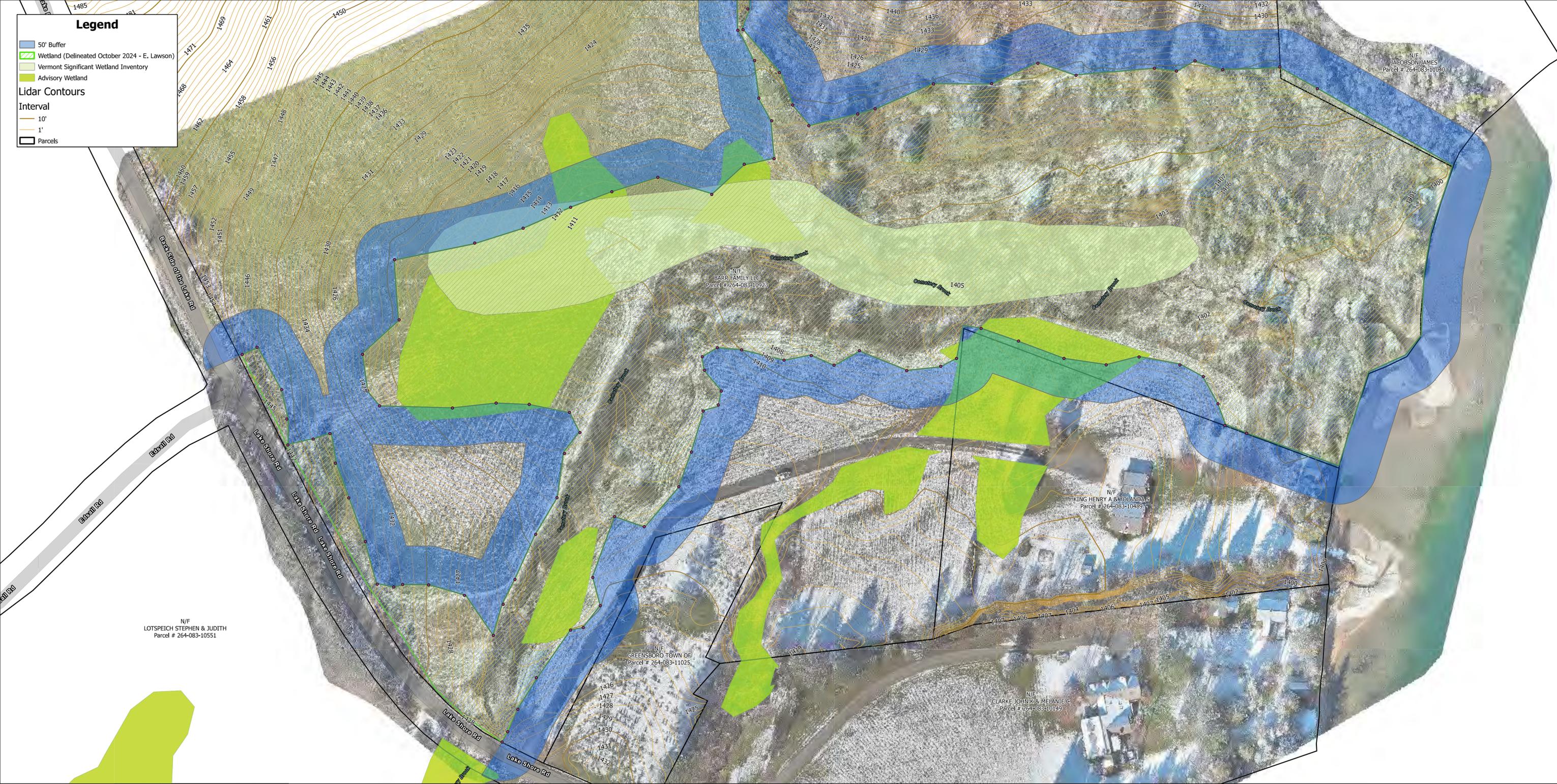
- 50' Buffer
- Wetland (Delineated October 2024 - E. Lawson)
- Vermont Significant Wetland Inventory
- Advisory Wetland

Lidar Contours

Interval

- 10'
- 1'

Parcels



Barr Family LLC

Stream & Wetland Restoration - Existing Conditions

Existing Conditions Notes:

1. THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT READILY APPARENT PERTINENT EXISTING CONDITIONS AS OF 7/28/2025 11:12 AM.
2. WETLAND DELINEATION CREATED BY ELISE LAWSON, WETLAND TO WILDLIFE, OCTOBER 2024. WETLAND DELINEATION FROM THE VT SIGNIFICANT WETLAND INVENTORY AND WETLANDS ADVISORY LAYER ARE PRESENTED AS-IS FROM PUBLICLY AVAILABLE INFORMATION FROM VT CENTER FOR GEOGRAPHIC INFORMATION.
3. PARCEL DELINEATIONS ARE PRESENTED AS-IS FROM PUBLICLY AVAILABLE DATA (VT CENTER FOR GEOGRAPHIC INFORMATION) AND DO NOT CONSTITUTE A SURVEY.
4. DRONE AERIAL ORTHOIMAGERY CAPTURED ON 10-28-2024 BY FLUIDSTATE CONSULTING.

UPDATED: 7/28/2025 11:12 AM

N

0 125 250 Feet

1 INCH EQUALS 60 FEET
 SPATIAL REFERENCE
 Name: NAD 1983 2011 StatePlane Vermont FIPS 4400 Ft US

48 Stowe Street
 Waterbury, VT 05676
 PH: (802) 999-9762
 fluidstateconsulting.com

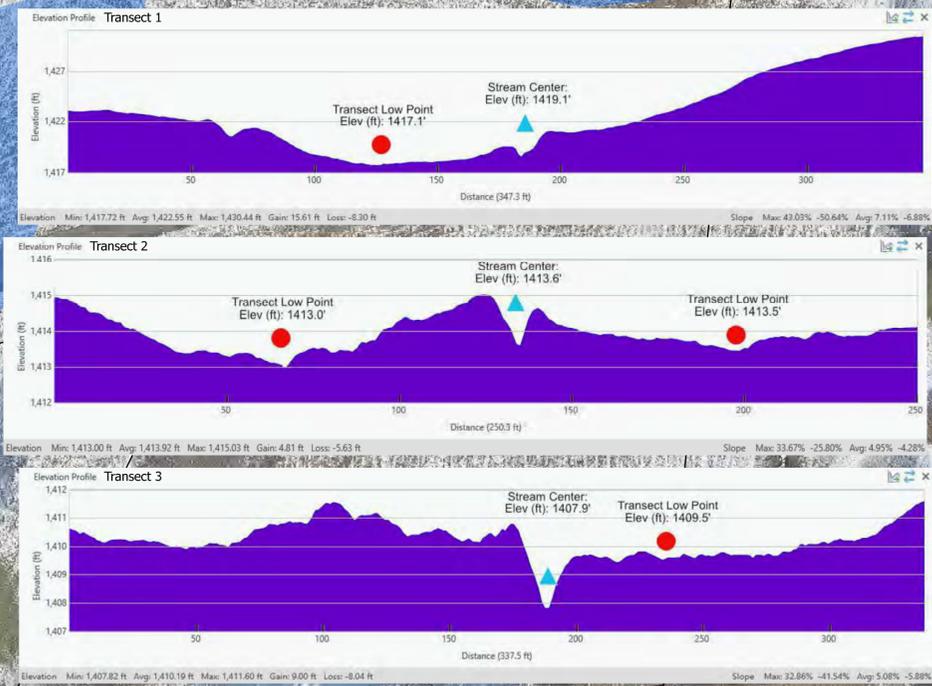
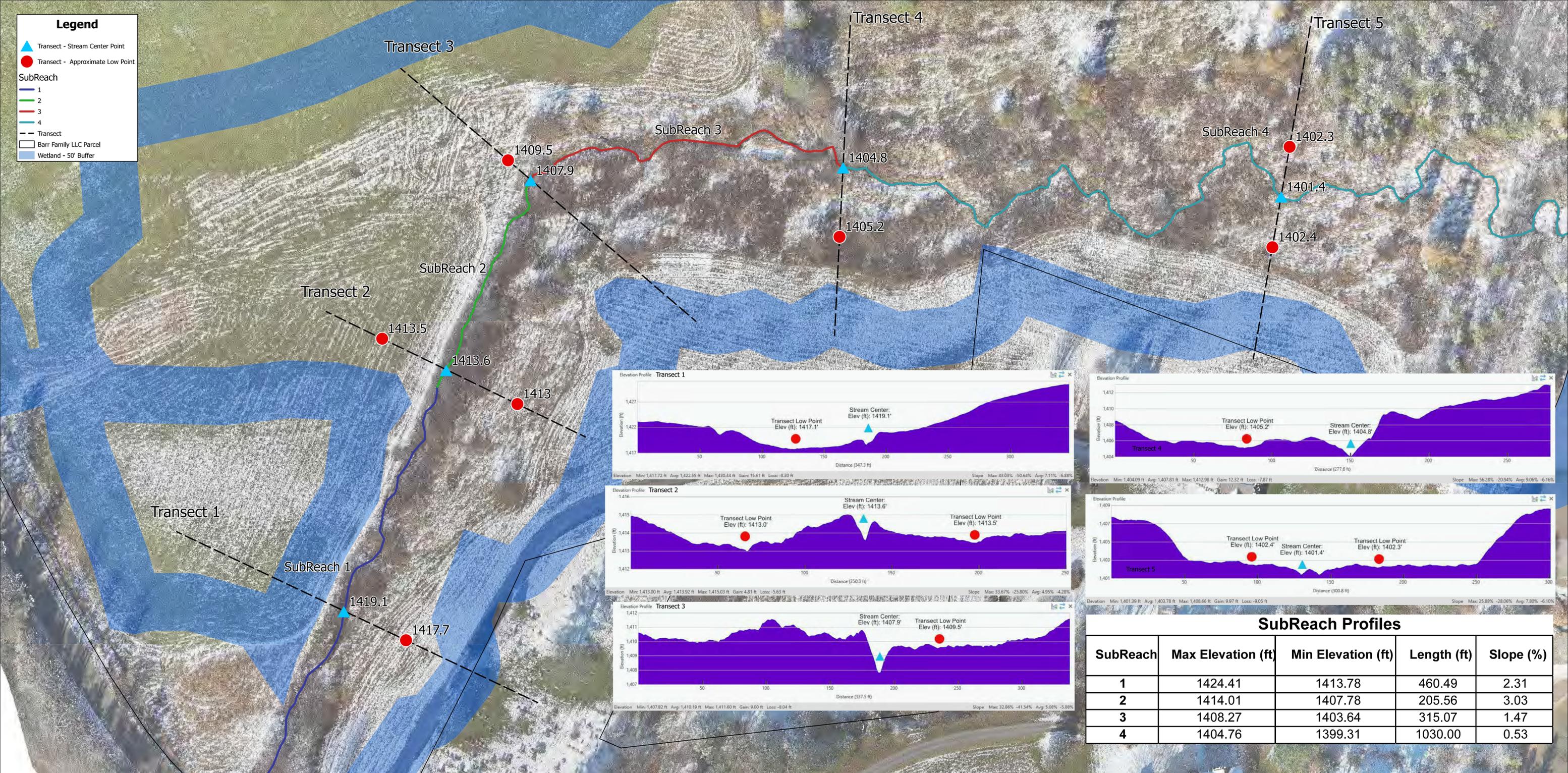
Legend

- ▲ Transect - Stream Center Point
- Transect - Approximate Low Point

SubReach

- 1 (Blue line)
- 2 (Green line)
- 3 (Red line)
- 4 (Cyan line)

- - - Transect
- ▭ Barr Family LLC Parcel
- ▭ Wetland - 50' Buffer



SubReach Profiles

SubReach	Max Elevation (ft)	Min Elevation (ft)	Length (ft)	Slope (%)
1	1424.41	1413.78	460.49	2.31
2	1414.01	1407.78	205.56	3.03
3	1408.27	1403.64	315.07	1.47
4	1404.76	1399.31	1030.00	0.53

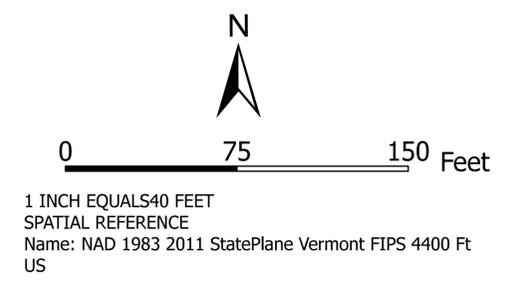


Barr Family LLC Stream & Wetland Restoration - Transect Analysis

TRANSECT ANALYSIS NOTES:

1. TRANSECT ANALYSIS ILLUSTRATES REPRESENTATIVE TRANSECTS OF THE STREAM CENTERLINE BASED ON LIDAR ELEVATION DATA AS OF 7/28/2025 11:16 AM.
2. THE PURPOSE OF THIS ANALYSIS IS TO INFORM PROCESS BASED RESTORATION FOR SUB-REACHES OF THE STREAM - IN PARTICULAR TO DETERMINE WHICH WAY CHANNEL BRAIDING / MEANDERING MAY OCCUR AS IMPLEMENTATION PROCEEDS.
3. WETLAND DELINEATION CREATED BY ELISE LAWSON, WETLAND TO WILDLIFE, OCTOBER 2024.

UPDATED: 7/28/2025 11:16 AM





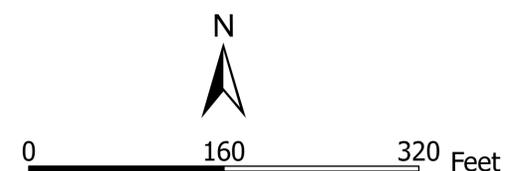
- Legend**
- ✚ Inspection Datums
 - Sentinel Posts
 - ▭ Parcels
 - ▭ PAL - Zone Of Influence
- SubReaches - PALs**
- Structure Type**
- ▲ Attached
 - ◆ Middle
 - Spanning
- SubReaches**
- Number**
- 1
 - 2
 - 3
 - 4
- Planting Zones - 100%**
- Zone**
- Emergent
 - Meadow
 - Shrub
 - Passive - Forest
 - Passive - Meadow
- Parcels**
- Lidar Contours - 1'**
- Type**
- 10' Contour
 - 1' Contour



Barr Family LLC Stream & Wetland Restoration - 100% Concept - Overall Plan

100% DESIGN NOTES:
1. 100% DESIGN AS OF 9/27/2025 7:48 AM.

UPDATED: 9/27/2025 7:48 AM



1 INCH EQUALS 75 FEET
SPATIAL REFERENCE
Name: NAD 1983 2011 StatePlane Vermont FIPS 4400 Ft US

Complex Objective: Incision Reduction - Meander Formation

Structure Type & Count:

- 17 Attached PALs
- 2 Middle Channel PALs
- 9 Spanning PALs
- TOTAL: 28 PALs

Length of Sub-Reach:

~460 linear feet @ ~2.3% overall slope

Narrative:

This complex is designed to capture mobile bed material and sediment to reduce incision and restore floodplain and wetland connectivity, in particular on the East side of the stream channel. A combination of channel Spanning, Middle Channel, and Attached PALs are proposed to accomplish this. Attached PALs are designed to be anchored on the West side of the stream channel in order to cause channel meander to the East given the topography (see Transect 1 & 2 low points). These interventions are also intended to restore wetland hydrologic regime.

PALs are not proposed near the road culvert outlet in an effort to ensure that hydraulic backpressure conditions (i.e. ponding) do not occur at that structure in higher flows.

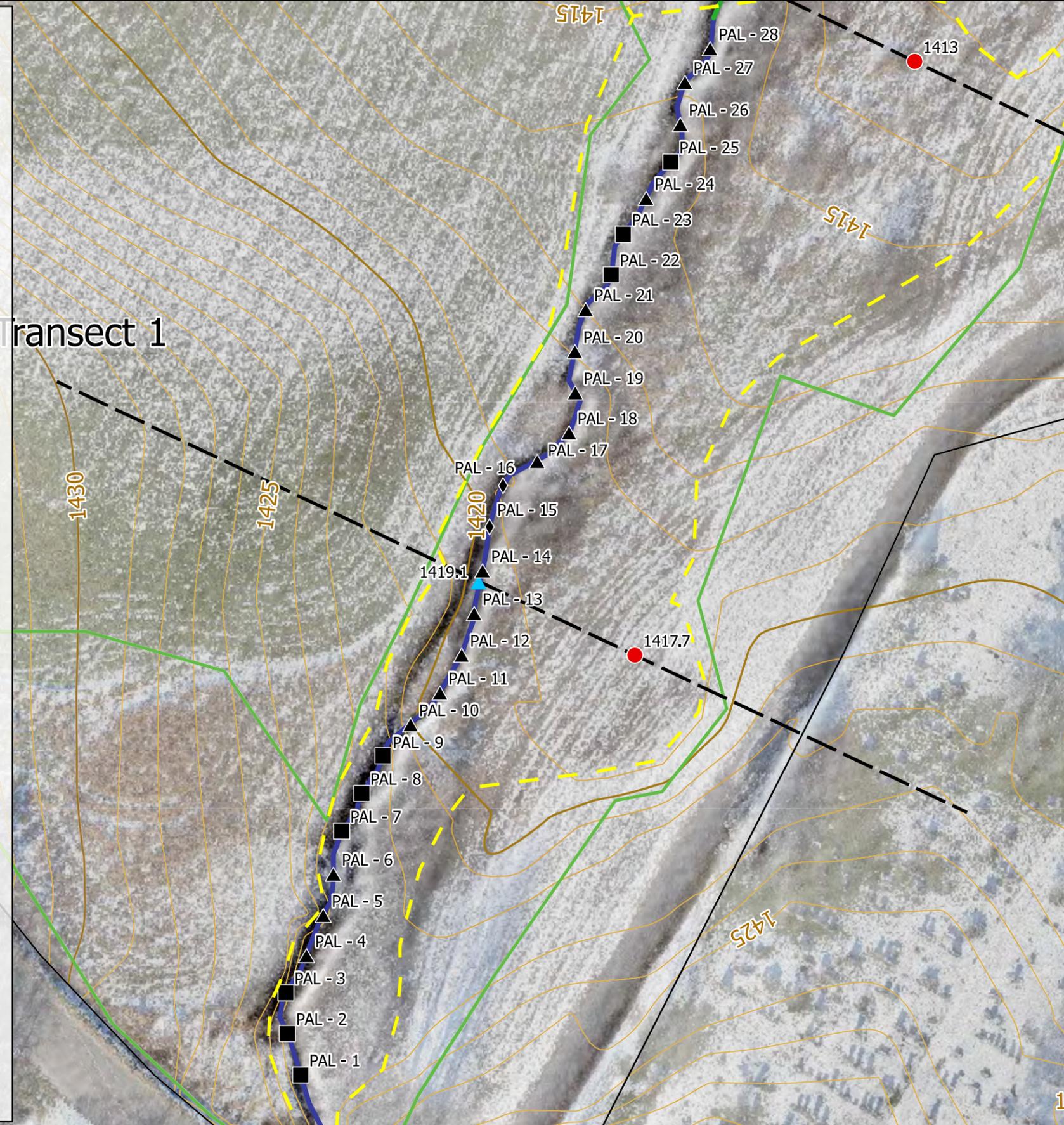
Current Condition:

Moderate channel incision, minor berming on the East side, low channel complexity in-stream (low woody debris count), low channel-floodplain-wetland connectivity, sparse riparian vegetation.

Anticipated Condition:

Channel aggradation and in-channel sediment sequestration, shallow ponding, channel meander creation (possibly multiple threaded channel plan-form conditions), wetland hydrologic regime restoration through ponding and decrease in depth to water table, floodplain reconnection through bank/berm piercing.

Transect 1



Complex 1				
PALs	Structure	Structure Type	Width (ft)	Height (ft)
PAL-1	Spanning	Spanning	5	2
PAL-2	Spanning	Spanning	5	1.5
PAL-3	Spanning	Spanning	10	2
PAL-4	Attached	Attached	5	3
PAL-5	Attached	Attached	5	1.5
PAL-6	Attached	Attached	5	1.5
PAL-7	Spanning	Spanning	5	1.5
PAL-8	Spanning	Spanning	5	2
PAL-9	Spanning	Spanning	5	2
PAL-10	Attached	Attached	5	1.5
PAL-11	Attached	Attached	5	1.5
PAL-12	Attached	Attached	5	1
PAL-13	Attached	Attached	5	1
PAL-14	Attached	Attached	5	1
PAL-15	Middle	Middle	3	1
PAL-16	Middle	Middle	3	1
PAL-17	Attached	Attached	5	1
PAL-18	Attached	Attached	5	1
PAL-19	Attached	Attached	5	1
PAL-20	Attached	Attached	5	1
PAL-21	Attached	Attached	5	1
PAL-22	Spanning	Spanning	6	1.5
PAL-23	Spanning	Spanning	6	1.5
PAL-24	Attached	Attached	4	1
PAL-25	Spanning	Spanning	6	1.5
PAL-26	Attached	Attached	4	1.5
PAL-27	Attached	Attached	5	1
PAL-28	Attached	Attached	5	1.5
TOTALS (LF)			142	39.5

Legend

- PAL - Zone Of Influence
- Structure Type**
- Attached
- Middle
- Spanning
- Transect - Stream Center Point
- Transect - Approximate Low Point
- Transect
- Wetland (Delineated October 2024 - E. Lawson)

48 Stowe Street
Waterbury, VT 05676
PH: (802) 999-9762
fluidstateconsulting.com

Barr Family LLC
Stream & Wetland Restoration - Complex 1

0 20 40 Feet
1 INCH EQUALS 40 FEET
60% CONCEPT DESIGN
PAGE 4 OF 9
UPDATED: 7/28/2025 11:17 AM

Complex Objective: Incision Reduction & Wetland Restoration

Structure Type & Count:

13 Spanning PALs
TOTAL: 13 PALs

Length of Sub-Reach:

~200 linear feet @ ~3.0% overall slope

Narrative:

This complex is designed to reduce channel incision that is believed to have occurred because of increased high flows during precipitation events and may be due to some historic berming of the channel, preventing the stream from accessing the floodplain and wetland area. Spanning PALs are designed to increase channel aggradation and cause bank overtopping to more regularly flood the adjacent wetland area to restore the hydrologic regime. Channel meander isn't necessarily a goal of this complex, though it may occur. The Zone of Influence show is relatively expansive but is not anticipated to extend into any infrastructure (e.g. the residential driveway to the East).

Current Condition:

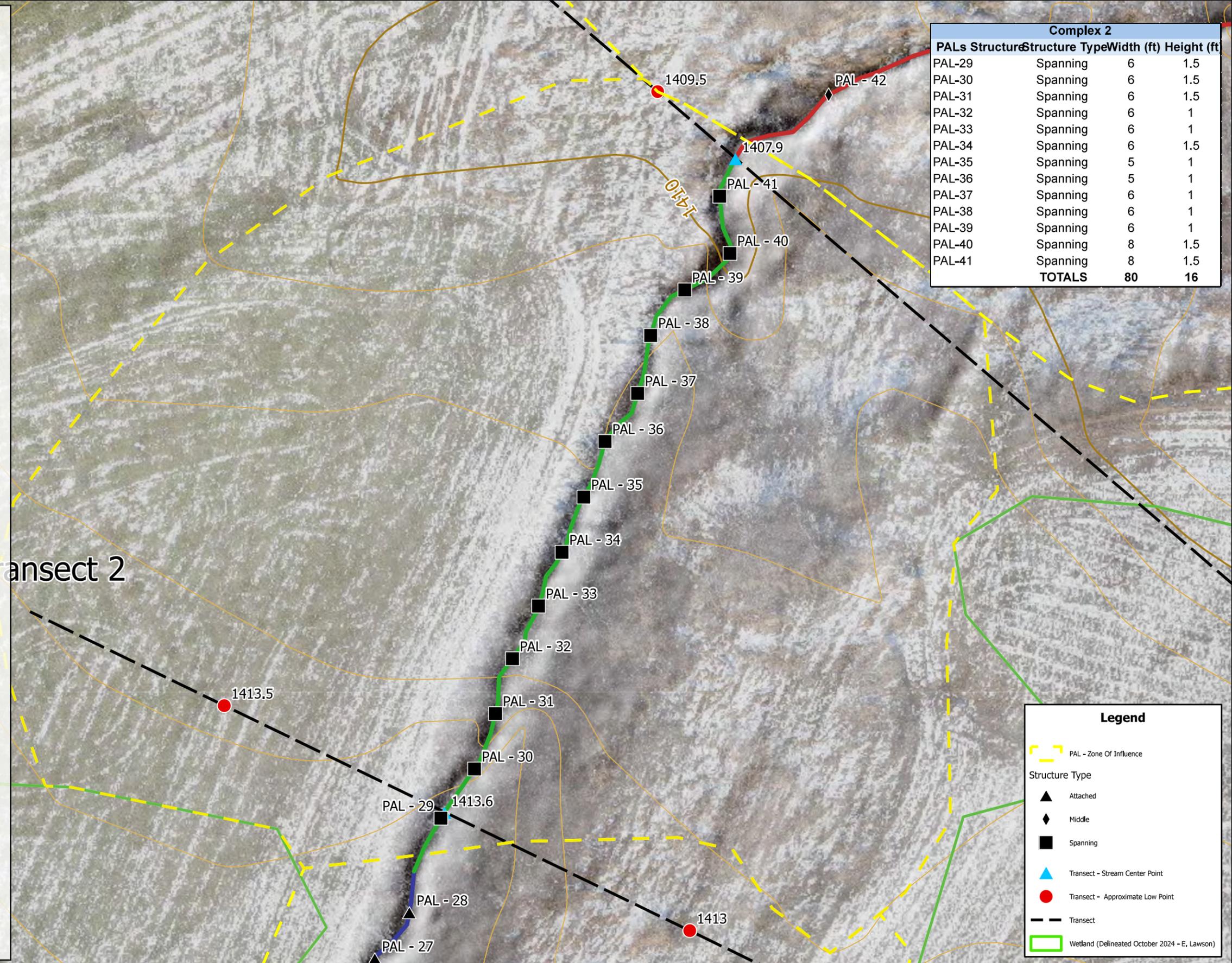
Moderate channel incision, low woody debris count, low riparian vegetation (West), moderate riparian vegetation (East), minimal floodplain connectivity, minimal adjacent wetland.

Anticipated Condition:

Channel aggradation, floodplain reconnection, wetland reconnection through ponding and decrease of depth to ground water.

Complex 2				
PALs	Structure	Structure Type	Width (ft)	Height (ft)
PAL-29	Spanning	Spanning	6	1.5
PAL-30	Spanning	Spanning	6	1.5
PAL-31	Spanning	Spanning	6	1.5
PAL-32	Spanning	Spanning	6	1
PAL-33	Spanning	Spanning	6	1
PAL-34	Spanning	Spanning	6	1.5
PAL-35	Spanning	Spanning	5	1
PAL-36	Spanning	Spanning	5	1
PAL-37	Spanning	Spanning	6	1
PAL-38	Spanning	Spanning	6	1
PAL-39	Spanning	Spanning	6	1
PAL-40	Spanning	Spanning	8	1.5
PAL-41	Spanning	Spanning	8	1.5
TOTALS			80	16

Transect 2



Legend

- Zone of Influence (Yellow dashed line)
- Structure Type:
 - Attached (Black triangle)
 - Middle (Black diamond)
 - Spanning (Black square)
- Transect - Stream Center Point (Blue triangle)
- Transect - Approximate Low Point (Red dot)
- Transect (Dashed black line)
- Wetland (Delineated October 2024 - E. Lawson) (Green outline)

48 Stowe Street
Waterbury, VT 05676
PH: (802) 999-9762
fluidstateconsulting.com

Barr Family LLC
Stream & Wetland Restoration - Complex 2

0 15 30 Feet
1 INCH EQUALS 25 FEET
60% CONCEPT DESIGN
PAGE 5 OF 9
UPDATED: 7/28/2025 11:17 AM

Complex Objective: Incision Reduction & Wetland Restoration

Structure Type & Count:

5 Middle Channel PALs

5 Spanning PALs

TOTAL: 10 PALs

Length of Sub-Reach:

~315 linear feet @ ~1.5% overall slope

Narrative:

This complex is designed to reduce channel incision that is believed to have occurred because of increased high flows during precipitation events and may be due to some historic berming of the channel, preventing the stream from accessing the floodplain and wetland area. Spanning PALs are designed to increase channel aggradation and cause bank overtopping to more regularly flood the adjacent wetland area to restore the hydrologic regime. Channel meander isn't necessarily a goal of this complex, though it may occur. The Zone of Influence show is relatively expansive but is not anticipated to extend into any infrastructure (e.g. the residential driveway to the East).

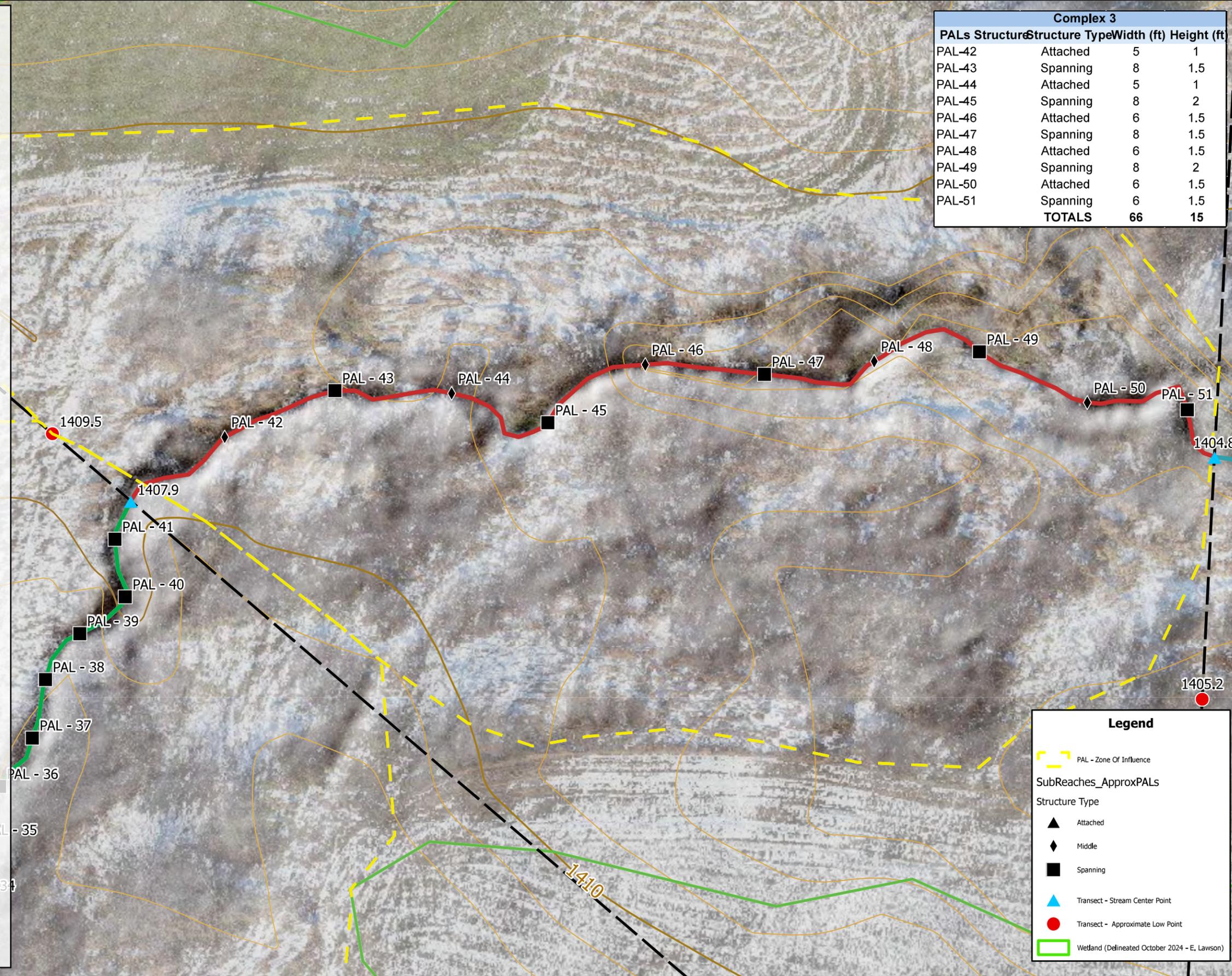
Current Condition:

Moderate channel incision, low woody debris count, low riparian vegetation (West), moderate riparian vegetation (East), minimal floodplain connectivity, minimal adjacent wetland.

Anticipated Condition:

Channel aggradation, floodplain reconnection, wetland reconnection through ponding and decrease of depth to ground water.

Complex 3			
PALs	Structure	Structure Type	Width (ft) Height (ft)
PAL-42	Attached	5	1
PAL-43	Spanning	8	1.5
PAL-44	Attached	5	1
PAL-45	Spanning	8	2
PAL-46	Attached	6	1.5
PAL-47	Spanning	8	1.5
PAL-48	Attached	6	1.5
PAL-49	Spanning	8	2
PAL-50	Attached	6	1.5
PAL-51	Spanning	6	1.5
TOTALS		66	15



Legend

- Zone Of Influence (Yellow dashed line)
- SubReaches_ApproxPALs
- Structure Type
 - Attached (Black triangle)
 - Middle (Black diamond)
 - Spanning (Black square)
- Transect - Stream Center Point (Blue triangle)
- Transect - Approximate Low Point (Red circle)
- Wetland (Delineated October 2024 - E, Lawson) (Green outline)

48 Stowe Street
Waterbury, VT 05676
PH: (802) 999-9762
fluidstateconsulting.com

Barr Family LLC

Stream & Wetland Restoration - Complex 3

0 15 30 Feet

1 INCH EQUALS 25 FEET

60% CONCEPT DESIGN
PAGE 6 OF 9
UPDATED: 7/28/2025 11:17 AM

Complex Objective: Riparian Restoration (Passive)

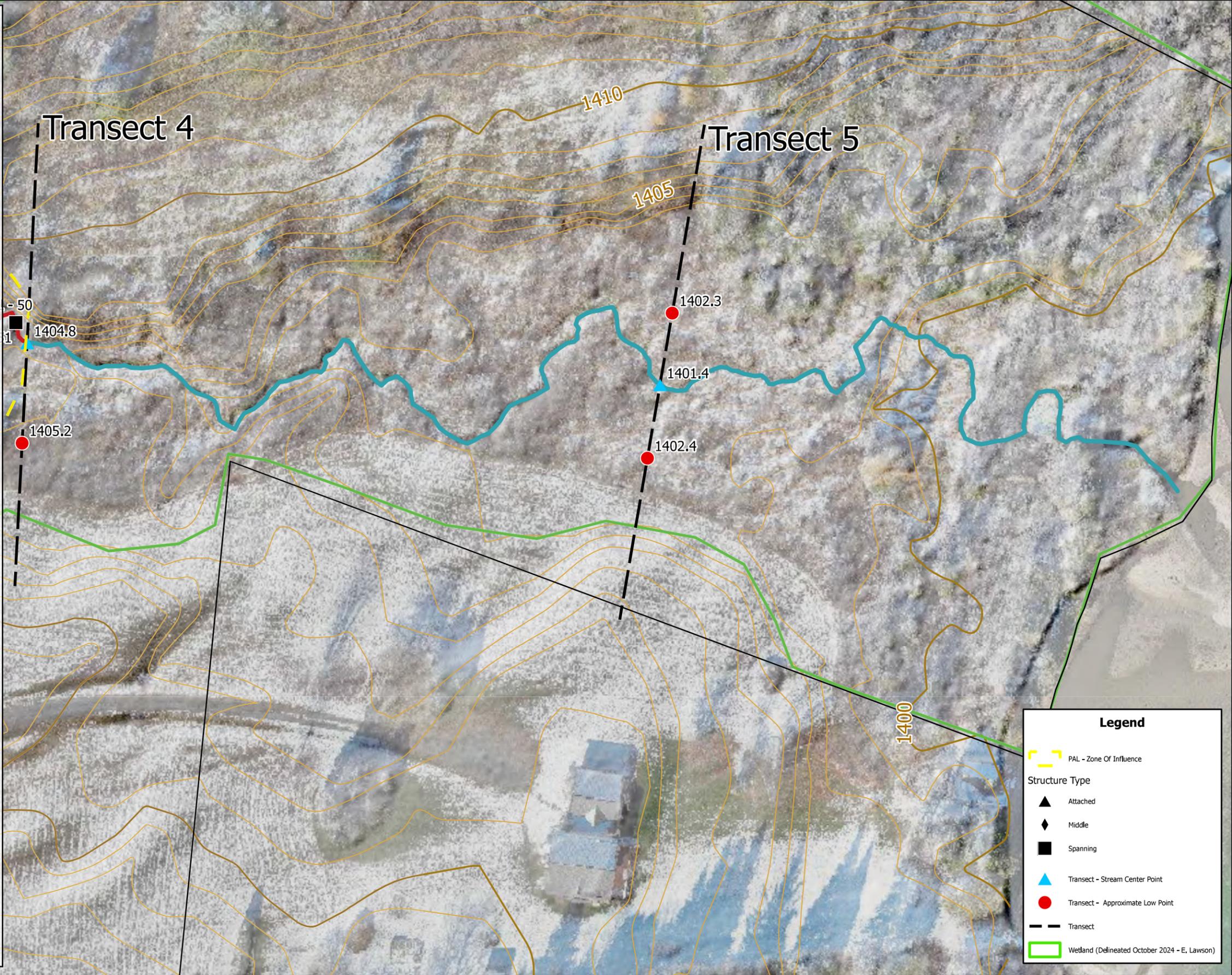
Structure Type & Count:
N/A

Length of Sub-Reach:
~1000 linear feet @ ~0.5% overall slope

Narrative:
This complex is, overall, in generally good geomorphic condition, though the channel is fairly narrow (1-3') and deep in spots (2-3'). However, it is low slope and meandering. No in-stream interventions are proposed for this SubReach. The overall goal is wetland and riparian restoration through passive means.

Current Condition:
Stable condition, meandering channel, possibly moderately incised.

Anticipated Condition:
Meanders will be preserved, riparian vegetation to reestablish and increase, channel incision may decrease as upstream SubReaches attain more aggradation, flow reduction, floodplain connectivity, and meander.



Legend

- PAL - Zone Of Influence
- Structure Type
 - Attached
 - Middle
 - Spanning
- Transect - Stream Center Point
- Transect - Approximate Low Point
- Transect
- Wetland (Delineated October 2024 - E. Lawson)

48 Stowe Street
Waterbury, VT 05676
PH: (802) 999-9762
fluidstateconsulting.com

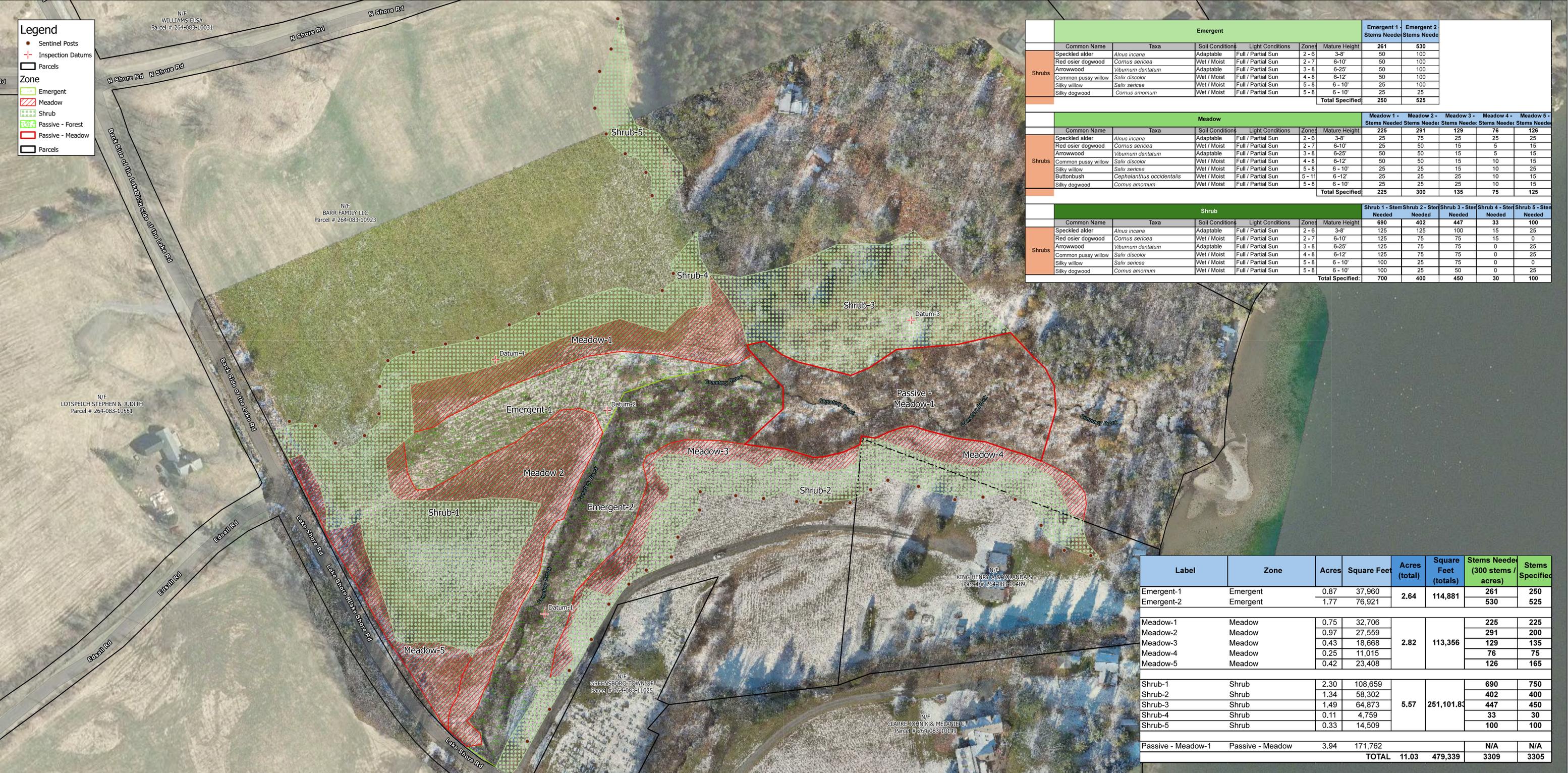
Barr Family LLC

Stream & Wetland Restoration - Complex 4

0 45 90 Feet

1 INCH EQUALS 60 FEET

60% CONCEPT DESIGN
PAGE 7 OF 9
UPDATED: 7/28/2025 11:18 AM



Legend

- Sentinel Posts
- Inspection Datums
- Parcels

Zone

- Emergent
- Meadow
- Shrub
- Passive - Forest
- Passive - Meadow
- Parcels

Emergent							Emergent 1 - Stems Needed	Emergent 2 - Stems Needed
Common Name	Taxa	Soil Conditions	Light Conditions	Zones	Mature Height			
Speckled alder	<i>Alnus incana</i>	Adaptable	Full / Partial Sun	2 - 6	3-8'	50	100	
Red osier dogwood	<i>Cornus sericea</i>	Wet / Moist	Full / Partial Sun	2 - 7	6-10'	50	100	
Arrowwood	<i>Viburnum dentatum</i>	Adaptable	Full / Partial Sun	3 - 8	6-25'	50	100	
Common pussy willow	<i>Salix discolor</i>	Wet / Moist	Full / Partial Sun	4 - 8	6-12'	50	100	
Silky willow	<i>Salix sericea</i>	Wet / Moist	Full / Partial Sun	5 - 8	6 - 10'	25	100	
Silky dogwood	<i>Cornus amomum</i>	Wet / Moist	Full / Partial Sun	5 - 8	6 - 10'	25	25	
Total Specified:						250	530	

Meadow							Meadow 1 - Stems Needed	Meadow 2 - Stems Needed	Meadow 3 - Stems Needed	Meadow 4 - Stems Needed	Meadow 5 - Stems Needed
Common Name	Taxa	Soil Conditions	Light Conditions	Zones	Mature Height						
Speckled alder	<i>Alnus incana</i>	Adaptable	Full / Partial Sun	2 - 6	3-8'	25	75	25	25	25	
Red osier dogwood	<i>Cornus sericea</i>	Wet / Moist	Full / Partial Sun	2 - 7	6-10'	25	50	15	5	15	
Arrowwood	<i>Viburnum dentatum</i>	Adaptable	Full / Partial Sun	3 - 8	6-25'	50	50	15	5	15	
Common pussy willow	<i>Salix discolor</i>	Wet / Moist	Full / Partial Sun	4 - 8	6-12'	50	15	10	10	15	
Silky willow	<i>Salix sericea</i>	Wet / Moist	Full / Partial Sun	5 - 8	6 - 10'	25	25	15	10	25	
Buttonbush	<i>Cephalanthus occidentalis</i>	Wet / Moist	Full / Partial Sun	5 - 11	6-12'	25	25	25	10	15	
Silky dogwood	<i>Cornus amomum</i>	Wet / Moist	Full / Partial Sun	5 - 8	6 - 10'	25	25	25	10	15	
Total Specified:						225	300	135	76	126	

Shrub							Shrub 1 - Stems Needed	Shrub 2 - Stems Needed	Shrub 3 - Stems Needed	Shrub 4 - Stems Needed	Shrub 5 - Stems Needed
Common Name	Taxa	Soil Conditions	Light Conditions	Zones	Mature Height						
Speckled alder	<i>Alnus incana</i>	Adaptable	Full / Partial Sun	2 - 6	3-8'	125	125	100	15	25	
Red osier dogwood	<i>Cornus sericea</i>	Wet / Moist	Full / Partial Sun	2 - 7	6-10'	125	75	75	15	0	
Arrowwood	<i>Viburnum dentatum</i>	Adaptable	Full / Partial Sun	3 - 8	6-25'	125	75	75	0	25	
Common pussy willow	<i>Salix discolor</i>	Wet / Moist	Full / Partial Sun	4 - 8	6-12'	125	75	75	0	25	
Silky willow	<i>Salix sericea</i>	Wet / Moist	Full / Partial Sun	5 - 8	6 - 10'	100	25	75	0	0	
Silky dogwood	<i>Cornus amomum</i>	Wet / Moist	Full / Partial Sun	5 - 8	6 - 10'	100	25	50	0	25	
Total Specified:						700	400	450	30	100	

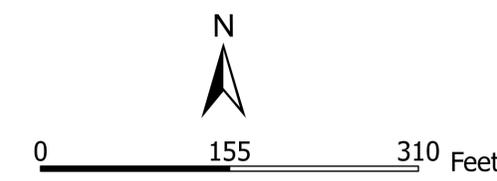
Label	Zone	Acres	Square Feet	Acres (total)	Square Feet (totals)	Stems Needed (300 stems / acres)	Stems Specified
Emergent-1	Emergent	0.87	37,960	2.64	114,881	261	250
Emergent-2	Emergent	1.77	76,921			530	525
Meadow-1	Meadow	0.75	32,706	2.82	113,356	225	225
Meadow-2	Meadow	0.97	27,559			291	200
Meadow-3	Meadow	0.43	18,668			129	135
Meadow-4	Meadow	0.25	11,015			76	75
Meadow-5	Meadow	0.42	23,408			126	165
Shrub-1	Shrub	2.30	108,659	5.57	251,101.8	690	750
Shrub-2	Shrub	1.34	58,302			402	400
Shrub-3	Shrub	1.49	64,873			447	450
Shrub-4	Shrub	0.11	4,759			33	30
Shrub-5	Shrub	0.33	14,509			100	100
Passive - Meadow-1	Passive - Meadow	3.94	171,762			N/A	N/A
TOTAL		11.03	479,339			3309	3305



Barr Family LLC Stream & Wetland Restoration - 100% Design - Planting Plan

- 100% DESIGN NOTES:**
- 100% DESIGN AS OF 9/27/2025 7:49 AM.
 - THE PREDOMINANT NATURAL COMMUNITY IN THIS LOCATION HAS BEEN DETERMINED AS ALDER SWAMP WITH SOME ASPECTS OF NORTHERN WHITE CEDAR SWAMP.
 - PLANTING DENSITY IS BASED ON THE VERMONT CLEAN WATER INITIATIVE PROGRAM RECOMMENDATION OF 300 STEMS PER ACRE FOR TREES AND SHRUBS.
 - 'PASSIVE' RESTORATION AREAS BASED ON THE PRINCIPLE OF PASSIVE RESTORATION AS OUTLINED IN THE VERMONT WETLAND RESTORATION MANUAL. NO ACTIVE RE-PLANTING IS ENVISIONED IN THESE AREAS. NO-MOW PRACTICES ARE TO BE ADOPTED AS WELL AS SELECTED MANUAL RELEASE OF NATIVE TREES AND SHRUBS FROM PERENNIAL GRASSES TO FACILITATE GROWTH. PASSIVE MEADOW-1 IS TO BE REVEGETATED FOLLOWING THESE PRINCIPLES.
 - TREES HAVE INTENTIONALLY BEEN REMOVED FROM PLANTING PLANS AS PER LANDOWNER WISHES REGARDING MAINTENANCE OF CERTAIN VIEWS (NOTED ON PLANS).
 - SENTINEL POSTS WILL BE ROT RESISTANT ROUGH CEDAR POSTS APPROXIMATELY 4" IN DIAMETER DRIVEN INTO THE GROUND USING HAND TOOLS EVERY 40-50' ALONG PERIMETER OF 'SHRUB' AREA.

UPDATED: 9/27/2025 7:49 AM



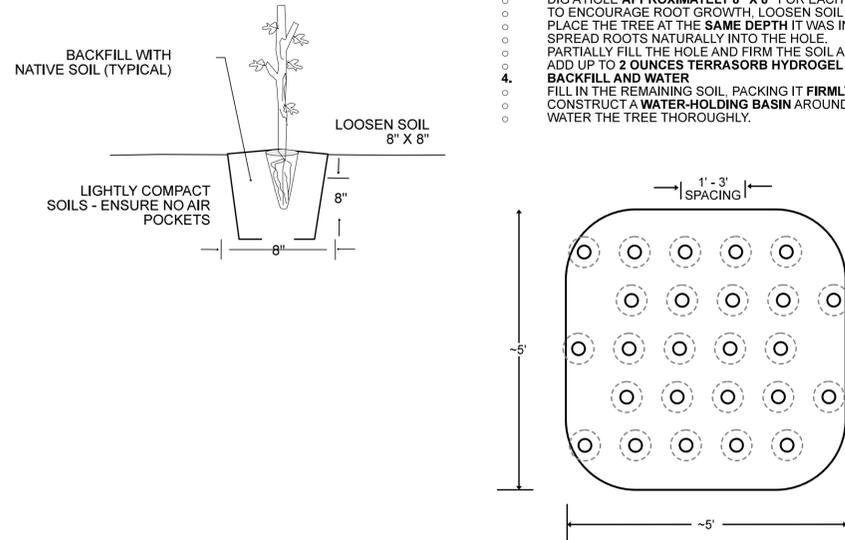
1 INCH EQUALS 75 FEET
SPATIAL REFERENCE
Name: NAD 1983 2011 StatePlane Vermont FIPS 4400 Ft US

48 Stowe Street
Waterbury, VT 05676
PH: (802) 999-9762
fluidstateconsulting.com

DETAIL - BARE ROOT PLANTING - SECTION

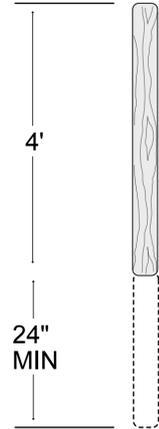
PLANT BARE-ROOT TREES

- UNPACK AND PREPARE**
 - UNPACK YOUR TREES AND REMOVE ALL PACKING MATERIALS.
 - CAREFULLY UNTANGLE THE ROOTS.
 - SOAK THE ROOTS IN WATER FOR 3 TO 6 HOURS.
 - DO NOT ALLOW THE ROOTS TO DRY OUT.
- DIG THE HOLE**
 - DIG A HOLE APPROXIMATELY 8" X 8" FOR EACH BARE-ROOT TREE TO ENCOURAGE ROOT GROWTH. LOOSEN SOIL AROUND THE ROOTS.
 - PLACE THE TREE AT THE SAME DEPTH IT WAS IN THE NURSERY.
 - SPREAD ROOTS NATURALLY INTO THE HOLE.
 - PARTIALLY FILL THE HOLE AND FIRM THE SOIL AROUND THE LOWER ROOTS.
 - ADD UP TO 2 OUNCES TERRASORB HYDROGEL PER TREE.
- BACKFILL AND WATER**
 - FILL IN THE REMAINING SOIL, PACKING IT FIRMLY BUT NOT TIGHTLY.
 - CONSTRUCT A WATER-HOLDING BASIN AROUND THE TREE.
 - WATER THE TREE THOROUGHLY.

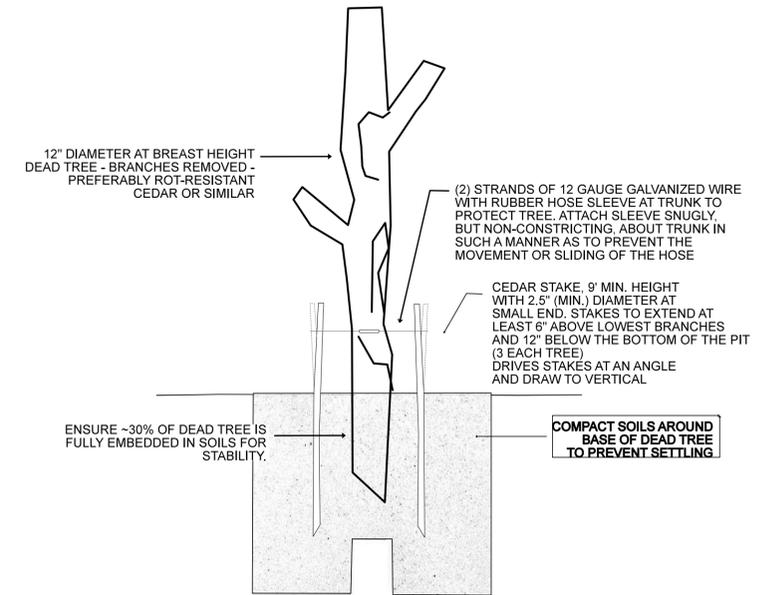


DETAIL - CEDAR SENTINEL POSTS

CEDAR POSTS (TYPICAL)

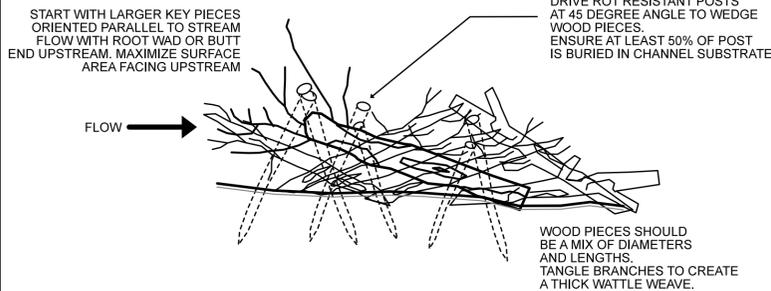


DETAIL - DATUM TREE - SECTION

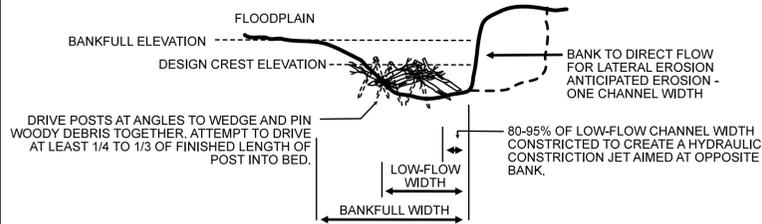


DETAIL - PAL - BANK-ATTACHED

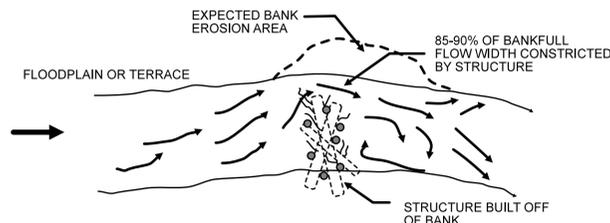
PROFILE VIEW



CROSS-SECTION VIEW

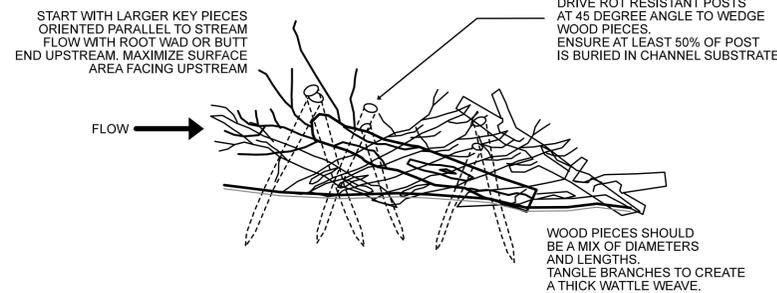


PLANFORM VIEW

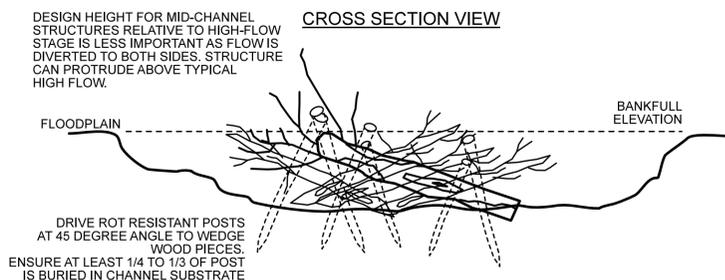


DETAIL - PAL - MID-CHANNEL

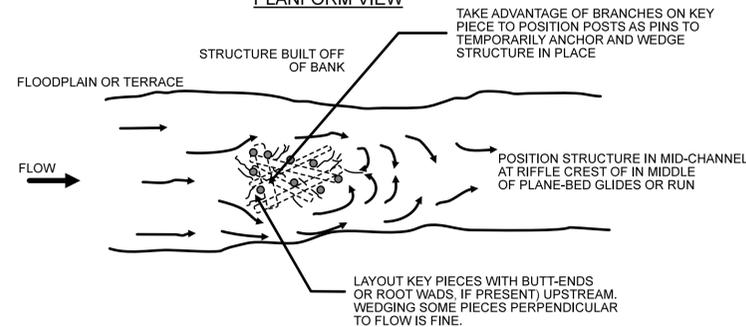
PROFILE VIEW



CROSS SECTION VIEW

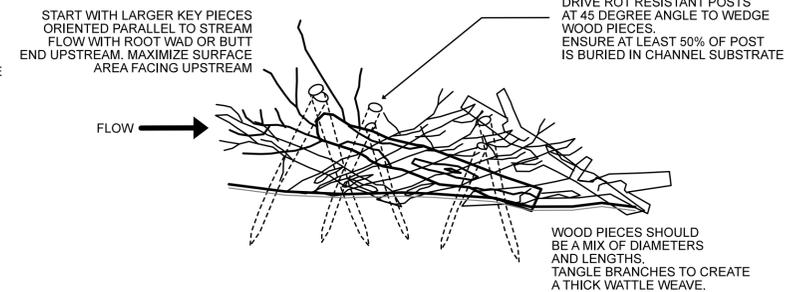


PLANFORM VIEW

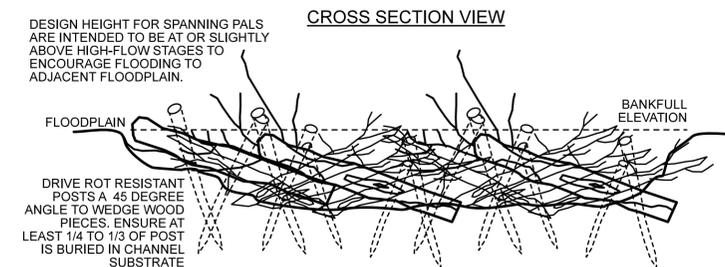


DETAIL - PAL - SPANNING

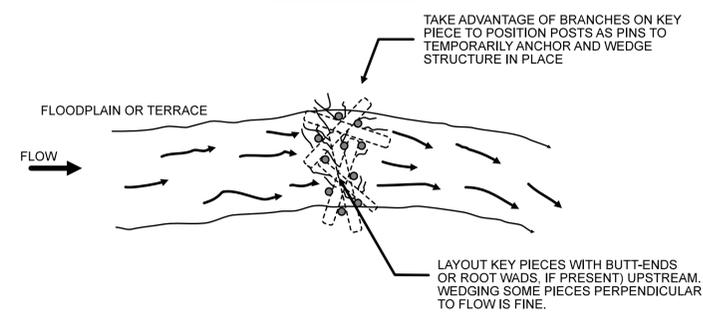
PROFILE VIEW



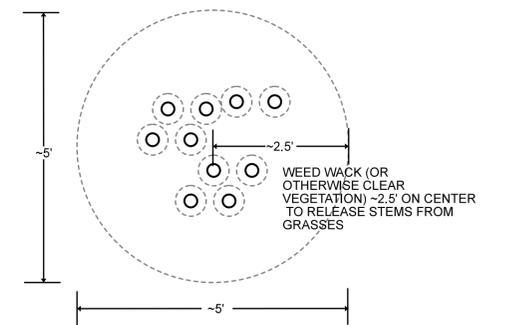
CROSS SECTION VIEW



PLANFORM VIEW



DETAIL - EXISTING SHRUB RELEASE



Legend

Photo Points
 Type
 Primary
 Secondary
 Inspection Datums

Expected_Impact
 Bank Scour - Meander River Right
 Overbank Flood
 Overbank Flood - Meander River Both Sides
 Overbank Flood - Meander River Right
 Drone Orthimagery Flight
 <all other values>

SubReaches - PALS
 Structure Type
 Attached
 Middle
 Spanning
 PAL - Zone Of Influence

Lidar Contours - 1'
 Type
 10' Contour
 1' Contour
 Parcels
 Sentinel Posts



Barr Family LLC

Stream & Wetland Restoration - 100% Design - Operation & Maintenance Inspection Points and Areas

OPERATION AND MAINTENANCE DESIGN NOTES:

- O & M DESIGN AS OF 9/29/2025 9:19 AM.
- REFER TO THE BARR FAMILY LLC - OPERATION AND MAINTENANCE MANUAL FOR SPECIFIC INSTRUCTIONS AS TO INSPECTION AND O&M MEASURES TO PERFORM FOR EACH PROJECT AREA AND TYPE.
- PHOTO POINTS INDICATE WHERE PHOTOS SHOULD BE OBTAINED DURING INSPECTIONS. TAKE PHOTOS OF SPECIFIC AREAS ATTEMPTING TO FACE THE SAME DIRECTION AND USING THE SAME FRAMING AS PAST INSPECTION VISITS.
- DATUM POINTS ARE VISUAL NON-LIVING MARKERS INTENDED TO ALLOW FOR DOCUMENTATION OF RESTORATION PROGRESS (INCLUDING VEGETATION ESTABLISHMENT AND GROWTH AND CHANNEL MEANDER). INCLUDING THESE IN PHOTOS IS IMPORTANT.
- THE INSPECTION AREAS EXPECTED IMPACT DELINEATIONS ARE APPROXIMATE, AS ARE THE EXPECTED IMPACTS. THESE MAY CHANGE OVER TIME BUT INDICATE THE DESIRED OUTCOME FOR EACH COMPLEX OF STREAM RESTORATION PRACTICES BASED ON PRACTICE TYPE AND SURROUNDING EXISTING TOPOGRAPHY.

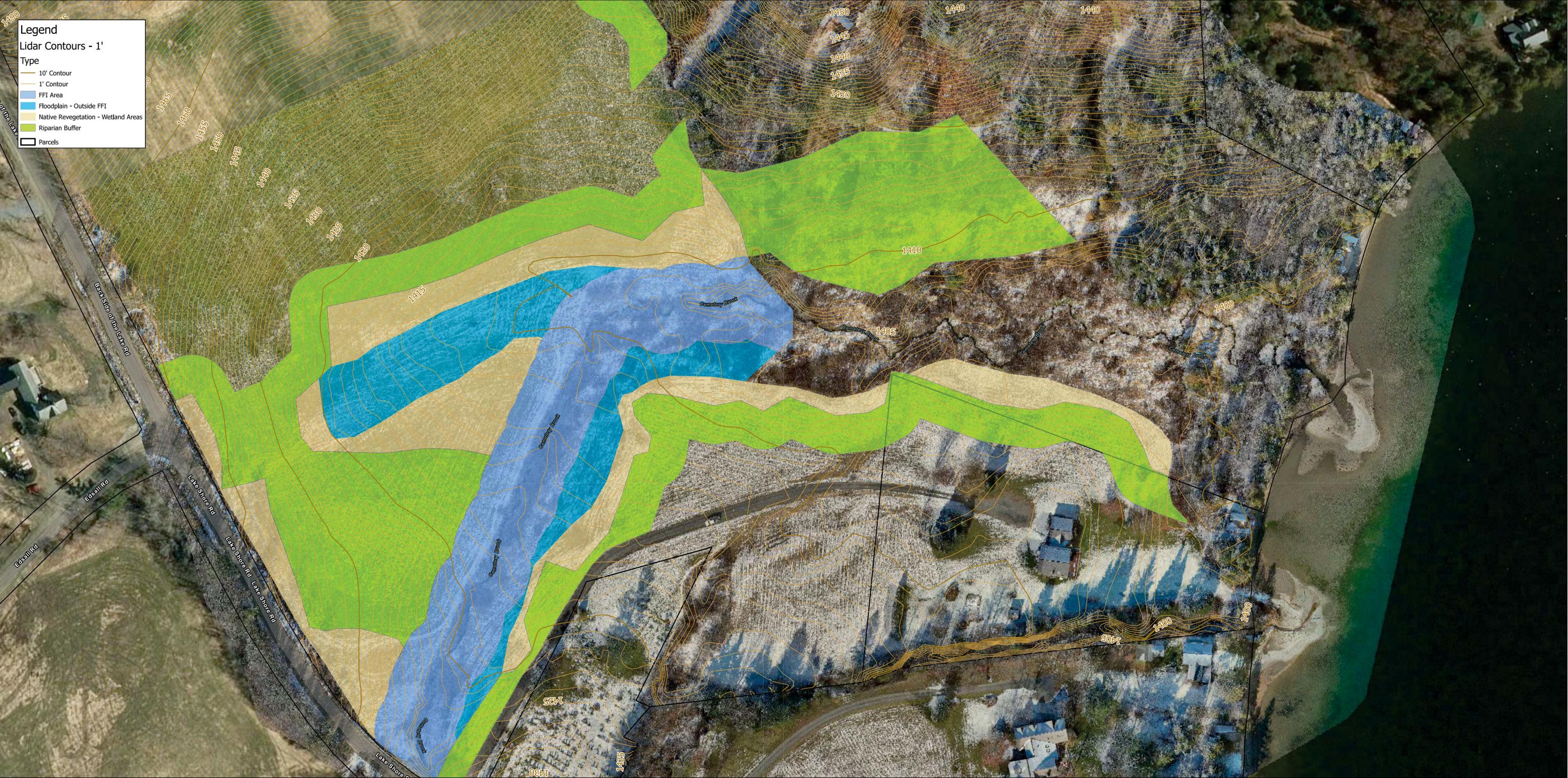
UPDATED: 9/29/2025 9:19 AM

N

0 155 310 Feet

1 INCH EQUALS 75 FEET
 SPATIAL REFERENCE
 Name: NAD 1983 2011 StatePlane Vermont FIPS 4400 Ft US

100% CONCEPT DESIGN - OVERALL PLAN
 Operation & Maintenance Supplement



Legend

Lidar Contours - 1'

Type

- 10' Contour
- 1' Contour
- FFI Area
- Floodplain - Outside FFI
- Native Revegetation - Wetland Areas
- Riparian Buffer
- Parcels

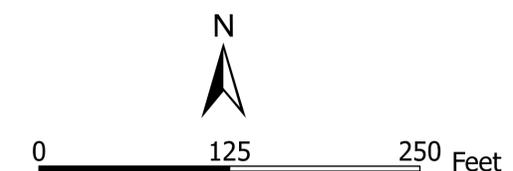


Barr Family LLC

Stream & Wetland Restoration - 100% Design - Phosphorus Reduction Areas

- 100% DESIGN NOTES:**
1. 100% DESIGN AS OF 7/28/2025 11:27 AM.
 2. PHOSPHORUS REDUCTION AREAS WERE DELINEATED USING THE VERMONT FUNCTIONING FLOODPLAIN INITIATIVE (FFI) TOOL ASSUMING A 50' BUFFER OF THE STREAM CENTERLINE AS ADVISED BY THE FFI. THE FFI AREA WAS CLIPPED TO THE PROPERTY. AREAS OUTSIDE THE FFI CORRIDOR BUT WHICH ARE EXPECTED TO FUNCTION AS FLOODPLAIN FOLLOWING RESTORATION WERE INCLUDED IN THE FFI STORAGE CALCULATIONS AS PER GUIDANCE BY VT DEC.
 3. AREAS MAPPED AS WETLAND BY IN-FIELD DELINEATION WERE CLASSIFIED AS NATIVE REVEGETATION FOR PHOSPHORUS REDUCTION AS PER GUIDANCE BY VT DEC.
 4. RIPARIAN BUFFER AREAS WERE CREATED BY BUFFERING WETLAND AND FLOODPLAIN RESTORATION AREAS TO 50' (CLIPPED IN SOME INSTANCES TO REFLECT CONSTRAINTS SUCH AS PROPERTY LINES OR EXISTING INFRASTRUCTURE). PHOSPHORUS REDUCTIONS WERE CALCULATED USING THE INTERIM PHOSPHORUS CALCULATOR V1.1.
 5. MODEL ASSUMPTIONS ARE CONTAINED IN INDIVIDUAL SPREADSHEETS SUBMITTED AS PART OF THE 100% DESIGN PACKAGE.

UPDATED: 7/28/2025 11:27 AM



1 INCH EQUALS 60 FEET
 SPATIAL REFERENCE
 Name: NAD 1983 2011 StatePlane Vermont FIPS 4400 Ft
 US

100% CONCEPT DESIGN - OVERALL PLAN
 Phosphorus Reduction Supplement

48 Stowe Street
 Waterbury, VT 05676
 PH: (802) 999-9762
 fluidstateconsulting.com

Installing and Maintaining your Clean Water Project

Dear Barr Family LLC,

Thank you for partnering with us to host a voluntary clean water project on your property. This project is intended to protect the quality of Vermont's rivers, lakes, streams, and wetlands. Your participation is a valuable contribution to Vermont's water quality goals. This cover letter provides an overview of the attached Site Access License and Operation and Maintenance Plan and highlights some key aspects of how we will work together to help the project succeed. **Please read the attached Agreement carefully for the complete agreement terms.**

What is this agreement saying?

Introduction and Project Description

Page one into page two describes the agreement start date, the parties to the agreement and their contact information as well as project details including location and expected "design life" (the number of years we expect that the project will protect water quality).

The Project Description provides the type of project and the expected maintenance activities, and frequency of those activities needed in order to keep the project in good condition.

Terms of Agreement

After the project description topics, the document lists the terms of the Agreement—what the parties agree to, how long you're agreeing to it, and other expectations for both parties.

The Agreement allows staff from the Northwoods Stewardship Center, the Orleans County Natural Resources Conservation District, FluidState Consulting, the Northwest Regional Planning Commission, and the Vermont Department of Environmental Conservation to access the project on your property for planned visits with necessary equipment for the following purposes: 1) to install the project, 2) to regularly inspect the project to ensure proper function, and 3) to conduct routine maintenance activities that may include monitoring plantings for mortality and health, supplemental plantings, keeping plantings free of competitive species, to keep the project working properly. We may also request to visit your property if damage is suspected (such as after a large storm) to inspect and possibly perform repairs. If you have concerns about damage to a project or if there is something you feel is not working properly, please contact us to request a site visit. All visits will be scheduled by the Orleans County Natural Resources Conservation District [*landowner liaison*] via phone or email with at least 48 hours' notice. Refer to the Operation and Maintenance Plan in the Agreement for more details.

Agreement Duration

The Site Access **License** Agreement will initially last for 10 years. This is the “design life” of the project, or the number of years we expect that the project will protect water quality, if properly maintained. At the end of the initial term, the license will automatically renew for consecutive 10-year terms. You or the Clean Water Service Provider (CWSP) can choose to cancel this agreement at any time following certain notice requirements. If you have concerns, the agreement requires you to inform the CWSP of these concerns at least 60 days before sending a termination notice. You can send the notice of concerns through your landowner liaison if preferred. The CWSP will work to address concerns where feasible. If you still wish to cancel, you can do so by sending written notice by Certified or Registered US Mail. This Site Access License Agreement will end within 180 days after the termination notice is sent.

If you decide to transfer the property, please communicate this landowner change to the Northwest Regional Planning Commission [CWSP] at least 30 days before the transfer and inform the new landowner about the clean water project and the terms of this site access agreement. In the event that the Department of Environmental Conservation re-assigns the CWSP role to a different entity, you will be notified.

A note about maintenance activities

We share a common goal of taking care of the land to ensure the project’s success. As part of this agreement, please:

- **Do** inspect new plantings throughout the growing season – report die-off in excess of 20-30% of total plantings to Orleans NRCD (20-30% die-off is expected in projects like this and has been planned for in year 1 and year 2 maintenance activities). Note areas of die-off in particular if health seems to be impacted in one area versus another.
- **Do** water plantings during periods of excessive drought *if feasible* – we understand that this may constitute a large burden on water resources. It is not necessary and lack of regular irrigation has been planned for – however it can help promote plant success.
- **Do** feel free to take photos from the designated photo points. As you do, note the date and any weather/climactic conditions (such as large precipitation events, periods of drought, or high flows in the stream, i.e. flooding) that might inform the viewer.
- **Do** inspect the Post Assisted Log Structures (PALS) in the stream for damage in the spring following snow/ice melt and after any larger flows or floods. Some damage is anticipated and PALS are not permanent – they will degrade and disappear over time. If excessive damage is observed after winter ice-out or a large rain storm, please communicate with Orleans NRCD.
- **Do not** mow or otherwise trim or prune branches in any of the newly planted and restored areas. If desired, some clearing around the sentinel shrubs only is allowed to promote their growth and to clearly demarcate the boundary.

- Otherwise, let the plants colonize naturally.
- **Do** inspect for common invasive species like phragmites and Japanese knotweed. Please report large or growing populations of these species to Orleans NRCD.
 - **Do** inspect the stream channel over the course of the spring/summer/fall and observe channel changes. If the stream bed seems to be filling up with sediment or the channel jumps its banks to the adjacent areas, this is considered normal and by design. If the channel lateral movement is of concern to adjacent development, please communicate with Orleans NRCD about this.
 - **Do** inspect plantings for excessive animal browse – report this to Orleans NRCD for potential adaptive management with respect to certain animals, in particular deer. If you feel comfortable doing so, refer to the section on animal browse in this O&M manual (later in this document) which outlines tactics you can use to deter animal browse.
 - **Do** check for trash or debris in the stream and restored areas and remove as needed.
 - **Do** inspect runoff from the town ditch. This ditch has jumped its banks before and may again. If this runoff and/or erosion is negatively impacting the restoration project, please report this to Orleans NRCD. It should be noted that this project is specifically designed to buffer the stream from flows from that ditch – some flows out of that ditch are anticipated and acceptable. However, once excessive erosion and channelization occur, some management may be necessary.

We will implement the maintenance activities outlined in the Operation and Maintenance Plan and will minimize or restore (as reasonably practicable) any impact that accessing the project site has on the rest of your property.

If you have any questions or concerns about site visits, maintenance activities, or the project itself, please contact Orleans County Natural Resources Conservation District [*landowner liaison organization*] and we will work with you. We appreciate your willingness to be a good steward of your property and working with us to carry out this project. This voluntary project on your land will help us all work towards clean water and healthy watersheds in Vermont. Thank you!

Vermont Department of Environmental Conservation Clean Water Initiative Program
Form Version 2 Updated: 10/4/2025 11:21:00 AM
Project WPD ID: Pending

Landowner Liaison Organization: Orleans County Natural Resources Conservation District

Contact Person: Will Marlier – Lake Watershed Program Specialist

Phone: (802) 624-7023 Email: will.marlier@orleanscountynrcd.org

Clean Water Project Location #1: 228 North Shore Road, Greensboro, VT 05841

Landowner Name: Barr Family LLC – Michael Young

Phone: (207) 351-0118

Email: mcyoung200@gmail.com

Clean Water Service Provider: Northwest Regional Planning Commission

Contact Person for Clean Water Service Provider: Dean Pierce

Phone: (802) 582-3087 Email: dpierce@nrpcvt.org

**SITE ACCESS LICENSE AGREEMENT
 FOR A CLEAN WATER PROJECT**

- 1. Site Access License Start Date:** April 2026
- 2. Parties and Contact Information.** The Landowner(s) and Clean Water Service Provider (the Parties) and their contact information are:

Landowner #1:

Landowner Name	Barr Family LLC – Michael Young
Landowner Phone:	(207) 351-0118
Landowner Email:	mcyoung200@gmail.com
Landowner Mailing Address	Barr Family LLC C/o Mike Young 27 New Boston Rd York, ME 03909

Clean Water Service Provider (CWSP):

CWSP	Northwest Regional Planning Commission – Dean Pierce
CWSP Phone:	(802) 582-3087
CWSP Email:	dpierce@nrpcvt.org
CWSP Mailing Address	75 Fairfield St, St. Albans, VT 05478

Parties shall provide updated contact information in writing, communicated to all other parties, for communication regarding this Agreement.

- 3. Project Location.** The Project is located at:

228 North Shore Road, Greensboro, VT 05841 (the Property).

Refer to Exhibit B: As-built plan or final site plan with details of what was installed/constructed.

Project Latitude Longitude (center point in Decimal Degrees):	44°35'23.7"N 72°19'41.8"W
---	---------------------------

- 4. Project Description.** The Project and operation and maintenance will consist of the following:

Project Type:	Floodplain/Stream Restoration
Practice Type:	River or Floodplain Restoration
Watershed Projects Database ID:	Implementation ID Pending
Project Title:	Cemetery Brook Floodplain Restoration
Project Implementation Completion Date:	Spring 2026
Project Design Life *:	10 years

Years	Inspection Frequency	Intent
1 – 5	2X Annually <i>Following Flood Events</i>	<ul style="list-style-type: none"> • For Riparian Buffer and Stream Restoration / Floodplain Restoration – Annual Frequency is sufficient • For Wetland Restoration (in particular vegetation) 2X annual inspection is desired • <i>Inspection following large flood events is desired</i>
5 – 10	Bi-Annually <i>Following Flood Events</i>	<ul style="list-style-type: none"> • For all features, inspect every other year following year 5 (unless dynamic site conditions indicate that annual inspection is desirable) • <i>Inspection following large flood events is desired</i>
>10	Every 3 years	<ul style="list-style-type: none"> • Site should be self-sustaining at this stage. If not – adaptive management may be needed.

General Considerations for Inspection and Maintenance

- Inspections should make use of the established photo points and datums as outlined in the Operation and Maintenance Plan. A handheld camera will be sufficient to document these conditions. It may be useful to document overall site conditions aerially using a drone for imagery and/or orthomosaic creation to quantify site change over time. The Area of Interest (AOI) for drone mapping flight is outlined on the Operation and Maintenance plan sheet.
- No heavy equipment is anticipated for maintenance activities – only hand tools and the occasional use of weedwackers and/or mowers to clear vegetation around plantings.
- Some watering may be needed on occasion if drought conditions adversely impact shrub plantings. Water may be obtained from Cemetery Brook for this purpose.

Monitoring of Stream Restoration Practices

This restoration project is expected to change over time – it has been specifically designed to create overbank flooding and channel meanders that don't currently exist. **Understanding that this project is intended to take this stream from a channelized condition to a more natural meandering condition is critical to inspection and maintenance.**

Four monitoring points have been established as part of this plan. Photos should be taken facing the same direction and should document key aspects of the project like channel change, vegetation establishment, and any other key changes. Refer to the design plans for areas of impact associated with PALS and areas where change is desired and expected.

The lifespan of the PALS is expected to be between 5 – 10 years, depending on flood events and channel change.

Frequency

Years	Inspection Frequency
1- 5	Annually (and/or post-flooding event)
5 – 10	Bi-annually
10+	Every three years

If a large flooding event occurs, then an inspection is highly recommended. Maintenance activities should occur on an as-needed basis based on observations from inspection site visits and guidance from a river expert.

Timing	Equipment	Labor Type
Spring	<ul style="list-style-type: none"> • Camera, • Tape measure • Field book 	<ul style="list-style-type: none"> • Visit site to inspect channel condition before it becomes too dense to see banks. • Consider aerial imagery capture using drones at this point.
Summer	<ul style="list-style-type: none"> • Camera • Tape measure • Field book 	<ul style="list-style-type: none"> • Visit site to inspect vegetation.
Following a damaging storm event¹²	<ul style="list-style-type: none"> • Camera • Tape measure • Field book 	<ul style="list-style-type: none"> • Visit site to see if stream or river has moved, if sediment has deposited on the floodplain.
Emergency/ Damage Reported	<ul style="list-style-type: none"> • Camera • Tape measure • Field book 	<ul style="list-style-type: none"> • If a damage report is sent conduct a visual inspection to document site and condition.

Riparian Buffer Planting

Key Maintenance Objectives: Ensure healthy vegetation growth; identify & remediate erosion; identify & remove non-native invasive plants; identify & protect against animal browse; and prevent unauthorized encroachment.

The riparian buffer associated with this project is a 50' wide vegetated area extending from the edge of restored wetland and floodplain areas (except where truncated by the existing driveway). This area is demarcated by red-osier dogwood paired shrub plantings around the edges. This area was planted with native Vermont wetland and upland shrubs to re-establish water quality filtration for runoff from surrounding areas as well as to promote habitat.

Suggested Routine Maintenance Schedule

Timing	Equipment	Materials	Labor Type
--------	-----------	-----------	------------

Spring (mid-April – mid-June)	<ul style="list-style-type: none"> • Camera • Tape measure • Field book • Mower • Weedwhacker • Clippers • Wire cutters • Water truck 	<ul style="list-style-type: none"> • Plants, soil, mulch & amendments materials as needed to replace dead plant materials. • Tree tubes, stakes, wire, bars of soap, exclusion fences and barriers, as necessary. 	<ul style="list-style-type: none"> • Annual verification site visit
Summer	<ul style="list-style-type: none"> • Clippers, • Weedwhacker 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Clear around trees, clear vines.
Following a damaging storm event	<ul style="list-style-type: none"> • Camera • Tape measure • Field book. 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Inspect after flooding or major storm event to confirm no damage.

Wetland Restoration

Key Maintenance Objectives: Ensure that self-sustaining wetland ecosystems reestablish by evaluating native vegetation, manage non-native invasive species, evaluate natural wetland hydrology and verify that long-term protective measures (i.e., signage, deed restrictions/easements, and/or management plans) prevent unauthorized encroachments.

Suggested Routine Maintenance Schedule

Timing	Equipment	Materials	Labor Type & Hours
Spring, Summer, and Fall (Growing Season)	<ul style="list-style-type: none"> • Camera, • Soil auger/tile spade • GPS 	<ul style="list-style-type: none"> • VRAM/Wetland Function & Value Form 	<ul style="list-style-type: none"> • Annual or semi-annual site visit to identify repair and maintenance needs
Storm Event	<ul style="list-style-type: none"> • Camera 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • After large storm event, conduct site visit to see if repairs are needed.

Emergency/ Damage Reported	• Camera	• None	• After emergency/damage event
---------------------------------------	----------	--------	--------------------------------

*The DEC O&M manual contains guidance on equipment required, frequency of inspections, and O&M activities.

5. **Grant of Site Access License.** Landowner grants the CWSP and its agents, contractors, successors, and assigns, a license and the right to access the Property, with workers and equipment, for undertaking the Project and all reasonably related activities, including operation, maintenance, repair, and replacement. This grant also allows Property access by a duly authorized representative of the Vermont Department of Environmental Conservation (DEC) following 48 hours' notice to Landowner at the last phone number and email provided to the CWSP.

6. **License Period:** April 2026 to April 2036 (10 years, consistent with the Project Design Life (Initial Term), unless terminated earlier by either party). This license will terminate within 180 days after either party sends written notice by Certified or Registered US Mail, with or without cause.

 At least 60 days prior to any written notice of termination by the Landowner, the Landowner will inform the CWSP in writing of any reasonable concerns regarding the site access and the CWSP will attempt to reconcile or reasonably respond to landowner's concerns within 60 days.

 After the Initial Term, the license will automatically renew for successive 10-year terms, until terminated within 180 days after either party sends written notice by Certified or Registered US Mail, with or without cause.

7. **Notice of Property Conveyance or CWSP Role.** Landowner will inform the CWSP in writing 30 days prior to conveying the Property to a subsequent owner. Landowner will be notified if a different entity is assigned to the CWSP role.

8. **Landowner Use Limitation in Project Area.** This license is not exclusive. The Landowner shall have the right to use, or allow others to use, any part of the licensed Property provided that such use does not interfere with the installation and maintenance of the Project. Landowner will not undertake any activity or make any modifications that materially change the final Project design or intended usefulness without obtaining prior written CWSP approval.

9. **CWSP Restoration of Property Disturbance Outside Project Area; Project Area Release.** The CWSP or its agents, contractors, successors, or assigns, will restore any portion of the Property outside the Project Area disturbed or affected by the exercise of their access rights as near as reasonably practicable to the condition prior to such exercise at the sole cost of the CWSP or its agents, contractors, successors, or assigns and within a reasonable time. Landowner releases CWSP from any

obligation to restore the Project Area or reclaim any changes to the Property contemplated within the Project Description.

The Parties have caused this Agreement to be executed as of the date of final signature below.

Michael Young Digitally signed by Michael Young
Date: 2025.10.04 11:22:20 -04'00'
Party Name: Landowner #1 – Michael Young Date

Party Name: CWSP/NRPC – Dean Pierce Date
William Marlier 10/8/25
Party Name: Landowner Liaison/OCNRCD – Will Marlier Date

- [Exhibit A – Access description]
- [Exhibit B – Site plan with details of Project Area]
- [Exhibit C – Supplemental provisions following [Guidance Chapter 7](#), if applicable]

Installing and Maintaining your Clean Water Project

Dear Chris and David King,

Thank you for partnering with us to host a voluntary clean water project on your property. This project is intended to protect the quality of Vermont's rivers, lakes, streams, and wetlands. Your participation is a valuable contribution to Vermont's water quality goals. This cover letter provides an overview of the attached Site Access License and Operation and Maintenance Plan and highlights some key aspects of how we will work together to help the project succeed. **Please read the attached Agreement carefully for the complete agreement terms.**

What is this agreement saying?

Introduction and Project Description

Page one into page two describes the agreement start date, the parties to the agreement and their contact information as well as project details including location and expected "design life" (the number of years we expect that the project will protect water quality).

The Project Description provides the type of project and the expected maintenance activities, and frequency of those activities needed in order to keep the project in good condition.

Terms of Agreement

After the project description topics, the document lists the terms of the Agreement—what the parties agree to, how long you're agreeing to it, and other expectations for both parties.

The Agreement allows staff from the Northwoods Stewardship Center, the Orleans County Natural Resources Conservation District, FluidState Consulting, the Northwest Regional Planning Commission, and the Vermont Department of Environmental Conservation to access the project on your property for planned visits with necessary equipment for the following purposes: 1) to install the project, 2) to regularly inspect the project to ensure proper function, and 3) to conduct routine maintenance activities that may include monitoring plantings for mortality and health, supplemental plantings, keeping plantings free of competitive species, to keep the project working properly. We may also request to visit your property if damage is suspected (such as after a large storm) to inspect and possibly perform repairs. If you have concerns about damage to a project or if there is something you feel is not working properly, please contact us to request a site visit. All visits will be scheduled by the Orleans County Natural Resources Conservation District [*landowner liaison*] via phone or email with at least 48 hours' notice. Refer to the Operation and Maintenance Plan in the Agreement for more details.

Agreement Duration

The **Site Access License Agreement** will initially last for 10 years. This is the "design life" of the project, or the number of years we expect that the project will protect water quality, if properly maintained. At the end of the initial term, the license will automatically renew for consecutive 10-year terms. You or the Clean Water Service Provider (CWSP) can choose to cancel this agreement at any time following certain notice requirements. If you have concerns, the agreement requires you to inform the CWSP of these concerns at least 60 days before sending a termination notice. You can send the notice of concerns through your landowner liaison if preferred. The CWSP will work to address concerns where feasible. If you still wish to cancel, you can do so by sending written notice by Certified or Registered US Mail. This Site Access License Agreement will end within 180 days after the termination notice is sent.

If you decide to transfer the property, please communicate this landowner change to the Northwest Regional Planning Commission [CWSP] at least 30 days before the transfer and inform the new landowner about the clean water project and the terms of this site access agreement. In the event that the Department of Environmental Conservation re-assigns the CWSP role to a different entity, you will be notified.

A note about maintenance activities

We share a common goal of taking care of the land to ensure the project's success. As part of this agreement, please:

- **Do** inspect new plantings throughout the growing season – report die-off in excess of 20-30% of total plantings to Orleans NRCD (20-30% die-off is expected in projects like this and has been planned for in year 1 and year 2 maintenance activities). Note areas of die-off in particular if health seems to be impacted in one area versus another.
- **Do** water plantings during periods of excessive drought *if feasible* – we understand that this may constitute a large burden on water resources. It is not necessary and lack of regular irrigation has been planned for – however it can help promote plant success.
- **Do** feel free to take photos from the designated photo points. As you do, note the date and any weather/climactic conditions (such as large precipitation events, periods of drought, or high flows in the stream, i.e. flooding) that might inform the viewer.
- **Do** inspect the Post Assisted Log Structures (PALS) in the stream for damage in the spring following snow/ice melt and after any larger flows or floods. Some damage is anticipated and PALS are not permanent – they will degrade and disappear over time. If excessive damage is observed after winter ice-out or a large rain storm, please communicate with Orleans NRCD.
- **Do not** mow or otherwise trim or prune branches in any of the newly planted and restored areas. If desired, some clearing around the sentinel shrubs only is allowed to promote their growth and to clearly demarcate the boundary.

- Otherwise, let the plants colonize naturally.
- **Do inspect** for common invasive species like phragmites and Japanese knotweed. Please report large or growing populations of these species to Orleans NRCD.
 - **Do inspect** the stream channel over the course of the spring/summer/fall and observe channel changes. If the stream bed seems to be filling up with sediment or the channel jumps its banks to the adjacent areas, this is considered normal and by design. If the channel lateral movement is of concern to adjacent development, please communicate with Orleans NRCD about this.
 - **Do inspect** plantings for excessive animal browse – report this to Orleans NRCD for potential adaptive management with respect to certain animals, in particular deer. If you feel comfortable doing so, refer to the section on animal browse in this O&M manual (later in this document) which outlines tactics you can use to deter animal browse.
 - **Do check** for trash or debris in the stream and restored areas and remove as needed.
 - **Do inspect** runoff from the town ditch. This ditch has jumped its banks before and may again. If this runoff and/or erosion is negatively impacting the restoration project, please report this to Orleans NRCD. It should be noted that this project is specifically designed to buffer the stream from flows from that ditch – some flows out of that ditch are anticipated and acceptable. However, once excessive erosion and channelization occur, some management may be necessary.

We will implement the maintenance activities outlined in the Operation and Maintenance Plan and will minimize or restore (as reasonably practicable) any impact that accessing the project site has on the rest of your property.

If you have any questions or concerns about site visits, maintenance activities, or the project itself, please contact Orleans County Natural Resources Conservation District [*landowner liaison organization*] and we will work with you. We appreciate your willingness to be a good steward of your property and working with us to carry out this project. This voluntary project on your land will help us all work towards clean water and healthy watersheds in Vermont. Thank you!

Vermont Department of Environmental Conservation Clean Water Initiative Program
Form Version 2 Updated: 8/7/2025 8:57:00 AM
Project WPD ID: Pending

Landowner Liaison Organization: Orleans County Natural Resources Conservation District

Contact Person: Will Marlier – Lake Watershed Program Specialist
Phone: (802) 624-7023 Email: will.marlier@orleanscountynrcd.org

Clean Water Project Location #2: 2036 Lake Shore Road, Greensboro, VT 05841

Landowner Name: Chris & David King

Phone: Chris (413) 446-8184

Email: cgking4@gmail.com & dgrex@gmail.com

dauidgrex@gmail.com

Clean Water Service Provider: Northwest Regional Planning Commission

Contact Person for Clean Water Service Provider: Dean Pierce

Phone: (802) 582-3087 Email: dpierce@nrpvt.org

**SITE ACCESS LICENSE AGREEMENT
 FOR A CLEAN WATER PROJECT**

- 1. Site Access License Start Date:** April 2026
- 2. Parties and Contact Information.** The Landowner(s) and Clean Water Service Provider (the Parties) and their contact information are:

Landowner #2:

Landowner Name	Chris & David King
Landowner Phone:	(413) 446-8184
Landowner Email:	cgking4@gmail.com
Landowner Mailing Address	933 East Street, Lenox, MA 01240

Clean Water Service Provider (CWSP):

CWSP	Northwest Regional Planning Commission – Dean Pierce
CWSP Phone:	(802) 582-3087
CWSP Email:	dpierce@nrpcvt.org
CWSP Mailing Address	75 Fairfield St, St. Albans, VT 05478

Parties shall provide updated contact information in writing, communicated to all other parties, for communication regarding this Agreement.

- 3. Project Location.** The Project is located at:

2036 Lake Shore Road, Greensboro, VT 05841 (the Property).

Refer to Exhibit B: As-built plan or final site plan with details of what was installed/constructed.

Project Latitude Longitude (center point in Decimal Degrees):	44°35'23.7"N 72°19'41.8"W
---	---------------------------

- 4. Project Description.** The Project and operation and maintenance will consist of the following:

Project Type:	Floodplain/Stream Restoration
Practice Type:	River or Floodplain Restoration
Watershed Projects Database ID:	Implementation ID Pending
Project Title:	Cemetery Brook Floodplain Restoration
Project Implementation Completion Date:	Spring 2026
Project Design Life *:	10 years

Years	Inspection Frequency	Intent
-------	----------------------	--------

1 – 5	2X Annually <i>Following Flood Events</i>	<ul style="list-style-type: none"> • For Riparian Buffer and Stream Restoration / Floodplain Restoration – Annual Frequency is sufficient • For Wetland Restoration (in particular vegetation) 2X annual inspection is desired • <i>Inspection following large flood events is desired</i>
5 – 10	Bi-Annually <i>Following Flood Events</i>	<ul style="list-style-type: none"> • For all features, inspect every other year following year 5 (unless dynamic site conditions indicate that annual inspection is desirable) • <i>Inspection following large flood events is desired</i>
>10	Every 3 years	<ul style="list-style-type: none"> • Site should be self-sustaining at this stage. If not – adaptive management may be needed.

General Considerations for Inspection and Maintenance

- Inspections should make use of the established photo points and datums as outlined in the Operation and Maintenance Plan. A handheld camera will be sufficient to document these conditions. It may be useful to document overall site conditions aerially using a drone for imagery and/or orthomosaic creation to quantify site change over time. The Area of Interest (AOI) for drone mapping flight is outlined on the Operation and Maintenance plan sheet.
- No heavy equipment is anticipated for maintenance activities – only hand tools and the occasional use of weedwackers and/or mowers to clear vegetation around plantings.
- Some watering may be needed on occasion if drought conditions adversely impact shrub plantings. Water may be obtained from Cemetery Brook for this purpose.

Monitoring of Stream Restoration Practices

This restoration project is expected to change over time – it has been specifically designed to create overbank flooding and channel meanders that don't currently exist. **Understanding that this project is intended to take this stream from a channelized condition to a more natural meandering condition is critical to inspection and maintenance.**

Four monitoring points have been established as part of this plan. Photos should be taken facing the same direction and should document key aspects of the project like channel change, vegetation establishment, and any other key changes. Refer to the design plans for areas of impact associated with PALS and areas where change is desired and expected.

The lifespan of the PALS is expected to be between 5 – 10 years, depending on flood events and channel change.

Frequency

Years	Inspection Frequency
1- 5	Annually (and/or post-flooding event)
5 – 10	Bi-annually
10+	Every three years

If a large flooding event occurs, then an inspection is highly recommended. Maintenance activities should occur on an as-needed basis based on observations from inspection site visits and guidance from a river expert.

Timing	Equipment	Labor Type
Spring	<ul style="list-style-type: none"> • Camera, • Tape measure • Field book 	<ul style="list-style-type: none"> • Visit site to inspect channel condition before it becomes too dense to see banks. • Consider aerial imagery capture using drones at this point.
Summer	<ul style="list-style-type: none"> • Camera • Tape measure • Field book 	<ul style="list-style-type: none"> • Visit site to inspect vegetation.
Following a damaging storm event¹²	<ul style="list-style-type: none"> • Camera • Tape measure • Field book 	<ul style="list-style-type: none"> • Visit site to see if stream or river has moved, if sediment has deposited on the floodplain.
Emergency/ Damage Reported	<ul style="list-style-type: none"> • Camera • Tape measure • Field book 	<ul style="list-style-type: none"> • If a damage report is sent conduct a visual inspection to document site and condition.

Riparian Buffer Planting

Key Maintenance Objectives: Ensure healthy vegetation growth; identify & remediate erosion; identify & remove non-native invasive plants; identify & protect against animal browse; and prevent unauthorized encroachment.

The riparian buffer associated with this project is a 50' wide vegetated area extending from the edge of restored wetland and floodplain areas (except where truncated by the existing driveway). This area is demarcated by red-osier dogwood paired shrub plantings around the edges. This area was planted with native Vermont wetland and upland shrubs to re-establish water quality filtration for runoff from surrounding areas as well as to promote habitat.

Suggested Routine Maintenance Schedule

Timing	Equipment	Materials	Labor Type
--------	-----------	-----------	------------

Spring (mid-April – mid-June)	<ul style="list-style-type: none"> • Camera • Tape measure • Field book • Mower • Weedwhacker • Clippers • Wire cutters • Water truck 	<ul style="list-style-type: none"> • Plants, soil, mulch & amendments materials as needed to replace dead plant materials. • Tree tubes, stakes, wire, bars of soap, exclusion fences and barriers, as necessary. 	<ul style="list-style-type: none"> • Annual verification site visit
Summer	<ul style="list-style-type: none"> • Clippers, • Weedwhacker 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Clear around trees, clear vines.
Following a damaging storm event	<ul style="list-style-type: none"> • Camera • Tape measure • Field book. 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Inspect after flooding or major storm event to confirm no damage.

Wetland Restoration

Key Maintenance Objectives: Ensure that self-sustaining wetland ecosystems reestablish by evaluating native vegetation, manage non-native invasive species, evaluate natural wetland hydrology and verify that long-term protective measures (i.e., signage, deed restrictions/easements, and/or management plans) prevent unauthorized encroachments.

Suggested Routine Maintenance Schedule

Timing	Equipment	Materials	Labor Type & Hours
Spring, Summer, and Fall (Growing Season)	<ul style="list-style-type: none"> • Camera, • Soil auger/tile spade • GPS 	<ul style="list-style-type: none"> • VRAM/Wetland Function & Value Form 	<ul style="list-style-type: none"> • Annual or semi-annual site visit to identify repair and maintenance needs
Storm Event	<ul style="list-style-type: none"> • Camera 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • After large storm event, conduct site visit to see if repairs are needed.

Emergency/ Damage Reported	<ul style="list-style-type: none"> • Camera 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • After emergency/damage event
---------------------------------------	--	--	--

*The DEC O&M manual contains guidance on equipment required, frequency of inspections, and O&M activities.

5. **Grant of Site Access License.** Landowner grants the CWSP and its agents, contractors, successors, and assigns, a license and the right to access the Property, with workers and equipment, for undertaking the Project and all reasonably related activities, including operation, maintenance, repair, and replacement. This grant also allows Property access by a duly authorized representative of the Vermont Department of Environmental Conservation (DEC) following 48 hours' notice to Landowner at the last phone number and email provided to the CWSP.
6. **License Period:** April 2026 to April 2036 (10 years, consistent with the Project Design Life (Initial Term), unless terminated earlier by either party). This license will terminate within 180 days after either party sends written notice by Certified or Registered US Mail, with or without cause.

At least 60 days prior to any written notice of termination by the Landowner, the Landowner will inform the CWSP in writing of any reasonable concerns regarding the site access and the CWSP will attempt to reconcile or reasonably respond to landowner's concerns within 60 days.

After the Initial Term, the license will automatically renew for successive 10-year terms, until terminated within 180 days after either party sends written notice by Certified or Registered US Mail, with or without cause.

7. **Notice of Property Conveyance or CWSP Role.** Landowner will inform the CWSP in writing 30 days prior to conveying the Property to a subsequent owner. Landowner will be notified if a different entity is assigned to the CWSP role.
8. **Landowner Use Limitation in Project Area.** This license is not exclusive. The Landowner shall have the right to use, or allow others to use, any part of the licensed Property provided that such use does not interfere with the installation and maintenance of the Project. Landowner will not undertake any activity or make any modifications that materially change the final Project design or intended usefulness without obtaining prior written CWSP approval.
9. **CWSP Restoration of Property Disturbance Outside Project Area; Project Area Release.** The CWSP or its agents, contractors, successors, or assigns, will restore any portion of the Property outside the Project Area disturbed or affected by the exercise of their access rights as near as reasonably practicable to the condition prior to such exercise at the sole cost of the CWSP or its agents, contractors, successors, or assigns and within a reasonable time. Landowner releases CWSP from any

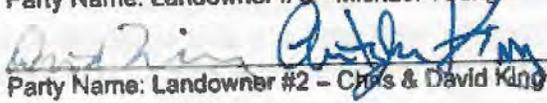
obligation to restore the Project Area or reclaim any changes to the Property contemplated within the Project Description.

The Parties have caused this Agreement to be executed as of the date of final signature below

— See other document —

Party Name: Landowner #1 - Michael Young

Date



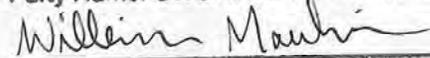
9/15/2025

Party Name: Landowner #2 - Chris & David King

Date

Party Name: CWSP/NRPC - Dean Pierce

Date



10/8/2025

Party Name: Landowner Liaison/OCNRCD - Will Marlier

Date

[Exhibit A1 - Operations & Maintenance Plan]

[Exhibit A2 - Access description]

[Exhibit B - Site plan with details of Project Area]

[Exhibit C - Supplemental provisions following [Guidance Chapter 7](#), if applicable]

14171 - Haynesville

Project Details	
WPD ID	14171
Status	Proposed
Project Name	Haynesville Brook Buffer Planting- Fishers Folly Drive- East Hardwick
Project Type	River - Planting
Sector	River
Lat/Long	44.49597, -72.31797
Stream Segment	
Technical Project Manager	
Description	Streamside buffer planting along Haynesville Brook (tributary to Lamoille River) to minimize flood and fluvial erosion hazards, filter nutrient and sediment pollution, and restore riparian habitats. Project implementation with the Stewards of the Greensboro Watershed volunteers provides additional community engagement and collaboration benefits.
Development Notes	
Submission Number	HQF-PSS0-TK723

Town/County/Region	Basin/Sub Basin	Potential Partners	Potential Funding Source
Hardwick	Lower Headwaters Lamoille River	Stewards of Greensboro Watershed United States Fish and Wildlife Service	Trees For Streams

Event Date	Event Type	State Amount	Match	Grant Total	Funding Source	Grant Num	Funded Partner
9/18/2025	Project Created in Database						

Performance Measure	Value	Status

Related Projects				
	Relationship	WPD ID	Project Name	Status
View	Parent	12189	Caledonia County Steam, Dam and Lake Shoreland Project Development	Proposed

Records			
	Date	Record Type	Record Title

Project Type	
TypeList	Riparian Buffer Planting
Step/Phase	Implementation
Basic Eligibility	Yes
Applicant Name	Karina Morales
Applicant Organization	Caledonia County Natural Resources Conservation District
Applicant Email	karina@caledoniacountynrcd.org
Applicant telephone	+1 (802) 239-4159
Project ID from WPD	14171
Description of Project	Streamside buffer planting along Haynesville Brook (tributary to Lamoille River) to minimize flood and fluvial erosion hazards, filter nutrient and sediment pollution, and restore riparian habitats. Project implementation with the Stewards of the Greensboro Watershed volunteers provides additional community engagement and collaboration benefits. Implementation and stewardship collaboration with USFWS Partners for Fish and Wildlife staff will enhance the success of this project. The project site is a privately owned pasture within a floodplain forest, primarily composed of native species such as alders, willows, and spruce, and classified as prime farmland with podunk fine sandy loam soil that is occasionally flooded. The project would include planting three separate areas along the stream, with the buffer starting 10-15 ft back from the streambank in sections where the stream is more dynamic. Because of this, the buffer width will range from 35 ft to 80 ft in the northwestern portions of the site, and 100 ft in the southeastern portion (road-side). The planting will total 1.24 acres with a target of 400 stems per acre, will be an average of 60 ft. buffer width and 1,043 ft. buffer length.
Project Latitude	44.49597
Project Longitude	-72.31797
Project Phase	Final Design Implementation
Annual P Reduction KG	1.74
Any one time P reduction KG	
Total Cost of Proposed Phase	8433
Amount of funding requested (Proposed Phase)	\$6,939.00
Matching Funds Available	\$1,494.00
Total Project Costs (All Phases)	\$8,433.00
KG/\$ Current Phase	0.000206332
KG/\$ Overall	0.000206332
Design Life	20
Estimated Annual O&M cost total	\$568 to \$1136 per year based on one or two O&M visits per year.
Conformance with Tactical Basin Plan TBP	10
Number of Co-benefit Areas	5
DEC Screening Form Uploaded	Yes
Map of Project Area Uploaded	Yes
Project Budget Uploaded	Yes
Project Schedule Uploaded	Yes
Landowner Support uploaded	Yes
Phosphorus Calculator Tool uploaded	Yes
Design/Imp Costs Requested	6939
Design-Imp Costs Total	8433
Using_As_Match	No
Cultural Resource Review	No
O&M interest	Yes
continued project earlier P estimate	No

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Minimize flood and fluvial erosion hazards Protect and restore aquatic and riparian habitats	Multiple

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see [CWIP Funding Policy](#) for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	14171
Watershed Project Database Project Name	Haynesville Brook Buffer Planting- Fishers Folly Drive- East Hardwick

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts³

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. ⁴

- 1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. ⁵ Please note that “project site” may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
- 2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
 - a. Proponents should send the identified permitting staff the following:
 - i. The watersheds project database identification number (WPD-ID) (if available),
 - ii. Project location (GPS coordinates)
 - iii. Summary of proposed scope of work, and
 - iv. Any other relevant information they request that will be utilized in their review.
 - b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
 - c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

³ Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

⁴ In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

⁵ Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The [ANR Permit Navigator](#) and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

- 3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
 - a. Which permits or permit amendment are needed or might be needed?⁶
 - b. What type might be needed? (e.g., a general or individual permit⁷)?
 - c. What concerns were voiced by permitting staff?
 - d. How will the proposed scope of work address these concerns?⁸

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont’s Land Use and Development Control Law) Permits been issued in the project site’s parcel location?⁹	Yes <input type="radio"/>	No <input type="radio"/>
If yes , please provide the permit number and list any water resource issues or natural resource issues found ¹⁰ :		
PermitNumber: _____		
ResourceIssues: _____		
If yes , use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation.		
Regulatory Point of Contact Name/Position: _____		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	Yes <input type="radio"/>	No <input type="radio"/>

⁶ Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

⁷ Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

⁸ Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

⁹ An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named “Clean Water Initiative Program Grant Screening.”

¹⁰Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? ¹¹	
<p>If yes, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
III. Rivers, River Corridors, and Flood Hazard Areas	
<p>1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area¹²? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.</p>	<p>Yes <input type="radio"/> No <input type="radio"/></p>
<p>If yes, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>2. Is any portion of the project site within a perennial river or stream channel?</p> <p><small>13</small></p>	<p>Yes <input type="radio"/> No <input type="radio"/></p>
<p>If yes, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region.</p> <p>Regulatory Point of Contact Name/Position:</p>	
IV. Wetland	

¹¹ The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

¹² FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: <https://msc.fema.gov/portal/home>. ANR Floodplain Managers are available to provide technical assistance if needed.

¹³ Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The [ANR Atlas Clean Water Initiative Program Grant Screening tool](#) can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

<p>1. Does the Wetland Screening Tool¹⁴ provide a result of wetlands likely, very likely, or present at the project site?</p>	<p style="text-align: center;"> Yes No <input type="radio"/> <input type="radio"/> </p>
<p>2. Does your project site involve land that is in or near an area that has <u>any</u> of the following characteristics:</p> <ul style="list-style-type: none"> o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.) 	<p style="text-align: center;"> Yes <input type="radio"/> No <input type="radio"/> Not Sure <input type="radio"/> </p>
<p>If you answered yes or not sure to <u>either</u> of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered yes or not sure to <u>either</u> of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an “allowed use” under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>1. Is your project a Wetland Restoration project type?</p>	<p style="text-align: center;"> Yes No <input type="radio"/> <input type="radio"/> </p>
<p>If you answered yes, under the Vermont Wetland Rules you will need an “allowed use” determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.</p> <p>Regulatory Point of Contact Name/Position:</p>	
<p>V. Fish and Wildlife</p>	
<p>State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit.</p> <p>1. Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns? Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting</p>	<p style="text-align: center;"> Yes No <input type="radio"/> <input type="radio"/> </p>

¹⁴ To view the Wetland Screening Tool introduction video, see <https://youtu.be/6lv5en0AB1o>

2. Is the project site within 1 mile of a mapped¹⁵ Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes <input type="radio"/> No <input type="radio"/>
If yes to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes <input type="radio"/> No <input type="radio"/>
If yes , forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. Regulatory Point of Contact Name/Position:	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? ¹⁶	Yes <input type="radio"/> No <input type="radio"/>
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. Regulatory Point of Contact Name/Position:	
Provide below or attach a narrative summary of Table 4 findings. Please include: <ol style="list-style-type: none"> Which permits or permit amendment are needed or might be needed? What type might be needed? (e.g. a general or individual permit)? What concerns were voiced by permitting staff? How will the proposed scope of work address these concerns? 	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes <input type="radio"/> No <input type="radio"/>

¹⁵ Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

¹⁶ If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a [licensed solid waste hauler](#) and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	
--	--

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
<p>Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase.</p> <p>(Answer must be YES to proceed)</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>Budget. Project budget includes ineligible expenses.</p> <p>(Answer must be NO to proceed)</p>	<p>Yes <input type="radio"/> No <input checked="" type="radio"/></p>
<p>Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources</p> <p>(Answer must be YES or N/A to proceed)</p>	<p>Yes <input type="radio"/> No <input type="radio"/> N/A <input checked="" type="radio"/></p>
<p>Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: CWSP Clean Water project</p> <p>(Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See [CWIP Project Types Table](#) for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
<p>1. Is the proposed project located on a jurisdictional farm operation¹⁷?</p> <p>Complete a preliminary review to</p>	<p><input type="radio"/> Yes - Proceed to next question below.</p>

¹⁷ Jurisdictional farm operations are required to meet Vermont’s Required Agricultural Practices (RAPs).

<p>determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.</p>	<p><input checked="" type="radio"/> No¹⁸ - There is no additional requirements related to agricultural review for these projects.</p>
<p>2. Is the proposed project an agricultural project?</p> <p>Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.</p>	<p><input type="radio"/> Yes - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization.</p> <p><input checked="" type="radio"/> No- The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFAM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below.</p> <p>Step 1- Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFAM at AGR.WaterQuality@Vermont.gov .</p> <p>Step 2- Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.</p>
<p>Agricultural Project Review Status & Summary:</p>	
<p>Check as Applicable</p>	<p>Status</p>
<p><input type="checkbox"/></p>	<p>Submitted/ Pending</p>
<p><input type="checkbox"/></p>	<p>Approved</p>
<p><input type="checkbox"/></p>	<p>Denied</p>

¹⁸ Note CWIP’s Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the [Appendix B. Project Types Table](#) are not subject to review by VAAFAM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status “submitted/pending” will be “approved” prior to a project approval for funding.

Budget Category	Budget Narrative	Match Narrative	Total Expense
Staff expenses (i.e., salary and fringe benefits or ad hoc employees)	Time spent coordinating with landowners and volunteers, designing planting, purchasing and receiving materials (40 hours), and travel time to and from site [2 planning visits, 2 tree-planting visits, and 1 post-planting visit @ 1 hour roundtrip/visit (5 hours)]. Time to plant trees [two days @ 8 hours = (16 hours)]. Total staff time is 61 hours @ \$45/hr= \$2,745.00		\$2,745.00
Total mileage charges	2 planning visits @ 41 miles roundtrip, 2 implementation visits 41 miles roundtrip, 1 follow-up visit @ 41 miles roundtrip, 1 vehicle (5 visits*41 miles= 205 miles @ federal reimbursement rate (\$0.70 per mile)		\$143.50
Engineering/design services expense	N/A		
Other eligible costs (see 2023 CWIP Funding Policy)	Plant materials: 400 stems/acre * 1.24 acres (498 stems) *\$9/stem= \$4,464.00, flagging @ \$20.00/100 pack*5 packs=\$100.00, and hydrating synthetic polymer root dip @\$75.00 for 8 lb. pail= \$4,639.00	Stem match from U.S Fish and Wildlife Partners Program (\$3 per stem @498 stems = -\$1,494)	\$3145.00
Indirect Expenses	Indirect rate of 15% (excluding match)		\$905.03
		Total project budget	\$8,432.53
		Amount funding requested	6,938.53

November 2025- December 2025- pre-order plants from Intervale, Orleans County NRCD annual plant sale, or other local nursery and establish connections with additional nurseries for other species as needed.

December 2025 – Mar 2026- Correspondence with volunteer organizers- Stewards of the Greensboro/Greensboro Association, and with USFWS Partners for Fish and Wildlife staff. Determine roles for volunteer coordination and planting day logistics. Maintain communication with the landowner as needed.

April 2026- Discuss site preparation with landowner, including potential mowing. Review planting logistics and volunteer coordination with partners.

May 2026- Acquire plants from Intervale and/ or other nurseries. Stage plant materials and necessary equipment on site. Flag planting boundary and confirm boundaries with landowner and USFWS staff. Coordinate and execute planting day in conjunction with Stewards of the Greensboro volunteers and USFWS staff. Provide site maintenance guidance to landowner to ensure survivorship.

Sept 2026- Return to site for to evaluate survivorship and remove weeds.

Riparian Buffer Planting Estimated Phosphorus Reduction Calculator

Total Phosphorus Reduction = buffer area times loss change P production + drainage area multiplied flow P reduction

buffer area times loss change P reduction = TMDL Drainage Area times loss loading rate for buffer land use (kg/acre/yr) * acres of buffer (acres) (TMDL Drainage Area times loss loading rate for forest land (kg/acre/yr) * acres of buffer (acres))

drainage area multiplied flow P reduction = TMDL Drainage Area times loss loading rate (kg/acre/yr) * drainage area percent * 40% P reduction efficiency

Variable	Value	Unit	Land Use Definition	Notes
Buffer drainage area	5	Acres	Developed Precious Land Use for Watershed Reservoirs with no agricultural use. Developed Impervious Land and paved roads, driveways, parking lots. Pasture or forest with minimum vegetation. Forest & grazing area. Drains to a water body that will carry, store, and/or store. Mixed Forest - deciduous, coniferous, and mixed forest land.	If the riparian buffer is located in a stream channel and not in the buffer, it is not the jurisdiction of the agency. Buffer area at the unimpacted riparian land and area to be restored is accounted for in the buffer land use change calculation.
Phosphorus reduction efficiency	40%	percent of load		For more detail on the accounting method, and other, please see Standard Operating Procedures for Tracking & Accounting of Natural Resource Restoration Projects, available on the DEC website.

Input*	Dropdown*	Input Acres*	Dropdown*	Dropdown*	Input Percent*	Dropdown	Input Percent	Dropdown	Input Percent	Input Error Check	Output value	Output value	Output value	Output value
Project Identifier	Project Location TMDL Drainage Area	Riparian Buffer Area Planned (Acres)	Prior Land Use of Buffer Planting Area	Buffer Drainage Area Land Use 1	Land Use 1 Percent of Drainage Area	Buffer Drainage Area Land Use 2	Land Use 2 Percent of Drainage Area	Buffer Drainage Area Land Use 3	Land Use 3 Percent of Drainage Area (must equal 100%)	Total Buffer Drainage Area	Estimated P Reduction from Drainage Area (kg/yr)	Estimated P Reduction from Land Use Change (kg/yr)	Estimated Total P Reduction (kg/yr)	Estimated Total P Reduction (kg/yr)
Example Riparian Buffer Project 1	Wilmington Area	0.20	Cropland	Cropland	100%				100%		1	0.58	0.58	0.58
Hopewell Brook Riparian Planting	Lamelle River	1.24	Pasture	Mixed Forest	40%	Lightwood Forest	20%	Scrubland	40%	100%	2.1	2.12	2.12	1.78



Outlook

RE: Potential site visit - Hardwick - Trees for Streams locations

From Pomeroy, Staci <Staci.Pomeroy@vermont.gov>
Date Tue 10/7/2025 2:16 PM
To Karina Morales <karina@caledoniacountynrcd.org>

Hi Karina,

It has been a nice summer and fall so far. Hope the same for you!

The planting areas and plan to work with Katie sounds good. I am in support of the planting.

Enjoy the afternoon.
Staci



Staci Pomeroy, River Scientist
Vermont Department of Conservation
Watershed Management, Rivers Program
111 West Street | Essex Jct., VT 05452
802-490-6191 cell
staci.pomeroy@vermont.gov
<http://dec.vermont.gov/watershed/rivers>

From: Karina Morales <karina@caledoniacountynrcd.org>
Sent: Tuesday, October 7, 2025 1:20 PM
To: Pomeroy, Staci <Staci.Pomeroy@vermont.gov>
Subject: Re: Potential site visit - Hardwick - Trees for Streams locations

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Staci!

Hope you had a great summer and are enjoying the Fall so far!

I wanted to circle back to this property for TFS. We had gotten your initial approval and input and just wanted to get another confirmation that we are good to go here. Below is the proposed planting-- we are starting 10-15 ft back from the streambank in the more dynamic areas and choosing species that are better fitted to occasional flooding. In addition, we are planting a section southeast of the originally discussed area, shown on the second screenshot below:



Let me know if all looks good and if you have any other suggestions or concerns. We are planning to work with Katie at USFWS for this planting so it will be in good hands 😊

Thanks in advance,

Karina Morales, Conservation Specialist
Caledonia County Natural Resources Conservation District (NRCD)
481 Summer Street, Suite 202
St. Johnsbury, VT 05819
802-239-4159
www.caledoniadistrict.org

From: Pomeroy, Staci <Staci.Pomeroy@vermont.gov>
Sent: Friday, June 13, 2025 7:53 AM
To: Emily Finnegan <emily@caledoniacountynrcd.org>
Cc: Karina Morales <karina@caledoniacountynrcd.org>
Subject: RE: Potential site visit - Hardwick - Trees for Streams locations

Morning Emily and Karina,

Thank you for sending along the materials.

My initial thoughts:

- Stevens property - Looks like an area that can be/ has been (google earth imagery in 2011 & 2024) affected by floodwaters crossing across the inside of the meander during flooding. You'll want trees, plants that are able to be bent over, covered in sand & material – willows, alders, box elders, can be some good choices – fast growing and can be beat up and still keep growing 😊
- Suzette Little's – Yes, a very dynamic site – one I've watched change over the years. – I can't recall if we had talked about this site with VRC at their meeting a few months ago. It seems familiar 😊 This is a site that would be a potential RCE candidate, as it will continue to experience planform adjustment, and that straighter section will be the next area that is likely to start to develop meanders, based on what we can see from the imagery, check out Google earth below – 1998 b&w image vs the 2024 image. -
 - Planting – suggest keeping to the quick growing, less expensive plants and start back from the bank 10-15 ft (Use Google Earth to gauge the rate and locations of change / likely change to help consider where you may want to move further /closer to the bank for your plantings)

Enjoy the day.
Staci





Staci Pomeroy, River Scientist
Vermont Department of Conservation
Watershed Management, Rivers Program
111 West Street | Essex Jct., VT 05452
802-490-6191 cell
staci.pomeroy@vermont.gov
<http://dec.vermont.gov/watershed/rivers>

From: Emily Finnegan <emily@caledoniacountynrcd.org>
Sent: Thursday, June 12, 2025 8:29 PM
To: Pomeroy, Staci <Staci.Pomeroy@vermont.gov>
Cc: karina <karina@caledoniacountynrcd.org>
Subject: Potential site visit - Hardwick - Trees for Streams locations

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Staci,

Now that Karina has started, I wanted to revive the conversation about two of these sites for potential Trees for Streams plantings. Chris Steel (Stewards of the Greensboro Watershed) is eager for us to get out to these sites. I attached the Streamwise reports, and also some maps Chris drew using the Stream Wise tool that illustrate a little better what they were thinking about in terms of a buffer area. The Stevens property (112 Pumpkin Lane in East Hardwick) looks pretty straightforward to me; it's really just upstream and downstream of the Pumpkin Lane bridge, both pretty straight banks that don't appear to have a lot of active erosion.

The potential buffer on Suzette Little's property along the Haynesville Brook is definitely a more dynamic site. I think when we briefly talked about this planting last year, you had suggested potentially setting the buffer back a bit to acknowledge the active erosion. I would imagine that in order to agree to a planting, Suzette Little will need to know where this would be "required" to participate in the Trees for Streams program, and where we would feel comfortable just planting from top of bank, 50 feet wide.

Could you see from a desktop review the locations you would recommend starting the buffer further back? Is that something Karina and I can assess in the field? Do you feel like you need to assess that in the field? If you'd like to come out with us, when would you be able to do that?

We'd love to schedule site visits soon so we have plenty of time to prepare the TFS application; these will be among Karina's first projects so I want to make sure she doesn't feel rushed to fill out the applications!

Thanks,
Emily

Emily Finnegan, District Manager
Caledonia County Natural Resources Conservation District (CCNRCD)
481 Summer St, Ste 202
St. Johnsbury VT 05819
Cell: 203-219-4638
Office: 802-424-3149
www.caledonidistrict.org

From: Emily Finnegan - FPAC-NRCS, VT - FPAC-NRCS, VT <Emily.Finnegan@vt.nacdnet.net>
Sent: Thursday, September 26, 2024 11:42 AM
To: Pomeroy, Staci <Staci.Pomeroy@vermont.gov>
Subject: Re: Hardwick - potential Trees for Streams locations

Hi Staci,

I was able to speak with the volunteers who did the Stream Wise assessments on these properties in East Hardwick and get a few more details on the sites. They are all super dynamic sites and may or may not be suitable for TFS, but I'm also wondering if they might be good for other types of projects - river corridor easement, some kind of streambank restoration (I've never done this project type so am not familiar with what to look for). If you have the capacity, I would love to get out with you to these properties. I'm not sure if Ben Copans has been in touch with you yet, but there is also a potential dam removal site that we scoped a few weeks ago that is right in this area as well. Maybe it could make sense to visit all four sites in the same day?

Thanks so much, I feel like I'm asking you about a lot of different projects at once!

Emily

Emily Finnegan, District Manager

Caledonia County Natural Resources Conservation District (NRCD)

481 Summer Street, Suite 202

St. Johnsbury, VT 05819

Cell/telework: 203-219-4638

802-424-3149

www.caledoniadistrict.org

From: Emily Finnegan - FPAC-NRCS, VT - FPAC-NRCS, VT
Sent: Thursday, September 19, 2024 10:15 AM
To: Pomeroy, Staci <Staci.Pomeroy@vermont.gov>
Subject: Hardwick - potential Trees for Streams locations

Hi Staci,

I've been working a bit with the Stewards of the Greensboro Watershed who have a Stream Wise grant from LCBP. They've made contact with a few landowners in Hardwick who are interested in learning more about funding for riparian plantings (i.e. Trees for Streams). I attached a map with the potential locations marked by lat/long. I did not do the Stream Wise assessment nor have I been to any of these properties, so I'm not sure where on the property the Stewards were envisioning a riparian planting. It appears from a brief look at ANR atlas that all three of these locations are quite dynamic!

I also know that at least the location on Fishers Folly and the location on Pumpkin Lane would likely be good candidates for river corridor easements or some other form of conservation beyond/instead of a riparian planting, and I would certainly plan to bring those options up (if they are options) at a site visit.

Thanks for your insight, as always!

Best,
Emily

Emily Finnegan, District Manager

Caledonia County Natural Resources Conservation District (NRCD)

481 Summer Street, Suite 202

St. Johnsbury, VT 05819

Cell/telework: 203-219-4638

802-424-3149

www.caledoniadistrict.org



Re: N-form submission

From Karina Morales <karina@caledoniacountynrcd.org>

Date Thu 9/18/2025 3:02 PM

To Bates, Karen <Karen.Bates@vermont.gov>; Copans, Ben <Ben.Copans@vermont.gov>

She really is! Definitely knows her stuff!

Thanks, Karen! Have a wonderful afternoon and weekend!

Karina Morales, Conservation Specialist

Caledonia County Natural Resources Conservation District (NRCD)

481 Summer Street, Suite 202

St. Johnsbury, VT 05819

802-239-4159

www.caledonidistrict.org

From: Bates, Karen <Karen.Bates@vermont.gov>

Sent: Thursday, September 18, 2025 3:00 PM

To: Karina Morales <karina@caledoniacountynrcd.org>; Copans, Ben <Ben.Copans@vermont.gov>

Subject: RE: N-form submission

Hi Karina,

Thank you. I always learn a bit as well when I see Staci's response. She is an invaluable member of our team!

I'll approve the Nform now.

Thanks, Karen

From: Karina Morales <karina@caledoniacountynrcd.org>

Sent: Thursday, September 18, 2025 2:52 PM

To: Bates, Karen <Karen.Bates@vermont.gov>; Copans, Ben <Ben.Copans@vermont.gov>

Subject: Re: N-form submission

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Sounds good, Karen! I sent you the conversation with Staci in a separate email a little while ago- let me know if you didn't receive it 😊

Thanks,

Karina Morales, Conservation Specialist

Caledonia County Natural Resources Conservation District (NRCD)

481 Summer Street, Suite 202

St. Johnsbury, VT 05819
802-239-4159
www.caledoniadistrict.org

From: Bates, Karen <Karen.Bates@vermont.gov>
Sent: Thursday, September 18, 2025 2:29 PM
To: Copans, Ben <Ben.Copans@vermont.gov>; Karina Morales <karina@caledoniacountynrcd.org>
Subject: RE: N-form submission

Hi Karina,

I just reviewed the project too. In my basins, I have an arrangement with the river scientist that I'll make sure they've reviewed and accepted as well. You would just need to send me the communication in an email. Unfortunately, there's no way for you to attach the information to the Nform, so a separate email is fine.

Thanks, Karen

From: Copans, Ben <Ben.Copans@vermont.gov>
Sent: Thursday, September 18, 2025 2:18 PM
To: Karina Morales <karina@caledoniacountynrcd.org>
Cc: Bates, Karen <Karen.Bates@vermont.gov>
Subject: RE: N-form submission

Hi Karina,

Thanks for the heads up about this. It is always good to touch base ahead of any complex projects before you submit an Nform, but this one looks pretty straightforward as a buffer planting project.

This is actually in Karen's Basin (Lamoille) so she is going to be the one to review and approve or respond with any issues or revisions. I did give this a quick look, and nothing jumped out at me I, but Karen may have more input as the basin planner and I didn't even look at the location or any local details.

The clean water world is quite complex but how about a complex ecosystem vs a labyrinth as an analogy....

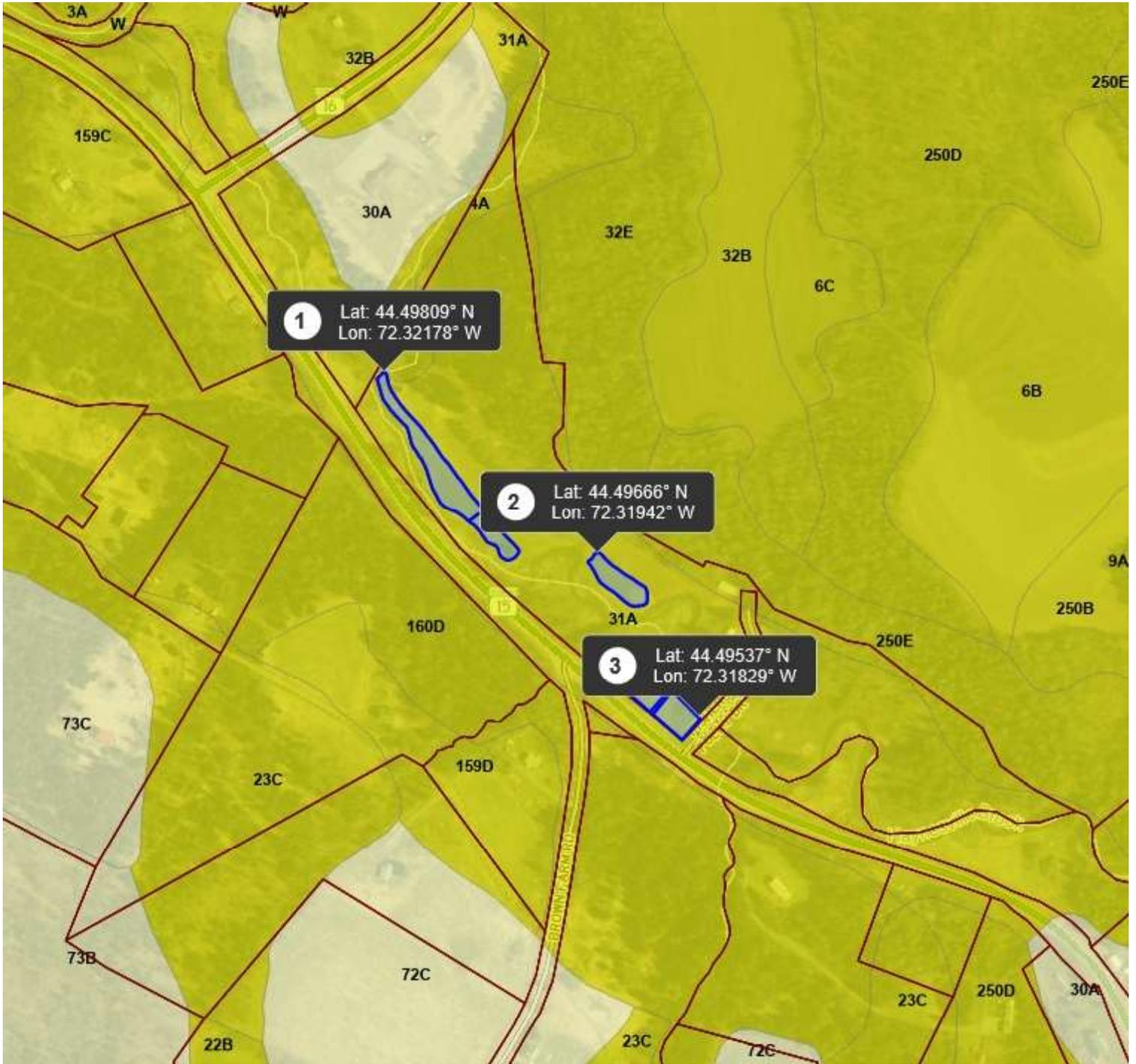
Have a great day!

Thanks!

From: Karina Morales <karina@caledoniacountynrcd.org>
Sent: Thursday, September 18, 2025 1:56 PM
To: Copans, Ben <Ben.Copans@vermont.gov>
Subject: N-form submission

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Hi Ben,



LEGEND

- Soils
 - Association
 - Consociation
 - Undifferentiated group
 - Complex
 - <all other values>
- Parcels (standardized)
- Stream

NOTES

Site Watershed
77 Fishers Folly Drive
East Hardwick, VT 05836

1: 5,251

October 6, 2025



267.0 0 134.00 267.0 Meters



LEGEND

- Parcels (standardized)
- Roads**
 - Interstate
 - US Highway; 1
 - State Highway
 - Town Highway (Class 1)
 - Town Highway (Class 2,3)
 - Town Highway (Class 4)
 - State Forest Trail
 - National Forest Trail
 - Legal Trail
 - Private Road/Driveway
 - Proposed Roads
- Town Boundary

1: 1,234
October 6, 2025



NOTES

77 Fishers Folly Drive
East Hardwick, VT 05836

63.0 0 32.00 63.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 103 Ft. 1cm = 12 Meters
© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.



LEGEND

- Parcels (standardized)
- Roads**
 - Interstate
 - US Highway; 1
 - State Highway
 - Town Highway (Class 1)
 - Town Highway (Class 2,3)
 - Town Highway (Class 4)
 - State Forest Trail
 - National Forest Trail
 - Legal Trail
 - Private Road/Driveway
 - Proposed Roads
- Town Boundary

NOTES

77 Fishers Folly Drive
East Hardwick, VT 05836

125.0 0 62.00 125.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 206 Ft. 1cm = 25 Meters
© Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

1: 2,469

October 6, 2025



Suzette Little and James Kelley

77 Fishers Folly Dr.

East Hardwick, VT, 05836

810-241-0420

9-17-25

Re: Request for Trees for Streams grant for riparian buffer planting

To Whom it May Concern,

We are pleased to submit this letter of support for the Caledonia County Natural Resources Conservation District's application for the funding of a riparian buffer planting at our property located at 77 Fishers Folly Dr. in East Hardwick, VT. We are excited to support this project in whatever way is possible for us, including our commitment to signing a 10-year operation and maintenance agreement after the planting is completed.

Thank you,

Suzette Little and James Kelley

Suzette Little *James Kelley*

- **Presentation of Updated Cost Rate Methodology**

MEMO

TO: LAMOILLE BASIN WATER QUALITY COUNCIL (BWQC)
FR: LAMOILLE BASIN CLEAN WATER SERVICE PROVIDER (CWSP) STAFF
RE: DEC COST RATE METHODOLOGY PRESENTATION
DA: November 26, 2025

=====

Vermont DEC's Cost Rate Methodology (CRM) is used to set phosphorus reduction targets and funding levels for Clean Water Service Providers (CWSPs). As previously announced, DEC proposed a new version of the CRM in late summer. Public comments on the proposal were accepted through October 17 as part of a formal review period.

With the recent posting of a 'response document,' the new methodology is now in effect. Adoption of the new CRPM means there will be a decrease in the size of the Lamoille basin's P reduction targets.

Chris Rottler of DEC will be attending the December 4 meeting to provide more details. As a preview, please see the following:

2025 Sector rates, in dollars per kilogram:

- **Developed sector:** \$49,422 (was \$15,822)
- **Streams sector:** \$21,459 (was \$10,601)
- **Forest sector:** \$18,897 (was \$9,565)
- **Agriculture sector (buffers):** \$4,072 (was \$6,725)

The overall impact of the change is that the targets in the Lamoille Basin will drop by 48 percent.

Link to the Cost Rate Methodology below:

https://anrweb.vt.gov/Pubdocs/DEC/ENB/ENB_V2/28413-DRAFT%20Cost%20Rate%20and%20Fund%20Allocation%20Methodology%2009.17.25.pdf

CWSP SFY26 Awards and Targets Summary

The CWSP SFY26 Awards and Targets Summary outlines the phosphorus reduction targets and associated costs for various basins in the region.

- Basin 6 has the highest target of 77.8 kg/yr with a total cost of \$1,779,866.09.
- Basin 7 targets a reduction of 15.2 kg/yr at a cost of \$523,375.52.
- The total phosphorus reduction target across all basins is 216.3 kg/yr with a total project cost of \$5,355,000.00. For comparison, Basin 5 (Northern Lake Champlain) has a target of 17.0 kg/yr with a total cost of \$523,375.52.

Revision of CWSP Targets for SFY 2023-2025

The revision of CWSP targets for SFY 2023-2025 reflects adjustments based on updated cost rates and project funding methodologies.

- The revisions resulted in a reduction of original targets by 45% to 59%.
- Basin 6's target is now 264.3 kg/yr, down from 509.0 kg/yr, a reduction of 244.7 kg/yr (48%).
- Basin 7's target is revised to 48.1 kg/yr from 115.8 kg/yr, a reduction of 67.7 kg/yr (58%).
- The total revised target for SFY 2023-2025 is 766.3 kg/yr, down from 1,516.4 kg/yr, a reduction of 750.1 kg/yr (49%). For comparison, the Basin 5 (Northern Lake Champlain) target is revised to 54.2 kg/yr from 121.8 kg/yr, a reduction of 67.6 kg/yr (56%).

- Updates/in brief

MEMO

TO: LAMOILLE BASIN WATER QUALITY COUNCIL (BWQC)
FR: LAMOILLE BASIN CLEAN WATER SERVICE PROVIDER (CWSP) STAFF
RE: UPDATE ITEMS
DA: NOVEMBER 26, 2025

=====

Items that will be highlighted during the update portion of the meeting will include the efforts to fill the vacant seat on the Council. However, as a result in a change in the seat held by a representative of the Vermont River Conservancy (which now occupies the second available watershed organization seat), the seat we are aiming to fill is the lone Land Conservation Organization seat. If you are aware of organizations that might be reasonable candidates, please let members of CWSP staff know.

- **Conclusion**