

ELMORE TOWN HALL STORMWATER IMPROVEMENTS

1175 VT ROUTE 12, ELMORE, VERMONT

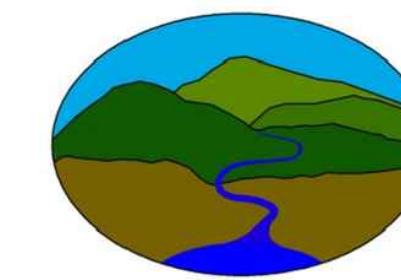
FINAL PLANS
3/8/2024
REVISED
11/11/2024

THIS PROJECT INVOLVES THE CONSTRUCTION OF GREEN STORMWATER INFRASTRUCTURE AND THE INSTALLATION OF LAKESHORE BUFFER PLANTINGS ON THE PROPERTY OF THE TOWN OF ELMORE TOWN HALL, INCLUDING TWO BIORETENTION BASINS WITH LEVEL SPREADER OUTLETS AND VEGETATED FOREBAYS, A SEDIMENT TRAP, A GRASSED SWALE, AND BUFFER PLANTINGS.

DRAWING INDEX

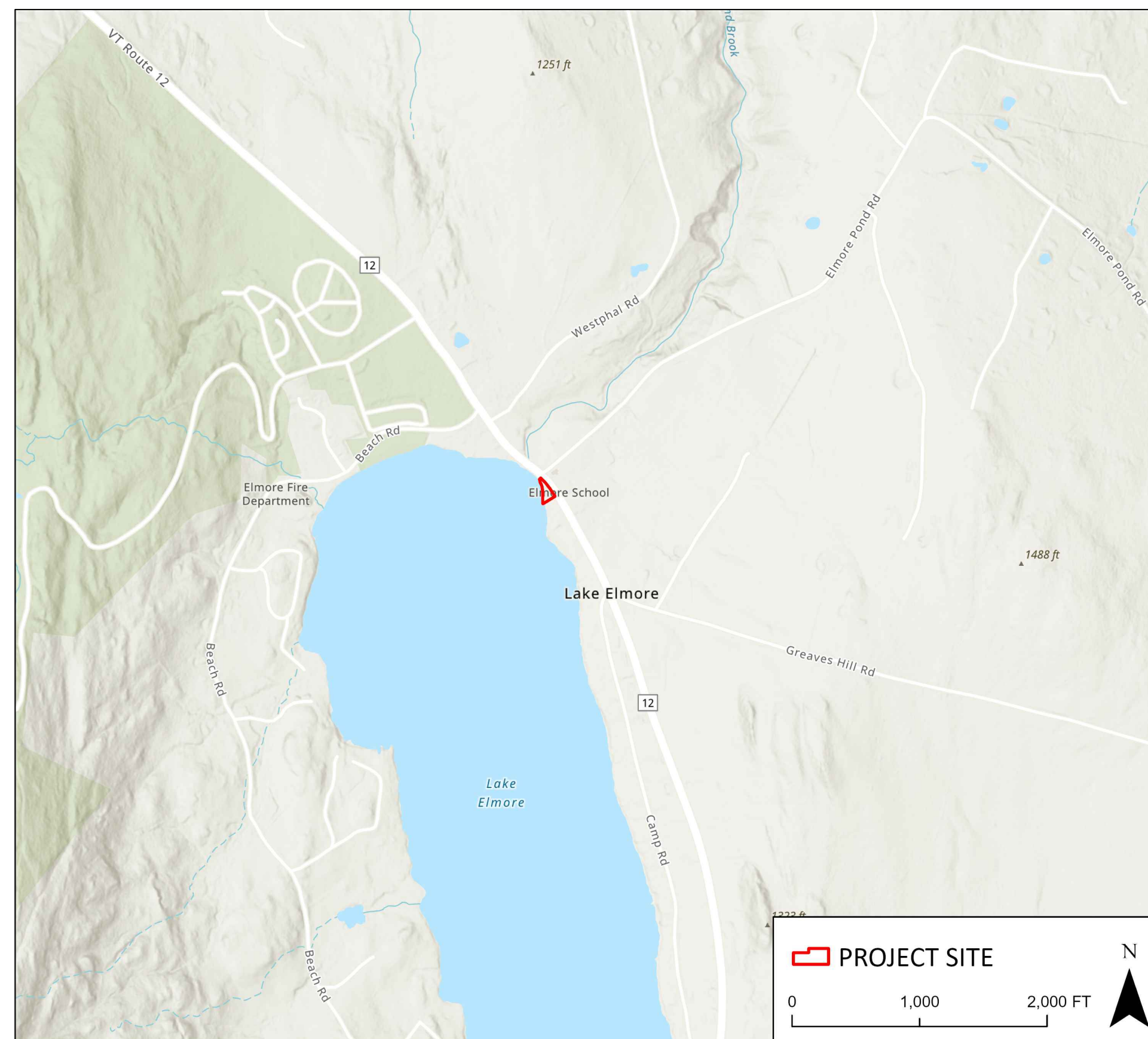
NO.	NAME	TITLE
1	EX-1	SITE PLAN - EXISTING CONDITIONS
2	PR-1	SITE PLAN - PROPOSED CONDITIONS
3	DT-1	CONSTRUCTION DETAILS
4	N-1	CONSTRUCTION NOTES

PREPARED BY:



Fitzgerald
Environmental
Associates, LLC

164 Main Street, Suite 2
Colchester, VT 05446
Telephone: 802.876.7778
www.fitzgeraldenvironmental.com



EXISTING CONDITIONS AND SOURCE NOTES

- GEOGRAPHIC DATA AND PLANS ARE REFERENCED TO THE VERMONT STATE PLANE IN US SURVEY FEET (NAD83). ELEVATIONS ARE BASED ON NAVD88.
- PARCEL BOUNDARY DATA SHOWN ON THE PLANS ARE FROM VCGI.

PREPARED FOR:



LAMOILLE COUNTY CONSERVATION DISTRICT
109 PROFESSIONAL DRIVE, SUITE 2
MORRISVILLE, VT

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LEGEND

EXISTING

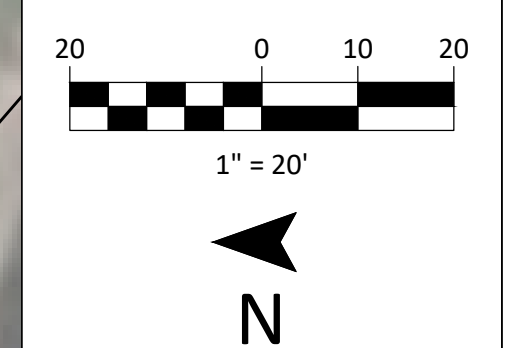
- BUILDINGS/STRUCTURES
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- GUARDRAIL
- 5-FOOT CONTOURS
- 1-FOOT CONTOURS
- STONE WALL
- STORMWATER DRAINAGE AREAS
- STORMWATER FLOW PATHS
- PARCEL BOUNDARIES
- STREAM CENTER LINE
- DOCK STORAGE AREA

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SIGNATURE

REVISIONS		
#	DESCRIPTION	DATE



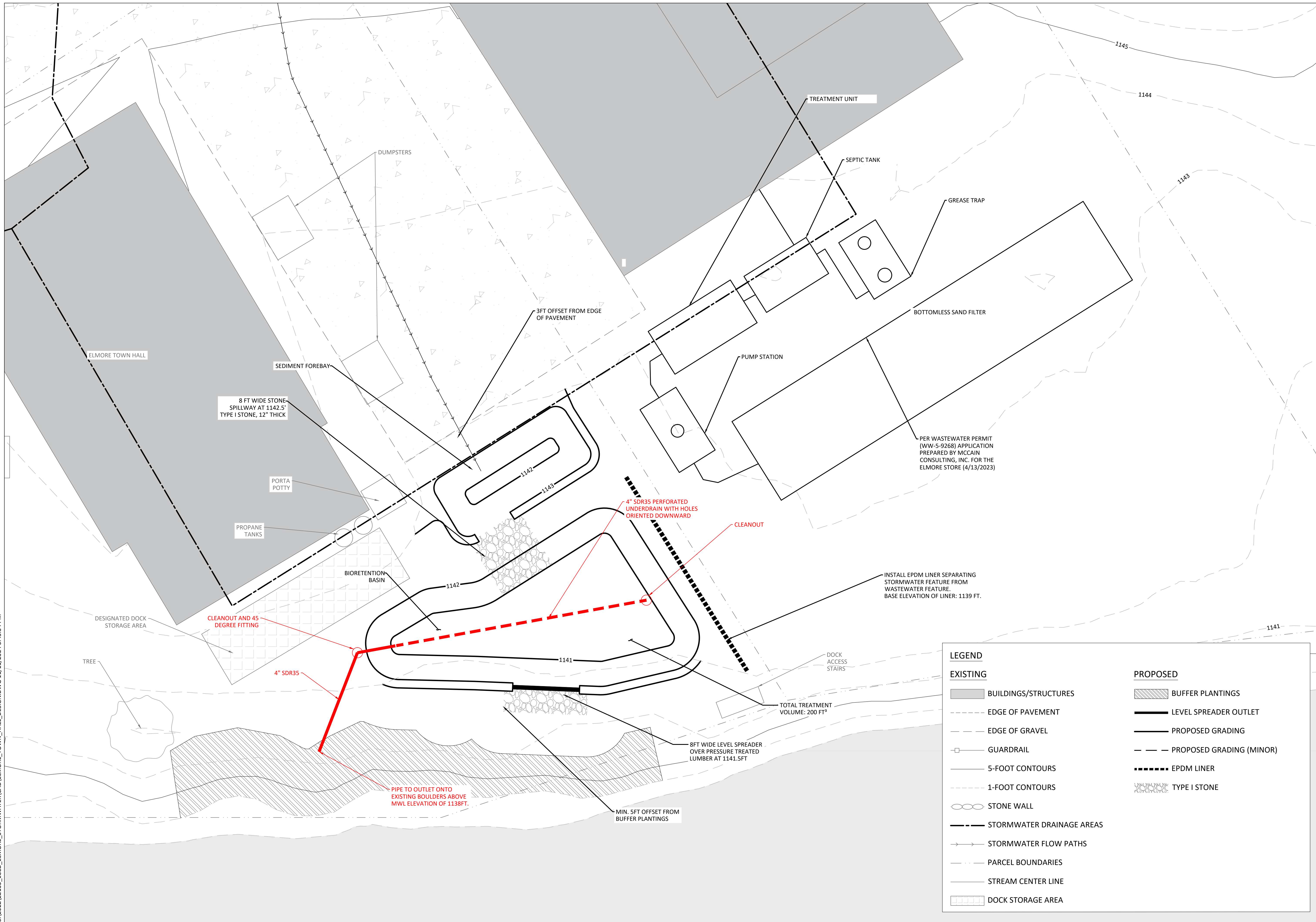
SITE PLAN - EXISTING CONDITIONS
ELMORE TOWN HALL
STORMWATER IMPROVEMENTS AND PLANTING

ROUTE 12, ELMORE, VT

FINAL PLANS

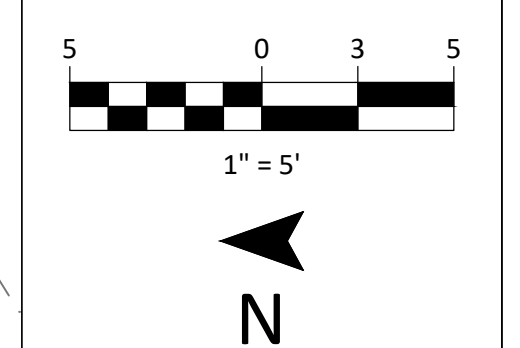
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SCALE	1" = 20'		
DATE	2024-03-08		
PROJECT NO.	22103		
SHEET NO.	1 OF 4		
SHEET NAME	EX-1		

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SIGNATURE		
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#	DESCRIPTION	DATE
1	MAP SCALE, UNDERDRAIN, SHOWN IN RED	11/11/24

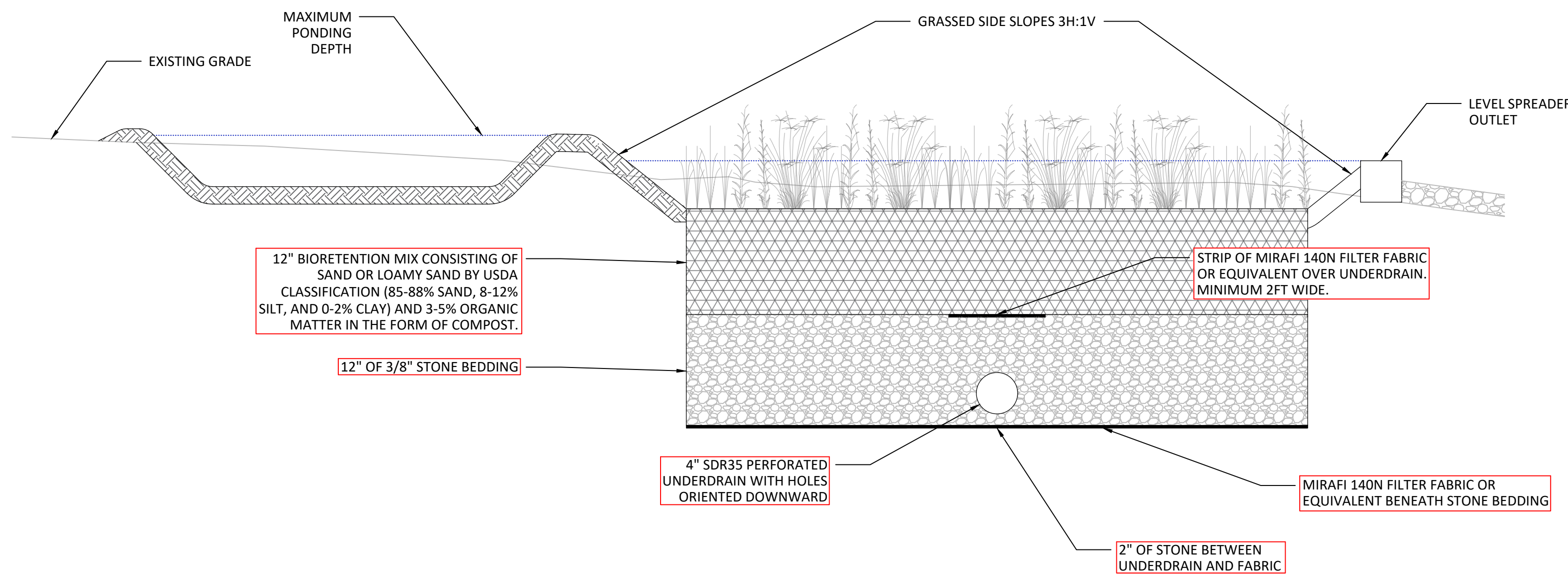


FINAL PLANS

SITE PLAN - PROPOSED CONDITIONS
 ELMORE TOWN HALL
 STORMWATER IMPROVEMENTS AND PLANTING
 ROUTE 12, ELMORE, VT

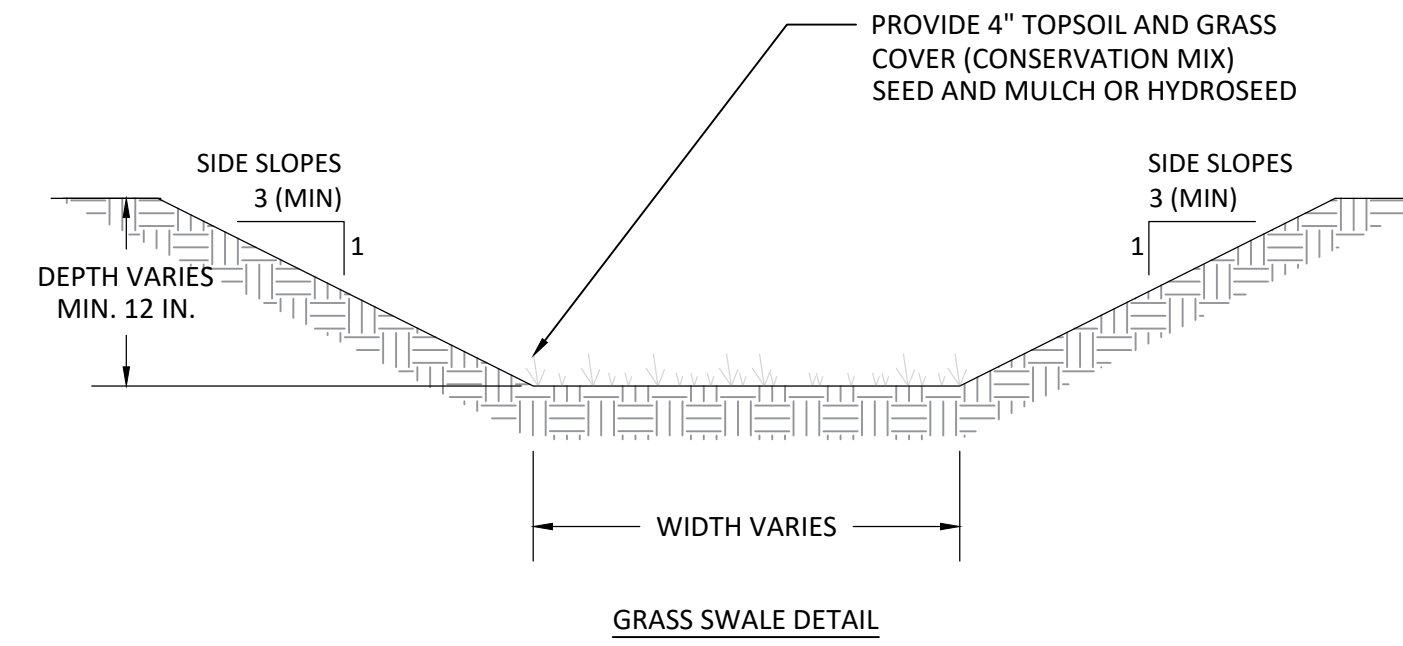
LEGEND	
EXISTING	PROPOSED
BUILDINGS/STRUCTURES	BUFFER PLANTINGS
EDGE OF PAVEMENT	LEVEL SPREADER OUTLET
EDGE OF GRAVEL	PROPOSED GRADING
GUARDRAIL	PROPOSED GRADING (MINOR)
5-FOOT CONTOURS	EPDM LINER
1-FOOT CONTOURS	TYPE I STONE
STONE WALL	
STORMWATER DRAINAGE AREAS	
STORMWATER FLOW PATHS	
PARCEL BOUNDARIES	
STREAM CENTER LINE	
DOCK STORAGE AREA	

DRAWN	FCP	CHECKED	EPF
SCALE	1" = 5'		
DATE	2024-03-08		
PROJECT NO.	22103		
SHEET NO.	2 OF 4		
SHEET NAME	PR-1		



BIORETENTION

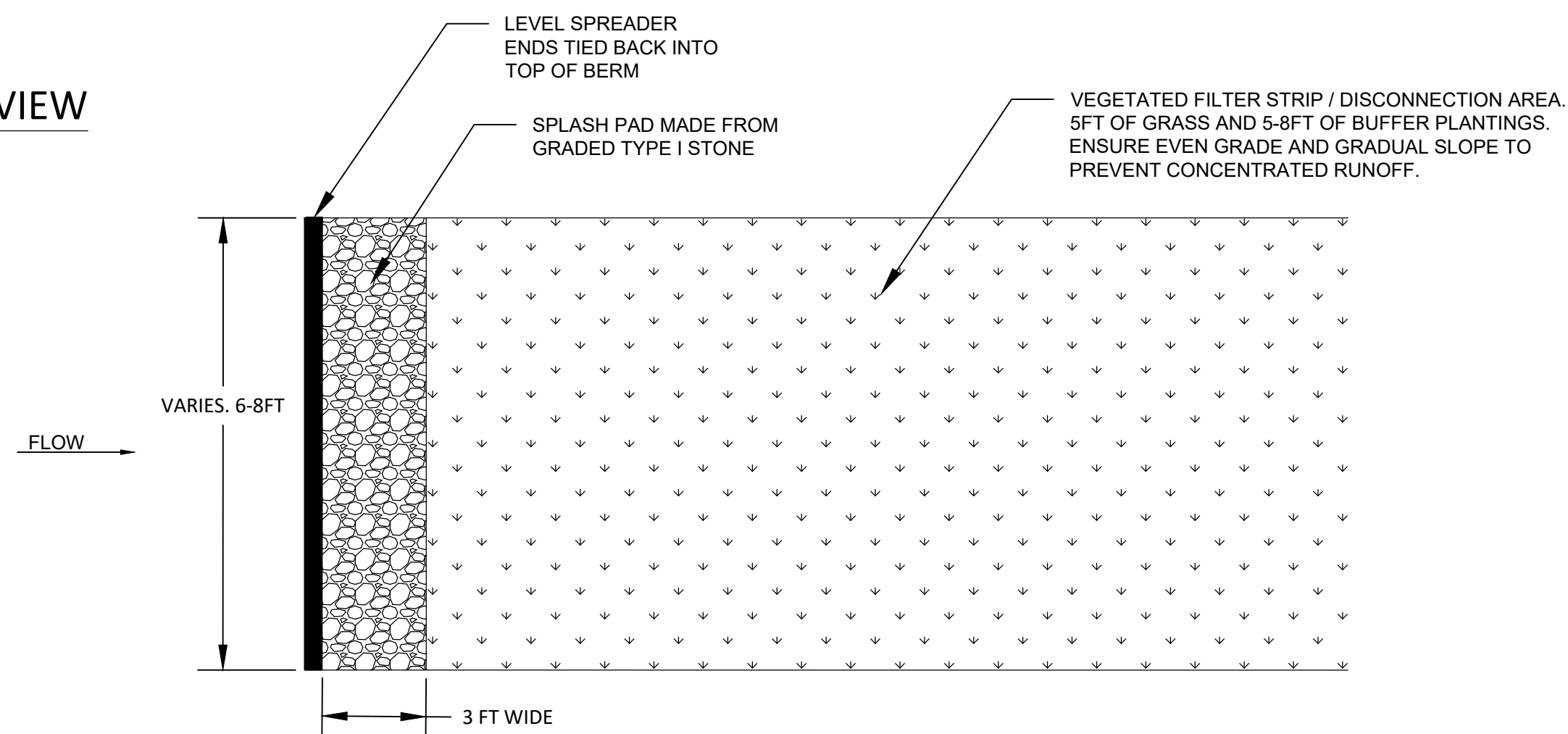
N.T.S



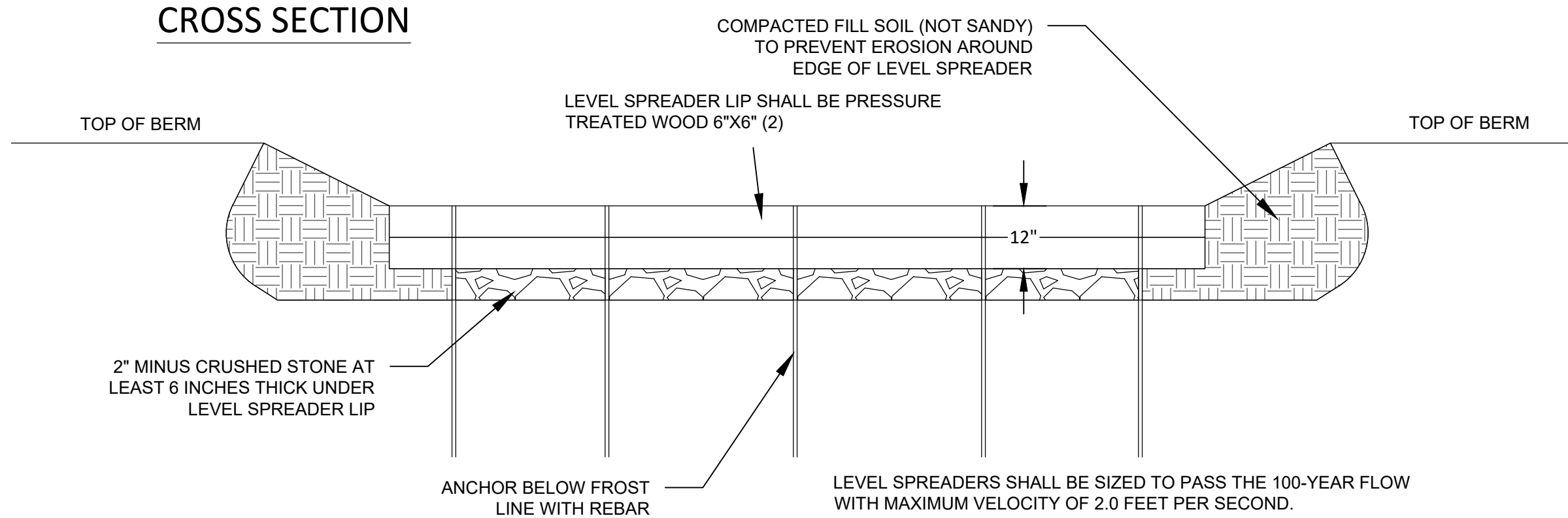
VEGETATED SWALE

N.T.S

PLAN VIEW

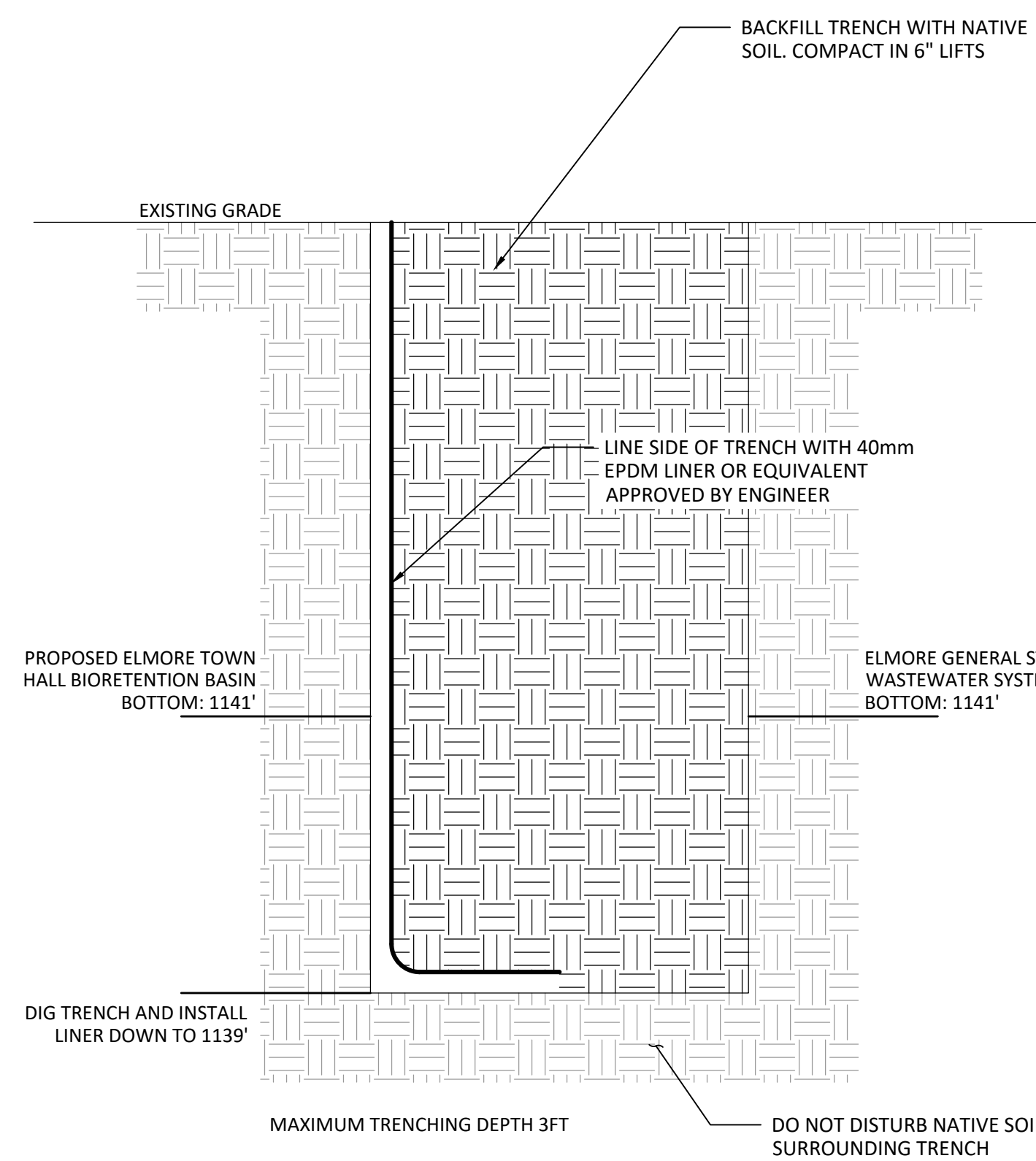


CROSS SECTION



LEVEL SPREADER

N.T.S



CROSS SECTION

IMPERMEABLE LINER TRENCH INSTALLATION

N.T.S



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Colchester, VT 05446
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www.fitzgeraldenvironmental.com

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REVISIONS		
#	DESCRIPTION	DATE
1	UNDERDRAIN AND FILL MATERIAL DEPTHS	11/11/24

CONSTRUCTION DETAILS
 ELMORE TOWN HALL
 STORMWATER IMPROVEMENTS AND PLANTING
 ROUTE 12, ELMORE, VT
 FINAL PLANS

DRAWN	FCP	EPF
		CHECKED
SCALE	N.T.S	
DATE	2024-02-28	
PROJECT NO.	22103	
SHEET NO.	3 OF 4	
SHEET NAME	DT-1	

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GENERAL CONSTRUCTION NOTES

1. THESE PLANS DO NOT CONSTITUTE A SURVEY AND SHALL NOT BE USED FOR THE TRANSFER OF LOTS.
2. 1-FOOT CONTOURS SHOWN ON THE PLANS WERE GENERATED FROM A TOPOGRAPHIC SURVEY COMPLETED BY FITZGERALD ENVIRONMENTAL ASSOCIATES ON DECEMBER 9, 2022 AND INTEGRATED WITH 2014 0.7-METER LIDAR ELEVATION DATA FOR LAMOILLE COUNTY. ACTUAL ELEVATIONS MAY VARY.
3. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE TECHNICAL SPECIFICATIONS FOR PROJECT.
4. IF A CONDITION OF THE TECHNICAL SPECIFICATIONS CANNOT BE MET, THE CONTRACTOR SHALL PROVIDE NOTIFICATION AND COORDINATE A MEETING WITH THE CLIENT/PROJECT CONSULTANT PRIOR TO CONSTRUCTION.
5. PRIOR TO ORDERING MATERIALS OR BREAKING GROUND, THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, DESIGN PLANS, TECHNICAL SPECIFICATIONS AND OTHER RELATED DOCUMENTS TO VERIFY AND COORDINATE DIMENSIONS, LAYOUTS, PLACEMENT, AND APPLICABILITY. THE CONTRACTOR SHALL CONDUCT FIELD CHECKS TO VERIFY THE ACCURACY OF DIMENSIONS, TOPOGRAPHY, AND EXISTING CONDITIONS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CLIENT/PROJECT CONSULTANT OF ANY DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON THESE PLANS AND THE CONDITIONS EXISTING IN THE FIELD. IF THE CONTRACTOR FAILS TO REPORT ANY DISCREPANCIES DISCOVERED TO THE CLIENT/PROJECT CONSULTANT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY. THE CONTRACTOR SHALL SUBMIT THE LIST AND QUANTITY OF MATERIALS TO ORDER FOR REVIEW PRIOR TO ORDERING.
6. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE NOT BASED ON "DIG SAFE" MARKINGS AND DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE CLIENT/PROJECT CONSULTANT.
7. THE CONTRACTOR SHALL REPAIR/RESTORE ALL DISTURBED AREAS (ON OR OFF THE SITE) AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF CONSTRUCTION.
8. 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. THIS INCLUDES COMPLETING THE WORK IN ACCORDANCE TO SPECIFIC CONDITIONS OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SHORELAND PROTECTION PERMIT.
9. ANY DEWATERING NECESSARY FOR THE COMPLETION OF THE SITWORK SHALL BE CONSIDERED AS PART OF THE CONTRACT AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

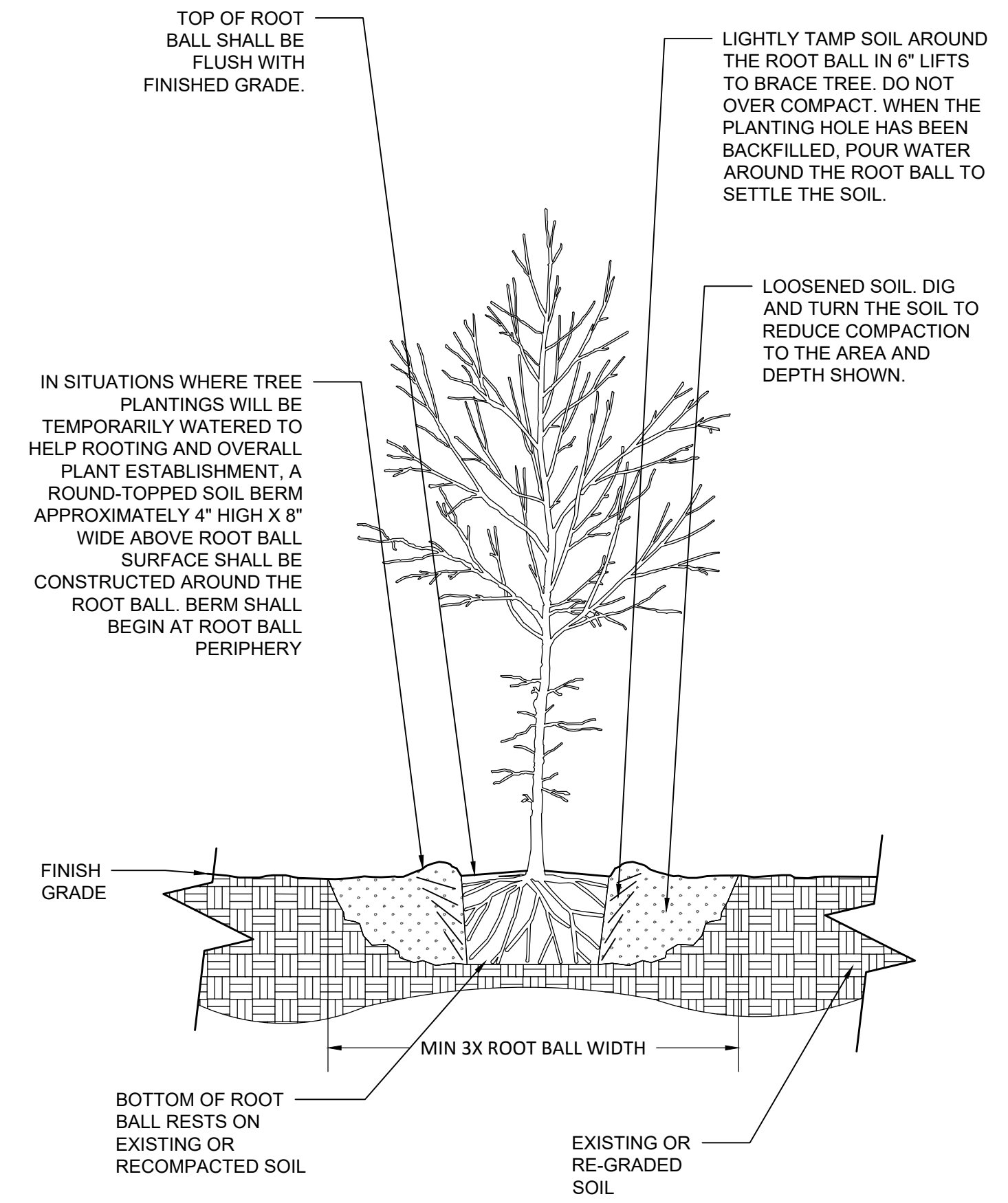
CONSTRUCTION SPECIFICATIONS

EQUIPMENT ACCESS AND LIMITS OF DISTURBANCE

1. IF NEEDED, INSTALL STABILIZED CONSTRUCTION ENTRANCE ALONG EDGES OF STATE HIGHWAY TO AVOID DAMAGE TO EDGE OF ROAD/SHOULDER.
2. INSTALL ORANGE BARRIER FENCE AND/OR SIGNAGE AROUND PROTECTED RESOURCES AT THE LIMITS OF DISTURBANCE PRIOR TO CONSTRUCTION.
3. SILT FENCE, STAKED FIBER ROLL, TURBIDITY CURTAIN OR OTHER APPROVED SEDIMENT CONTROL MEASURE SHALL BE INSTALLED ALONG THE WATERS EDGE PRIOR TO DISTURBANCE AS NEEDED.
4. ADDITIONAL EROSION CONTROL MEASURES TO BE IMPLEMENTED AS NEEDED UNDER THE DIRECTION OF THE ENGINEER.
5. NO DISTURBANCE SHALL OCCUR BELOW THE OBSERVED WATER LEVEL / MEAN WATER LEVEL (1,138 FEET).
6. ALL AREAS EXPOSED DURING CONSTRUCTION SHALL BE PROTECTED IN ACCORDANCE WITH THE STANDARDS PUBLISHED IN THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S *LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL*.

GENERAL EARTHWORK

1. MATERIALS
 - 1.1. TOP SOIL - ONSITE TOP SOIL MAY BE UTILIZED TO THE EXTENT AVAILABLE.
 - 1.2. BIORETENTION MIX - MIX SHALL CONSIST OF SAND OR LOAMY SAND BY USDA CLASSIFICATION (85-88% SAND, 8-12% SILT, AND 0-2% CLAY) AND 3-5% ORGANIC MATTER IN THE FORM OF COMPOST. 6" OF BIORETENTION MIX IS REQUIRED BELOW THE RAIN GARDEN FEATURE.
 - 1.3. SPILLWAYS - SPILLWAYS FROM FOREBAY AND RAIN GARDEN SHALL BE LINED WITH 6" OF TYPE I STONE.
 - 1.4. SEDIMENT TRAP - SEDIMENT TRAP SHALL BE LINED WITH 6" OF TYPE I STONE.
2. EXCAVATION AND GRADING
 - 2.1. EXCAVATION AND CONSTRUCTION ADJACENT TO THE LAKE SHALL OCCUR UNDER DRY OR NEARLY DRY CONDITIONS. WORK SHALL CEASE DURING STORM EVENTS THAT CREATE ELEVATED RUN OFF CONDITIONS TO PREVENT SEDIMENT DISCHARGE TO LAKE ELMORE.
 - 2.2. THE CONTRACTOR SHALL PROTECT EXISTING STRUCTURES AND UTILITIES FROM DAMAGE AND EXCESSIVE SETTLEMENT DURING EXCAVATION, BACKFILLING, COMPACTION, AND DEWATERING ACTIVITIES. THE CONTRACTOR SHALL REPAIR ANY SUCH DAMAGE AT THEIR OWN EXPENSE.
 - 2.3. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES SHALL BE INSTALLED PRIOR TO EARTH DISTURBANCE
3. TREES AND SHRUBS
 - 3.1. OVER EXCAVATE PLANTING HOLE AND AUGMENT NATIVE SOILS WITH COMPOST MATERIAL AND TOP SOIL (MINIMUM 1:1 RATIO OF COMPOST TO TOP SOIL)
 - 3.2. TREES AND SHRUBS SHALL BE HEALTHY, AVAILABLE LOCALLY, AND REASONABLY FREE OF DIE-BACK, ROT AND DISEASE. AT THE TIME OF PLANTING ALL PLANTS SHALL HAVE A ROOT SYSTEM, STEM AND BRANCH FORM THAT WILL NOT RESTRICT NORMAL GROWTH, STABILITY AND HEALTH FOR THE EXPECTED LIFE OF THE PLANT
 - 3.3. SPECIES SHALL BE NATIVE AND BE COMPATIBLE WITH PLANT COMMUNITIES KNOWN TO GROW IN AREAS WITH SIMILAR CLIMATE, SOILS, HYDROLOGY AND LANDSCAPE POSITIONS. UPLAND AREAS SHALL BE DOMINATED BY PLANTS WITH HYDROLOGY INDICATOR STATUS OF FAC - UPL AND WETLAND AREAS BY PLANTS WITH INDICATOR STATUS OF OBL - FAC
4. GRASS SEED
 - 4.1. SEED SHALL BE FURNISHED IN NEW, CLEAN, SEALED, AND PROPERLY LABELED CONTAINERS. SEED WHICH HAS BECOME WET, MOLDY OR OTHERWISE DAMAGED SHALL NOT BE ACCEPTABLE.
 - 4.2. UPLAND AREAS SHALL BE SEEDED WITH A CONSERVATION MIX APPROVED BY THE CLIENT/PROJECT CONSULTANT PRIOR TO USE.
 - 4.3. BOTTOMS OF BIORETENTION AREAS SHALL BE SEEDED WITH VERMONT WETLAND PLANT SUPPLY'S WET MEADOW AND DETENTION BASIN MIX OR EQUAL AS APPROVED BY THE CLIENT/PROJECT CONSULTANT.
5. MULCH AND EROSION CONTROL MATTING
 - 5.1. STRAW MULCH SHALL CONSIST OF MOWED, PROPERLY CURED GRASS AND LEGUMES REASONABLY FREE OF WEEDS, TWIGS, DEBRIS, OR OTHER OBJECTIONABLE MATERIAL. MULCH AT A RATE OF 2 TONS PER ACRE.
 - 5.2. IF EROSION CONTROL MATTING IS TO BE UTILIZED, AN APPROPRIATE EROSION CONTROL MATTING SHALL BE USED (E.G., NORTH AMERICAN GREEN S150BN OR EQUIVALENT WITH LOOSE-WEAVE NETTING, JUTE MATTING, ETC.).
6. STABILIZATION OF DISTURBED SOILS
 - 6.1. TEMPORARY STABILIZATION OF DISTURBED SOILS DURING THE PERIOD OF APRIL 15 TO OCTOBER 15 SHALL BE COMPLETED WITHIN 14 DAYS OF INITIAL DISTURBANCE. AFTER THE INITIAL DISTURBANCE PERIOD, TEMPORARY STABILIZATION SHALL BE PERFORMED ON A DAILY BASIS, EXCEPT IF WORK IS TO CONTINUE IN THE DISTURBED AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO FORECAST OF PRECIPITATION FOR THE NEXT 24 HOURS, OR IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 2 FEET OR GREATER.
 - 6.2. SEED AND STRAW MULCH DISTURBED AREAS IMMEDIATELY AFTER THE COMPLETION OF RE-GRADING AND WORK ACTIVITIES. PREPARE SEEDBED AND UTILIZE SOIL AMENDMENT AS NEEDED. TRACK MULCH IN AS NEEDED TO PREVENT REMOVAL BY WIND.



PLANTINGS N.T.S

Town of Elmore - Town Hall Shoreline Planting Schedule				
Planting Area (acres):	0.087			
Planting Area (sqft):	3,800			
Target Spacing (ft):	8			
Min. Quantity Needed:	76			
Density (plants/acre):	867			
Common Name	Taxonomic Name	Form	Size	Quantity
Chokeberry	<i>Aronia melanocarpa</i>	1 gal. cont.	2-3'	12
Elderberry	<i>Sambucus canadensis</i>	1 gal. cont.	2-3'	14
Northern bayberry	<i>Myrica pennsylvanica</i>	1 gal. cont.	2-3'	12
Red Osier Dogwood	<i>Cornus sericea</i>	1 gal. cont.	2-3'	14
Steeplebush	<i>Spiraea tomentosa</i>	1 gal. cont.	2-3'	12
Winterberry	<i>Ilex verticillata</i>	1 gal. cont.	2-3'	12
Total Trees/Shrubs:				76

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REVISIONS		
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SITE PLAN - CONSTRUCTION NOTES
 ELMORE TOWN HALL
 STORMWATER IMPROVEMENTS AND PLANTING
 ROUTE 12, ELMORE, VT
 FINAL PLANS

FCP DRAWN	EPF CHECKED
SCALE N.T.S	
DATE 2024-03-08	
PROJECT NO.	22009
SHEET NO.	4 OF 4
N-1	
SHEET NAME	

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