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Agency of Natural Resources

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AUTHORIZATION TO CONDUCT STREAM ALTERATION ACTIVITIES

Pursuant to Section C.2.2.5 of the VT Stream Alteration General Permit (Reporting activities not requiring an application)

Project Number: **SA-05-035-2015 Sharon Downer Rd Culverts** **VTrans Grant # THS 40014-303**
Applicant Name: Select Board, Town of Sharon, Vermont Contact: Margy Becker or Tim Higgins
Mailing Address: Town of Sharon, PO Box 250, Sharon, VT 05065 Phone: (802) 763-8268 ext 4
Project Location: Downers Rd TH 16 over an un-named tributary Email: selectboard@sharonvt.net

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

1. This project authorizes the replacement of Irene damaged 48" CMP Culvert 1 & 48" CMP Culvert 2 with 10' w X 5' h concrete box culverts, design plans shall be submitted to Todd Menees for review and approval prior to construction.
2. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit.
3. The proposed activity will meet the terms and conditions of the General Permit provided:
   a) The project will be completed and approved as shown on the attached plans undated sketch plans prepared by Tim Higgins, and final culvert design plans shall be submitted for review and final approval by the VT ANR.
   b) The project will not adversely affect the public safety by increasing flood hazards – minimum 32 sq. ft. opening.
   c) The project will not significantly damage fish life or wildlife, and use Appendix M Streambed Stone Fill Type E1.
   d) The project will not significantly damage the rights of riparian owners.
   e) The project will not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
   f) 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 VT Water Quality Standards.
   g) The ANR River Management Engineer is notified by phone or email when construction begins and when the project is complete.
   h) In-stream working dates for all GP activities are from July 1st through October 1st; any in-stream work outside these dates will require an Individual Stream Alteration Permit authorization by the River Management Engineer.
   i) This authorization has been posted for three days public comment. This authorization constitutes final approval.

If there are any changes in the project plan or deviation in construction from the 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 according to the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards.

Signed this 15th day of September, 2015
Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

This permit expires October 1, 2016.

by _____
Todd Menees, P.E., P.H., River Management Engineer

Star Mountain Rd
Culvert #1
Downer Rd
Culvert #2

Streambed Stone Fill Design Guidance

Type	Velocity Range (fps)*	Embeddedness (in)
E1	$V \leq 9$	18
E2	$9 < V \leq 11$	24
E3	$11 < V \leq 13$	36
E4	$13 < V \leq 15$	48

*Maximum velocity should be based on a minimum 50-year design flow rate and calculated at the structure outlet.

Item xxx.xxx CY Streambed Stone Fill Specification

Type E1. The longest dimension of the stone shall be at least 18 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 12 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E2. The longest dimension of the stone shall be at least 24 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 18 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

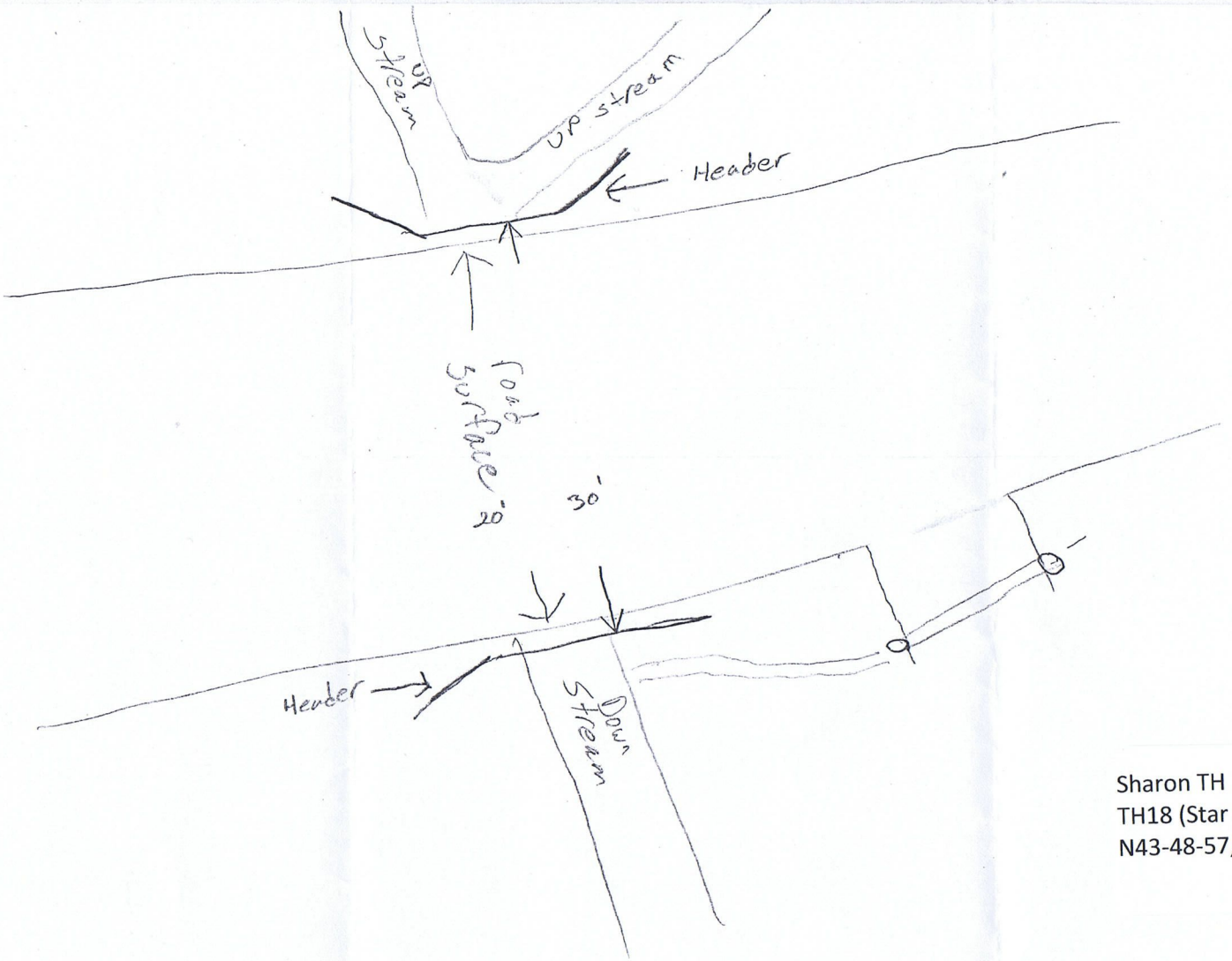
Type E3. The longest dimension of the stone shall be at least 36 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 24 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E4. The longest dimension of the stone shall be at least 48 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 36 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Notes

- The streambed stone fill shall be hard, blasted, angular rock other than serpentine rock containing the fibrous variety chrysotile (asbestos). Similar sized river sediment is an acceptable alternative as is a mixture of angular material and river sediment.
- Stone placed inside of a closed structure shall be placed such that the structure is not damaged.
- Care shall be taken to limit segregation of the materials.
- Add sand borrow item as needed to seal the bed and prevent subsurface flow.
- There shall be no subsurface flow upon final inspection.

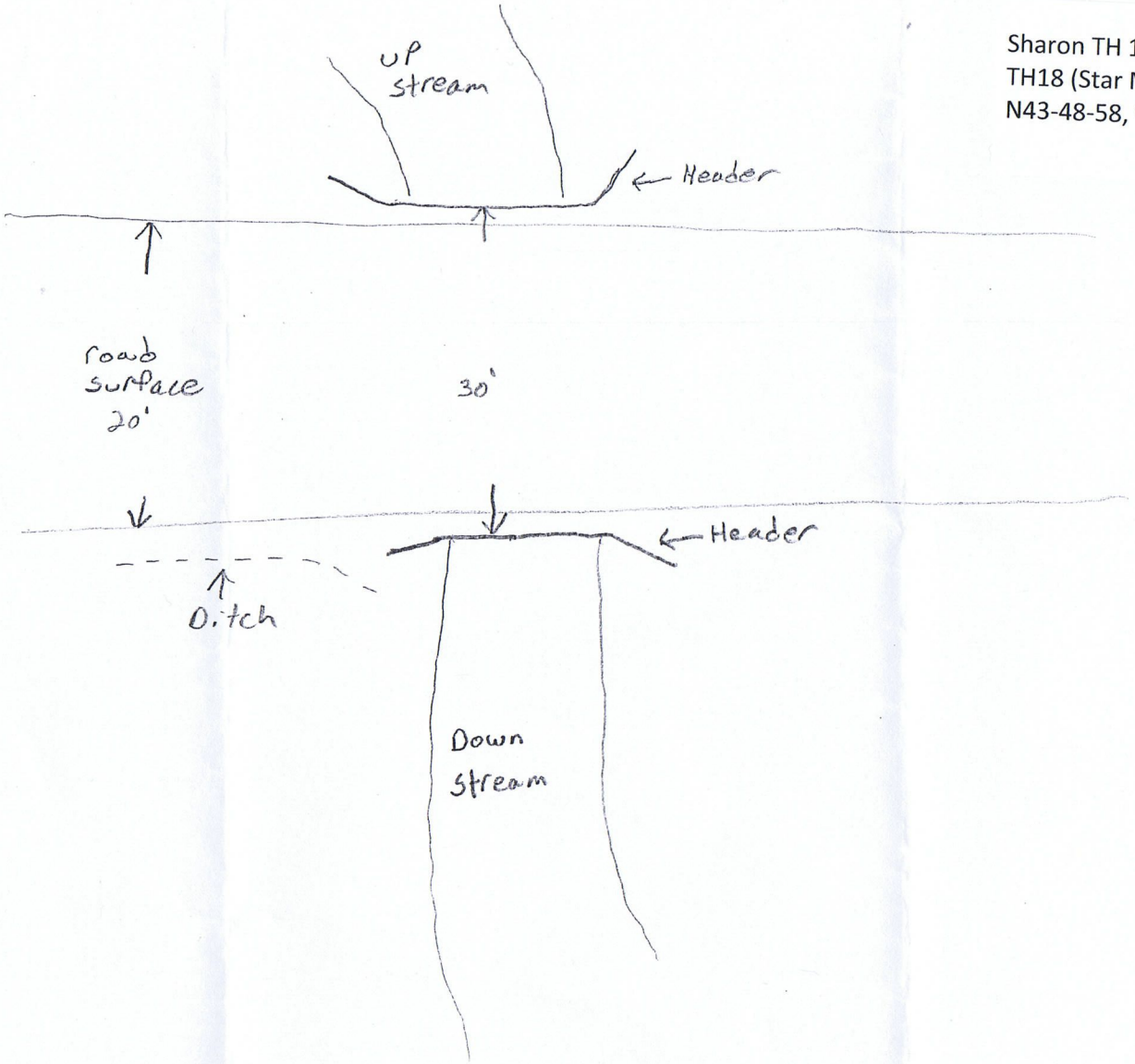
site 1



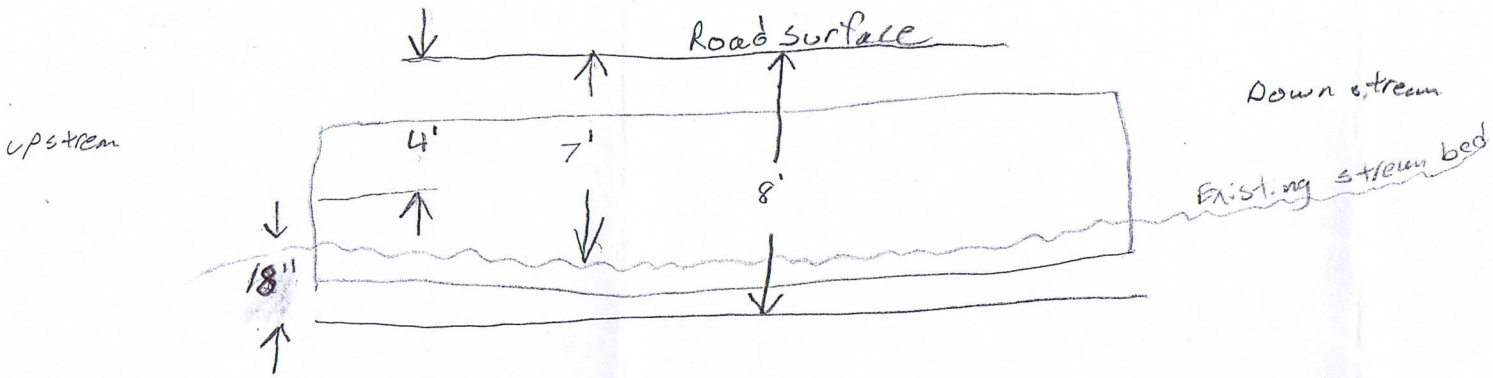
Sharon TH 16 – Site 1000' east of TH18 (Star Mtn. Rd) coord: N43-48-57, W72-23-00

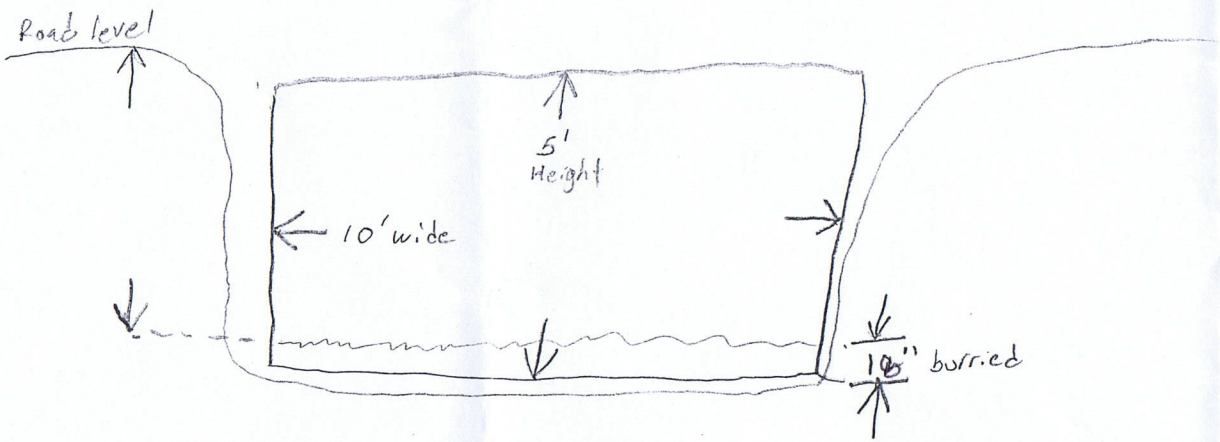
Site 2

Sharon TH 16 – Site 1500' east of TH18 (Star Mtn. Rd) coord: N43-48-58, W72-22-53



Site 1 & 2





Both structures to be 30'L x 10'w x 5'H burried 18" will give ~~16~~ 35 sq. ft. waterway area