

APPLICATION FOR CONDITIONAL USE PERMIT/VARIANCE  
TOWN OF GREENSBORO  
PO Box 119, Greensboro, VT 05841  
(802) 533-2911 Fax (802) 533-2191  
greensborovtzoning@yahoo.com

FOR ADMINISTRATIVE USE ONLY

Application Number: 2022-054 Tax Map Number 23-20-20  
Zoning District Shoreland Protection  
Date Application Received 9/27/2022 Fee Paid \$ 265<sup>00</sup> 9.27.2022  
Reason for Seeking Conditional Use Permit or Variance:  
Shoreland Buffer re-establishment + bank stabilization project  
8.7 (B) 4.

Please provide all of the information requested in this application. Failure to provide all required information will delay the processing of this application. Submit the completed application and a check payable to the *Town of Greensboro* according to the attached fee schedule.

**Applicant(s):** BENJAMIN LANGE 154 SPARROW FARM RD, MONTPELIER, VT 05602  
Name(s):  
Mailing Address:  
Telephone(s) Home: 603-556-0921 Work: \_\_\_\_\_ Cell: \_\_\_\_\_  
E-Mail: BENLANGEMD@GMAIL.COM

**Landowner(s) (if different from applicant(s)):**

Name(s): \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Telephone(s) Home: \_\_\_\_\_ Work: \_\_\_\_\_ Cell: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

**Physical Location of Property (911 address):**

36 WINNIMERE CIRCLE, GREENSBORO, VT

**Type of Permit:**

Conditional Use  Variance

**Other Permits Which May Be Necessary:**

- State Septic Permits - required prior to approval \_\_\_\_\_  
 State Potable Water Supply Permits - required prior to approval \_\_\_\_\_  
 Curb Cut - requires a separate application - necessary if a new driveway must be installed.  
[ ] Applied (date) \_\_\_\_\_ [ ] Not required

**Property Description:**

Acreage in lot 0.14 ACRES

**(Please Note: If your property is enrolled in the Current Use Program, your conditional use or variance application may impact your Current Use status. Please verify your status with Vermont Property Valuation and Review, Current Use Program at 802-828-6633).**

Feet of Road Frontage 100

Setbacks: Front 35 (to center of road) Left Side \_\_\_\_\_  
Right side \_\_\_\_\_ Rear \_\_\_\_\_  
Lakeshore 75 Other \_\_\_\_\_

**Dimensions of Proposed and Existing Buildings:**

Existing:

Length 40 No. of Stories 2  
Width 25  
Height 20

Proposed:

Length \_\_\_\_\_ No. of Stories \_\_\_\_\_  
Width \_\_\_\_\_  
Height \_\_\_\_\_

**Lakeshore District Properties, please indicate the total habitable floor area of the dwelling:** 1800

*Total Habitable Floor Area is defined in the Greensboro Zoning Ordinances as "The floor area of rooms in a dwelling unit used for bedrooms, living room, dining room, kitchen, and bathroom. Excludes porches and decks."*

Existing use and occupancy. (If there are no buildings currently on the property, please write "bare land.") Lake house property for seasonal vacation use

Proposed use and occupancy. (Write whether it will be seasonal or full year. If you decide to change the use of your property later you may need another permit.) Lake house property for seasonal vacation use

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**Sketch or attach a general plot plan showing the following:**

1. Location of property.
2. Location of buildings on property.
3. Location of driveway.
4. Location of water source and septic/waster water system.
5. Names of adjoining landowners.

See attached plan set. Septic system and water source are located away from proposed work area.

**Sketch a floor plan or diagram showing the dimensions of the proposed building, addition or alteration.** (This should show the rooms in the inside of the building, including both upstairs and downstairs if there is more than one floor.)

NO CHANGES IN DIMENSIONS OF BUILDINGS

NO ADDITIONS OR ALTERATIONS TO STRUCTURES

### **Conditional Use Criteria:**

**At your DRB hearing, you will be asked to present your proposal. Please be prepared to address the impact of your project based on the following criteria.**

**"The DRB shall make its findings on general and specific standards. Such general standards shall require that the proposed conditional use shall not result in an undue adverse effect on the following:**

1. The capacity of existing or planned community facilities; (e.g. schools, police and fire service, etc.);
2. The character of the area affected, as defined by the purpose or purposes of the zoning district within which the project is located, and specifically stated policies and standards of the Town Plan (e.g. why your project is consistent with other uses in the area or how your project fits in with existing development);
3. Traffic on roads and highways in the vicinity;
4. Bylaws and ordinances then in effect;
5. Utilization of renewable energy resources.

### **Specific standards shall include:**

1. Minimum lot size shall be that which is required for the district in which the use occurs unless other standards are given for conditional use lot size in the district in question;
2. Setbacks for conditional uses will be the same as for permitted uses unless other standards are given for conditional use setbacks in the district in question.
3. Landscaping and/or fencing may be required for commercial and industrial uses to provide screening when in the judgment of the DRB such screening is necessary to protect the character of the area affected.
4. Exterior signs shall conform to the following in all districts:
  - (a) No free standing internally lit signs shall be permitted
  - (b) All signs shall be compatible in size, materials, and workmanship to the area in which they are located.
5. Location on the lot, of structures and service areas shall be compatible with other structures in the area affected.
6. In each district, uses are given specific criteria. In all cases these criteria will be adhered to.
7. Noise, air pollution and effects on the character of the neighborhood shall be considered."

(Page 36 in the Greensboro Zoning By-Law).

**Permission to Enter Property & Applicant Certification Signatures**

Signing of this application authorizes the Zoning Administrator to enter onto the premises for the purpose of verifying information presented.

The undersigned hereby certifies that the information submitted in this application regarding the above property is true, accurate and complete and that I (we) have full authority to request approval for the proposed use of the property and any proposed structures. I (we) understand that any permit will be issued in reliance of the above representations and will be automatically void if any are untrue or incorrect.

This permit is void if the development under this permit is not begun within one year of the date of approval or if construction is not completed within two years.

**Construction may not be started until 15 days from the date of approval on this permit.**

Signature of Applicant(s) B. B. L. H. O. Date 9/13/2022

Signature of Landowner(s) B. B. L. H. O. Date 9/13/2022

**Note: Failure to develop your property in accordance with your application and any conditions of this permit may result in an enforcement action and may affect your ability to sell or transfer clear title to your property.**

Appeal from a decision or act of the Zoning Administrator must be made in writing to the Development Review Board, c/o the Town Clerk's Office at the address shown above, with the appropriate fee, within 15 days of the decision or act. Failure to appeal this decision will mean that all interested persons are bound by this decision and will foreclose these persons from contesting this decision either directly or indirectly in the future. **This permit shall not take effect until the time for such appeal has passed.**

**Please note that this is only a local permit and state permits may be needed for your project. Please contact the Permit Specialist at the VT Agency of Natural Resources at (802)751-0127.**

**FOR ADMINISTRATIVE USE ONLY**

{ / } Approved { } Denied { } Referred to the Development Review Board

Date 9.26.2022 Signature [Signature]

Remarks and/or Conditions: \_\_\_\_\_

Date of Approval or Denial by Development Review Board: \_\_\_\_\_

Applicant/Landowner Received a Copy of the Applicable Building Energy Standards: \_\_\_\_\_ (Date) \_\_\_\_\_

Applicant/Landowner Did NOT Need to Receive a Copy of the Applicable Building Energy Standards (Due to the fact that the structure will not be heated or cooled): \_\_\_\_\_ (Date) \_\_\_\_\_

# WINDEN WATER<sub>LLC</sub>

## BASIS OF DESIGN MEMORANDUM

**TO:** Misha Cetner, Lake & Shoreland Ecologist  
Vermont Dept of Environmental Conservation | Lakes & Ponds Division  
1 National Life Dr, Davis 3 Montpelier, VT 05620-3522  
802-490-6199 | [Misha.Cetner@vermont.gov](mailto:Misha.Cetner@vermont.gov)

**FROM:** Patrick Hurley  
WindenWater, LLC  
322 Sias Ave Newport, VT 05855  
781-389-4494 | [patrick@windenwater.com](mailto:patrick@windenwater.com)

### OVERVIEW:

**ON BEHALF OF:** Benjamin Lange, Landowner  
36 Winnimere Circle  
Greensboro, VT 05841 | [benlangemd@gmail.com](mailto:benlangemd@gmail.com)

Abraham Ames, Conservation Specialist  
Orleans County Conservation District  
59 Waterfront Plaza Newport, VT 05855  
802-334-6090 | [abraham.ames@vt.nacdnet.net](mailto:abraham.ames@vt.nacdnet.net)

The Caspian Lake Shoreline Stabilization Project, located on the Lange-Halsema property at 36 Winnimere Circle in Greensboro, VT, (SPAN: 264-083-10842) aims to reduce lakeshore erosion, improve water quality, enhance fish and wildlife habitat, and promote lake-friendly practices that balance ecological and human/recreation needs. In recent years, approximately 10' of shoreline has eroded because of wave action, ice push, and trampling. a lack of woody vegetation. This project aims to promote natural shoreline bioengineering. Bioengineering Manual and Natural Shoreline Stabilization program. The purpose of this Basis of Design application and the design plans developed.

### EXISTING CONDITIONS:

Existing conditions at the site are consistent with Vermont lake-friendly practices, excluding the section of eroding shoreline. Several mature cedar, hemlock, and birch trees line the property boundary and lakeshore, except for area immediately surrounding the private



recreation/lake access area where the erosion is located. The project will restore natural shoreline

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habitat and stability while maintaining designation recreation access paths to reduce foot-traffic and promote long-term stability through woody vegetation and stable soils.

## DESIGN:

The project will employ preferred bioengineering practices to stabilize the shoreline and re-establish native woody vegetation and natural lakeshore habitat by installing 4 fabric encapsulated soil lifts (FESL), ~150 willow live-stakes, and 3-5 woody shrub plantings. FESLs shall be constructed in staggered tiers atop a compacted crushed stone base and native rock/boulder sill (wrapped on all sides with non-woven geotextile except side facing lake). FESLs will be constructed with durable, biodegradable BioD-block coir erosion fabric, lined with straw filter blanket to retain fine materials, and keyed-in to the bank and slope. Each lift shall be approximately 1' vertical, with 2' horizontal benches between tiers. Willow live-stakes (3 per LF) will be installed between each successive lift to establish woody vegetation for long-term stability. The benches created by each soil lift will be seeded with native herbaceous species to aid in stabilization and naturalization. The area immediate upslope of the FESLs shall be re-graded (max slope 3H:1V), seeded, mulched, and planted with 3-5 native woody shrubs depending on available species and size. The re-graded planting area and soil lifts will be designated no-mow and no-foot-traffic zones to promote stabilization and naturalization.

The project aims for net-zero fill/removal of material, however, up to 2 cubic yards of native round rock/boulders may be imported to construct the rock sill beneath the FESLs. Above the mean water level, up to 1 cubic yard of crushed stone and 1 cubic yard of topsoil may be imported to construct the base for the FESLs and to re-grade the slope leading to the shoreline (see Sheet 7 – Quantities



Table). Larger rocks from an existing, unpermitted encroachment in the form of a 15' long, 2' wide rock jetty (constructed by previous landowner) shall be salvaged and re-purposed to construct the rock sill upon which the FESLs will be constructed. This existing encroachment does not provide valuable fish or wildlife habitat and was artificially constructed to protect a boat which is no longer kept on the shoreline (replaced by dock). Once constructed, the project shall encroach no more than 3' laterally (lake-ward) from existing mean water level.

## CONSTRUCTION & IMPLEMENTATION:

All construction activities shall be performed to minimize impacts to water quality and fish and wildlife habitat. A turbidity curtain will reduce short-term impacts. Excavated materials will be stored away from the shoreline and stabilized with a silt fence as needed. Tracked heavy equipment shall operate from the shore above mean water level except for the bucket and thumb attachment during construction of the rock sill. All existing trees shall be protected and preserved; light pruning may be performed to allow equipment access. Existing stumps and rootwads will be re-purposed as habitat features where suitable.

# WINDEN WATER<sub>LLC</sub>

Equipment and imported materials (topsoil, crushed stone, rock) will be inspected, cleaned if necessary, and free of loam, silt, clay, organic matter, refuse, or invasive species.

## **PERSONNEL QUALIFICATIONS:**

Implementation shall be overseen by Meghann Carter, Direction of Conservation Science at the NorthWoods Stewardship Center. Equipment operation shall be performed by a trusted subcontractor with experience working in and around streams, wetlands, and lake shorelines. Designs were developed by Mr. Hurley with reviews performed by Ms. Carter. Both Ms. Carter & Mr. Hurley are certified NSECC practitioners and have extensive experience designing and constructing FESLs and other bioengineering practices on streambanks and lake shorelines.

## **FUNDING:**

Grant funding for this project was secured and managed by the Orleans County Natural Resources Conservation District





Benjamin Lange <benlangemd@gmail.com>

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## Notice of Dept of Environmental Conservation Permit Request

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Mateo Kehler <mateo@jasperhillfarm.com>

Sat, Sep 17, 2022 at 10:02 AM

To: Benjamin Bjorn Lange <benlangemd@gmail.com>

Cc: Abraham Ames <amesbrahm@gmail.com>, Meghann Carter <meghann@northwoodscenter.org>, Patrick Hurley <patrick@windenwater.com>

Of course

Consider us notified

Do we need to acknowledge in any more formal manner?

MK

On Sat, Sep 17, 2022 at 9:59 AM Benjamin Bjorn Lange <benlangemd@gmail.com> wrote:

Dear Mateo and Angie,

As you know, we are working with a VT state program (Lake Wise) to restore the eroding portion of our lakefront at our Caspian camp. As part of the permit application process, I need to give official notice to our neighbors (see attached). In essence, the eroded shoreline will be restored with a bioengineered terrace and plantings. It will not be an unsightly retaining wall. As we previously discussed, with your permission, the team will use your lake path/ROW to bring in equipment and materials to access our shoreline. I will of course make sure your path/ROW is restored to its current state after completion of the project.

Please let me know if you have any questions or concerns. Happy Fall!

Warm regards,

Ben Lange  
mobile: 603-556-0921

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In a world where you can be anything, be kind.

Mateo Kehler  
Jasper Hill Farm  
884 Garvin Hill Rd  
Greensboro, VT 05841

802.533.2566 x101 office  
802.745.7539 cell (spotty service in the NEK)

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## Notice of Dept of Environmental Conservation Permit Request

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Wendy Valliere <wendy@seldomsceneinteriors.com>  
To: Benjamin Bjorn Lange <benlangemd@gmail.com>

Sun, Sep 18, 2022 at 9:10 AM

Good morning Ben,  
I think this is wonderful, if you need anything please let me know! I am sure it will be an improvement!  
Best Regards Wendy

Wendy Valliere  
Principle Designer and Founder  
Seldom Scene Interiors  
Cell: 508-332-0410  
Executive Assistant Lexi Smith: 970-389-8816

On Sep 17, 2022, at 9:52 AM, Benjamin Bjorn Lange <benlangemd@gmail.com> wrote:

Dear Wendy,

I am working with a VT state program to restore the eroding portion of our lakefront at our Caspian camp. As part of the permit application process, I need to give official notice to our neighbors (see attached). In essence, the eroded shoreline will be restored with a bioengineered terrace and plantings. It will not be an unsightly retaining wall. Your property will not be touched or crossed during the project.

Please let me know if you have any questions or concerns. Happy Fall!

Warm regards,

Ben Lange  
mobile: 603-556-0921

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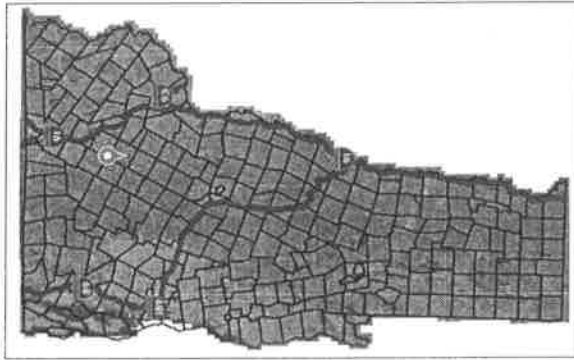
### 2 attachments

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335K

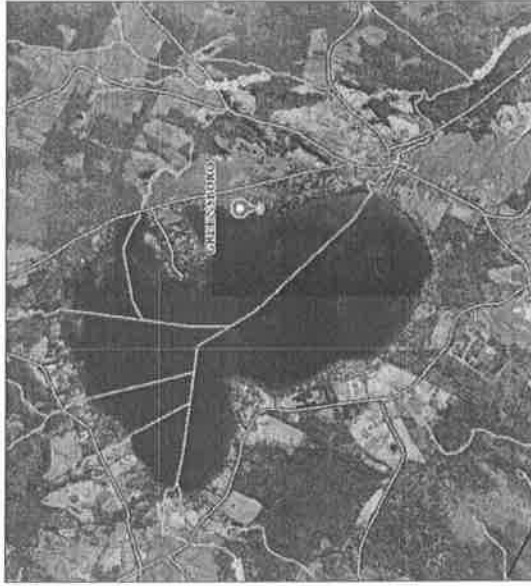
 **BASIS OF DESIGN MEMORANDUM.docx**  
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# CASPIAN LAKE SHORELINE STABILIZATION PROJECT

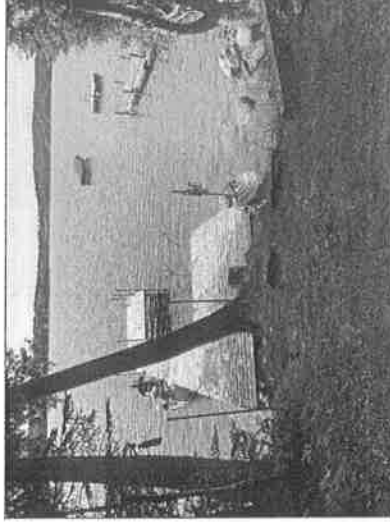
LANGE & HALSEMA PROPERTY  
36 WINNIMERE CIRCLE GREENSBORO, VT



LOCATION MAP



VICINITY MAP



SHEET	DESCRIPTION
1	COVER SHEET
2	OVERVIEW
3	PLAN VIEW
4	EXISTING BANK
5	PROPOSED STABILIZATION
6	DETAILS & SPECIFICATIONS
7	PLANTING & NOTES



ORLEANS COUNTY CONSERVATION DISTRICT  
59 WATERFURY PLAZA  
NEWPORT, VT 05855  
CONTACT:  
ABRAHAM AMES  
802.323.2419  
ABRAHAM.AMES@VT.MCDNET.NET

PREPARED BY:



WINDENWATER, LLC  
322 SAS AVE  
NEWPORT, VT 05855  
CONTACT:  
PATRICK HURLEY  
781.389.4484  
PATRICK@WINDENWATER.COM

9/12/22

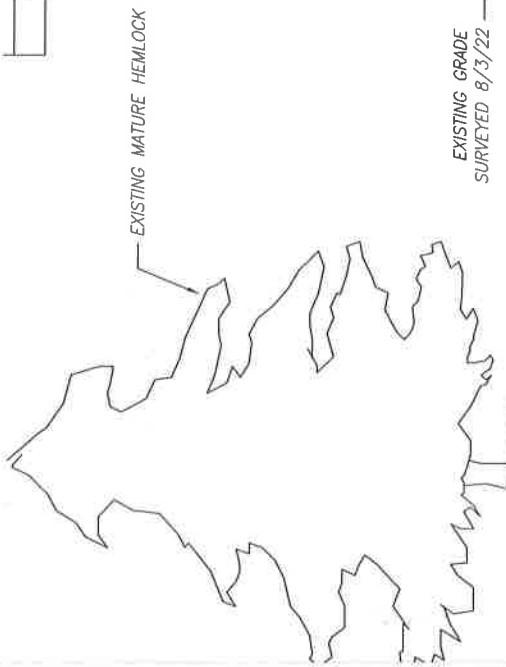
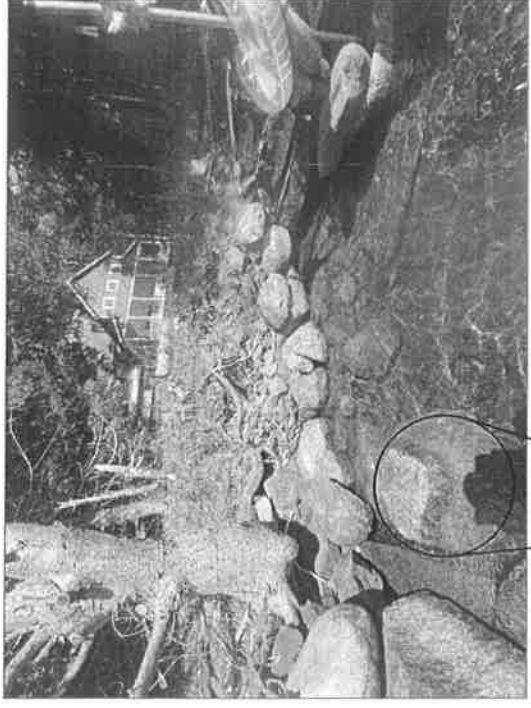
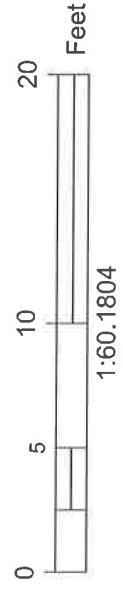
*Patrick Hurley*  
PATRICK E HURLEY - MSc, WPIT, NSECC  
DATE



**NOTES**

1. ACCESS TO WORK AREA SHALL BE VIA TEMPORARY ROUTE THROUGH ADJACENT PROPERTY. TEMPORARY ACCESS GRANTED TO BEN LANGE FROM MATT KEHLER ON 8/3/2022.
2. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO LAWN, DRIVEWAY, SHARED ROAD, AND LANDSCAPE PLANTINGS DURING WORK ACTIVITIES. PRUNE LOW-LYING BRANCHES AS NECESSARY TO ALLOW EQUIPMENT ACCESS.
3. ALL EXISTING TREES AND SHRUBS SHALL BE PRESERVED AND PROTECTED DURING WORK ACTIVITIES.
4. CONTRACTOR SHALL LIMIT GROUND DISTURBANCE TO SHORELINE STABILIZATION WORK AREA ONLY. EQUIPMENT TRACKS SHALL BE RAKED AND SEEDED AS NECESSARY TO RESTORE TO PRE-EXISTING CONDITIONS.





ERODING SHORELINE

EXISTING GRADE SURVEYED 8/3/22

NATIVE MATERIAL



EXISTING STEPPING STONES TO BE RE-PURPOSED FOR ROCK SILL

OHW - 1400'

WSE 8/3/22 - 1399.2'

EXISTING LAKE BED

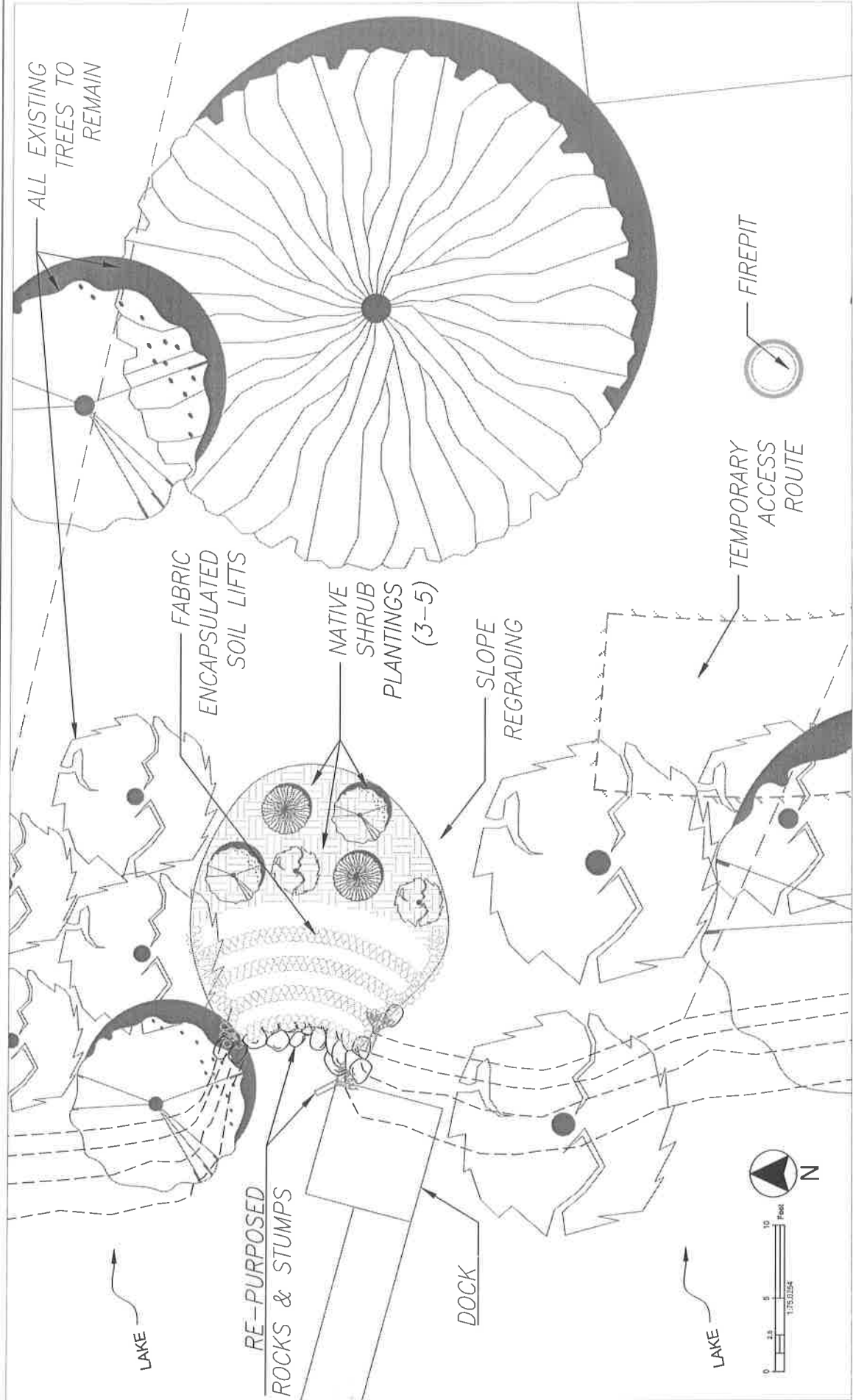
**SHORELINE STABILIZATION GOALS**

1. APPROX. 10' OF SHORELINE HAS ERODED AS A RESULT OF WAVE ACTION, ICE PUSH, AND TRAMPLING. A LACK OF WOODY VEGETATION EXACERBATES EROSION AND PREVENTS NATURAL STABILIZATION. THE PRIMARY GOAL OF THIS PROJECT IS TO RE-ESTABLISH A LOW-GRADIENT SHORELINE, STABILIZE SOILS, AND PROMOTE NATURAL LONG-TERM STABILITY.
2. SECONDARY GOALS OF THIS PROJECT ARE TO PROTECT EXISTING WOODY VEGETATION AND PROMOTE ESTABLISHMENT OF ADDITIONAL NATIVE WOODY SHORELINE VEGETATION FOR STABILITY, WATER QUALITY PROTECTION, AND HABITAT ENHANCEMENT.
3. THIS PROJECT AIMS TO PROMOTE NATURAL SHORELINE BIOENGINEERING DESIGN PRINCIPLES AND STANDARDS DESCRIBED IN THE VERMONT BIOENGINEERING MANUAL AND NATURAL SHORELINE EROSION & SEDIMENT CONTROL CERTIFICATION PROGRAM.



**EXISTING LAKE SHORELINE CONDITIONS**

C:\Users\Patrick\Dropbox\PC\Desktop\WinnemereLn.dwg 8/31/2022



ALL EXISTING TREES TO REMAIN

FABRIC ENCAPSULATED SOIL LIFTS

NATIVE SHRUB PLANTINGS (3-5)

SLOPE REGRADING

TEMPORARY ACCESS ROUTE

FIREPIT

LAKE

RE-PURPOSED ROCKS & STUMPS

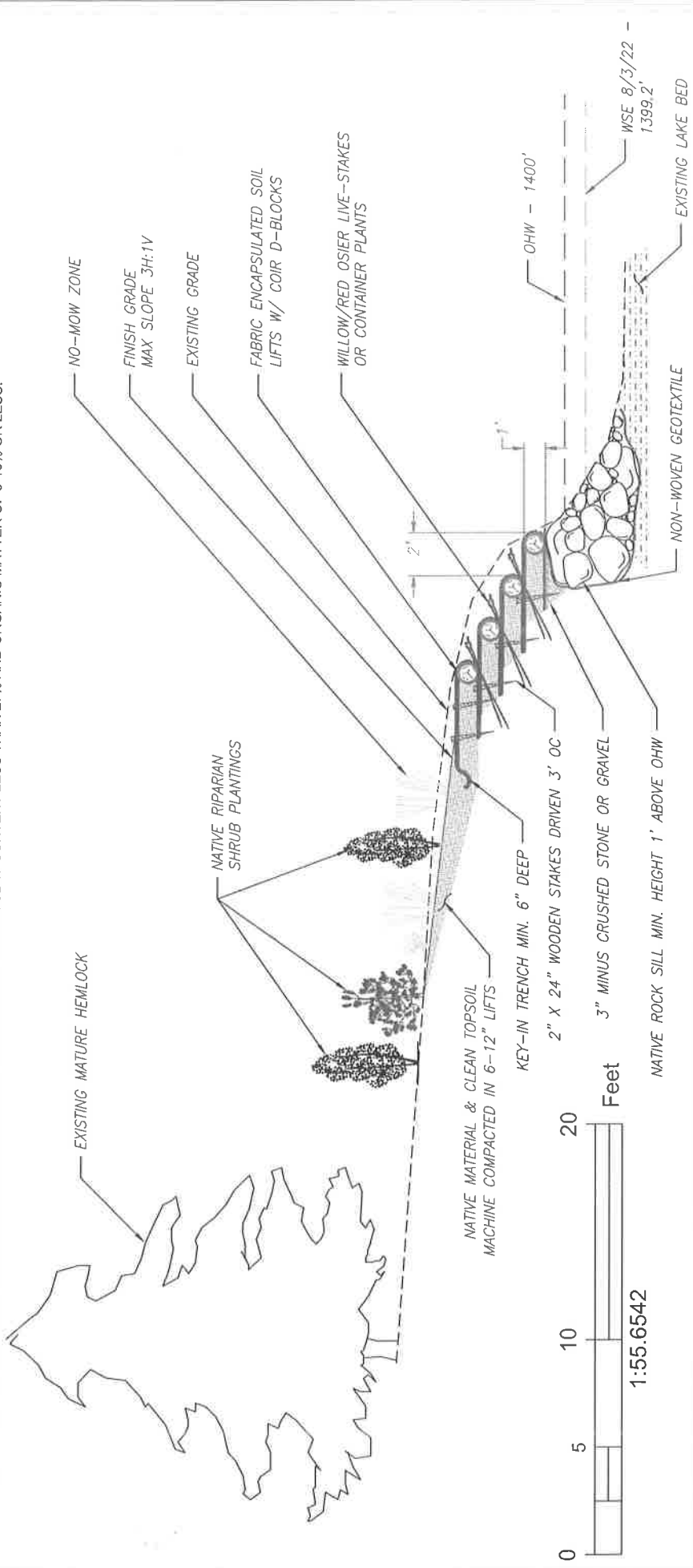
DOCK

LAKE



LAKE SHORELINE STABILIZATION DESIGN - PLAN VIEW

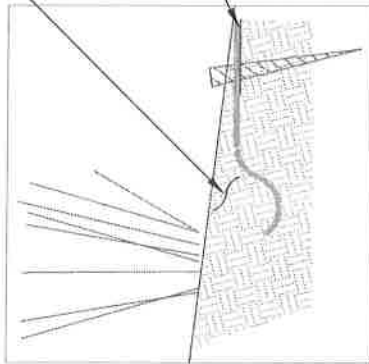
1. FINAL BIOENGINEERED SHORELINE (LIMITED TO ROCK SILL) SHALL NOT EXTEND MORE THAN 3' FROM MEAN WATER LEVEL TO MINIMIZE LAKE ENCRoACHMENT.
2. SALVAGE & RE-PURPOSE NATIVE ROCK FROM ARTIFICIAL JETTY CONSTRUCTED BY PREVIOUS LANDOWNER; INCORPORATE MATERIAL INTO ROCK SILL. RESTORE LAKE BED TO MATCH SURROUNDING GRADE FOLLOWING ROCK SALVAGE. HEAVY EQUIPMENT SHALL NOT ENCRoACH BELOW MEAN WATER LEVEL EXCEPT FOR EXCAVATOR BUCKET & THUMB ATTACHMENT.
3. IMPORT CLEAN TYPE III ROUND STONE AS NEEDED TO CONSTRUCT ROCK SILL. TYPE III ROUND STONE VARIES IN LENGTH FROM 3" TO 48", WITH 50% OF MATERIAL HAVING MINIMUM DIMENSION OF 16". NOT TO EXCEED 2 CUBIC YARDS OF IMPORTED TYPE III STONE.
4. IMPORT CRUSHED STONE AS NEEDED TO CONSTRUCT BASE FOR SOIL LIFTS. CRUSHED STONE SHALL MEET THE REQUIREMENTS OF TABLE 704.08A, VTRANS 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION. PER VTRANS 2018, 100% OF CRUSHED STONE SHALL PASS THROUGH 3" SEIVE; 75% SHALL PASS THROUGH NO. 4 (4.75MM) SEIVE; MATERIAL SHALL CONSIST OF STONE AND SAND REASONABLY FREE OF LOAM, SILT, CLAY AND ORGANIC MATTER. NOT TO EXCEED 1 CUBIC YARD OF IMPORTED CRUSHED STONE. CRUSHED STONE SHALL NOT EXTEND BEYOND MEAN WATER LEVEL.
5. IMPORT CLEAN TOPSOIL AS NEEDED TO CONSTRUCT SOIL LIFTS AND REGRADE SLOPE. TOPSOIL SHALL MEET REQUIREMENTS OF SECTION 755.02, VTRANS 2018. TOPSOIL SHALL BE NATURAL, WORKABLE, FREE OF REFUSE, ROOTS, STONES, BRUSH, WEEDS OR OTHER MATERIALS. TOPSOIL SHALL HAVE A CLAY CONTENT LESS THAN 27% AND ORGANIC MATTER OF 5-10% OR LESS.



**LAKE SHORELINE STABILIZATION DESIGN - PROFILE VIEW**

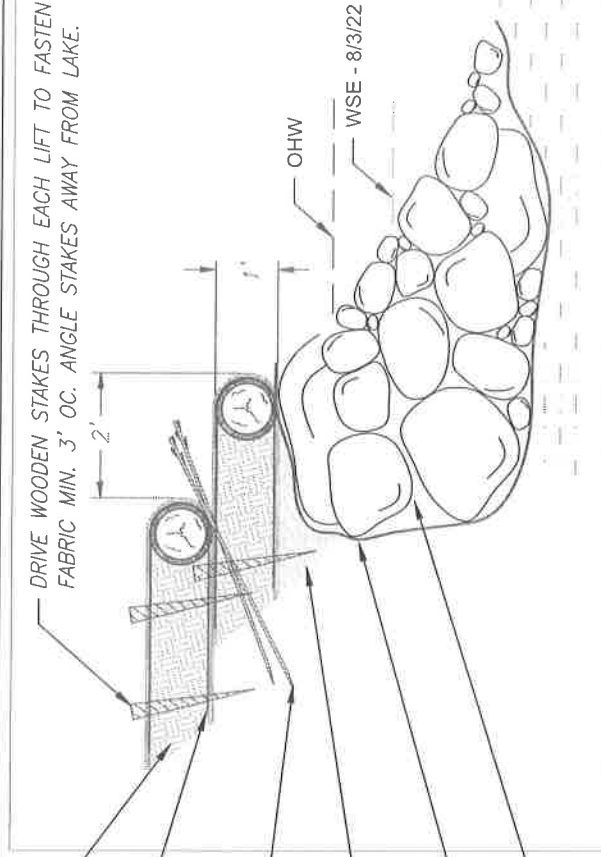
CASPIAN LAKE - WINNEMERE CIRCLE SHORELINE STABILIZATION

8/23/22



**KEY-IN TRENCH DETAIL**

BURY MINIMUM 1' OF TAIL END OF COIR FABRIC IN 6" DEEP TRENCH. SECURE WITH WOODEN STAKES AND BURY LOOSE ENDS UNDER MINIMUM 6" COMPACTED NATIVE MATERIAL.



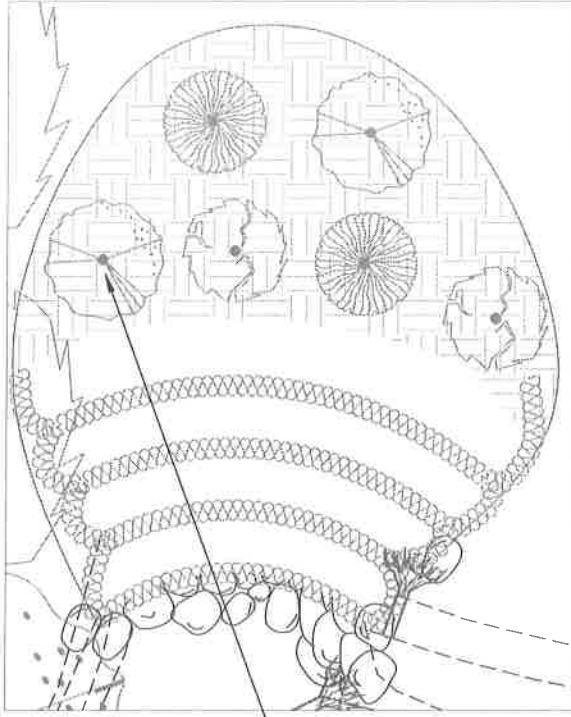
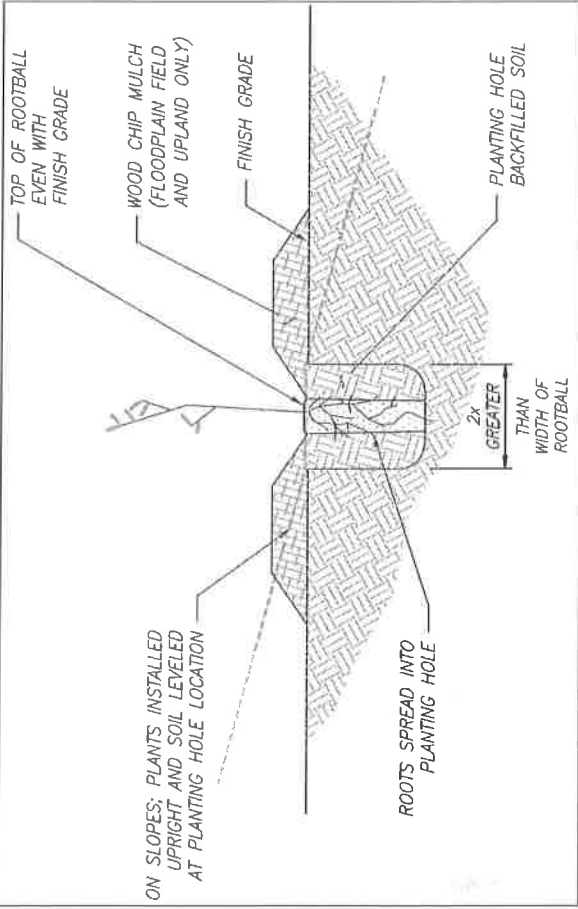
**FABRIC ENCAPSULATED SOIL LIFT (FESL) NOTES**

1. CONSTRUCTION OF FESLs SHALL BEGIN WITH EXCAVATION OF NATIVE MATERIAL AND EXISTING BOULDERS TO SUBGRADE (LAKE BED). NON-WOVEN GEOTEXTILE SHALL BE LAID AT SUBGRADE AND BACKFILLED WITH BOULDERS SALVAGED ON SITE AND IMPORTED CLEAN ROCK AS NEEDED (MIN. 1' DIAMETER). BUILD ROCK SILL WITH BOULDERS TO ELEVATION 1' ABOVE ORDINARY HIGH WATER LINE (APPROX 1400' ABOVE MSL). WRAP GEOTEXTILE OVER AND AROUND BOULDERS IN CONTACT WITH LAKE BED AND SHORELINE. KEY GEOTEXTILE FABRIC INTO BANK AND CUT AWAY EXPOSED MATERIAL FACING LAKE.
2. USING CRUSHED STONE OR GRAVEL (2"-MINUS), BUILD FLAT BENCH OVER GEOTEXTILE FABRIC AND ROCK SILL. LEVEL AND COMPACT GRAVEL LAYER WITH MACHINE BUCKET TO ACT AS FOUNDATION FOR SOIL LIFTS.
3. LAY COIR FABRIC & D-BLOCK ACROSS ENTIRE LENGTH OF ERODING BANK OVER ROCK SILL AND GRAVEL BASE. LINE COIR FABRIC WITH STRAW BLANKET. BACKFILL WITH APPROX. 12" NATIVE MATERIAL OR CLEAN TOPSOIL. LIGHTLY COMPACT SOIL WITH MACHINE BUCKET AND SPREAD NATIVE SEED ALONG SOIL WITHIN 2' OF D-BLOCK. FOLD OVER STRAW BLANKET & COIR FABRIC TO WRAP FESL. SECURE WITH WOODEN STAKES DRIVEN MINIMUM 3' ON CENTER.
4. LAY WILLOW AND RED OSIER WHIPS OR CONTAINER PLANTS ON TOP OF BOTTOM FESL PRIOR TO CONSTRUCTING SUCCESSIVE LIFTS. PLACE CONTAINER PLANTS 3' OC WITH ROOT BALLS AND 1-2' OF STEM POSITIONED UNDER SUCCESSIVE FESLS. LAY WILLOW AND RED OSIER WHIPS 1' OC AND POSITION 3-4' OF STEM UNDER LIFT AND 1' OF STEM PROTRUDING TOWARD LAKE. ENSURE WHIPS ARE INSTALLED CORRECTLY WITH TERMINAL BUDS FACING LAKE.
5. CONSTRUCT SUCCESSIVE LIFTS TO MATCH SURROUNDING GRADE. ON FINAL LIFT, BURY 12" OF LOOSE ENDS OF COIR FABRIC IN 6"-DEEP KEY-LINE TRENCH TO SECURE IN PLACE.
6. RE-GRADE AREA IMMEDIATELY UPSLOPE OF FESLS TO SMOOTH TRANSITION. FINAL GRADE SHALL BE LESS THAN 3H:1V. AMEND WITH CLEAN TOPSOIL AS NEEDED. PLANT CONTAINERIZED SHRUBS AND SEED WITH NATIVE MIX. APPLY STRAW MULCH.

**FABRIC ENCAPSULATED SOIL LIFT DETAIL (TYPICAL)**







### PLANTING INSTRUCTIONS

1. PRIOR TO INSTALLATION OF CONTAINER PLANT, CLEANLY PRUNE ANY BROKEN BRANCHES AND SCARIFY OUTER 1" OF ROOTBALL. CLEANLY PRUNE BROKEN, DEAD, OR DISEASED ROOTS. ROOTBOUND PLANTS SHALL BE REJECTED.
2. EXCAVATE CIRCULAR PLANTING HOLE WITH VERTICAL SIDES. SCARIFY SIDES AND BOTTOM OF PLANTING HOLE TO REDUCE COMPACTION.
3. PLACE ROOTBALL ON UNDISTURBED NATIVE SOIL AT BASE OF PLANTING HOLE AND SPREAD ROOTS OUT TO SIDES OF HOLE. CLEANLY TRIM ANY ROOTS THAT ARE TOO LONG TO LAY STRAIGHT IN PLANTING HOLE. PLANTS SHALL BE UPRIGHT, PLUMB, AND TOP OF ROOTBALL SHALL BE EVEN WITH FINISH GRADE. WHEN PLANTING ON SLOPES, CREATE LEVEL PLANTING SURFACE TO ENSURE COVER OF ROOTS ON DOWNHILL SIDE OF PLANT.
4. BACKFILL PLANTING HOLE WITH SOIL EXCAVATED FROM PLANTING HOLE OR CLEAN TOPSOIL. TAMP SOIL AROUND ROOTS. ANY TRASH OR DEBRIS FOUND IN EXCAVATED SOIL SHALL NOT BE USED TO BACKFILL THE PLANTING HOLE. BACKFILL SOIL SHALL MAKE GOOD CONTACT WITH THE ROOTBALL, LEAVING NO VOIDS.
5. ALL PLANTS SHALL BE SURROUNDED BY A 3' DIAMETER, 4" DEEP RING OF WOOD CHIP MULCH. TAPER MULCH NEAR PLANT BASE TO ENSURE THAT THE WOOD CHIP MULCH DOES NOT MAKE CONTACT WITH PLANT STEM. TAPER MULCH OUTSIDE OF 3' DIAMETER TO MEET GRADE.
6. WITHIN 2 HOURS OF PLANTING, THOROUGHLY WATER IN EACH INSTALLED PLANT.

### QUANTITIES

COMMON NAME OR MATERIAL	SCIENTIFIC NAME OR GRADE/CLASS	MAX QUANTITY
RED OSIER DOGWOOD	CORNUS SERICEA	2-3
HIGHBUSH CRANBERRY	VIBURNUM TRILOBUM	1-3
WILLOW OR RED OSIER CUTTINGS	SALIX SPP. OR CORNUS SERICEA	150
ROUND ROCK	TYPE III ROCK	2 YDS
3"-MINUS CRUSHED ROCK	N/A	1 YD
TOPSOIL	N/A	1 YD
4-6' WIDE COIR FABRIC	BIOD-BLOCK OR SIMILAR	75 LF
4-6' WIDE STRAW FILTER FABRIC	N/A	75 LF
NON-WOVEN GEOTEXTILE	6-8 OZ/SY	120 SQ FT

