Meeting Notes - Erosion Control/Stream Alteration Site Visit – Richmond VT
Cathleen Gent, Town Planner,
June 18, 2009

Attendance: Chris Brunelle, VT Dept. of Environmental Conservation; Jon Kart, Richmond Selectboard; Cathleen Gent, Richmond Town Planner; Kendall Chamberlin, Richmond Water and Sewer Dept.; Billy Coster, VHCB; Gary Bressor; Planning Commission and property owner; Jean Bressor, property owner

The goal of the meeting was to visit three sites with Chris Brunelle, stream alteration engineer for the State, to assess what repairs and remediation might be possible for three sites: shoreline behind the Town Village Wellhead facility, shoreline next to the town Volunteer's Green location; Richmond Land Trust parcel along Cochran Road.

1. Town Village Wellhead facility – In this location, existing rip-rap has been deteriorating for numerous years. Without the rip-rap in place, the existing river movement is likely going to cause erosion and there is a potential for a river course alteration south from the current bridge location. The group discussed what trees will need to be removed to complete the work. Chris Brunelle suggested that, due to the public infrastructure investment, the replacement of the rip-rap is likely to be approved. Two approvals are required: Vermont State Stream Alteration and Army Corps of Engineers. The applications should include: site plan sketch (not to scale); description of angular rock to be used as rip-rap and tree removal; cross section view; photos; copies to adjacent property owners. No survey is needed. Cathleen agreed to prepare the applications. Chris noted that the application is for two years so the work can be done either this year or next.

2. Town Volunteer's Green location – Cathleen and Chris assessed the river bank and determined that approximately 100 feet of rip-rap should be replaced to protect the area along the Volunteer's green. Similar to the first location, Chris Brunelle suggested that, due to the public infrastructure investment, the replacement of the rip-rap is likely to be approved. Two approvals are required: Vermont State Stream Alteration and Army Corps of Engineers. The applications should include: site plan sketch (not to scale); description of angular rock to be used as rip-rap; cross section view; photos; copies to adjacent property owners. No survey is needed. Gent agreed to prepare the applications.

3. Richmond Land Trust parcel along Cochran Road (canoe access location) – Chris, Jon, Billy and Cathleen visited this site, which is owned by the Richmond Land Trust. Significant erosion is occurring along the river, which is jeopardizing the location of the boat launch access. The erosion is getting close to the Cochran Road location – perhaps 10-15 feet away. VHCB has an interest in protecting the asset because VHCB grant funding was used for the project. Chris noted that a significant amount of rip rap would be needed to stop the erosion, with a fairly high expense. Chris thought that a "tongue" extension of rip rap could be placed to keep the boat launch where it currently is. On the other hand, the boat launch could be moved to a new location further downstream away from the area of current erosion. The biggest possible issue to the Town is that erosion will continue unabated and lead to an undercutting of the road. Billy will talk with the Richmond Land Trust about next steps, including the applications for the Vermont State Stream Alteration and Army Corps of Engineers.

Vermont Department of Environmental Conservation
Watershed Management Division
111 West Street
Essex Junction, VT 05452

VERMONT
Agency of Natural Resources

Memo
To: Town of Richmond Conservation Commission
Re: Fluvial Geomorphic Context of the Winooski River in Richmond, VT
Date: 3/23/17

In light of two bank armoring projects under consideration in the vicinity of the Bridge Street Bridge (bend at town well site on river left and right bank just downstream of bridge), I was asked to provide some stream geomorphic context of the overall dominant river processes at play and the potential for river response to adding bank armoring. While a formal stream geomorphic assessment has not been conducted on this section of the Winooski River, one can draw some broad conclusions based on consideration of historic channel management practices, large scale watershed impacts, and basic principles of stream geomorphology.

Rivers are dynamic systems, constantly transporting water, sediment, and debris, and changing location both vertically and horizontally in the landscape. While these types of changes are a natural part of a river system and to be expected even under stable river conditions, changes in flow regime, sediment supply, and channel alterations can upset the equilibrium and lead to more rapid channel adjustments. Vertical changes in the bed of the river can occur in response to a change in the channel slope or a change in the sediment supply. For example, when a channel is straightened (as the Winooski River was in dramatic fashion in the Bolton Flats area when the Interstate was built in the 1960's), the slope of the channel is increased, which leads to an increase in stream power and subsequent downcutting of the channel bottom. Likewise, a reduction in sediment supply (a stressor also present in the Winooski River due to presence of dams upstream in the watershed) can have the same downcutting effect due to a physical phenomenon called the "hungry water" effect. Downcutting of the channel bed, creates a deeper channel, thereby reducing the river's ability to access its floodplain. While we know that the Winooski River does indeed access its floodplain in Richmond during large flooding events, it's likely that historic changes to the river's planform and sediment supply have caused some level of down-cutting and loss of floodplain access for smaller flooding events (1-2 year flood events – think Spring flooding).

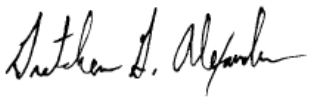
While a reduction in smaller floods may seem like a positive side-effect for the community, the effect on the river is that a loss of floodplain access can lead to channel instability (channel widening and bank erosion). Energy is dissipated when water flows out of the channel and into the floodplain, so when flows are contained within the channel, that excess energy causes increased erosion on the bed and banks and can increase the rate at which a river moves laterally in the landscape. Given enough time and space, a river will re-establish a dynamically stable equilibrium condition by eroding its banks and establishing bars that eventually form a new floodplain at a lower elevation. To the extent that we are able to provide river's space to carry out this physical process, it results in more stable, less erosive, healthy river ecosystems in the long term. (See this publication for more information on general stream dynamics): http://www.winooskiriver.org/images/userfiles/files/Stream%20Guide%201-25-2012%20FINAL.pdf

The challenge, of course, is that we often have community and personal infrastructure at odds and at risk with this physical process of channel adjustment. While it is often necessary to actively manage a river channel to protect societal infrastructure (roads, bridges, houses, etc.), it is important to acknowledge that the river will respond to this type of management, usually through erosion in another location. For example, bank armoring in one location often leads to increased erosion downstream, as the energy that is deflected off the armor is attenuated through erosion of another bank downstream. While these trade-offs are often necessary, it's important to acknowledge that they exist.

The town has identified two areas where river dynamics of the Winooski place public infrastructure at risk. It seems there are few options at the town well site given the need to maintain the river's current alignment through the bridge and to protect this critical town infrastructure. At the park site, it appears there are split feelings among community members about the level of risk posed by the existing erosion at this site. While it's not to be underestimated that the park is a critical asset to the community, I would challenge residents and town officials to think about where they would "draw the line". That is, are there any changes that could be made to the use of the park that could allow the river more space to express its physical imperatives while still maintaining the current uses? Are there locations where the width of the woody riparian buffer (trees) could be increased to both enhance stream health and increase flood resilience (a 100-foot minimum width is recommended on a river of this size)? Are there ways to create designated access points to facilitate recreation and reduce erosion associated with trampling?

A final suggestion is that it might be useful to quantitatively monitor the level of bank erosion at sites of concern in order to better understand the nature of the issue. At the site downstream of the bridge, it was noted that some historic pilings were recently exposed. These might provide a great benchmark for monitoring vertical changes of the channel bed (i.e. periodically measure the height of the piling from channel bed to evaluate if the channel is becoming deeper) as well as loss of land due to bank recession (i.e. periodically measure the distance from the piling to the top of the bank to evaluate the degree to which the channel is widening). The same could be done at other sites by installing rebar. Establishing photo points is another useful monitoring tool. And for a broader perspective, the town may wish to conduct a Stream Geomorphic Assessment to more critically evaluate the physical condition of the Winooski River in the town and identify stressors and potential restoration projects. While these types of assessments are not typically a high priority for the State on a system of this size, the information collected may be useful for helping the town inform future management decisions. I am happy to discuss this option some more if there is interest.

Sincerely,



Gretchen G. Alexander
River Scientist
River Corridor & Floodplain Protection Program

From: Alexander, Gretchen
To: Kart, Jon; Brunelle, Chris
Cc: Pfeiffer, Rebecca
Subject: RE: Richmond"s Winooski bank stabilization quandary
Date: Thursday, May 25, 2017 10:41:21 AM
Attachments: Richmond_FG_context_memo032317.pdf

Hi Jon,

It appears that there are strong opinions on either side of this matter, which I think sometimes leads to framing expert advice in whatever way supports your personal opinion. I think our program has weighed-in objectively on this matter – Chris providing information on potential management options and what is permittable and myself providing some larger geomorphic context of the river system in that area. The question of whether or not to manage the site is value based and is for the town to decide. Chris and I discussed this project some more this morning and here is our collective response:

Chris describes the erosion on the downstream side of the bridge on river right as classic contraction scour – basically scour associated with water passing through a narrow opening. The bridge has no wing walls, and it is common to see this type of scour in the absence of wing walls. Armoring the bank is essentially creating wing walls for the bridge. It really isn't possible to predict to what extent the erosion process will continue laterally and the rate is largely dependent on the frequency of high flow events. Whether and how to go about armoring this area is a question of risk management and balancing the tradeoffs of town landuse values, financial costs, and environmental impacts. At the multiple site visits conducted over the last several years a continuum of options for the site have been discussed including do nothing/erosion monitoring, combining tow armoring with bank sloping and bioengineering, hard armoring, as well as incorporation of canoe/recreation access and habitat enhancement into the design. There are a myriad of options and tradeoffs in terms of the costs and level of risk incurred, and all of them will require some level of maintenance and investment over time. The town has a permit to do this work and will not need to amend the permit unless a greater extent of work is proposed.

I wrote a letter at the request of the conservation commission that aimed to provide larger geomorphic context for the site and encourage residents to think more broadly about large-scale river processes and their relationship to land management at the park site. It was intended to be objective and encourage thought and discussion about the tradeoffs between landuse values and resource protection for the entire park site (not just the bridge). I attached a copy for your reference.

I hope that this answers your question,

Gretchen

Gretchen Alexander, *Central Vermont River Scientist*
111 West Street
Essex Junction, VT 05452
802-490-6150 / gretchen.alexander@vermont.gov
http://dec.vermont.gov/watershed/rivers

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
RIVERS PROGRAM

From: Kart, Jon
Sent: Wednesday, May 24, 2017 6:27 PM
To: Brunelle, Chris <Chris.Brunelle@vermont.gov>; Alexander, Gretchen <Gretchen.Alexander@vermont.gov>
Cc: Pfeiffer, Rebecca <Rebecca.Pfeiffer@vermont.gov>
Subject: Richmond's Winooski bank stabilization quandary

Hello, I hate to bring the issue up with you again since you've already invested a lot of time here, but I'm hoping you can clarify/restate the advice you provided previously. At Richmond's 5/15 Selectboard meeting your names were invoked by advocates both for and against a proposal to harden the north bank of the Winooski beginning at the Bridge Street bridge and continuing downstream for 140 feet (the area in red on the map below). The three attending Selectboard members voted 2-1 in favor of the project on May 15, but the proposal will be back on the agenda at next week's meeting because at least three affirmative vote were needed.

I believe there are two primary questions before the Selectboard:

1. Does the town want to keep the bandshell (the area immediately north of the proposed hardening) and the recreation fields just downriver in their current locations?
2. If the town does want to keep the bandshell/recreation fields in their current locations, what options are available to protect them (or more bluntly, can the bandshell area be maintained w/o hardening the bank at that location)?

I'm admittedly biased here (I'm a 'yes' on question #1) so my framing of the situation may be suspect, but if you are comfortable doing so, I'd appreciate your responses to question #2.

For what it's worth, I've already volunteered to organize town committees (conservation, recreation, and trails) and departments (highway and planning) to develop a plan to actively widen the forested area alone the river downstream of the rip rap project.

Thanks, Jon

From: Staats, Nick
To: Kart, Jon; Chipman, Brian
Cc: Bill Ardren; katherine_kain@fws.gov
Subject: RE: Richmond redds, rip rap and floodplain restoration
Date: Wednesday, July 25, 2018 3:57:06 PM
Attachments: image002.emz
image001.png

My quick answer is:

1. I'm not worried about the rip rap.
2. I too, have no experience with river restoration – especially a river this size. Need to bring the big guns in for this one.
3. My big concern would be that many of the salmon redds found in the area can be located tight up against the bank. For whatever reason, the flow, depth and substrate along the edges are what these fish like.

I think the expanded buffer sounds great. In stream work I'm not sure and would need some discussion.

Nick

Nicholas Staats
US Fish and Wildlife Service
111 West Street, Essex Junction VT 05452
Phone: (802) 879 5679
Cell: 802-377-5656
Email: nick.staats@vermont.gov
Email: Nicholas_Staats@fws.gov

From: Kart, Jon
Sent: Wednesday, July 25, 2018 10:03 AM
To: Chipman, Brian <Brian.Chipman@vermont.gov>; Staats, Nick <Nick.Staats@vermont.gov>
Subject: Richmond redds, rip rap and floodplain restoration

Hello Brian/Nick, I have a couple question for you regarding the salmon redds identified in the Winooski in Richmond and I'm wondering if one or both of you have a little time to talk in the near future.

I live in Richmond and have been talking with the Selectboard and town manager about a plan to rip rap a ~240' stretch of the north bank at the Bridge St. bridge (see the red line in the photo below). The bridge lacks a downstream wing wall and the river has hammered the bank here cutting the 'forest' buffer to just about one tree-width. Chris Brunelle visited the site last year and essentially said that rip rap was the only option for protecting the infrastructure here.

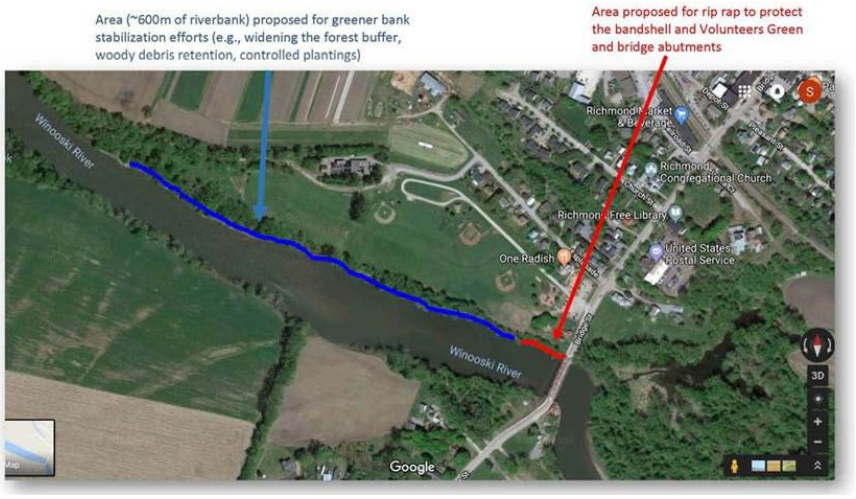
I'm organizing support for a companion project to the rip rap focused on the 600m of rivershore immediately downstream (the area marked in blue) to widen the forest buffer and to also do greener bank stabilization and perhaps even in-river enhancements. The town has a conservation fund that can cover at least some of the costs. On Monday I walked the area with Katie Kain and Will Eldridge to talk about planting trees and I expect that we will work together on that part of the project.

With all this in mind, here are my questions for you:

1. Does rip rapping the bank immediately downstream of the bridge cause significant worry for you with regard to the redds identified a bit further downstream?

2. Would you be interested in seeing greener bank stabilization, in-stream enhancements (i.e., wood) or something else that would benefit salmon done just downstream of the rip rap area? Do you know if it'd be feasible? Katie, Will, Chris and Gretchen Alexander have all said that they didn't have experience doing such things on a river the size of the Winooski. I believe them, but I also want to keep asking as this would be a good opportunity to get such work approved.

A drafty, draft sketch of proposed riverbank/floodplain enhancements



U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 30-SEPTEMBER-2015

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Geoffrey Middle - Last - Urbanik	First - Tyler Middle - Last - Billingsley
Company - Town of Richmond	Company - East Engineering, PLC
E-mail Address - townmgr@gmavt.net	E-mail Address - tyler@eastengineeringplc.com
6. APPLICANT'S ADDRESS:	**9. AGENT'S ADDRESS:**
Address- 203 Bridge St. / PO Box 285	Address- 55 CVU Road
City - Richmond State - VT Zip - 05477 Country - USA	City - Hinesburg State - VT Zip - 05461 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE	**10. AGENTS PHONE NOs. w/AREA CODE**
a. Residence b. Business 802-434-2631 c. Fax	a. Residence b. Business 802-989-6686 c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Tyler Billingsley to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

SIGNATURE OF APPLICANT — DATE 9/18/2017

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

Winooski River Stabilization - Volunteer's Green

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Winooski River	Address Bridge Street
15. LOCATION OF PROJECT Latitude: °N 44° 24' 05.49" Longitude: °W 72° 59' 50.17"	City - Hinesburg State - VT Zip - 05477

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID 519-163-11725 Municipality Richmond

Section - Township - Range -

17. DIRECTIONS TO THE SITE

Project begins at the northwestern abutment of the Bridge Street tressle bridge. Travel to Richmond and park at the municipal parking lot on Bridge Street adjacent to Volunteer's Green (next to Town recreation fields).

18. Nature of Activity (Description of project, include all features)

See attached plans titled "Winooski River Stabilization at Volunteers Green" by East Engineering, PLC. The project includes re-building and reinforcing a section of the Winooski River bank. Years of erosion have caused undercutting of the bank west of the existing bridge abutment and south of Volunteers Green. Activities will include installing stone reinforcing, geotextiles, plantings and a kayak/canoe portage ramp. Linear distance of river bank to be reconstructed is ~~260~~ 240 feet. Height of reconstruction is 15' (near bridge abutment) to 9' (at westerly limits of project).

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

Years of erosion have caused undercutting of the bank west of the existing bridge abutment and south of Volunteers Green. Existing river bank slope is loosing vegetation and is at further risk of significant erosion in the event of a flood. The start/finish construction dates are unknown at this time, however, it is anticipated for the 2018 construction season. Work will be completed during dry periods and low river elevations to minimize impacts and reduce construction costs. Estimated start date: September 1. Estimated finish date: October 31

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Permanent fill will be for stone reinforcing and geotextile stabilization. Temporary fill may include sandbags, silt fence and/or booms, and other erosion control measures.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Bank Run Gravel	Rip-rap / Stone	
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards
~500 C.Y.	~750 C.Y.	

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres

or

Linear Feet ~~260~~ 240

23. Description of Avoidance, Minimization, and Compensation (see instructions)

The area of impacts will be only to replace parts of the river bank that have failed/eroded. Work will be completed during low water and during a dry period. Silt fence, silt booms and other erosion control measures will be installed prior to beginning earthwork activities and will be removed once stabilization has been installed. If the repairs are completed now, they will reduce long term and significant damage/ erosion to the area. Because this is a pro-active and partially preventative action, it is our opinion that compensatory mitigation should not be required.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

Work has not yet started.

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- See attached supplemental list for all adjoining properties.

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
VT ANR DEC	Stream Alteration	SA-5-9030	2015-01-01	2017-05-03	
Richmond DRB	Zoning Permit	~~TBD~~ 17-121	~~TBD~~ 2017-11-14	~~TBD~~ 2017-12-13	

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT — DATE 9/18/2017

SIGNATURE OF AGENT — DATE 10/26/2017

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

ADJOINERS TO VOLUNTEERS GREEN - RICHMOND, VERMONT
Compiled for Winooski River Stabilization Project

PARCEL #	LAST NAME	FIRST NAME	LEGALADR	MAILING ADR	TOWN	STATE	ZIP
ES0149	STOCKWELL	HARLAND & KAREN	149 ESPLANADE	PO BOX 651	RICHMOND	VT	05477
ES0160	JERICHO SETTLERS FARM		160 ESPLANDE	17 BROWNS TRACE	JERICHO	VT	05465
CS0092	PEET	DANIEL	92 CHURCH ST	PO BOX 481	RICHMOND	VT	05477
JC0200	PEET	DANIEL	200 JOLINA CT	PO BOX 481	RICHMOND	VT	05477
HU0122	FARR	PEGGY M REVOCABLE TRUST	122 HUNTINGTON RD	112 HUNTINGTON RD	RICHMOND	VT	05477
HU0231	FARR	PEGGY M REVOCABLE TRUST	231HUNTINGTON RD	112 HUNTINGTON RD	RICHMOND	VT	05477
HU0400	FARR	ASHLEY & ERIN	400 HUNTINGTON RD	400 HUNTINGTON RD	RICHMOND	VT	05477
ES0099	ALLEN	ROBERT	99 ESPLANADE	99 ESPLANDAE	RICHMOND	VT	05477
ES0117	CONVER	TIMOTHY	117 ESPLANDAE	117 ESPLANDAE	RICHMOND	VT	05477
ES0137	CHANNELL	DACYN	137 ESPLANDAE	137 ESPLANDAE	RICHMOND	VT	05477
ES0039	LB RICHMOND		39 ESPLANDAE	572 WILLIAMS HILL RD	RICHMOND	VT	05477
ES0065	HARTSFIELD	KYLE & STEPHANIE	65 ESPLANDAE	65 ESPLANADE	RICHMOND	VT	05477
ES0084	HEISER	ROBERT & JESSIE	84 ESPLANADE	84 ESPLANDAE	RICHMOND	VT	05477
OB0023	POLEY LIVING TRUST		23 OLD BROOKLYN CT	23 OLD BROOKLYN CT	RICHMOND	VT	05477
OB0044	ESSERMA & KART	LAUREN & JON	44 OLD BROOKLYN CT	44 OLD BROOKLYN CT	RICHMOND	VT	05477
OB0046	WOOD & 'ARENTE	ERIC & ELYSSE	46 OLD BROOKLYN CT	46 OLD BROOKLYN CT	RICHMOND	VT	05477
BR0401	BRESSOR	GARRY & JEAN	401 BRIDGE ST	PO BOX 1	RICHMOND	VT	05477
BR0257	GIFFORD	GEORGE & VIRGINIA	257 BRIDGE ST	PO BOX 451	RICHMOND	VT	05477
BR0253	DWIRE	WENDALL & SHARON	253 BRIDGE ST	PO BOX 234	RICHMOND	VT	05477
BR0431	TOWN OF RICHMOND-WATER BUILDING		431 BRIDGE ST	PO BOX 285	RICHMOND	VT	05477
BR0286	TOWN OF RICHMOND-VOLUNTEERS GREEN		286 BRIDGE ST	PO BOX 285	RICHMOND	VT	05477

Picture of Volunteers Green river bank following break up of river ice in the Winter of 2018. This picture illustrates severe bank scouring and gradual erosion that is the subject of the stabilization projec .
Photo taken by Geoffrey Urbanik from the bridge walkway.

This second picture is a different angle showing the same location.

Third photo a more close up shot of the river shore next to bridge. Illustrates bare river bank subject to erosion

US Army Corps
of Engineers ®
New England District

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

USACE File Number: NAE-2017-02686

Name of Permittee: Town of Richmond

Verification Date: January 30, 2018

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Vermont Project Office *
* 11 Lincoln Street, Room 210 *
* Essex Junction, Vermont 05452 *
****

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

_____ _____
Printed Name Date of Work Completion

_____
Telephone Number

US Army Corps
of Engineers ®
New England District

WORK START NOTIFICATION FORM

****

* EMAIL TO: Angela.C.Repella@usace.army.mil *

*

* MAIL TO: U.S. Army Corps of Engineers, New England District *

* Vermont Project Office *

* 11 Lincoln Street, Room 210 *

* Essex Junction, Vermont 05452 *

****

Corps of Engineers File No. NAE-2017-02686 was issued to the Town of Richmond. The permit authorized the permittee to place and maintain bank stabilization along 240 linear feet of the Winooski River and construction of an access ramp off Bridge Street in Richmond, Vermont.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Contractor/Firm: _____

Business Address: _____

_____

_____

Telephone Numbers: (____) _____ (____) _____

Proposed Work Dates: **Start** _____ **Finish** _____

Permittee's Signature: _____ **Date:** _____

Printed Name: _____ **Title:** _____

****

FOR USE BY THE CORPS OF ENGINEERS

PM: _____ **Submittals Required:** _____

Inspection Recommendation: _____

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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

January 30, 2018

Regulatory Division
CENAE-RDC-63
File Number: NAE-2017-02686

Town of Richmond
Attn.: Mr. Geoffrey Urbanik
P.O. Box 285
Richmond, Vermont 05477

Dear Mr. Urbanik:

We have reviewed your application to place and maintain bank stabilization along 240 linear feet of the Winooski River and construction of an access ramp off Bridge Street in Richmond, Vermont. The work is shown on the attached plans, on three sheets, entitled "VICINITY MAP" (dated "10/31/17") and "TOWN OF RICHMOND" (dated "2017/10/24", last revised "2017/12/19").

Based on the information you have provided, we have determined that the proposed activity, which includes work and/or a discharge of dredged or fill material into waters of the United States, including wetlands, will have only minimal individual or cumulative environmental impacts. Therefore, this work is authorized under General Permit #9 of the enclosed Federal permit known as the Vermont General Permits (GPs). This work must be performed in accordance with the terms and conditions of the GPs.

You are responsible for complying with all of the GPs' requirements. Please review the attached GPs carefully; as well as the general conditions, to be sure you understand its requirements. You should ensure that whoever does the work also fully understands the requirements and that a copy of the permit document and this authorization letter are at the project site throughout the time the work is being performed.

This authorization expires on December 6, 2022, unless the GPs are modified, suspended, or revoked. You must commence or have under contract to commence the work authorized herein by December 6, 2022 and complete the work by December 6, 2023. If you do not, you must contact this office to determine the need for further authorization before beginning or continuing the activity.

If you change the plans or construction methods for work in our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the enclosed Work Start Notification Form to this office before the anticipated starting date. You must also complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.

This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided above or all the terms and conditions of the GPs may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Please contact Angela C. Repella of my staff at (802) 872-2893 if you have any questions.

Sincerely,

Frank J. DelGiudice
Chief, Permits & Enforcement Branch
Regulatory Division

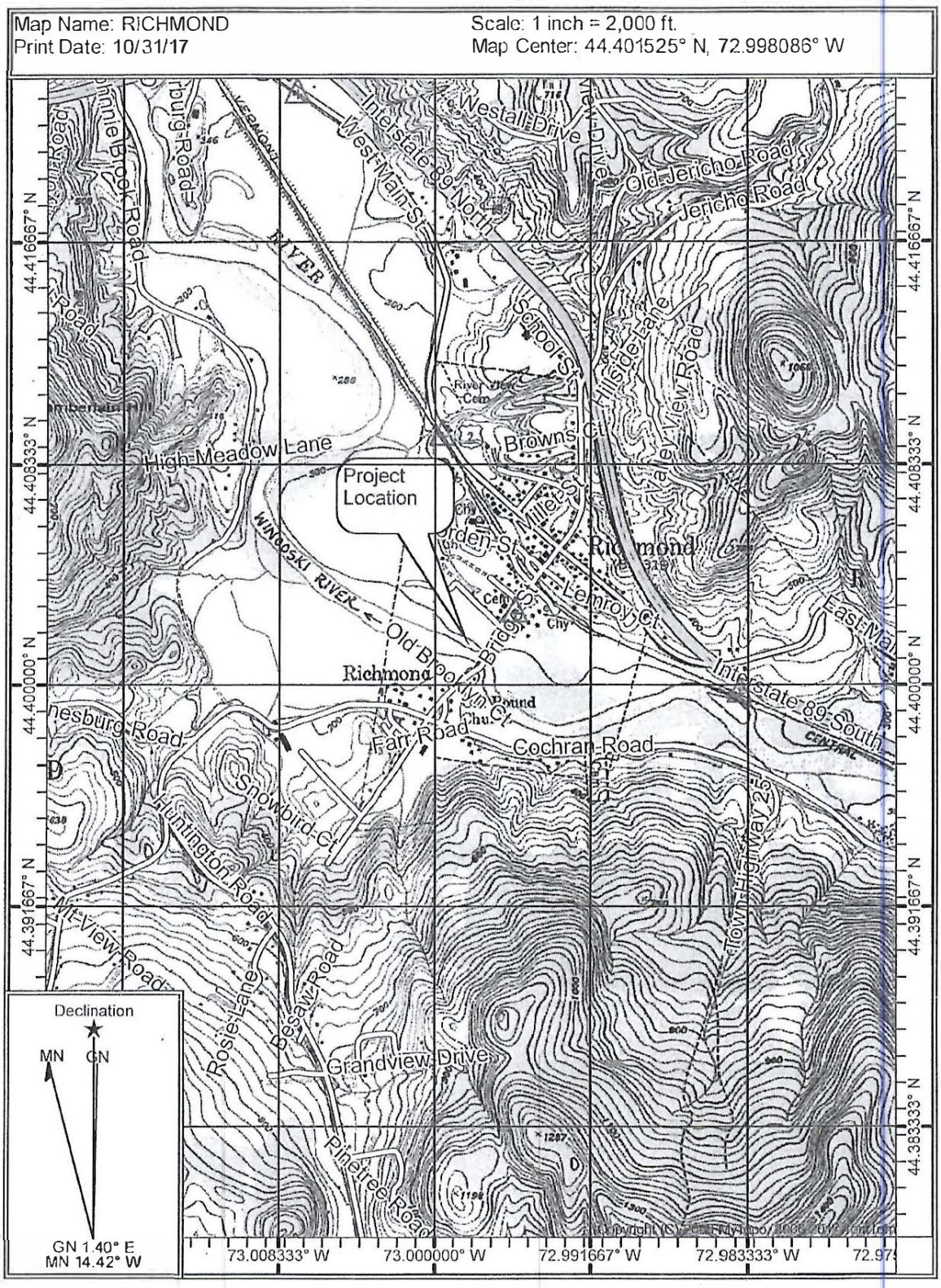
Enclosures

Copies furnished:

Mr. Christopher Brunelle
River Management Engineer
Vermont Department of Environmental Conservation
chris.brunelle@vermont.gov

Mr. Geoffrey Urbanik
Town of Richmond
Townmgr@gmavt.net

Mr. Tyler Billingsley
East Engineering, PLC
tyler@eastengineeringplc.com


Map Name: RICHMOND
Print Date: 10/31/17
Scale: 1 inch = 2,000 ft.
Map Center: 44.401525° N, 72.998086° W
Project Location
High Meadow Lane
Browns Ct
Richmond
Old Bridge St
Bridge St
Cochran Road
Snowbird Ct
Huntington Road
Mt View Road
Rosie Lane
Dessaw Road
Grandview Drive
Pinetree Road
Farr Road
Lemroy Ct
Interstate 89 North
Interstate 89 South
Old Jericho Road
Jericho Road
Hillside Lane
Valley View Road
School St
Miller St
Orden St
Westall Drive
View Drive
Johnnie Brook Road
Town Highway 25
WINOOSKI RIVER
Declination
MN
GN
GN 1.40° E
MN 14.42° W
44.416667° N
44.408333° N
44.400000° N
44.391667° N
44.383333° N
73.008333° W
73.000000° W
72.991667° W
72.983333° W
SCALE 1:24000
0 1000 2000 3000 4000 5000 6000
FEET
VICINTY MAP
TOWN OF RICHMOND
BRIDGE STREET
10/31/17