

## GENERAL NOTES

### PRE-CONSTRUCTION MEETING AND CONSTRUCTION COMMENCEMENT:

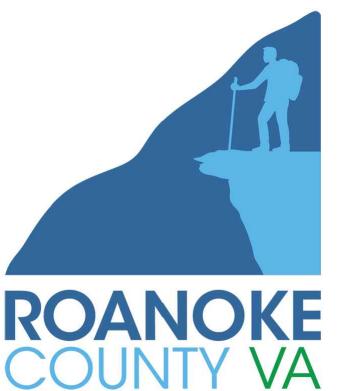
- All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, the Western Virginia Water Authority, and the Virginia Department of Transportation.
- Stormwater Management Agreements with an attached 8 1/2" x 11" or 8 1/2" x 14" plat must be approved and recorded prior to the pre-construction meeting.
- Once all required items are submitted to the County of Roanoke, the developer must contact the Development Review Coordinator to indicate that a pre-construction meeting needs to be scheduled. The pre-construction meeting will be scheduled with the owner/developer two (2) working days later.
- All land disturbing projects that require approval of an erosion and sediment control plan, grading or clearing permit shall require that the applicant provide the name of an individual who will be responsible for land disturbing activities and that this individual hold a Responsible Land Disturber (RLD) Certificate from the Department of Environmental Quality. The Responsible Land Disturber can be anyone from the Project team that is certified by the Commonwealth of Virginia to be in charge of carrying out the land disturbing activity for the project.
- It is the responsibility of the owner/developer to notify the certified Responsible Land Disturber and the Utility Contractor to attend the pre-construction meeting.
- The Development Review Coordinator will schedule the pre-construction meeting with the County Review Engineer, the County Inspector, and the Western Virginia Water Authority and the Town of Vinton Public Works Department if applicable.
- An approved set of plans, Storm Water Pollution Prevention Plan (SWPPP), VSMP coverage letter, and all permits must be available and visibly posted at the construction site at all times.
- The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.
- The project engineer will inform the owner/developer verbally and in writing of the County's obligation to perform inspections on site. Everyone in the meeting will be required to sign a pre-construction checklist indicating their knowledge of Roanoke County's obligation to perform inspections on site.
- The Erosion Control Permit or Combined Erosion Control & VSMP Permit is given to the developer at this pre-construction meeting.
- Notify the County of Roanoke prior to beginning installation of ESC measures. The County will inspect initial installations to ensure compliance with approved plan prior to start of grading. The developer SHALL contact the project inspector 24 hours before beginning any grading or construction on the property.
- County inspectors must inspect storm drain / stormwater management / BMP installations during the process of installation. Please contact the site inspector 24 hours in advance.
- All work shall be subject to inspection by Roanoke County, the Western Virginia Water Authority and the Virginia Department of Transportation Inspectors.
- Contractors shall notify utilities of proposed construction at least two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility": 1-800-552-7001 or VA 811.
- The 100 year Floodway shall be staked prior to any construction.
- Grade stakes shall be set for all curb and gutter, culvert, sanitary sewer and storm sewer at all times of construction.
- The Department of Community Development shall be notified when a spring is encountered during construction.
- Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.
- The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets or rights of ways. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.
- Plan approval in no way relieves the developer or contractors of the responsibilities contained within the erosion and sediment control or stormwater management policies.
- Field construction shall honor proposed drainage divides as shown on plans.
- Field corrections shall be approved by the Roanoke County Engineering Division and/or the Western Virginia Water Authority and the Professional of Record, prior to such construction.
- The developer or contractor shall supply the County and the Western Virginia Water Authority with correct As-Built plans before final acceptance.

### VIRGINIA DEPARTMENT OF TRANSPORTATION:

- Plan approval by Roanoke County does not guarantee issuance of any permits by the Virginia Department of Transportation.
- A permit must be obtained from the Virginia Department of Transportation, Salem Residency Office prior to construction in the highway right-of-way.
- The preliminary pavement designs should be based on a predicted sub-grade CBR value of 7.0 and with a Resiliency Factor (RF) of 2.0 as shown in Appendix I of the 2000 Virginia Department of Transportation Pavement Design Guide for Subdivision and Secondary Roads. The sub-grade soil is to be tested by an independent laboratory and the results submitted to the Virginia Department of Transportation prior to base construction. Should the sub-grade CBR value and/or the RF value be less than the predicted values, additional base material will be required in accordance with Departmental specifications. Refer to the same manual as the number and locations of the required soil samples to be tested. All pavement designs shall be submitted to the Department for review and approval. The sub-grade shall be approved by the Virginia Department of Transportation prior to placement of the base. Base shall be approved by the Virginia Department of Transportation for depth, template, and compaction before the surface is applied.
- Standard guardrail with safety end sections may be required on fills or in areas where hazards exist as deemed necessary. After completion of rough grading operations, the County Engineer and Virginia Department of Transportation shall be contacted to schedule a field review. Where guard rail is warranted, the standard shoulder width shall be provided and the guard rail shall be installed in accordance with the 2001 VDOT Road and Bridge Standards as part of this development.
- Standard street and traffic control signs shall be erected at each intersection by the developer prior to final street acceptance.
- All traffic devices shall be in accordance with current edition of the "Manual on Uniform Traffic Control Devices" (MUTCD).
- All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.

See Sheet N/A for Stormwater Site Statistics Table.  
See Sheet N/A for New BMP Information Table.

The Project Engineer shall provide electronic copies of the approved plans to the Development Review Coordinator within 5 working days of the pre-construction meeting.  
The notes on this sheet shall not be modified.



# COUNTY OF ROANOKE, VA

NAME OF DEVELOPMENT	RESTORATION OF GLADE CREEK AT VINYARD PARK - PHASE II	OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OF THE APPLICABILITY OF ROANOKE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS AND THE THIRTY (30) POINTS SHOWN ON THIS COVER SHEET UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.
MAGISTERIAL DISTRICT(S)	VINTON	
OWNER (name, address, telephone)	ROANOKE COUNTY, VA, P.O. BOX 29800, ROANOKE, VA 24018-0798, 540.772.2083 ATTN: DAVID HENDERSON, COUNTY ENGINEER	
DEVELOPER (name, address, telephone)	ROANOKE COUNTY, VA, P.O. BOX 29800, ROANOKE, VA 24018-0798, 540.772.2083 ATTN: DAVID HENDERSON, COUNTY ENGINEER	
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)	BRYAN M. DICK, PE, FREESE AND NICHOLS, INC. 717 GREEN VALLEY ROAD SUITE 200, GREENSBORO, NC 27408 864.506.1465	
TAX MAP NO(S)	060 12-09-01-00-0000	

### WATER NOTES

All water facilities shall be constructed according to the Western Virginia Regional Design and Construction Standards (Latest Edition).

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.

All existing utilities may not be shown in their exact location. The contractor shall comply with the (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.)

All trenches in existing or future highway right-of-ways shall be compacted according to Virginia Department of Transportation standards.

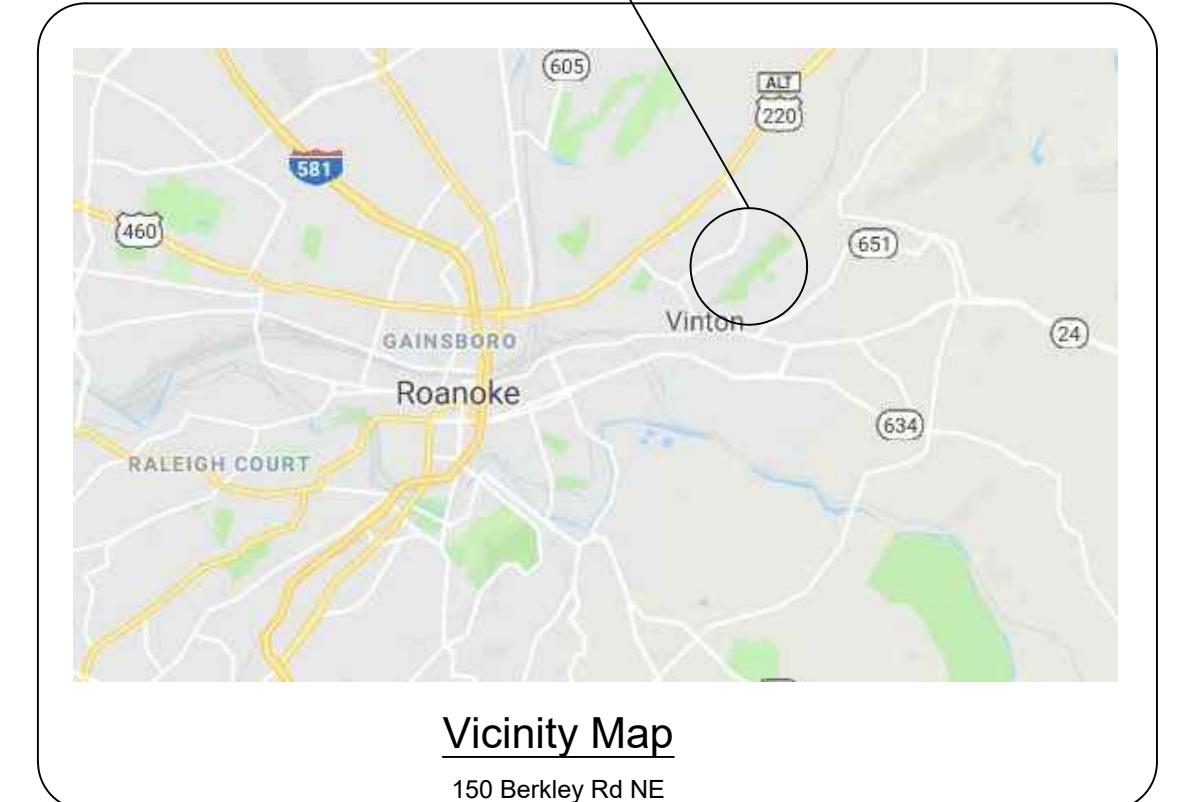
Lines shall be staked prior to construction.

Water main shall be minimum Class 350 Ductile Iron in accordance with AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Ductile Iron Pipe in accordance with the Western Virginia Regional Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100 p.s.i.

Western Virginia Water Authority  
Availability letter number: N/A

### (SEE T-2 FOR DETAILED MAP)



### LEGEND

Property Line	
Right-of-way	
Centerline	
Minimum Building Line	
Existing Storm Sewer	
Existing Sanitary Sewer	
Existing Water Main	
Existing Contour	
Proposed Contour	
Proposed Drainage Divide	
Proposed Limits of Clearing	
Proposed Storm Sewer	
Proposed Sanitary Sewer	
Proposed Water Main	

### SEWER NOTES

All sanitary sewer facilities shall be installed according to the Western Virginia Regional Design and Construction Standards (Latest Edition).

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering manholes after paving. Manhole tops shall be adjusted to grade if necessary.

All existing utilities may not be shown in their exact location. The contractor shall comply with (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.)

All trenches in existing or future rights-of-way shall be compacted according to Virginia Department of Transportation standards.

Lines shall be staked prior to construction.

### PRIVATE UTILITIES

Underground utilities installed on private property or in private utility easements and building related storm drains shall be designed and installed per the current edition of the Virginia Uniform Statewide Building Code. Design and installation requirements issued by the Western Virginia Water Authority that meet or exceed the USBC requirements are acceptable for private utilities. All private utilities are to be permitted through and inspected by the Roanoke County Inspections Office. Vaults, valves and other devices installed by or under the control of the Western Virginia Water Authority may not be substituted for the code required devices.

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### SURVEY INFORMATION

Horizontal and vertical control surveys were performed in year: 2017  
By: SURVEYING SOLUTIONS, PC, 307 EAST MAIN ST., YOUNGSVILLE NC 27596 VA # 002970  
All vertical elevations must be referenced to the National Geodetic Vertical Datum of 1929 or 1988.  
All horizontal locations must be referenced to the North American Datum of 1927 or 1983.  
Horizontal Datum: NAD 83 Vertical Datum: NAVD 88  
Source of topographic mapping is dated: 10/19/2017  
Boundary was performed by SURVEYING SOLUTIONS, PC dated: 11/10/2017  
Benchmark Information: FIRE STATION 8 (PID D3611) ELEVATION=690.38  
MEASURED THROUGH GPS OBSERVATION USING KEYNET RTK REAL TIME NETWORK CORRECTION  
The professional seal and signature certifies the boundary survey and topographic mapping to be accurate and correct.

QUANTITY & COST ESTIMATE					
ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		AC			
EXCAVATION		C.Y.			
EMBANKMENT		C.Y.			
CURB INLET DI-		EA			
CURB INLET DI-		EA			
MANHOLE MH-		EA			
MANHOLE MH-		EA			
-IN. CONCRETE PIPE, CLASS III		LF			
-IN. CONCRETE PIPE, CLASS IV		LF			
-IN. C.M. CULVERT		LF			
-IN. C.M. CULVERT		LF			
BOX CULVERT		LS			
PAVED SWALE		LF			
RIPRAP - CLASS		SF			N/A
PERMANENT GRASS SWALE		LF			
-IN. CONCRETE ENDWALL EW-		EA			
-IN. END SECTION ES-		EA			
HEADER CURB & GUTTER CG-		LF			
CURB & GUTTER CG-		LF			
VALLEY GUTTER		EA			
GRAVEL BASE		SY			
GRAVEL SHOULDER		SY			
SURFACE TREATMENT		SY			
-IN. BIT. CONC. TYPE B-		SY			
-IN. BIT. CONC. TYPE S-		SY			
-IN. BASE MATERIAL		C.Y.			
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EA			
8" WATER LINE		LF			
6" WATER LINE		LF			
FIRE HYDRANT ASSEMBLIES		EA			
BLOW OFFS W/ VAULT, FRAME & COVER		EA			
-IN. GATE VALVES, W/ VAULT, FRAME & COVER		EA			
-IN. GATE VALVES, W/ VAULT, FRAME & COVER		EA			
8" SANITARY SEWER		LF			
STANDARD MANHOLE W/FRAME & COVER		EA			
SAMPLING MANHOLE/PORT		EA			
LANDSCAPING		LS			
AMENITIES (INCLUDING BUT NOT LIMITED TO TRAILS, ETC...)		LS			
STORMWATER MANAGEMENT		LS			
AS-BUILT PLANS (STORM SEWER SYSTEMS)		LS			
AS-BUILT PLANS (STORMWATER MANAGEMENT)		LS			
10% CONTINGENCY					
ESTIMATED TOTAL					

**FREESE NICHOLS**  
717 GREEN VALLEY RD, SUITE 200  
GREENSBORO, NC 27408  
864.506.1465 TEL  
VA LICENSE # 0407007129  
5.15.2018

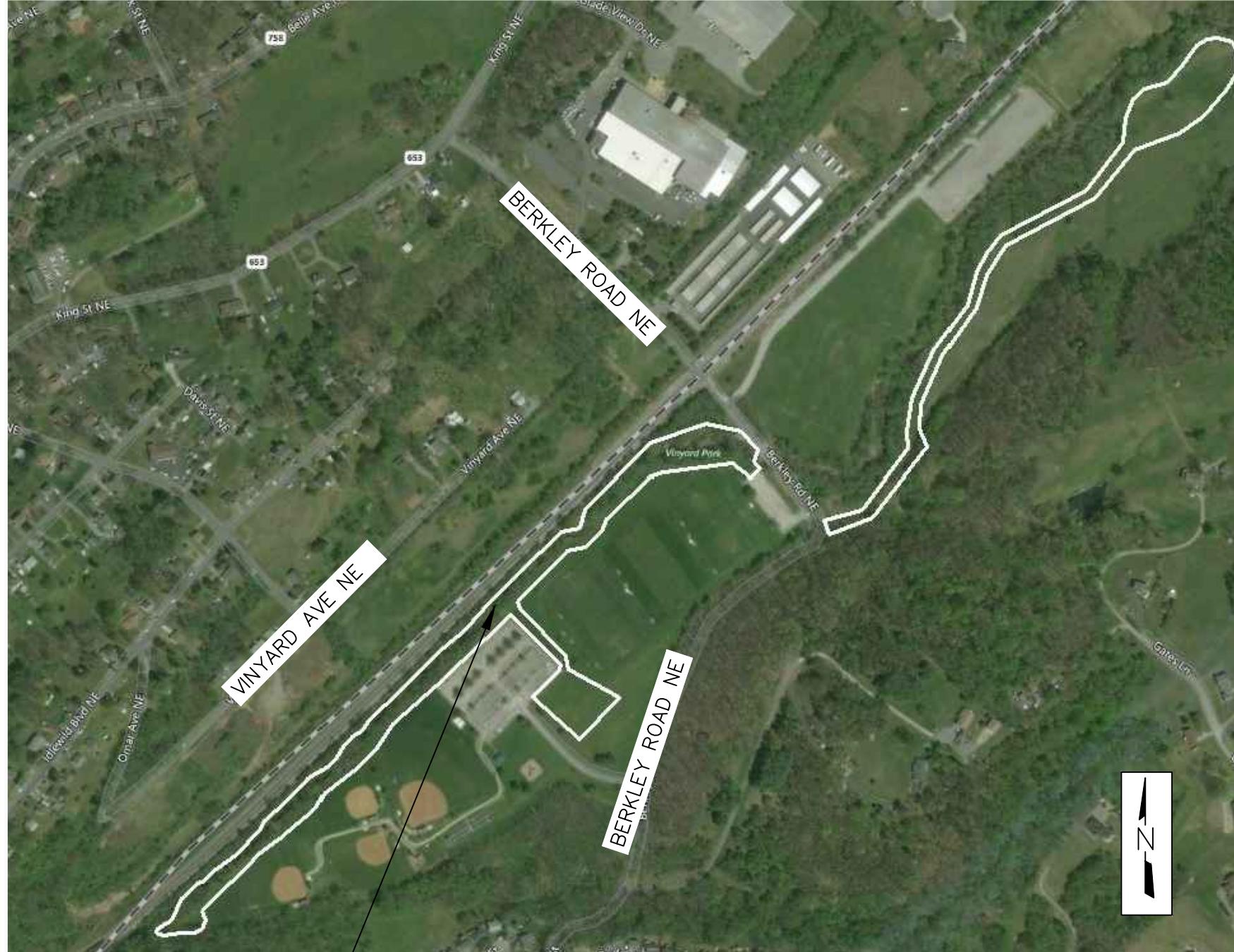
**SURVEYING SOLUTIONS**  
precision powered by integrity  
307 E. Main Street  
Youngsville, NC 27596  
www.surveypc.com  
919-554-0902

**COUNTY COVER SHEET**  
**FINAL PLAN SET**  
**ISSUED FOR CONSTRUCTION**

MAY 2018

**RESTORATION OF GLADE CREEK AT**  
**VINYARD PARK**  
**PHASE II**

# RESTORATION OF GLADE CREEK AT VINYARD PARK - PHASE II ROANOKE COUNTY, VA (PROJECT PLAN SHEETS)



PROJECT  
EXTENTS  
(Not to Scale)

INSET SHEET  
SPOIL AREA

EXISTING PARKING  
LOT (MUST BE KEPT  
IN PUBLIC USE AND  
NOT DAMAGED)

PEDESTRIAN  
CROSSING DURING  
NON-WORK HOURS

BEGIN CONSTRUCTION  
STATION 10+00

FIELD #7

FIELD #6

FIELD #5

FIELD #4

FIELD #3

FIELD #2

FIELD #1

FIELD #6

FIELD #5

FIELD #4

FIELD #3

STAGE AND  
STOCKPILE  
AREA - A

LIMITS OF DISTURBANCE

C-5

C-2

C-1

C-4

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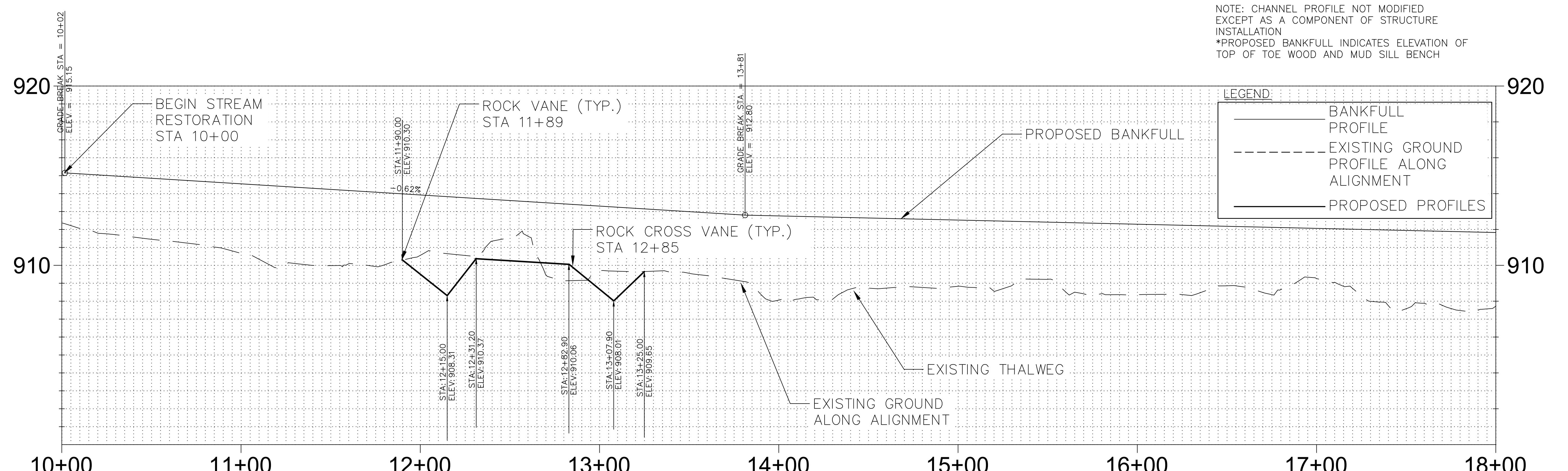
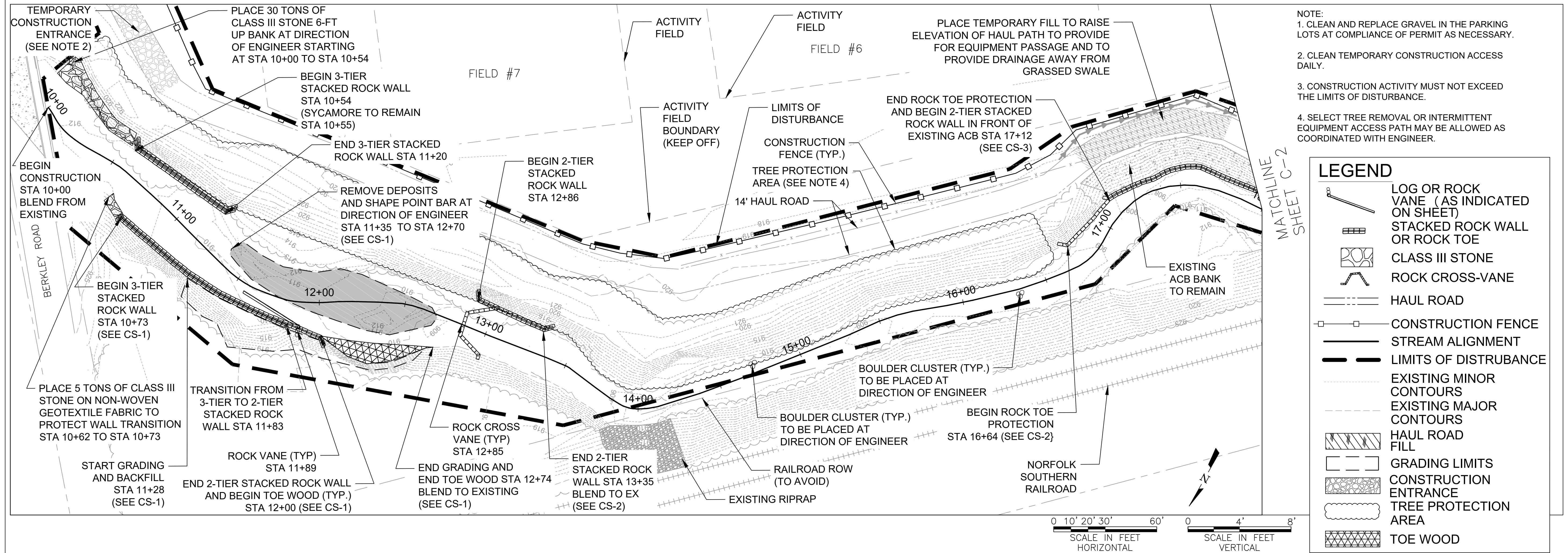
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GENERAL ACCESS NOTE: NO ACCESS OF ANY KIND ON RXR RIGHT-OF-WAY ( ROW) OR PARK ACTIVITY FIELD



# ISSUED FOR CONSTRUCTION

## NAI PLAN SET

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			DRAWN	EMD
			REVISED	.
			DESIGNED	BMD
			DATE	05.15.2018
			1	RNS 100-1

**FRESEE  
NICHOLS**  
Valley Road  
, North Carolina 27408  
(336) 790-6744  
[www.freeseenichols.com](http://www.freeseenichols.com)

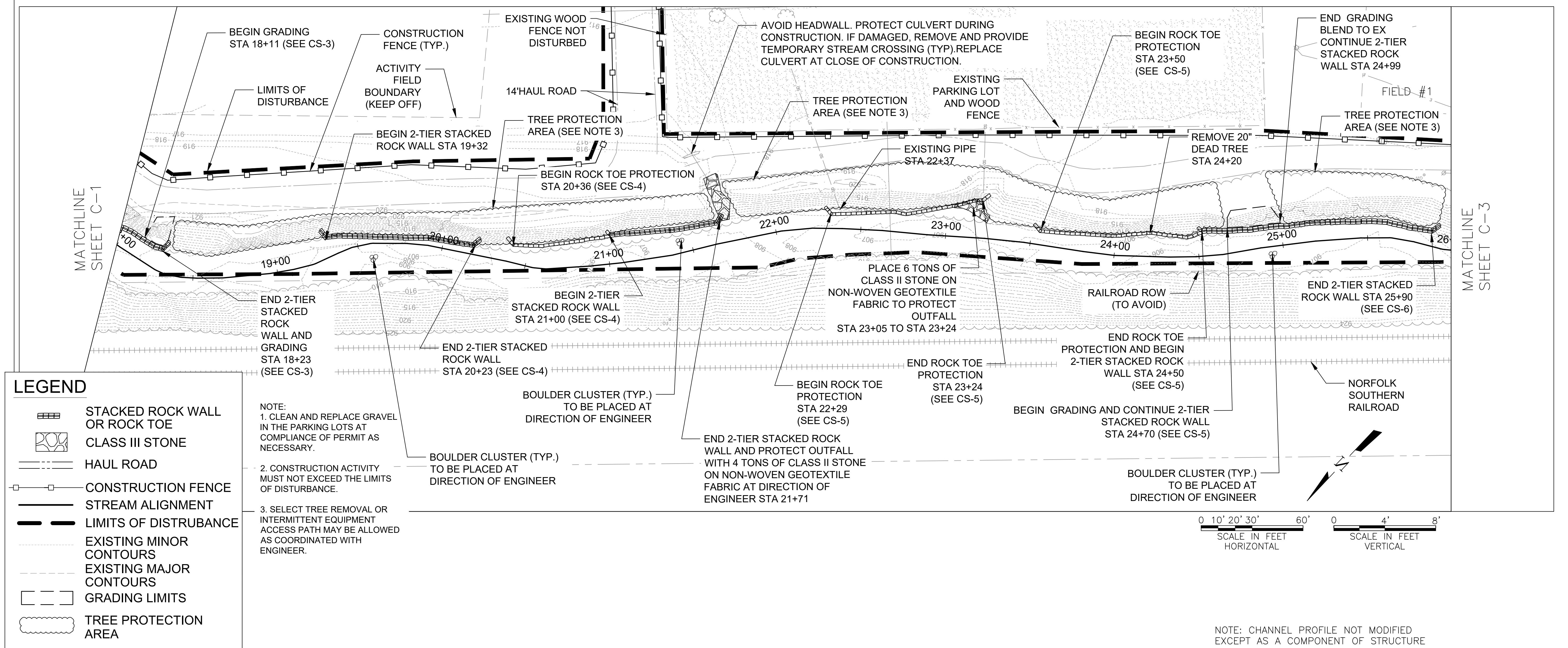
# LADE CREEK AT VINYARD PARK PHASE II CIVIL

OF GLADE CREEK AT  
PHASE II  
CIVIL  
PLAN AND PROFILE  
STA 10+00 TO STA 18+00

ET  
C-1

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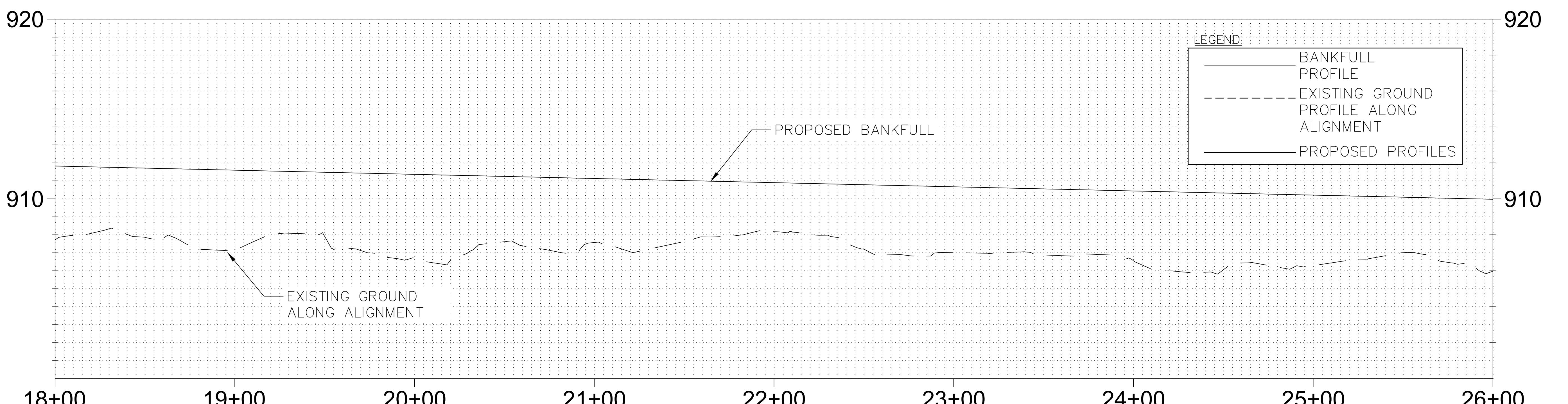
GENERAL ACCESS NOTE: NO ACCESS OF ANY KIND ON RXR RIGHT-OF-WAY (ROW) OR PARK ACTIVITY FIELD



**FREESE**  
and NICHOLS

711 Green Valley Road  
Greensboro, North Carolina 27408  
Phone: 336.674.6744  
Web: www.freenichols.com

ROANOKE COUNTY, VIRGINIA  
RESTORATION OF GLADE CREEK AT VINYARD PARK  
CIVIL  
PHASE II  
PLAN AND PROFILE  
STA 18+00 TO STA 26+00



ISSUED FOR  
CONSTRUCTION

FINAL PLAN SET

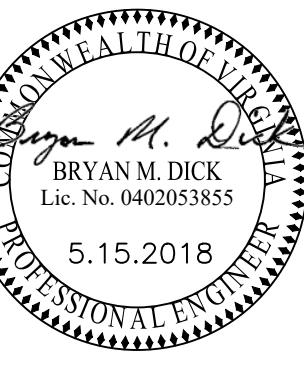
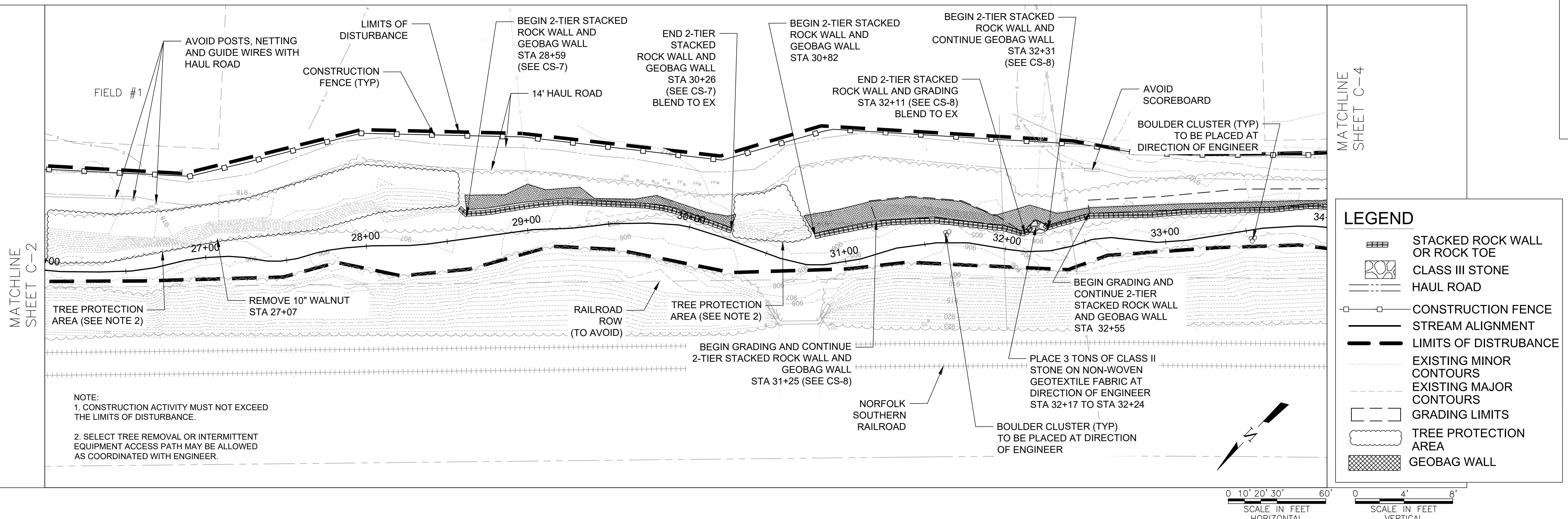
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				DATE 05-15-2018			
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				REvised			
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SHEET C-2

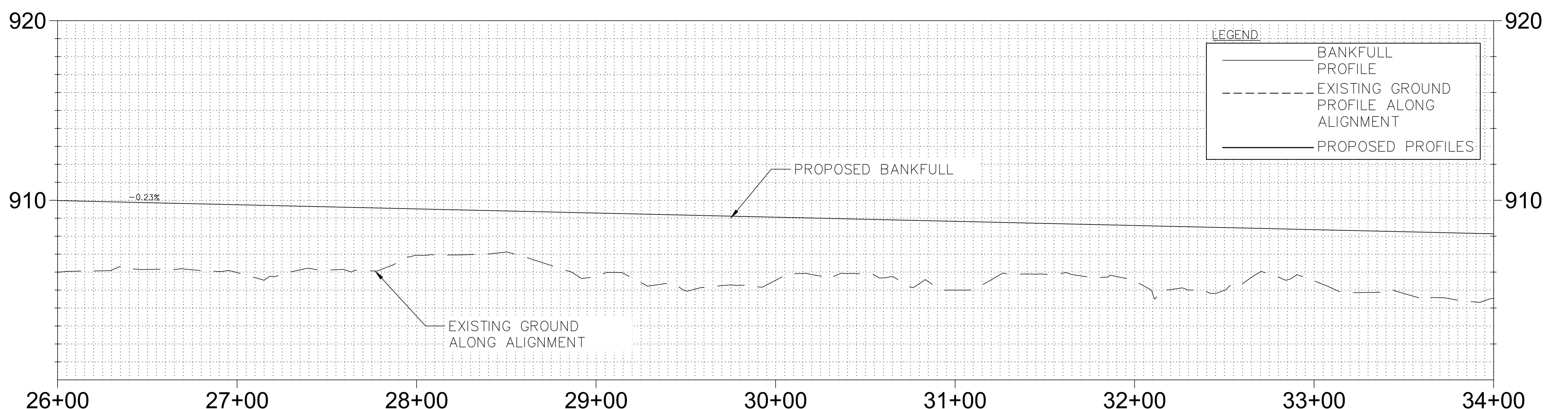
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GENERAL ACCESS NOTE: NO ACCESS OF ANY KIND ON RXR RIGHT-OF-WAY (ROW) OR PARK ACTIVITY FIELD



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Web: [www.fns.com](http://www.fns.com)

ROANOKE COUNTY, VIRGINIA  
RESTORATION OF GLADE CREEK AT VINYARD PARK  
CIVIL  
PHASE II  
PLAN AND PROFILE  
STA 26+00 TO STA 34+00



ISSUED FOR CONSTRUCTION

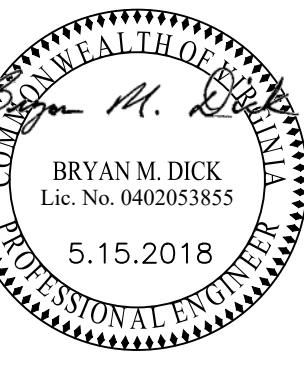
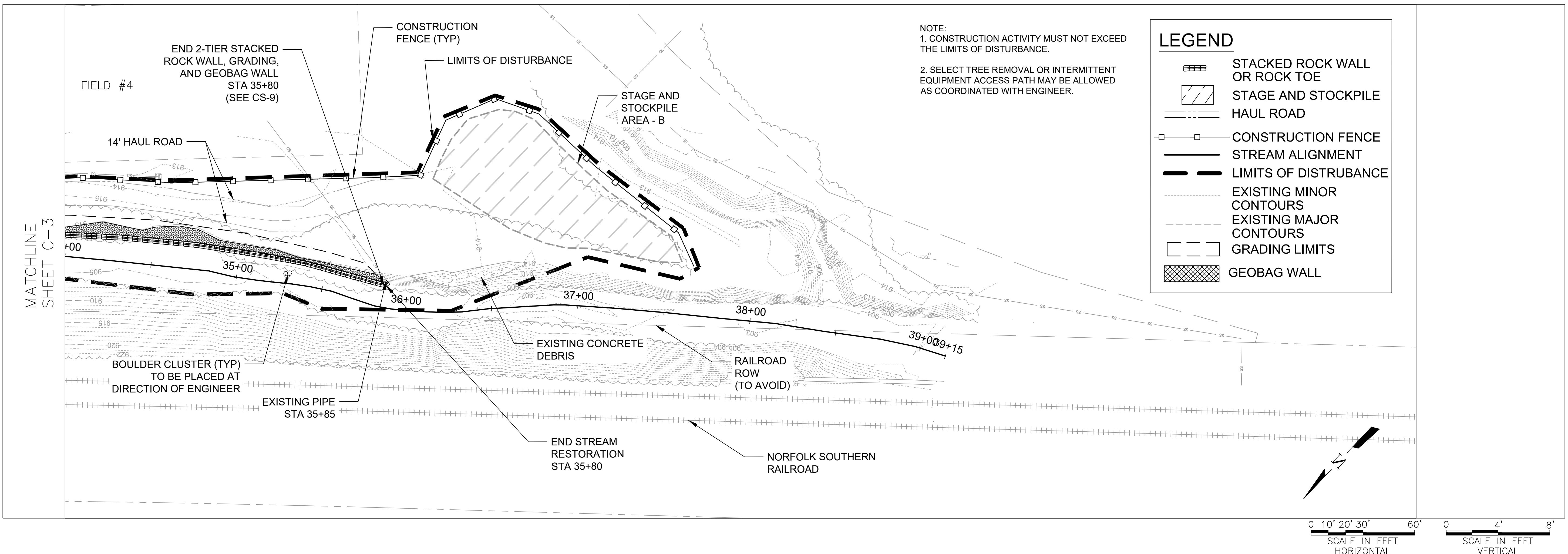
FINAL PLAN SET

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				DATE 05-15-2018			
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GENERAL ACCESS NOTE: NO ACCESS OF ANY KIND ON RXR RIGHT-OF-WAY (ROW) OR PARK ACTIVITY FIELD

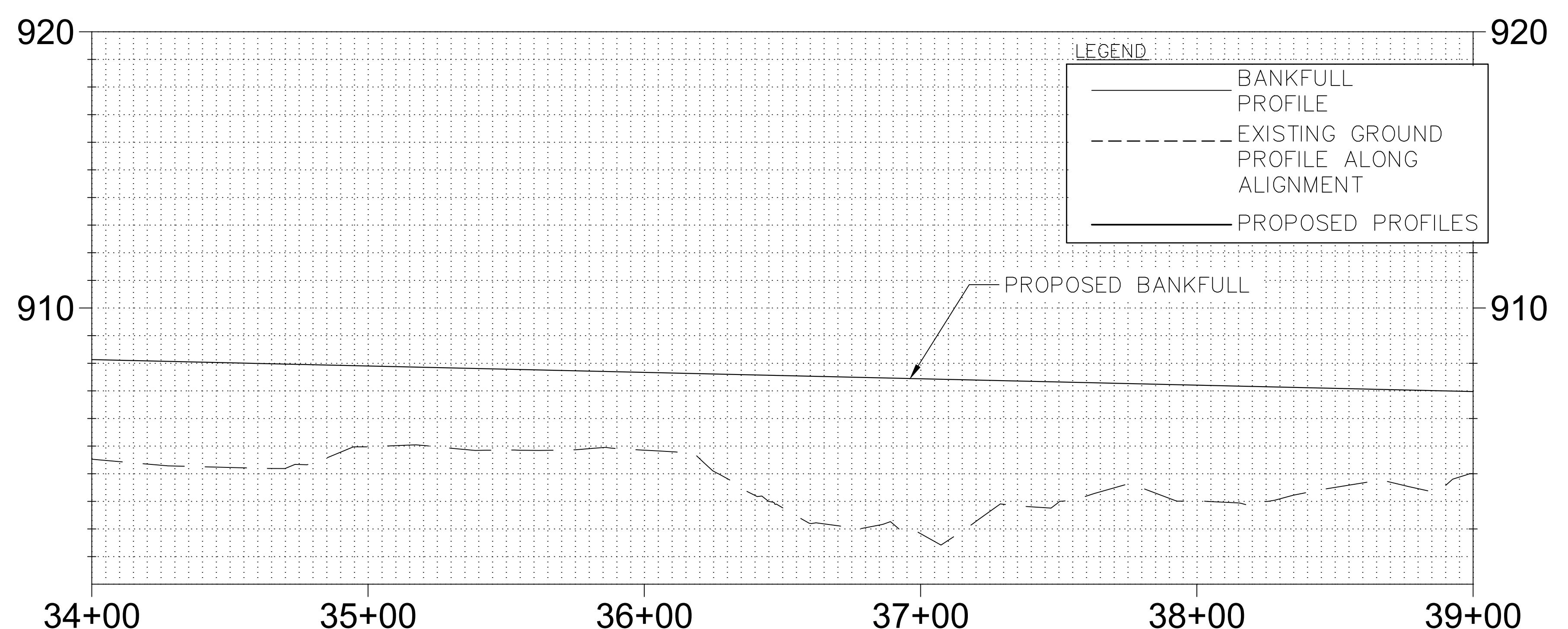


**FREEZE**  
2018

711 Green Valley Road  
Greensboro, North Carolina 27408  
Phone: 336.703.6744  
Web: www.freeze.com

ROANOKE COUNTY, VIRGINIA  
RESTORATION OF GLADE CREEK AT VINYARD PARK  
PHASE II

CIVIL  
PLAN AND PROFILE  
STA 34+00 TO STA 35+83



ISSUED FOR  
CONSTRUCTION

FINAL PLAN SET

SEQ.	NOTE	ISSUE	BY	DATE	FAN JOB NO.	DATE	DESIGNED	DRAWN	EMD	REvised	FILE NAME
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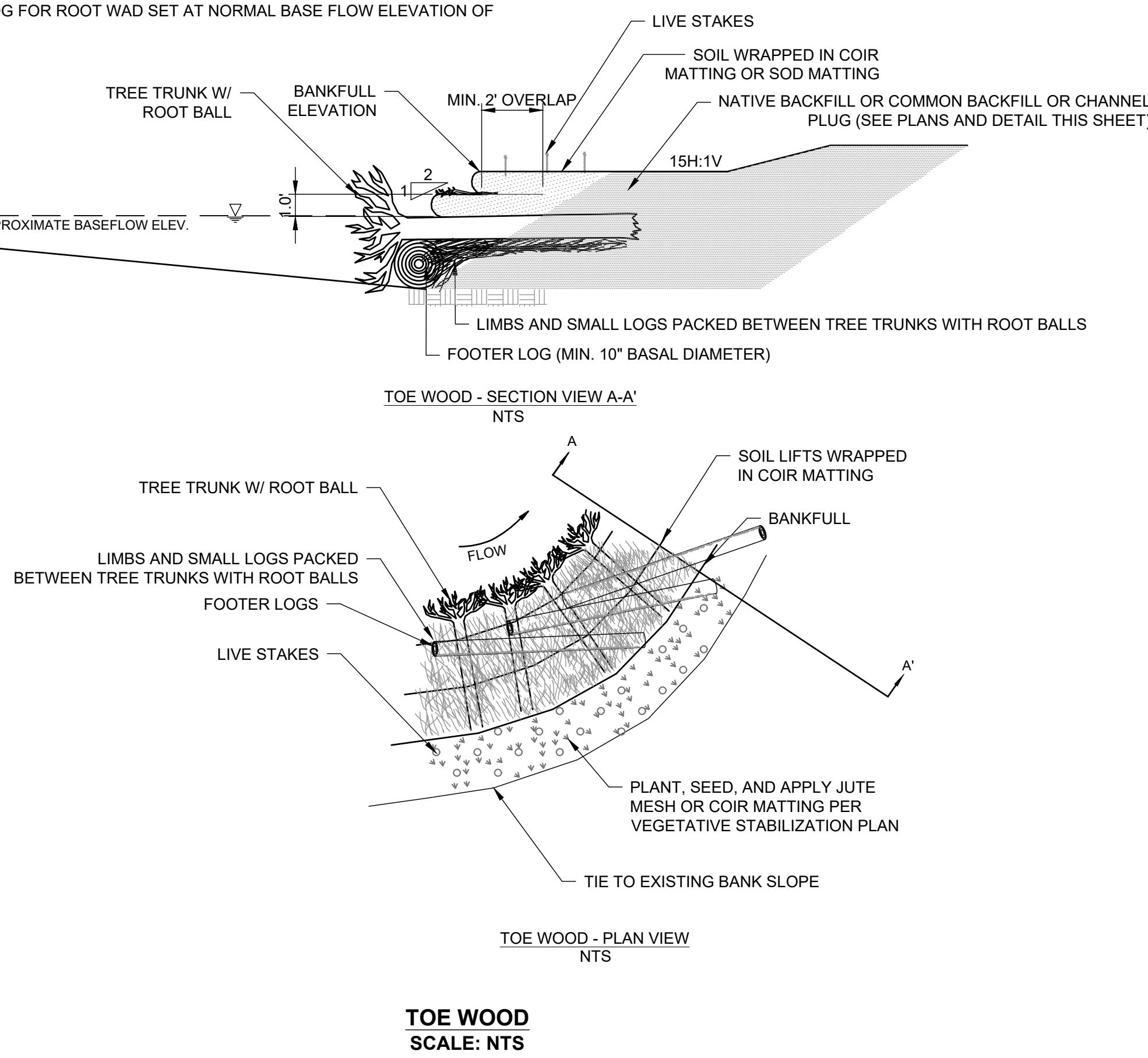
C-4



COMMONWEALTH OF VIRGINIA  
STATE ENGINEER  
BRYAN M. DICK  
Lic. No. 040205355  
5.15.2018

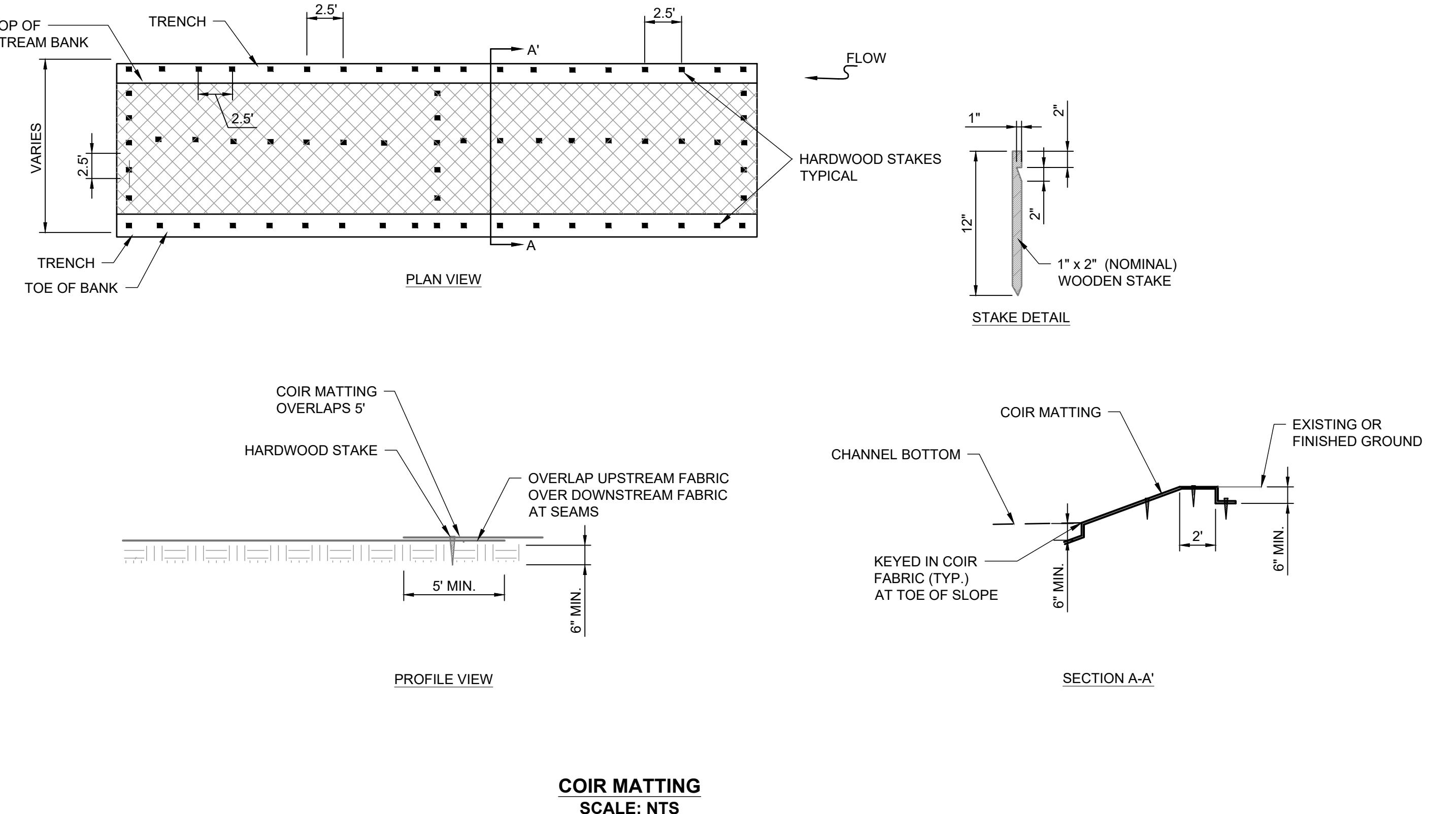
**NOTES:**

1. THE CONTRACTOR SHALL USE LOGS, TRUNKS WITH ROOTS, AND BRANCHES TO FORM THE "TOE WOOD" STREAMBANK TOE PROTECTION.
2. THE STREAMBANKS ABOVE THE TOE WOOD SHALL BE FORMED FROM SOIL LIFTS WRAPPED IN COIR MATTING.
3. TOP OF LOG FOR ROOT WAD SET AT NORMAL BASE FLOW ELEVATION OF CHANNEL.



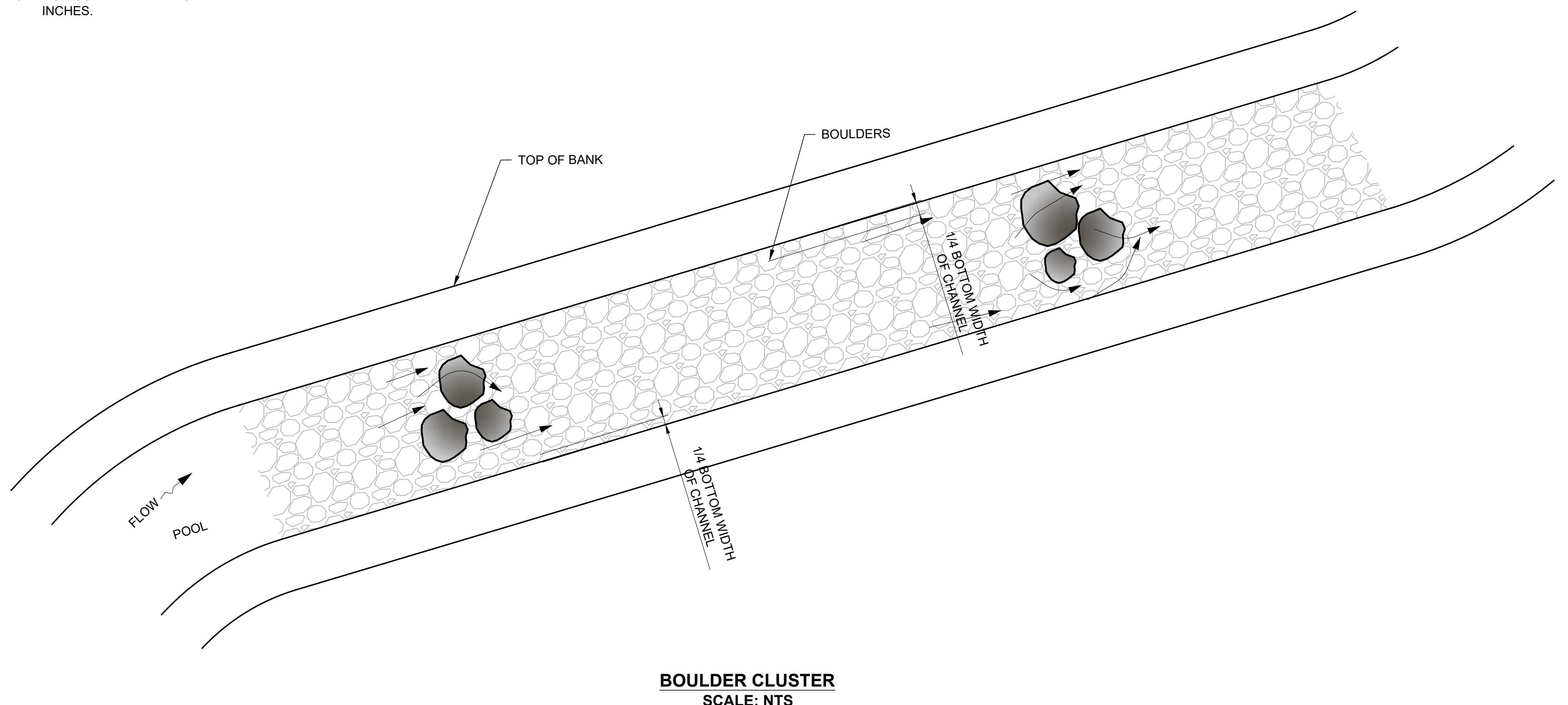
**NOTES:**

1. MAXIMUM SINGLE LENGTH OF MATTING/MESH IS 100'.
2. TOP AND BOTTOM EDGES OF MATTING/MESH SHALL BE KEYED IN.
3. COIR MATTING DETAIL SHOWN IS FOR PERMANENT INSTALLATION. TEMPORARY INSTALLATION FOR EROSION CONTROL PROTECTION AS STIPULATED SHALL BE TO THE EXTENT THAT THE PROJECT SITE NEEDS TO BE PROTECTED FOR EROSION AND SEDIMENT CONTROL DURING NON-WORKING HOURS.



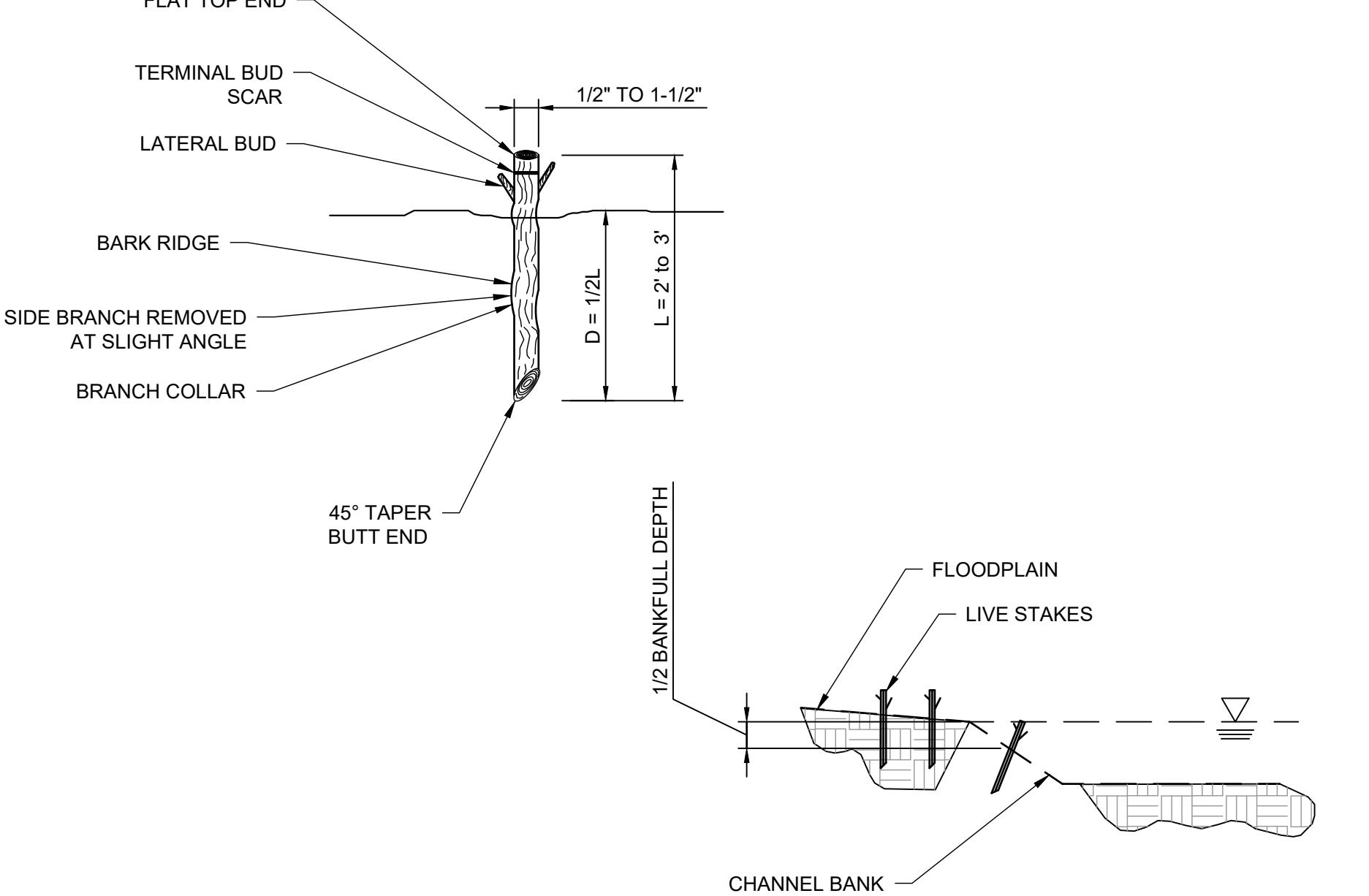
**NOTES:**

1. BOULDER CLUSTERS PLACED IN AREAS SHOWN ON PLANS.
2. CLUSTERS SHALL NOT BE PLACED CLOSER TO THE STREAMBANK TOE THAN A DISTANCE EQUAL TO 1/4 THE BOTTOM WIDTH OF THE CHANNEL.
3. NO BOULDER DIMENSION SHALL BE SMALLER THAN 24 INCHES.



**NOTES:**

1. ALL LATERAL BRANCHES SHALL BE TRIMMED TO AVOID DAMAGE TO THE BARK RIDGE AND BRANCH COLLAR.
2. A MINIMUM OF TWO BUDS (ONE LATERAL PLUS ONE TERMINAL OR TWO TERMINAL) SHALL BE ABOVE THE PLANTING DEPTH.



ISSUED FOR  
CONSTRUCTION  
C-6  
FINAL PLAN SET

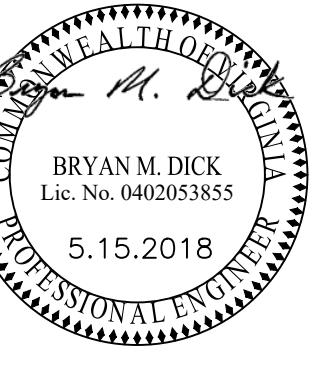
**FREESE**  
ANCHOLS

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Greensboro, North Carolina 27408  
Phone: 336.674.4644  
Web: www.fse.com

GENERAL DETAILS

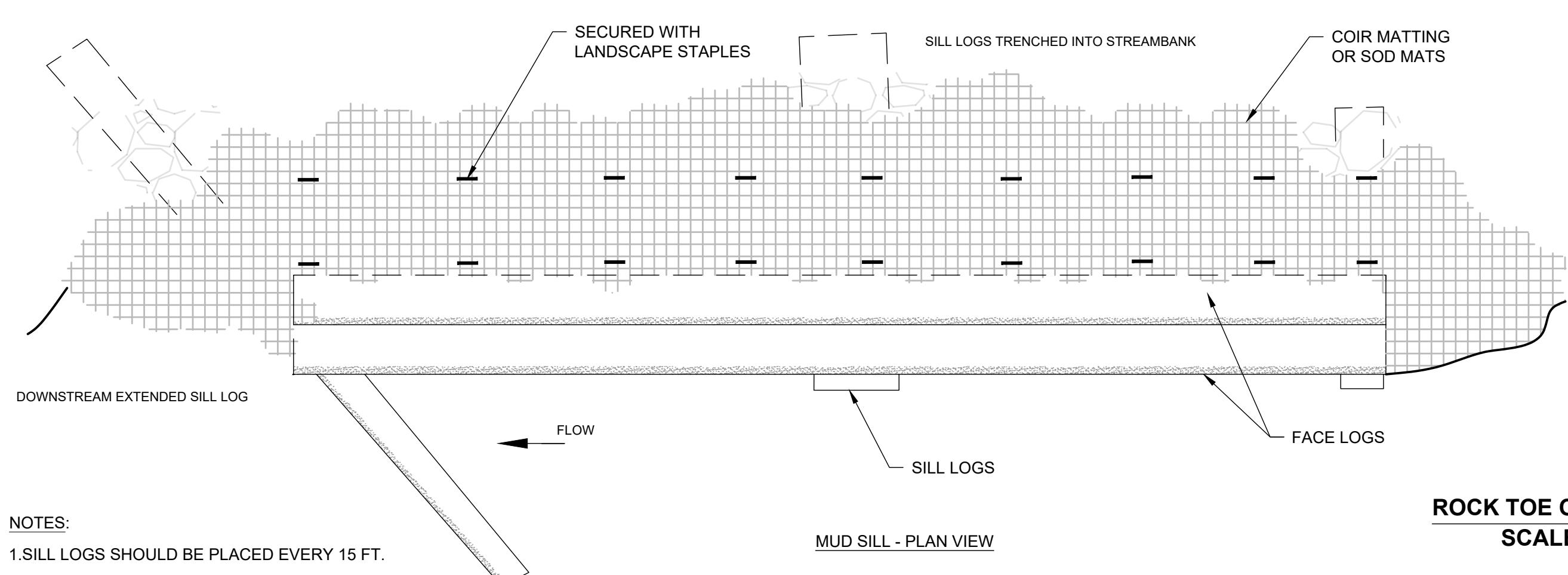
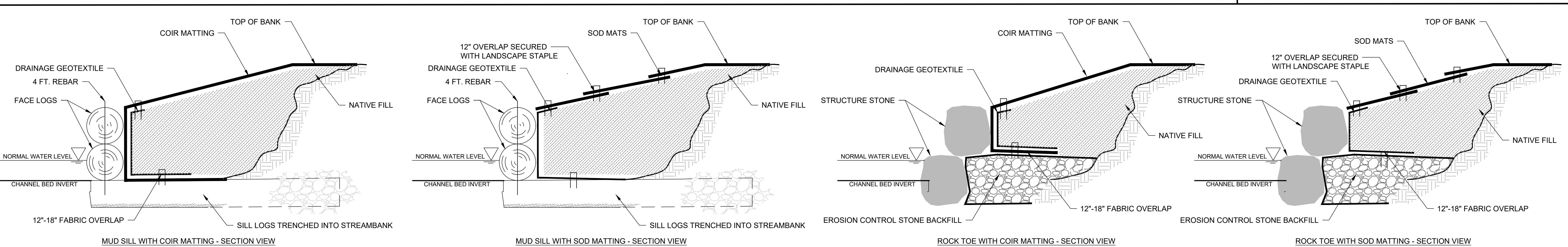
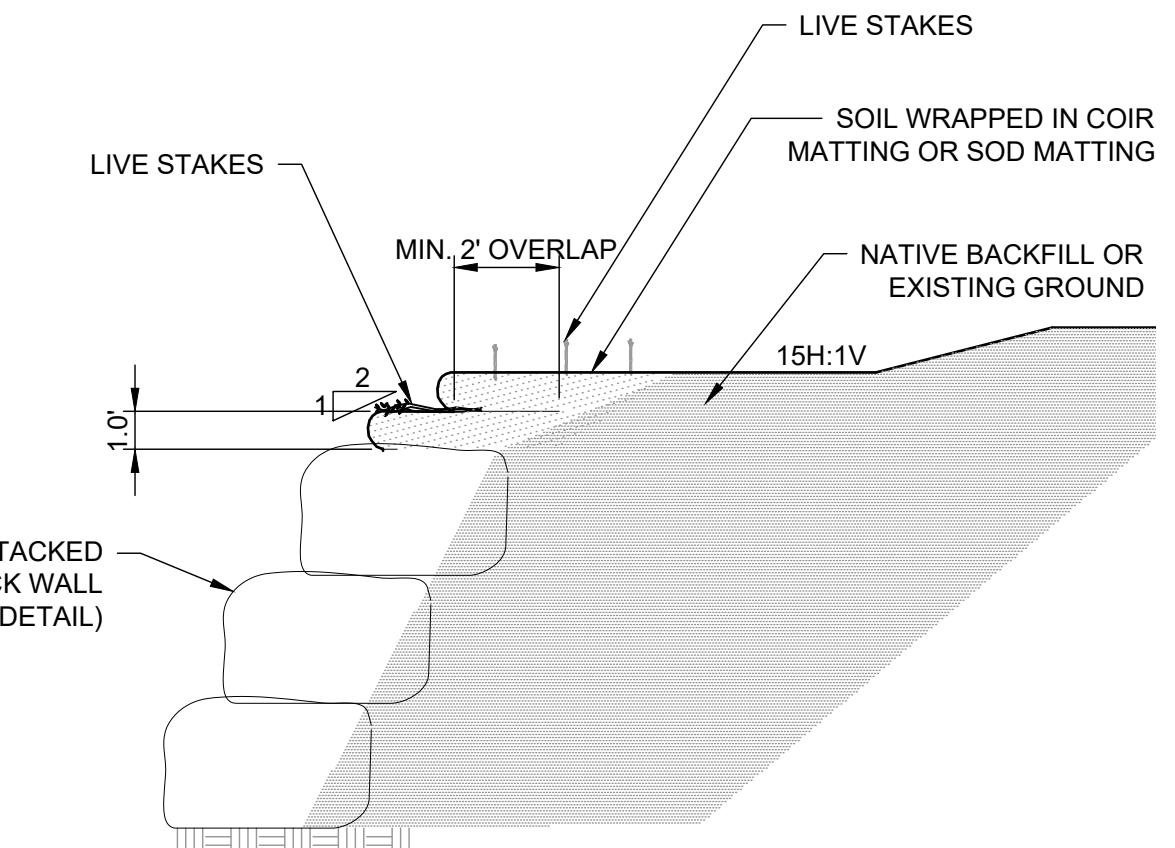
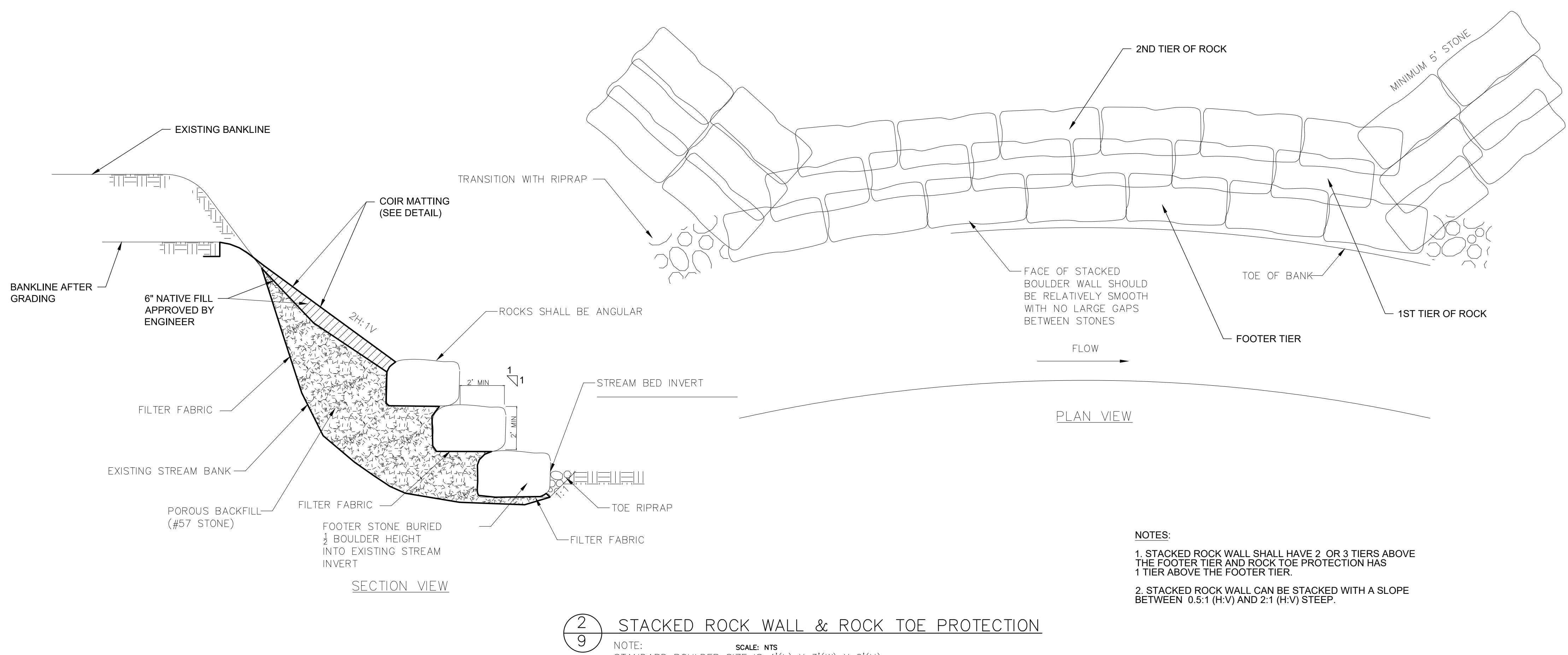
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				DATE 05-15-2018	CIVIL
				DESIGNED BMD	
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				EMD	
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				RNC16684	PHASE II
				DATE 05-15-2018	CIVIL
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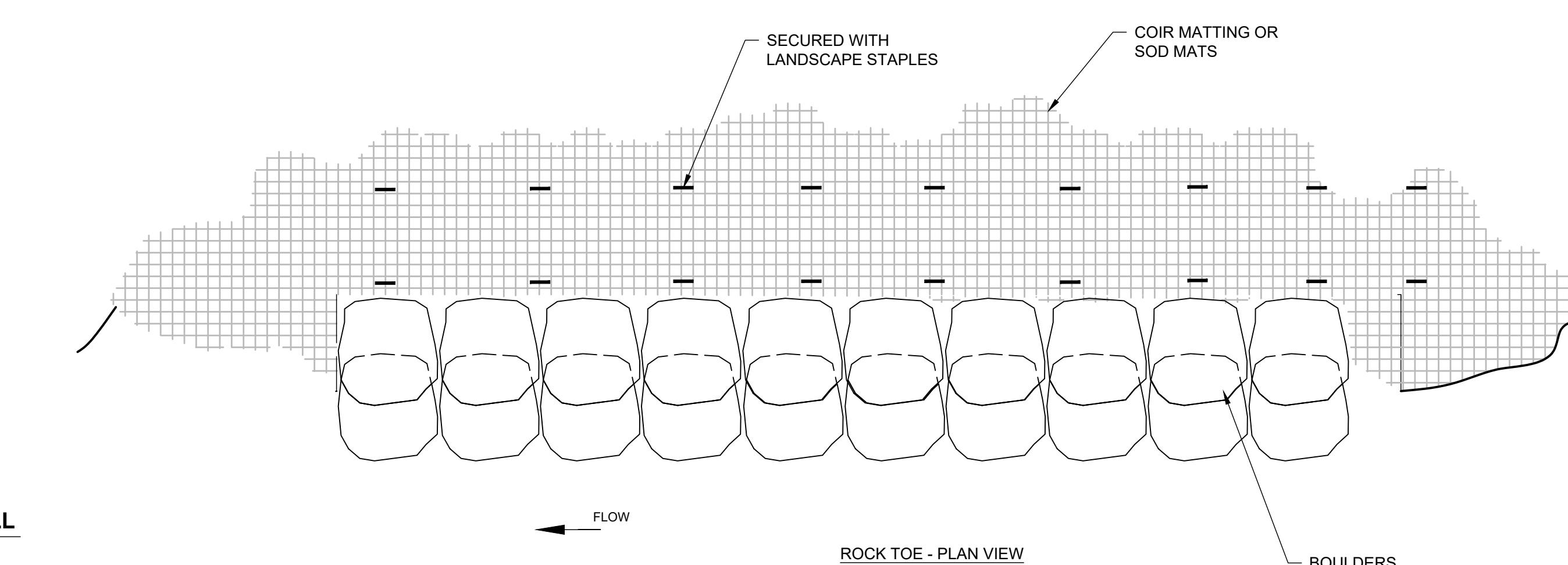


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Suite 200, Phone: 336.706.6744  
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**ROCK TOE OR MUD SILL**  
SCALE: NTS

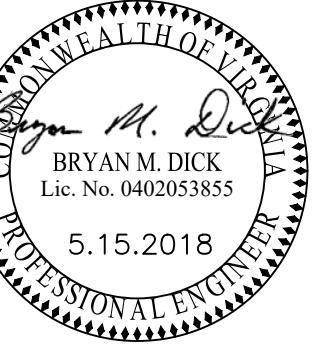


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FINAL PLAN SET

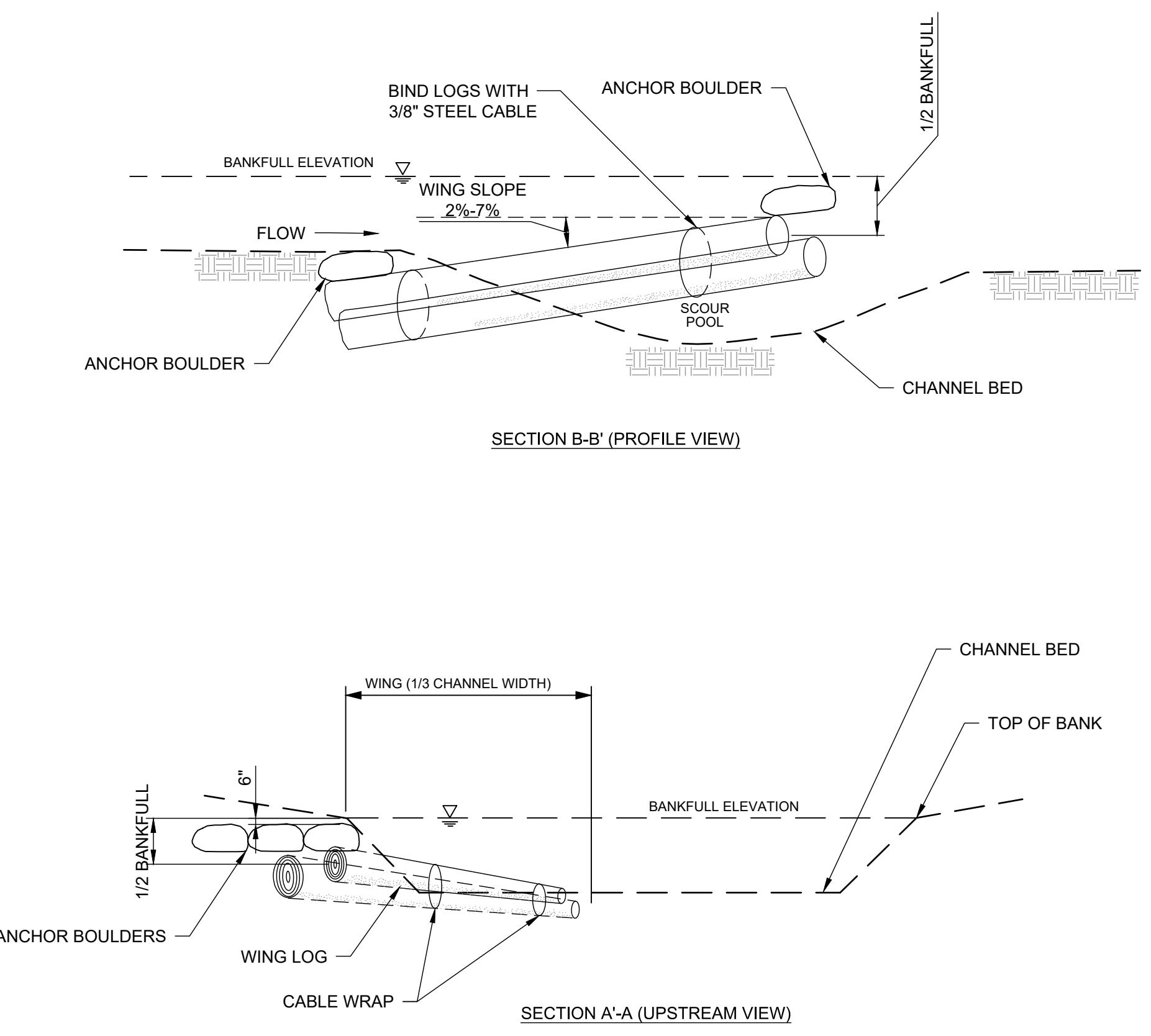
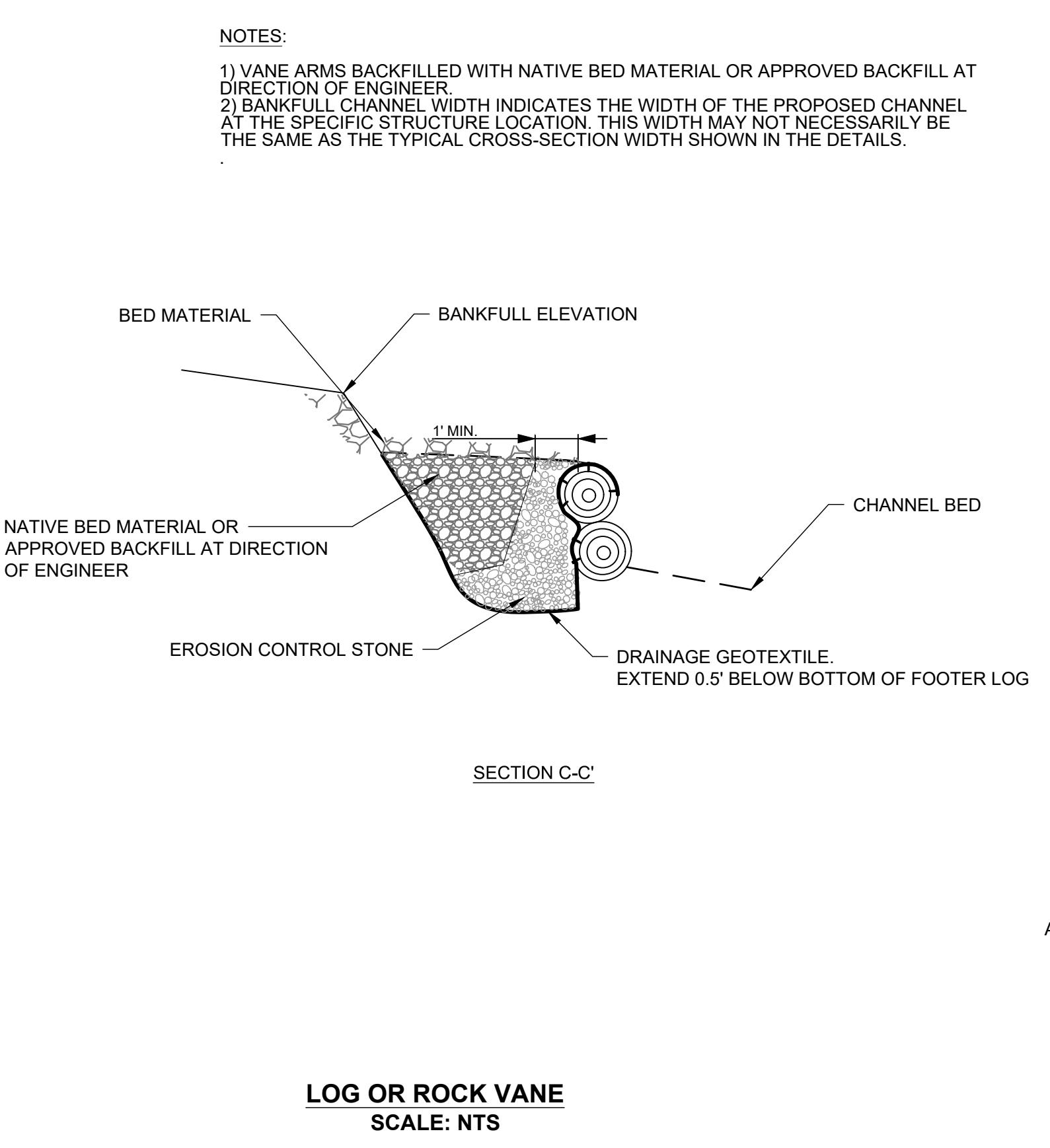
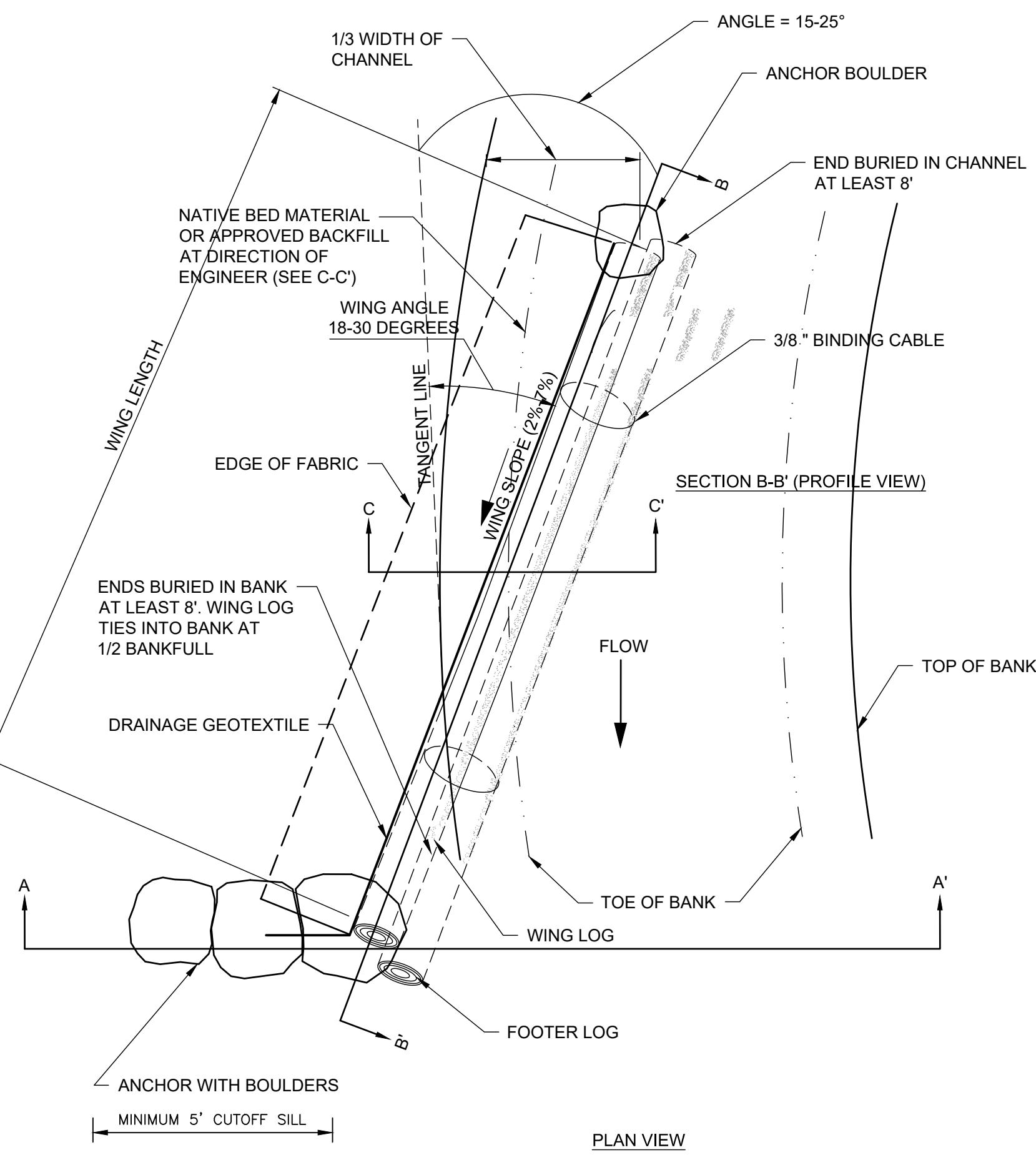
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C-7  
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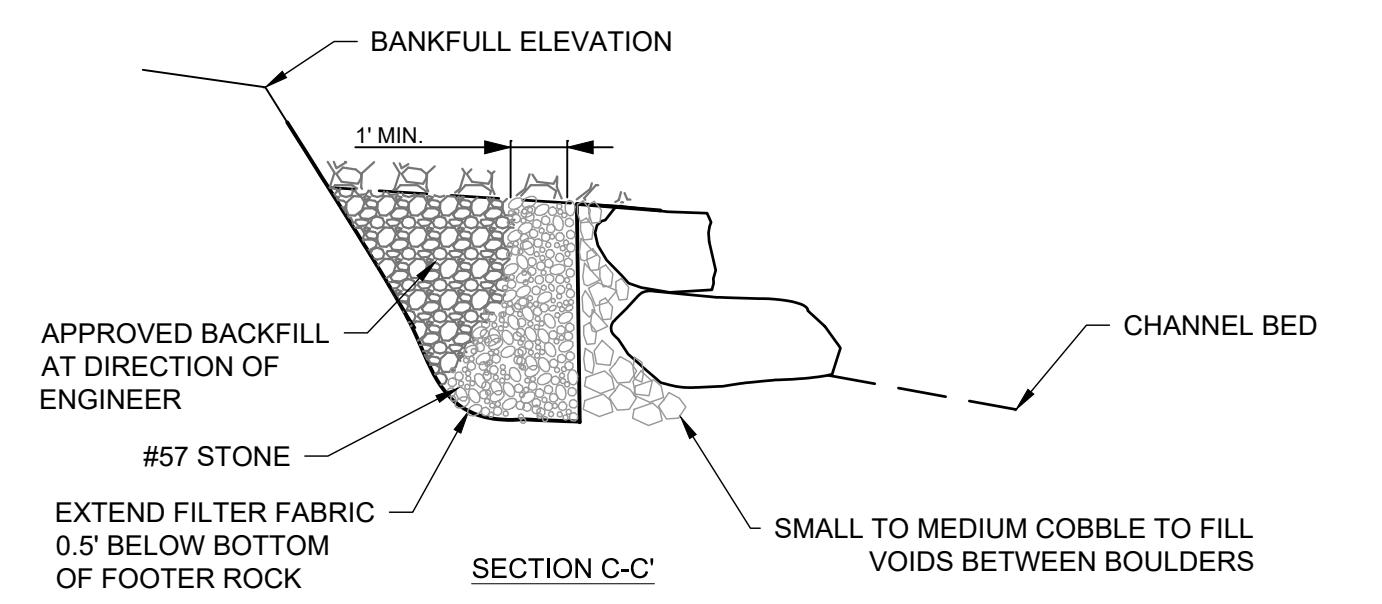
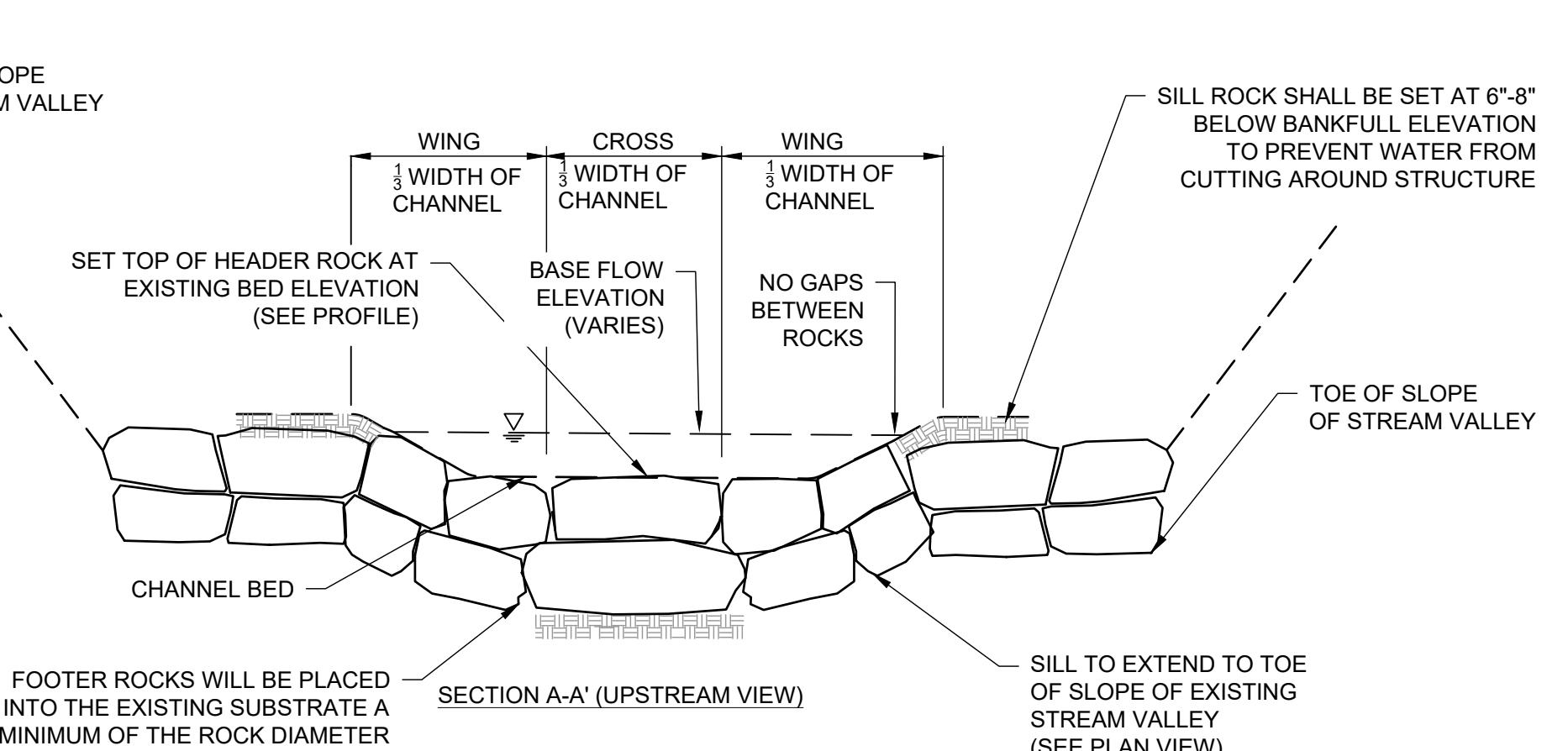
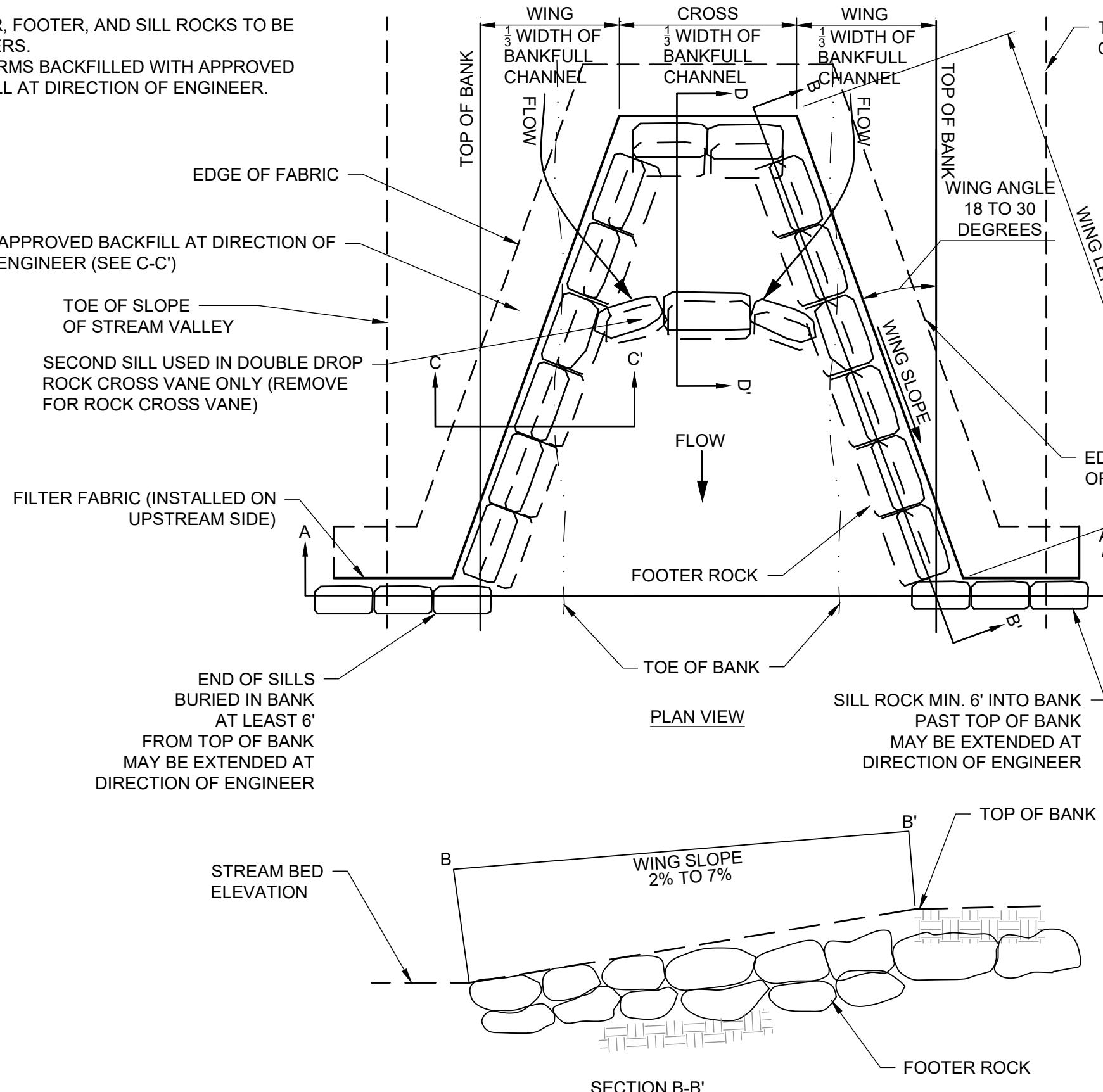
711 Green Valley Road  
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Web: www.fonc.com



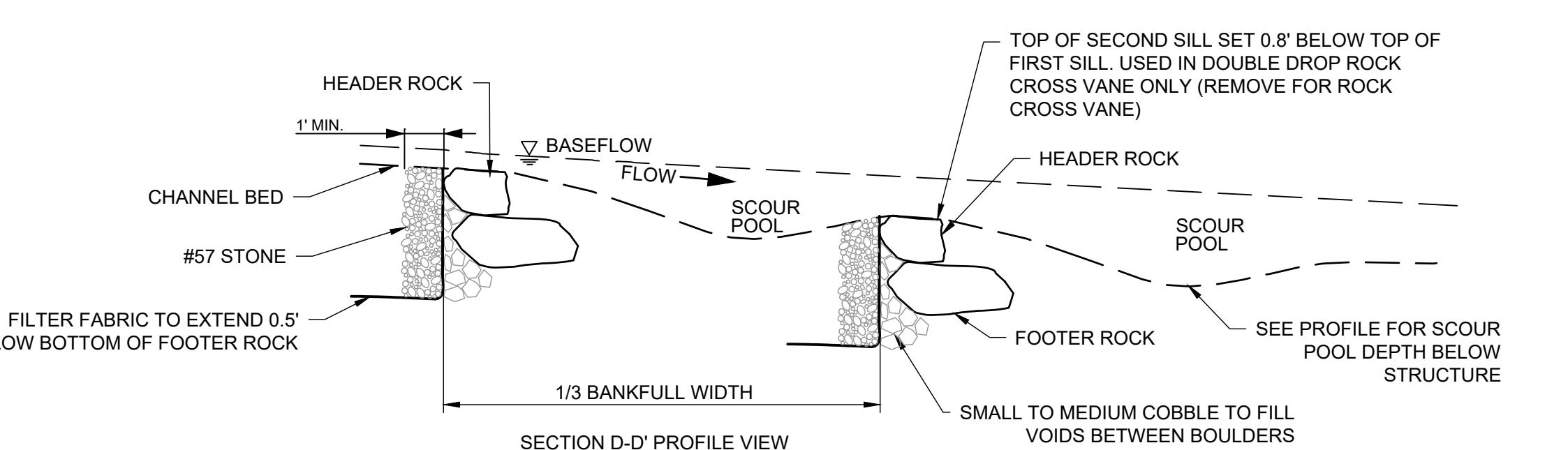
**LOG OR ROCK VANE**  
SCALE: NTS

**NOTE:**

1. HEADER, FOOTER, AND SILL ROCKS TO BE BOULDERS.
2. VANE ARMS BACKFILLED WITH APPROVED BACKFILL AT DIRECTION OF ENGINEER.



**DOUBLE DROP ROCK CROSS OR ROCK CROSS VANE**  
SCALE: NTS



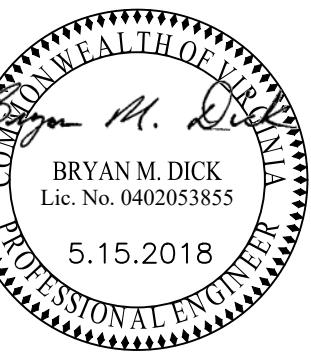
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ROANOKE COUNTY, VIRGINIA RESTORATION OF GLADE CREEK AT VINYARD PARK PHASE II CIVIL					
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			DESIGNED	EMD	
			DRAWN	EMD	
			REVISED		
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			GENERAL DETAILS.dwg		

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SEQ.	SHEET	C-8
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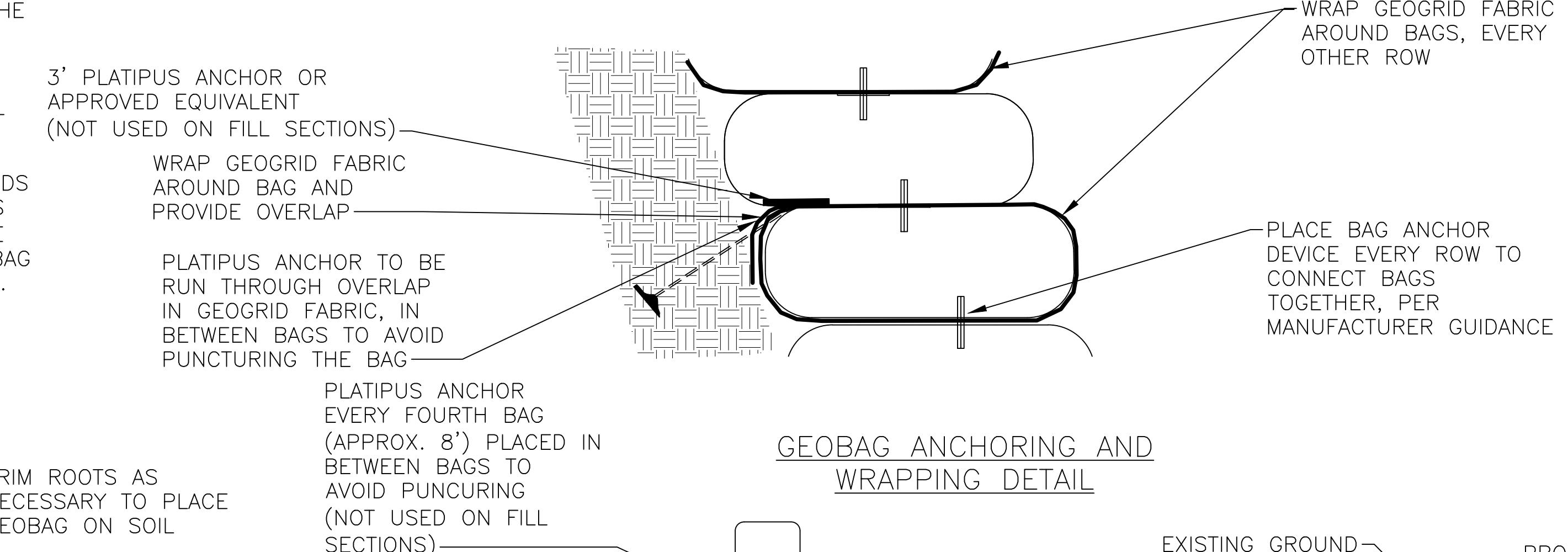


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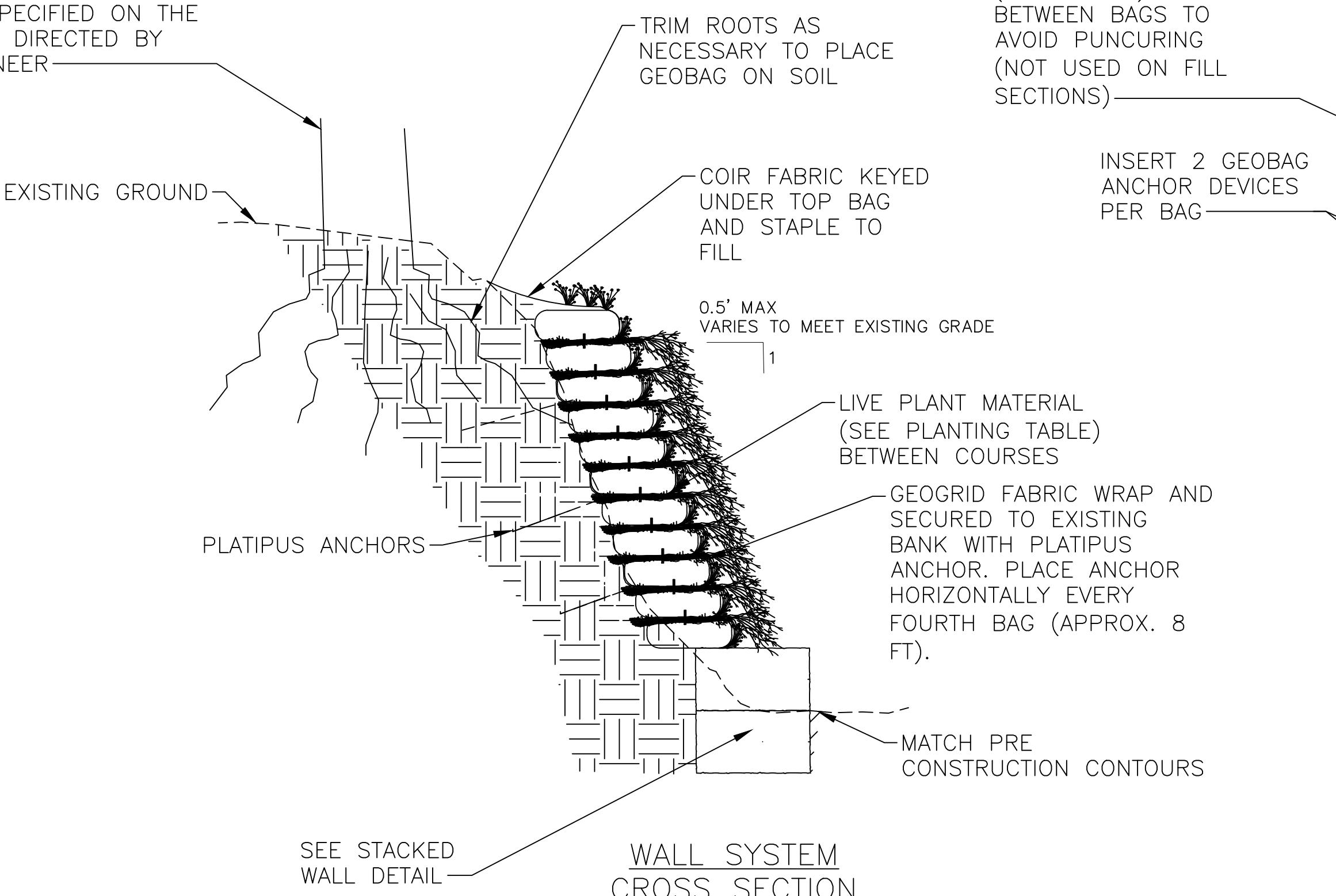
NOTES:

1. GRADE AREA OF INSTALLATION AS SHOWN ON PLANS. REMOVE ALL ROCKS AND OTHER OBSTRUCTIONS SO THE MATERIAL WILL HAVE DIRECT CONTACT WITH SOIL.
2. BAGS ARE TO BE FILLED ONSITE WITH MODERATE DRAINED MATERIAL TO BE APPROVED BY ENGINEER. FOLLOW BAG FILLING PROCEDURE FROM ENVIROLOK, FLEX MSE, DELTALOK OR APPROVED EQUIVALENT.
3. GEOBAG WALL LAYERS SHOULD BE SOLID AND UNIFORM. FLATTEN GEOBAGS WITH HAND TAMPER OR EQUIVALENT AFTER PLACEMENT AND BEFORE PROCEEDING WITH CINCHING, TWINING, AND STAKING.
4. APPLY VERTICAL BAG STABILIZER ACCORDING TO INSTALLATION INSTRUCTIONS FROM ENVIROLOK, FLEX MSE, DELTALOK OR APPROVED EQUIVALENT.
5. TIGHTEN VERTICAL BAG STABILIZER THROUGHOUT THE CINCHING AND TWINING PROCESS. REFER TO MANUFACTURER INSTALLATION INSTRUCTIONS.
6. APPLY SEED AND VEGETATION ACCORDING TO WALL SYSTEM MANUFACTURER'S INSTRUCTIONS.
7. GEOBAGS WILL BE BUILT IN A MANNER THAT BLENDS WITH EXISTING BACKSLOPE. A MINIMUM OF 6 LIFTS (~3FT ABOVE ROCK WALL) AT ~1.5:1 (H:V) SLOPE UNLESS OTHERWISE SPECIFIED ON PLANS. MORE BAG LAYERS MAY BE USED AT DIRECTION OF ENGINEER.

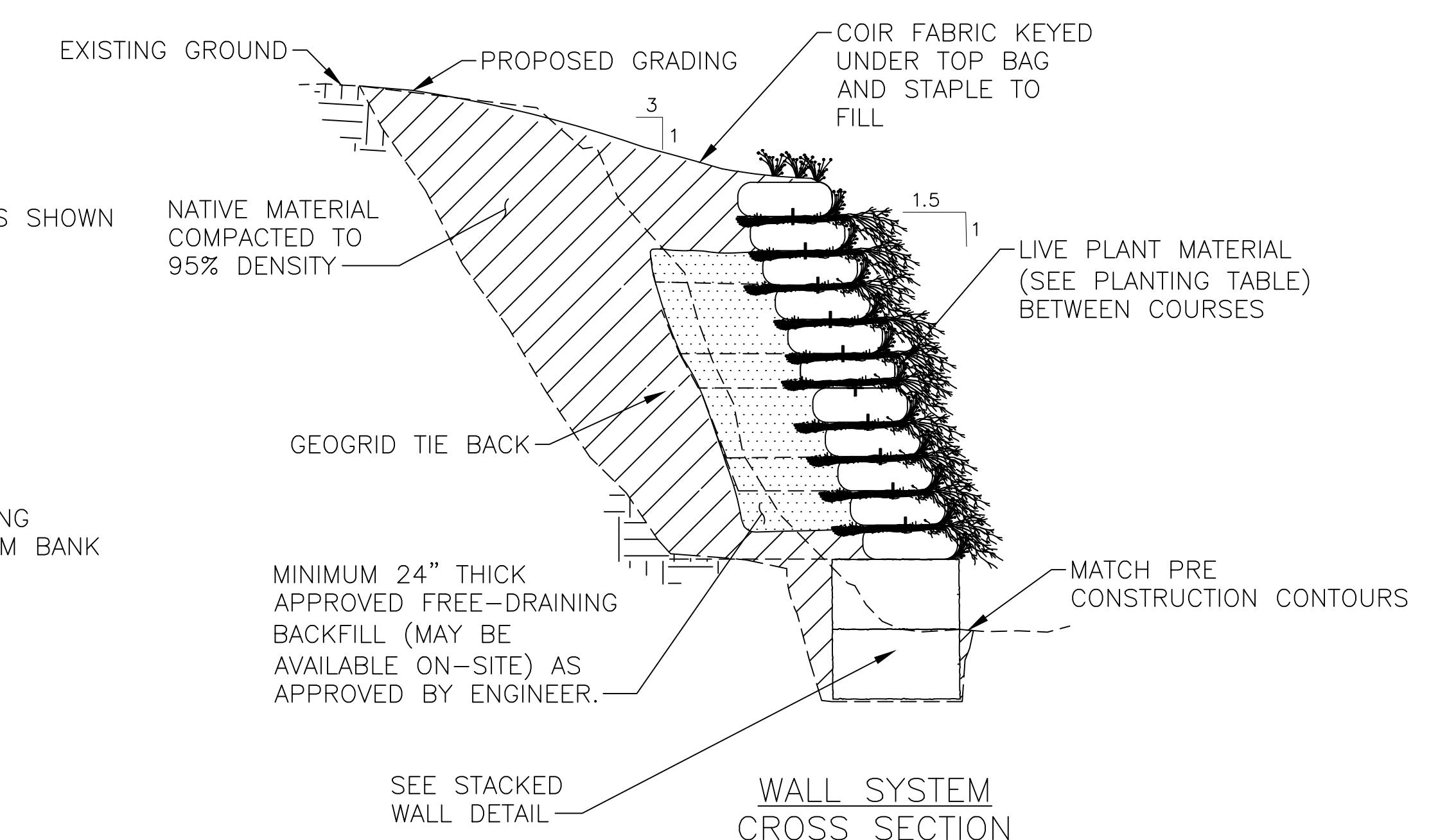
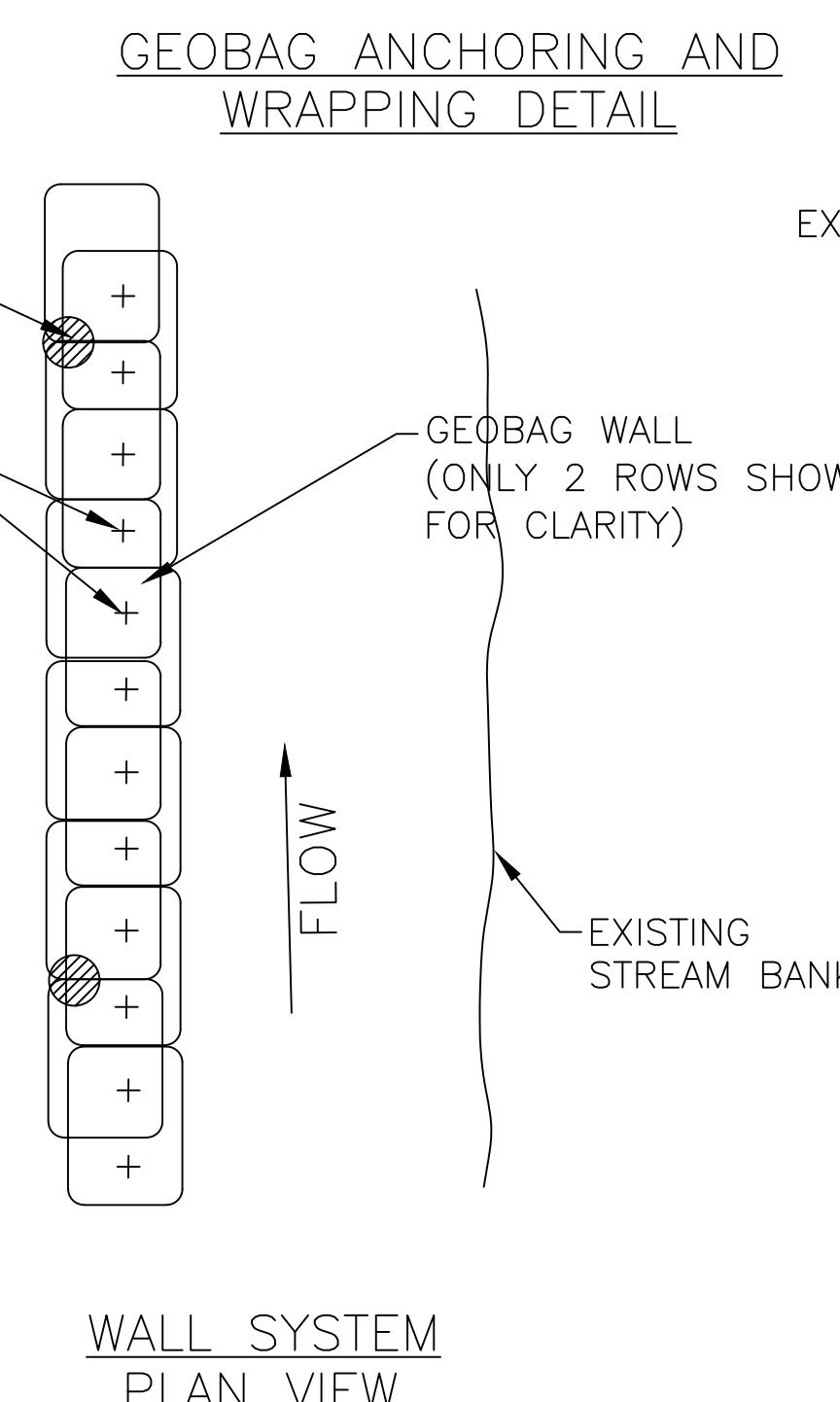


TYPICAL GEOBAG

EXISTING TREES TO REMAIN UNLESS SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER



GEOBAG WALL SYSTEM – BLEND TO EXISTING SECTIONS (ENVIROLOK, FLEX MSE, DELTALOK OR EQUIVALENT)  
NTS



GEOBAG WALL SYSTEM – FILL SECTIONS (ENVIROLOK, FLEX MSE, DELTALOK OR EQUIVALENT)  
NTS

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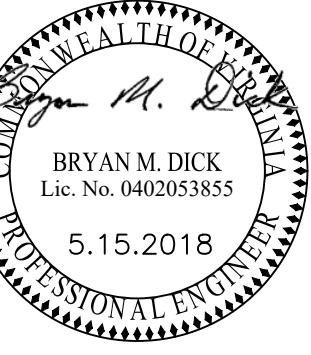
FINAL PLAN SET

GENERAL DETAILS

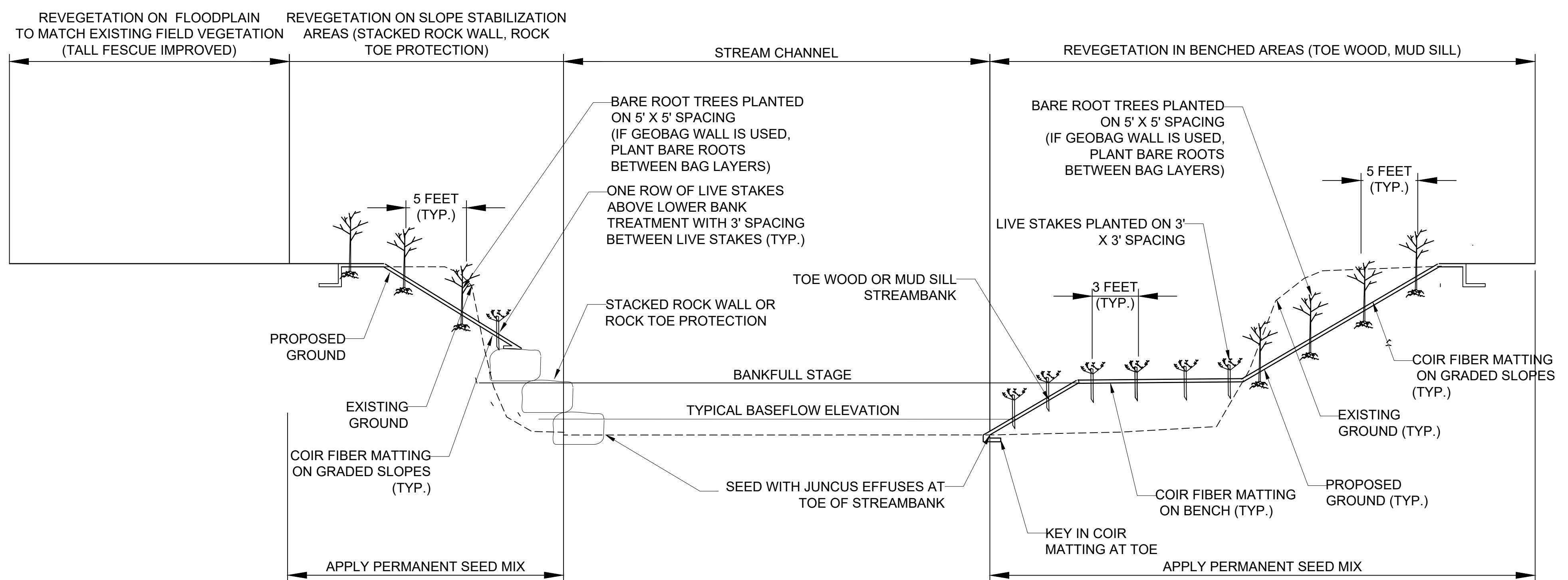
VERIFY SCALE Bar is one inch on original drawing if not one inch on this sheet, adjust scale.

C-9

SEQ.



5.15.2018



NOTES:

1. THE LEFT SIDE OF THIS SECTION SHOWS PLANTING APPROACH TO BE APPLIED FOR STREAMBANKS WHERE ROCK TOE PROTECTION OR STACKED ROCK WALL ARE TO BE USED ON THE LOWER BANK WITH GRADING OR GEOBAG WALL ON THE UPPER BANK.
2. THE RIGHT SIDE OF THIS SECTION SHOWS PLANTING APPROACH TO BE APPLIED WHERE TOE WOOD IS USED TO CREATE A BENCH WITH GRADING OR GEOBAG WALL ON THE UPPER BANK.
3. IF CROSS-SECTIONS SHOW NO GRADING OR OTHER TREATMENT ON PARTS OF THE EXISTING STREAMBANKS (UPPER BANK, LOWER BANK OR BOTH) THEN EXISTING VEGETATION IS TO REMAIN UNDISTURBED.
4. SEE PLANT LIST FOR SPECIES AND SIZE.

**REVEGETATION SECTION**  
**SCALE: NTS**

**PLANT LIST**

	Scientific Name	Common Name	Quantity	Remarks
BARE ROOT TREES	<i>Acer rubrum</i>	Red maple	79	Bare root 1/0 seedlings placed on 5-ft centers, alternating plants between rows and species randomly distributed.
	<i>Carya glabra</i>	Pignut hickory	79	
	<i>Liriodendron tulipifera</i>	Tulip tree	79	
	<i>Fagus grandifolia</i>	American beech	79	
	<i>Ulmus americana</i>	American elm	158	
	<i>Hamamelis virginiana</i>	Witch hazel	79	
BARE ROOT SHRUBS	<i>Lindera benzoin</i>	Spice bush	79	
LIVE STAKES	<i>Alnus serrulata</i>	Tag alder	269	Stakes placed on 3' centers, alternating stakes between rows and with species randomly distributed. One row of live stakes planted above staked rock wall and rock toe protection, with stakes spaced 3' apart,
	<i>Cornus amomum</i>	Silky dogwood	447	
PERMANENT SEEDING ON SLOPE STABILIZATION AND BENCH AREAS	<i>Panicum virgatum</i>	Switchgrass	25%	Apply at 25 lbs/acre
	<i>Panicum clandestinum</i>	Deer Tongue	15%	
	<i>Elymus virginicus</i>	Virginia Wild Rye	10%	
	<i>Tridens flavus</i>	Purple Top	10%	
	<i>Verbena stricta</i>	Wingstem	10%	
	<i>Juncus effusus</i>	Soft Rush	10%	
	<i>Chasmanthium</i>	Slender Spikegrass	5%	
	<i>Polygonum persicaria</i>	Lady's Thumb	5%	
	<i>Polygonum pensylvanicum</i>	Knotweed	5%	
	<i>Eragrostis curvula</i>	Weeping Lovegrass	5%	
TEMPORARY SEEDING	Summer: Brown-top millet Winter: Wrens-abruzi winter rye or Winter Wheat			Apply at 50 lbs/acre to all disturbed areas

NOTES:

1. FOR PERMANENT SEEDING IN OTHER DISTURBED AREAS, SEE SHEET EC-8

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NO.	ISSUE	BY	DATE	F&N JOB NO.	REV. NO.	DATE	DESIGNED	DRAWN	EMD	REvised	FILE NAME
				RNC16684		DATE 05-15-2018					

VERIFY SCALE	Bar is one inch on original drawing if not one inch on this sheet, adjust scale.
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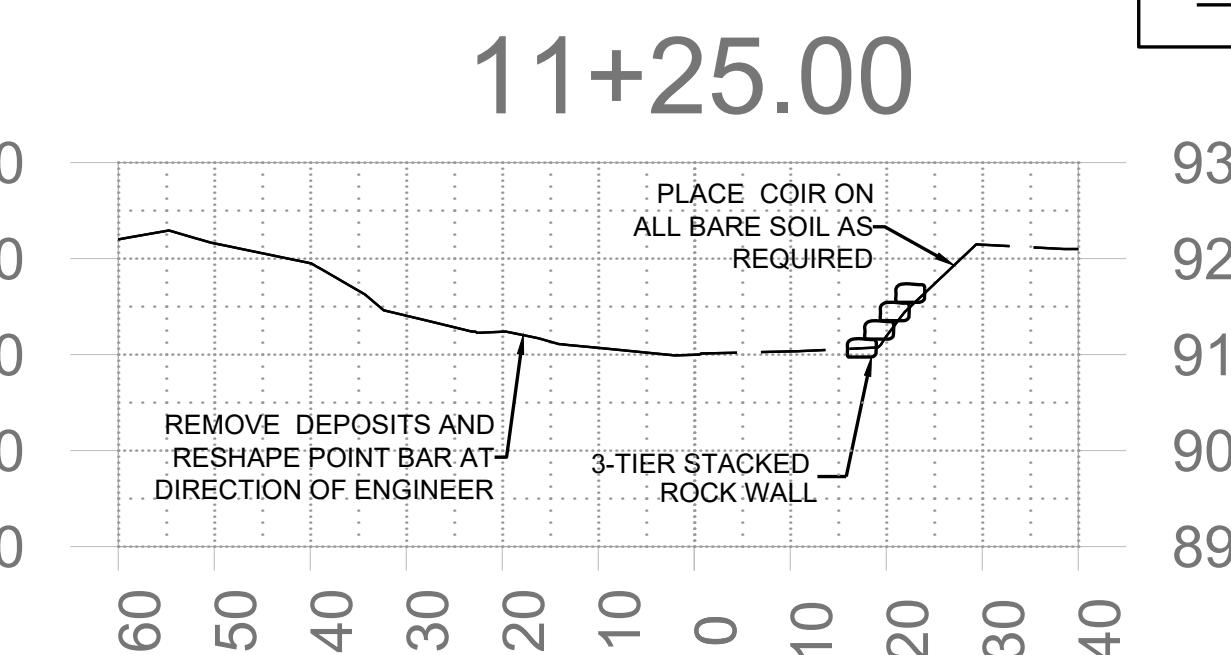
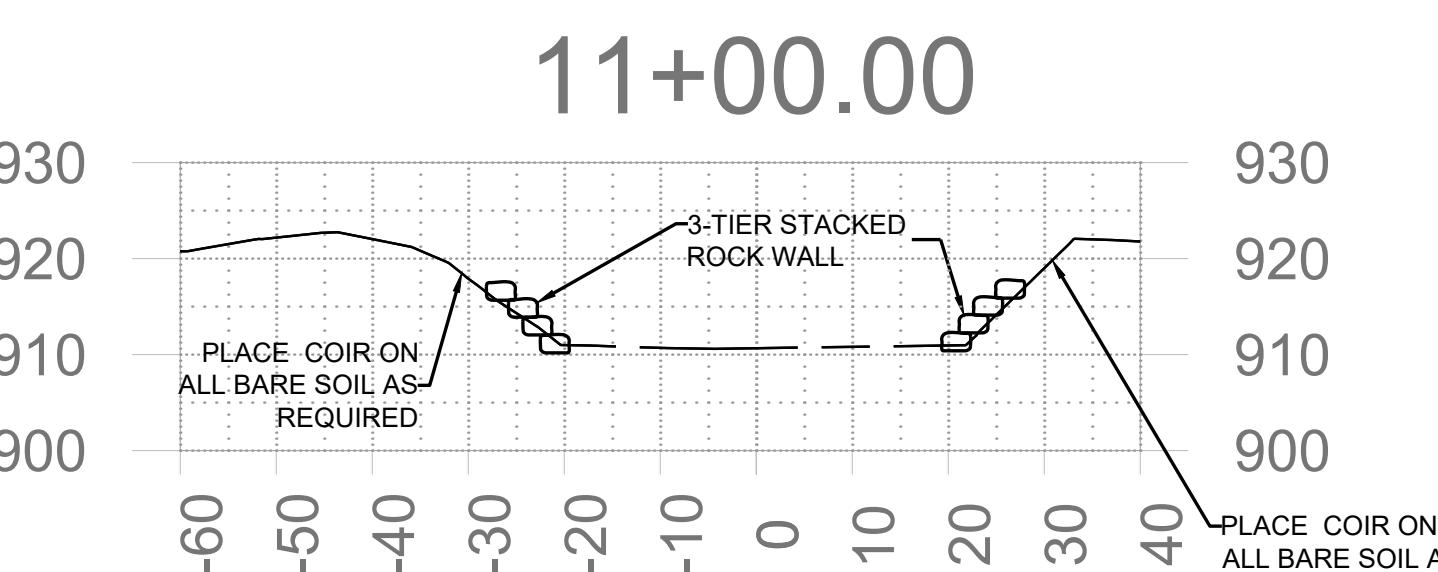
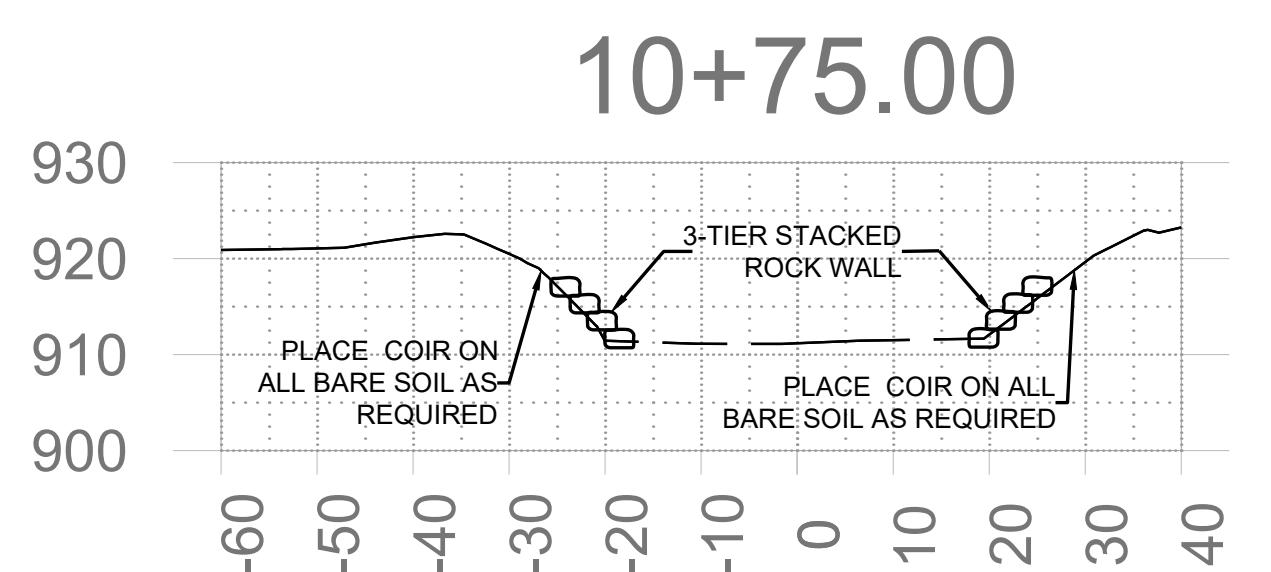
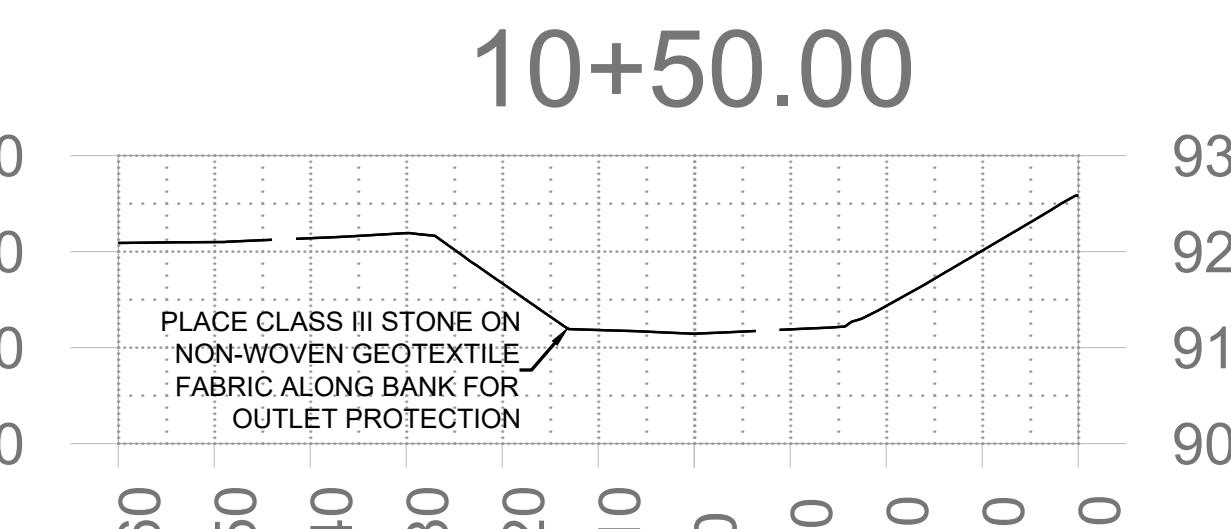
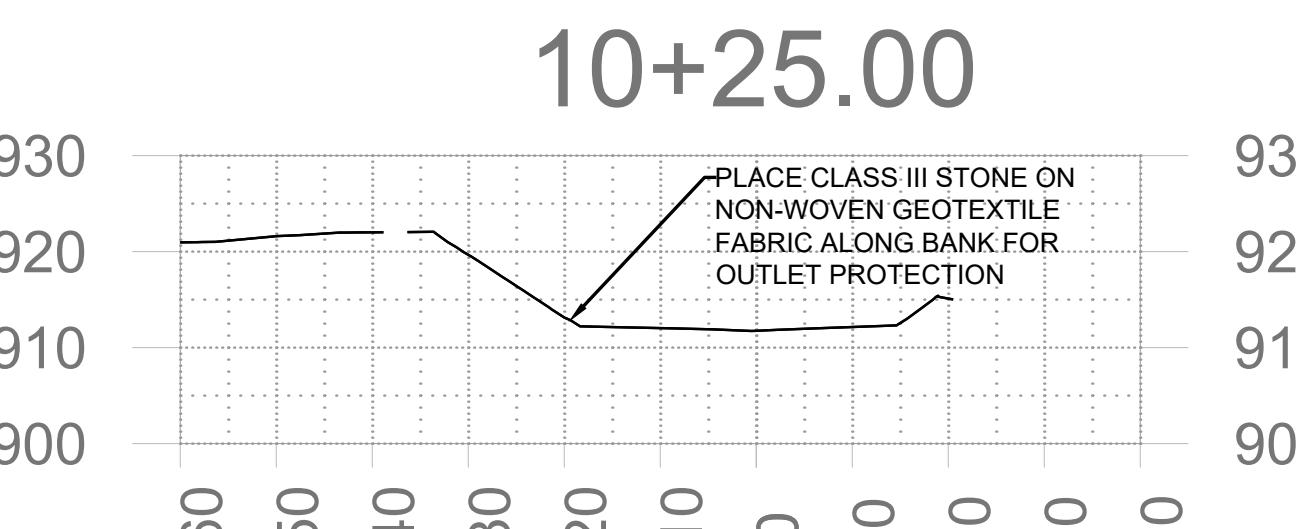
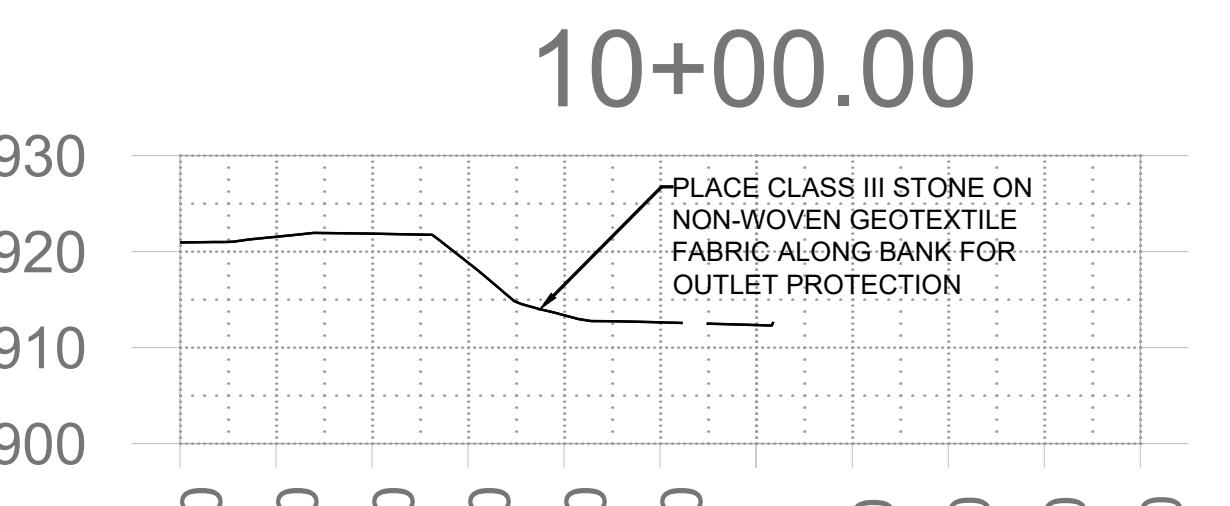
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PLANTING PLAN



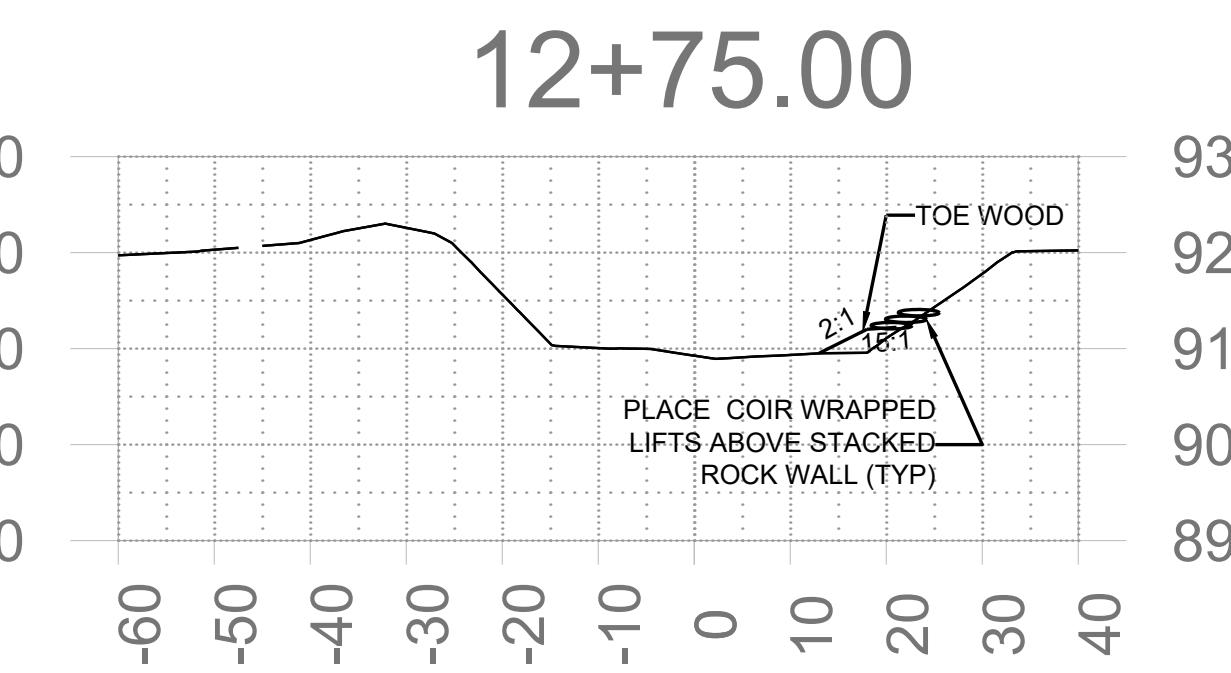
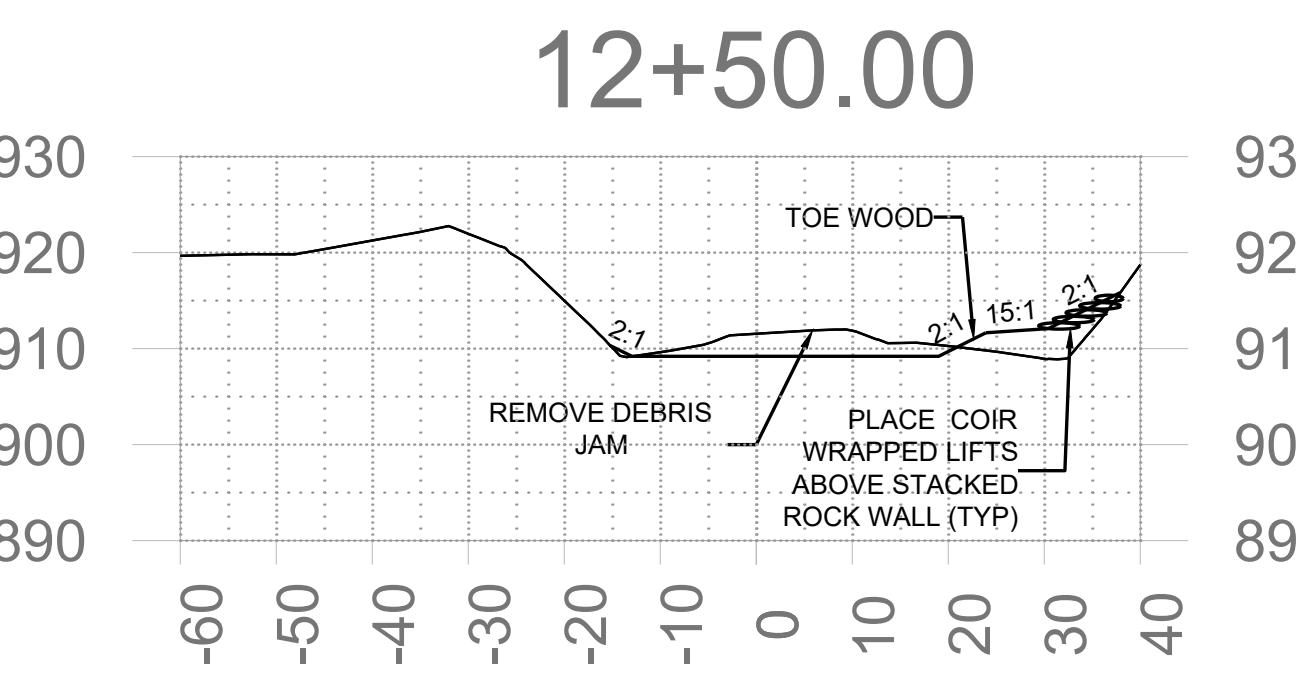
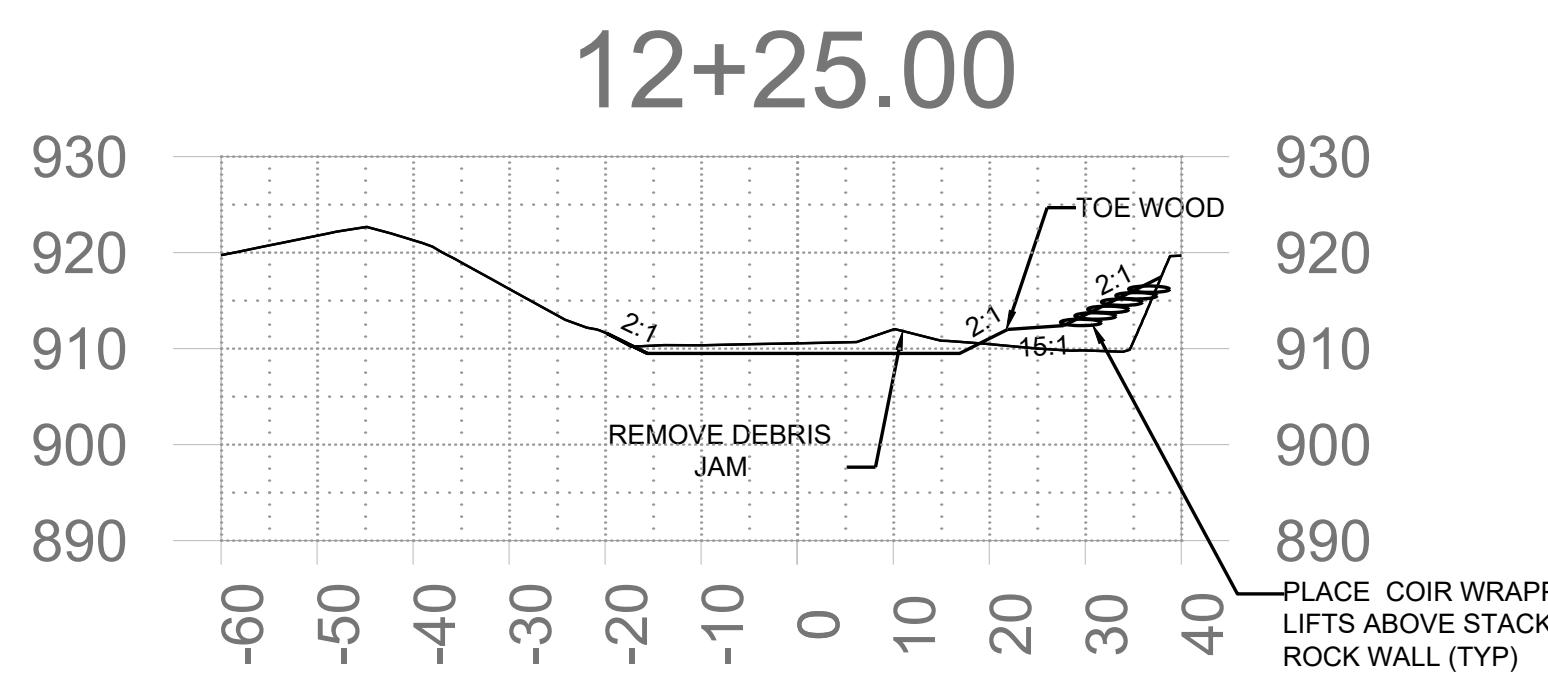
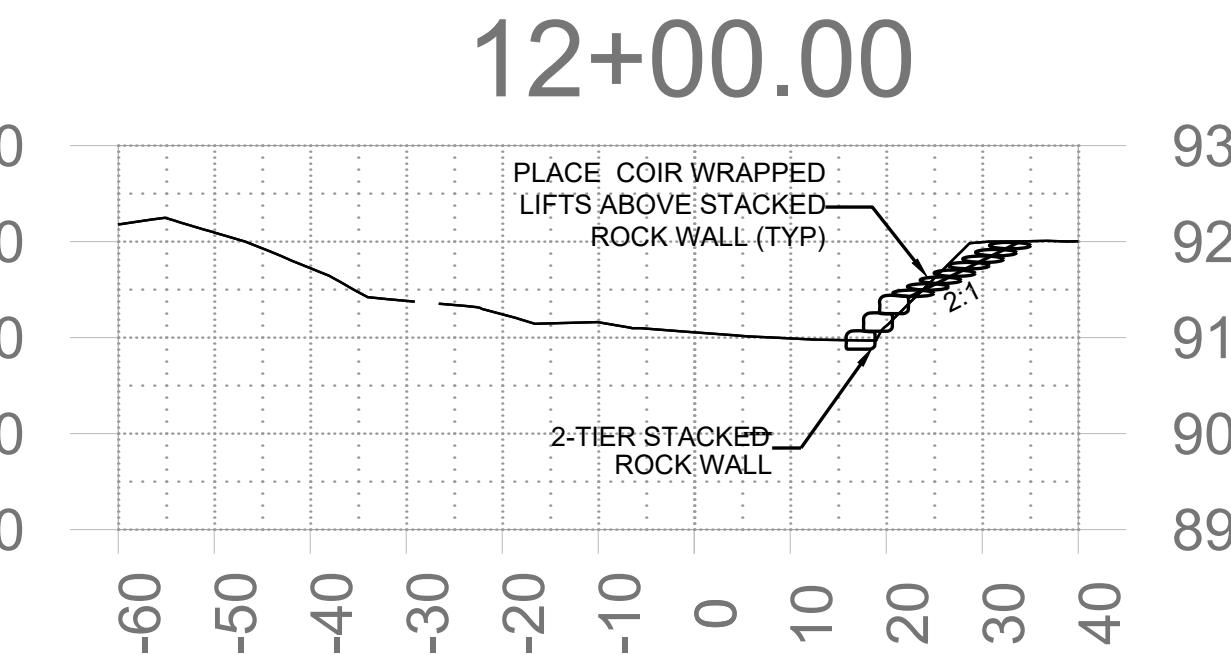
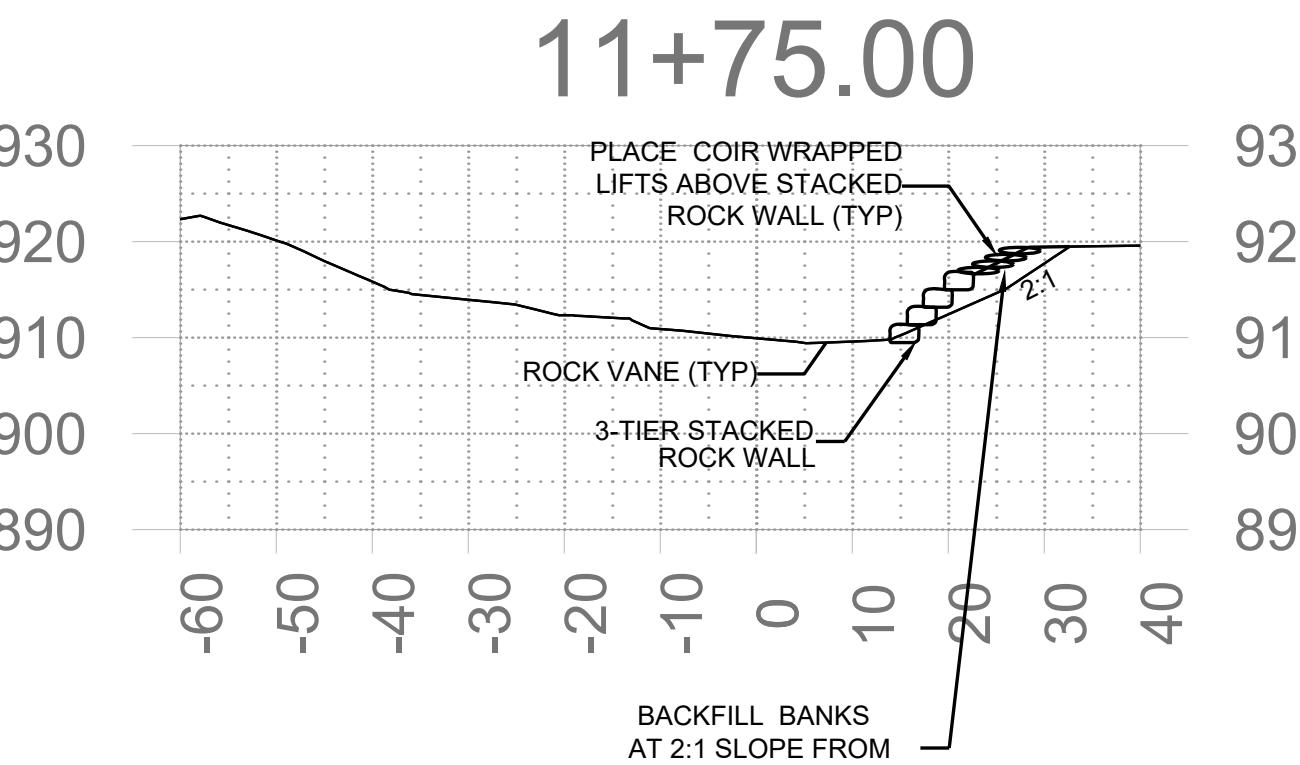
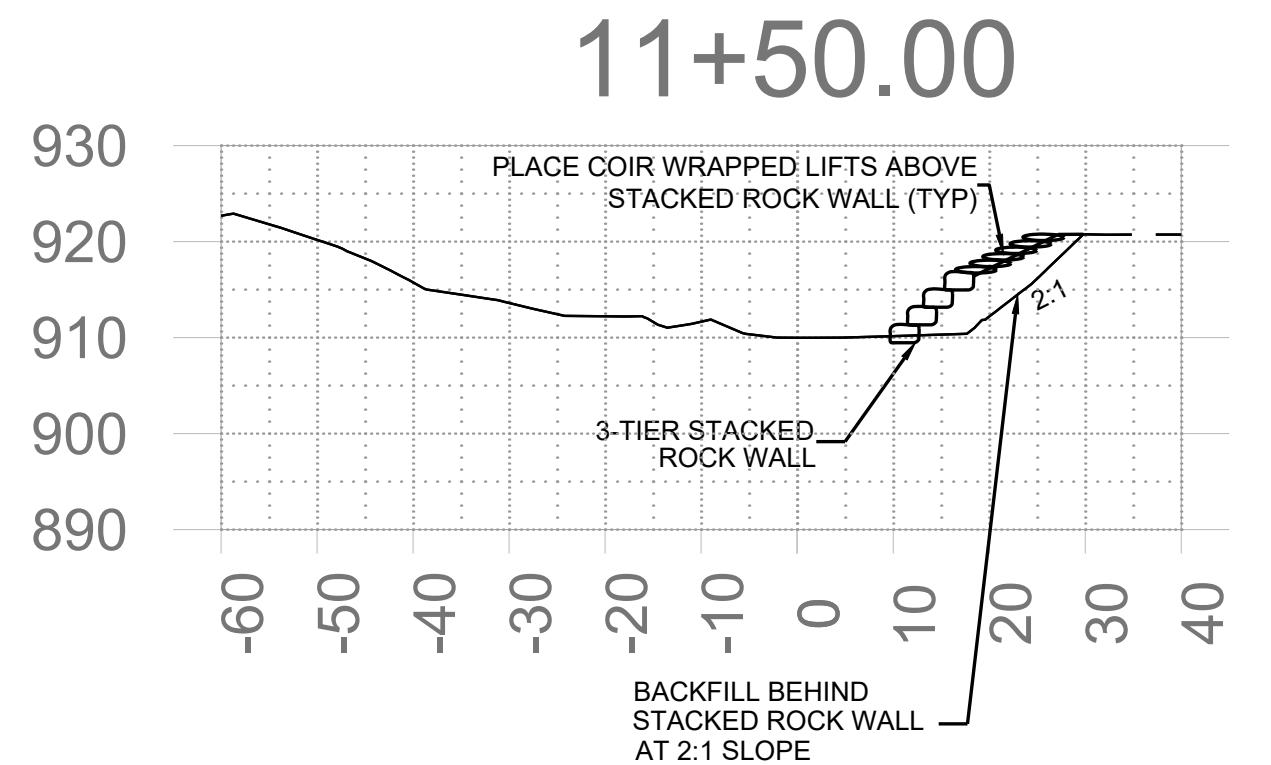
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**ENNICHOLS**

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**NOTE:**

1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL
2. ALL STACKED ROCK WALL WILL BE BLENDED TO EXISTING GROUND AT TOP OF ROCK TO LIMIT EROSION AT TOP OF WALL
3. PLACE SINGLE COIR WRAPPED LIFT ABOVE STACKED ROCK WALL AS REQUIRED



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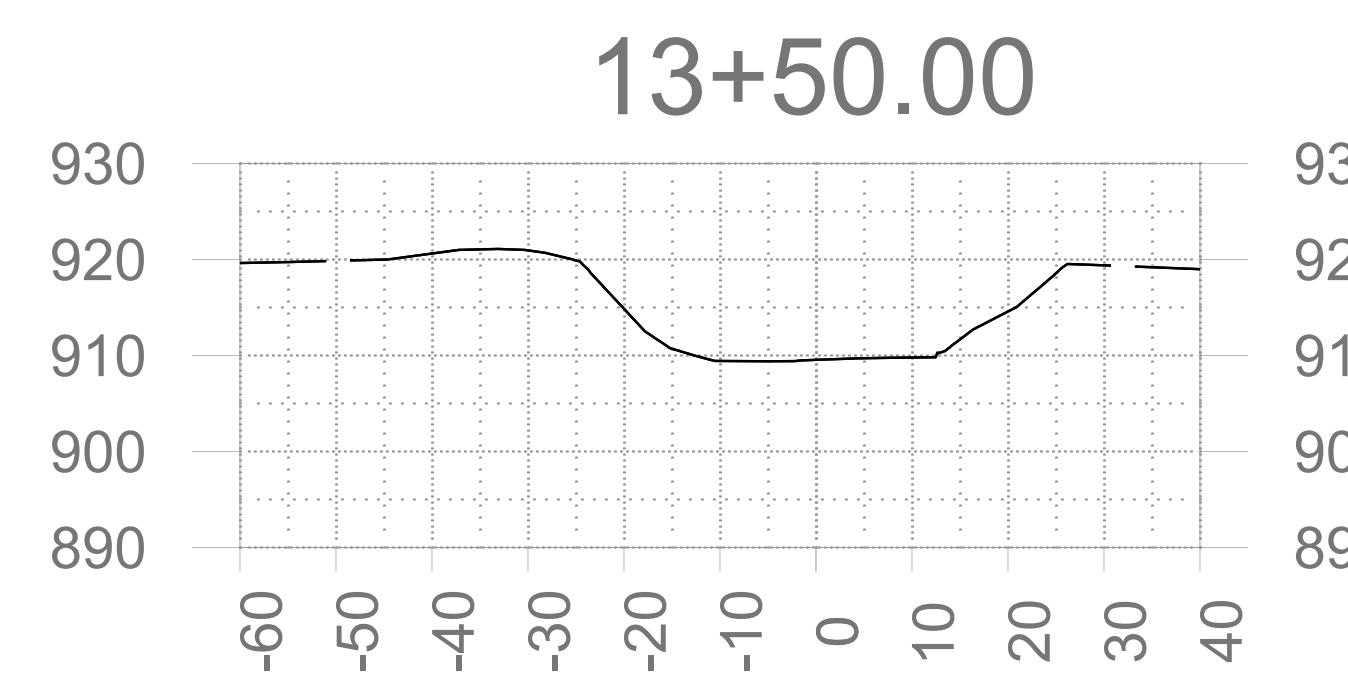
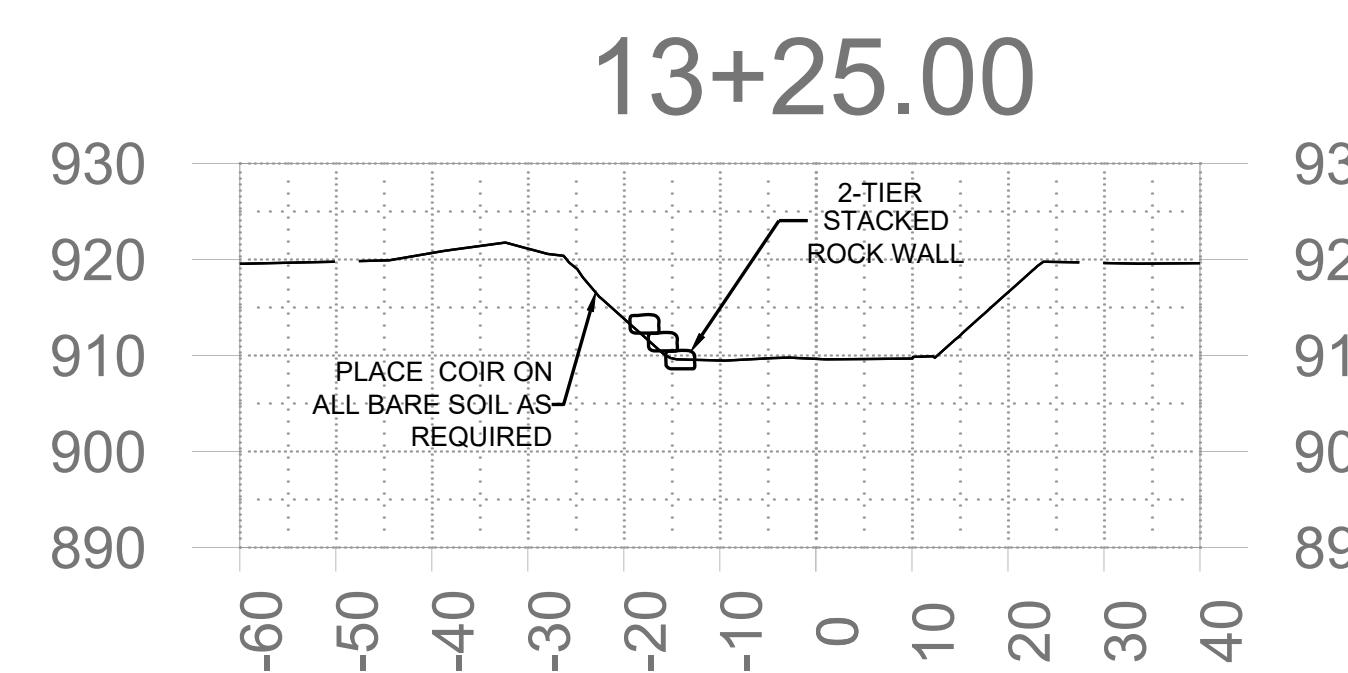
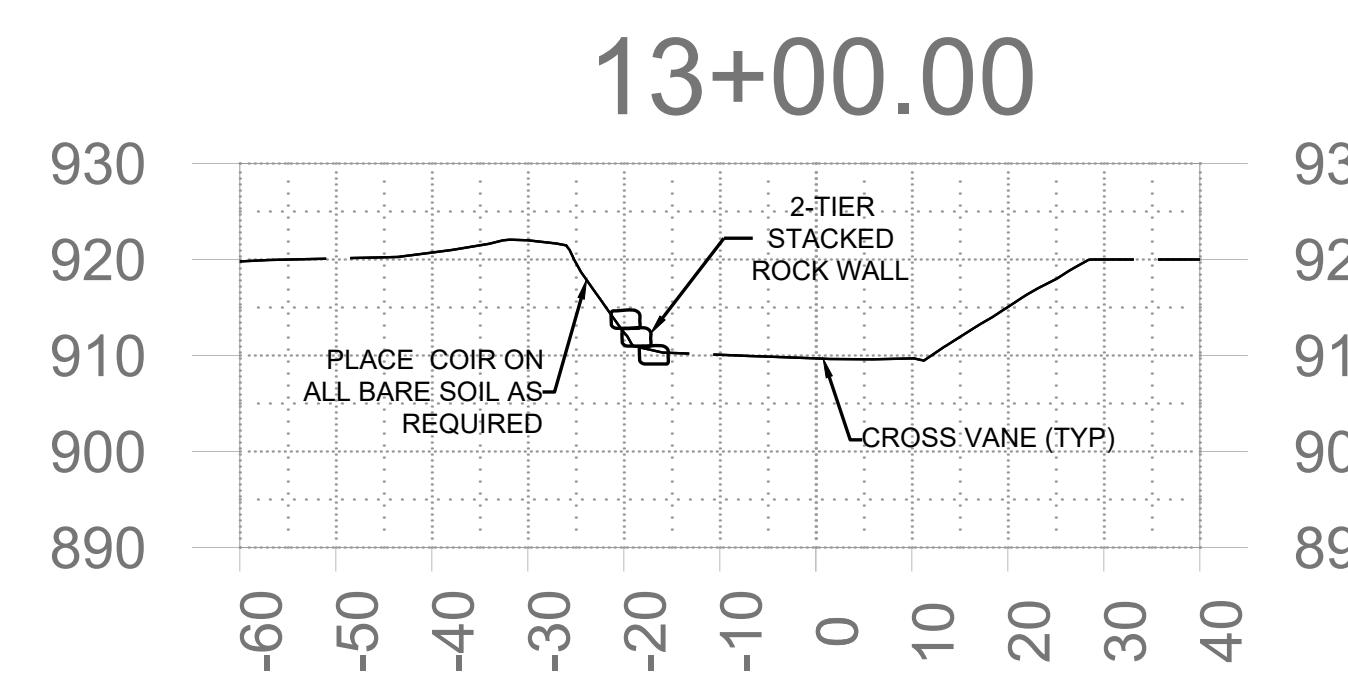
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				DATE 05.15.2018
				DESIGNED BMD
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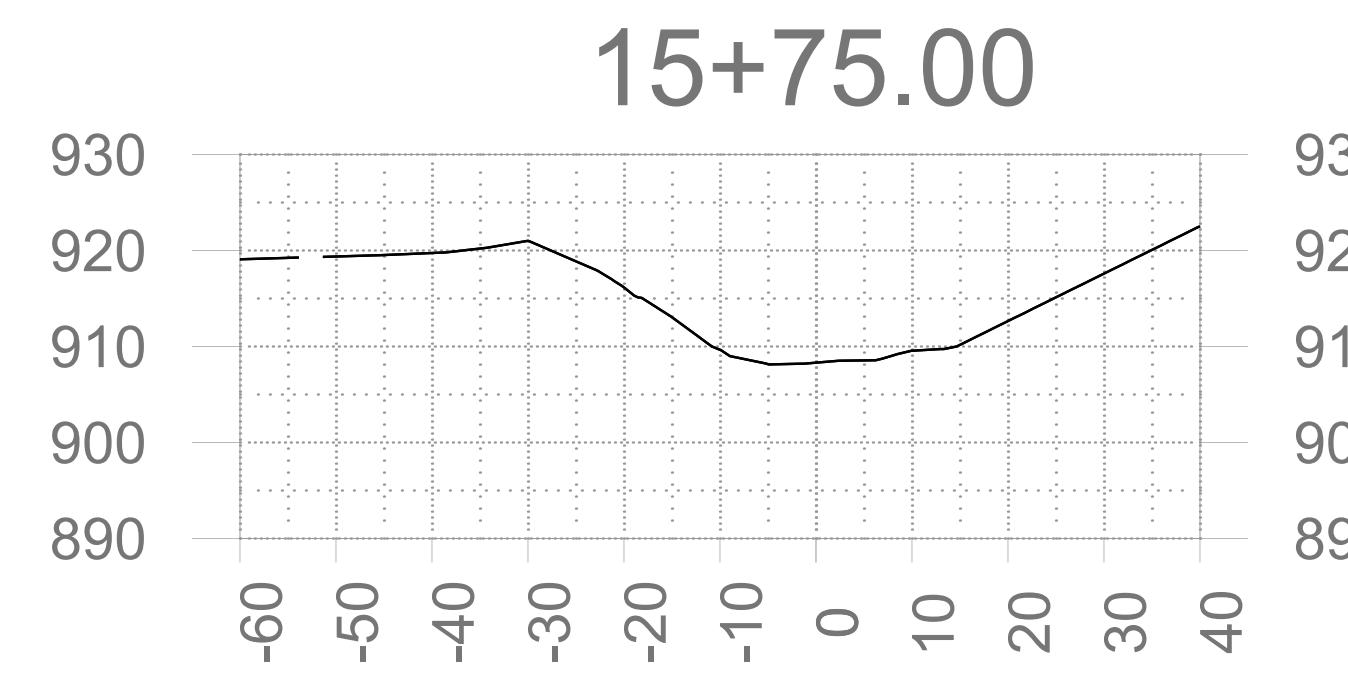
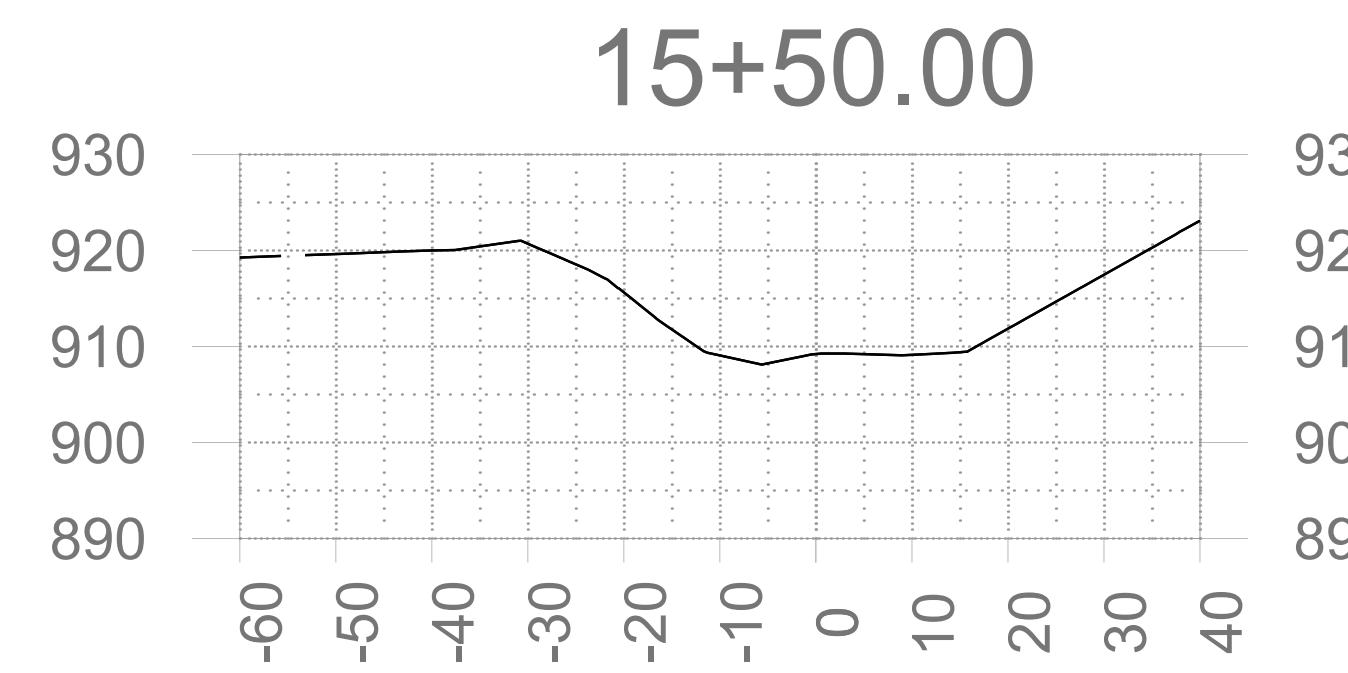
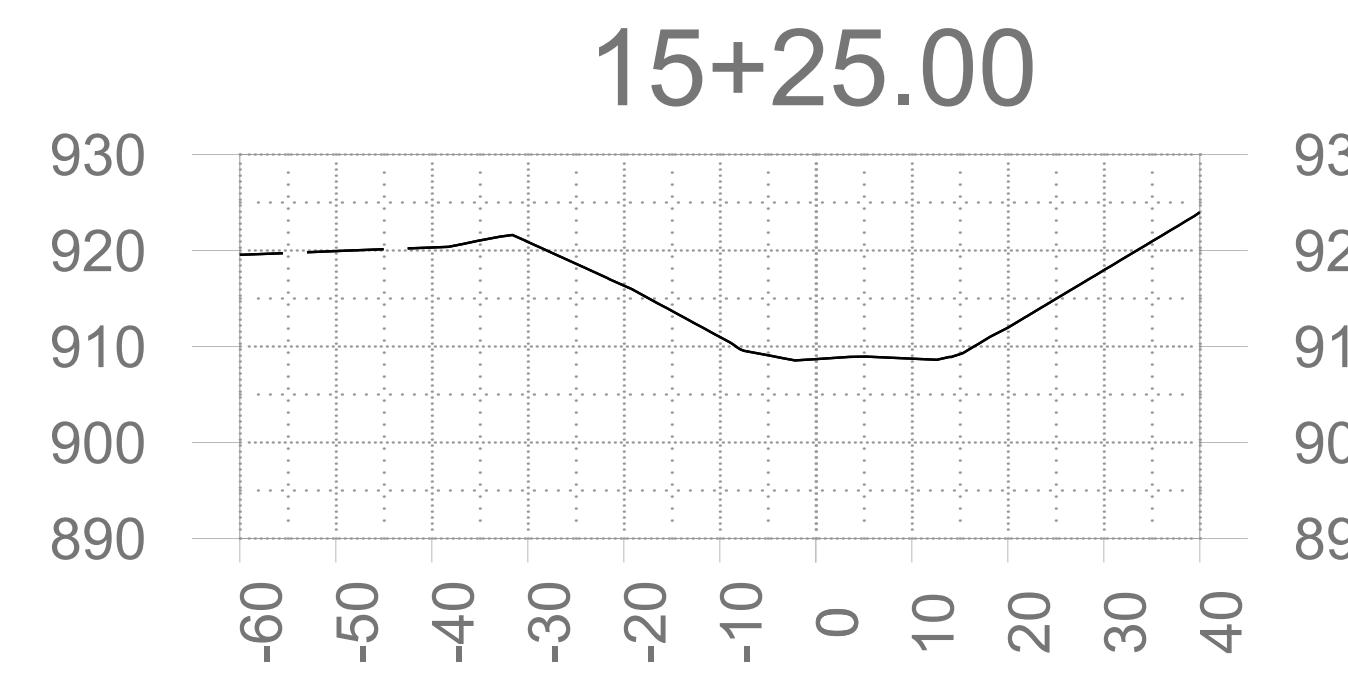
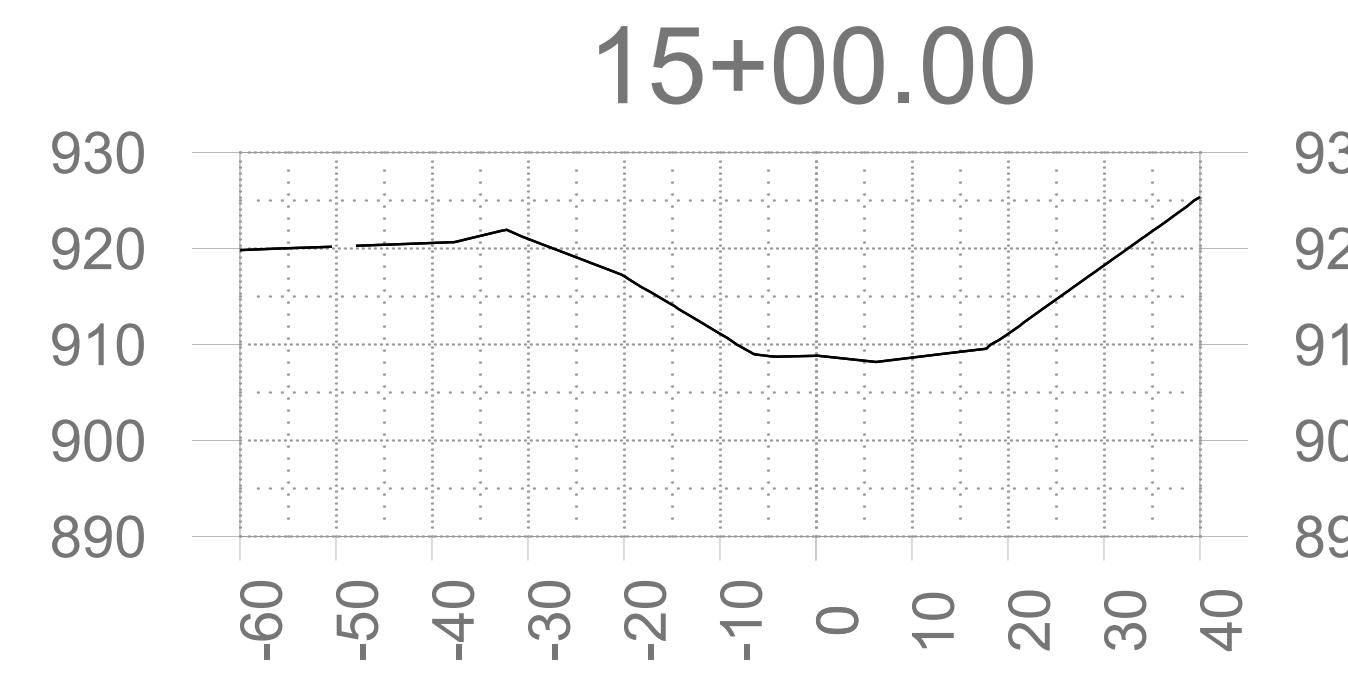
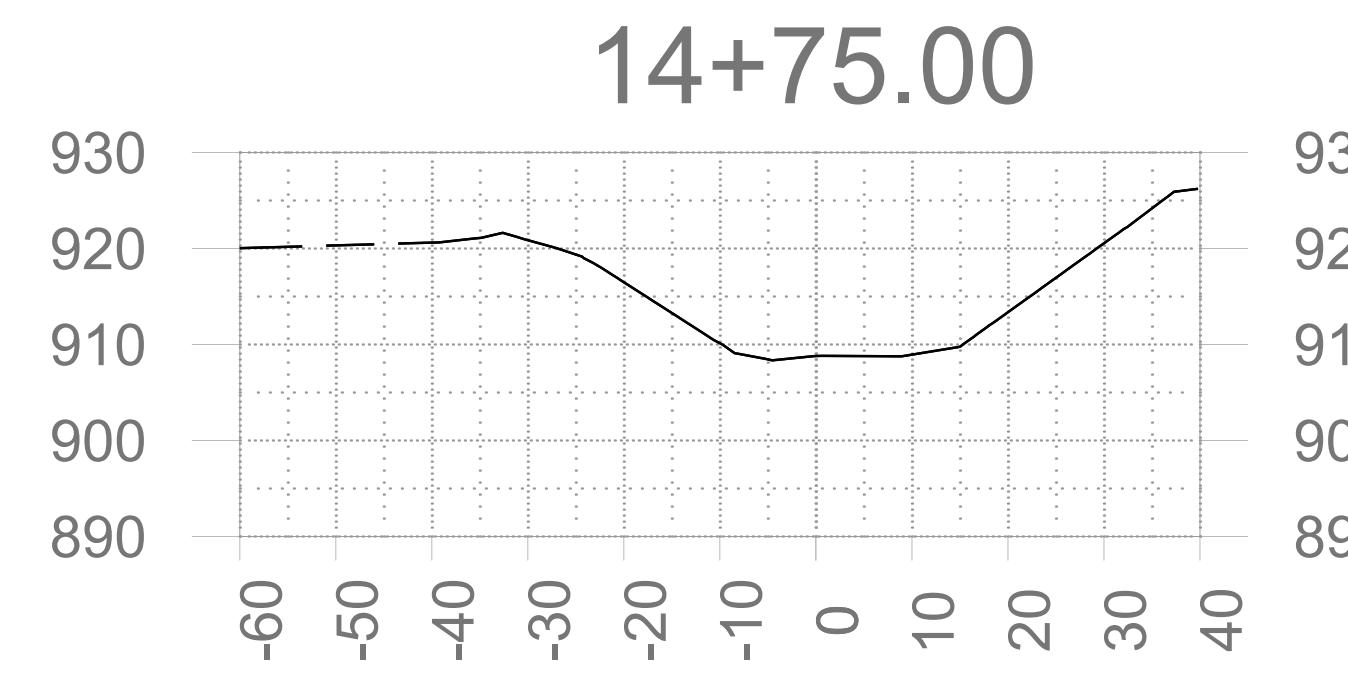
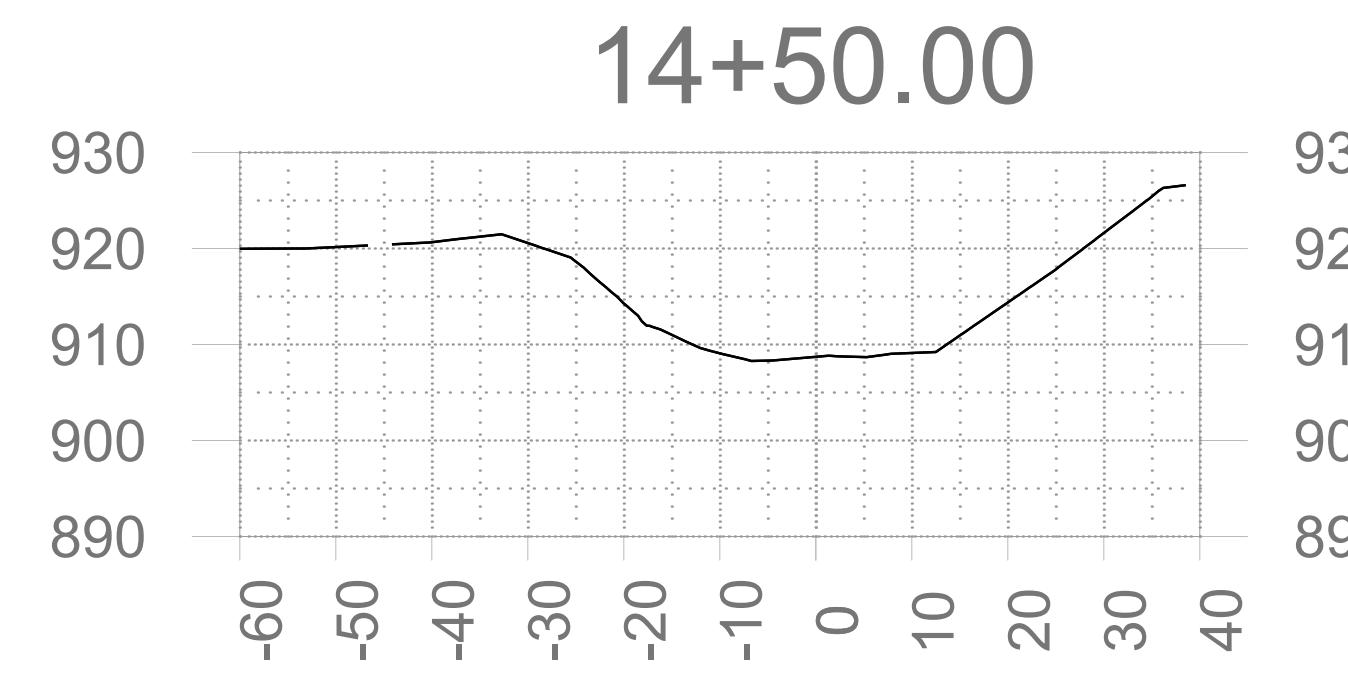
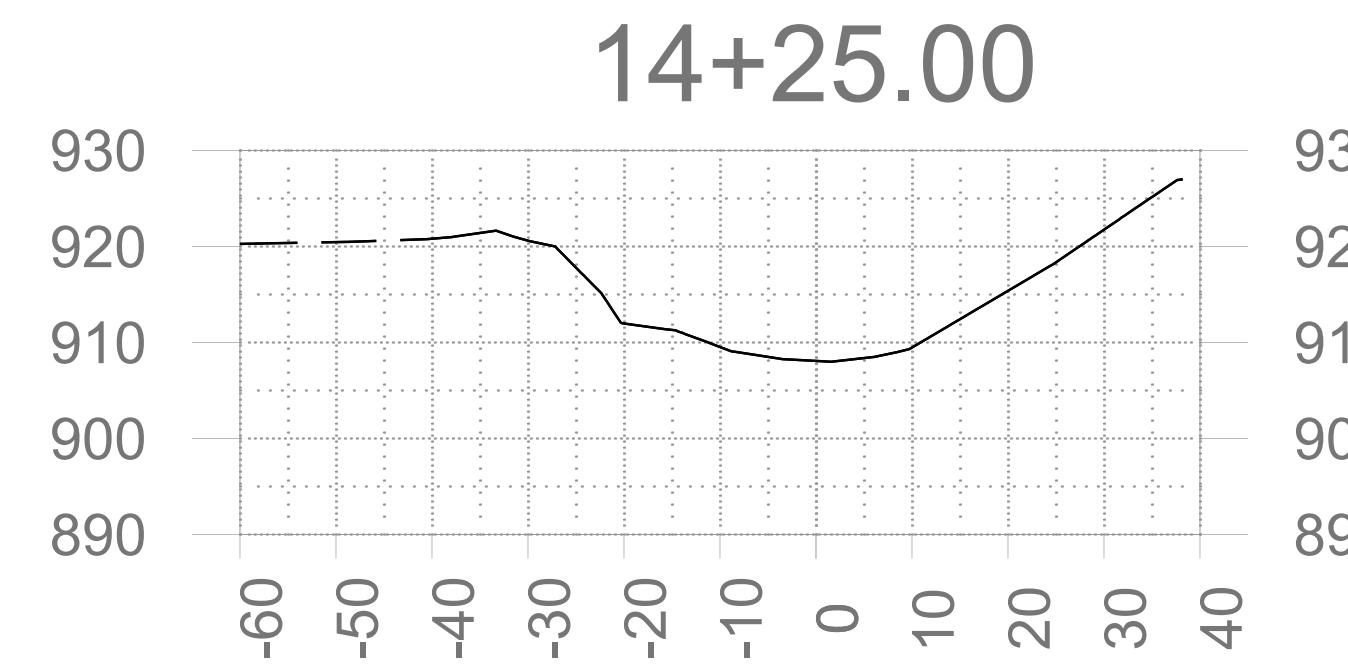
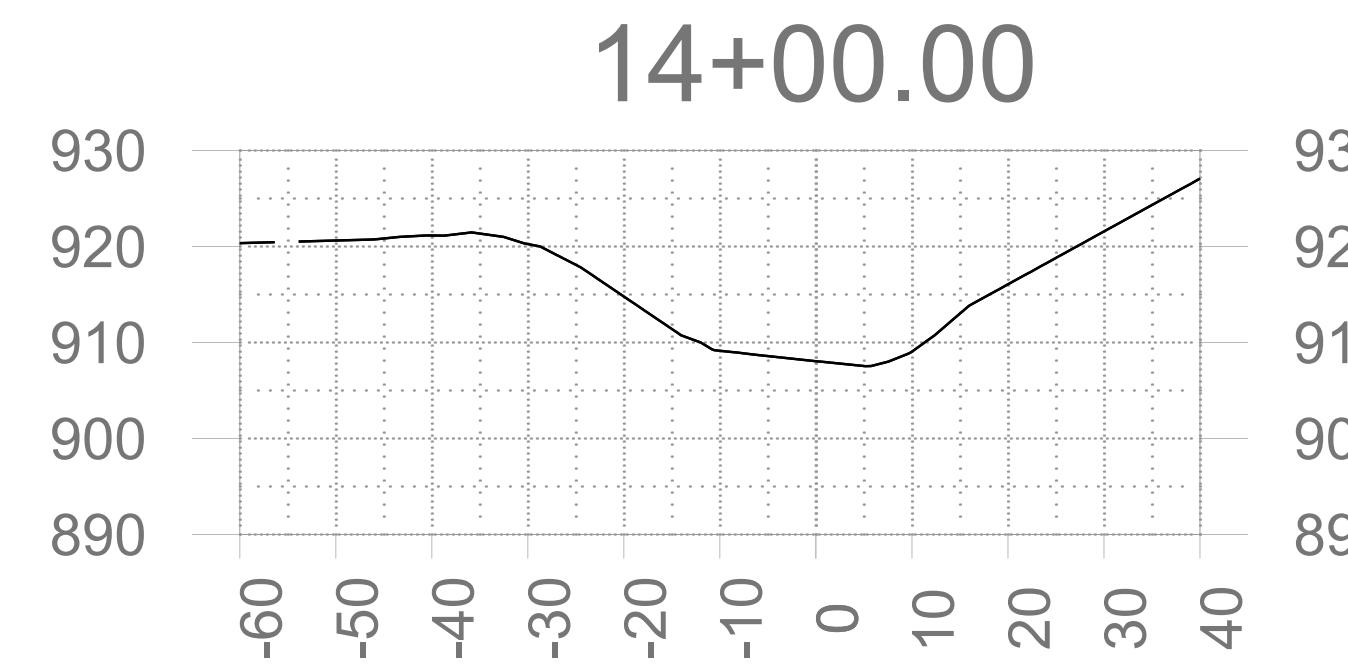
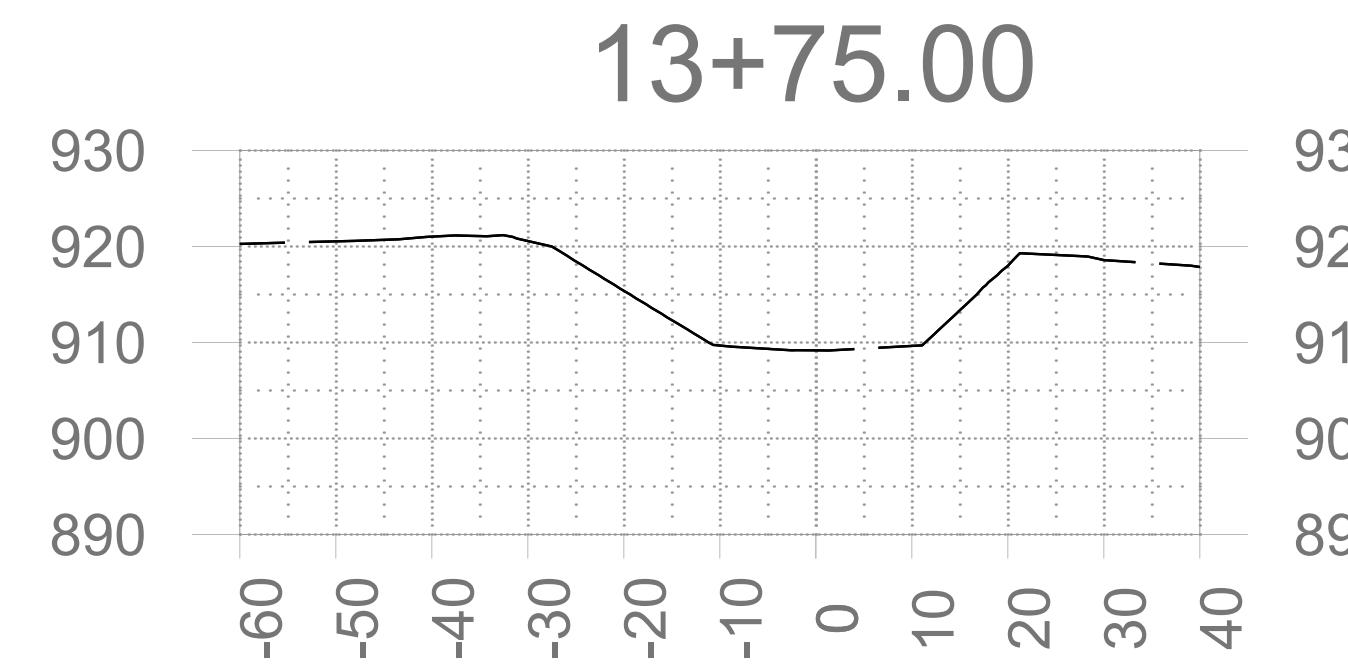
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**LEGEND**

--- EXISTING GROUND PROFILE ALONG ALIGNMENT  
 — PROPOSED PROFILES



**NOTE:**  
 1. ALL GRADED SLOPES  
 SHALL BE LINED WITH COIR  
 MATTING PER THE DETAIL

2. ALL STACKED ROCK  
 WALL WILL BE BLENDED TO  
 EXISTING GROUND AT TOP  
 OF ROCK TO LIMIT EROSION  
 AT TOP OF WALL

3. PLACE SINGLE COIR  
 WRAPPED LIFT ABOVE  
 STACKED ROCK WALL AS  
 REQUIRED

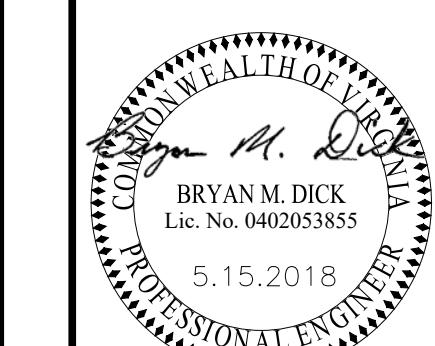
**ROANOKE COUNTY, VIRGINIA**  
**RESTORATION OF GLADE CREEK AT VINYARD PARK**  
**CIVIL**  
**PHASE II**  
**DETAILED CROSS SECTIONS**  
**STA 13+00 TO STA 15+75**

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				RNC16684	05-15-2018			

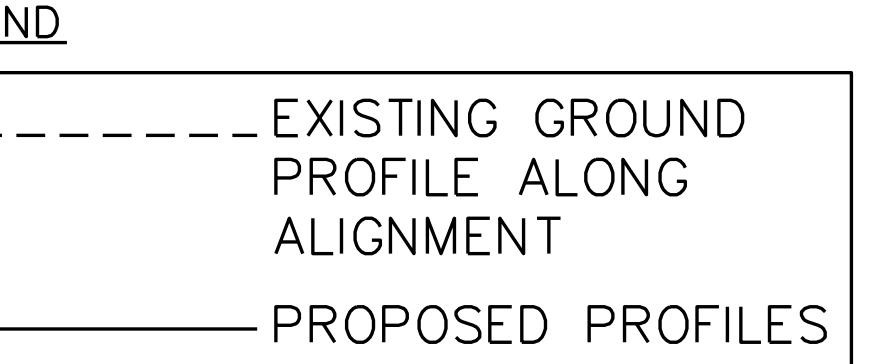
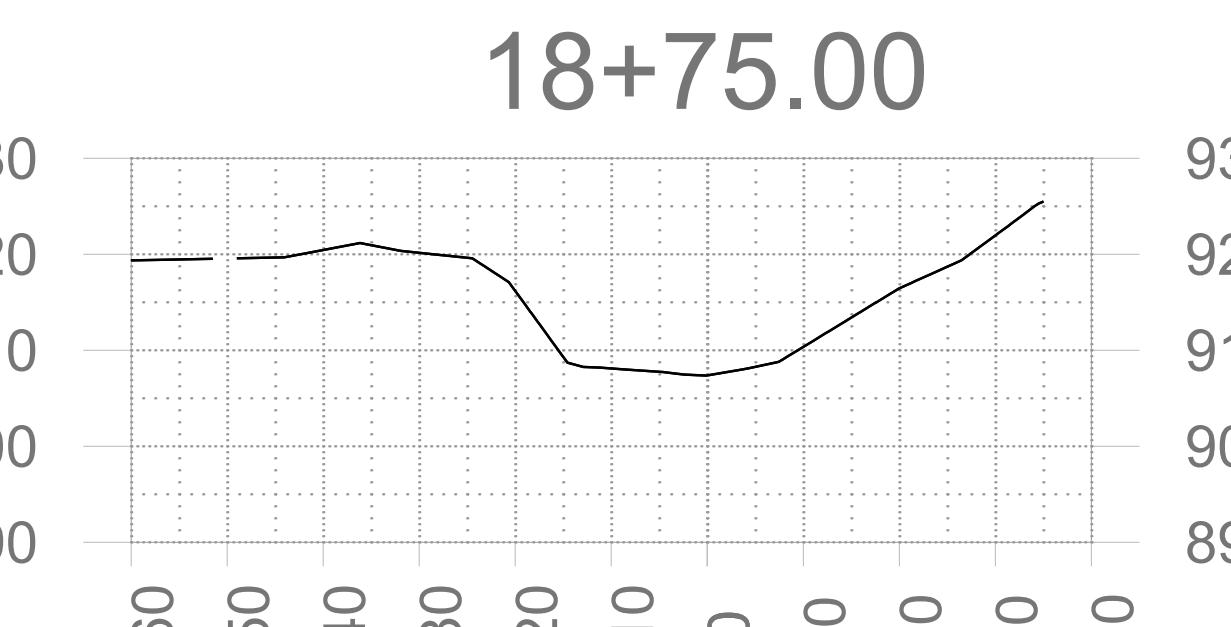
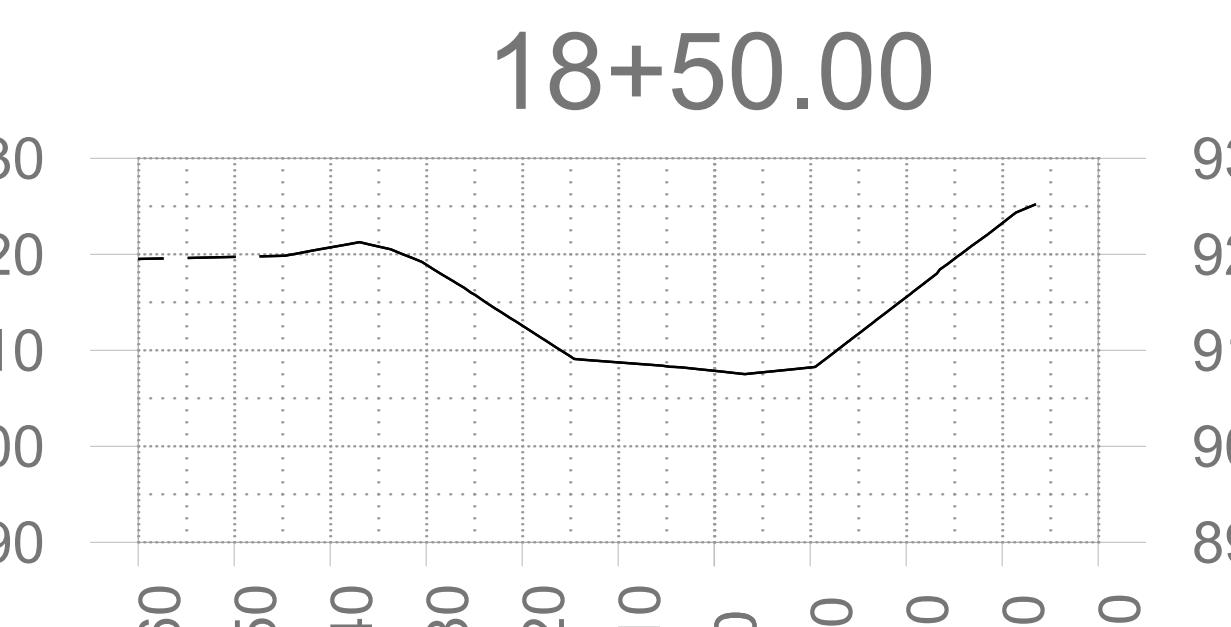
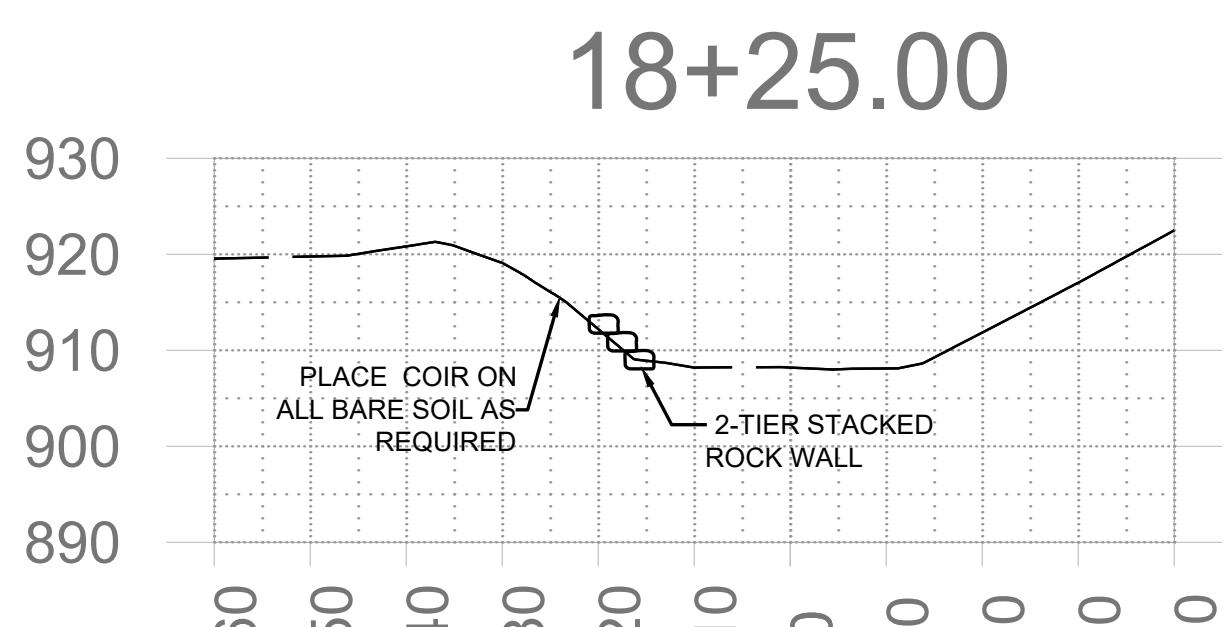
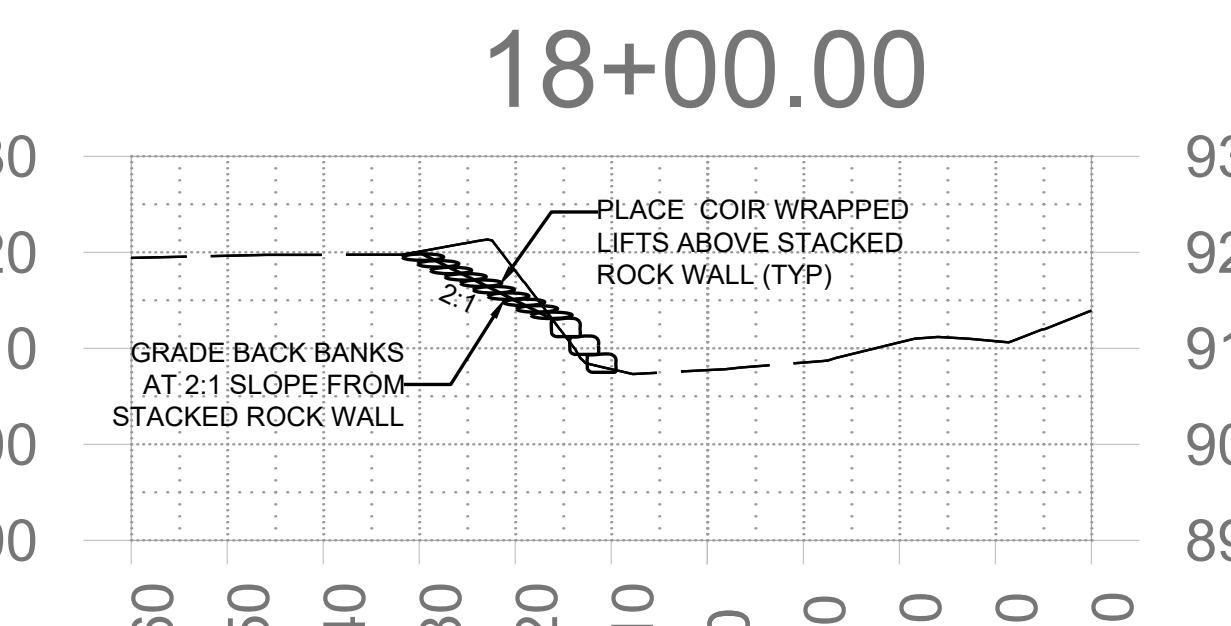
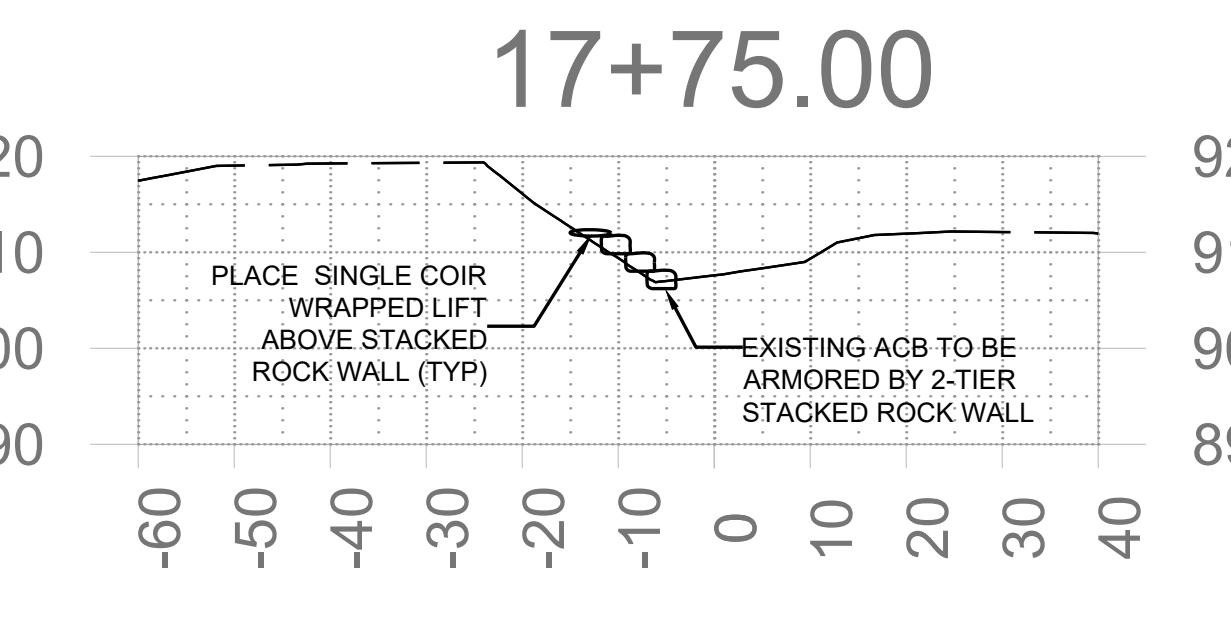
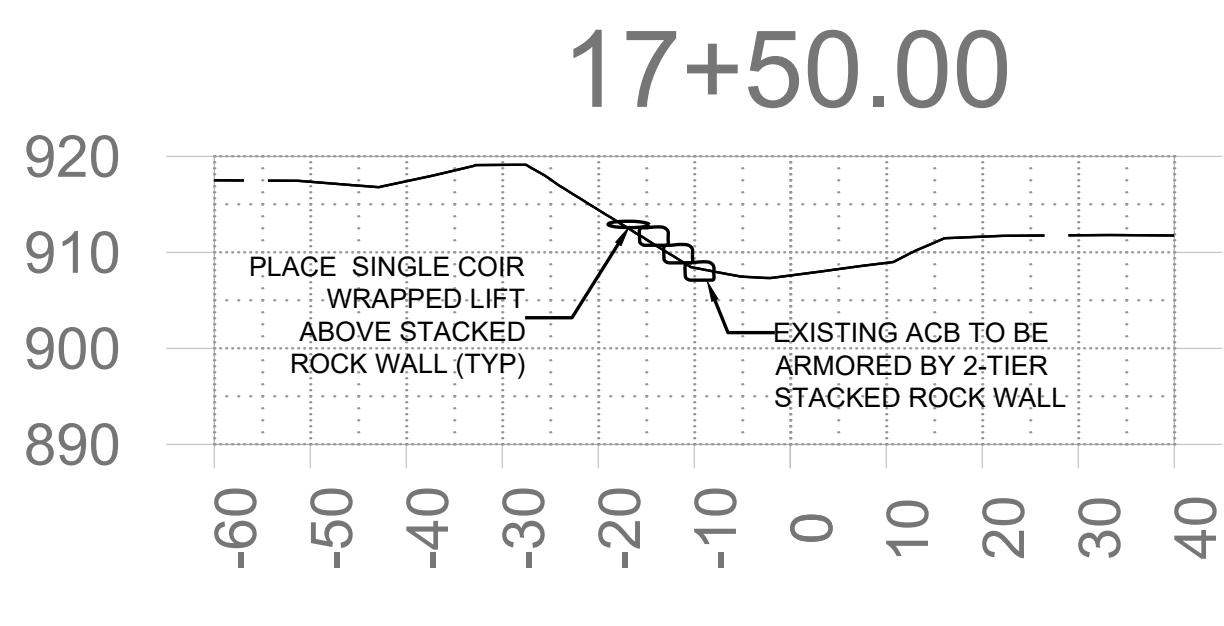
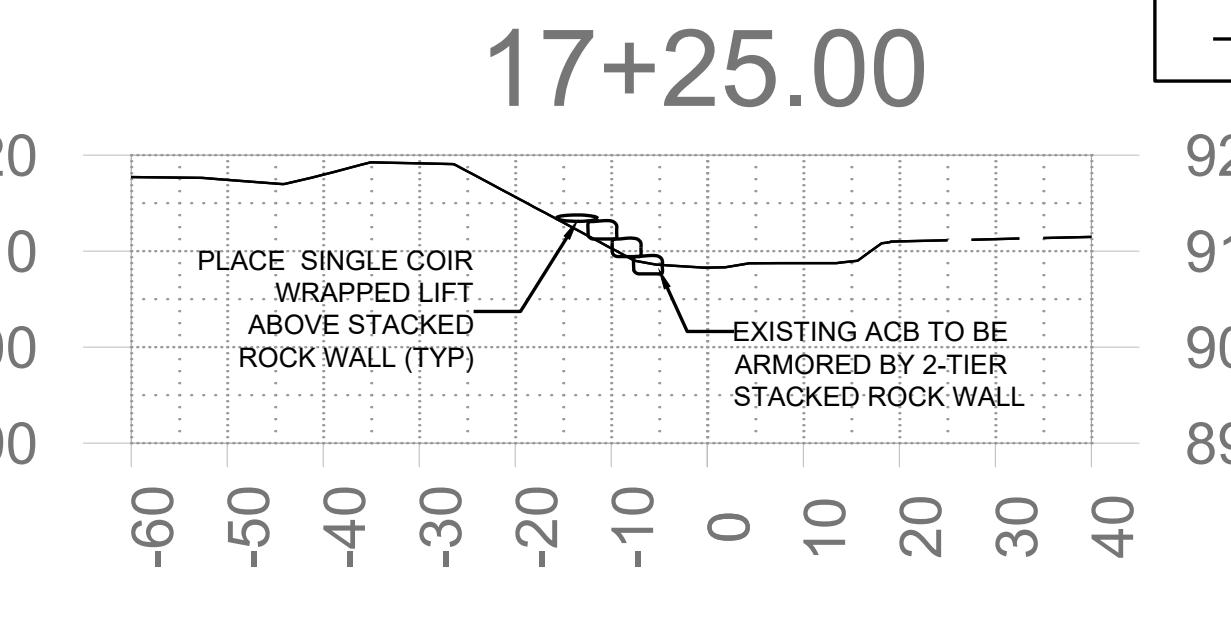
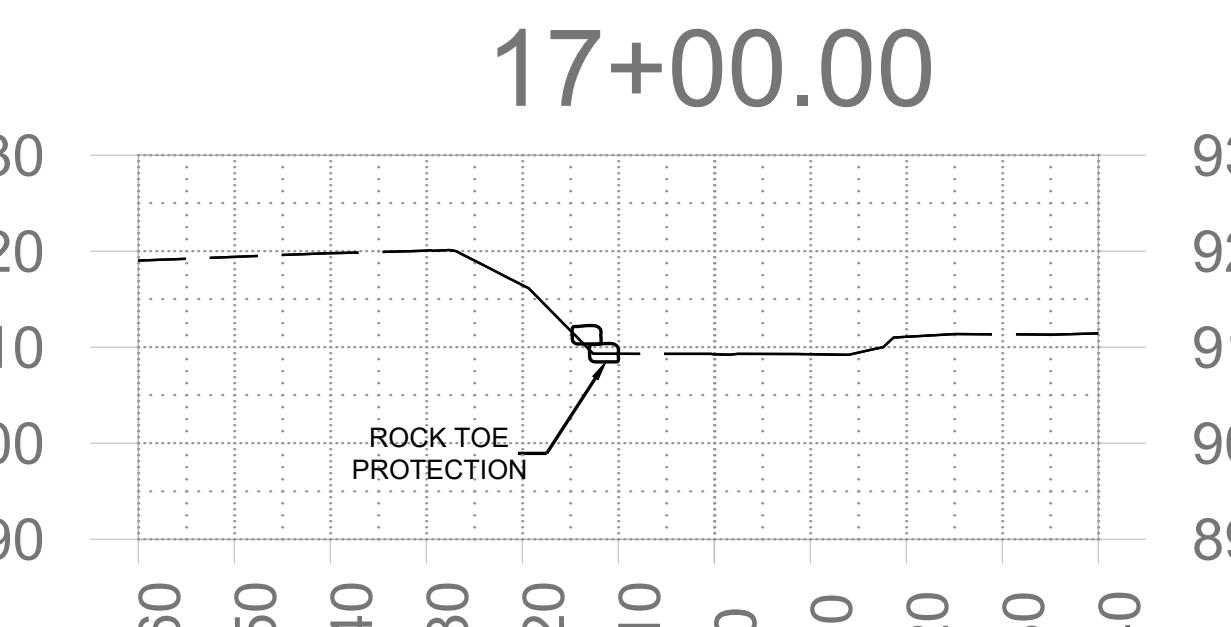
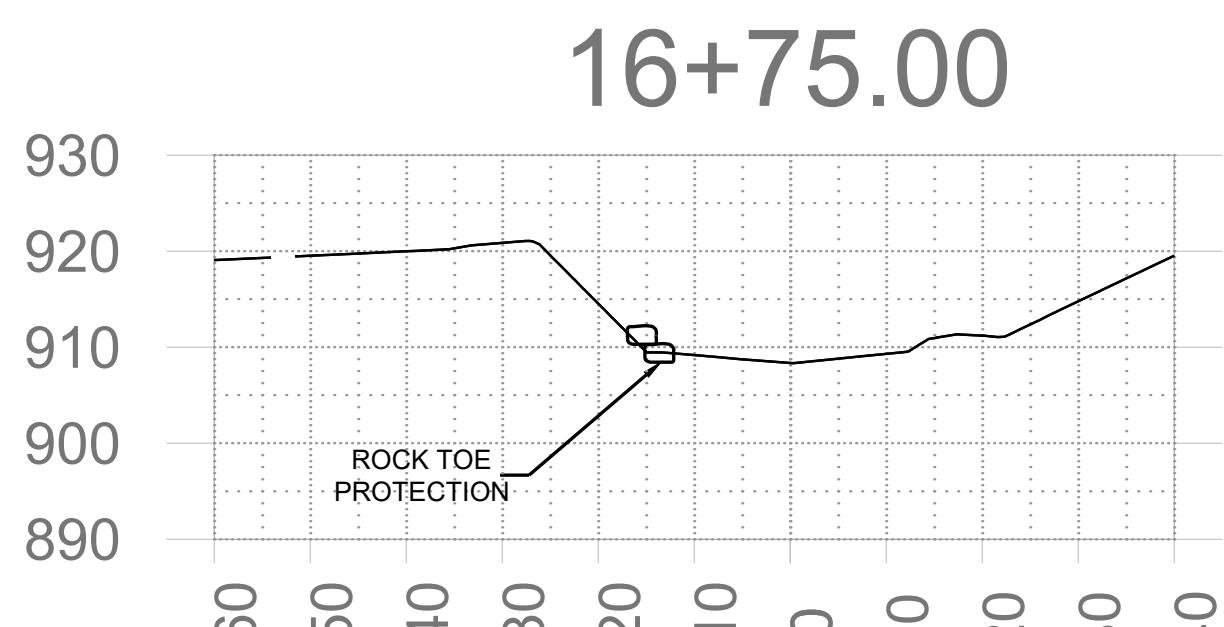
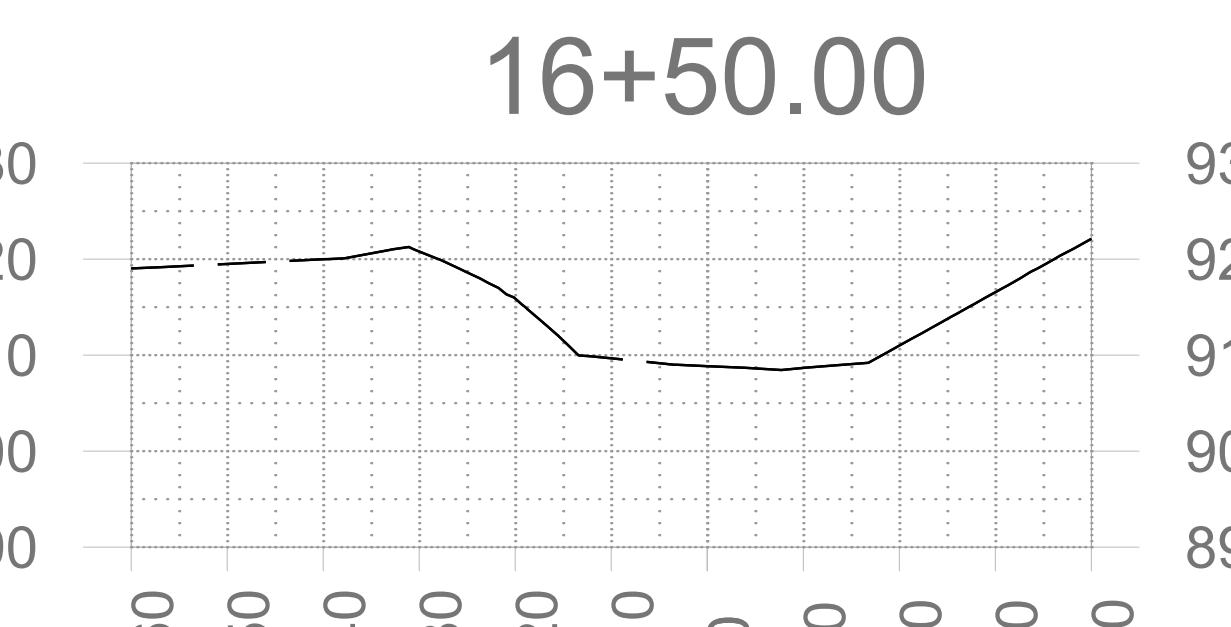
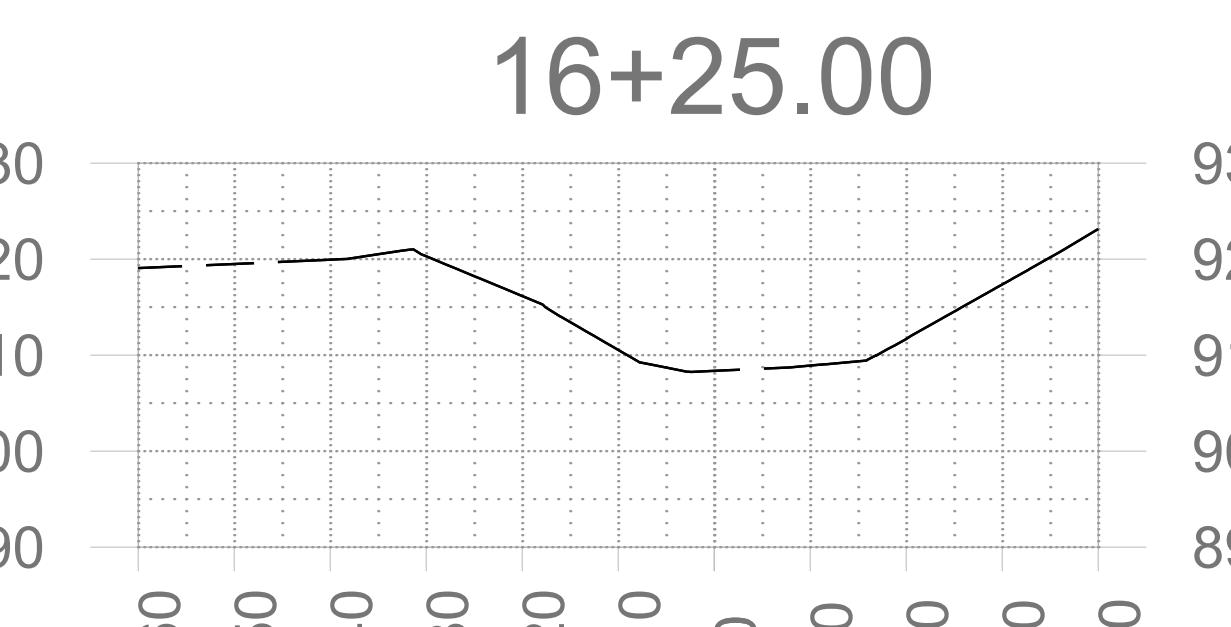
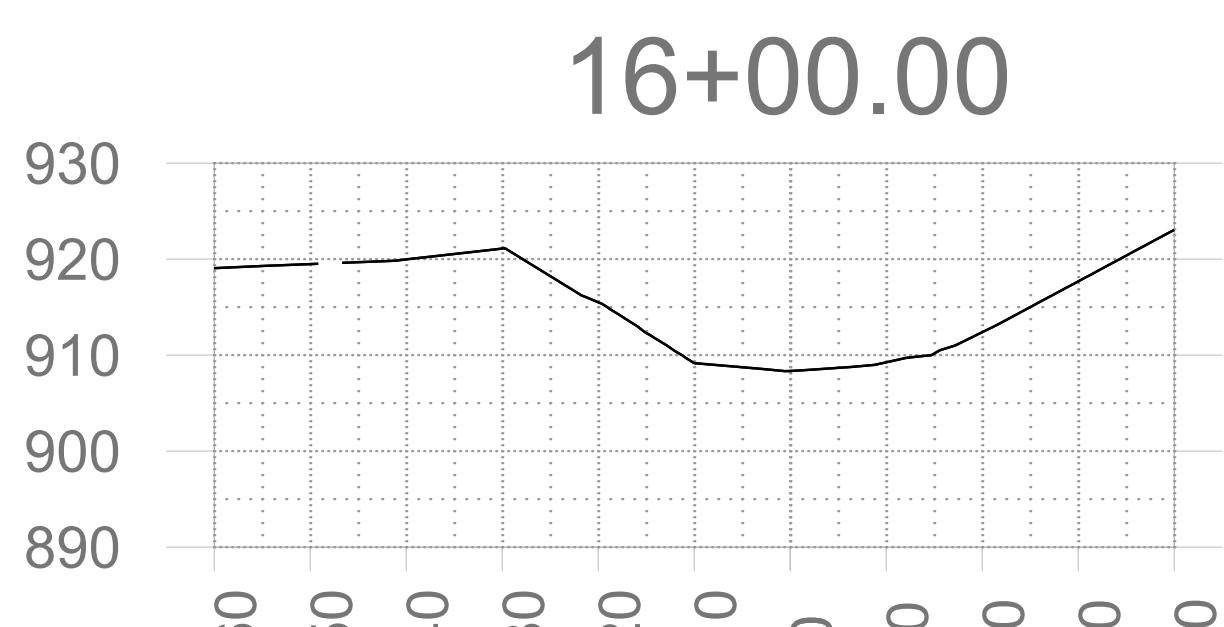
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 Web: www.freeze-nichols.com



**NOTE:**  
 1. ALL GRADED SLOPES  
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 MATTING PER THE DETAIL

2. ALL STACKED ROCK  
 WALL WILL BE BLENDED TO  
 EXISTING GROUND AT TOP  
 OF ROCK TO LIMIT EROSION  
 AT TOP OF WALL

3. PLACE SINGLE COIR  
 WRAPPED LIFT ABOVE  
 STACKED ROCK WALL AS  
 REQUIRED

**ROANOKE COUNTY, VIRGINIA**  
**RESTORATION OF GLADE CREEK AT VINYARD PARK**  
**CIVIL**  
**PHASE II**  
**DETAILED CROSS SECTIONS**  
**STA 16+00 TO STA 18+75**

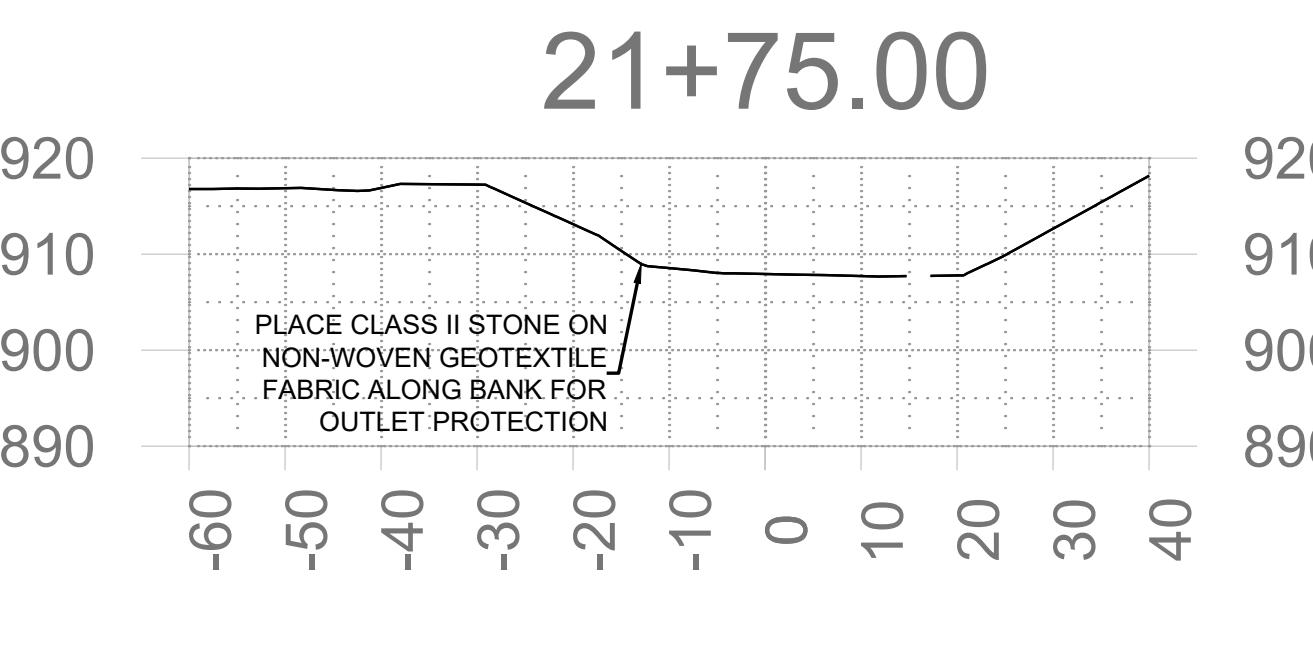
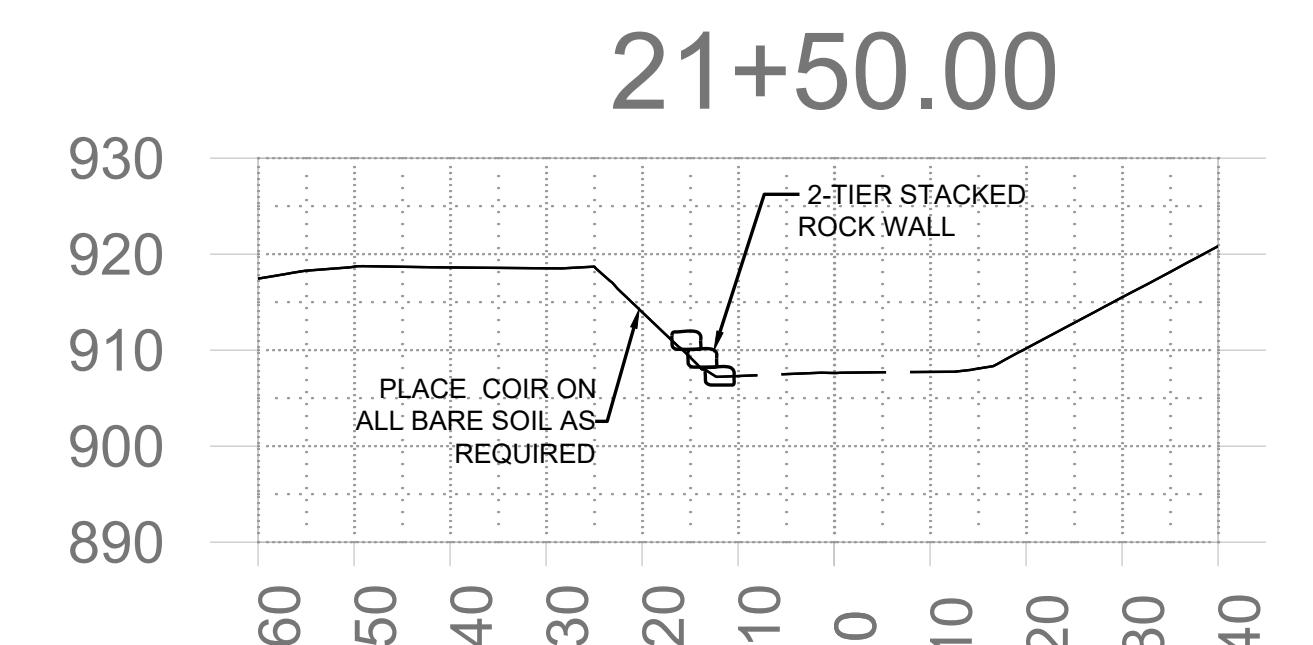
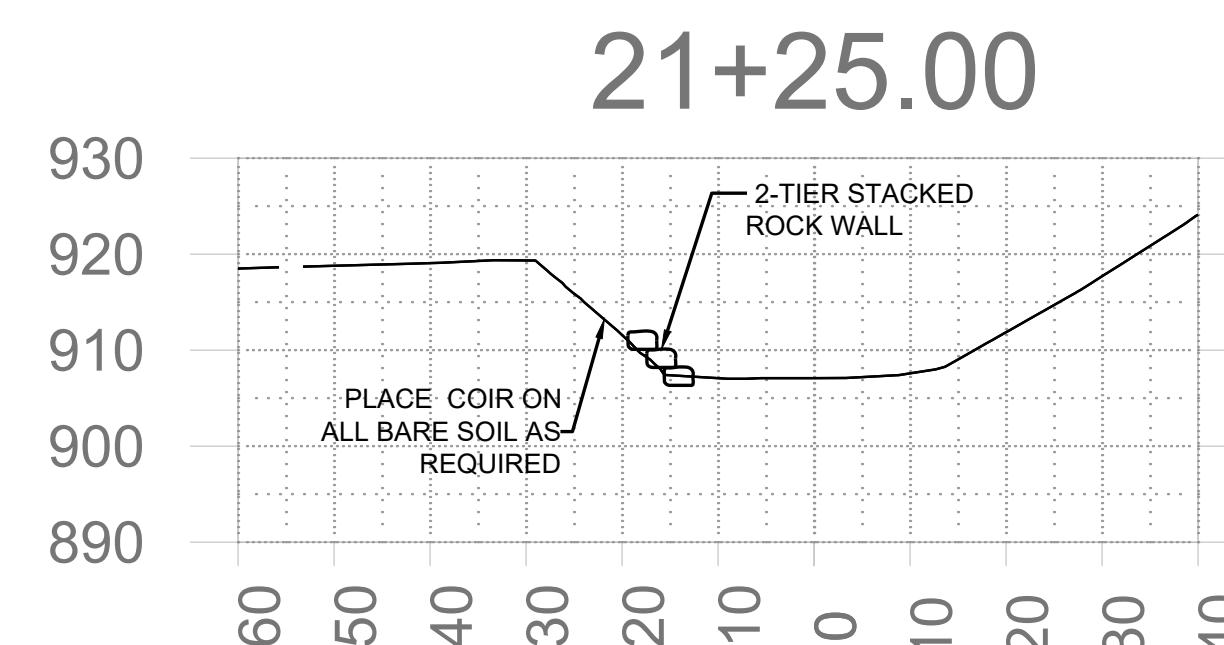
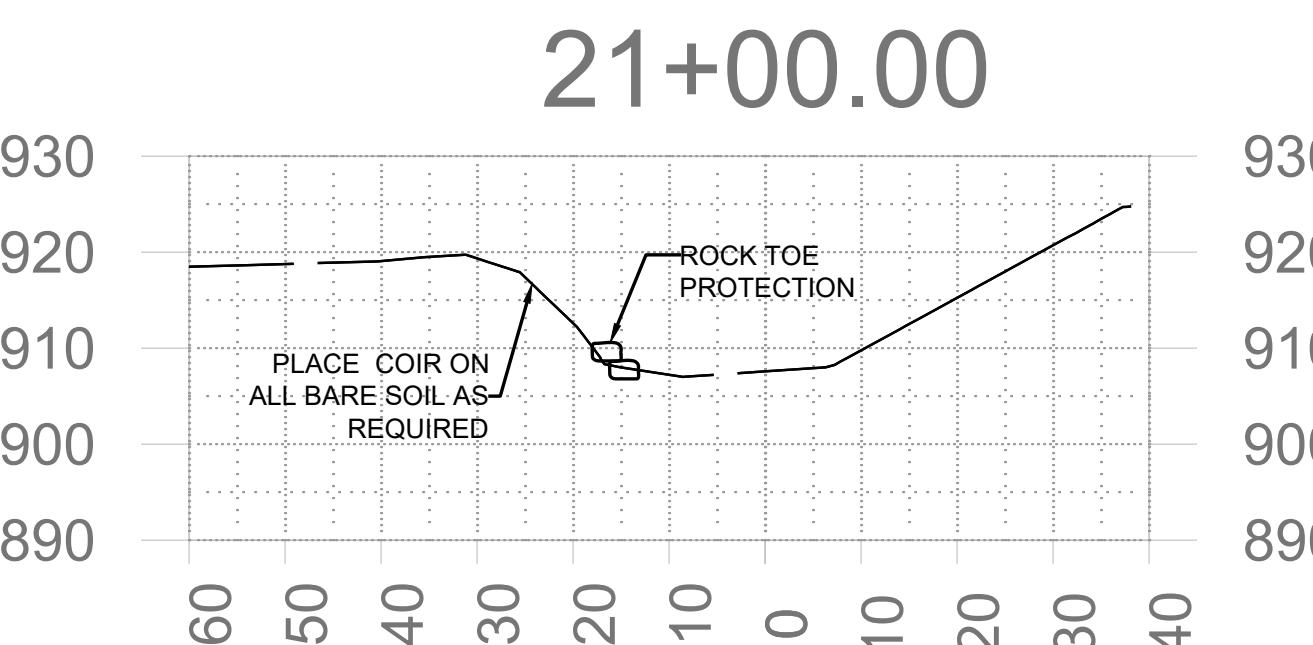
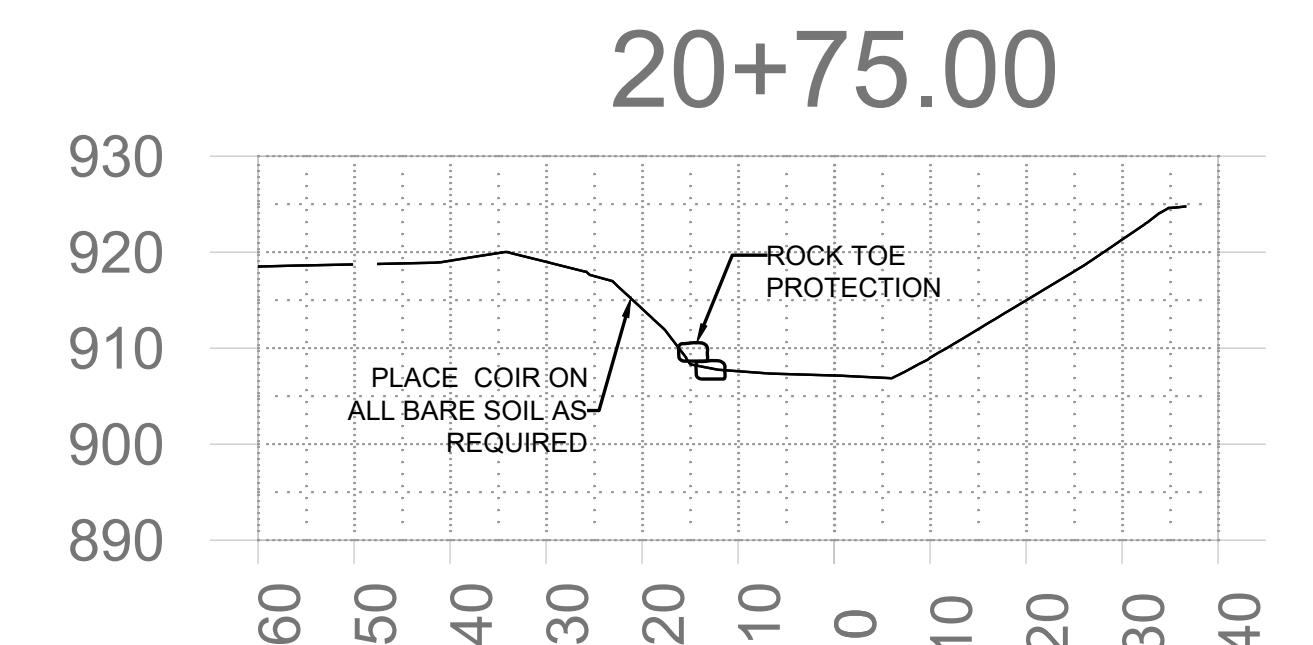
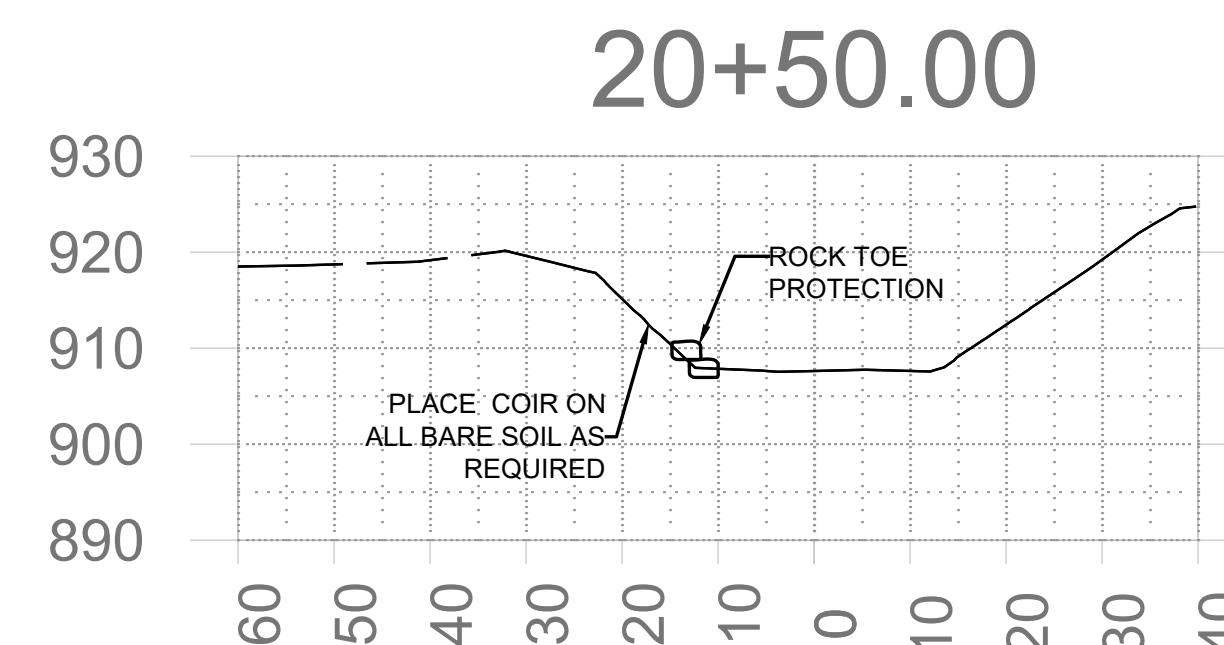
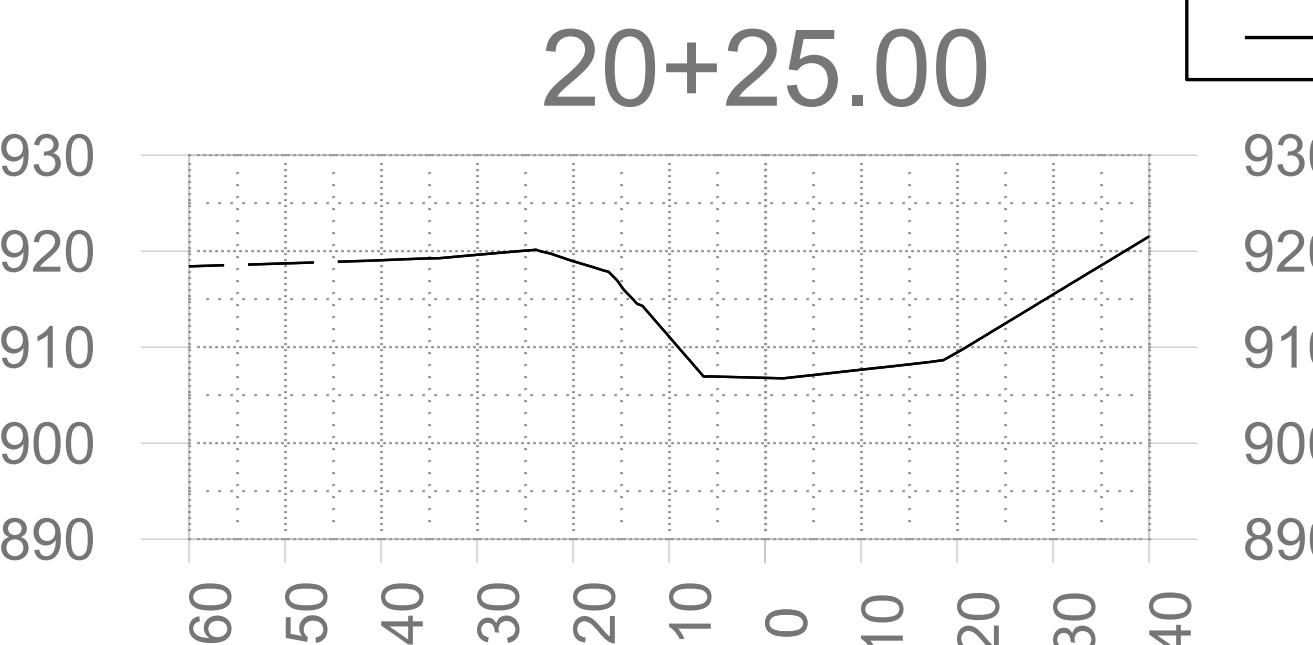
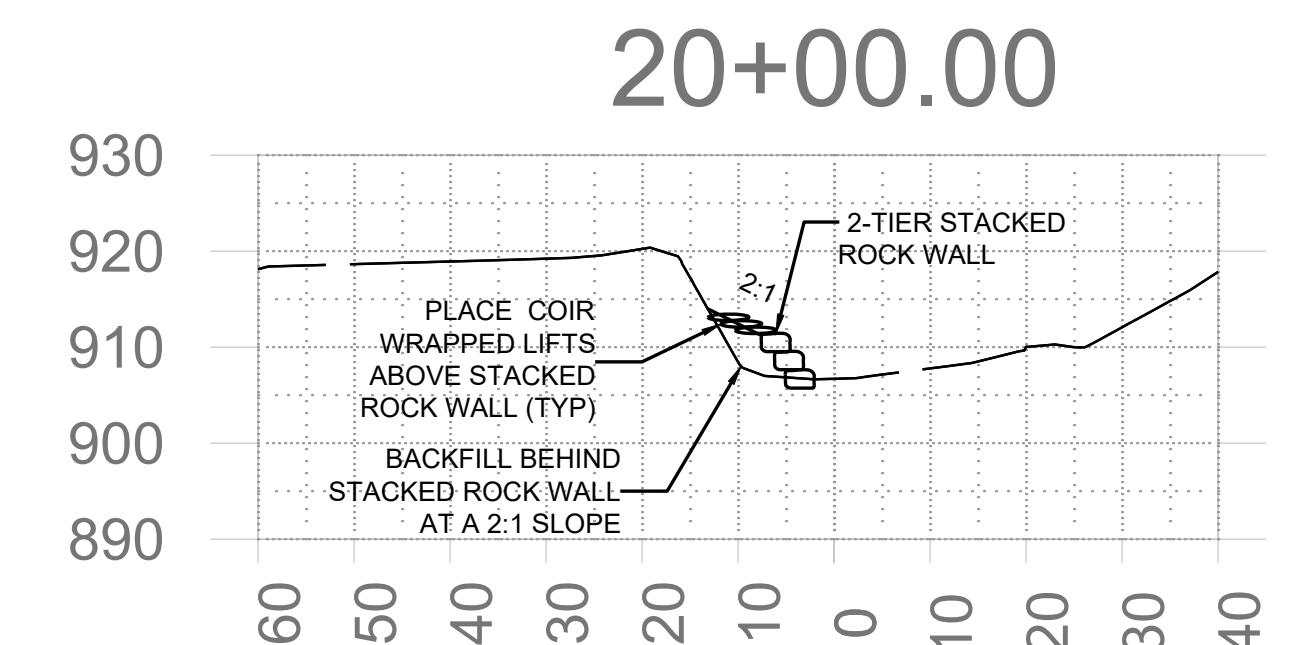
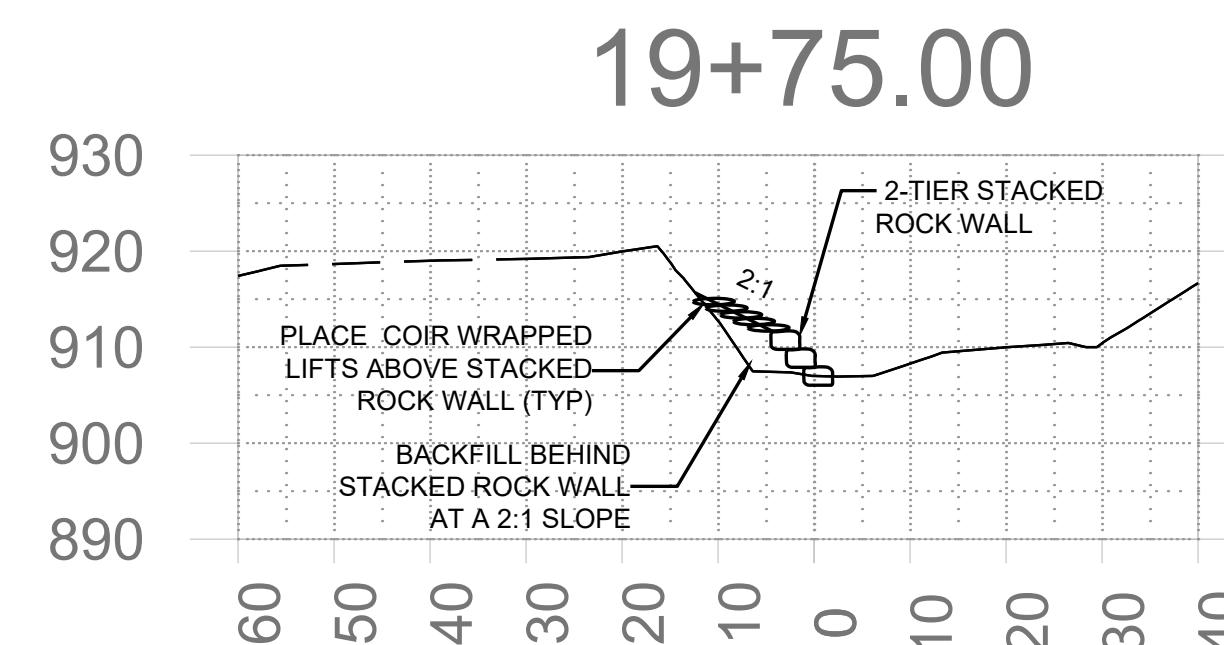
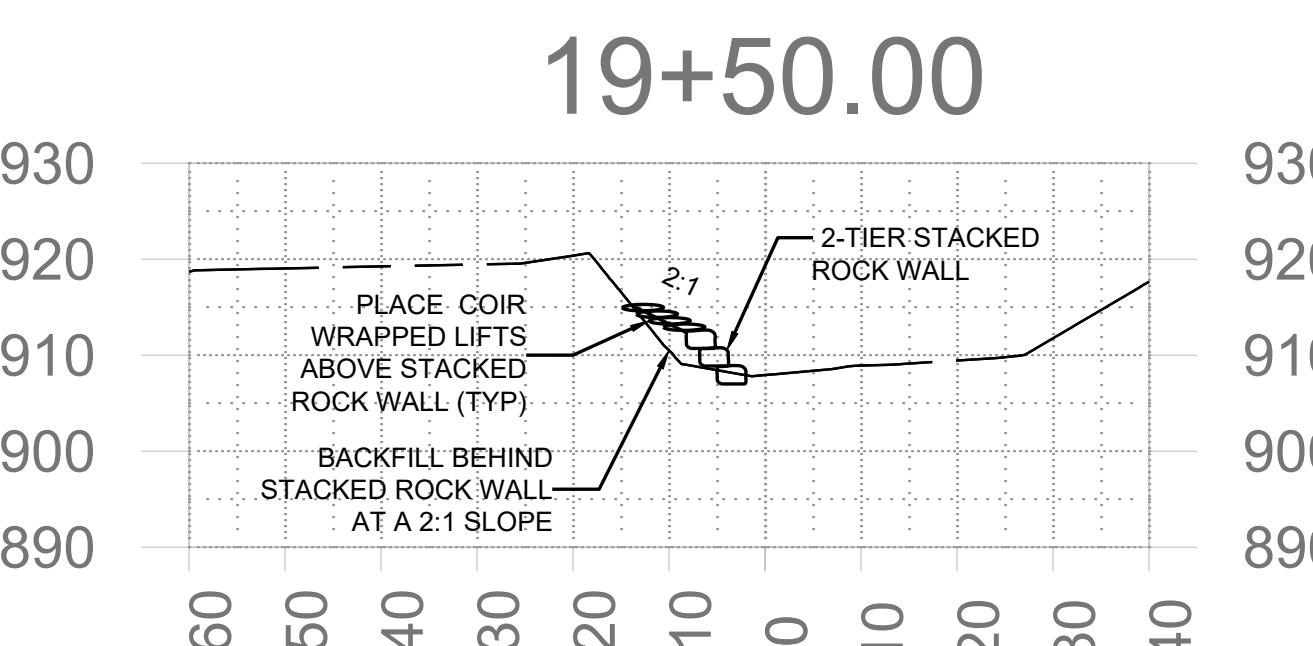
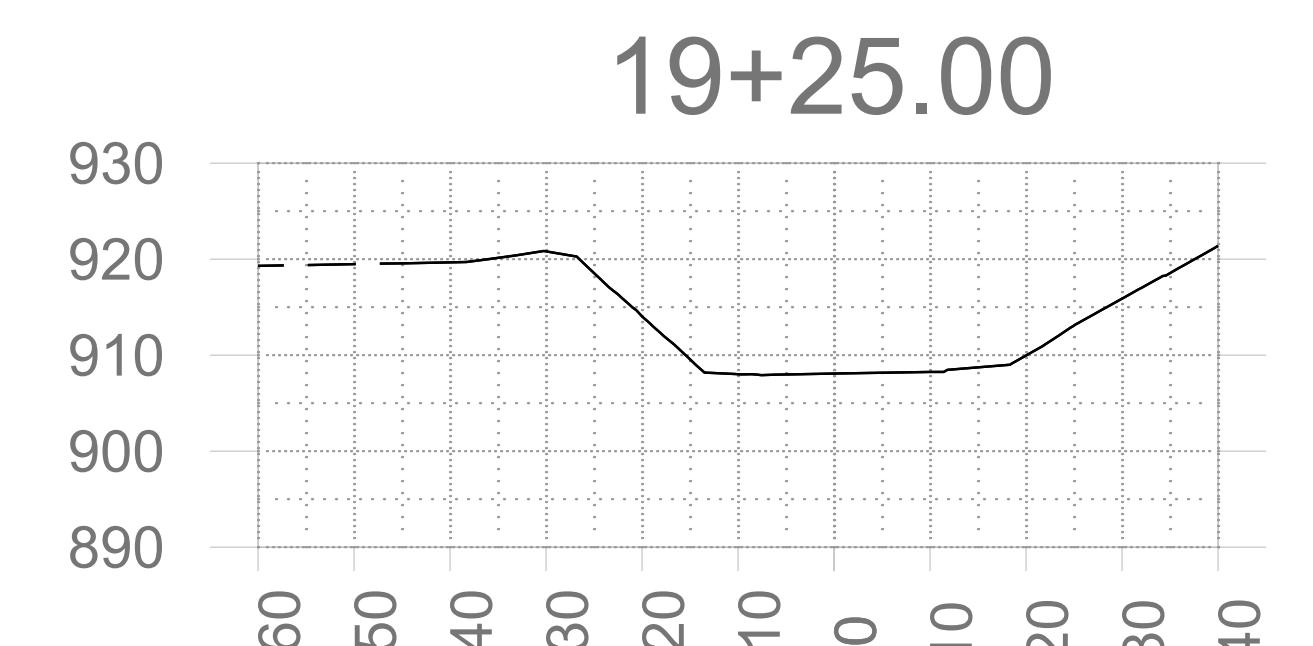
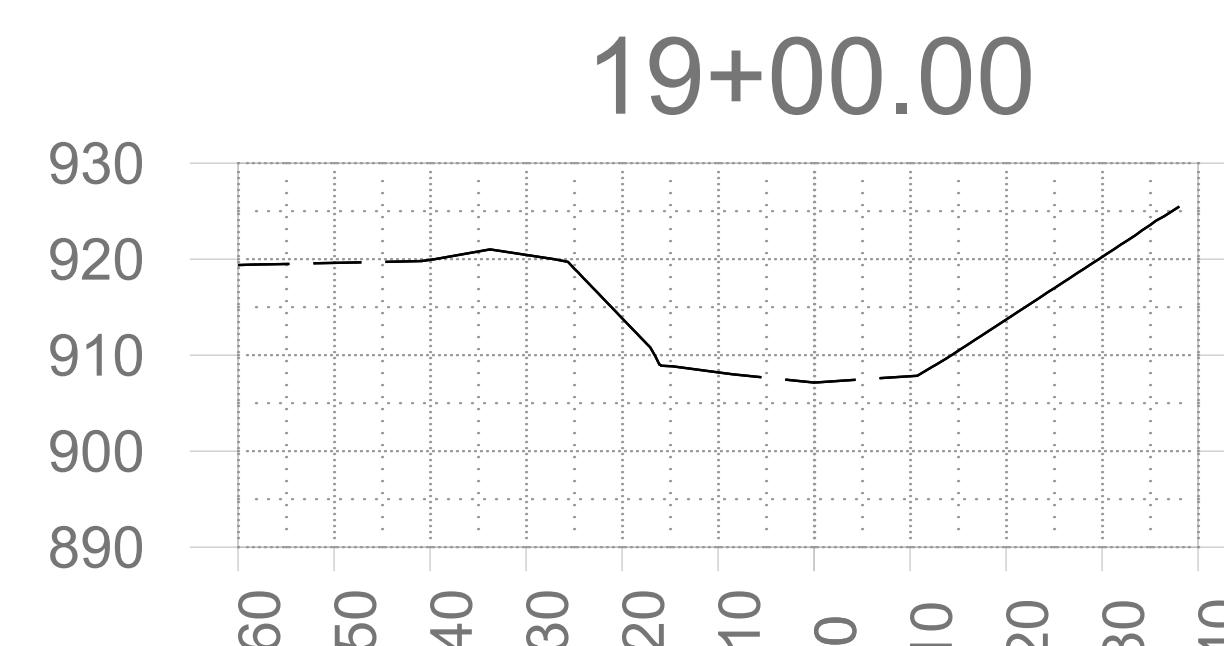
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				DATE 05-15-2018
				DESIGNED BY
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				REvised
				FILE NAME
				CS-1 DETAILED CROSS SECTIONS.dwg

ISSUED FOR  
 CONSTRUCTION

FINAL PLAN SET



717 Green Valley Road  
 Suite 200  
 Greensboro, North Carolina 27408  
 Phone: 336.666.6744  
 Web: www.freese.com



**LEGEND**

- EXISTING GROUND PROFILE ALONG ALIGNMENT
- PROPOSED PROFILES

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 AT TOP OF WALL

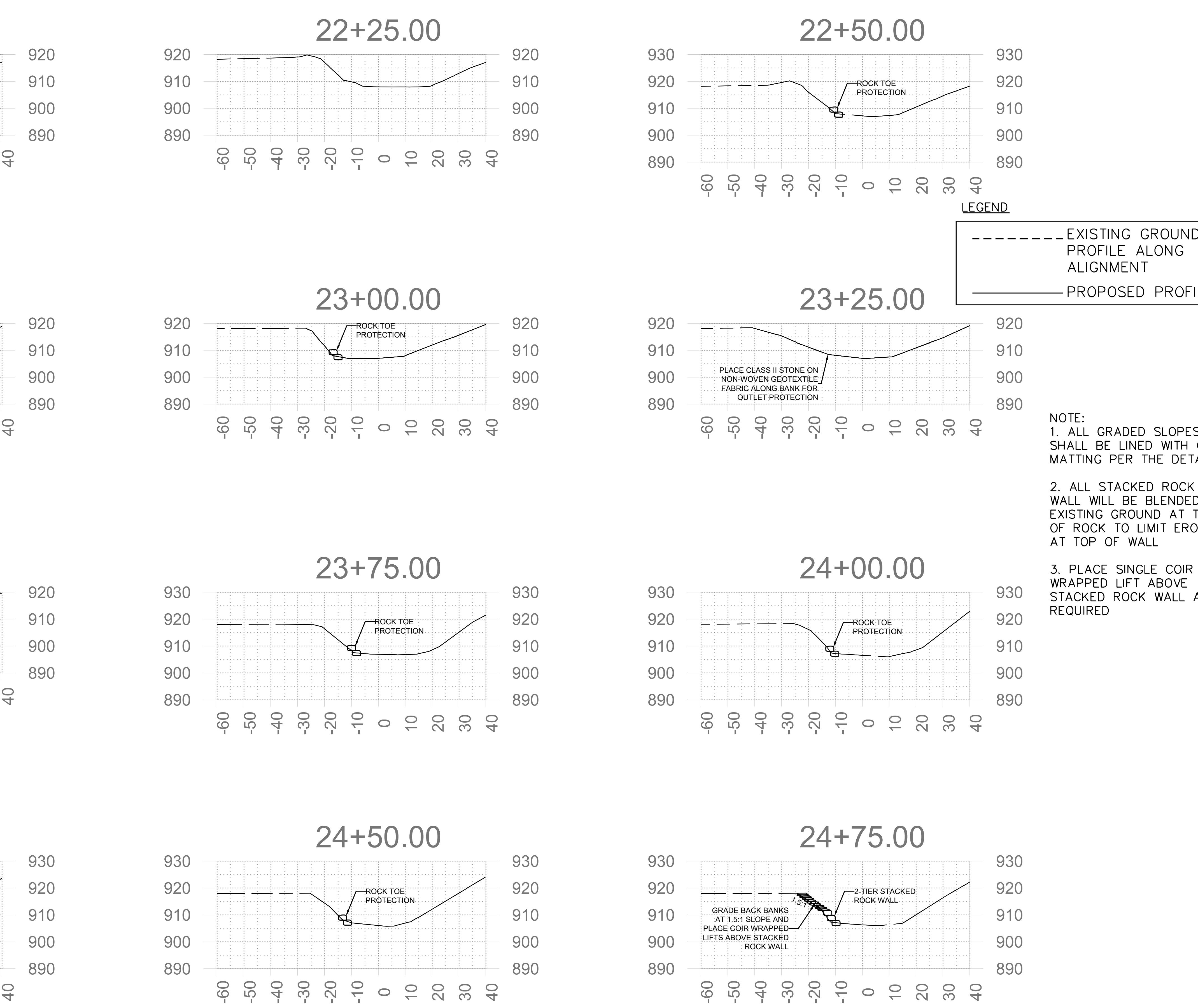
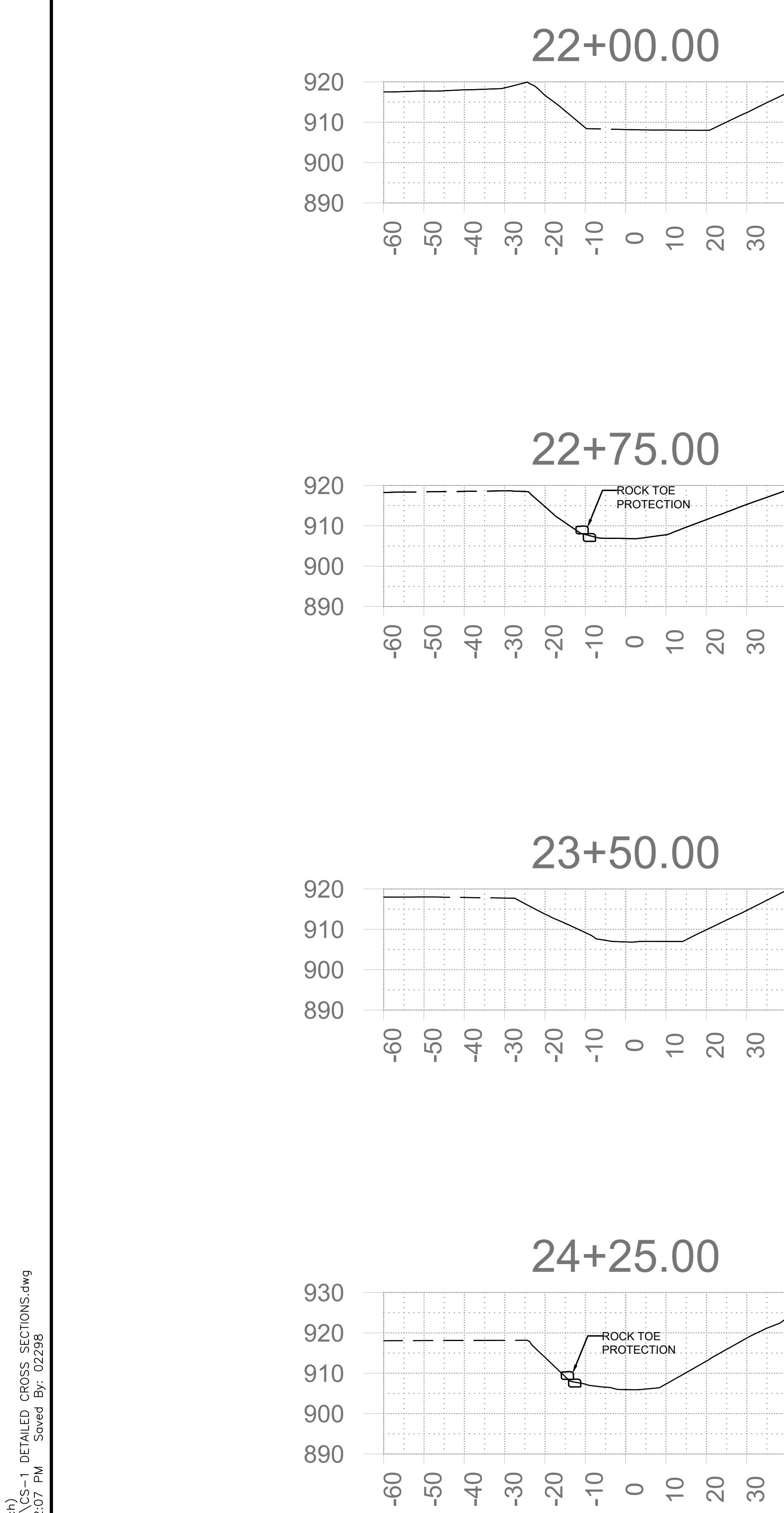
3. PLACE SINGLE COIR  
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**ROANOKE COUNTY, VIRGINIA**  
**RESTORATION OF GLADE CREEK AT VINYARD PARK**  
**CIVIL**  
**PHASE II**  
**DETAILED CROSS SECTIONS**  
**STA 19+00 TO STA 21+75**

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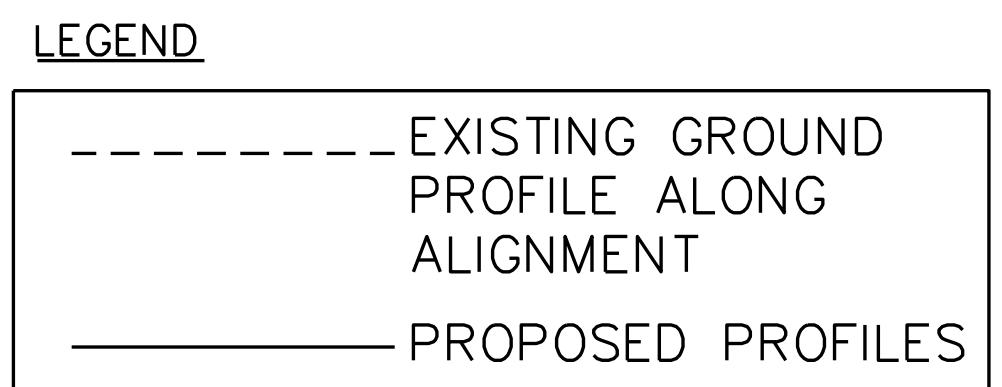
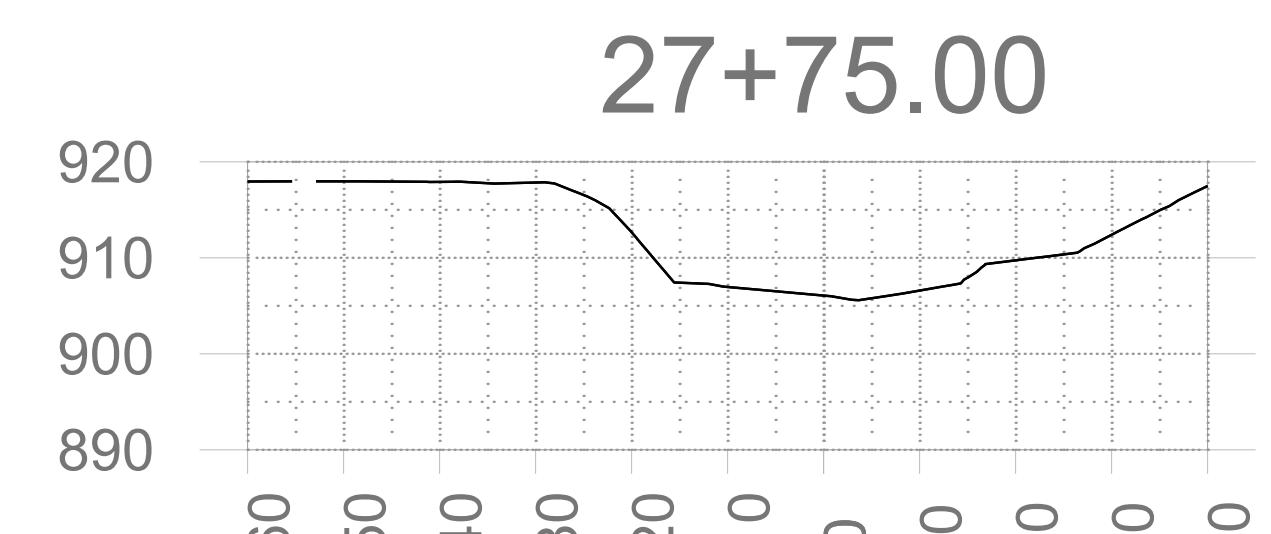
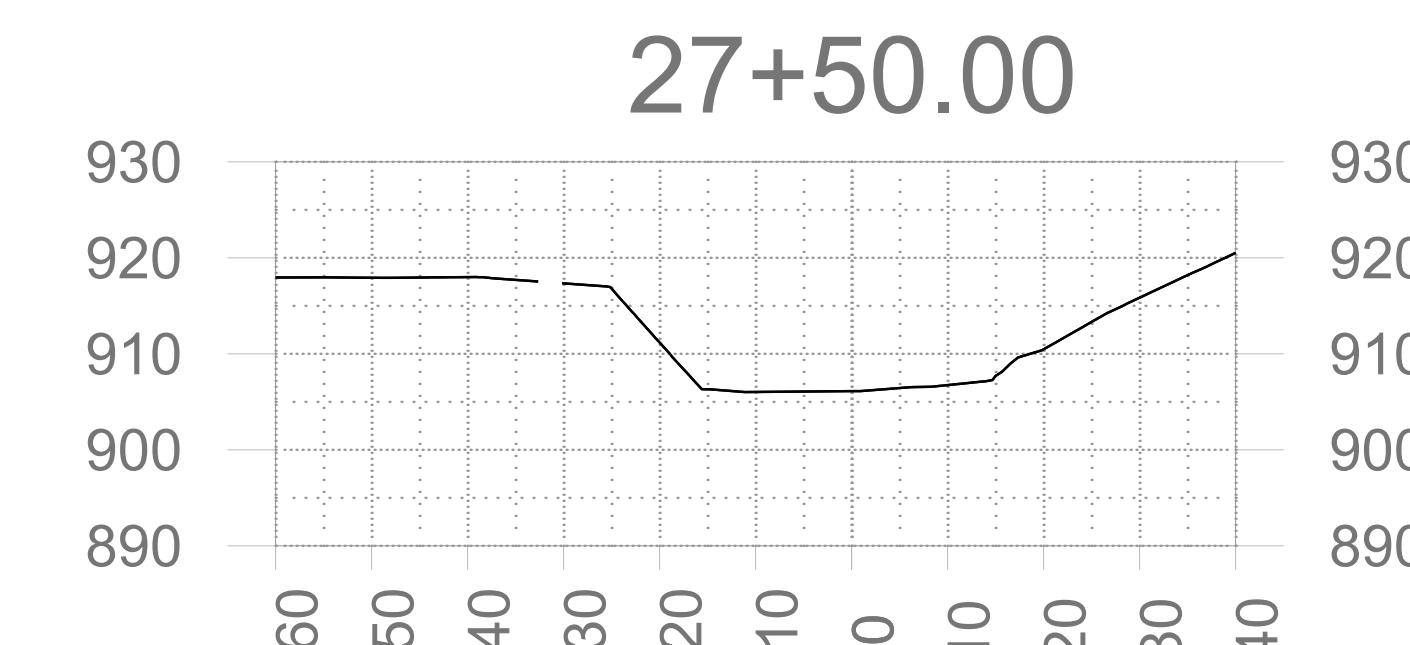
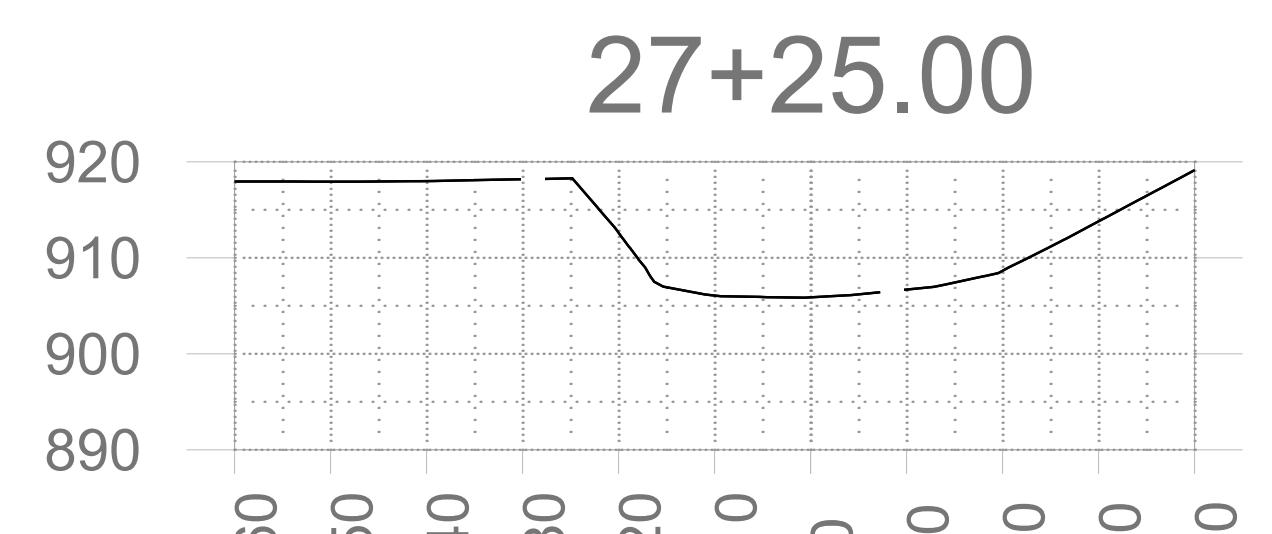
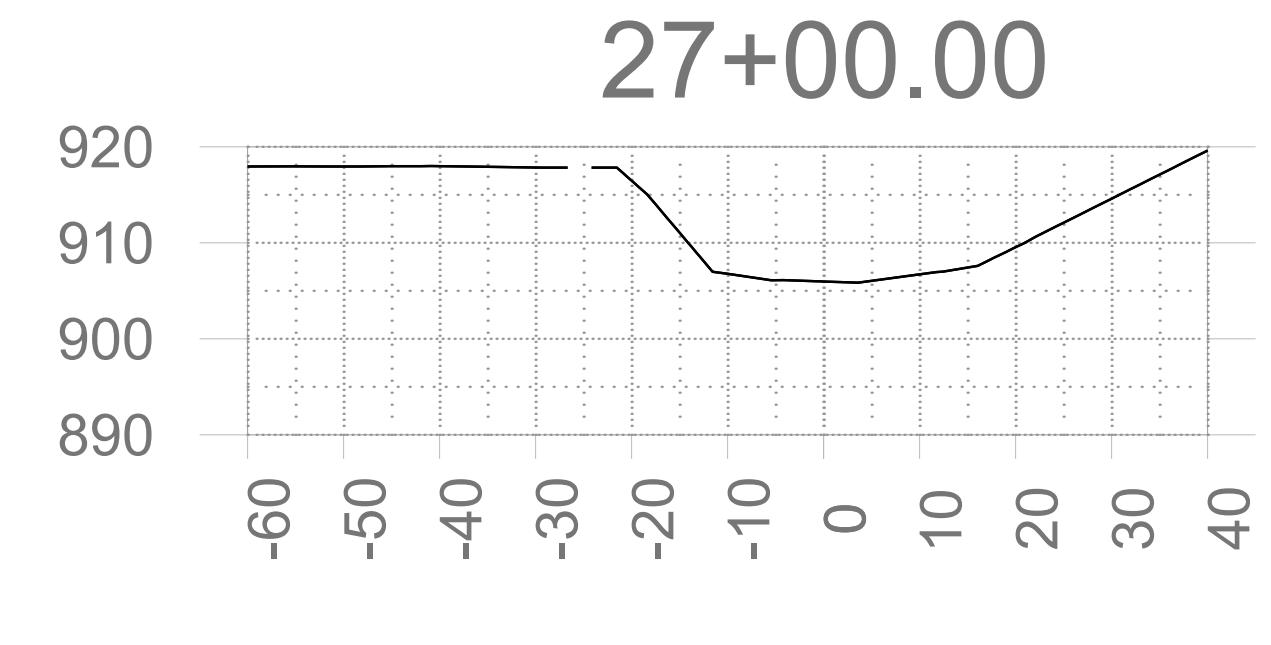
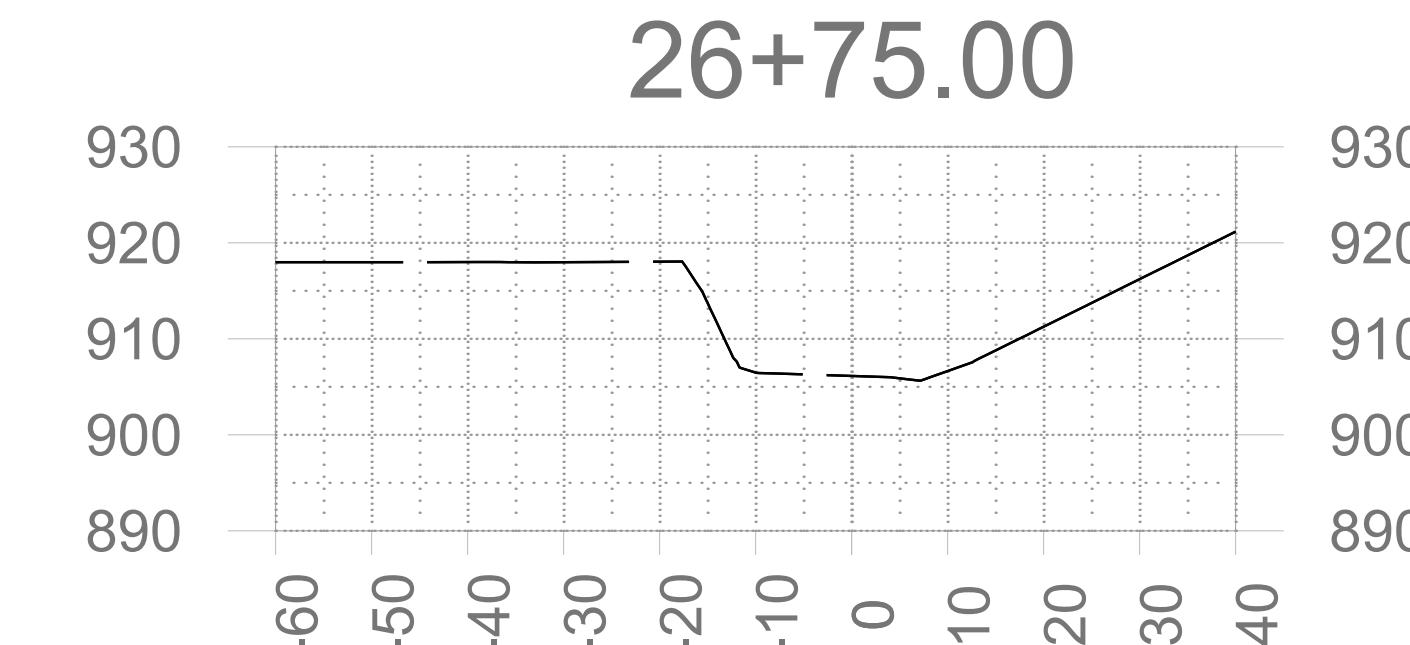
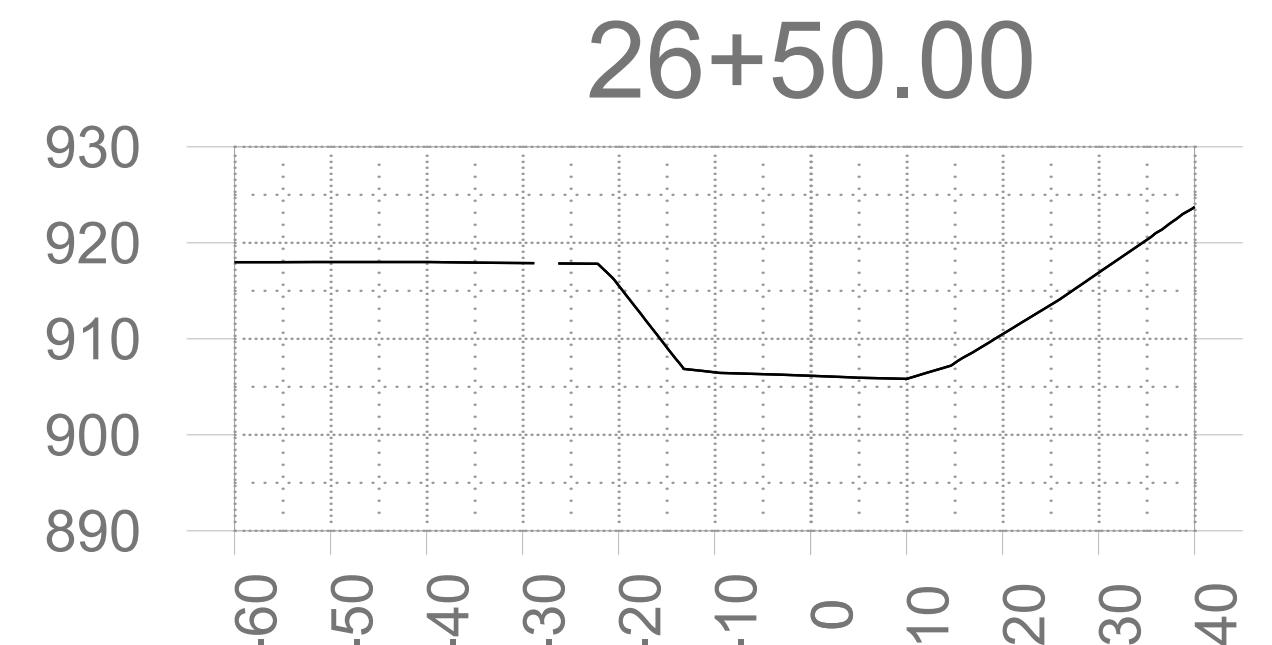
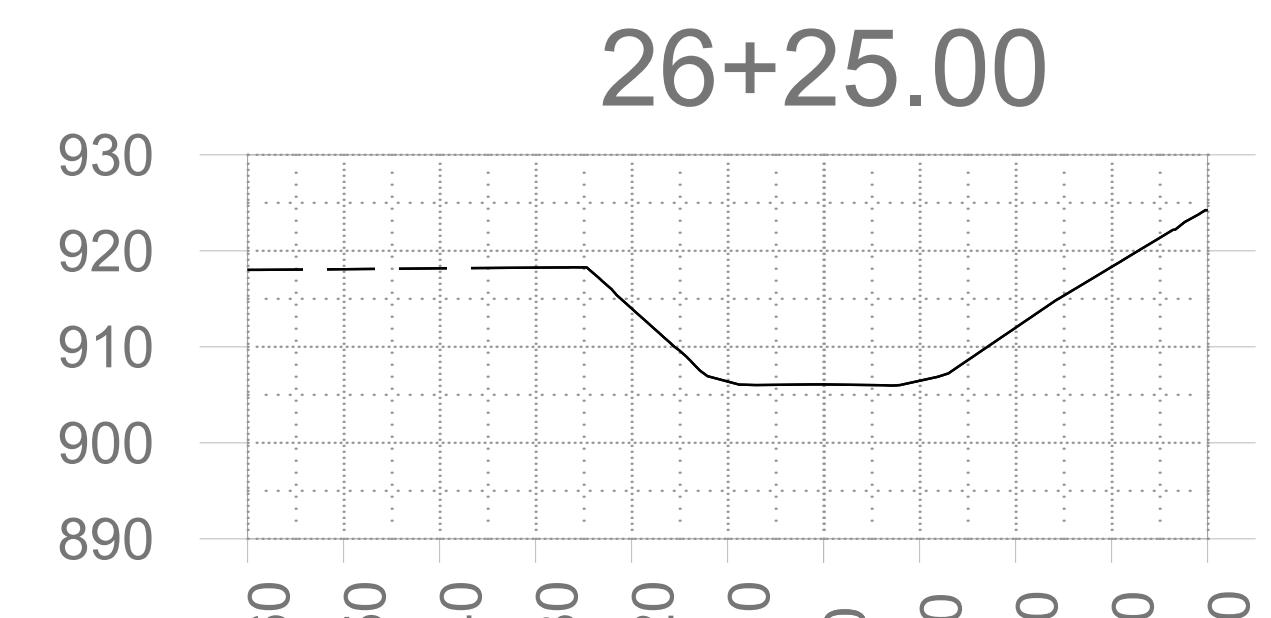
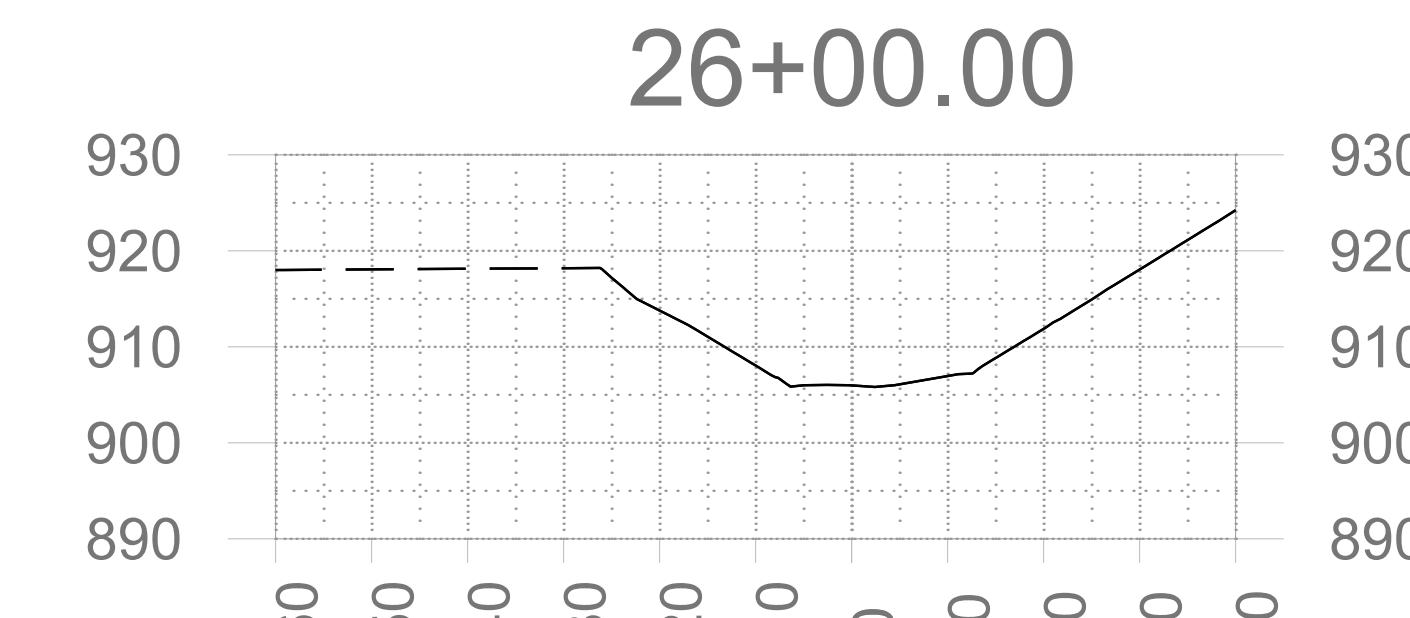
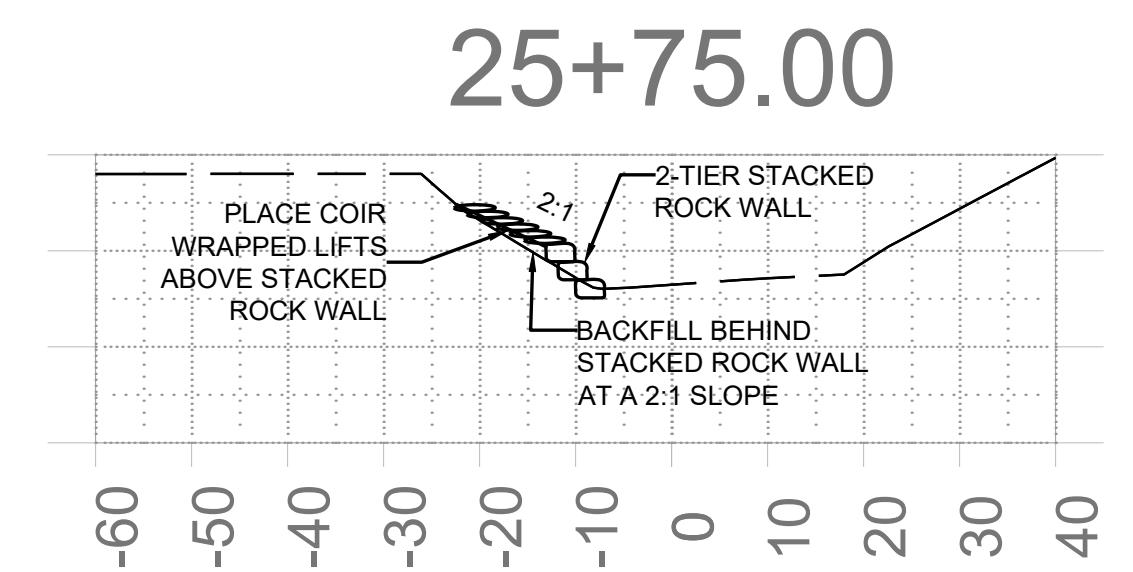
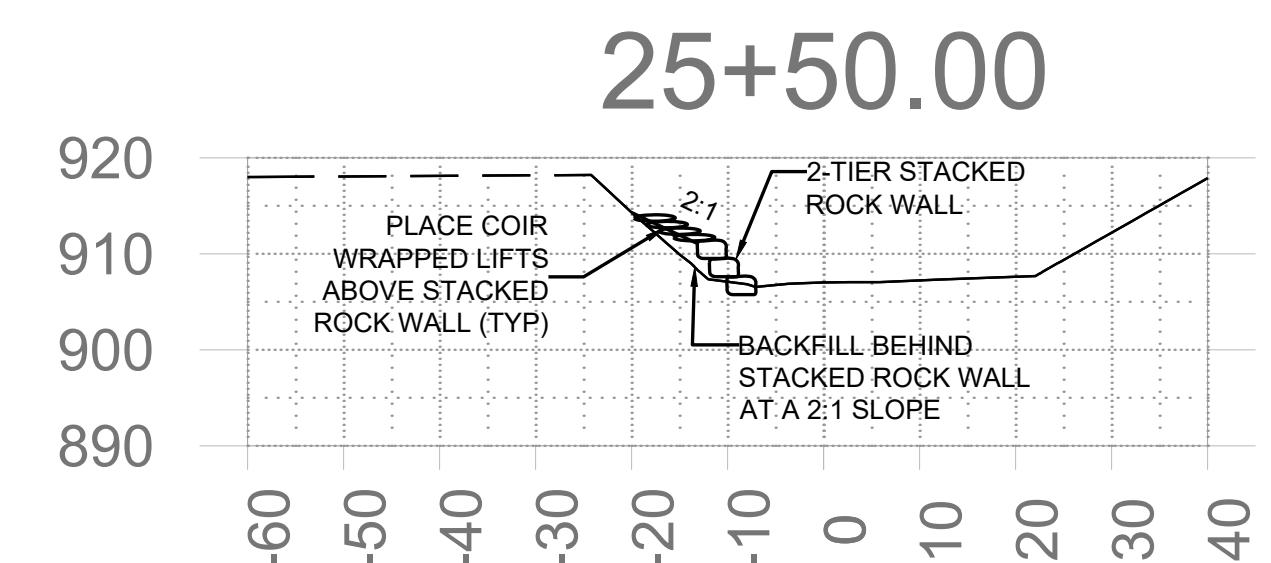
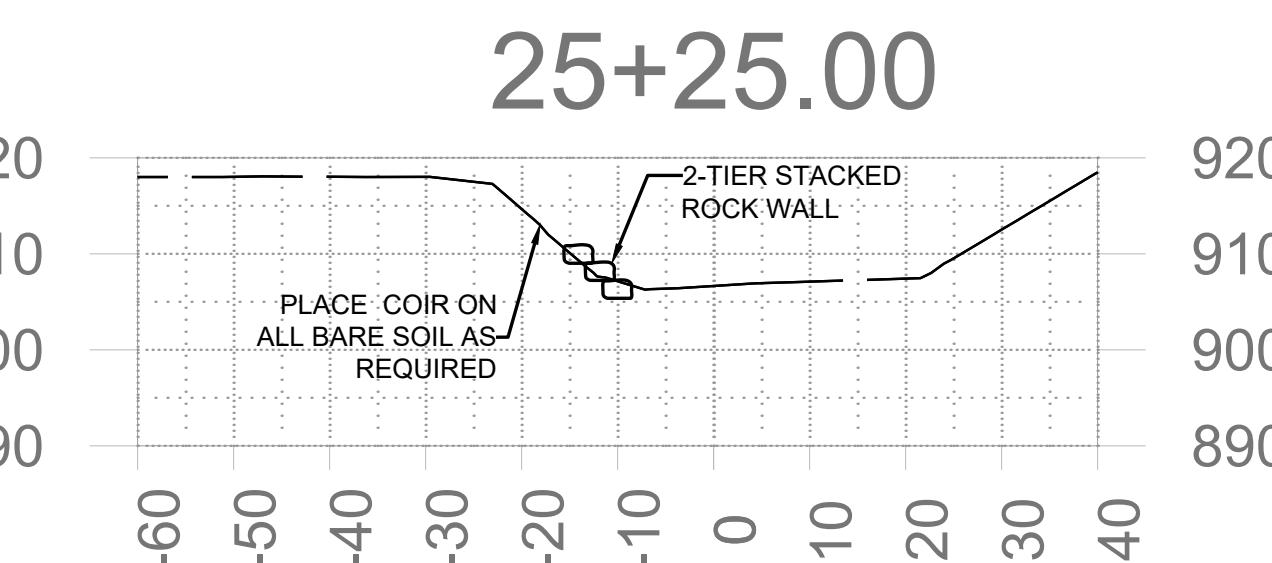
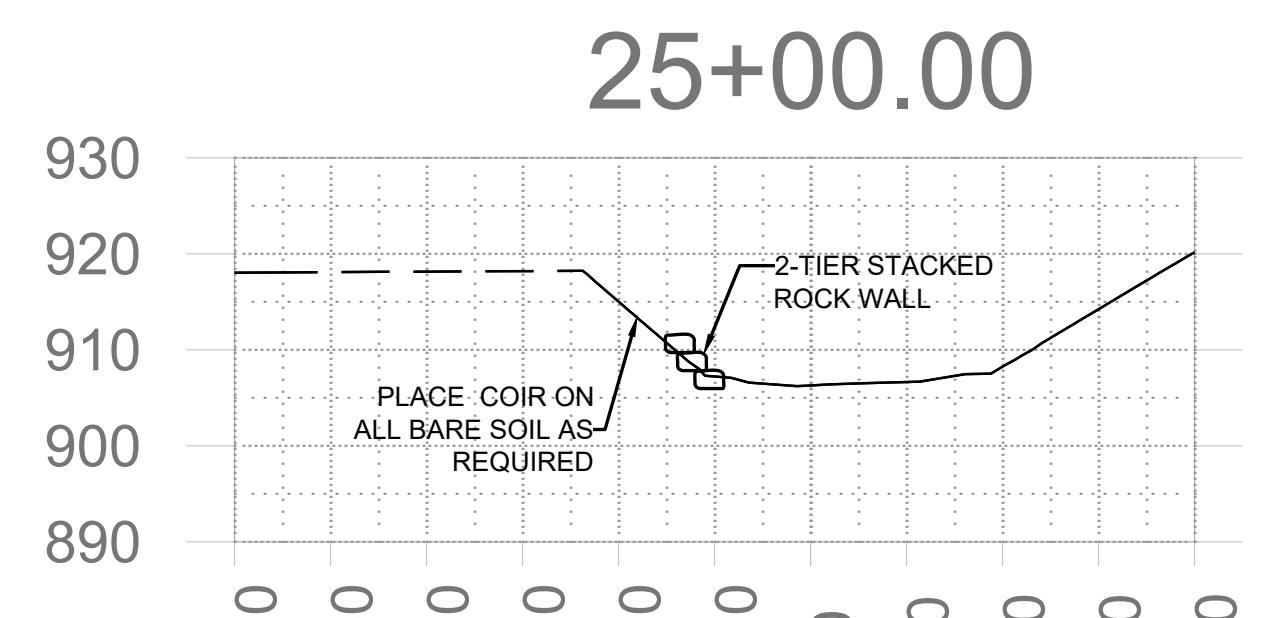


ISSUED FOR CONSTRUCTION		FINAL PLAN SET	
SEQ.	CS-5	SEQ.	FINAL PLAN SET
VERIFICATION: Bar is one inch on original drawing, if not, one inch on this sheet, adjust scale.			
NO. ISSUE BY DATE F&N JOB NO. RNC16684 DATE 05-15-2018			
DESIGNED BY DRAWN BY REVISED BY			
CIVIL			
ROANOKE COUNTY, VIRGINIA			
RESTORATION OF GLADE CREEK AT VINYARD PARK			
PHASE II			
DETAILED CROSS SECTIONS			
STA 22+00 TO STA 24+75			

5.15.2018

BRYAN M. DICK  
 Lic. No. 040205355

717 Green Valley Road  
 Suite 200  
 Greensboro, North Carolina 27408  
 Phone: 336-667-6744  
 Web: www.freezeonnichols.com



**NOTE:**

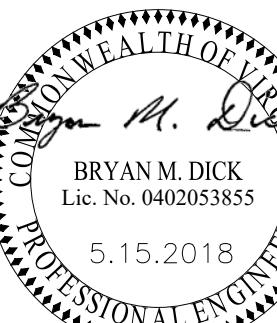
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL
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3. PLACE SINGLE COIR WRAPPED LIFT ABOVE STACKED ROCK WALL AS REQUIRED

ISSUED FOR CONSTRUCTION

FINAL PLAN SET



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 Greensboro, North Carolina 27408  
 Phone: 336.666.6744  
 Web: www.freezeanchors.com



5.15.2018

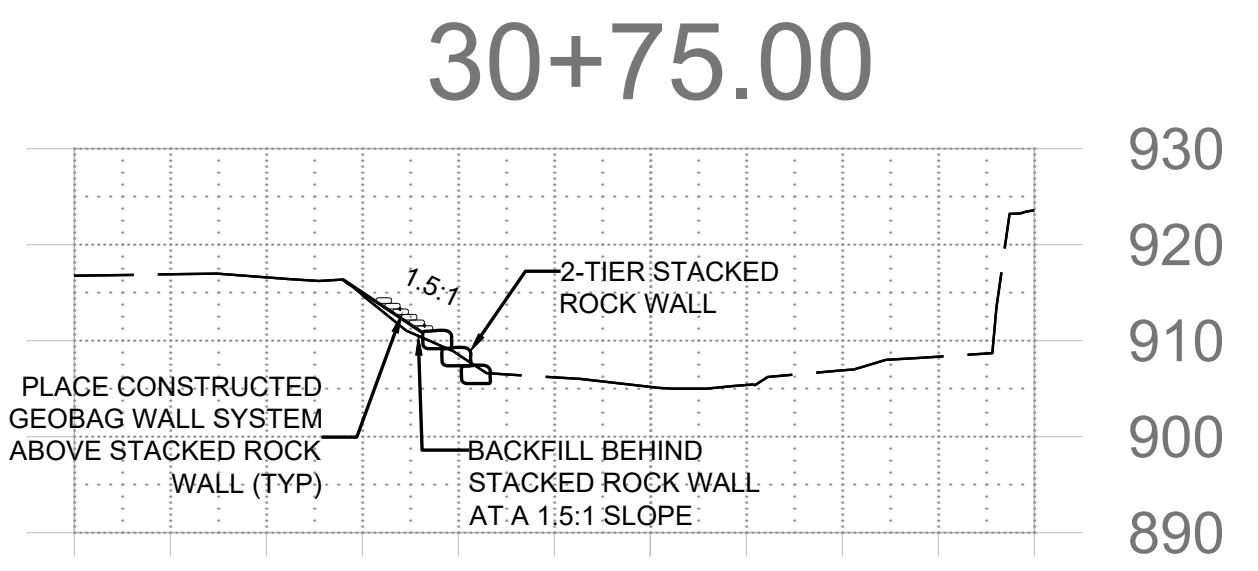
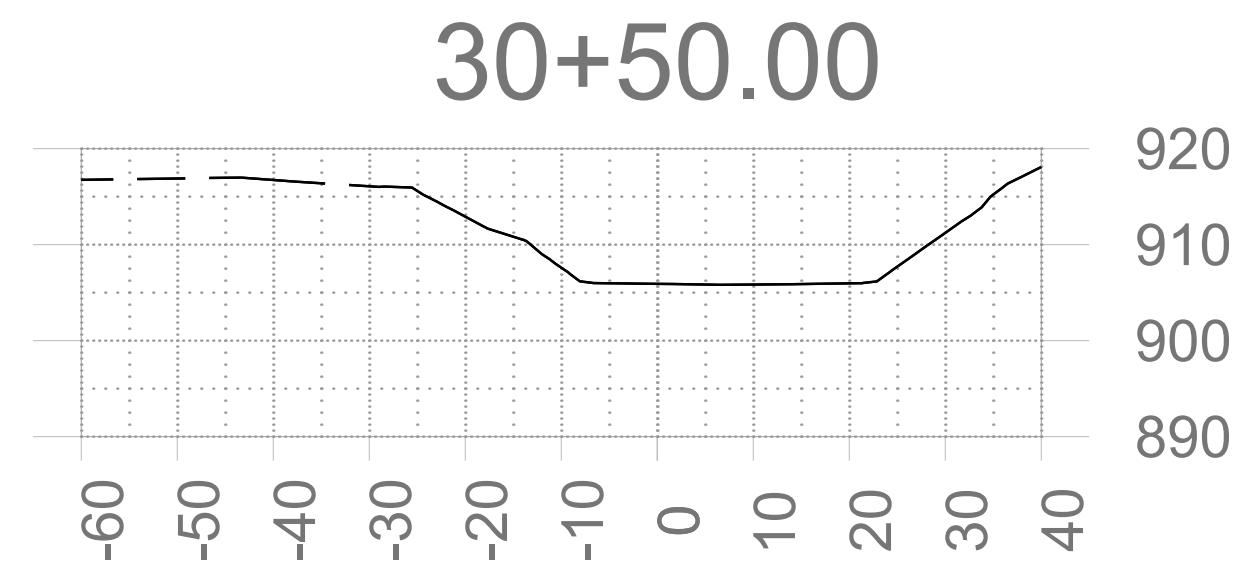
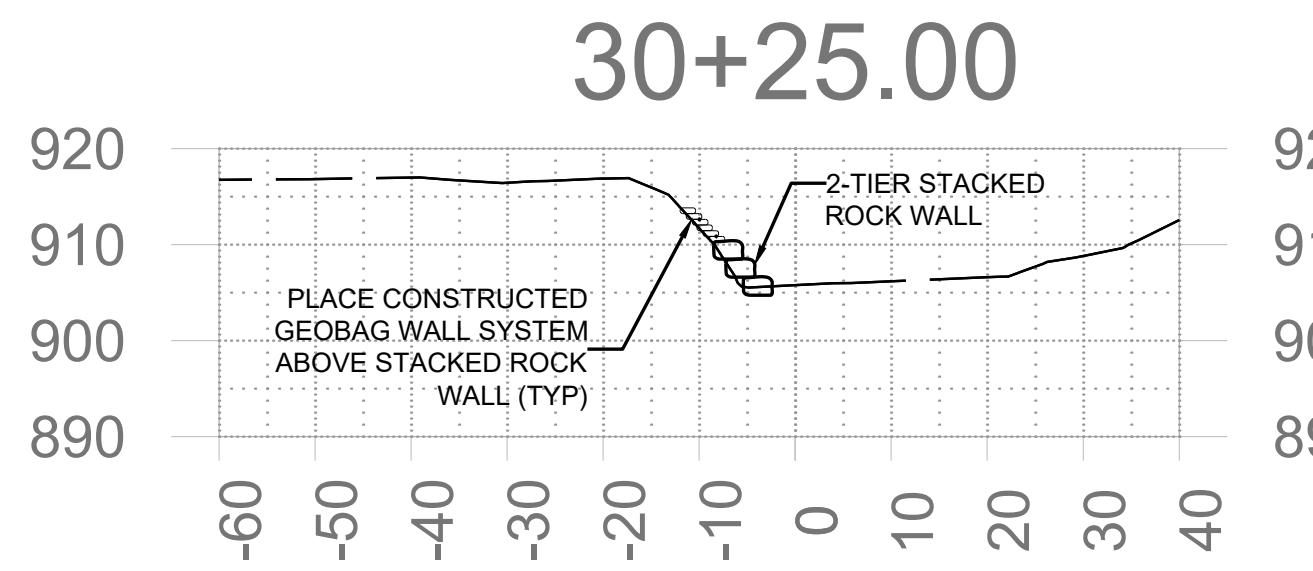
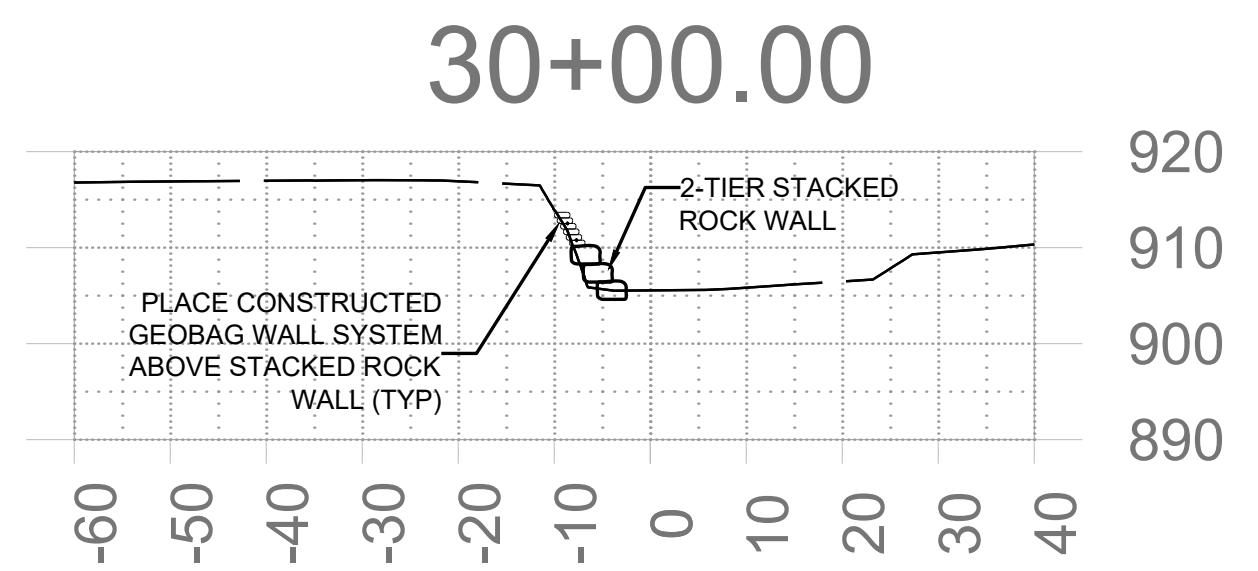
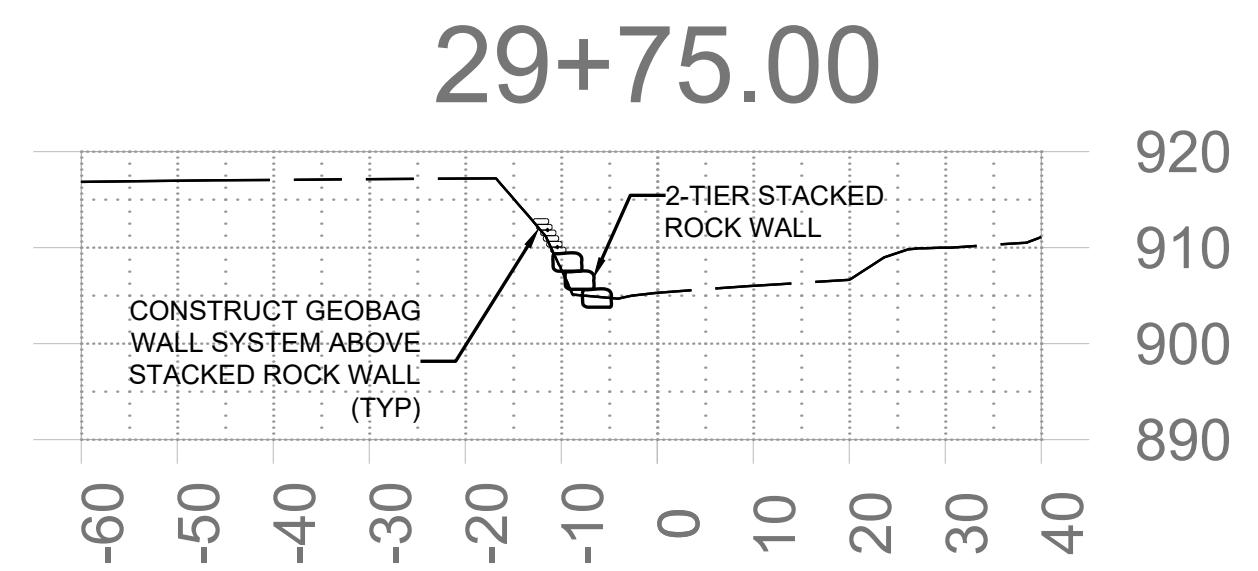
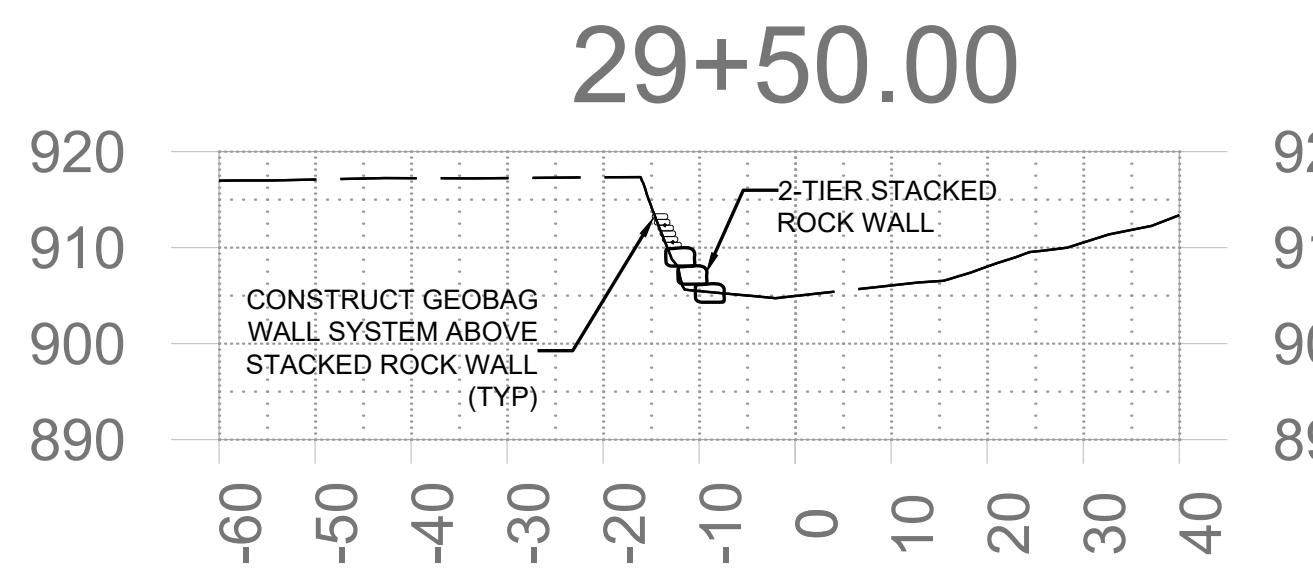
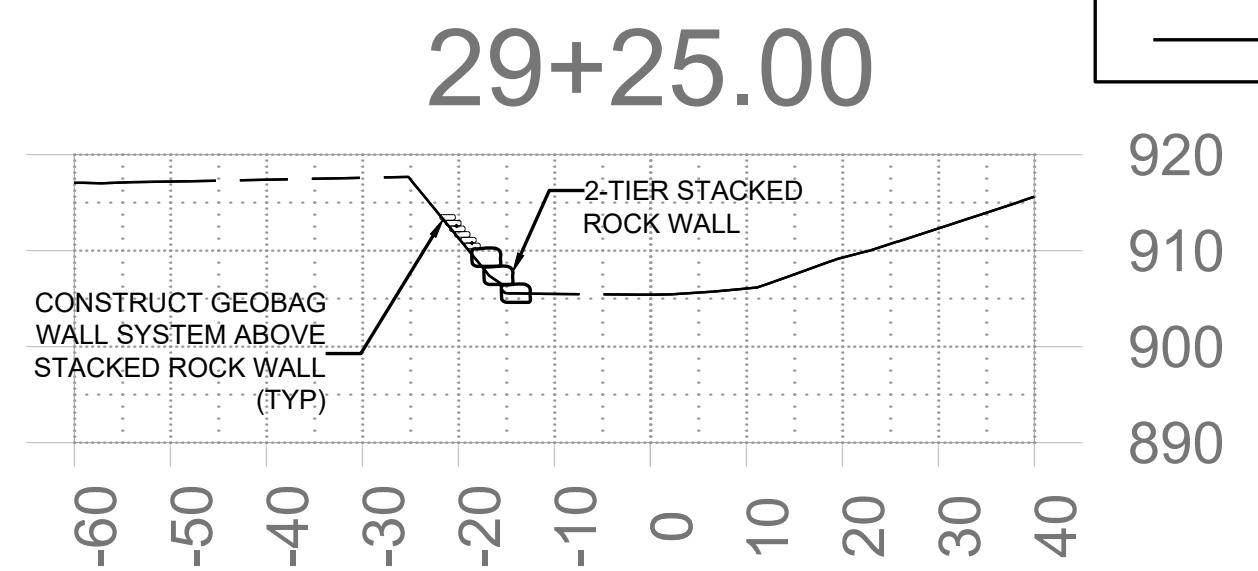
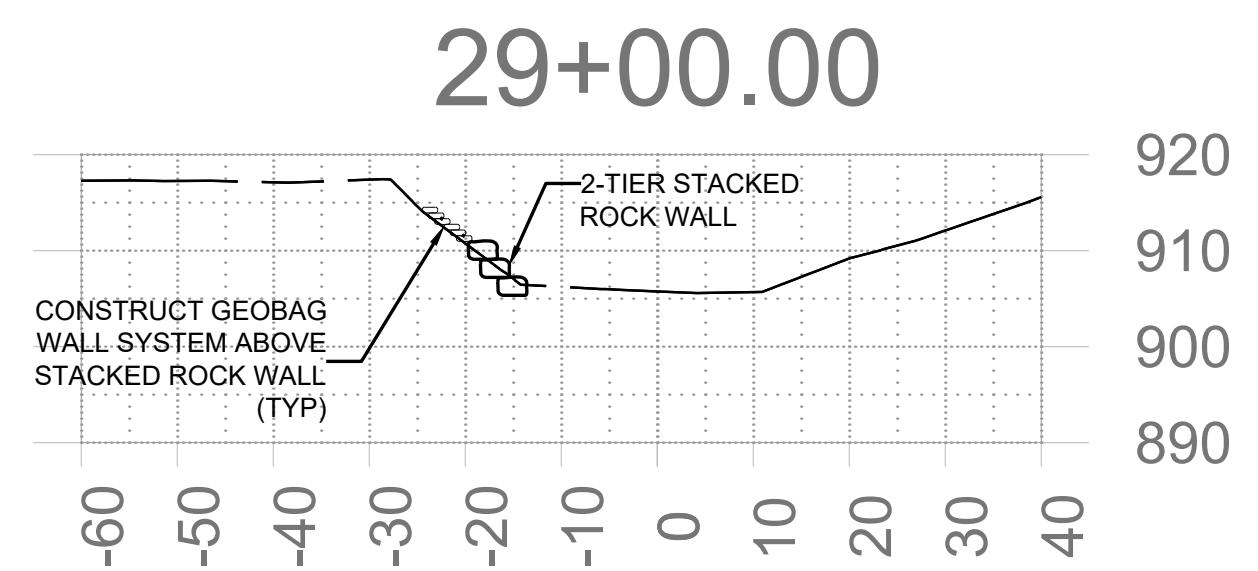
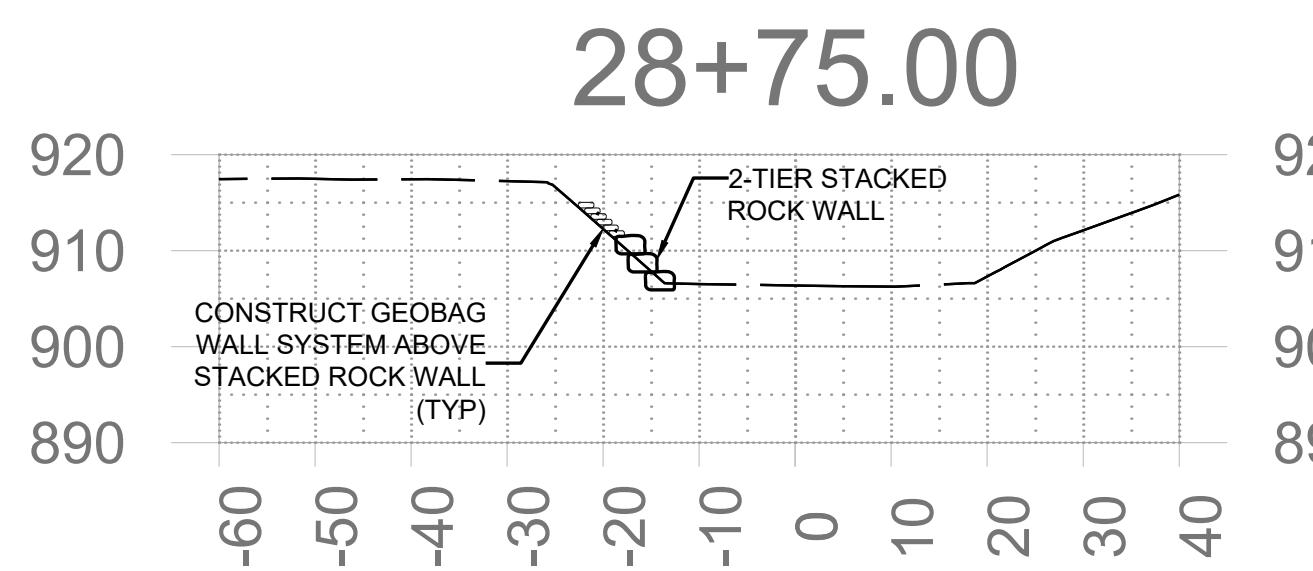
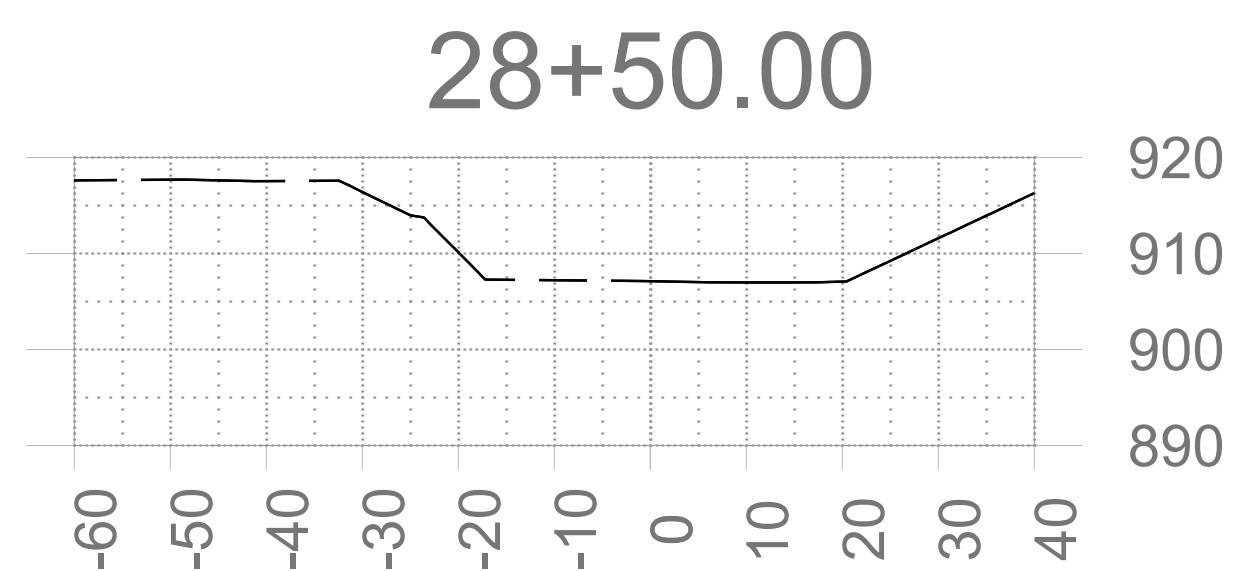
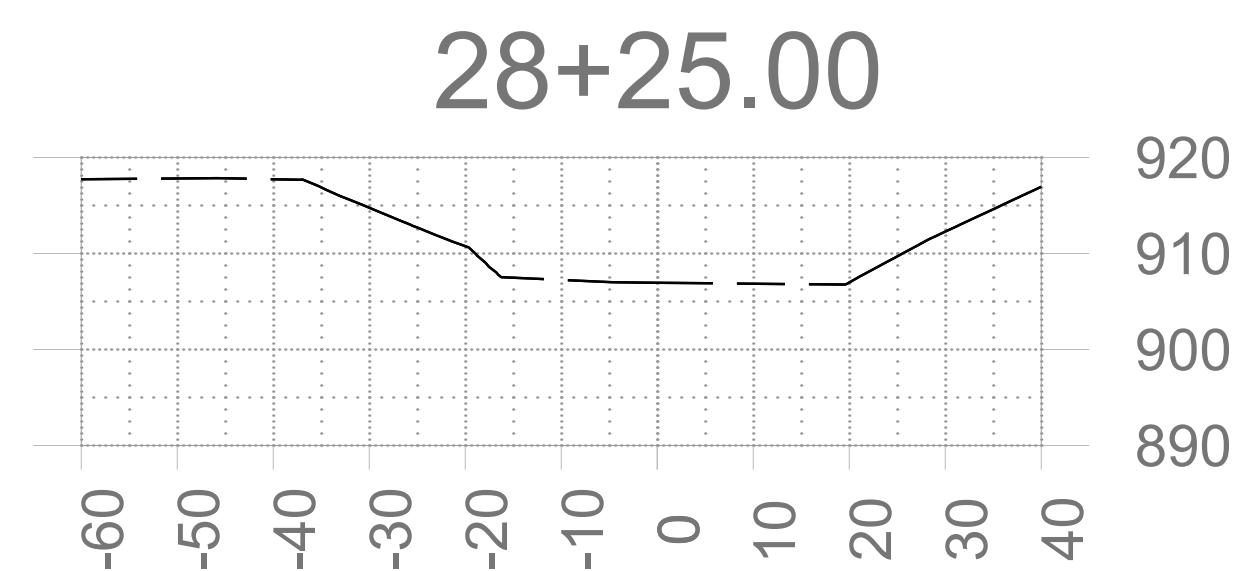
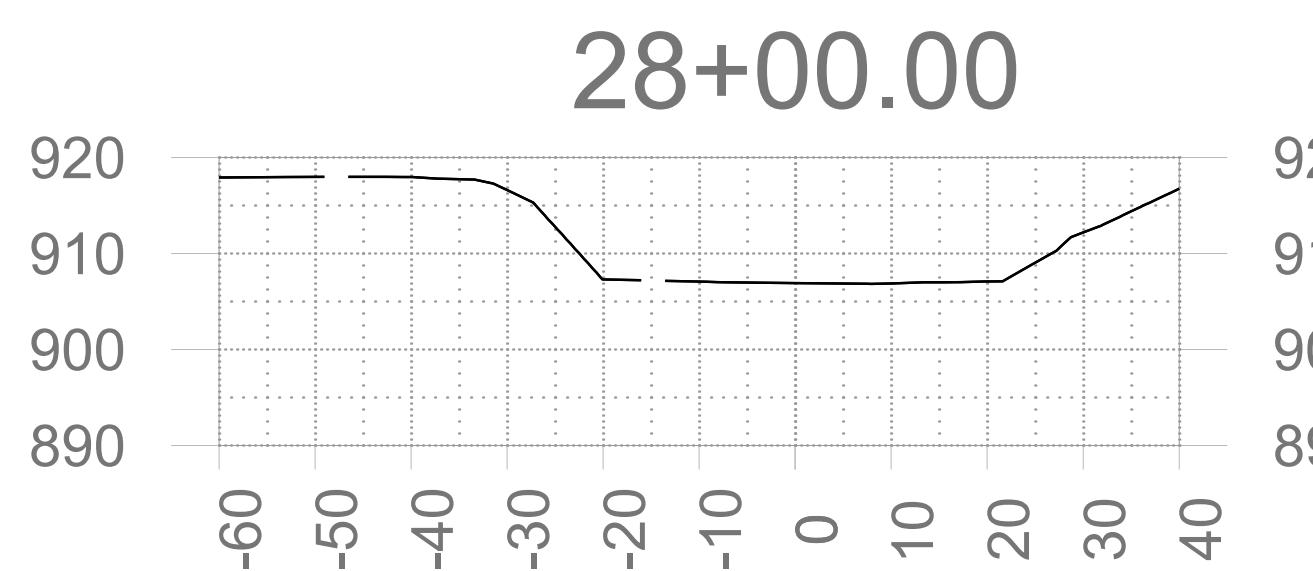
ROANOKE COUNTY, VIRGINIA  
 RESTORATION OF GLADE CREEK AT VINYARD PARK  
 CIVIL  
 PHASE II  
 DETAILED CROSS SECTIONS  
 STA 25+00 TO STA 27+75

CS-1 DETAILED CROSS SECTIONS.dwg

NO.	ISSUE	BY	DATE	F&N JOB NO.	DATE	DESIGNED	DRAWN	EMD
				RNC16684	05.15.2018			

VERIFY SCALE	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.	FILE NAME	CS-1 DETAILED CROSS SECTIONS.dwg

CS-6  
 SEQ.



LEGEND

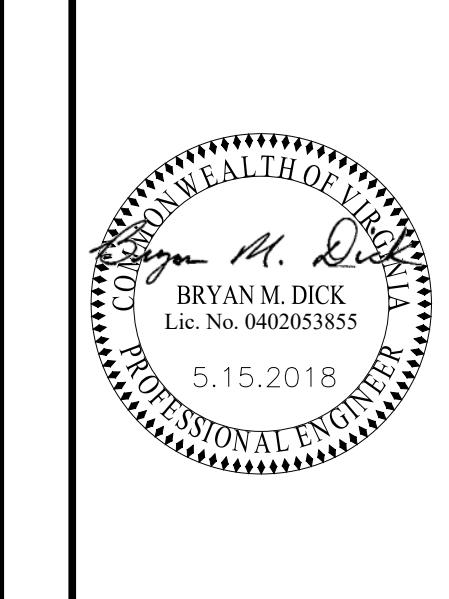
EXISTING GROUND PROFILE ALONG ALIGNMENT
PROPOSED PROFILES

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3. PLACE SINGLE COIR  
 WRAPPED LIFT ABOVE  
 STACKED ROCK WALL AS  
 REQUIRED

4. GEOBAGS WILL BE BUILT  
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 A MINIMUM OF 6 LIFTS  
 (~3F ABOVE STONE) AT  
 ~1.5:1 (H:V) SLOPE UNLESS  
 OTHERWISE SPECIFIED ON  
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 (H:V). MORE BAG LAYERS  
 MAY BE USED AT DIRECTION  
 OF ENGINEER.



**FREESE**  
**and NICHOLS**

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 Suite 200  
 Greensboro, North Carolina 27408  
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 Web: www.frese.com

ROANOKE COUNTY, VIRGINIA  
 RESTORATION OF GLADE CREEK AT VINYARD PARK  
 CIVIL  
 PHASE II  
 DETAILED CROSS SECTIONS  
 STA 28+00 TO STA 30+75

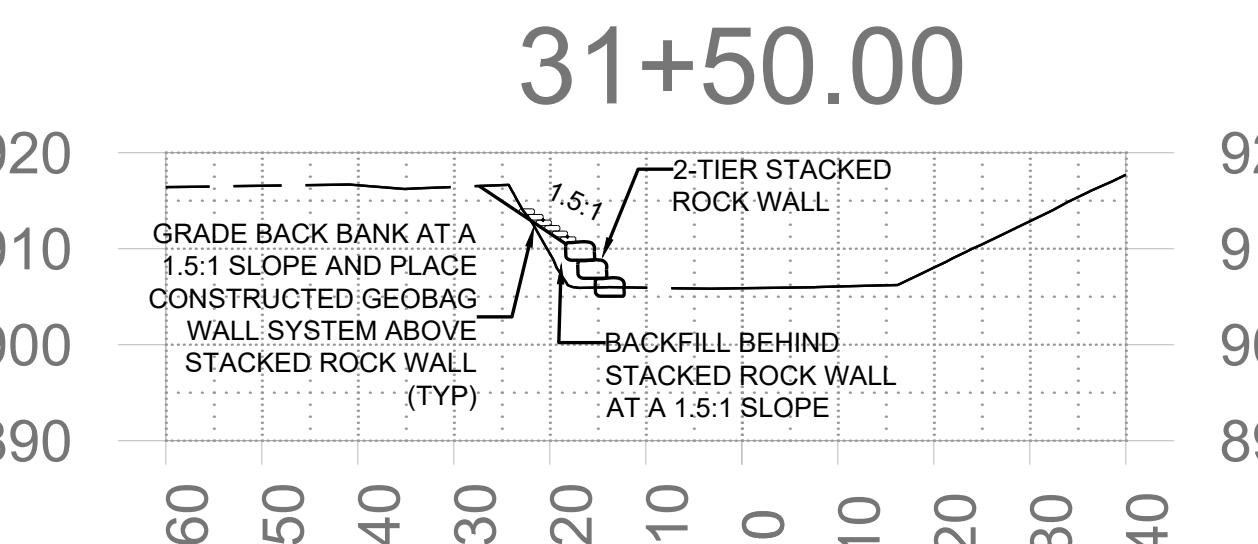
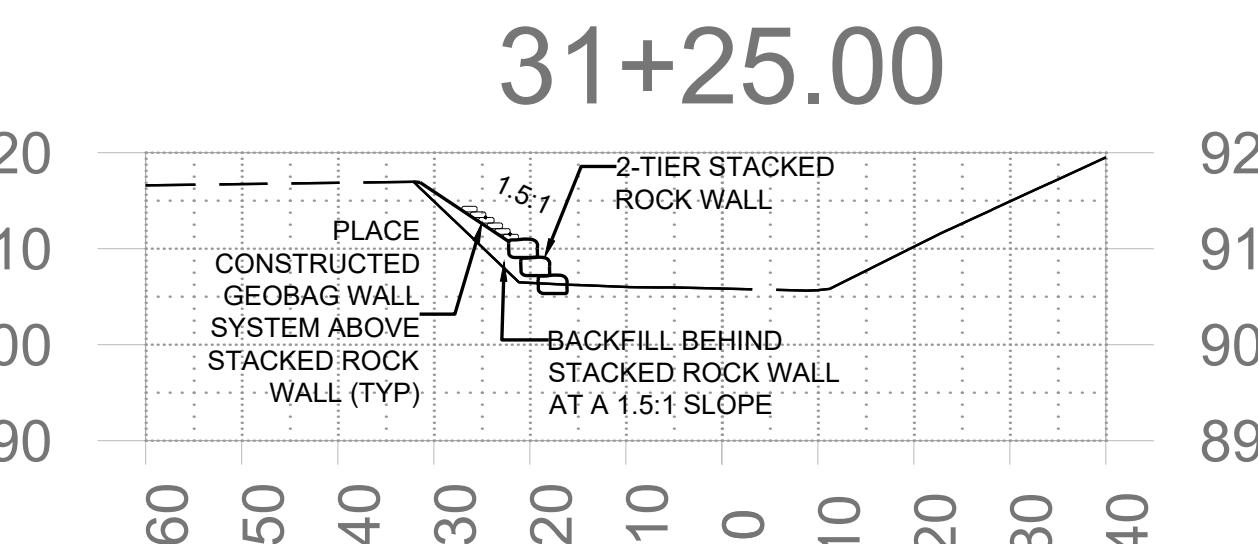
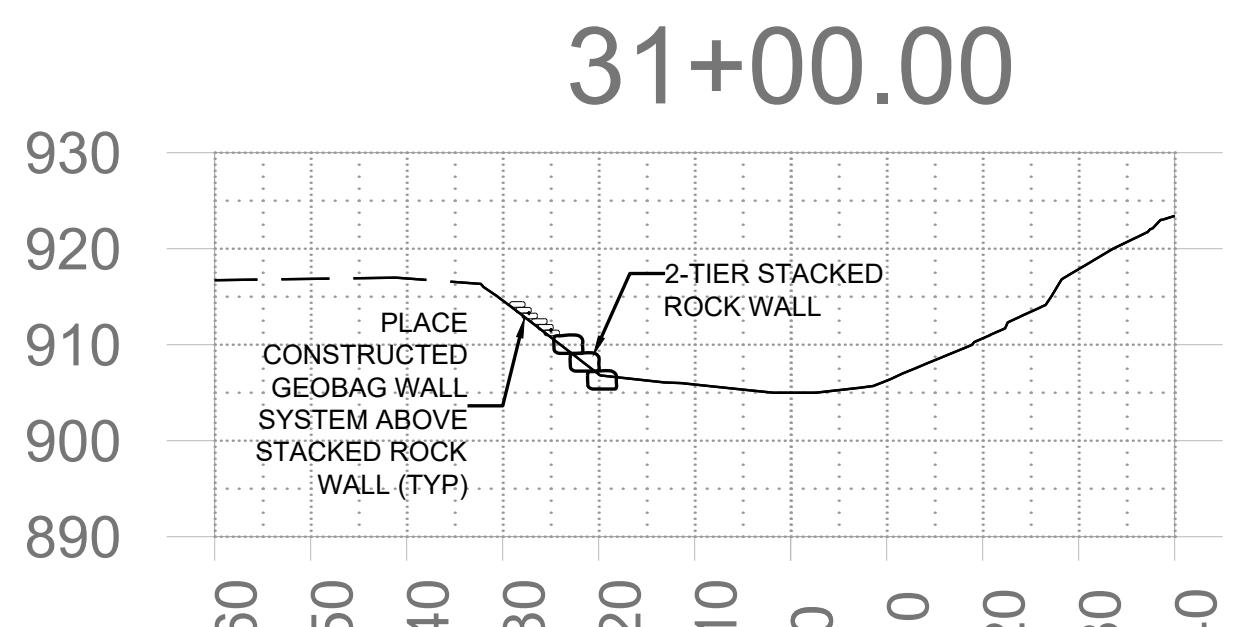
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ISSUED FOR  
 CONSTRUCTION

FINAL PLAN SET

CS-7

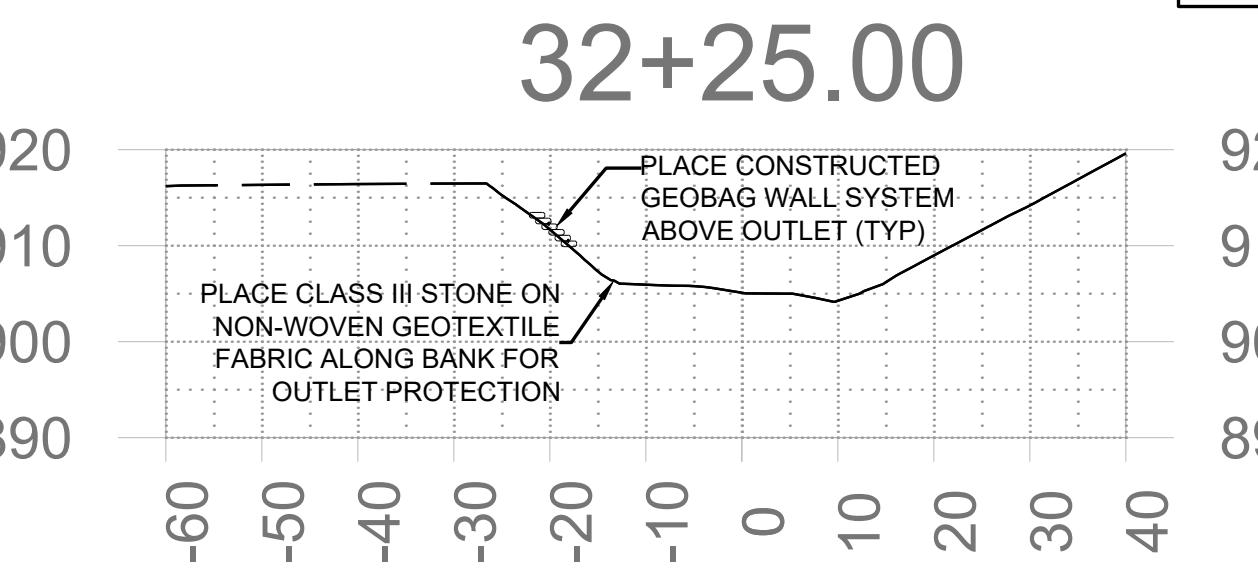
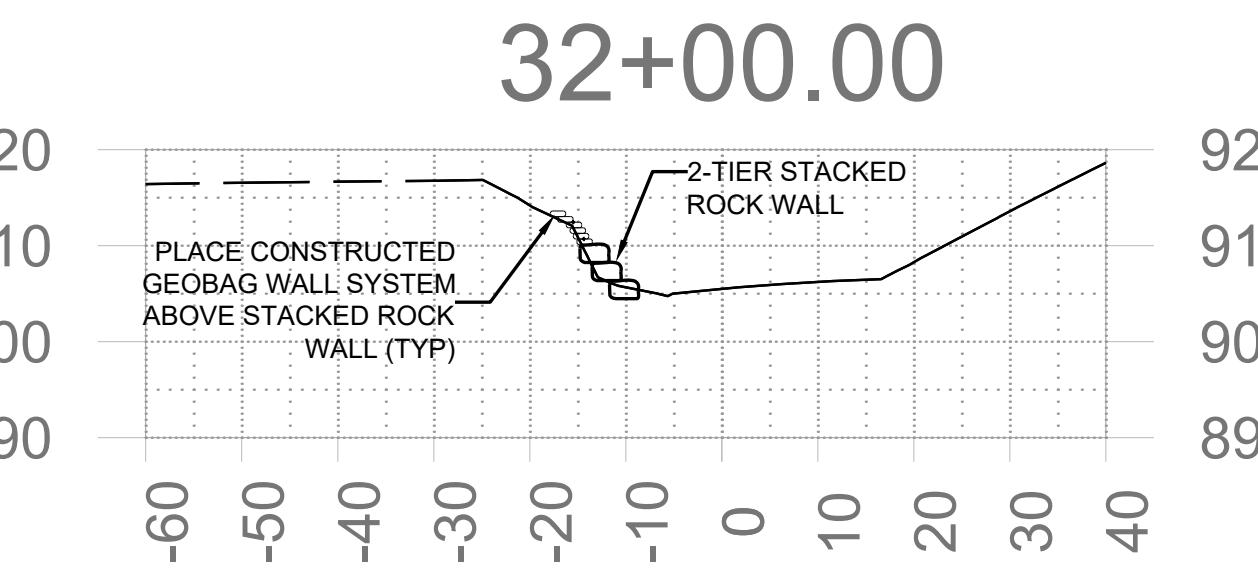
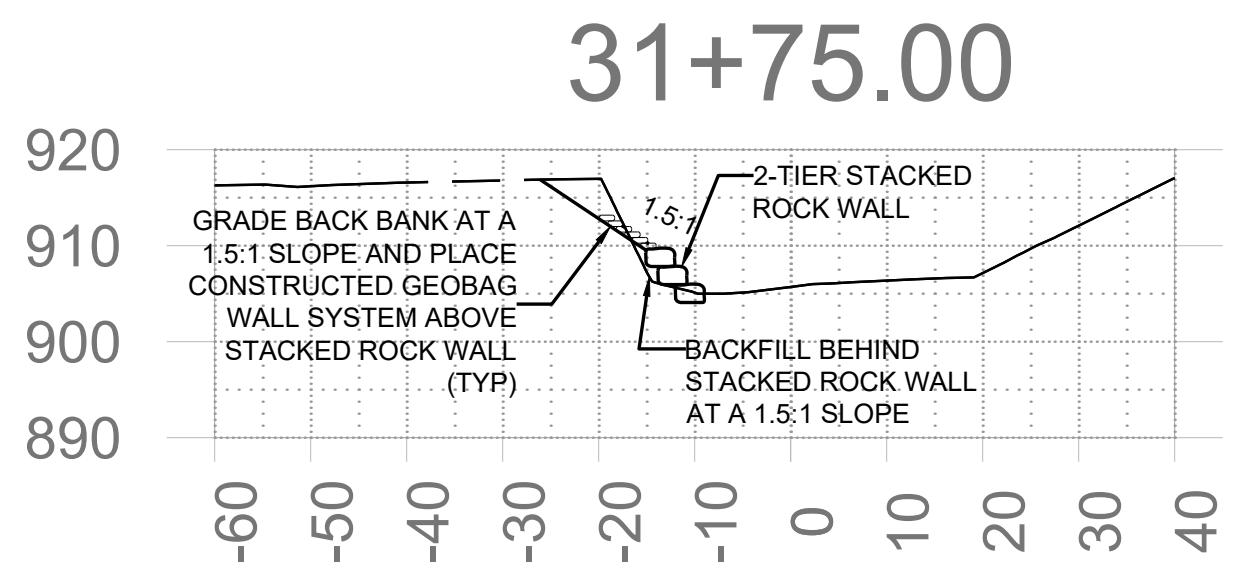
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## LEGEND

----- EXISTING GROUND  
PROFILE ALONG  
ALIGNMENT

----- PROPOSED PROFILES

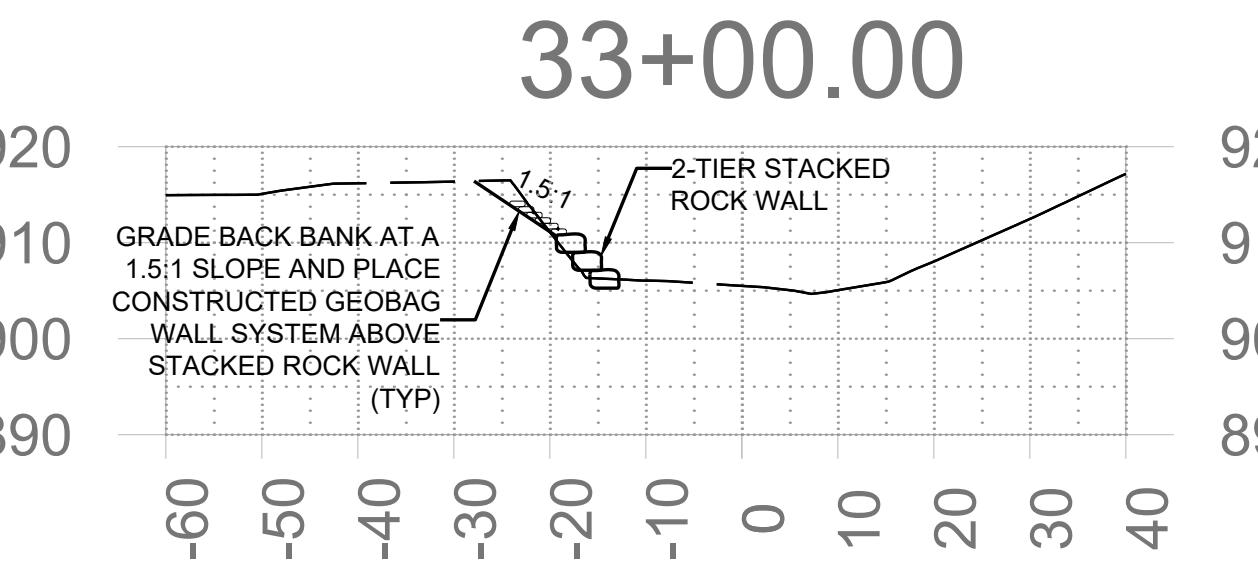
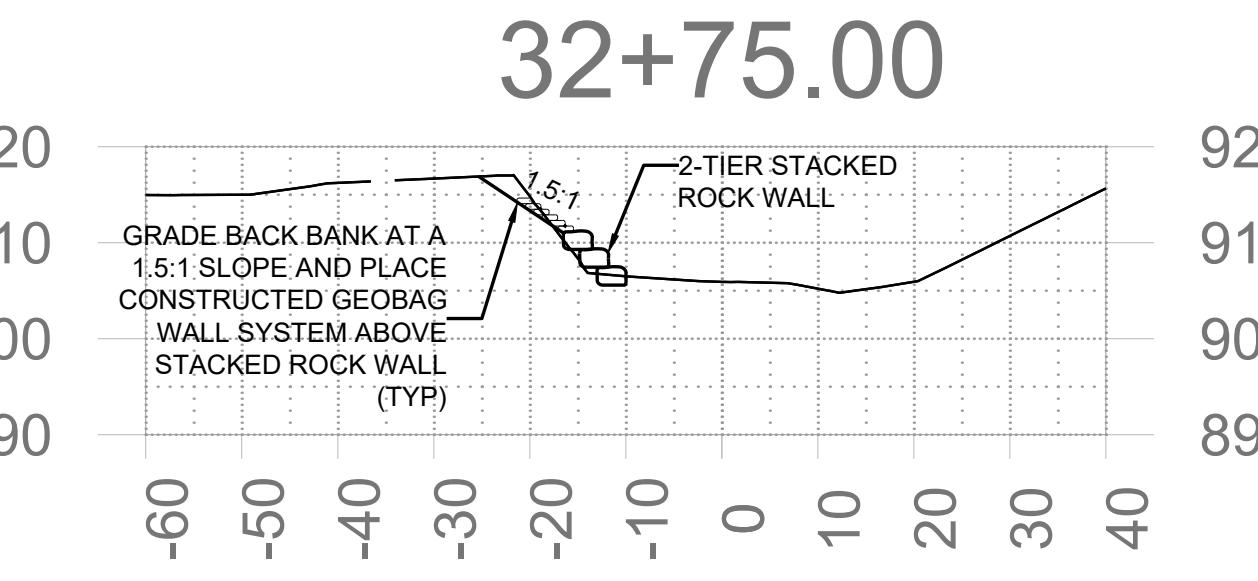
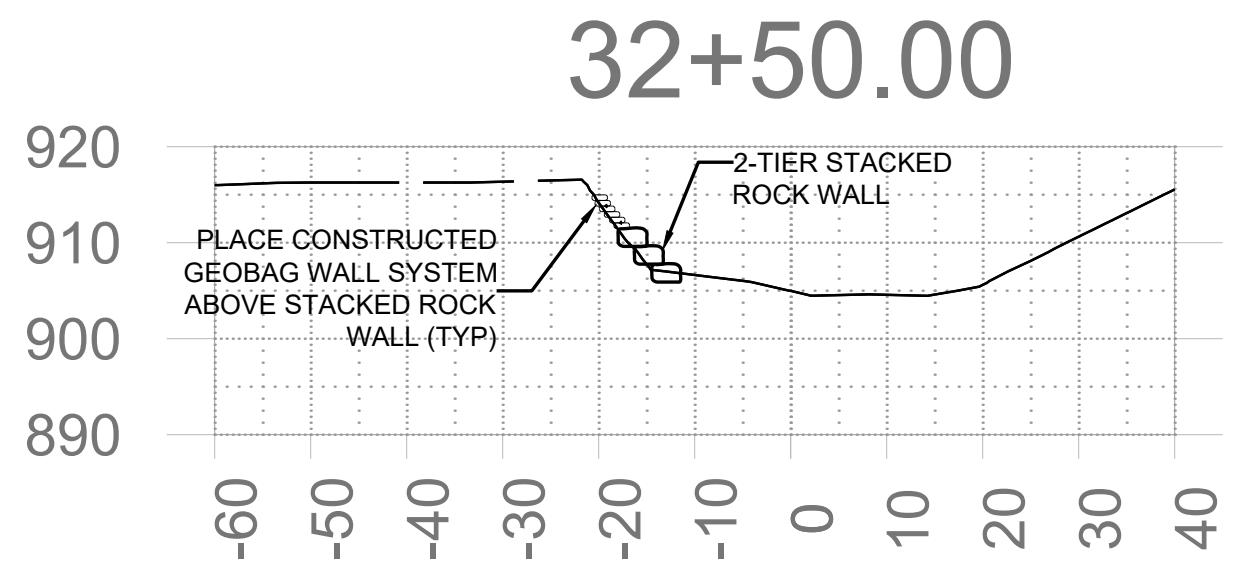


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# FREESE AND NICHOLS

7117 Green Valley Road  
Suite 200  
Greensboro, North Carolina 27400  
Phone - (336) 790-6744  
Web - [www.freese.com](http://www.freese.com)

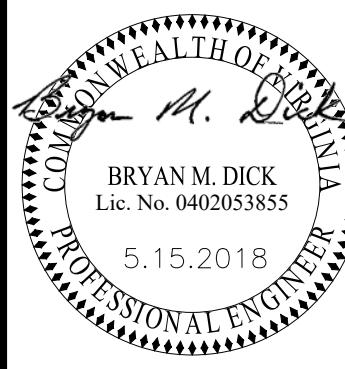
RESTORATION OF GLADE CREEK AT V  
PHASE II  
CIVIL

DETAILED CROSS SECTIONS  
STA 31+00 TO STA 33+75

REVISION	RNC16684
DATE	05.15.2018
DESIGNED	BMD
DRAWN	EMD
REVISED	.
CHECKED	BMD
FILE NAME	CS-1 DETAILED CROSS SECTIONS.dwg

# ISSUED FOR CONSTRUCTION

FINAL PLAN SET



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**ENNICHOLS**

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Greensboro, North Carolina 27408  
Phone: 336.666.6744  
Web: [www.fene.com](http://www.fene.com)



NOTE:

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ISSUED FOR  
CONSTRUCTION

NO.	ISSUE	By	DATE	FILE NO.
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		DESIGNED	BMD	
		DRAWN	EWD	
		REVIEWED		
		CHECKED		
		APPROVED		
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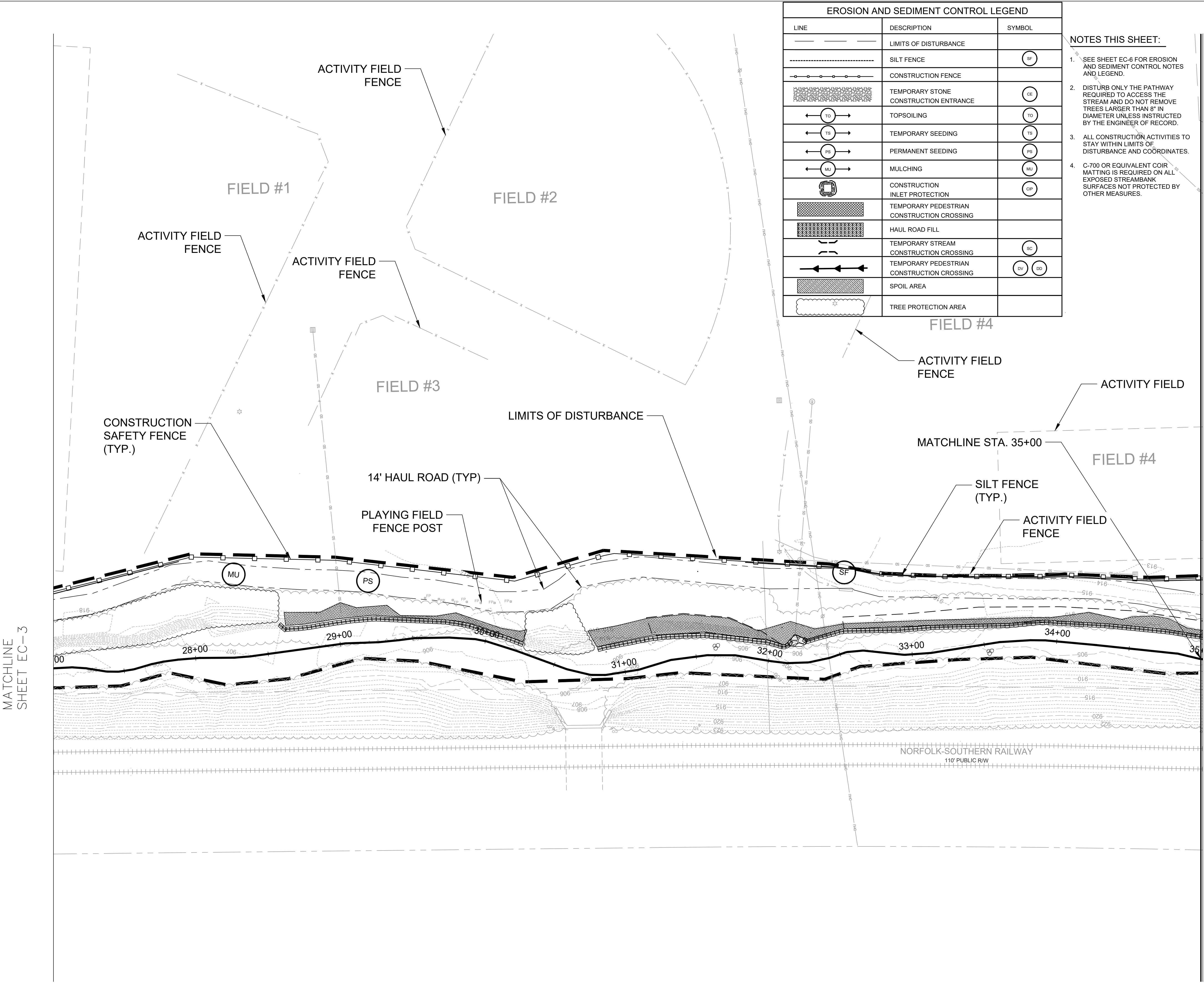
FINAL PLAN SET

CS-9  
SEQ.









# FREESE FACTS AND FIGURES

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Greensboro, North Carolina 27408  
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Web - [www.freeze.com](http://www.freeze.com)

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**CIVIL**  
**EROSION CONTROL**  
**PLAN VIEW C**

WATER SUPPLY  
SHEET EC-5

0 10' 20' 30' 60'  
A horizontal scale bar with tick marks at 0, 10', 20', 30', and 60'. The first tick mark is at 10', the second at 20', the third at 30', and the fourth at 60'. The distance between the first and second tick marks is 10', between the second and third is 10', and between the third and fourth is 30'. The total length of the scale bar is 60'.

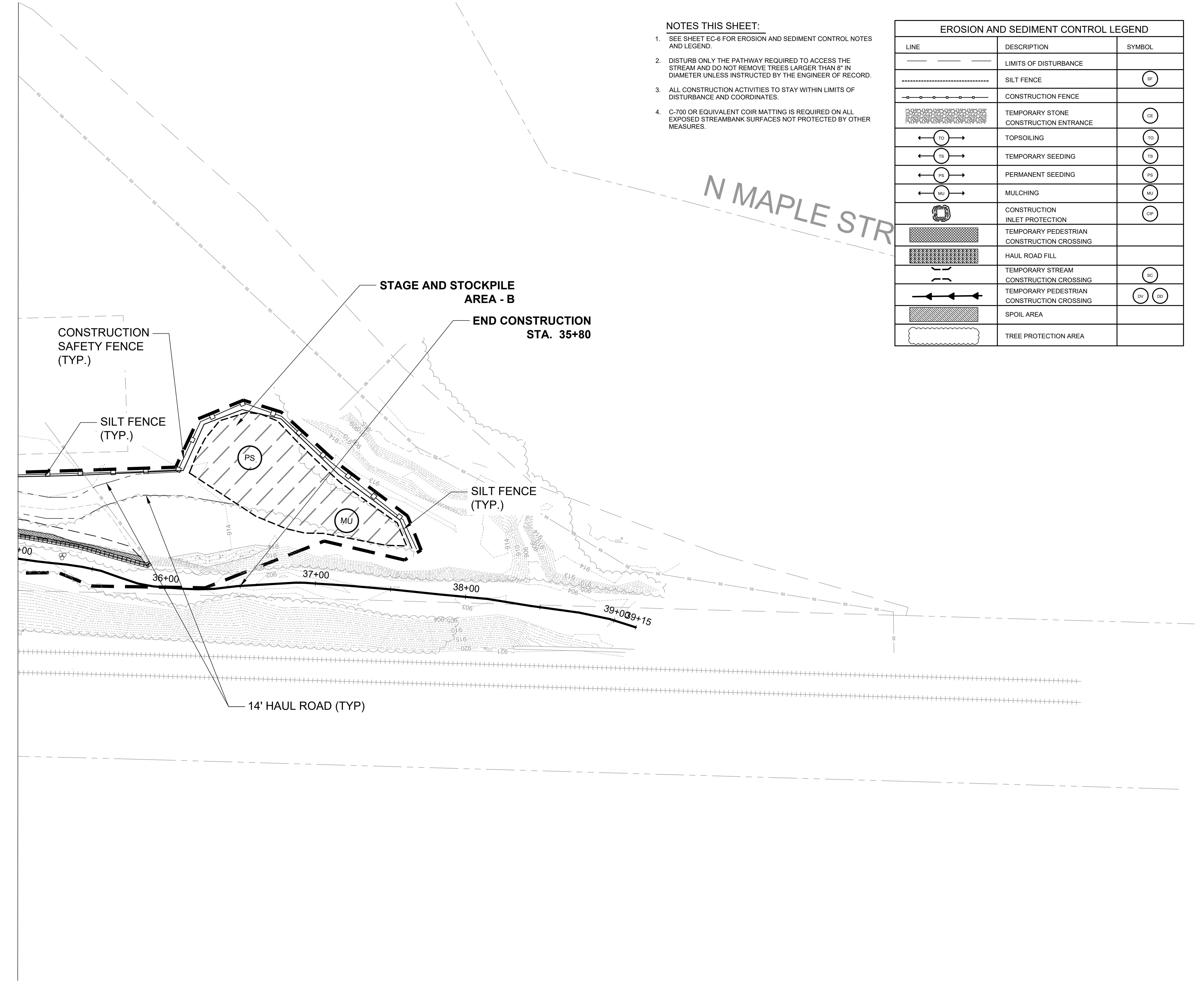
SCALE IN FEET

**ISSUED FOR  
CONSTRUCTION**

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## FINAL PLAN SET

MATCHLINE  
 SHEET EC-4



FINAL PLAN SET

EC-5

SEQ. .

**CIVIL**  
**EROSION CONTROL**  
**PLAN VIEW D**



711 Green Valley Road  
 Greensboro, North Carolina 27408  
 Web: www.foose.com



BRYAN M. DICK  
 Lic. No. 040205355  
 5.15.2018



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**ROANOKE COUNTY, VIRGINIA**  
**RESTORATION OF GLADE CREEK AT VINYARD PARK**  
**PHASE II**

0 10' 20' 30' 60'  
 SCALE IN FEET

ISSUED FOR CONSTRUCTION

EC-5

FINAL PLAN SET

SEQ. .

VERIFY SCALE Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.





**FREESE**  
ON NICHOLS

711 Green Valley Road  
Glen Burnie, MD 21060  
Phone: 410-704-1644  
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**CIVIL**  
**EROSION CONTROL**  
**NOTES AND LEGEND**

PHASE II

EC-7

**ISSUED FOR  
CONSTRUCTION**

**FINAL PLAN SET**

SEQ. .

**EROSION AND SEDIMENT CONTROL NOTES:**

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ADJACENT PROPERTIES OR STATE WATERS. IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENT TO THE PROJECT SITE, APPROPRIATE MODIFICATIONS WILL BE MADE TO CORRECT ANY PLAN DEFICIENCIES.

1. PLAN APPROVAL IN NO WAY RELIEVES THE CONTRACTOR OF THE RESPONSIBILITIES CONTAINED WITHIN THE EROSION AND SEDIMENT CONTROL POLICIES.

2. ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

3. FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPLICABLE MEASURES CONTAINED THEREIN WHICH MAY BE PERTINENT TO THIS PROJECT.

4. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD INTO PUBLIC RIGHT-OF-WAYS. AN ENTRANCE PERMIT FROM VDOT IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN STATE RIGHT-OF-WAYS.

5. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN, NOT LOCATED IN PROPOSED FILL OR EXCAVATION AREAS, SHALL BE CONSTRUCTED PRIOR TO ALL OTHER LAND DISTURBANCE. THE CONTRACTOR SHALL ARRANGE AN ON-SITE PRECONSTRUCTION CONFERENCE WITH THE ROANOKE COUNTY DEVELOPMENT INSPECTOR.

6. MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH PROCEDURES APPROVED BY THE STATE OF VIRGINIA. MAINTENANCE WILL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR, INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES. AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR WILL SUPPLY THE COUNTY OF ROANOKE WITH THE NAME OF THE INDIVIDUAL WHO WILL BE RESPONSIBLE FOR ENSURING MAINTENANCE OF INSTALLED MEASURES ON A DAILY BASIS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.

7. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRANSVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY LOWER WATER DOWNSLOPE WITHOUT CAUSING EROSION. IN NO CASE DURING CONSTRUCTION, SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.

8. THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS.

9. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT THE TIME OF CONSTRUCTION TO ENSURE THEIR INTENDED PURPOSE ARE ACCOMPLISHED. APPROVAL FROM CONSULTING ENGINEER AND ROANOKE COUNTY WILL BE REQUIRED FOR ALL DEVIATIONS FROM THE APPROVED PLANS.

10. ALL STOCKPILE AND BORROW AREAS SHALL BE STABILIZED USING TEMPORARY OR PERMANENT SEEDING. SILT FENCE SHALL BE INSTALLED ALONG DOWNHILL TOE OF SLOPE.

11. TEMPORARY VEGETATIVE COVER SHALL BE PROVIDED IN ALL AREAS WHICH ARE NOT DESIGNATED FOR PAVING, UNDERGROUND UTILITIES OR STRUCTURAL USES. SUCH AREAS SHALL NOT BE EXPOSED FOR PERIODS EXCEEDING 30 DAYS. TEMPORARY VEGETAL COVER MAY BE ELIMINATED IN FAVOR OF FINAL VEGETAL COVER IF CONSTRUCTION AND SEASONAL CONDITIONS PERMIT.

12. ALL AREAS DESIGNATED FOR PAVING SHALL BE STABILIZED WITH A 6-INCH COURSE OF VDOT #1 COARSE AGGREGATE IMMEDIATELY AFTER GRADING OR THE COMPLETION OF UTILITY INSTALLATION.

13. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION OF THIS PROJECT WILL INVOLVE THE SUCCESSFUL PLANTING AND ESTABLISHMENT OF A STABILIZING GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF SEED, LIME, AND FERTILIZER. IRRIGATION SHALL BE REQUIRED AS NECESSARY TO INSURE ESTABLISHMENT OF GRASS COVER.

14. ALL SLOPES 3:1 OR STEEPER THAN 3:1 SHALL REQUIRE MATTING TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH MULCHING AND MANUFACTURER'S INSTRUCTIONS AND THE VA E&S HANDBOOK.

15. OUTLET PROTECTION AND ANY TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED FOR PIPES AND CHANNELS BEFORE THEY ARE OPERATIONAL.

16. BASE COURSE MATERIAL SHALL BE PLACED IN ALL STREET AREAS WITHIN 30 DAYS OF FINAL GRADING.

17. TEMPORARY EROSION CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEDED.

18. THE LOCATION OF ALL OFF-SITE FILL OR BORROW AREAS ASSOCIATED WITH THE CONSTRUCTION PROJECT WILL BE PROVIDED TO THE ROANOKE COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT. AN EROSION CONTROL PLAN OR MEASURES MAY BE REQUIRED FOR THIS AREA.

19. ALL EARTHEN CONTROLS AND STRUCTURES SHALL BE STABILIZED IMMEDIATELY UPON INSTALLATION.

EROSION AND SEDIMENT CONTROL LEGEND			
SECT	KEY	LINE	DESCRIPTION
3.02	CE		TEMPORARY STONE CONSTRUCTION ENTRANCE
3.05	SI		SILT FENCE
3.30	TO		TOPSOILING
3.31	TS		TEMPORARY SEEDING
3.32	PS		PERMANENT SEEDING
3.35	MU		MULCHING

EROSION AND SEDIMENT CONTROL LEGEND		
LINE		DESCRIPTION
		LIMITS OF DISTURBANCE
		SILT FENCE
		CONSTRUCTION FENCE
		TEMPORARY STONE CONSTRUCTION ENTRANCE

**EROSION AND SEDIMENT CONTROL NARRATIVE**

**PROJECT DESCRIPTION:** THE PURPOSE OF THIS PROJECT IS FOR THE CONSTRUCTION OF THE RESTORATION OF GLADE CREEK AT VINYARD PARK. PHASE II: GLADE CREEK WILL BE IMPROVED TO DECREASE THE AMOUNT OF STREAM BANK EROSION AND NUTRIENT LOADING OCCURRING IN THE CREEK AND PROTECT THE ADJACENT PARK. THE LIMIT OF DISTURBANCE IS 9.33 ACRES AND A VSPM PERMIT AND SWPP HAVE BEEN PREPARED FOR THE PROJECT.

**EXISTING SITE CONDITIONS:** THE EXISTING SITE IS A STREAM THAT RUNS ALONG VINYARD PARK. THE CREEK SHOWS SIGNS OF EXTREME EROSION ALONG THE BANKS BORDERING THE PARK. THE CREEK FLOWS SOUTHWEST WHERE IT FLOWS INTO TINKER CREEK DOWNSTREAM. THE ADJACENT PARK DRAINAGE FLOWS INTO THE CREEK AT SEVERAL LOCATIONS ALONG THE PROJECT.

**ADJACENT PROPERTY:** THE CREEK IS BORDERED BY THE NORFOLK SOUTHERN RAILROAD TO THE NORTH, VINYARD PARK ON THE SOUTH, AND BERKLEY ROAD TO THE NORTH. THE CREEK FLOWS TO THE SOUTHEAST THROUGH THE END OF VINYARD PARK.

**OFF-SITE AREAS:** THE G.C. SHALL NOTIFY ROANOKE COUNTY OF ANY FILL OR BORROW AREAS ASSOCIATED WITH THE PROJECT PRIOR TO TRANSPORT OF ANY MATERIAL. AN ESC PLAN OR MEASURES MAY BE REQUIRED FOR THESE AREAS.

**SOILS:** THE SOIL SURVEY OF ROANOKE COUNTY AND THE CITIES OF ROANOKE AND SALEM, VA, HAVE BEEN APPROVED BY THE STATE OF VIRGINIA DEPARTMENT OF AGRICULTURE IDENTIFIES THE ON-SITE SOILS AS COMB. LOAM, SOIL GROUP B.

**CRITICAL EROSION AREAS:** CRITICAL AREAS FOR THIS PROJECT INCLUDE VINYARD PARK. THE G.C. SHALL ENSURE THAT SEDIMENT IS NOT TRANSPORTED OFF-SITE.

**EROSION AND SEDIMENT CONTROL MEASURES:** UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE 'VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION' (VESCH). THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE DIRECTED BY THE LOCAL PROGRAM ADMINISTRATOR.

**STRUCTURAL**

**CONSTRUCTION ENTRANCE-STD. 3.02...** A STONE PAD, LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS TO THE CONSTRUCTION SITE, TO REDUCE THE SOIL TRANSPORTED ONTO PUBLIC ROADS AND OTHER PAVED AREAS.

**SILT FENCE-STD. 3.24...** A TEMPORARY BARRIER CONSTRUCTED ALONG THE PERIMETER OF THE DISTURBED AREA AS REQUIRED TO INTERCEPT AND DETAIN SEDIMENT.

**CULVERT INLET PROTECTION-STD. 3.08...** A SEDIMENT FILTER LOCATED AT THE INLET TO STORM SEWER CULVERTS TO PREVENT SEDIMENT FROM ENTERING, ACCUMULATING IN AND BEING DIVERTED BY A CULVERT.

**TEMPORARY DIVERSION DIKE-STD. 3.09...** A RIDGE OF COMPACTED SOIL CONSTRUCTED AT THE TOP OR BASE OF A SLOPING DISTURBED AREA WHICH DIVERTS SEDIMENT-LADEN RUNOFF TO A SEDIMENT TRAPPING STRUCTURE.

**DIVERSION STD. 3.12...** A CHANNEL CONSTRUCTED ACROSS SLOPE WITH A SUPPORTING EARTHEN RIDGE ON THE LOWER SIDE TO REDUCE SLOPE LENGTH AND TO INTERCEPT AND DIVERT STORMWATER RUNOFF TO STABILIZE OUTLETS AT NON-EROSIVE VELOCITIES.

**TEMPORARY CULVERT CROSSING-STD. 3.24...** A TEMPORARY STRUCTURAL SPAN INSTALLED ACROSS A FLOWING WATERCOURSE FOR USE BY CONSTRUCTION TRAFFIC. STRUCTURES MAY INCLUDE BRIDGES, ROUND PIPES, PIPE ARCHES, OR OVAL PIPES TO PREVENT SEDIMENT GENERATED BY CONSTRUCTION TRAFFIC FROM ENTERING THE WATERCOURSE.

**SPECIAL SEDIMENT BAG - A TEMPORARY SETTLING AND FILTERING DEVICE FOR WATER WHICH IS DISCHARGED FOR DEWATERING ACTIVITIES TO FILTER SEDIMENT-LADEN WATER PRIOR TO THE WATER BEING DISCHARGED OFF-SITE.**

**TURBIDITY CURTAIN STD. 3.27...** A FLOATING GEOTEXTILE MATERIAL WHICH MINIMIZES SEDIMENT TRANSPORT FROM A DISTURBED AREA ADJACENT TO OR WITHIN A BODY OF WATER TO PROVIDE SEDIMENTATION PROTECTION FOR A WATERCOURSE FROM UP-SLOPE LAND DISTURBANCE.

**PUMP-AROUND/DIVERSION...** A TEMPORARY PUMPING SETUP TO DIVERT WATER AROUND IN-CHANNEL WORK TO PREVENT WATER FROM BECOMING SEDIMENT-LADEN.

**VEGETATIVE**

**TEMPORARY SEEDING-STD. 3.21...** ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER BY PLANTING SEED ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR PERIODS OF 30 DAYS TO 1 YEAR BY SEEDING WITH AN APPROPRIATE RAPIDLY GROWING SEED MIXTURE.

**PERMANENT SEEDING-STD. 3.22...** ESTABLISHMENT OF A VEGETATIVE COVER BY PLANTING A SEED ON ALL FINAL GRADED AREAS THAT WILL NOT RECEIVE AN IMPERVIOUS COVER OR RECEIVE TOPSOIL MATERIAL TO PROVIDE A STABILIZED SITE AFTER THE PROJECT IS COMPLETE.

**MULCHING-STD. 3.35...** MULCH SHALL BE APPLIED TO ALL TEMPORARY AND PERMANENT SEEDING OPERATIONS TO PROMOTE THE GROWTH OF VEGETATION AND TO PROTECT THE SOIL SURFACE FROM RAINDROP IMPACTS.

**SOIL STABILIZATION BLANKETS AND MATTING-STD. 3.36...** THE INSTALLATION OF A PROTECTIVE COVERING (BLANKET) OR A SOIL STABILIZATION MAT ON A PREPARED PLANTING AREA OF A STEEP SLOPE.

**MANAGEMENT STRATEGIES:**

A.) CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.

B.) SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING.

C.) THE LOCAL PROGRAM ADMINISTRATOR RESERVES THE RIGHT TO ADD, DELETE OR OTHERWISE CHANGE THE EROSION CONTROL MEASURES AS DEEMED NECESSARY DUE TO ACTUAL FIELD CONDITIONS BY WRITTEN NOTIFICATION TO THE CONTRACTOR.

D.) OUTLETS AND CUT SLOPES SHALL BE SEDED WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE.

E.) ONLY AFTER INSPECTION AND APPROVAL FROM THE LOCAL PROGRAM ADMINISTRATOR MAY ITEMS BE REMOVED FOLLOWING THE STABILIZATION OF THE CONTRIBUTING AREAS.

**INSPECTIONS:**

THE GENERAL CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND THE AREA OF CONSTRUCTION VEHICLE ACCESS AT LEAST EVERY FOURTEEN (14) CALENDAR DAYS, AND WITHIN 48 HOURS OF THE END OF A STORM EVENT PRODUCING 1" OR GREATER OF PRECIPITATION. WHERE AREAS HAVE BEEN FINALLY OR TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (SITE IS COVERED WITH SNOW, ICE, OR FROZEN GROUND EXISTS) SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH.

A.) INSPECT DISTURBED AREAS AND AREAS OF MATERIAL STORAGE THAT ARE EXPOSED TO PRECIPITATION FOR EVIDENCE OF, OR, THE POTENTIAL FOR SEDIMENT ENTERING THE STORM DRAIN SYSTEM. INSPECT E&S CONTROLS IN ACCORDANCE WITH REQUIREMENTS STATED HEREIN, AND INSPECT POINTS OF STORM DRAIN DISCHARGE FOR EXCESSIVE SEDIMENTATION. CORRECT SITE CONTROLS AS REQUIRED TO REDUCE SEDIMENTATION OF STORM DRAINS, CULVERTS, AND RECEIVING CHANNELS.

B.) IF CONTROLS OR SEDIMENT PREVENTION AREAS ARE FOUND TO BE IN NEED OF REPAIR OR MODIFICATION, THE G.C. SHALL PROVIDE ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES AS REQUIRED. ANY ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES SHALL BE RECORDED AS FIELD REVISIONS TO THESE PLANS. IN THE EVENT THAT ADDITIONAL CONTROLS ARE FOUND TO BE REQUIRED, THE G.C. SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE CONTROLS BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICAL, THEY SHALL BE IMPLEMENTED AS SOON AS PRACTICAL.

C.) A REPORT SUMMARIZING THE SCOPE OF INSPECTIONS, NAME OF INSPECTOR, INSPECTOR'S QUALIFICATIONS, DATES OF INSPECTIONS, MAJOR OBSERVATIONS PERTAINING TO THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS, AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS PART OF THESE PLANS. MAJOR OBSERVATIONS OF THESE REPORTS SHALL INCLUDE: THE LOCATIONS OF EXCESSIVE SEDIMENTATION FROM THE SITE; LOCATIONS OF CONTROLS IN NEED OF REPAIR; LOCATIONS OF RAILED OR INADEQUATE CONTROLS; AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED.

**EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE:**

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

1. THE CONSTRUCTION ENTRANCE WILL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR SPILLAGE OF MUD ON PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REMOVAL OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS WILL BE REMOVED IMMEDIATELY.

2. THE SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DEGRADATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

3. GRATE AND CURB INLET PROTECTIONS SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE INLET PROTECTIONS SHALL BE RESTORED TO ITS ORIGINAL DIMENSIONS. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT WILL NOT ERODE. INLET PROTECTION SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

4. OUTLET PROTECTION SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE OUTLET PROTECTION SHALL BE RESTORED TO ITS ORIGINAL DIMENSIONS. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT WILL NOT ERODE. INLET PROTECTION SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

5. ALL SOIL STABILIZATION BLANKETS AND MATTING SHALL BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL WHICH TIME THEY BECOME PERMANENTLY STABILIZED; AT THAT TIME AN ANNUAL INSPECTION SHALL BE ADEQUATE.

6. TEMPORARY AND PERMANENT SEEDING AREAS SHALL BE INSPECTED TO DETERMINE IF AREAS ARE PRESENT WHERE PLANTS HAVE NOT GERMINATED OR HAVE DIED. THESE AREAS MUST BE RESEED IMMEDIATELY TO PREVENT EROSION DAMAGE.

7. ALL MULCHES AND SOIL COVERINGS SHALL BE INSPECTED PERIODICALLY (PARTICULARLY AFTER RAINSTORMS) TO CHECK FOR EROSION. WHERE EROSION IS OBSERVED IN MULCHED AREAS,

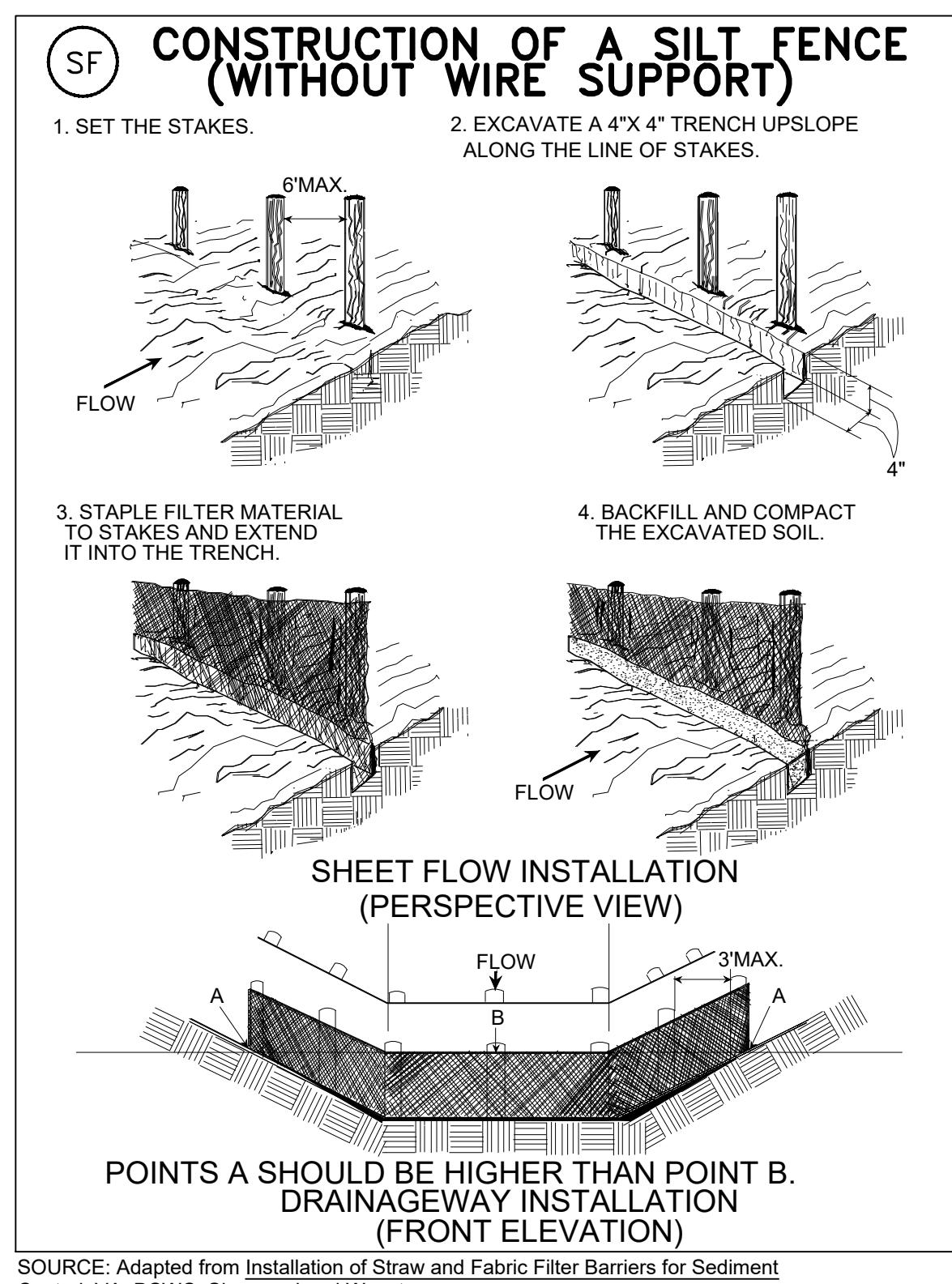


PLATE. 3.05-2

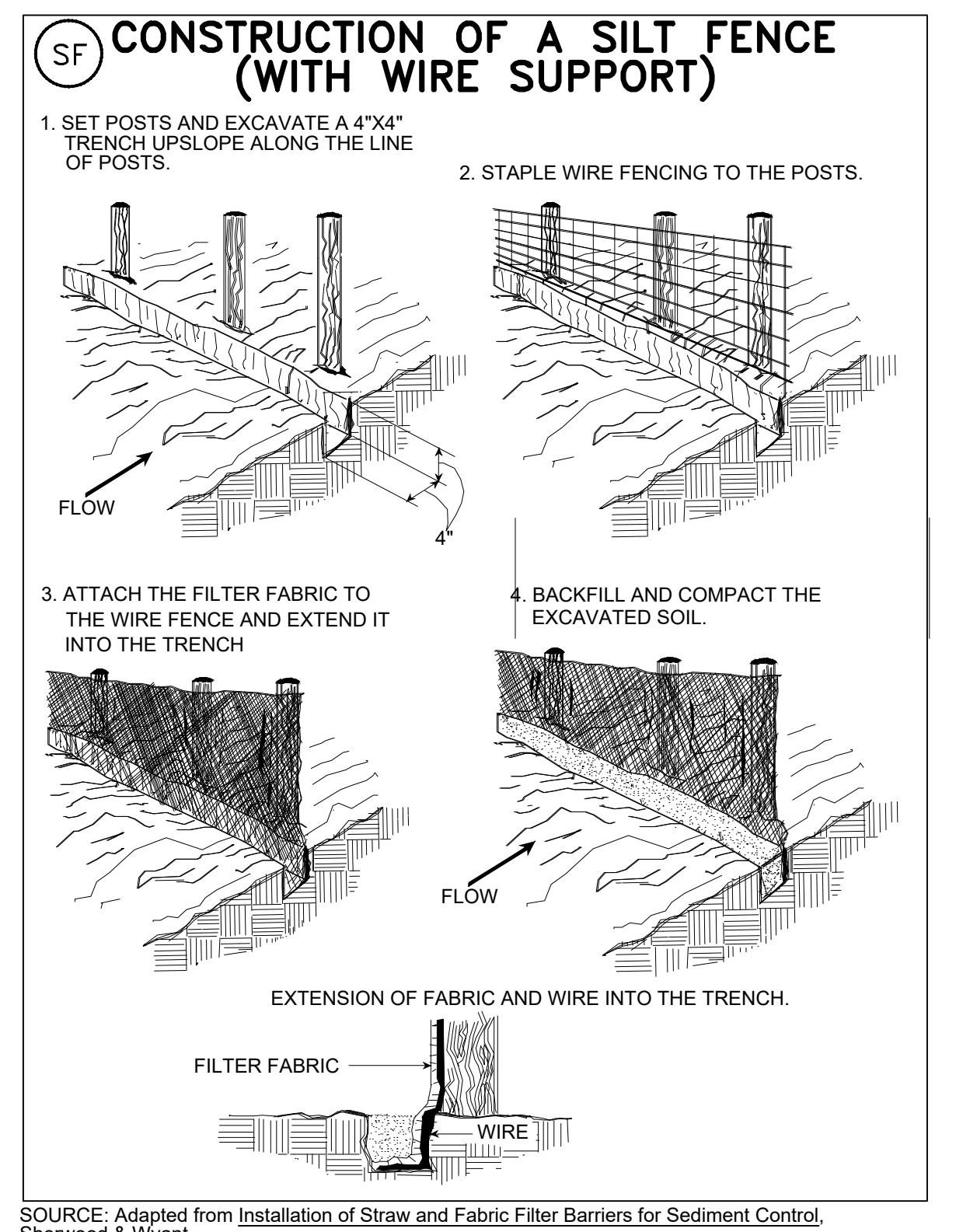
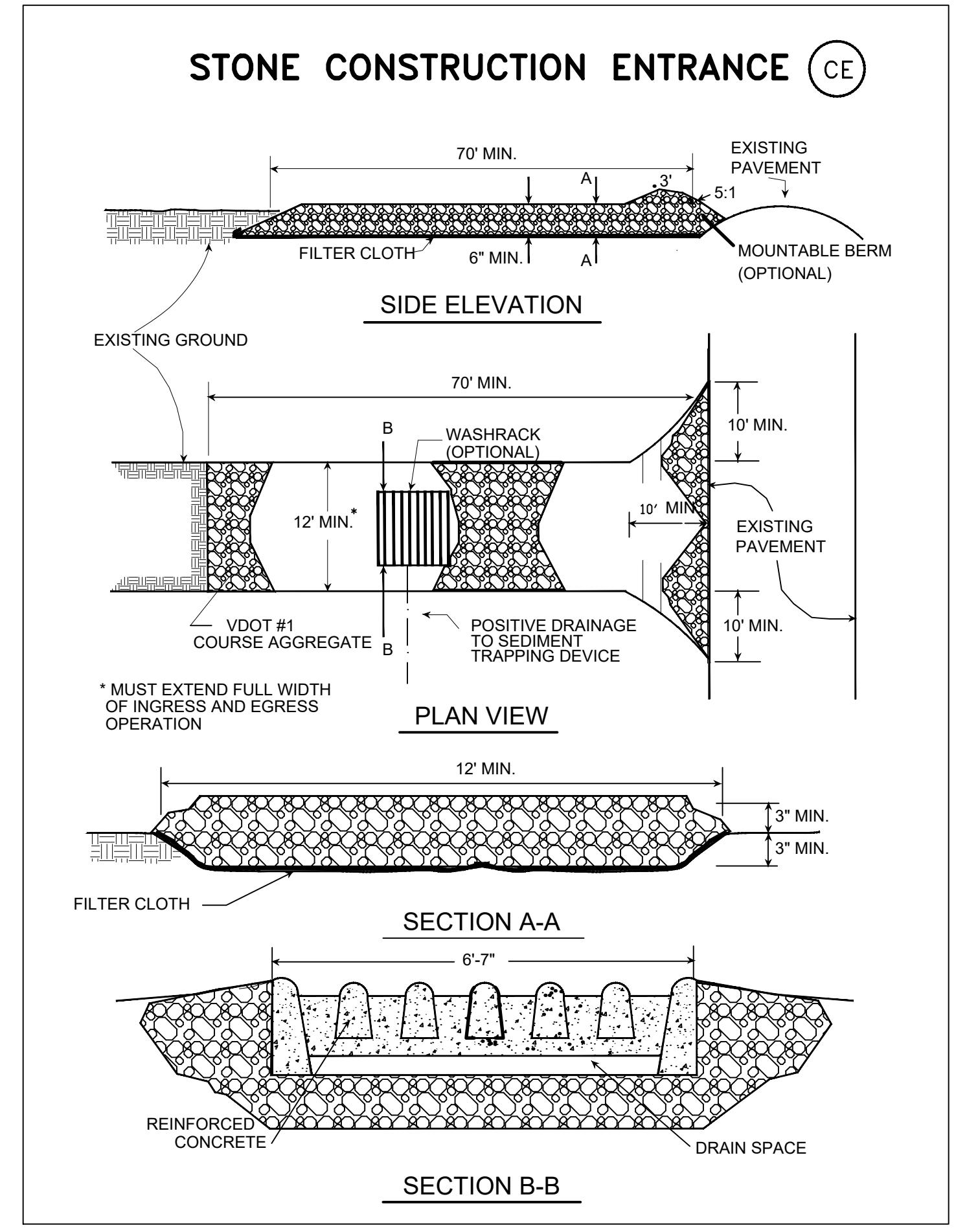
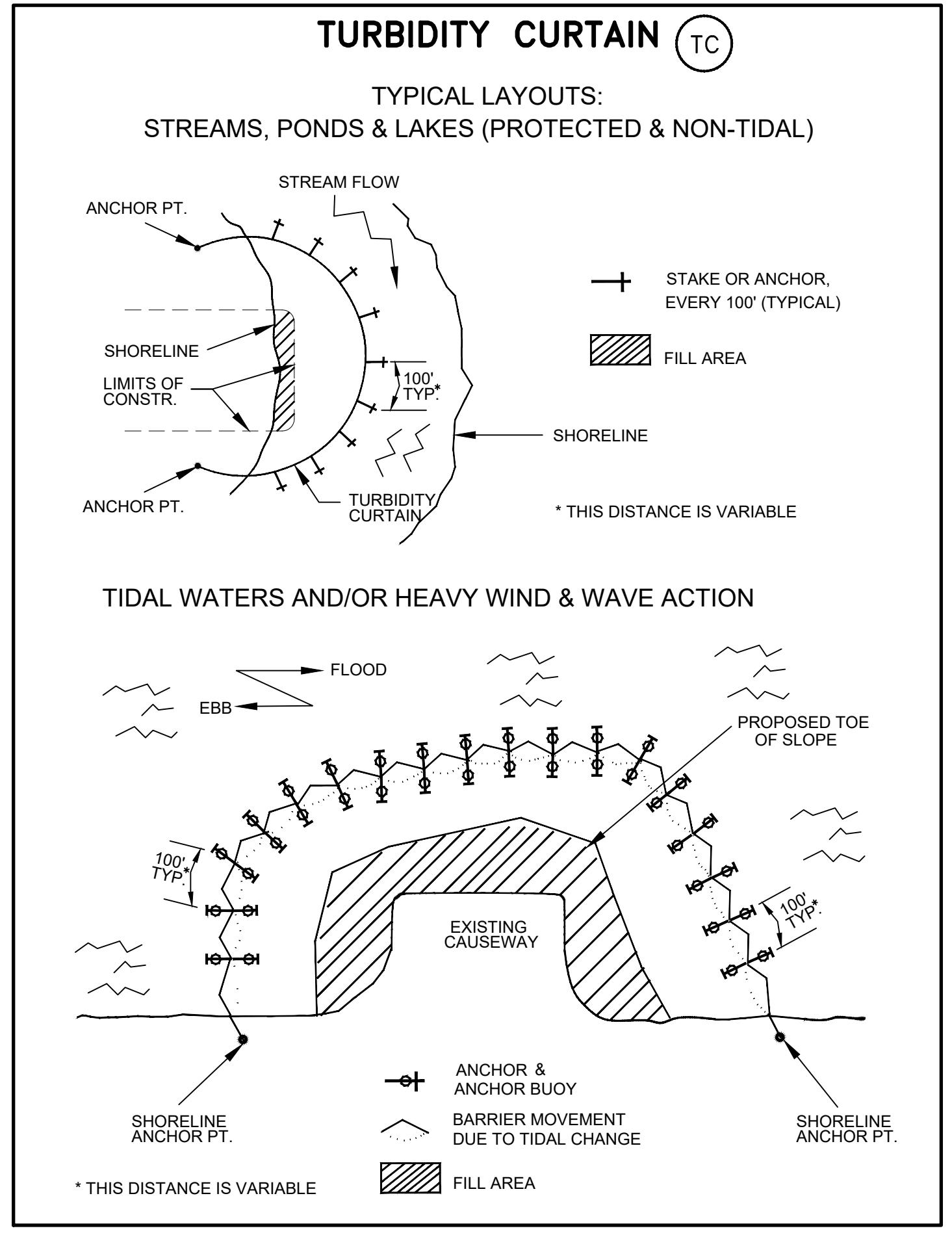
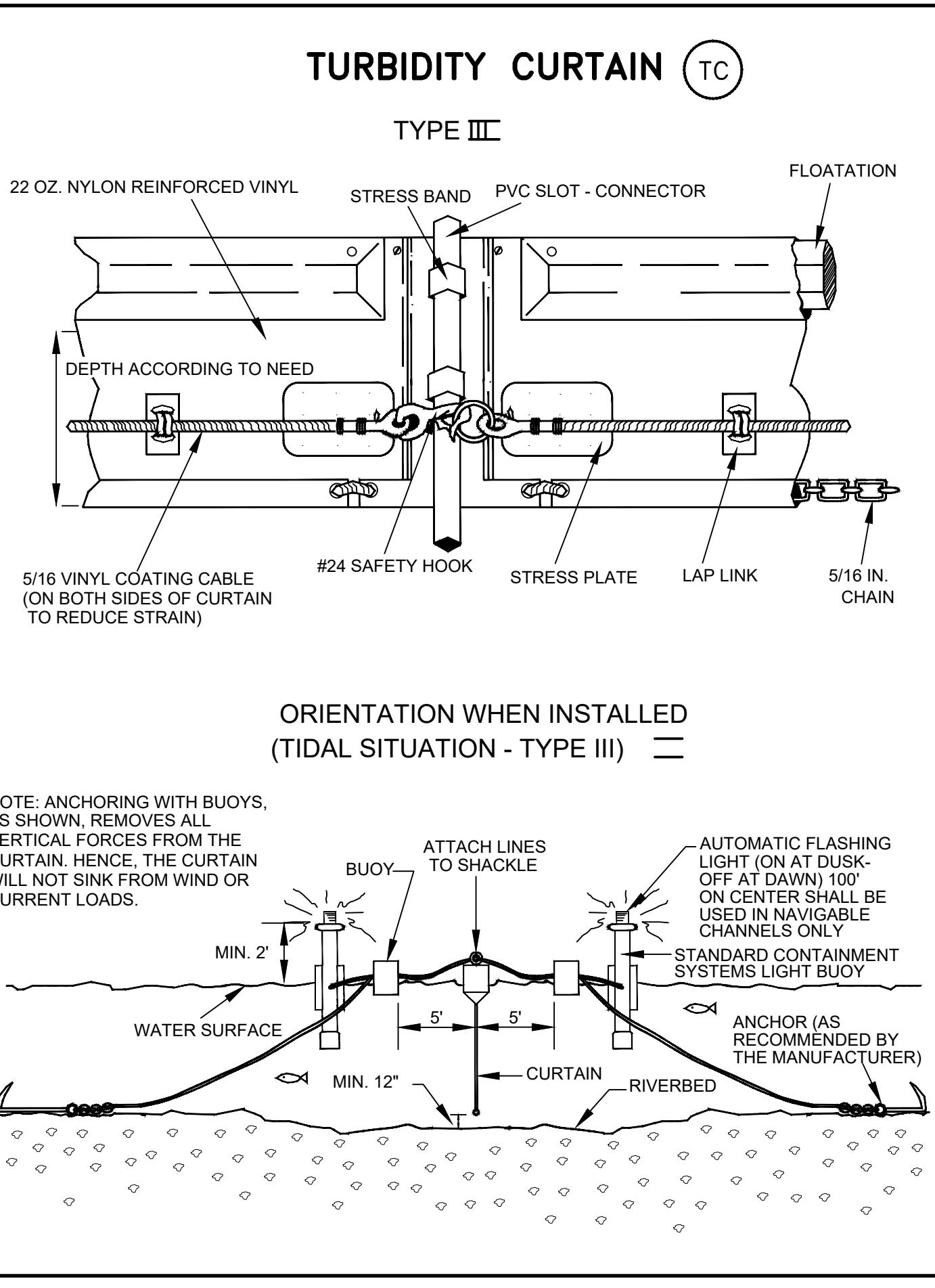
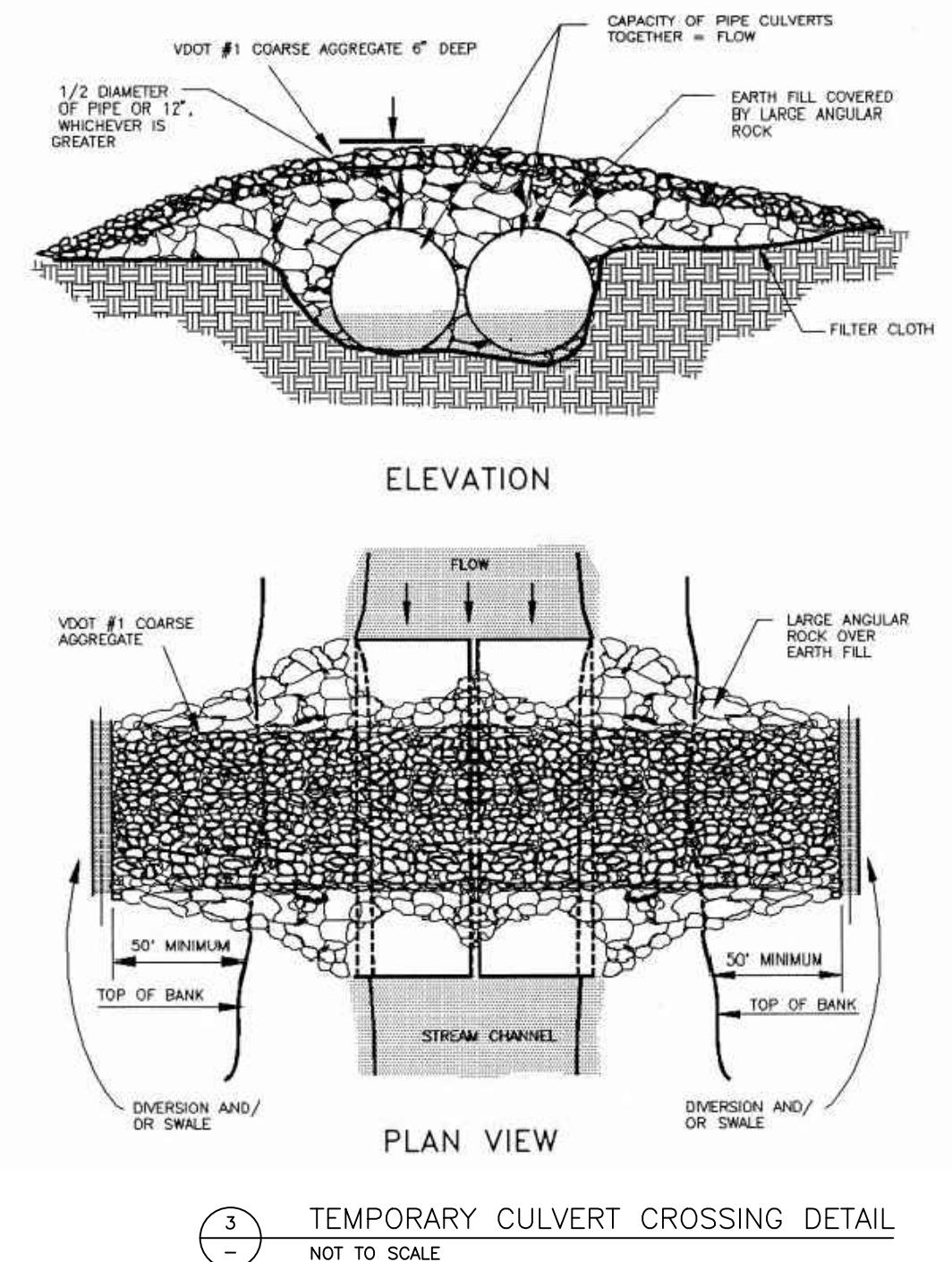


PLATE. 3.05-1

**TEMPORARY CULVERT CROSSING**



**GENERAL EROSION AND SEDIMENT CONTROL NOTES**

- ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN SHALL BE PLACED IN ADVANCE OF THE WORK BEING PERFORMED, AS FAR AS PRACTICAL.
- IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.
- FOR EROSION CONTROL SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL PLANS SUBMITTED TO ROANOKE COUNTY.

**PS PERMANENT SEEDING MIXTURE**

EXCLUDES STREAMBANK STABILIZATION WITHIN DISTURBED AREAS (SEE SHEET C-10)

TYPE A	TYPE B (SLOPES 3:1 OR STEEPER)
15 OCTOBER TO 1 FEBRUARY K-31 FESCUE @ 5 LB / 1000 SF BORZY WINTER RYE @ 1/2 LB / 1000 SF	15 MARCH TO 1 MAY GROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF RED TOP @ 1/8 LB / 1000 SF
K-31 FESCUE @ 5 LB / 1000 SF	CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF RED TOP @ 1/8 LB / 1000 SF
1 JUNE TO 1 SEPTEMBER K-31 FESCUE @ 5 LB / 1000 SF GERMAN MILLET @ 1/2 LB / 1000 SF	15 AUGUST TO 1 OCTOBER CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF RED TOP @ 1/8 LB / 1000 SF
1 SEPTEMBER TO 15 OCTOBER K-31 FESCUE @ 5 LB / 1000 SF ANNUAL RYE @ 1/2 LB / 1000 SF	1 JUNE TO 1 JUNE K-31 FESCUE @ 5 LB / 1000 SF ANNUAL RYE @ 1/2 LB / 1000 SF

LIME: 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE  
FERTILIZER: 5-20-10 @ 25 LB / 1000 SF  
38-0-0 @ 7 LB / 1000 SF

MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE CONTRACTOR.

SOIL CONDITIONING: ADDITIONAL PULVERIZED LIME AND FERTILIZER SEEDING OF CERTIFIED MAINTENANCE OF NEW SEEDINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE CONTRACTOR.

SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

VERIFICATION: Bar is one inch on original drawing, not one inch on this sheet, adjust scale.

**CIVIL**

**EROSION CONTROL DETAILS**

**PHASE II**

ROANOKE COUNTY, VIRGINIA  
RESTORATION OF GLADE CREEK AT VINYARD PARK

ISSUED FOR CONSTRUCTION

EC-8

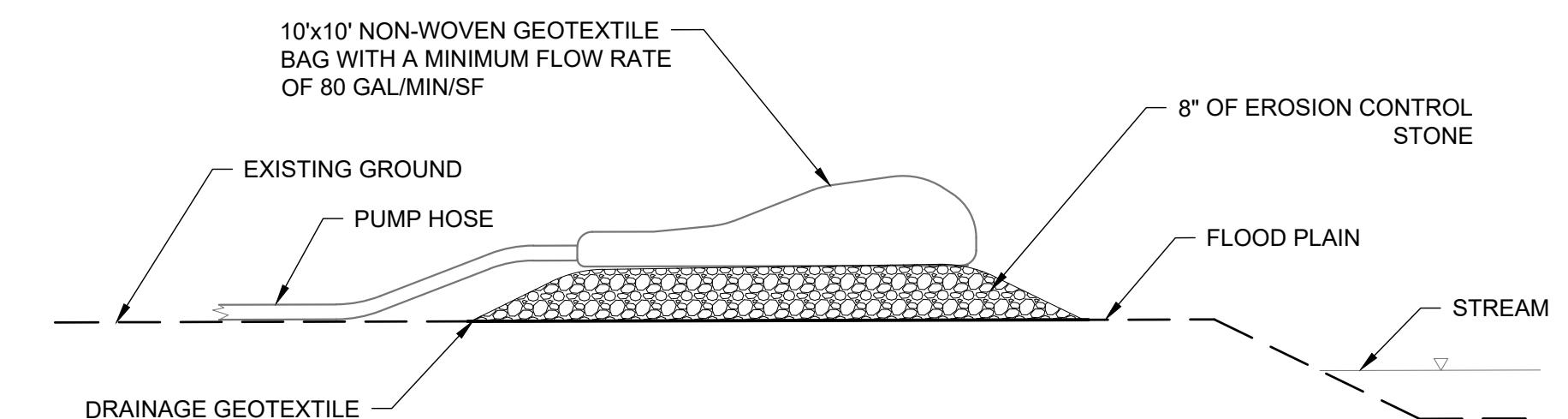
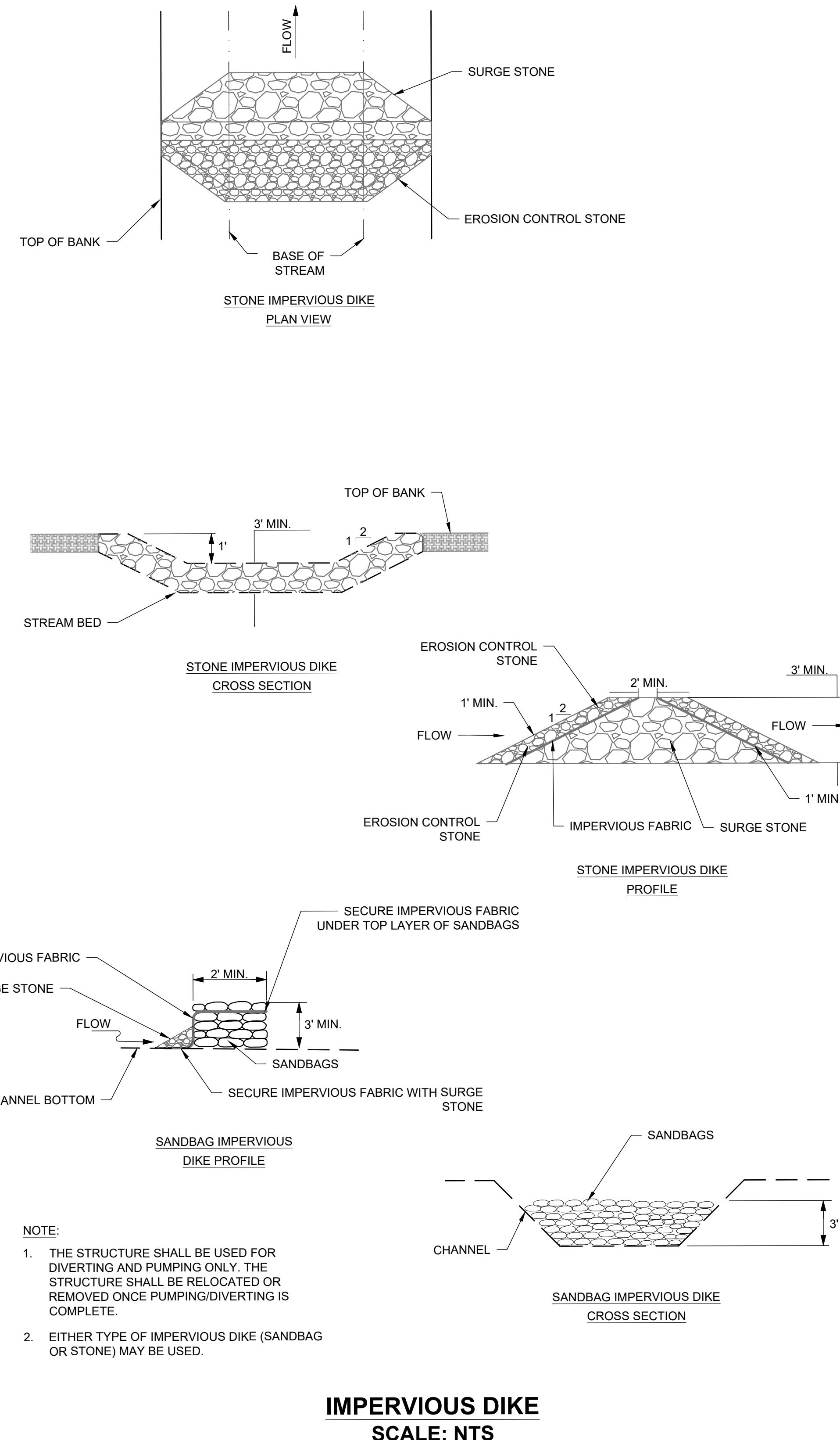
FINAL PLAN SET

SEQ.

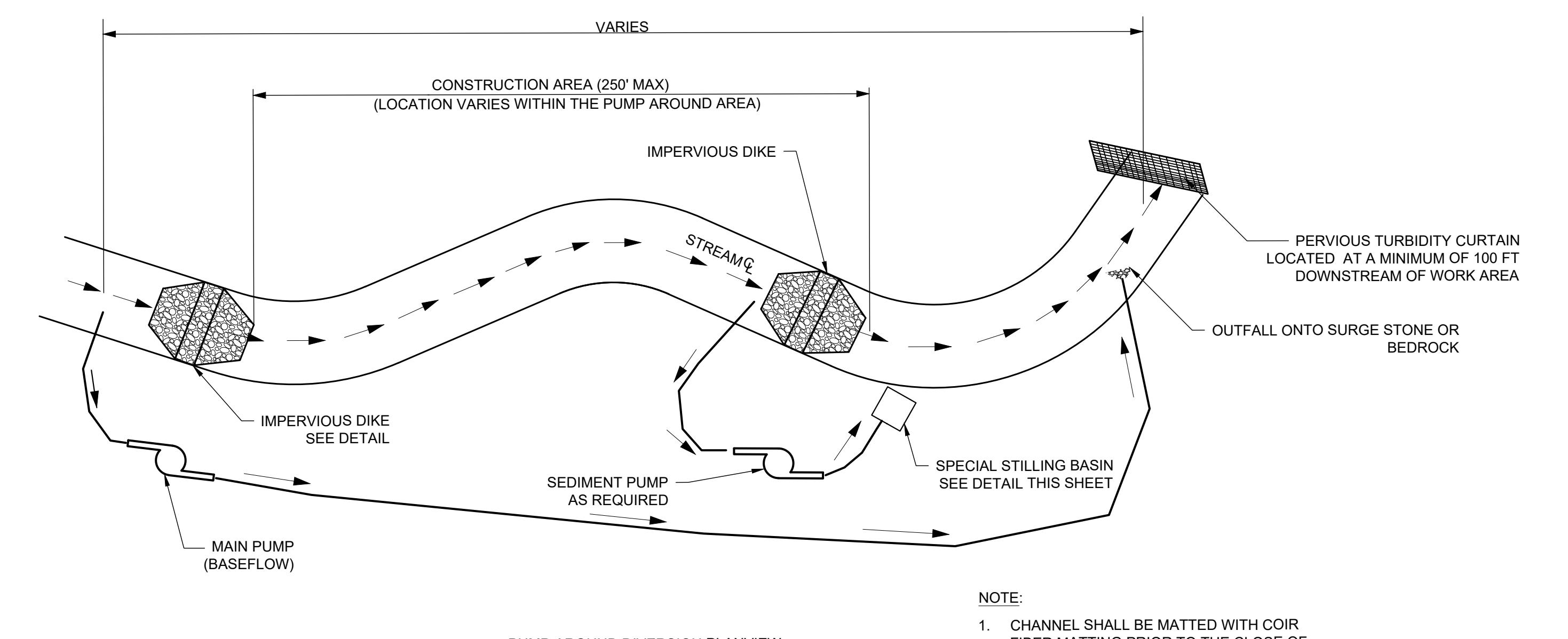
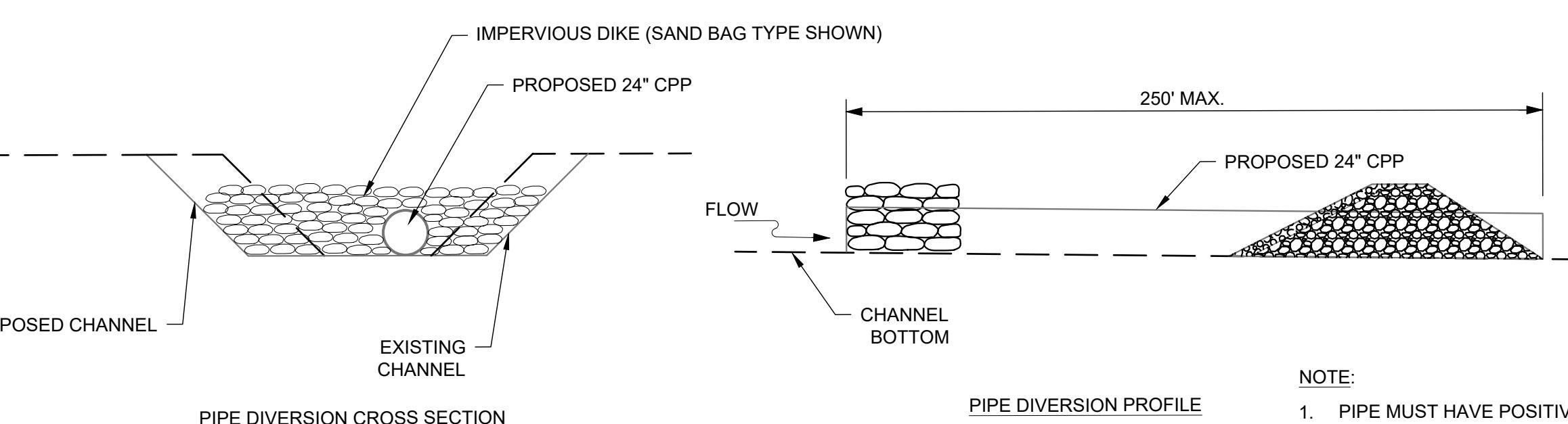
# EROSION CONTROL CIVIL DETAILS

FILE NAME        DATE         
EC-5 NOTES AND LEGEND.dwg

drawing. If not one inch on this sheet, adjust scale.



**SPECIAL STILLING BASIN**  
**SCALE: NTS**



# **PUMP-AROUND/PIPE DIVERSION**

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## **SCALE: NTS**

NOTE:

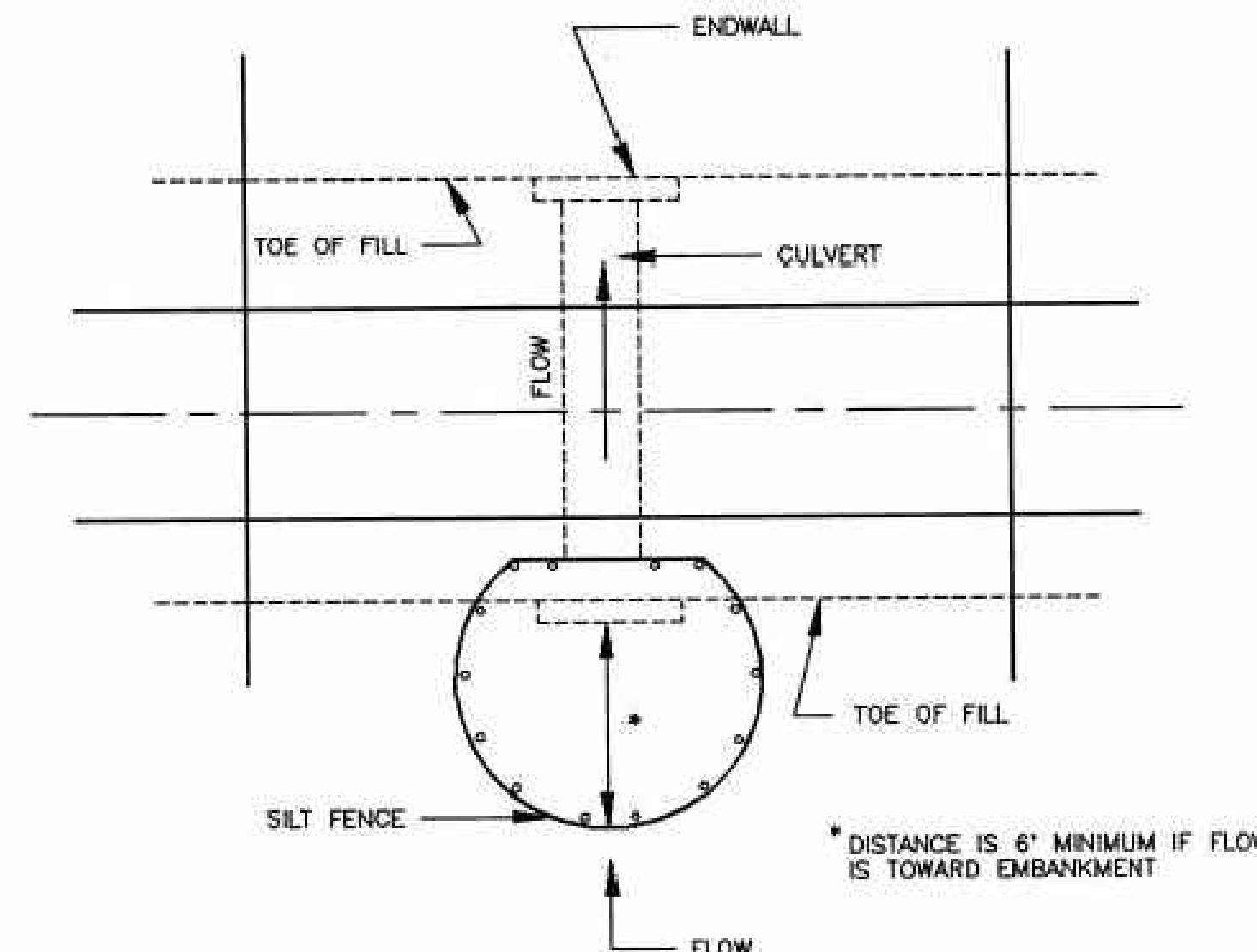
1. CHANNEL SHALL BE MATTED WITH COIR FIBER MATTING PRIOR TO THE CLOSE OF EACH WORK DAY.
2. IF FINAL CHANNEL GRADING HAS NOT BEEN PERFORMED, TEMPORARILY SECURE COIR MATTING WITH STAKES OR ROCK
3. THE MAIN PUMP SHALL BE ADEQUATE TO REDIRECT STREAM BASE FLOW AROUND CONSTRUCTION ACTIVITIES.
4. SEDIMENT PUMPS SHALL BE ADEQUATE TO PUMP WATER THAT HAS INFILTRATED INTO THE CONSTRUCTION AREA WHILE CONSTRUCTION ACTIVITIES ARE ON GOING.
5. DURING ANTICIPATED LARGER STORM EVENTS, CHANNEL CONSTRUCTION SHALL BE STABILIZED TO REDUCE EROSION.
6. FOR FLOWS EXCEEDING 5 CFS, PERVIOUS TURBIDITY CURTAINS SHOULD BE USED TO PROVIDE IN-CHANNEL EROSION CONTROL.

# ISSUED FOR CONSTRUCTION

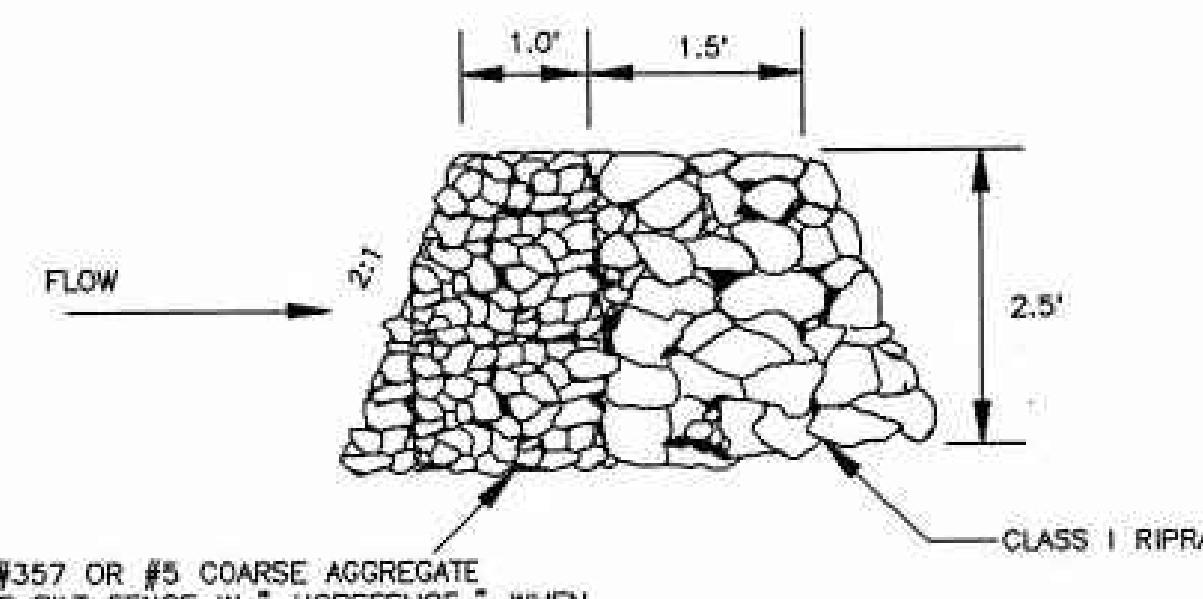
FINAL PLAN SET

F		RNC16684	
DATE 05.15.2018			
DESIGNED	BMD	DRAWN	EMD
		REVISED	
		CHECKED	BMD
VERIFY SCALE	Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.	FILE NAME	EC-5 NOTES AND LEGEND.dwg
0			

## SILT FENCE CULVERT INLET PROTECTION

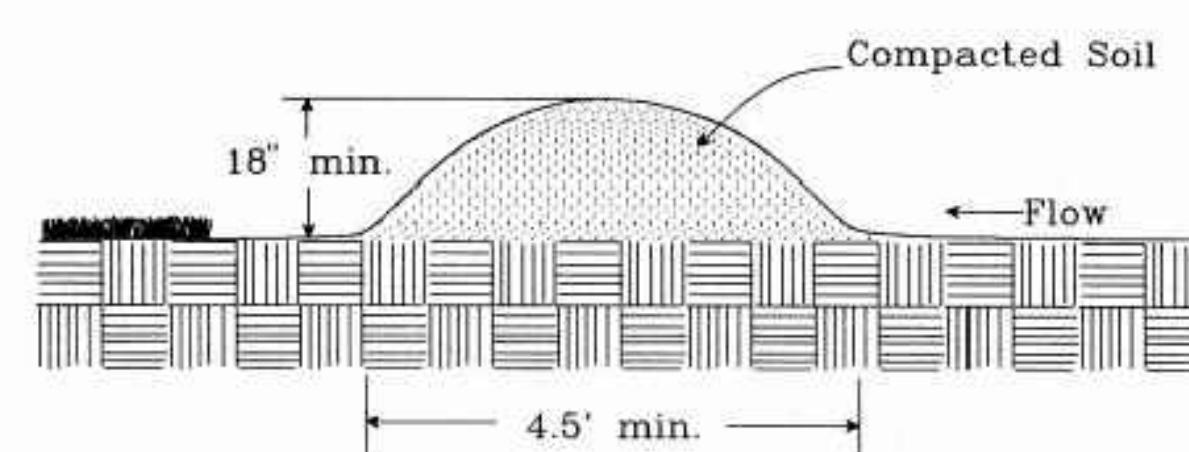


## OPTIONAL STONE COMBINATION \*\*



1 SILT FENCE CULVERT INLET PROTECTION  
NOT TO SCALE

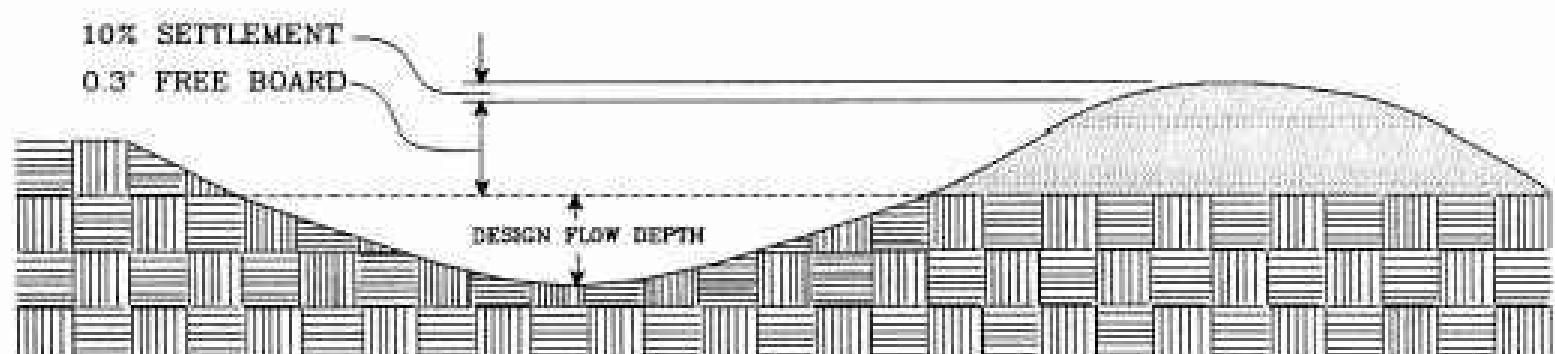
## TEMPORARY DIVERSION DIKE



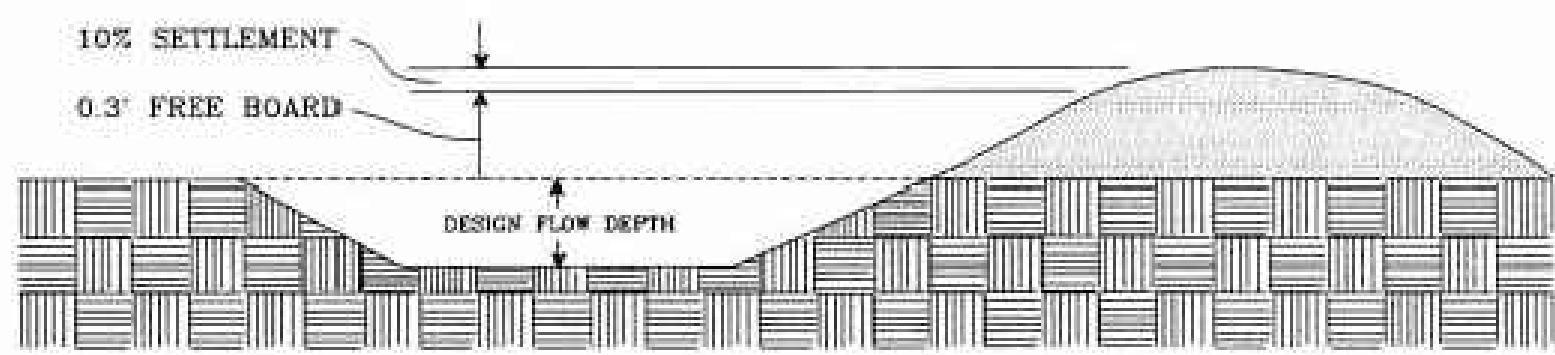
3 TEMPORARY DIVERSION DIKE  
NOT TO SCALE

NOTE:  
1. IMMEDIATELY STABILIZE TEMPORARY DIVERSION DIKE IN ACCORDANCE WITH MINIMUM STANDARD 5.

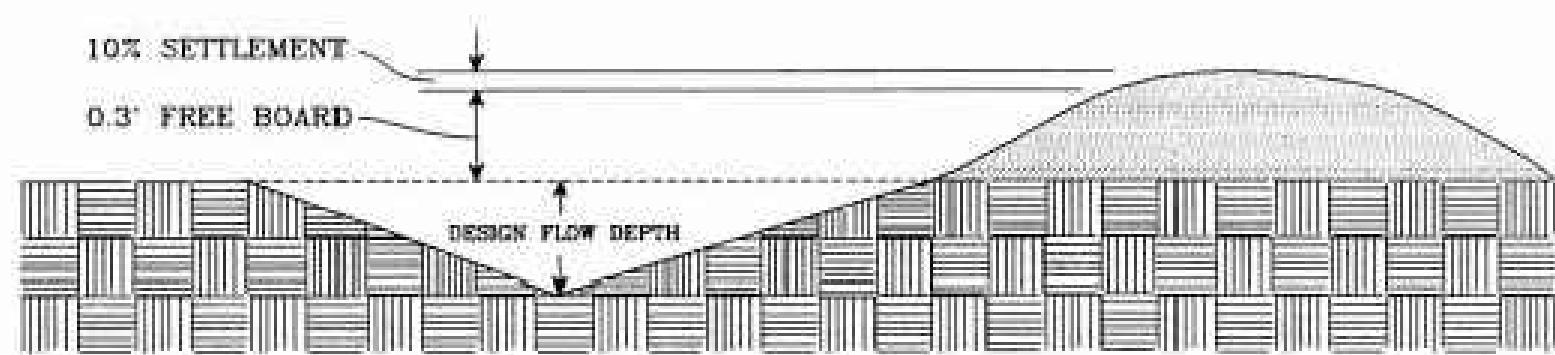
## DIVERSIONS



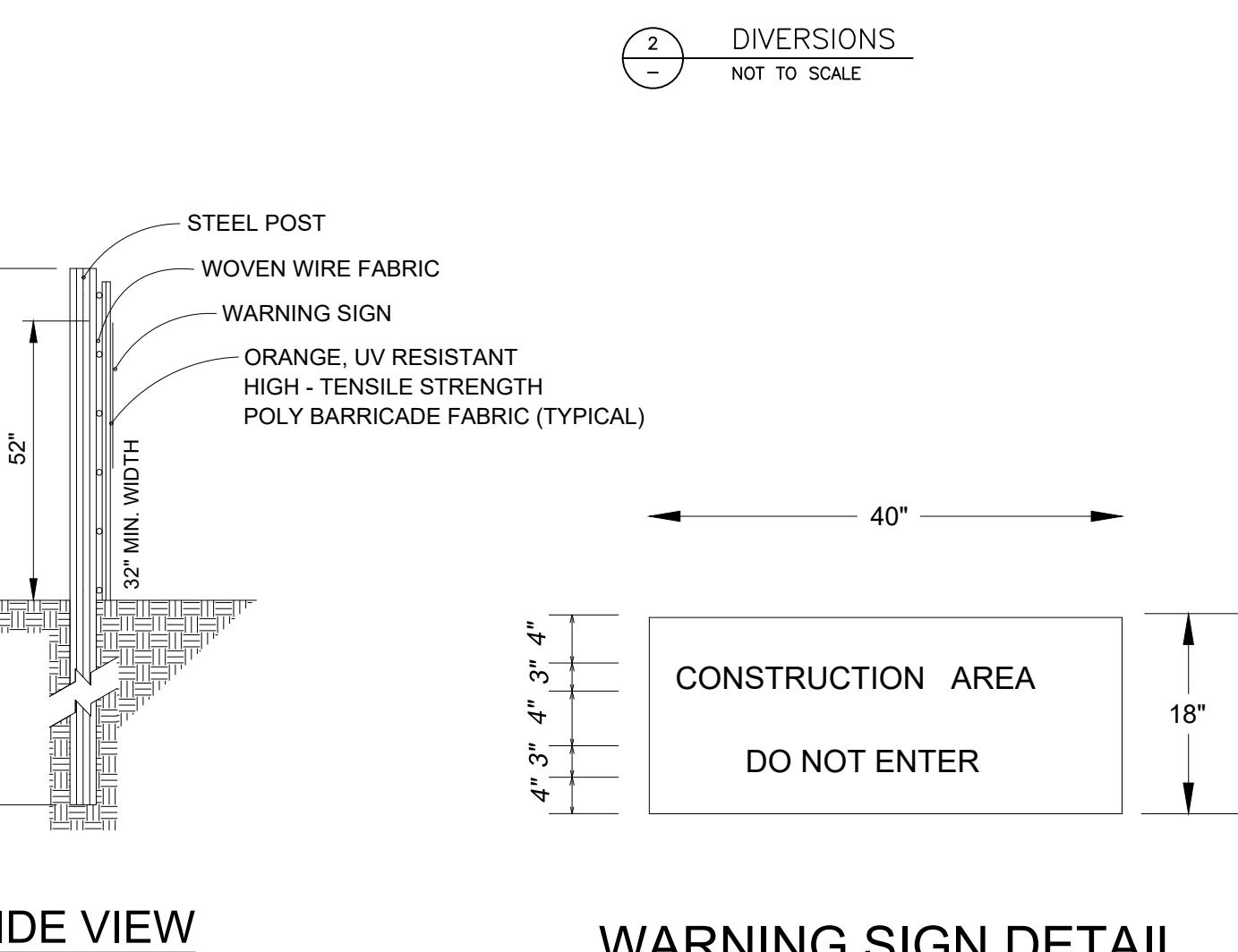
### TYPICAL PARABOLIC DIVERSION



### TYPICAL TRAPEZOIDAL DIVERSION



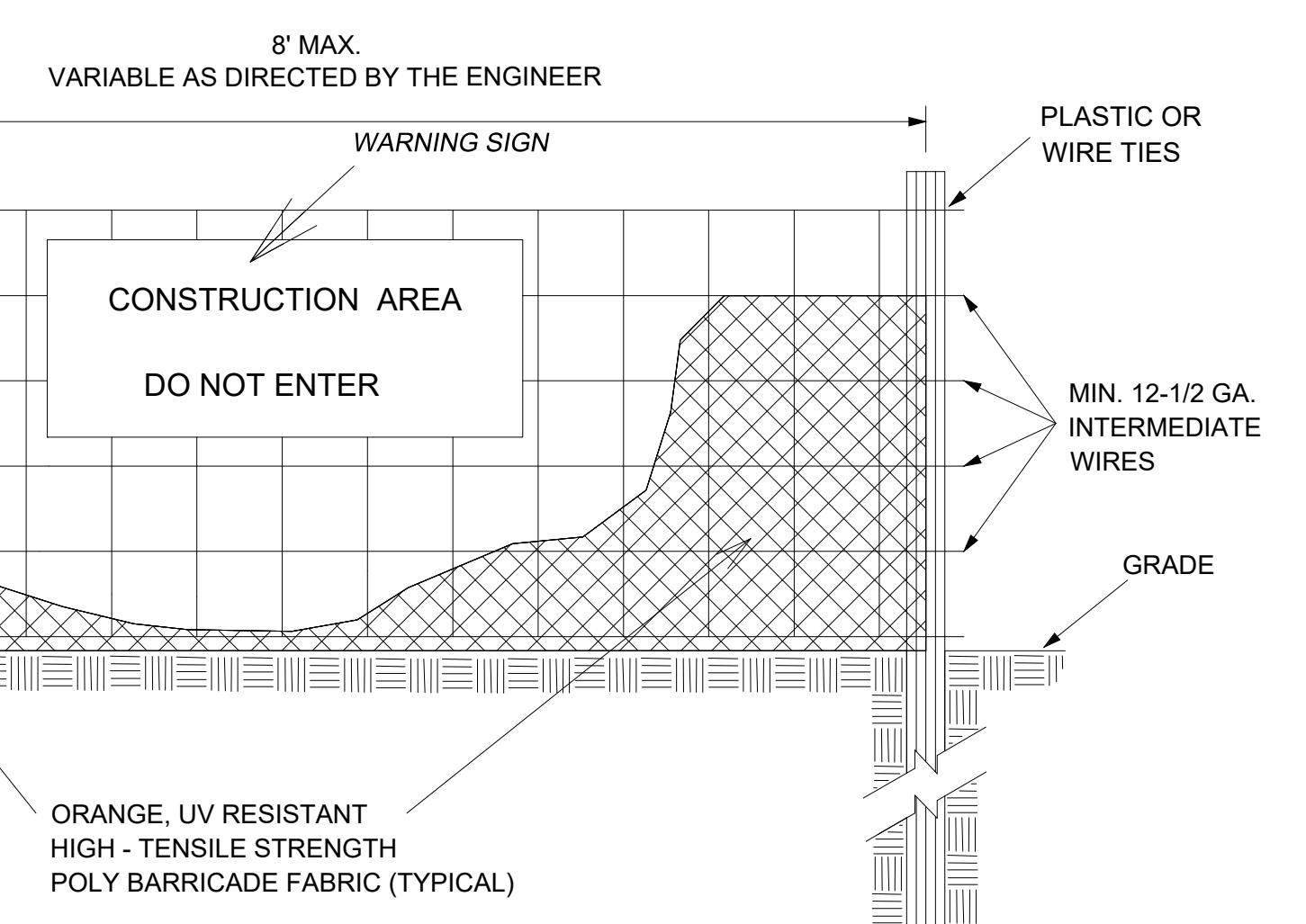
### TYPICAL VEE-SHAPED DIVERSION



### WARNING SIGN DETAIL

#### NOTES:

1. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
2. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. PLACE A SIGN AT EACH END OF LINEAR CONSTRUCTION AREA, AND 50' ON CENTER THEREAFTER.
4. FOR CONSTRUCTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER CONSTRUCTION AREA.
5. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
6. MAINTAIN CONSTRUCTION FENCE THROUGHOUT DURATION OF PROJECT.
7. ALL SAFETY FENCE TO BE A MIN. OF 6' TALL TO SEPARATE PARK ACTIVITIES FROM WORK AREA.



### FRONT VIEW

4 CONSTRUCTION SAFETY FENCE  
NOT TO SCALE

ISSUED FOR CONSTRUCTION  
FINAL PLAN SET  
SEQ. .

**FREESE**  
**ON NICHOLS**

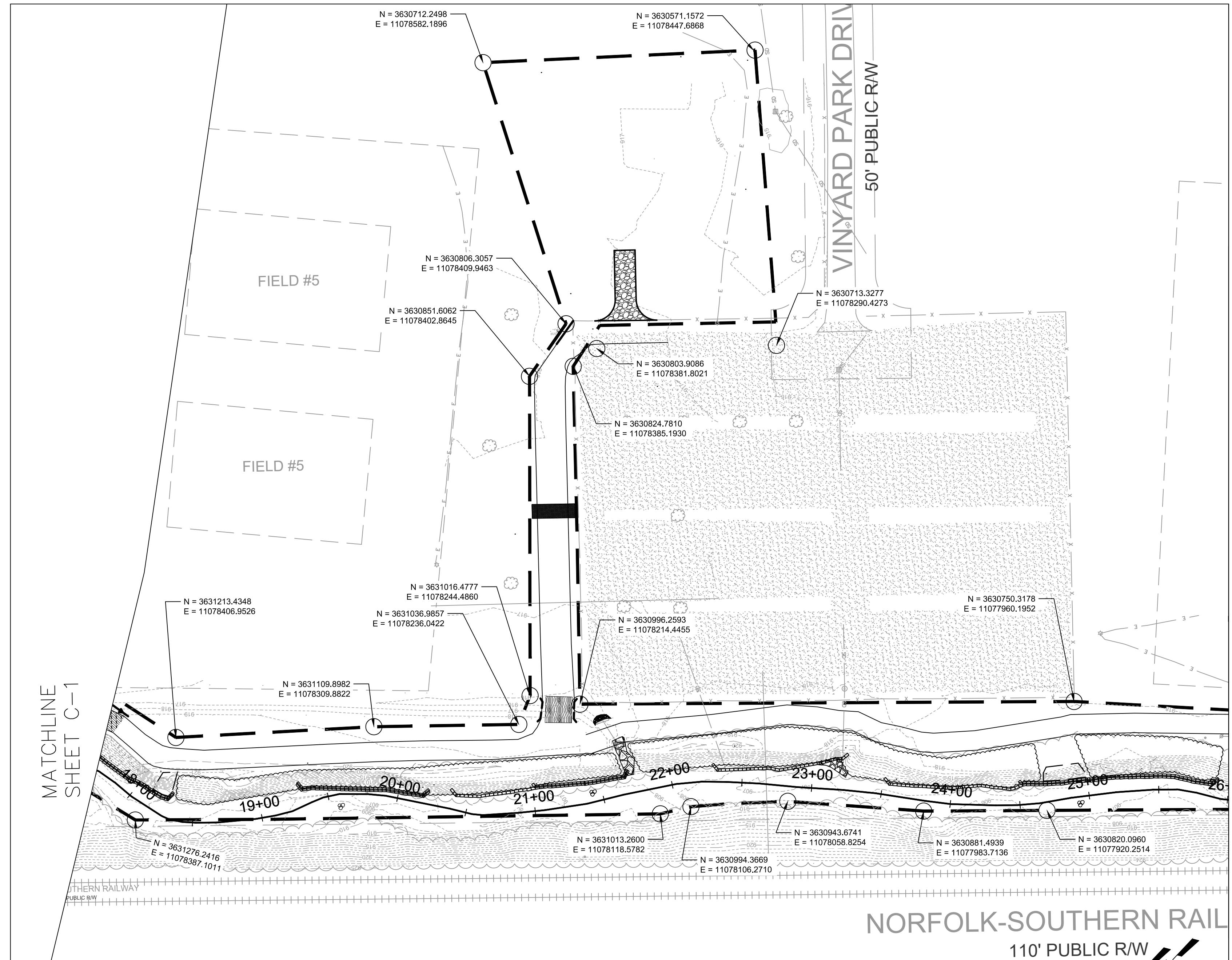
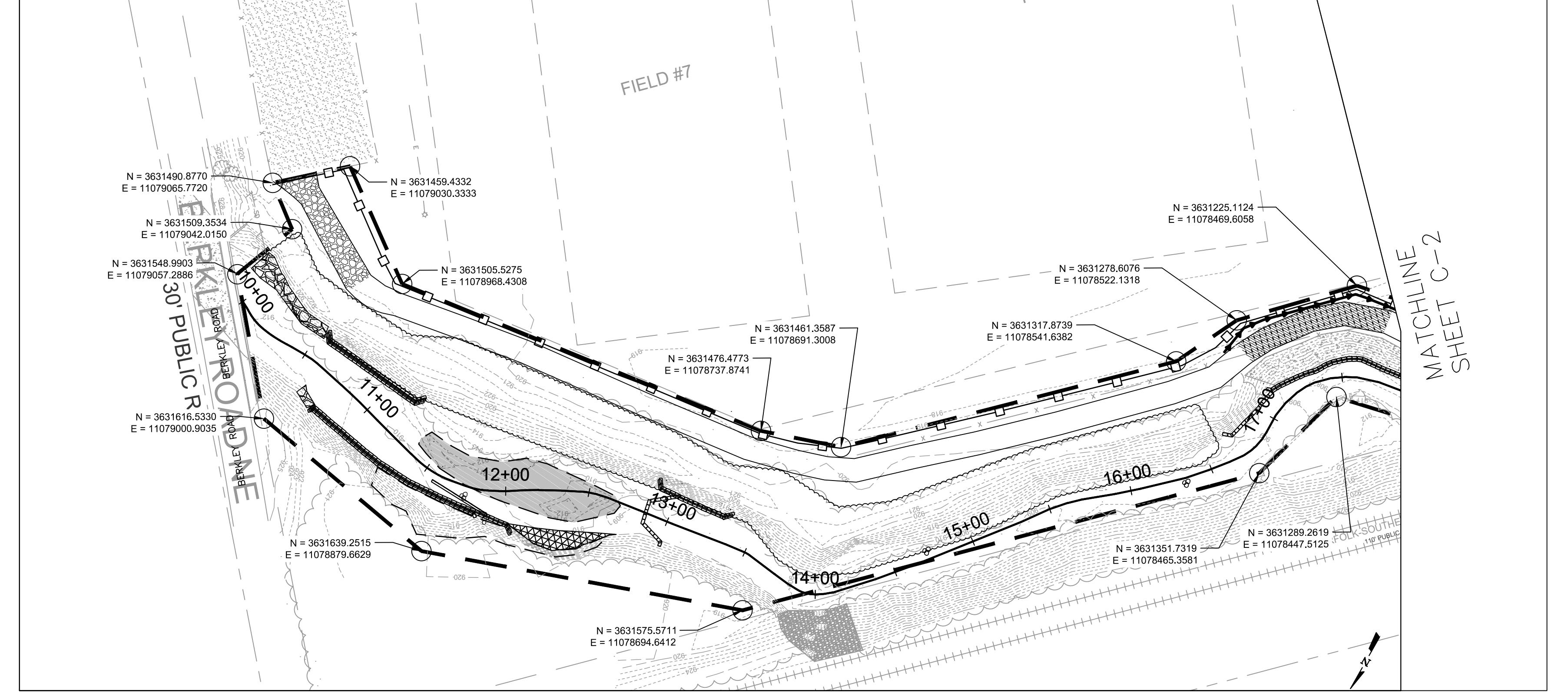
711 Green Valley Road  
Greensboro, North Carolina 27408  
Phone: 336.701.6744  
Web: www.fonsc.com

ROANOKE COUNTY, VIRGINIA  
RESTORATION OF GLADE CREEK AT VINYARD PARK  
CIVIL  
PHASE II  
EROSION CONTROL DETAILS

NO.	ISSUE	BY	DATE	FA NO.	REV NO.	DATE	FA NO.	REV NO.	FILE NAME
1				RNC16684		05-15-2018			
2									
3									
4									

VERIFY SCALE Bar is one inch on original drawing, if not, one inch on this sheet, adjust scale.

EC-10



0 50' 100' 0 4' 8'

SCALE IN FEET HORIZONTAL SCALE IN FEET VERTICAL

LEGEND

— LIMITS OF DISTURBANCE

ROANOKE COUNTY, VIRGINIA RESTORATION OF GLADE CREEK AT VINYARD PARK PHASE II CIVIL					
NO.	ISSUE	BY	DATE	FOR JOB NO.	FILE NAME
				RNC16684	LD-1 LIMITS OF DISTURBANCE.dwg
				DATE 05-15-2018	
				DESIGNED	
				DRAWN	
				EMD	
				REVISED	
				CHECKED	
				REMOVED	

VERIFY SCALE	Bar is one inch on original drawing if not one inch on this sheet, adjust scale.
0	LD-1 LIMITS OF DISTURBANCE.dwg

ISSUED FOR  
CONSTRUCTION

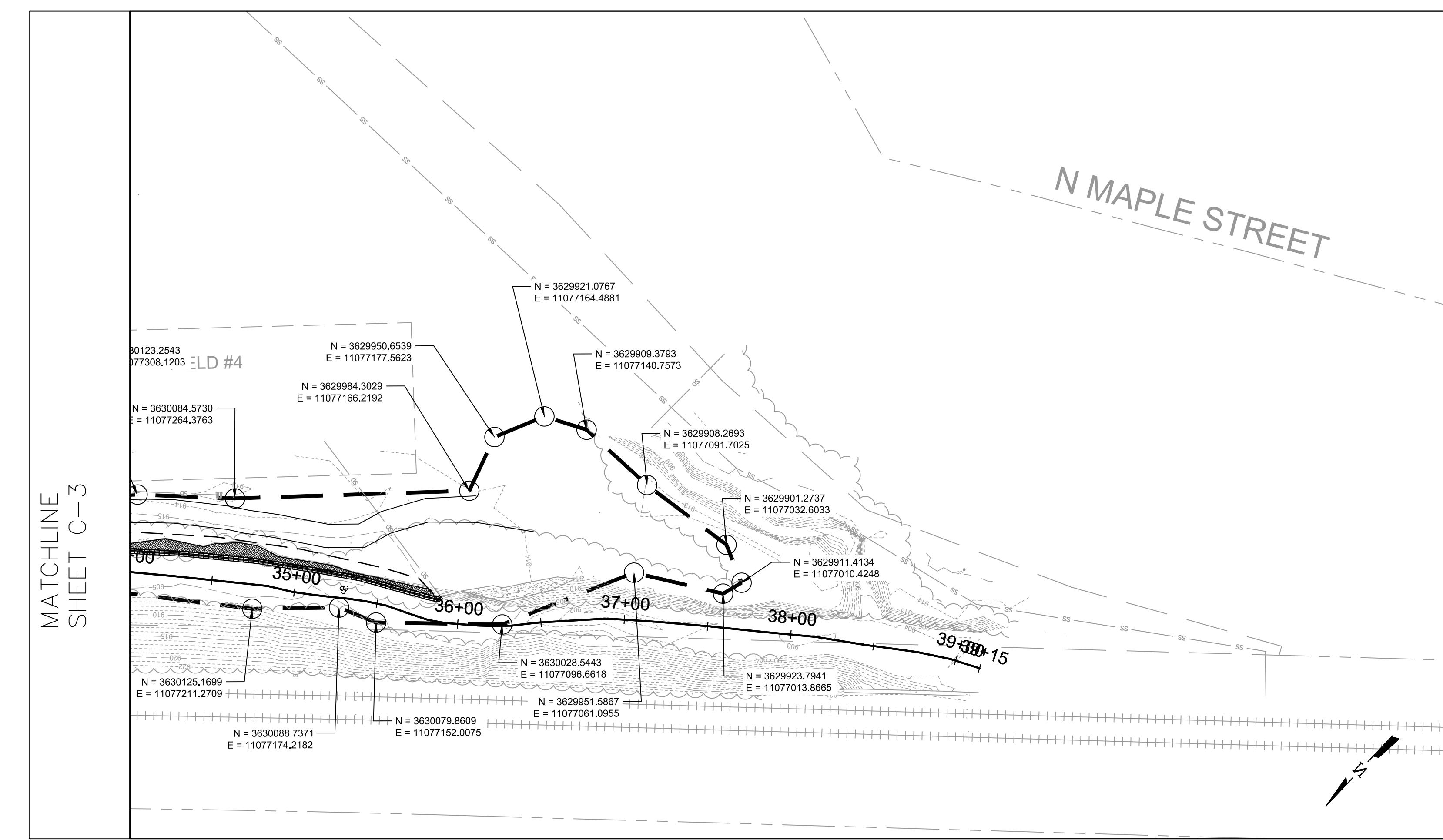
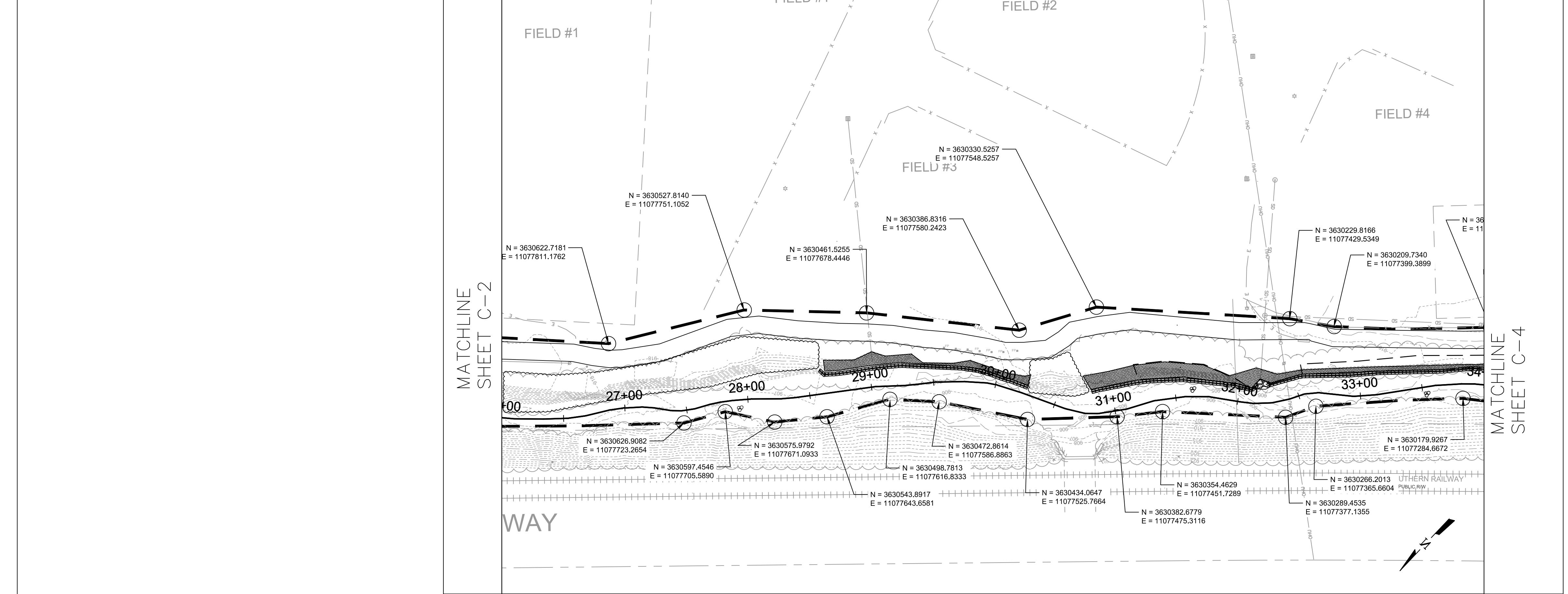
FINAL PLAN SET



**FREESE**  
**on NICHOLS**

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Greensboro, North Carolina 27408  
Phone: 336.700.6744  
Web: www.fonc.com

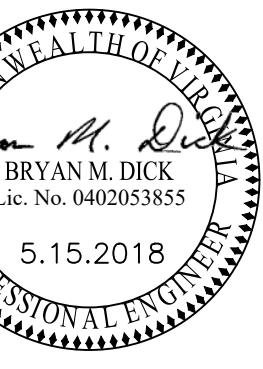
LIMITS OF DISTURBANCE



ISSUED FOR  
CONSTRUCTION

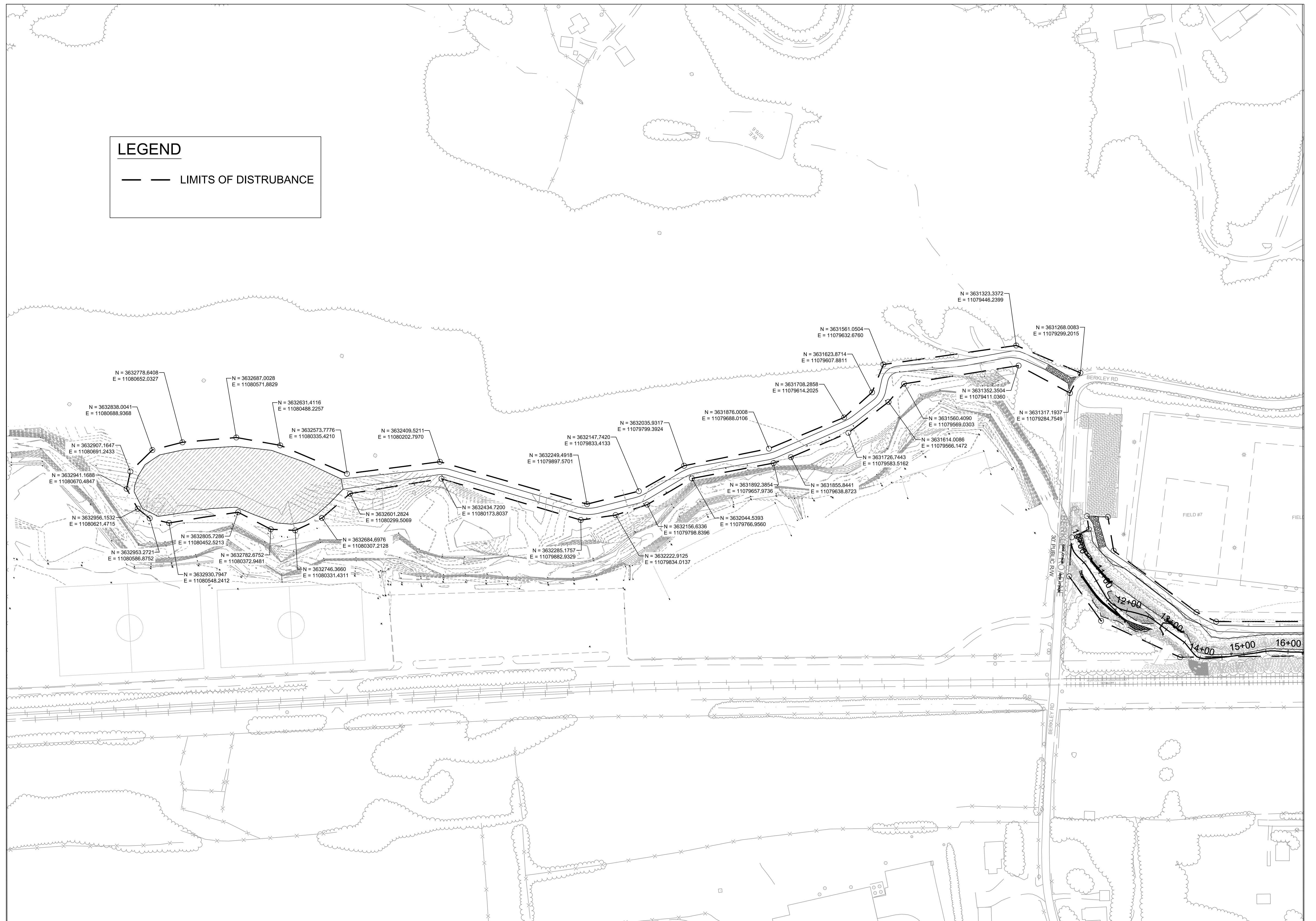
FINAL PLAN SET

SEQ.	LD-2	LD-1 LIMITS OF DISTURBANCE.dwg	FILE NAME
0			Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.



**FREESE**  
**ON NICHOLS**

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 Greensboro, North Carolina 27408  
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FINAL PLAN SET

SEQ. LD-3

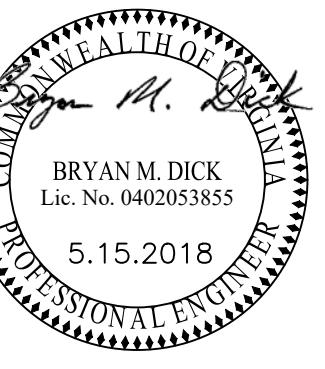
SCALE IN FEET  
VERTICAL

SCALE IN FEET  
HORIZONTAL

ROANOKE COUNTY, VIRGINIA  
RESTORATION OF GLADE CREEK AT VINYARD PARK

PHASE II  
CIVIL

**FREESE**  
**and NICHOLS**  
711 Green Valley Road  
Greensboro, North Carolina 27408  
Phone: 336.667.6744  
Web: www.fsn.com



BRYAN M. DICK  
Lic. No. 040205355  
5.15.2018

NO.	ISSUE	BY	DATE	FAN JOB NO.	DATE	DESIGNED	DRAWN	EMD	REvised
				RNC16684	05-15-2018				

VERIFY SCALE Bar is one inch on original drawing, not one inch on this sheet, adjust scale.

SHEET	0	1	2	3	4	5	6	7	8
LD-3	0	1	2	3	4	5	6	7	8

ISSUED FOR  
CONSTRUCTION