

Hanks Brook Culvert Replacement RFP Questions and Responses

Based on the questions that were received, the design engineer has produced a revised set of plans. The revised plans are referenced in this Q and A document.

1. What are the bonding requirements for this project?

No bonding requirements

2. Which entity owns the overhead utility lines?

Green Mountain Power and Waitsfield and Champlain Valley Telecom

3. Will the Town take the trees and stumps?

No, the town will not take the trees or stumps. The Town will take the pavement, gravel, excess material from the excavation, concrete and guardrails if it is not reused.

4. Can we get a full size set of plans (for scaling accuracy and legibility)?

Cindi Jones at the Town of Warren is able to send the plans as a PDF and contractors can create their own printed copy, if needed.

5. Can we get copies of the boring logs?

Yes, a copy of the borings log is available. The can be requested from Cindi Jones at the Town.

6. The ROW is noted that is what based on approximately 3 rod. Can this be verified by the town? Also, construction and temporary road extend outside of ROW. Have easements been obtained.

Per the Town, the ROW is 3-rod but it has not been surveyed. The Town is working with two landowners for the easements for the construction and temporary road.

7. Existing trees to be remove are outside ROW. Is this ok with landowner?

The Town is working with the landowner and believe that removal will be acceptable to them.

8. Plans state full depth reconstruction of pavement per Town standards. Need details, quantities and specs to be provided. Will the pavement be tapered into existing or a straight cut?

Per the Town, reconstruction of section must follow the Town Road and Bridge Standards "All new or substantially reconstructed paved roads shall have at least 15" thick gravel sub-base". Pavement is always a straight cut. Contractor is responsible as per plans.

9. Temp bridge on plans is shown as required. This is out of ROW. What is the status of the needed easement. Also, temp road is over existing road culvert noted to be relocated. Where to? Where are the reinstallation details?

The Town is working on a temporary easement is for anything out of the ROW. The culvert that will be impacted by the temporary road should be put back as it was.

10. Can we review the Schedule of Items or a list of Estimated Quantities?

The Town and the FMR have chosen not to release this information for the project.

11. Please confirm that the contractor will be responsible to hire third party material sampling/inspection/testing. If not, what is the plan for this?

Typically, testing of materials by a third party is recommended and the Contractor is responsible for the associated cost; however, the Town has not made testing mandatory. The Project Engineer will review a submittal of the concrete mix design for approval.

12. Need additional details on guardrails. Not enough information provided on type, material, spacing, terminal sections, etc. Are they per VTRANS standards? If so, need to have them included in the plans.

Please refer to the VTrans standard specifications and details (VTrans Standard Details, Sheets G-1, G-1D, G-19, and S-366).

13. No object markers shown on plans for the guardrails – where is this?

Refer to the VTrans standard specifications and details (see Sheet G-1, G-1D, G-19, and S-366).

14. General Note 22 has a site visit with engineer and contractor after construction is done and after first “high flow” event. Please provide more definition.

There should be a 1-year warranty to be sure the culvert is sound during flooding, defined as an event of more than 1 inch of precipitation. Repairs will be conducted as requested by the Town and as allowed by regulators. The project may be closed out during the post-flood inspection and work will need to be reinitiated only if damages take place and the Town requests repairs. The Town and the contractor will address this in more detail in the construction contract.

15. Footings are shown over bedrock. How will it be determined if the bedrock is competent? What is the role of the project engineer in this determination?

We anticipate that bedrock will be scraped with an excavator to remove weathered rock and power washed to clean in order to establish a sound surface. The Project Engineer will review in the field while bedrock surface is being prepared to determine if the surface is sound.

16. Rebar is noted as continuous. This means 51' long rebar, will that be a problem hauling to the site up Lincoln Gap Rd? Will splices be allowed and approved on rebar submittal to design engineer?

Yes, splices will be allowed and approved through the review of a reinforcing steel submittal.

17. Bottom of footing elevation is shown on plans, but top of footing elevations looks to be measured off top of concrete headwall which has \pm dimensions. Since the plans note that the footing thickness varies the top of footing elevations will need to be provided for upstream and downstream.

The elevations shown in the cross section and profile views are to be used to set the footings. The dimension shown from the top of plate arch culvert to the top of headwall is shown as +/- due to slight variations that may occur in the plate arch culvert.

18. Plans show \pm dimensions for the concrete headwall. What is the \pm allowed?

The width of the headwall shall be 23'-6" exactly. The dimensions on the plans have been updated to remove the +/-.

19. The plans do not show or dimension the location of the keyway. Is it supposed to be centered? Also, what is the inside to inside dimension of the concrete footings?

The key is centered on the footing, for additional information see Sheet LA (added to the revised plan set) for dimensions, and refer to the detail on Sheet STR-03 for keyway dimensions.

20. Footings and headwall show $\frac{1}{2}$ " expansion joint. VTRANS 501.14 states these to be constructed as shown on plans. Please provide detail. Also, the proposed sequencing and expansion joint location indicate that the contractor will have to make at least seven (7) concrete pours. Is this correct? If so, scheduling will be difficult due to the length of concrete cure.

The $\frac{1}{2}$ " expansion joint is required as shown on the plans. It is the responsibility of the contractor to establish the most efficient pour sequence.

21. For the detail showing the headwall reinforcement over the plate arch, is there required type of hardware for the hook bolts? Nuts only? Nuts and Washers? Nut and Washer one side or both?

Final details of plate arch culvert to the headwall connection will be per the manufacturer of plate arch, as this will vary per manufacturer.

22. Detail for temporary road says to see plans for width. This is not shown on the plans. Is this to be scaled off the plans or assumed to be the same width as the temporary bridge?

Additional dimensions have been added to Sheet SE of the plan set.

23. Plans show a typical footing section of bedrock with dowels. What is to be done for the wingwalls over bedrock? Same drilling and grouting of dowels as footing?

No dowels into bedrock are required for wingwall footings. Footings may be poured over cleaned sound bedrock.

24. Temporary bridge elevation detail does not provide a lower cord or elevation above the stream. Need to specify a minimum elevation above stream.

See low chord elevation provided on Sheet SE of the plan set.

25. Channel Reconstruction Section View shows a 16 ft bankfull from inside of concrete to inside of concrete. This seems to be inconsistent with the rest of the plans, which show the footings as being 5 ft wide each. That makes the opening between the concrete faces approximately 13.5 ft, not 16ft.

Does this mean that the "bank" 2.5 ft in from each side of the pipe arch is just going to be concrete?
No streambed material on top of it?

The bankfull width is actually on top of the concrete footings with some streambed material at the outer edge, as currently shown on the plans. Twelve (12) inches of streambed material are to be placed on top of the concrete footing that will naturalize the bankfull channel and not impact culvert performance. Please see the channel reconstruction detail on Sheet STR-03 and the updated cross sections on Sheet STR-02.

26. The specs show the footings sitting on bedrock, that being said why would it be necessary to remove 30cy of bedrock (as shown on the bid sheet)?

The contractor will be required to remove enough bedrock to establish a sound bedrock surface and allow space for a minimum footing thickness dimension of 2 feet, see Typical Footing Section @ Bedrock detail on Sheet STR-03.

27. No stationing or control points are included. These are need to in order to properly layout the project.

The coordinates have been added to the revised plans.

28. The General Notes state the contractor to obtain all permits. Does this include a stream alt permit?

The Town has obtained the stream alt permit. The design engineer (MMI) is currently working on the ACOE permit.

29. Plans state construction to be done in low water conditions. What is the definition of this? Is this July 1 to Sept 30 for State requirements? Or is this a certain stream flow?

Construction must be completed between July 1 and September 30 per stream alt. There are no specific flow requirements.

30. Plans note backfill specifications for pipe and they call out VTRANS specs. Do these align with specifications for pipe manufacturer?

Contractor will be responsible to make sure these specifications align.

31. Is it possible to use precast footings?

No, the footings must be cast in place in order to pin to bedrock.

MIKE'S BORING & CORING LLC.

PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Brian Cote Milone & MacBroom 1 South Main Street, 2 nd Floor Waterbury, VT 05676	PROJECT NAME: Lincoln Gap Culvert LOCATION: Warren, VT MBC JOB #: 16058	SHEET: 1 DATE: 8-2-16 HOLE #: B-1 LINE & STA. OFFSET:
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Ground Water Observations 10' at _ 0 hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 8-2-16 Date Completed: 8-2-16 Boring Foreman: Mike McGinley Inspector: Soils Engineer:
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LOCATION OF BORING: As staked

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
5'-7'	Dry	4/4/3/3	Moist		Brown medium fine sand some medium gravel	1	24	14
10'-12'	Dry	30/47/22/28	Wet		Brown coarse gravel with large cobbles	2	24	16
15'-17'	Dry	25/55/72/90	Wet		Gray medium fine sand with a trace of silt some rock fragments (till)	3	24	22
20'-22'	Dry	11/31/34/37	Wet		Gray very fine sand some silt	4	24	18
25'-27'	Dry	100 for 1.5"	Dry		Rock fragments	5	1.5	1.5

Ground Surface to 25'

Used 3.25"

augers: Then SS to refusal at 25'1.5"

Earth Boring 25'1.5"
Rock Coring
Samples: 5
HOLE NUMBER B-1

MIKE'S BORING & CORING LLC.

PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Brian Cote Milone & MacBroom 1 South Main Street, 2 nd Floor Waterbury, VT 05676	PROJECT NAME: Lincoln Gap Culvert LOCATION: Warren, VT MBC JOB #: 16058	SHEET: 2 DATE: 8-2-16 HOLE #: B-2 LINE & STA. OFFSET:
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Ground Water Observations 14' at _ 0 hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 8-2-16 Date Completed: 8-2-16 Boring Foreman: Mike McGinley Inspector: Soils Engineer:
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LOCATION OF BORING: As staked

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
0'-2'	Dry	4/6/10/13	Moist		Brown medium gravel some fine sand	1	24	18
4'-6'	Dry	5/3/3/5	Moist		Brown medium fine sand	2	24	18
9'-11'	Dry	6/6/4/6	Damp		Brown fine sand some silt and medium gravel	3	24	18
14'-16'	Dry	100 for 3"	Damp		Gray silt and very fine sand with rock fragments	4	3	3

Ground Surface to 14'

Used 3.25"

augers: Then SS to refusal at 14'3"

Earth Boring 14'3"
Rock Coring
Samples: 4
HOLE NUMBER B-2

MIKE'S BORING & CORING LLC.
PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Brian Cote Milone & MacBroom 1 South Main Street, 2 nd Floor Waterbury, VT 05676	PROJECT NAME: Lincoln Gap Culvert LOCATION: Warren, VT MBC JOB #: 16058	SHEET: 3 DATE: 8-2-16 HOLE #: B-3 LINE & STA. OFFSET:
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Ground Water Observations at _ hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 8-2-16 Date Completed: 8-2-16 Boring Foreman: Mike McGinley Inspector: Soils Engineer:
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LOCATION OF BORING: As staked

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
4'-6'	Dry	8/10/10/12	Damp		4" pavement brown medium fine sand some medium gravel	1	24	16
9'-11'	Dry	14/21/28/28	Damp		Brown fine sand, trace of silt with medium gravel some cobbles	2	24	18
14'-16'	Dry	64/100 for 6"	Dry		Gray till with rock fragments	3	12	12
					Auger refusal at 15'6"			
					Discontinued boring			

Ground Surface to 14'

Used 3.25"

augers: Then SS to refusal at 15'

Earth Boring 15'
Rock Coring
Samples: 3
HOLE NUMBER B-3

MIKE'S BORING & CORING LLC.
PO Box 75 ° East Barre, Vermont 05649 ° 802 476-5073

TO: Brian Cote Milone & MacBroom 1 South Main Street, 2 nd Floor Waterbury, VT 05676	PROJECT NAME: Lincoln Gap Culvert LOCATION: Warren, VT MBC JOB #: 16058	SHEET: 4 DATE: 8-2-16 HOLE #: B-4 LINE & STA. OFFSET:
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Ground Water Observations 14' at _ 0 hours	Augers-Size I.D. 3.25" Split Spoon 2" Hammer Wt. 140# Hammer Fall 30"	Surface Elevation: Date Started: 8-2-16 Date Completed: 8-2-16 Boring Foreman: Mike McGinley Inspector: Soils Engineer:
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LOCATION OF BORING: As staked

Sample Depths From/To (Feet)	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
						No.	Pen. Inches	Rec. Inches
0'-2'	Dry	8/8/10/15	Moist		Brown medium fine sand with medium gravel	1	24	18
4'-6'	Dry	20/25/17/11	Moist		Brown medium fine sand with medium gravel	2	24	18
9'-11'	Dry	20/26/38/90	Moist		Brown medium fine sandy gravel	3	24	18
14'-16'	Dry	64/24/40/30	Wet		Brown fine sand with some rock fragments	4	24	20
19'-21'	Dry	50/54/100	Wet		Gray silty very fine sand with rock fragments	5	18	18
					Discontinued			

Ground Surface to 19'

Used 3.25"

augers: Then SS to refusal at 20'

Earth Boring 20'
Rock Coring
Samples: 5
HOLE NUMBER B-4