

ZONING PERMIT

# Town of Pomfret, Vermont ZONING PERMIT APPLICATION

Permit No.  
**ZP23-**

Parcel ID number 0 1 0 B - [ ]

Est. cost of project \$ 150,000

App. fee\*\* [ ]

Applicant Joseph & Cara DeFoor

Phone Number (daytime) [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ]

Address P.O. Box 219

South Pomfret, VT 05067

Lot Size: [ ]

Email [REDACTED]

Street Address of Property 1799 Pomfret Road, South Pomfret, VT 05067

Property Owner (if not same as Applicant) [ ]

Address [ ]

### DESCRIPTION OF PROPOSED WORK

Description of proposed work (incl. dimensions): Proposed bridge intended to reduce flood risks and allow heavier and larger vehicles including emergency response vehicles. See attached site plan prepared by Engineer Jonathan C.

Harrington. The project requires a variance from VII.B.11 of the Flood Hazard Area Regulations. This application is separate from an earlier application for a conditional use permit related to the same bridge, currently on appeal to the Environmental Division of the Superior Courts. See attached DeFoor Bridge Variance Request Narrative for more information.

Closest distance between new structure/addition and the following property lines (as shown on sketch):  
front/street: 435 +/- ft. back: 1,090 +/- ft. right: 332 +/- ft. left: 400 +/- ft.  
Height: N/A ft. No. & type of farm animals for farm structures: N/A

**NOTICE:** Permits must be approved a minimum of 15 days before commencing new use or construction. Use or construction authorized by this permit must be commenced within one year of issue unless delayed by ligation or permit expires.

### ACTION OF THE ADMINISTRATIVE OFFICER

ID of zoning district: [ ] ID and classification of use: [ ]

Application is REFERRED to the  ZBA or  PC for the following review and approval:

Ridgeline  Variance  Conditional Use  Other: [ ]

[ ] [ ] - [ ] [ ] - 2 3 AO Signature:

### FINAL ACTION OF THE ADMINISTRATIVE OFFICER

APPROVED  APPROVED with conditions noted  DENIED  NO PERMIT REQUIRED

Comments: [ ]  
[ ]  
[ ]

[ ] [ ] - [ ] [ ] - 2 3 AO Signature:

**WARNING:** State permits may be required for this project. Call 802-279-4747 to speak to the State Permit Specialist before beginning construction.

\*\*See current fee schedule. Make check payable to Town of Pomfret.

PROPERTY SKETCH

ZP23-

**INSTRUCTIONS:** Draw a lot outline and proposed construction within the lot showing distances to boundaries, existing buildings and location of roads, drives and parking. Show septic facilities and water supply for new residences. Indicate North on your sketch. Use another sheet or attach plans if appropriate.

See attached site plan.

CERTIFICATIONS OF APPLICANT AND/OR PROPERTY OWNER

**PROPERTY OWNER:** The undersigned property owner hereby certifies that the information on this application is true and accurate, consents to its submission, and understands that if the application is approved, the zoning permit and any attached conditions will be binding on the property. Further, the undersigned authorizes the Administrative Officer access, at reasonable times, to the property covered by the permit issued under this application, for the purposes of ascertaining compliance with said permit.

\_\_\_\_\_  
*Property Owner's signature* \_\_\_\_\_  
*Date*

**APPLICANT** (if not property owner): The undersigned applicant hereby certifies that ALL the information submitted on and with this application is true and accurate.

 9/20/2024

\_\_\_\_\_  
*Applicant's signature* David K. Mears, Esq. on behalf of Josep & Cara DeFoor *Date*

OFFICE USE ONLY

-   -      \$   -   -        -   -

Received

Fee

Paid or deposited

Application deemed complete

An applicant and/or interested person (as defined in 24 VSA §4464) may appeal any decision of the Administrative Officer to the Zoning Board of Adjustment (ZBA) within 15 days of the date of the decision. Said notice shall be in writing, mailed or delivered to the Clerk of the ZBA, and give the reasons for the appeal. Failure to appeal this decision may prevent any party from arguing against its elements in a future hearing or appeal. 24 VSA §4472.

# TARRANT GILLIES & SHEMS

GERALD R. TARRANT  
PAUL S. GILLIES  
RONALD A. SHEMS  
MICHAEL J. TARRANT II  
NICHOLAS A.E. LOW

44 EAST STATE STREET  
MONTPELIER, VT 05602  
(802) 223-1112  
FAX: (802) 223-6225

K. HEATHER DEVINE  
SARAH E. BUXTON  
DAVID K. MEARS  
STEPHEN F. COTEUS,  
*of counsel*

September 20, 2024

By First Class Mail and Electronic Mail ([karen.hewitt@pomfretvt.us](mailto:karen.hewitt@pomfretvt.us))

Karen Hewitt Osnoe  
Zoning Administrator

Benjamin Brickner, Chair  
Zoning Board of Adjustment

Town of Pomfret  
5218 Pomfret Road  
North Pomfret, VT 05053

Subject: DeFoor Bridge Variance Request Narrative – 1799 Pomfret Road

Dear Ms. Osnoe and Mr. Brickner:

This Variance Request narrative should be read in tandem with the Zoning Permit Application form filed concurrently, and the associated attachments, including a site plan prepared by engineer Jonathan C. Harrington, and a stream alteration permit from the Vermont Department of Environmental Conservation (“DEC”). Applicants will deliver a check for \$300 in satisfaction of the permit fee requirement separately to the Town offices. Mr. Harrington will bring a paper copy of the site plan set to the Town offices for your convenience in reviewing.

Applicants seek to construct a new bridge and associated driveway on the referenced property. Pursuant to Section IX of the Town of Pomfret (“Town”) Flood Hazard Area Regulations adopted May 2, 2007 (“Flood Regulations”), Joseph and Cara DeFoor (“Applicants”) request a variance from the requirement in Section VII.B.11. This provision requires that access roads “shall be one foot above base flood elevations and able to withstand a 100-year flood event without failing”. Applicants cannot feasibly meet this requirement without exacerbating flood risks and have no other practicable option to obtain a safe, reliable, and structurally sound means for themselves or emergency response vehicles such as fire trucks to travel to and from their property.

## **I. Procedural Background:**

The Applicants previously applied to the Town for a conditional use permit, Permit Application Number ZP24-04. The Zoning Board of Adjustment (“ZBA”) denied the conditional use application in a Memorandum of Decision dated May 8, 2024 on the basis that a portion of the relocated driveway associated with the proposed new bridge would be below the base flood elevation, contrary to the requirement of Section VII.B.11 of the Flood Regulations. The ZBA

also stated, in its Memorandum of Decision, that Applicants had not provided sufficient information to justify granting a variance from this provision. Due to the fact that the Applicants did not properly apply for a variance, the present Variance Request represents a separate application intended to remedy the conditional use application's lack of one.

The Applicants filed a timely appeal of the ZBA's denial of the conditional use permit with the Environmental Division of the Vermont Superior Courts (Docket Number 24-ENV-00048). Pursuant to agreement with the Town, the litigation of the appeal has been suspended, to allow the Town and Applicants to explore the possibility of a resolution that does not require either to incur the cost of litigation. The present variance request is filed by agreement with the Town as a possible means of resolving the appeal. Once the ZBA determines whether or not to grant this Variance Request, I will coordinate with the Town's legal counsel to determine how best to proceed before the court with regard to the pending appeal.

## **II. Relevant Criteria:**

The application filed concurrently with this letter, and the following narrative provide a clear basis for granting a variance given the circumstances of this project, pursuant to Section IX of the Town's Hazard Area Flood Regulations and other applicable law relevant to variances including the Vermont statute applicable to variances from municipal zoning regulations, 24 V.S.A. §4469, and the National Flood Insurance Program ("NFIP") regulations, 40 C.F.R. §60.6.

### **A. Town Regulations**

The Town's Flood Regulations, Section IX, state that:

Variances shall be granted by the Zoning Board of Adjustment after a hearing noticed in the same manner as for a conditional use and only in accordance with 24 V.S.A. §4469 and in accordance with the criteria for granting variances found in 44 C.F.R., Section 60.6, of the National Flood Insurance Program regulations, which requires that the variance will not result in increased flood heights, increased susceptibility to flooding or erosion, additional threats to public safety or infrastructure (including emergency services during flood events), or extraordinary public expense.

### **B. NFIP Regulations:**

The National Flood Insurance Program regulations at 44 C.F.R. §60.6 include the following criteria relevant to the ZBA's consideration:

(1) Variances shall not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result;  
...

(3) Variances shall only be issued by a community upon

(i) a showing of good and sufficient cause,

- (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and
- (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;

(4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; . . . .

**C. Vermont Statute:**

The relevant Vermont state statute, 24 V.S.A. § 4469, includes the following criteria for granting a variance of a Town bylaw:

- (1) There are unique physical circumstances or conditions, including irregularity, narrowness, or shallowness of lot size or shape, or exceptional topographical or other physical conditions peculiar to the particular property, and that unnecessary hardship is due to these conditions, and not the circumstances or conditions generally created by the provisions of the bylaw in the neighborhood or district in which the property is located.
- (2) Because of these physical circumstances or conditions, there is no possibility that the property can be developed in strict conformity with the provisions of the bylaw, and that the authorization of a variance is therefore necessary to enable the reasonable use of the property.
- (3) Unnecessary hardship has not been created by the appellant.
- (4) The variance, if authorized, will not alter the essential character of the neighborhood or district in which the property is located, substantially or permanently impair the appropriate use or development of adjacent property, reduce access to renewable energy resources, or be detrimental to the public welfare.
- (5) The variance, if authorized, will represent the minimum variance that will afford relief and will represent the least deviation possible from the bylaw and from the plan.

**III. Granting a variance is consistent with the Town Flood Regulations, National Flood Insurance Program regulations and Vermont variance criteria as follows:**

**A. The proposed project will not result in increased flood heights or levels:**

The proposed site plan attached to the Application (“Site Plan”) shows a project designed to not increase base flood levels across the project area. This result has been determined by Project Engineer Jonathan C. Harrington, P.E. of Harrington Civil Engineers, Inc. using standard engineering practice, which included utilizing the US Army Corps of Engineers Hec Ras® hydraulic modeling software to evaluate stream conditions both before and after development. This result is made possible by balancing cuts and fills created by the project and by allowing

base flood elevation flood waters to pass over a relatively short portion of the driveway approach in the same manner as existing conditions.

**B. The proposed project will not result in increased susceptibility to flooding or erosion:**

As determined by Mr. Harrington, the bridge as proposed reduces susceptibility to flooding since it is designed to be one foot above the calculated base flood elevation (“BFE”), as opposed to the existing covered bridge which is 1.7 feet below the calculated BFE. Additionally, with the existing conditions, the driveway approaches are under the base flood for an estimated 145 feet and include both sides of the existing covered bridge. This current condition has a greater portion of driveway under the BFE than the proposed plan, which involves an estimated 110 feet of driveway approach on one side of the proposed bridge. See Site Plan.

**C. The proposed project will not result in additional threats to public safety or infrastructure (including emergency services during flood events):**

Constructing a new bridge in accordance with the proposed plan prepared by Mr. Harrington will reduce threats to public safety and increase the likelihood of emergency services access during flood events since the proposed bridge is designed to be more resilient to flooding than the existing bridge.

**D. The proposed project will not result in extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances:**

This project is being funded entirely by Applicants and will not include any public expense. The bridge is being constructed on Applicants’ property and therefore will not result in any nuisance. For these same reasons, the project could not constitute a fraud. Applicants have obtained the required Vermont Stream Alteration Permit, consulted with DEC, and determined that this project will not conflict with any existing laws or ordinances beyond the provision in the Flood Regulations for which a variance is sought.

**E. There are unique physical circumstances or conditions peculiar to this project, there is no possibility that the property can be developed in strict conformity with the Flood Regulations, a variance is necessary to enable reasonable use of the property, the requested variance is the minimum necessary to afford relief, and represents the least deviation from the Flood Regulations from any other options:**

The design process used by the Mr. Harrington considered locations upstream and downstream of the current covered bridge and included consultation with DEC River Engineer Scott Jensen, P.E. and DEC Floodplain Manager Ned Swanberg, CFM. Based on this analysis, Mr. Harrington has concluded that the project as described in the proposed Site Plan is the only practicable option for crossing Barnard Brook for reasonable access to the DeFoor home and that, given the contours of the property, this proposal will not exacerbate flood risks.

Unique physical characteristics and conditions at this location include that Barnard Brook runs across the entire width of the property in a manner that, absent a bridge, prevents access to the Applicants' home from Pomfret Road and there are no other reasonable means of access. In addition, the area surrounding the reach of Barnard Brook on Applicants' property is low-lying, with the floodplain extending a significant distance from the Brook, especially on the North side of the Brook.

Other bridge locations considered included the renovation of the existing bridge, or placing a new bridge immediately upstream or downstream of the existing bridge. In order to meet the applicable standards in the current Town of Pomfret Flood Hazard Area Regulations, the existing bridge would need to be elevated approximately three (3) feet and the driveway approach from either direction would need to be similarly elevated. Due to the conditions described above, elevating the driveway over the full length of the floodplain in this location would create a significant impediment to the passage of water in the event of a flood. Similarly, placing a new bridge in the vicinity of the existing bridge, either immediately upstream or immediately downstream, would require similar elevations and would also pose a greater risk of impeding flows, causing flood risks to both the bridge and to adjoining properties.

For all of these reasons, the proposed location is the best and safest option. The proposed bridge location takes advantage of the existing contours of the property, including the higher elevation of the land on the South side of the Brook, and reduces the length of the portion of the driveway below the base flood elevation. Considering the significantly reduced flood risk associated with siting a new bridge as proposed and designed, compared to the other options, the Project is the optimal manner to provide safe access to the Applicants' property while minimizing flood risks. Of all the options considered, the proposed approach involves the least deviation possible from the Town's Flood Regulations and is more consistent with the goals and purposes of the Flood Regulations than any other option.

**F. The variance, if granted, would not alter the essential character of the area in which the property is located, substantially or permanently impair the appropriate use or development of adjacent property, reduce access to renewable energy resources, or be detrimental to the public welfare:**

The proposed plan, if approved, will result in the construction of a bridge that is consistent with other similar residential bridges in the area, will not have any impact on the appropriate uses or development of adjoining properties, will not reduce access to renewable energy resources, or in any way be detrimental to the public welfare. In fact, the construction of the bridge will increase the reliability of emergency access across Barnard Brook during flood events and will reduce flood risks relative to any other option.

**G. A failure to grant the variance will result in exceptional and unnecessary hardship to Applicants and the hardship has not been created by Applicants and they have good and sufficient cause for the variance:**

The need for the variance for this project is entirely due to the physical contours of Applicants' land. They merely seek to construct a safe and reliable means of ingress and egress to their home for themselves, their visitors, contractors, utilities, and emergency services. While

the existing bridge on the Applicants' property across Barnard Brook is aesthetically appealing, it is decaying and would need significant repairs to maintain structural integrity. An analysis in 2021 by an expert in restoration of historic structures indicated that substantial structural repairs to the existing covered bridge are necessary. The scale and nature of those repairs would trigger the need for a review under the Town's Flood Regulations. As noted above, upgrading the bridge to meet the requirements of the Town Flood Regulations would require elevating the bridge by nearly three (3) feet, and would require elevating the driveway by a proportional level, exacerbating flood risks. Finally, Applicants have observed that the existing bridge dimensions could pose an impediment to a fire truck, and it is unclear whether the dimensions of the existing bridge are sufficient to allow large utility or emergency response vehicles such as fire trucks to pass through safely.

For all of these reasons, in the absence of a variance and the ability to construct a new, safer, and more flood resilient bridge, Applicants will remain in the position of using a deteriorating bridge, with continued uncertainty regarding access for emergency vehicles, and no clear pathway to resolution of the regulatory catch-22 in which they find themselves. Applicants respectfully request that the ZBA grant the Variance Request. Applicants plan to attend the ZBA hearing on this matter along with Mr. Harrington in order to be able to respond to any questions from the Board and would be pleased to host a site visit in the event that the ZBA determines that a visit would be helpful.

Sincerely,

A handwritten signature in black ink, appearing to read "David Mears". The signature is stylized with a large initial "D" and a long horizontal stroke at the end.

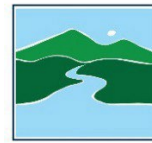
David Mears, Esq.

Counsel for Applicants Joseph and Cara DeFoor



**AUTHORIZATION TO CONDUCT  
STREAM ALTERATION ACTIVITIES**

Pursuant to Section C.2.2, and C.2.3  
of the Vermont Stream Alteration General Permit



VERMONT DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION

**WATERSHED  
MANAGEMENT DIVISION**

RIVERS PROGRAM

**(Reporting activities requiring Application or Registration)**

**A. Permitted Project Information:**

Permit Number: SR-3706	Waterbody: Barnard Brook
Project Location: 1799 Pomfret Rd	Lat:/Long: 43.66128N, 72.53669W
Applicant Name: Joseph and Cara Defoor	Email: [REDACTED]
Mailing Address: PO Box 219, South Pomfret, VT 05067	Phone: [REDACTED]

**B. Findings:**

The Secretary of the Vermont Agency of Natural Resources (VT ANR) has determined that:

This project consists of the construction of a new bridge to access an existing house.

1. The proposed activity is eligible for coverage under the Vermont ANR Stream Alteration General Permit.
2. The proposed activity will meet the terms and conditions of the General Permit provided:
  - a) The project will be completed as in the plans by Harrington Civil Engineering dated February 05, 2023.

**C. Standard Conditions:**

1. The project will not adversely affect the public safety by increasing flood hazards.
2. The project will not significantly damage fish life or wildlife.
3. The project will not significantly damage the rights of riparian owners.
4. The project will not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
5. The project is conducted in a manner which minimizes or avoids any discharge of sediment or other pollutants to surface waters in violation of the Vermont Water Quality Standards.
6. **An on-site preconstruction meeting is conducted with the contractor and RME prior to the start of instream work.**
7. The River Management Engineer is notified by phone or email when construction begins and when the project is complete.
8. **In-stream working dates for all GP activities are from June 1<sup>st</sup> through October 1<sup>st</sup>; any in-stream work outside these dates will require consultation with and prior authorization from the River Management Engineer (RME).**
9. **This permit will expire: December 31, 2028**

If there are any changes in the project plan or deviation in construction from the approved plan, the Permittee must notify the River Management Engineer immediately. If the project is constructed as you have described, as shown on the above referenced approved plans and per the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards.

*Please be aware that the proposed project is in a municipality that participates in the National Flood Insurance Program (NFIP).*


*Construction or storage within the Special Flood Hazard Area (SFHA) as delineated on the FEMA Flood Insurance Rate Map.*

*24 VSA, Section 4424 requires communities to submit SFHA permit applications to the ANR Regional Floodplain Manager for review and comment to ensure the project is compliant with local and NFIP minimum floodplain management standards.*

Please be aware that this authorization does not constitute ANR's review and comment under 24 VSA Section 4424.

**D. Authorization:**

Signed this 27th day of March 2024  
Julia S. Moore, Secretary, Vermont Agency of Natural Resources

by:  River Management Engineer  
VT DEC Rivers Program, Watershed Management Division

**E. River Engineer Contact Information**

Engineer: **Scott Jensen, PE**

Contact Phone: **802 490-6962**

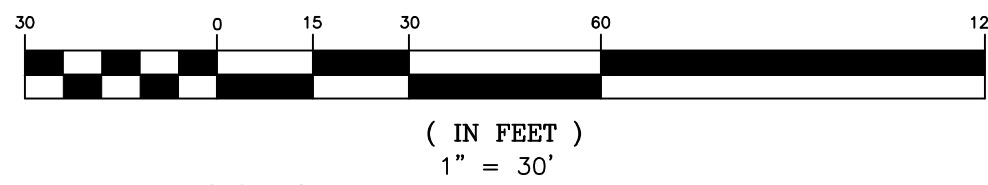
Email Address: [scott.jensen@vermont.gov](mailto:scott.jensen@vermont.gov)

State of Vermont – ANR Department of Environmental Conservation  
Watershed Management Division - Stream Alteration Permitting  
1 National Life Drive, Main 2 Montpelier, VT 05620-3522



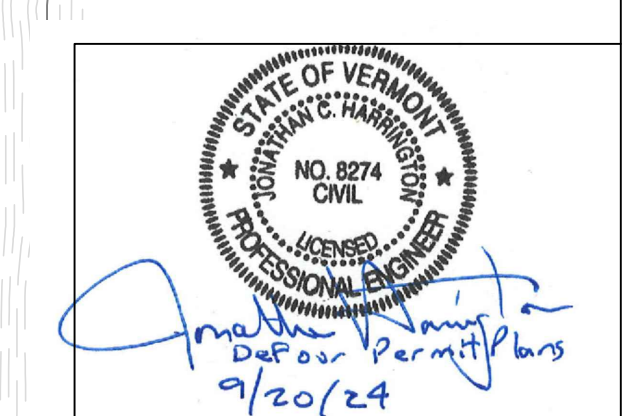
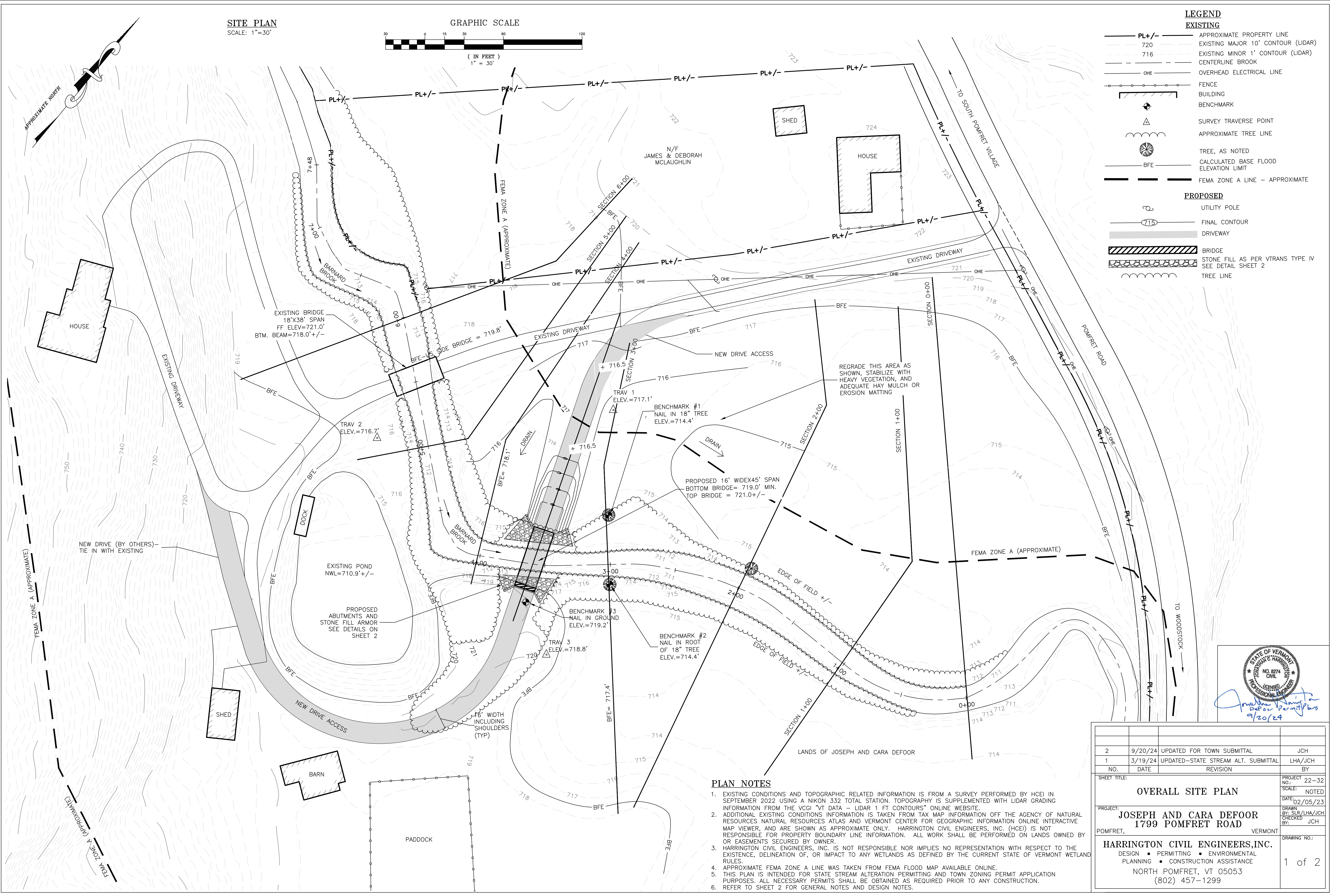
**SITE PLAN**  
SCALE: 1"=30'

**GRAPHIC SCALE**



**LEGEND**

- EXISTING**
- PL+/- APPROXIMATE PROPERTY LINE
  - 720 EXISTING MAJOR 10' CONTOUR (LIDAR)
  - 716 EXISTING MINOR 1" CONTOUR (LIDAR)
  - CENTERLINE BROOK
  - OHE OVERHEAD ELECTRICAL LINE
  - FENCE
  - BUILDING
  - BENCHMARK
  - SURVEY TRAVERSE POINT
  - APPROXIMATE TREE LINE
  - TREE, AS NOTED
  - BFE CALCULATED BASE FLOOD ELEVATION LIMIT
  - FEMA ZONE A LINE - APPROXIMATE
- PROPOSED**
- UTILITY POLE
  - 715 FINAL CONTOUR
  - DRIVEWAY
  - BRIDGE
  - STONE FILL AS PER VTRANS TYPE IV SEE DETAIL SHEET 2
  - TREE LINE



**PLAN NOTES**

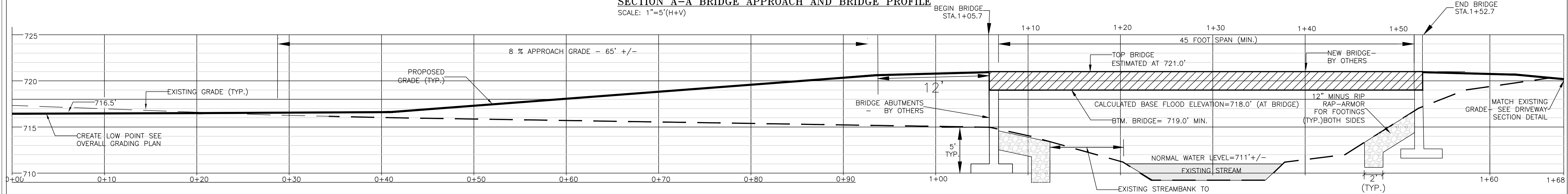
1. EXISTING CONDITIONS AND TOPOGRAPHIC RELATED INFORMATION IS FROM A SURVEY PERFORMED BY HCEI IN SEPTEMBER 2022 USING A NIKON 332 TOTAL STATION. TOPOGRAPHY IS SUPPLEMENTED WITH LIDAR GRADING INFORMATION FROM THE VCGI "VT DATA - LIDAR 1 FT CONTOURS" ONLINE WEBSITE.
2. ADDITIONAL EXISTING CONDITIONS INFORMATION IS TAKEN FROM TAX MAP INFORMATION OFF THE AGENCY OF NATURAL RESOURCES NATURAL RESOURCES ATLAS AND VERMONT CENTER FOR GEOGRAPHIC INFORMATION ONLINE INTERACTIVE MAP VIEWER, AND ARE SHOWN AS APPROXIMATE ONLY. HARRINGTON CIVIL ENGINEERS, INC. (HCEI) IS NOT RESPONSIBLE FOR PROPERTY BOUNDARY LINE INFORMATION. ALL WORK SHALL BE PERFORMED ON LANDS OWNED BY OR EASEMENTS SECURED BY OWNER.
3. HARRINGTON CIVIL ENGINEERS, INC. IS NOT RESPONSIBLE NOR IMPLIES NO REPRESENTATION WITH RESPECT TO THE EXISTENCE, DELINEATION OF, OR IMPACT TO ANY WETLANDS AS DEFINED BY THE CURRENT STATE OF VERMONT WETLAND RULES.
4. APPROXIMATE FEMA ZONE A LINE WAS TAKEN FROM FEMA FLOOD MAP AVAILABLE ONLINE.
5. THIS PLAN IS INTENDED FOR STATE STREAM ALTERATION PERMITTING AND TOWN ZONING PERMIT APPLICATION PURPOSES. ALL NECESSARY PERMITS SHALL BE OBTAINED AS REQUIRED PRIOR TO ANY CONSTRUCTION.
6. REFER TO SHEET 2 FOR GENERAL NOTES AND DESIGN NOTES.

2	9/20/24	UPDATED FOR TOWN SUBMITTAL	JCH
1	3/19/24	UPDATED-STATE STREAM ALT. SUBMITTAL	LHA/JCH
NO.	DATE	REVISION	BY
SHEET TITLE:			PROJECT NO.: 22-32
OVERALL SITE PLAN			SCALE: NOTED
PROJECT: JOSEPH AND CARA DEFOOR 1799 POMFRET ROAD			DATE: 02/05/23
POMFRET, VERMONT			DRAWN BY: SLR/LHA/JCH
HARRINGTON CIVIL ENGINEERS, INC. DESIGN • PERMITTING • ENVIRONMENTAL PLANNING • CONSTRUCTION ASSISTANCE			CHECKED BY: JCH
NORTH POMFRET, VT 05053 (802) 457-1299			DRAWING NO.: 1 of 2



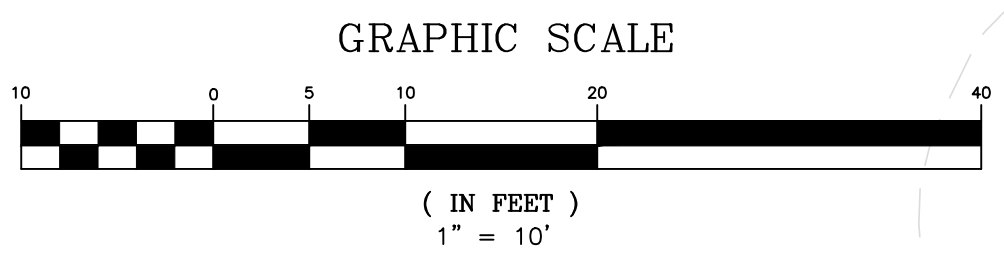
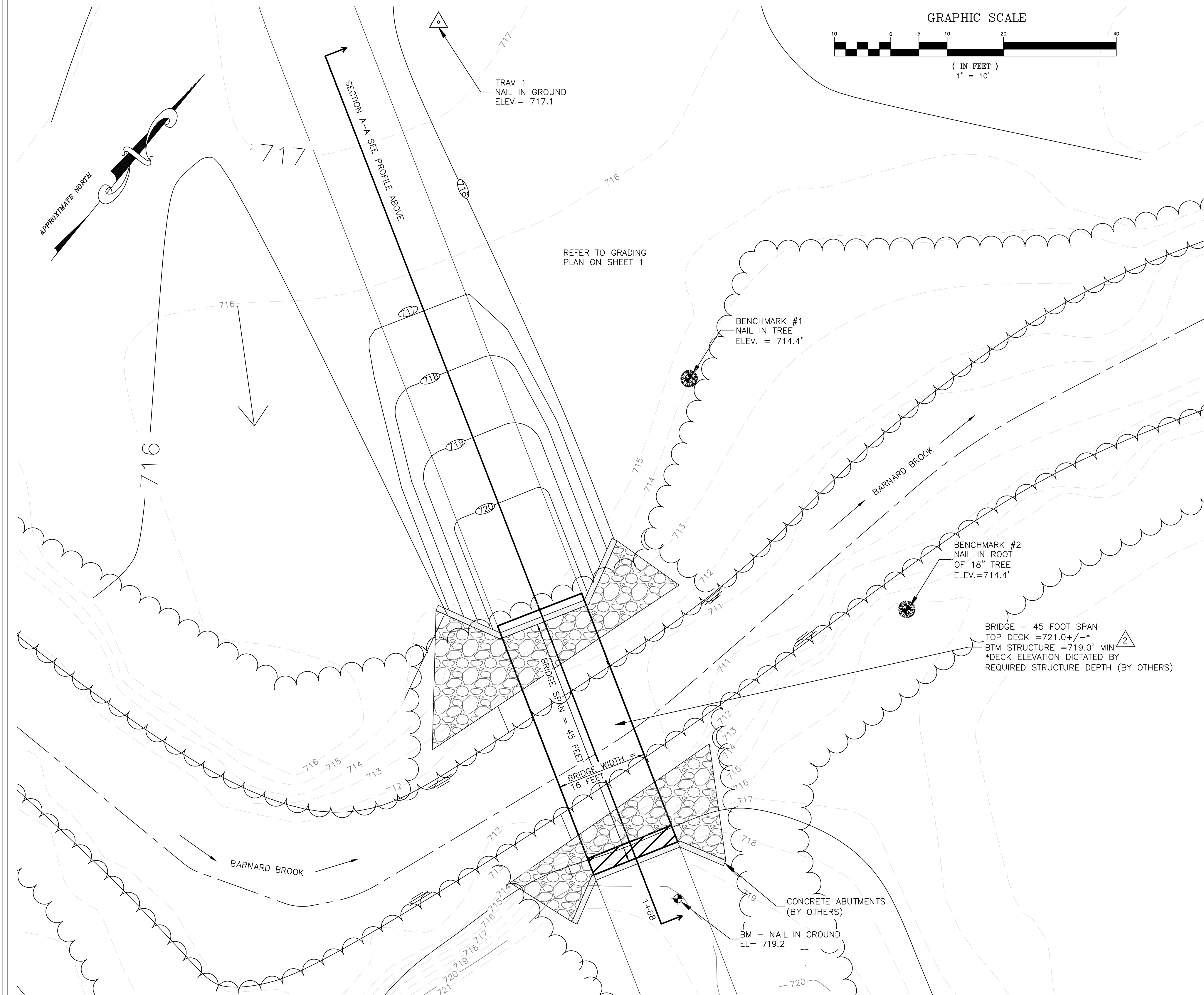
**SECTION A-A BRIDGE APPROACH AND BRIDGE PROFILE**

SCALE: 1"=5'(H+V)



**BRIDGE ABUTMENT PLAN**

SCALE: 1"=10'

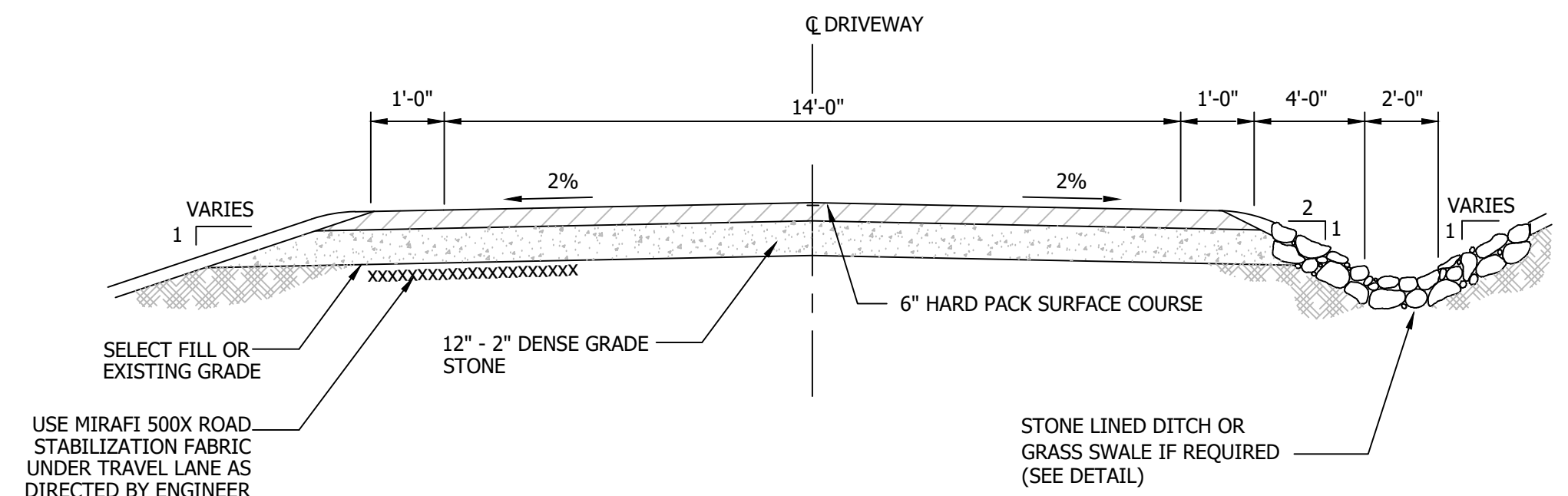


**GENERAL NOTES**

1. CONTRACTOR TO REPORT ALL ERRORS AND OMISSIONS TO DESIGNER IMMEDIATELY.
2. CONTRACTOR IS WARNED THAT UNDERGROUND UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THESE PLANS AND IS ADVISED TO CALL DIG-SAFE PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY EROSION CONTROL MEASURES.

**DESIGN NOTES**

1. BASE FLOOD ELEVATION WAS CALCULATED USING THE US ARMY CORPS OF ENGINEERS HEC RAS® COMPUTER PROGRAM. CROSS SECTIONS WERE DEVELOPED FROM HCEI SURVEY AND LIDAR CONTOUR INFORMATION, REFERENCED ON SHEET 1. DESIGN FLOW ASSUMED IS 2330 CFS (CUBIC FEET PER SECOND) AND WAS TAKEN FROM USGS STREAM STATS FLOW REGRESSION INFORMATION FOR THE 1% (100 YEAR) STORM EVENT.
2. FLOW EQUILIBRIUM IS DEMONSTRATED THROUGH SEPARATE HEC RAS CALCULATIONS. THE CALCULATED TOTAL VELOCITY AT STATION 0+00 IS 5.75 FT/SEC FOR PRE AND POST CONDITIONS, AND CALCULATED WATER SURFACE ELEVATION IS THE SAME.
3. THE GRADING SHOWN ON THIS PLAN IS DESIGNED TO BE AT LEAST NET ZERO FLOOD VOLUMES, THE CALCULATED FILL AMOUNT IN THE FLOOD PLAIN DUE TO BRIDGE APPROACHES IS 170 CUBIC YARDS, AND TOTAL CALCULATED CUT AMOUNT IN THE FLOOD PLAIN IS GREATER THAN 195 CUBIC YARDS FOR AN ESTIMATED FLOOD STORAGE VOLUME OF GREATER THAN -25 CUBIC YARDS.
4. THIS DESIGN IS INTENDED FOR BASE FLOOD LIMIT AND GRADING PURPOSES ONLY. THIS DESIGN DOES NOT INCLUDE A STRUCTURAL DESIGN FOR THE BRIDGE OR ABUTMENTS AND WINGWALLS.

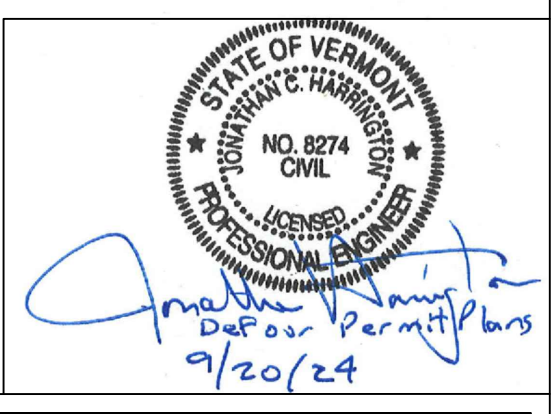


**TYPICAL DRIVEWAY CROSS SECTION**

NOT TO SCALE

**LEGEND**

- EXISTING**
- 720 EXISTING MAJOR CONTOUR (LIDAR)
  - 716 EXISTING MINOR 1' CONTOUR (LIDAR)
  - CENTERLINE BROOK
  - OHE OVERHEAD ELECTRICAL LINE
  - FENCE
  - ⊕ BENCHMARK
  - △ SURVEY TRAVERSE POINT
  - ⊙ TREE, AS NOTED
  - EXISTING TREE LINE
  - BFE BASE FLOOD ELEVATION
  - FEMA ZONE A LINE
- PROPOSED**
- 715 FINAL CONTOUR
  - DRIVEWAY
  - ▨ BRIDGE
  - STONE FILL AS PER VTRANS TYPE IV SEE DETAIL SHEET 2
  - TREELINE



3	9/20/24	MINOR REVISIONS FOR TOWN SUBMITTAL	JCH
2	4/06/24	MINOR TYPO FIX - PER TOWN COMMENT	JCH
1	3/19/24	UPDATED-STATE STREAM ALT. SUBMITTAL	LHA/JCH
NO.	DATE	REVISION	BY
SHEET TITLE:			
<b>BRIDGE APPROACH AND ABUTMENT PLAN, PROFILE, DETAILS, AND NOTES</b>			PROJECT NO.: 22-32
PROJECT: JOSEPH AND CARA DEFOOR 1799 POMFRET ROAD			SCALE: NOTED
POMFRET, VERMONT			DATE: 02/05/23
HARRINGTON CIVIL ENGINEERS, INC. DESIGN • PERMITTING • ENVIRONMENTAL PLANNING • CONSTRUCTION ASSISTANCE			DRAWN BY: SLR/LHA/JCH CHECKED BY: JCH
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