

Vermont Department of Environmental Conservation
Watershed Management Division
Rutland Regional Office
88 Merchants Row, Suite 430 Asa Bloomer Building
Rutland, VT 05701-5903

Agency of Natural Resources
www.watershedmanagement.vt.gov

[cell] 802-490-6163
[fax] 802-786-5915

AUTHORIZATION TO CONDUCT STREAM ALTERATION ACTIVITIES

Pursuant to Section C.2.2 of the VT Stream Alteration General Permit (Reporting activities not requiring an application)

Project Number: **SA-07-037-2015**

Watercourse: **Clarendon River**

Applicant Name: **Joe Davis**

Email: cindyld@earthlink.net

Mailing Address: **231 Gorham Road West Rutland, VT 05777**

Phone: **802-779-5625**

Project Location: **Streambank below West Rutland/Clarendon town line**

Lat/Lon: **N 43.5703 / W 73.0328**

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

1. This project authorizes under **Section C.2.2.3, stabilization of eroding stream bank w/ live staking on top bank.**
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 sketch and details prepared by Josh Carvajal, as discussed with applicant, dated 08/20/2015,** and as approved by the Vermont Agency of Natural Resources.
 - b) The project will not adversely affect the public safety by increasing flood hazards.
 - c) The project will not significantly damage fish life or wildlife.
 - 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 approved plans, the Permittee must notify the ANR River Management Engineer immediately via phone (802) 490-6163 or email joshua.carvajal@state.vt.us.

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 21st day of August, 2015

This permit expires on October 1, 2015.

David K. Mears, Commissioner
Department of Environmental Conservation

by: 
Josh Carvajal, P.E. CFM, River Management Engineer



LEGEND

- DFIRM Floodways
- DFIRM Preliminary Floodways
- Special Flood Hazard Areas (A Counties)**
- AE (1-percent annual chance flood)
- A (1-percent annual chance floodpl)
- AO (1-percent annual chance zone feet)
- 0.2-percent annual chance flood ha
- Special Flood Hazard Areas (F DFIRM)**
- AE (1-percent annual chance flood)
- A (1-percent annual chance floodpl)
- AO (1-percent annual chance zone feet)
- 0.2-percent annual chance flood ha
- Buildings (E911)
- Waterbody
- Stream
- Parcels (where available)
- Town Boundary

1: 4,665

August 22, 2015



NOTES

Map created using ANR's Natural Resources Atlas

237.0 0 118.00 237.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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1" = 389 Ft. 1cm = 47 Meters

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.

STANDARD AND SPECIFICATIONS FOR LIVE STAKES

Definition

A stake or pole fashioned from live woody material.

Purpose

To create a living root mat that stabilizes the soil by reinforcing and binding soil particles together and by contributing to the reduction of excess soil moisture.

Conditions Where Practice Applies

Live stakes are an appropriate technique for repair of small earth slips and slumps that are frequently wet. This technique is for relatively uncomplicated site conditions when construction time is limited and an inexpensive vegetative method for stabilization is derived. It is not intended where structural integrity is required nor to resist large, lateral earth pressures.

Design Criteria

1. Live stakes shall be 1 - 2 inches in diameter and 2-6 feet long, depending on site application.
2. No leaf buds shall have initiated growth beyond 1/4" and the cambium layer shall be moist, green and healthy.
3. All material shall be maintained in a continuously cool, covered, and moist state prior to use and be in good condition when installed.
4. Materials harvested on site shall be installed the same day they are prepared. Nursery grown material shall be maintained in a moist condition until installed.
5. Installation Details
 - a. The lengths of live cuttings/live stakes depends upon the application. If through riprap, the length shall extend through the surface of the stone fill. At least half the length shall be inserted into the soil, below the stone fill.
 - b. A minimum of 2 to 4 inches and two live buds of the live stake shall be exposed above the stone

filling.

- c. Live stakes shall be cut to a point on the basal end for insertion in the ground.
- d. Use a dead blow hammer to drive stakes into the ground. The hammer head should be filled with shot or sand. A dibble, iron bar, or similar tool shall be used to make a pilot hole to prevent damaging the material during installation.
- e. Live cuttings shall be inserted by hand into pilot holes.
- f. When possible, tamp soil around live stakes.
- g. Care shall be taken not to damage the live stakes during installation. Those damaged at the top during installation shall be trimmed back to undamaged condition.

Maintenance

Due to the susceptibility of plant materials to the physical constraints of the site, climate conditions, and animal populations, it is necessary to inspect installations frequently. This is especially important during the first year or two of establishment. Plant materials missing or damaged should be replaced as soon as possible. Sloughs or breaks in drainage pattern should be reestablished for the site as quickly as possible to maintain stability.

Plans and Specifications

Plans and specifications for installing live stakes shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include the following:

1. Location where the live stakes will be installed.
2. Construction detail.

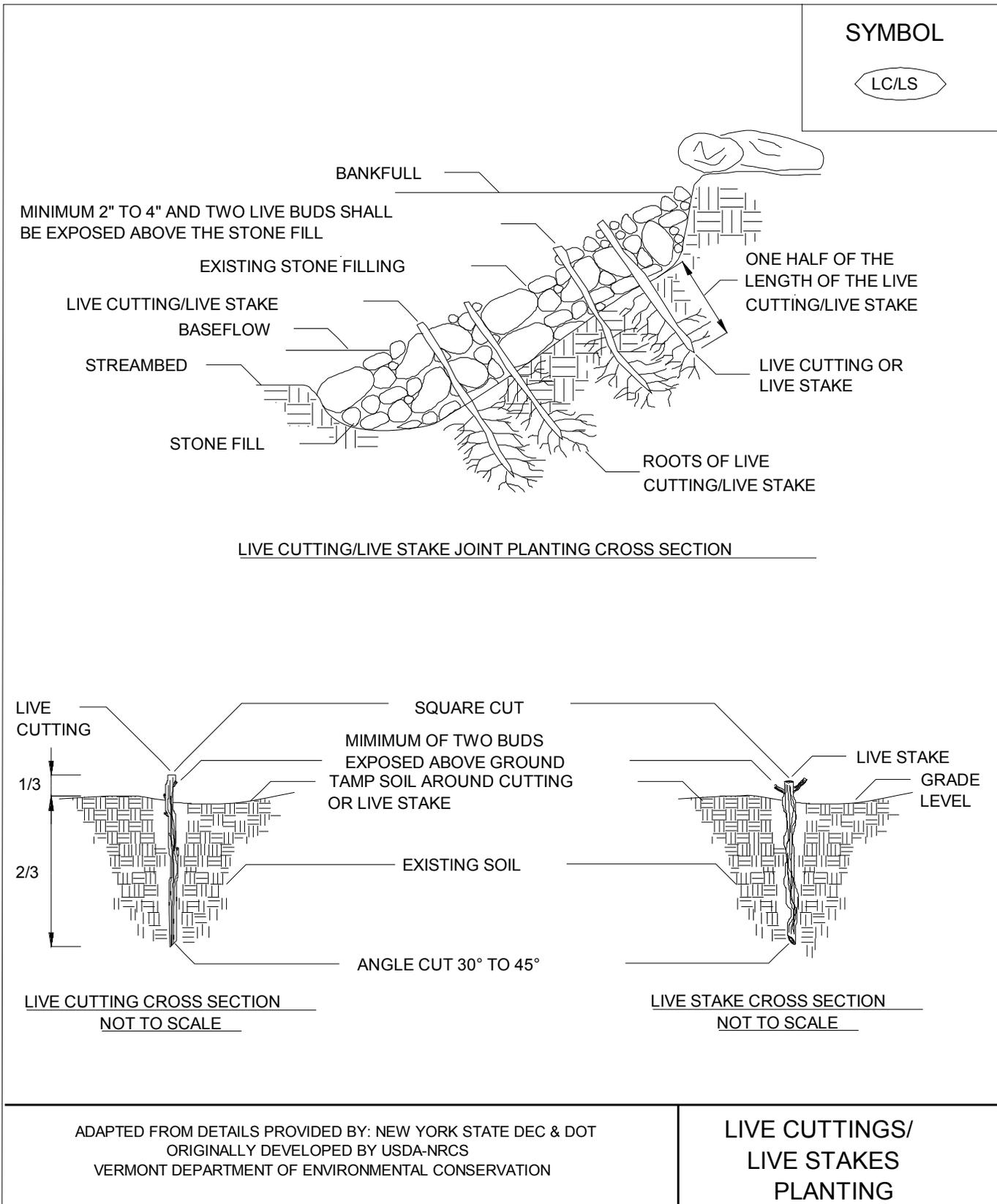
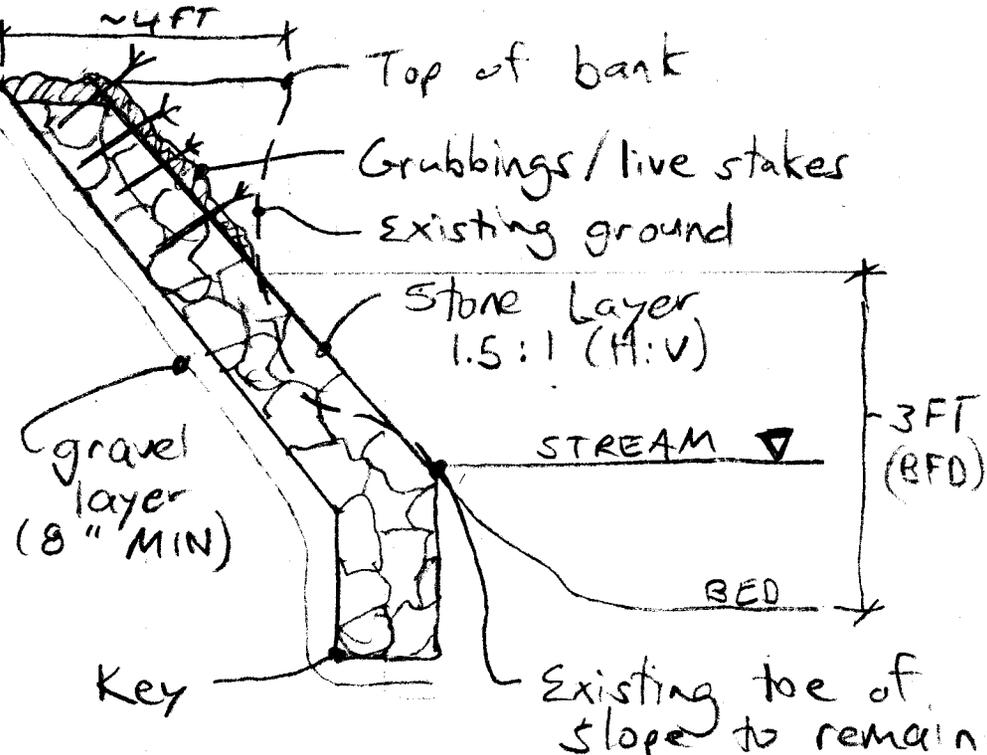


Figure 4.9 Live Cuttings/ Live Stakes Planting

SA-07-037-2015
WEST RUTLAND

JOE DAVIS
231 GORHAM RD

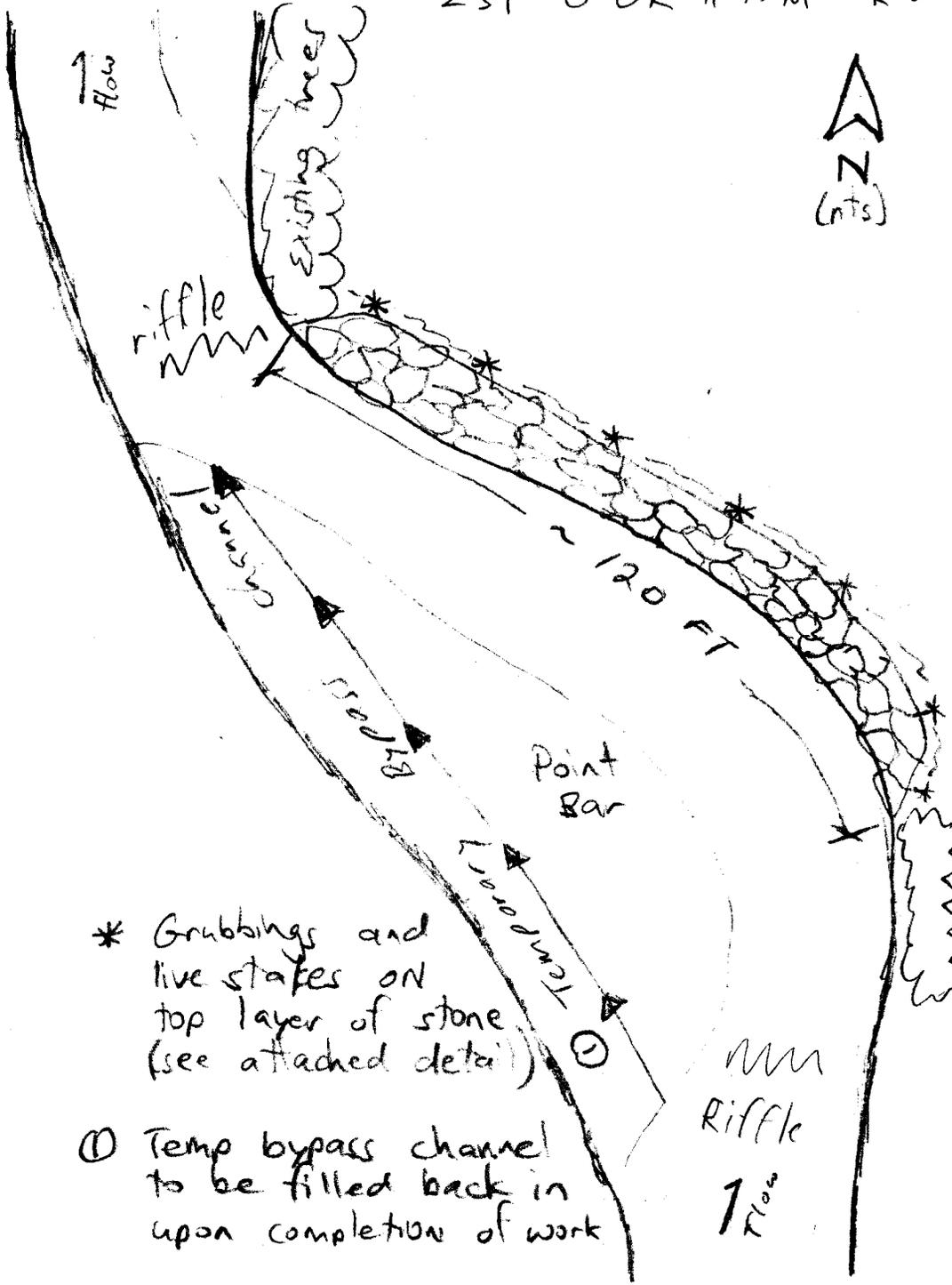
SLOPE STABILIZATION



DIMENSIONS

- TYPE II STONE (24" MINUS)
- LENGTH = \pm 120 FT
- SLOPED = 7 FT
- THICKNESS = 3 FT MIN
- KEY = 3 FT x 3 FT (MIN)

DATE: 08/20/2015



- * Grubbings and live stakes on top layer of stone (see attached detail)
- ① Temp bypass channel to be filled back in upon completion of work

BY: JOSEPH CARVAJAL, RME