



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
 LAKES & PONDS PROGRAM

Shoreland Permit Application

for a Shoreland Protection Permit under
 Chapter 49A of Title 10, § 1441 et seq.

For Shoreland Permitting Use Only
 Application Number: **2238-SP**

Public Notice: At the same time this application is filed with Shoreland Permitting, a copy of this application must be provided to the municipal clerk for posting in the municipality in which the project is located.

Submission of this application constitutes notice that the person in Section A intends to create impervious surface and/or cleared area within the Protected Shoreland Area, and certifies that the project will comply with Chapter 49A of Title 10, § 1441 et seq. All information required on this form must be provided, and the requisite fees (Section G) must be submitted made payable to the State of Vermont, to be deemed complete. Refer to The [Vermont Shoreland Protection Act - A Handbook for Shoreland Development](#) and related instructions for guidance in completing this application.

A. Parcel Information

Landowner's Name: **Wesley J. & Patricia A. Eldred Trust**

2a. Physical Address (911 Address): **114 Central Ave. , South Burlington, Vermont**

2b. Town - County: _____ 2c. Zip: **05403**

3. SPAN (The School Parcel Account Number is required for your application to be deemed complete. It can be obtained from your property tax bill. If you cannot locate your property tax bill, please obtain this information from your Town Clerk) : **600-188-11976**

4. Phone: **802-373-5228** 5. Email: **wpeldred@comcast.net**

6. Name of Lake/Pond: **Champlain Lake (Shelburne Bay) - Shelbu** 7. Total Shore Frontage **334** (Feet)

8. Was the parcel of land created before July 1, 2014? Yes No

9. Are there wetlands associated with this parcel? Yes No
Contact the Wetlands Program (802) 828-1535 or <http://dec.vermont.gov/watershed/wetlands>

10. Have you ever applied for a permit with the Department of Environmental Conservation associated with this parcel?
 Yes No

11. What is the surface area of your parcel within the Protected Shoreland Area (PSA): 30,084 +- _____ (square feet)
See the [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix C, Determining Lakeside Zone & PSA](#)

12. What is the surface area of existing impervious surface on your parcel within the PSA: 2,878+- _____ (square feet)
See the [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix F, Calculating Percent Impervious Surface](#)

13. What is the surface area of existing cleared are on your parcel within the PSA: 17,246 +- _____ (square feet)
See the [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix E, Calculating Percent Clearing](#)

B. Applicant Contact Information

1. Name: **Wesley J. & Patricia A. Eldred Trust**

2a. Mailing Address: **114 Central Ave.**

2b. Town: **South Burlington** 2c. State: **VT** 2d. Zip: **05403**

3. Phone: **802-373-5228** 4. Email: **wpeldred@comcast.net**

C. Application Preparer Information (If the individual preparing the application is not the landowner.)

1. Name: **Civil Engineering Associates, Inc. Attn: Steve Vock**

2a. Mailing Address: **10 Mansfield View Lane**

2b. Town: **South Burlington** 2c. State: **VT** 2d. Zip: **05403**

3. Phone: **802-864-2323** 4. Email: **svock@cea-vt.com**

D. Project Description

1. Describe the proposed project. For this application to be considered administratively complete you must attach site plans that denote existing and proposed cleared areas and impervious surface and their distances from mean water level, no fewer than three photos of the project area, and dimensions and associated surface areas of cleared areas and impervious surfaces.

The project involves the stabilization of a failed slope and is designed to minimize or eliminate potential slips or rotations of the bank. The top of the existing slope reaches the southern edge of the existing residence and a failure jeopardizes the integrity of the foundation. No new impervious surface is proposed and cleared area is minimal and limited to the installation of the retaining wall. See attached plan set.

2. For developed parcels, how far is the existing habitable structure from Mean Water Level ⁶⁸ _____ (feet), and how far will new cleared area or impervious surface be from MWL ¹⁶ _____ (feet)?

OR

For undeveloped parcels, how far will new cleared area or impervious surface be from MWL _____ (feet)?

See the [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix A – Estimating Mean Water Level](#)

3. Can all new cleared area or impervious surface be set back at least 100 feet from MWL? Yes No
If no, explain why below (attach support information as needed):

The project is to stabilize an existing failed slope between the 98 foot and 105 foot along the shoreline of Shelburne Bay. See attached plan set.

4a. What is the slope of the project site area: ⁶¹ _____ %

See The [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix B, Determining Slope](#)

4b. Is the slope of the project area less than 20%?

Yes No If yes, skip 4c.

4c. If no above (4b), describe the measures taken to ensure the slope is stable, resulting in minimal erosion and impacts to water quality (attach support information as needed):

The project proposes a large boulder retaining wall to stabilize the existing slope and minimize future erosion.

5a. What is the surface area of new impervious surface associated with this project: 0.00 _____ (Square Feet)

See the [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix F, Calculating Percent Impervious Surface](#).

5b. What is the total resulting impervious surface after completion of the project and prior to implementation of best management practices: ^{2,878+-} _____ (Square Feet)

For D5b, add A12 to D5a

5c. Is the total in 5b. 20% or less of the parcel area within the PSA? Yes (if yes, skip 5d.) No
If 5a is 0, check the n/a box, otherwise divide D5b by A11 and multiply by 100 for percentage. Total percentage = _____ % N/A

5d. If no above (5c), describe the best management practices used to manage, treat, and control erosion from stormwater from the portion of impervious surface that exceeds 20% (attach support information as needed):

6a. What is the surface area of new cleared area associated with this project: 625 (Square Feet)
 See the [Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix E, Calculating Percent Clearing.](#)

6b. What is the total resulting cleared area after completion of the project and prior to implementation of best management practices: 17,871 (Square Feet)
 For D6b, add A13 to D6a

6c. Is the total in 6b. 40% or less of the parcel area within the PSA? Yes (if yes, skip 6d.) No
 If 6a is 0, check the n/a box, otherwise divide D6b by A11 and multiply by 100 for percentage. Total percentage = 59% % N/A

6d. If no above (6c), establishing vegetative cover (revegetation) is the only applicable best management practice. Please describe a revegetation plan that will be equal to or greater in surface area than the proposed new cleared area as identified in 6a. Identify the location on the parcel where the revegetation will occur and how far from mean water level it will be (attach support information as needed).

The stabilized slope will be topsoiled, seeded and mulched. All disturbed areas will be designated as "no Mow" and be allowed to return to a naturally vegetated state. Trees that have been removed for the shoreline stabilization wall will be replace in kind w/ 2" caliper nursery stock.

E. Landowner Certification

As APPLICANT, I hereby certify that the statements presented on this application are true and accurate and recognize that by signing this application, I agree to complete all aspects of the project as authorized. I understand that failure to comply with the foregoing may result in violation of the Shoreland Protection Act, 10 V.S.A. Chapter 49A, and the Vermont Agency of Natural Resources may bring an enforcement action for violations of the Act pursuant to 10 V.S.A. chapter 201.

Applicant/Landowner Signature: [Signature] Date: 10/31/2016

F. Application Preparer Certification (if applicable)

As APPLICATION PREPARER, I hereby certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Application Preparer Signature: [Signature] Date: 11/1/16

G. Additional Required Documentation (Please check to ensure you have completed the following)

- All sections of the application are complete (or otherwise indicate "not applicable")
- Application includes site plans denoting existing and proposed cleared area and impervious surface and distances from mean water level
- Application description includes dimensions and surface areas of cleared areas and impervious surfaces Application includes photos of project area

H. Permit Application Fees

Administrative Fee: \$125.00		125.00
Impervious Area Fee: \$0.50 per square ft.	Enter new impervious area as entered in item (5a) _____ x 0.5	
Total Fee due: <u>125.00</u>		

Submit this form and application fee, payable to:
 State of Vermont -Vermont Department of Environmental Conservation
 Watershed Management Division -Shoreland Permitting
 1 National Life Drive, Main 2
 Montpelier, VT 05620-3522

Direct all correspondence or questions to Shoreland Permitting at: ANR.WSMDShoreland@vermont.gov For additional information visit: <http://dec.vermont.gov/watershed/lakes-ponds>



CIVIL ENGINEERING ASSOCIATES, INC.

10 Mansfield View Lane
South Burlington, VT 05403

Phone: 802-864-2323
Fax: 802-864-2271
E-Mail: jmilbank@cea-vt.com

October 23, 2016

Michaela Stickney
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, Vermont 05620-3522



**Re: Wesley and Patricia Eldred
114 Central Avenue, South Burlington, Vermont
Shoreline Slope Stabilization**

Dear Michaela:

Please find enclosed a Shoreland Permit Application, application fee, plans and photos for a proposed shoreline stabilization project located at 114 Central Avenue in South Burlington. CEA is in the process of local Development Review Board review and permitting for the proposed stabilization.

The applicants are proposing to construct a large stone retaining wall along the shoreline that has been impacted by erosion. The proposed large stone retaining wall is anticipated to be constructed using Whitcomb Quarry Stone or equivalent. The Eldred's existing shoreline is eroded with many failures along its length that will be stabilized as part of this project. (see attached photos). The proposed wall will be very similar to several recently constructed walls along this section of the lake. The wall will stabilize a large bank with southerly and westerly exposure on the north end of Shelburne Bay and the north side of the mouth of Potash Brook. All disturbed areas will be topsoiled, seeded and mulched and will be allowed to return to a natural vegetated state and are designated as no mow zones on the attached site plan.

If you should have any questions or should need any additional information, please feel free to contact me.

Respectfully,

Stephen A. Vock, P.E.
Principal / Project Engineer

SAV/jlm

Enclosures: Applications, basis of design, plans, photos, fee



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October 23, 2016

Michaela Stickney
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, Vermont 05620-3522

**Re: Wesley and Patricia Eldred
114 Central Avenue – Shoreline Stabilization
Basis of Design**

Dear Michaela:

This letter supports the technical basis for the design of the proposed seawall at the Eldred residence at 114 Central Avenue. This property has shoreline on Lake Champlain and Potash Brook making it susceptible to wind and wave action from high water and high winds and erosion from being the release point at the mouth of the brook. The record high water levels during the spring of 2011 impacted the shoreline which resulted in severe undercutting and erosion from wave action which has continued to get worse over time.

Over the past several years, Civil Engineering Associates, Inc. (CEA) has developed a methodology for addressing lakeshore erosion on Lake Champlain. Particularly for slopes or banks that are relatively steep and/or high and dominantly consist of susceptible soil materials rather than bedrock, we have developed a design that incorporates elements of “armoring” the slope with large quarry stones and backfilling with smaller shot-rock for drainage. The exposed surface visible from the lake is a natural stone product produced by local quarries. These large stones, which are up to five or six feet in maximum dimension, are nested together to provide a relatively continuous surface and sufficient mass to resist most ice and wave action. The fact that they are assembled as natural elements permits some movement of the stones without degrading the structural integrity of the surface armoring and protection of the soils behind the wall. One additional feature of this wall system is the use of a filter fabric (geotextile) layer between the native soil and the shot rock backfill to inhibit the migration (erosion) of the native soil through the coarser materials.

Michaela Stickney
October 23, 2016
Page 2

For the exposure conditions at 114 Central Avenue, it is our opinion that a biotechnical solution is not feasible. Wave and wind action are severe enough in storm conditions that using vegetation in combination with other inert materials would not provide sufficient protection against erosion in this environment.

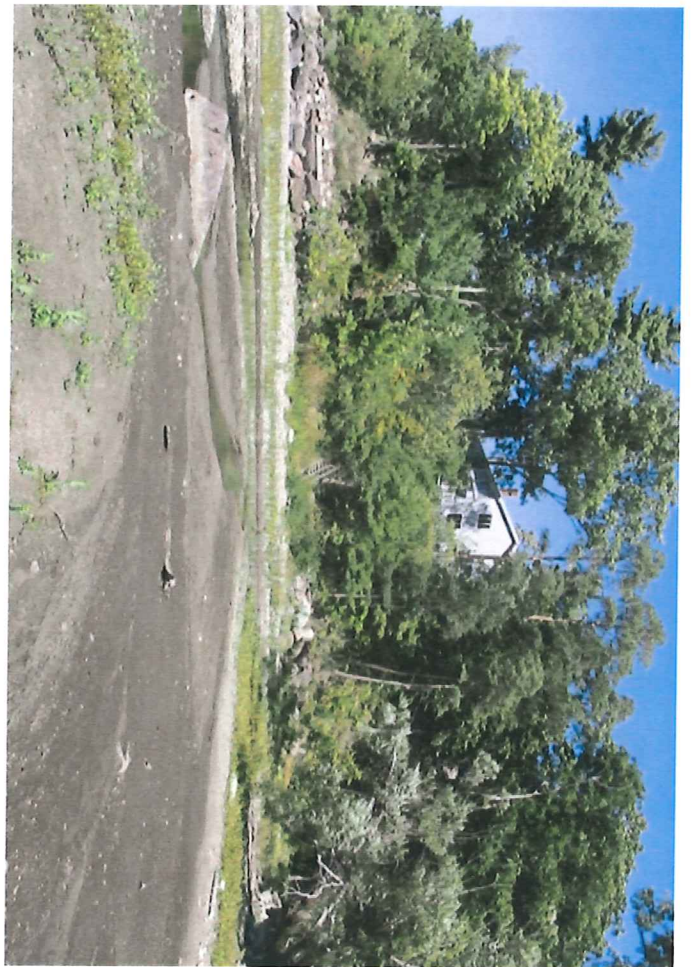
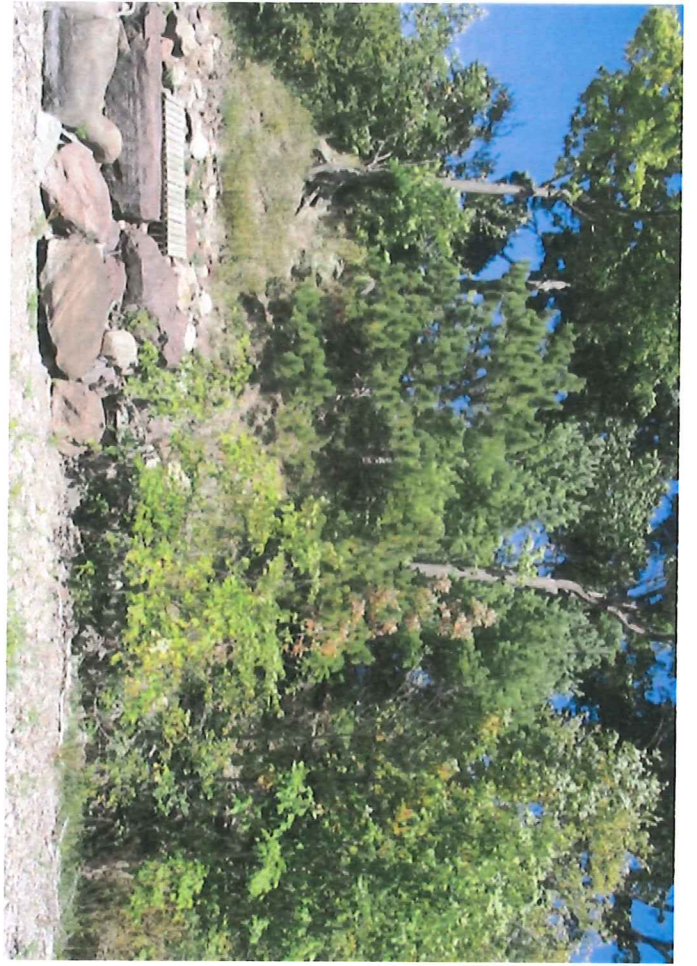
The details of our design are incorporated in the set of drawings submitted with this letter. Should you have any questions or wish to discuss the project in greater detail please let me know.

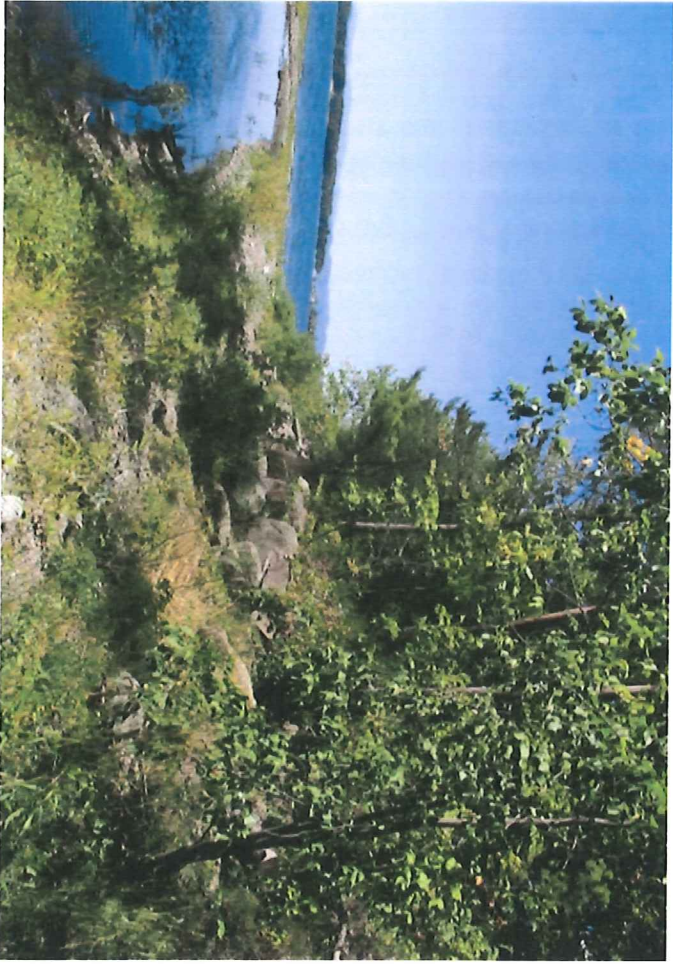
Very truly yours,

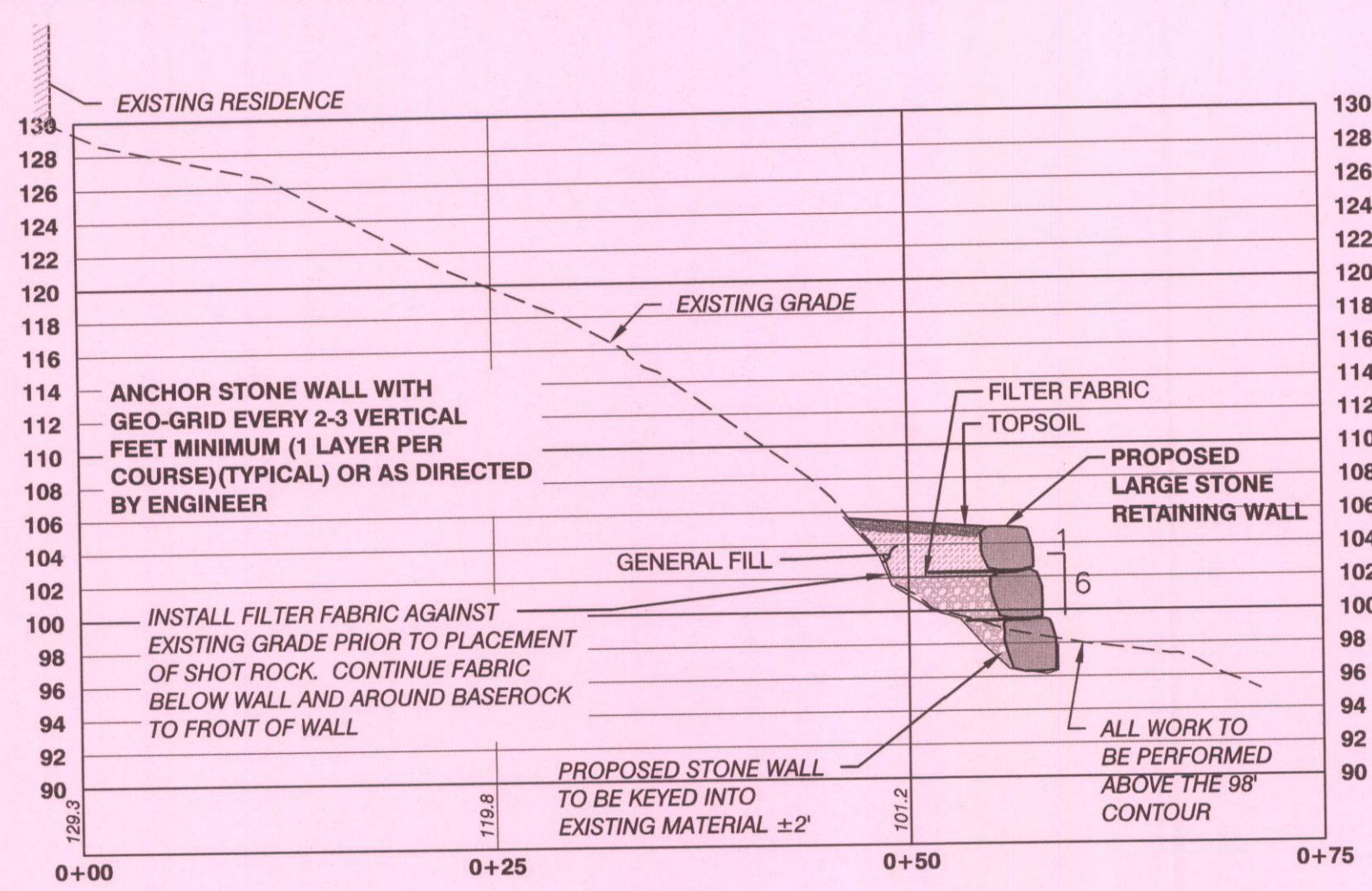
A handwritten signature in blue ink, appearing to read "Stephen A. Vock", with a horizontal line drawn through the middle of the signature.

Stephen A. Vock, P.E.
Principal / Project Engineer

SAV/jlm
Cc: file





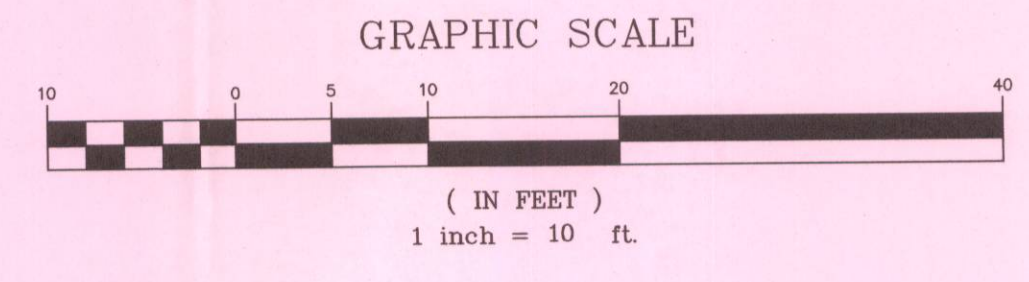
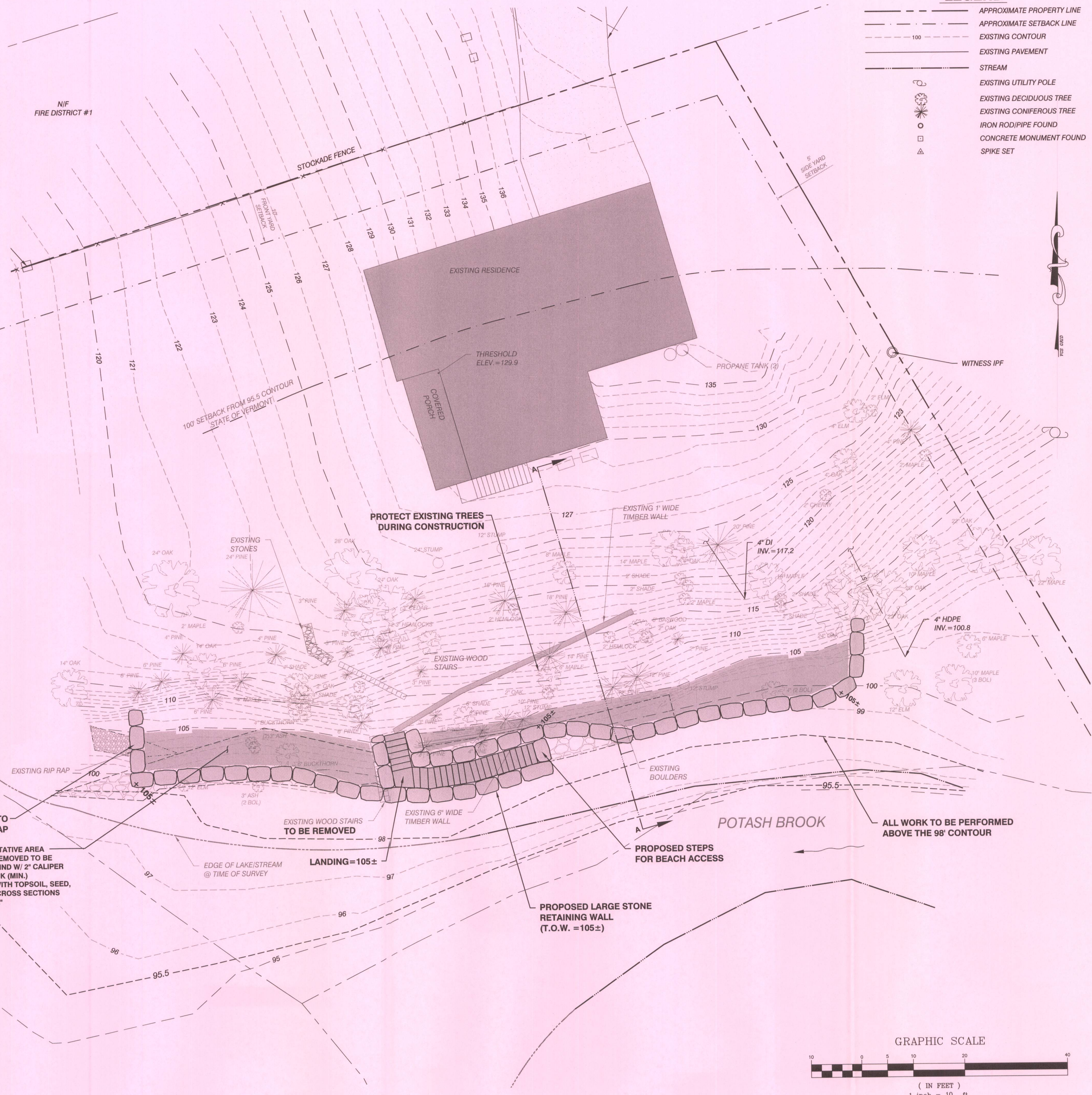


PROPOSED SECTION A-A
SCALE 1" = 10'

GENERAL NOTES

- UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL CONTACT DIG SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION.
- ALL EXISTING UTILITIES NOT INCORPORATED INTO THE FINAL DESIGN SHALL BE REMOVED OR ABANDONED AS INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS (WITH TIES) FOR ALL UNDERGROUND UTILITIES. THOSE PLANS SHALL BE SUBMITTED TO THE OWNER AT THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL REPAIR/RESTORE ALL DISTURBED AREAS (ON OR OFF THE SITE) AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION.
- ALL GRASSED AREAS SHALL BE MAINTAINED UNTIL FULL VEGETATION IS ESTABLISHED.
- MAINTAIN ALL TREES OUTSIDE OF CONSTRUCTION LIMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY FOR COMPLETE AND OPERABLE FACILITIES AND UTILITIES.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL ITEMS AND MATERIALS INCORPORATED INTO THE SITE WORK. WORK SHALL NOT BEGIN ON ANY ITEM UNTIL SHOP DRAWING APPROVAL IS GRANTED.
- IN ADDITION TO THE REQUIREMENTS SET IN THESE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLETE THE WORK IN ACCORDANCE WITH ALL PERMIT CONDITIONS AND ANY LOCAL PUBLIC WORKS STANDARDS.
- THE TOLERANCE FOR FINISH GRADES FOR ALL PAVEMENT, WALKWAYS AND LAWN AREAS SHALL BE 0.1 FEET.
- ANY DEWATERING NECESSARY FOR THE COMPLETION OF THE SITEMARK SHALL BE CONSIDERED AS PART OF THE CONTRACT AND SHALL BE THE CONTRACTORS RESPONSIBILITY.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN TOWN ROAD R.O.W. WITH TOWN AUTHORITIES.
- THE CONTRACTOR SHALL INSTALL THE ELECTRICAL, CABLE AND TELEPHONE SERVICES IN ACCORDANCE WITH THE UTILITY COMPANIES REQUIREMENTS.
- EXISTING PAVEMENT AND TREE STUMPS TO BE REMOVED SHALL BE DISPOSED OF AT AN APPROVED OFF-SITE LOCATION. ALL PAVEMENT CUTS SHALL BE MADE WITH A PAVEMENT SAW.
- IF THERE ARE ANY CONFLICTS OR INCONSISTENCIES WITH THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION BEFORE WORK CONTINUES ON THE ITEM IN QUESTION.
- PROPERTY LINE INFORMATION IS APPROXIMATE AND BASED ON EXISTING TAX MAP INFORMATION. THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE.
- IF THE BUILDING IS TO BE SPRINKLERED, BACKFLOW PREVENTION SHALL BE PROVIDED IN ACCORDANCE WITH AWWA M14. THE SITE CONTRACTOR SHALL CONSTRUCT THE WATER LINE TO TWO FEET ABOVE THE FINISHED FLOOR. SEE MECHANICAL PLANS FOR RISER DETAIL.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING TESTING AND INSPECTION SERVICES INDICATED IN THE CONTRACT DOCUMENTS, TYPICAL FOR CONCRETE AND SOIL TESTING.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT AND FIELD ENGINEERING REQUIRED FOR COMPLETION OF THE PROJECT. CIVIL ENGINEERING ASSOCIATES WILL PROVIDE AN AUTOCAD FILE WHERE APPLICABLE.
- THE OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ANY AND ALL SAFETY FENCES OR RAILS ABOVE EXISTING AND PROPOSED WALLS. THE OWNER SHALL VERIFY LOCAL, STATE AND INSURANCE REQUIREMENT GUIDELINES FOR THE INSTALLATION AND VERIFY ANY AND ALL PERMITTING REQUIREMENTS.

- TIE WALL INTO EXISTING RIP RAP**
- EXISTING VEGETATIVE AREA
 - TREES TO BE REMOVED TO BE REPLACED IN KIND W/ 2" CALIBER NURSERY STOCK (MIN.)
 - RE-VEGETATE WITH TOPSOIL, SEED, & MULCH PER CROSS SECTIONS
 - "NO MOW ZONE"



LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE SETBACK LINE
- EXISTING CONTOUR
- EXISTING PAVEMENT
- STREAM
- EXISTING UTILITY POLE
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- IRON ROD/PIPE FOUND
- CONCRETE MONUMENT FOUND
- SPIKE SET

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.ceai-vt.com

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DRAWN: MAB
CHECKED: SAV
APPROVED: SAV

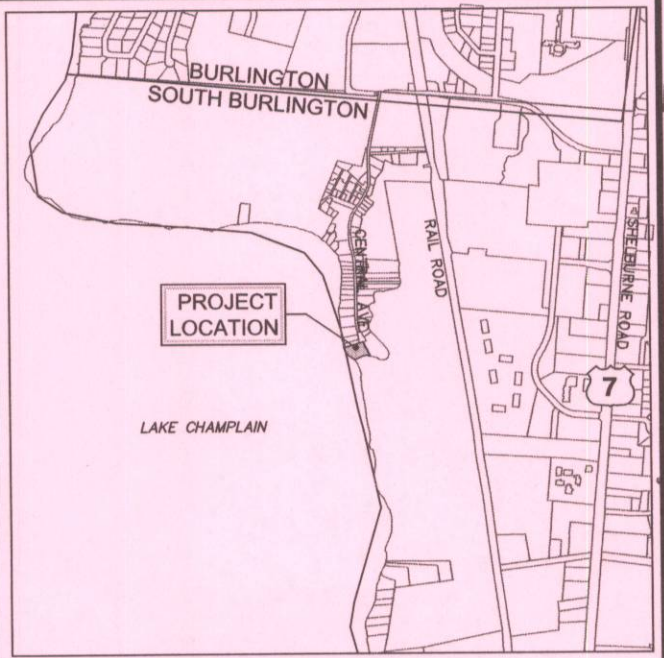
CLIENT:
ELDRED RESIDENCE

114 CENTRAL AVE
SOUTH BURLINGTON
VERMONT 05403

PROJECT:

SHORELINE STABILIZATION

114 CENTRAL AVE
SOUTH BURLINGTON, VT



LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION

PROPOSED CONDITIONS SITE PLAN

DATE: 09/30/2016
SCALE: 1" = 10'
PROJ. NO.: 15190
DRAWING NUMBER: **C1.1**

