NIFI - RIVANNA GREENWAY STABILIZATION WPO201800047/VESCP PLAN

Richmond Ry 250 Glenmore Country Club PROJECT

VICINITY MAP SCALE: 1" = 1 MI.

PROJECT INFORMATION

- 1. CLIENT: COUNTY OF ALBEMARLE / FACILITIES ENVIRONMENTAL SERVICES / PROJECT MANAGEMENT DIVISION
- PHONE: 1-434-872-4501 EXT. 3421 EMAIL: WHARRIS@ALBEMARLE.ORG 2. PROJECT AGENT: WALTER HARRIS IV
- PROJECT ENGINEER: ECOSYSTEM SERVICES
- ECOSYSTEM SERVICES, LLC 1739-A ALLIED STREET CHARLOTTESVILLE, VA 22903 CONTACT: KIP MUMAW 540.239.1428
- KIP@ECOSYSTEMSERVICES.US
- 3. PROPERTY OWNER: COUNTY OF ALBEMARLE
- 4. TOTAL ACREAGE OF DISTURBANCE: 0.81 (35,256 SQ FT.)
- 5. PROJECT WATERSHED: RIVANNA
- 6. HYDROLOGIC UNIT CODE: 02080204
- 7. COUNTY PROJECT NUMBER: WPO20180047
- 8. TAX MAP PARCEL #'S: 93A2-1A, 93A2-NN-33, 93A2-NN-32
- 9. 1750 PIPER WAY, KESWICK, VA 22903

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WPO201800047/VESCP PLAN ALBEMARLE COUNTY, VIRGINIA



VICINITY MAP SCALE: 1:24,000

APPROVAL:

REGULATORY AUTHORITY SIGNATURE	TITLE	DATE
REGULATORY AUTHORITY SIGNATURE	TITLE	DATE

PROJECT NARRATIVE

THERE ARE SEVERAL DRAINAGE SWALES AND CULVERTS THAT DRAIN ACROSS THE GLENMORE GOLF COURSE AND INTO THE RIVANNA RIVER TO THE WEST OF THE GREENWAY TRAIL. AS THE RIVANNA RIVER HAS HISTORICALLY DROPPED IN ELEVATION AND BECOME MORE DISCONNECTED FROM THE ADJACENT FLOODPLAIN, MIGRATING HEADCUTS, I.E, AREAS OF VERTICAL DEGRADATION, HAVE FORMED AS THESE DRAINAGE SWALES DROP IN ELEVATION AT THEIR CONFLUENCE WITH THE RIVANNA RIVER.

THE OBJECTIVES OF THE PROPOSED PROJECTS ARE TO PREVENT EROSION AND REDUCE THE PROBABILITY THAT FUTURE FLOODING WILL COMPROMISE AREAS OF THE RIVANNA GREENWAY AS WELL AS THE LARGER GLENMORE COUNTRY CLUB. THESE LOCATIONS ARE CURRENTLY EXHIBITING EROSION THAT HAS THE POTENTIAL TO UNDERMINE THE EXISTING TRAIL AS WELL AS POSE SAFETY HAZARDS TO GOLF COURSE AND TRAIL USERS ALIKE.

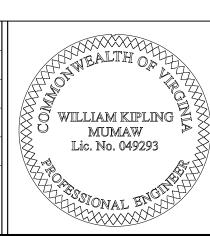
THE TREATMENT PROPOSED IN LOCATION A CONSISTS OF INSTALLING 15' OF 48" HDPE PIPE EXTENDING FROM THE EXISTING PIPE AND A STEEL END SECTION. PLACING FILL MATERIAL COMPACTING IN 6" LIFTS AND INSTALLATION OF CLASS III RIPRAP AT A 1:1 SLOPE FROM THE PIPE OUTLET UPGRADIENT APPROXIMATELY 5' AND THEN TRANSITIONING TO A SOIL LIFT AT A 3:1 SLOPE AND TYING IN TO EXISTING GRADE ADJACENT TO THE EXISTING TRAIL. THE RIPRAP WILL PREVENT SCOUR AND DISSIPATE THE ENERGY OF BACKWATER AND RECEDING FLOOD EVENTS. THE SOIL LIFTS PROVIDE A SAFER TRANSITION TO THE RIPRAP SLOPE AS WELL AS ADDRESSING POOR SOIL CONDITIONS BY IMPORTING TOPSOIL THAT WILL ALLOW FOR BETTER PLANTING ESTABLISHMENT. THE SOIL LIFTS WOULD BE PLANTED BOTH IN-BETWEEN LIFTS AND ALSO AT THE TOP OF THE LIFT. THE SOIL LIFTS ARE ALSO WRAPPED IN MATTING WHICH PREVENTS EROSION AS PLANTS BECOME ESTABLISHED. WOODY MATERIAL SHOULD BE INSTALLED IN-BETWEEN THE SOIL LIFTS TO PROVIDE LONG-TERM STABILITY AND REDUCE FUTURE SAFETY RISKS.

THE TREATMENT PROPOSED IN LOCATION B CONSISTS OF INSTALLING A 12" RCP PIPE TO CONVEY RUNOFF UNDERNEATH THE GREENWAY, CONDUCTING THE ASSOCIATED GRADING OF THE GREENWAY, AND INSTALLATION OF TWO ROCK SILLS, RIPRAP BED MATERIAL, AND ASSOCIATED GRADING AND PLANTING. THIS TREATMENT WILL ADDRESS EROSION FROM THE CONVEYANCE CHANNEL AS WELL AS THE TRANSITION TO THE RIVANNA RIVER BY SLOWLY DISSIPATING ENERGY THROUGH ROCK WEIRS AND POOLS

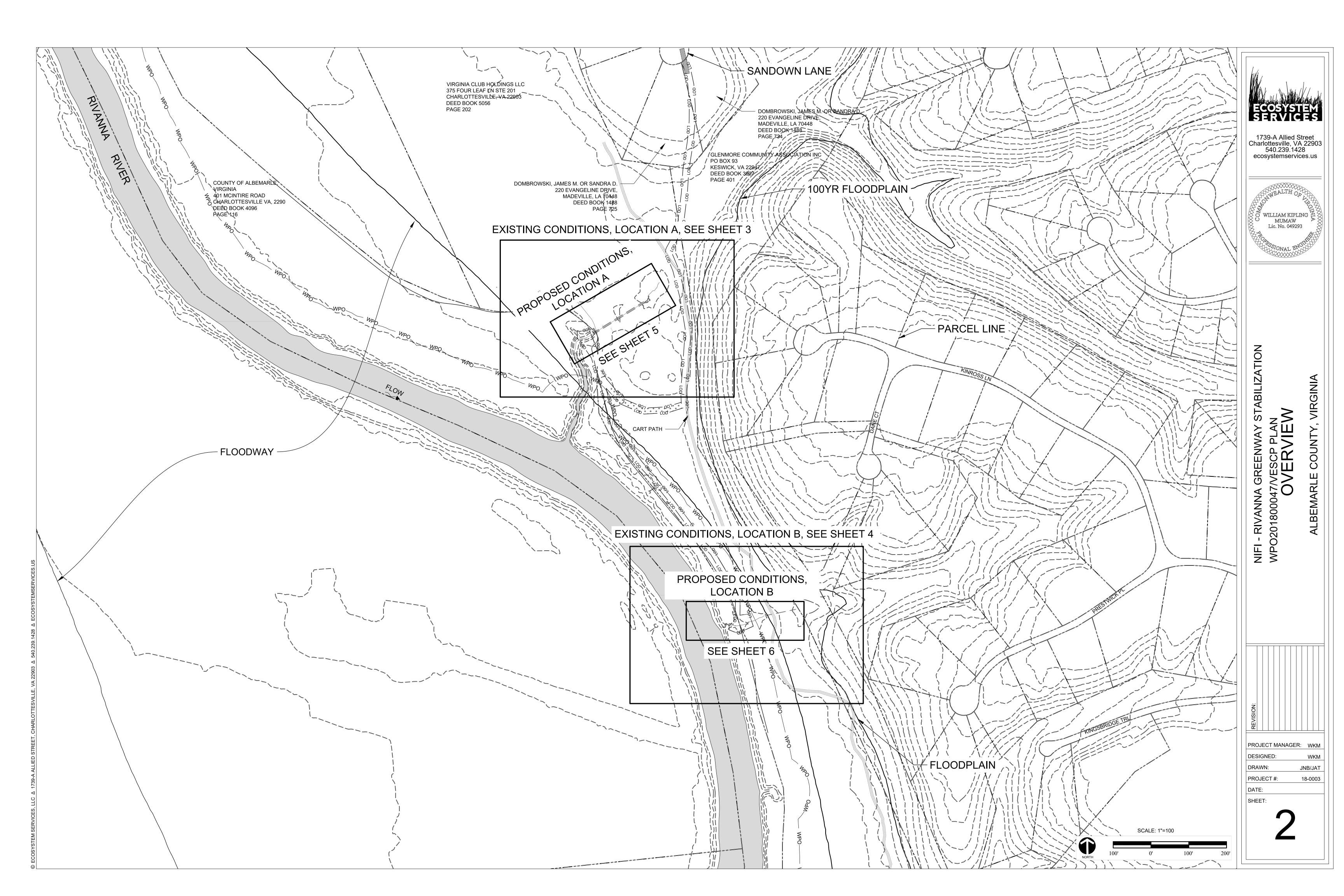
GENERAL NOTES

- 1. THIS IS A WATER QUALITY PROJECT. CHANNEL AND FLOOD PROTECTION REGULATIONS HAVE BEEN MET THROUGH NO CONCENTRATED STORMWATER FLOW BEING RELEASED FROM THE PROJECT AREA. THERE IS NO INCREASE IN IMPERVIOUS AREA. NUTRIENT DISCHARGE FOR THIS PROJECT IS UNDER 0.41 LBS PER ACRE PER YEAR.
- ALL BASEMAPPING AND TOPOGRAPHIC SURVEY INFORMATION IS PROVIDED BY ECOSYSTEM SERVICES. THE SURVEY OCCURRED ON MARCH 21ST, 2018.
- 3. ADDITIONAL BASE MAPPING OBTAINED FROM COUNTY GIS AND VGIN.
- 4. HORIZONTAL DATUM: NAD83 VIRGINIA STATE PLANE, SOUTH ZONE, US FOOT
- . VERTICAL DATUM: NAVD 88, US FOOT
- THE CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 811 OR 1-800-552-7001 PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- ALL WORK SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL STANDARDS.
- 8. ANY WORK THAT IS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE PROJECT AS SPECIFIED IN THIS SET OF PLANS BUT NOT SPECIFICALLY ADDRESSED IN THE PLAN SET SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLETE SUCH WORK.
- THE PROJECT DOES NOT INCLUDE THE ADDITION OF ANY IMPERVIOUS COVER. NO INCREASE IN RUNOFF WILL RESULT FROM THIS PROJECT.
- 10. NO WORK SHALL BEGIN WITHOUT ACQUISITION OF ALL LOCAL, STATE, AND FEDERAL PERMITS AND APPROVALS.
- . THE CONTRACTOR SHALL CONTACT ALBEMARLE COUNTY FOR A PRE-CONSTRUCTION MEETING PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- 12. SHOULD A DISCREPANCY BE FOUND IN THE PLAN SET, THE CONTRACTOR SHALL CONSULT WITH DESIGN ENGINEER PRIOR TO COMPLETION OF SPECIFIC WORK.
- 13. ALL GRADING ACTIVITIES SHALL INCLUDE REMOVAL AND TEMPORARY STOCKPILING OF TOP SOIL, EXECUTION OF GRADING, AND REPLACEMENT OF TOPSOIL TO ACHIEVE FINAL GRADES.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS AS A RESULT OF ITS WORK PERFORMED DURING THE CONTRACT PERIOD. THIS RESPONSIBILITY SHALL INCLUDE RE-SEEDING DISTURBED AREAS AND TEMPORARY ACCESS ROADS.
- 15. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND STAGING MATERIAL INSIDE THE LIMITS OF DISTURBANCE UNLESS PRIOR APPROVAL BY THE PROJECT ENGINEER IS PROVIDED.
- 16. CLEARING & GRUBBING SHALL BE CONFINED TO THOSE AREAS NEEDED FOR CONSTRUCTION ACCESS AND GRADING.
- 17. UNDER NO CIRCUMSTANCES ARE TREES OVER 10" DBH TO BE REMOVED WITHOUT PRIOR APPROVAL FROM THE PROJECT ENGINEER UNLESS OTHERWISE SPECIFIED WITHIN THIS PLAN SET.
- 18. THE CONTRACTOR IS RESPONSIBLE FOR ALL TAKE-OFF QUANTITIES INCLUDING BUT NOT LIMITED TO FILL, STONE, AND VEGETATIVE MATERIALS.
- 19. PLAN VIEW LOCATION OF STRUCTURES IS APPROXIMATE. STRUCTURE PLACEMENT SHOULD FOLLOW THE PROFILE VIEW AND STRUCTURE DETAILS.
- 20. IF SITE OR CONSTRUCTION CONSTRAINTS PREVENT POOL OR STRUCTURE ELEVATIONS FROM BEING CONSISTENT WITH THE PLAN SET, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER TO FIELD MODIFY THE ELEVATIONS.
- 21. ALL SECTION VIEWS ARE ORIENTED LOOKING DOWNSTREAM UNLESS OTHERWISE SPECIFIED.
- 22. IN CONFORMANCE WITH DPOR REGULATIONS, SECTION 54.1-112 INVITED BIDDERS MUST DISCLOSE (I) WHETHER BIDDER IS A RESIDENT OR NONRESIDENT OF THE COMMONWEALTH, (II) WHETHER THE PROPER LICENSE OR CERTIFICATE HAS BEEN ISSUED TO THE BIDDER, AND (III) THE INFORMATION REQUIRED OF THE BIDDER TO SHOW EVIDENCE OF PROPER LICENSURE OR CERTIFICATION UNDER THE PROVISIONS OF THE ABOVE MENTIONED CORRESPONDING CHAPTER.

Į.	PROJECT MANAG	ER:	WKM
ı	DESIGNED:		WKM
I	DRAWN:	JN	IB/JAT
Į.	PROJECT #:	18	3-0003
I	DATE:	12/1	9/2018
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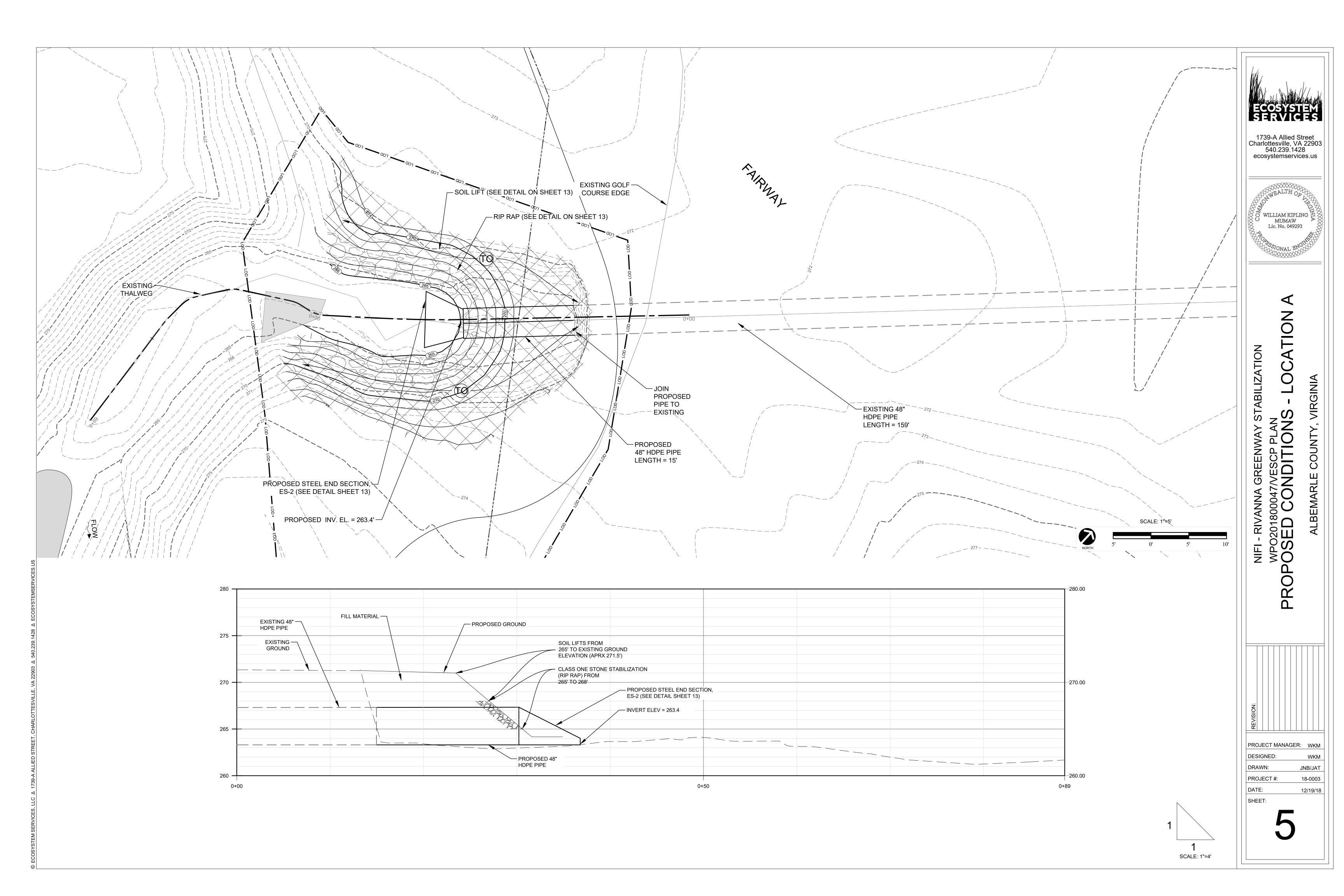


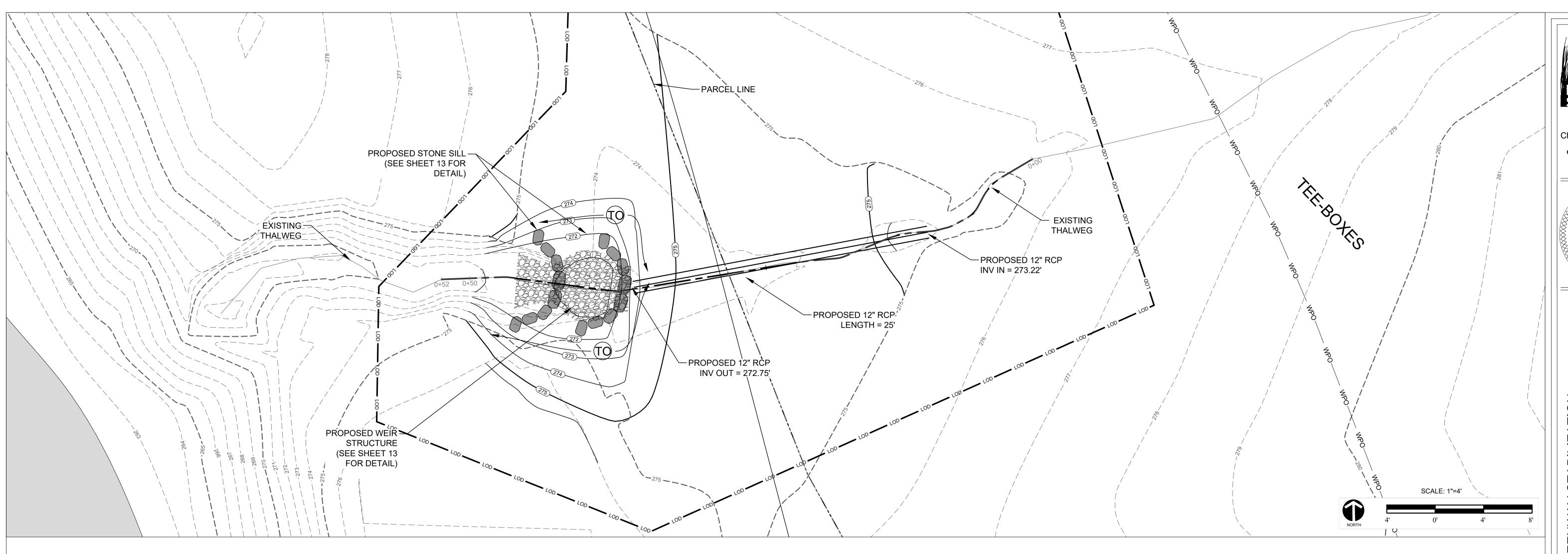


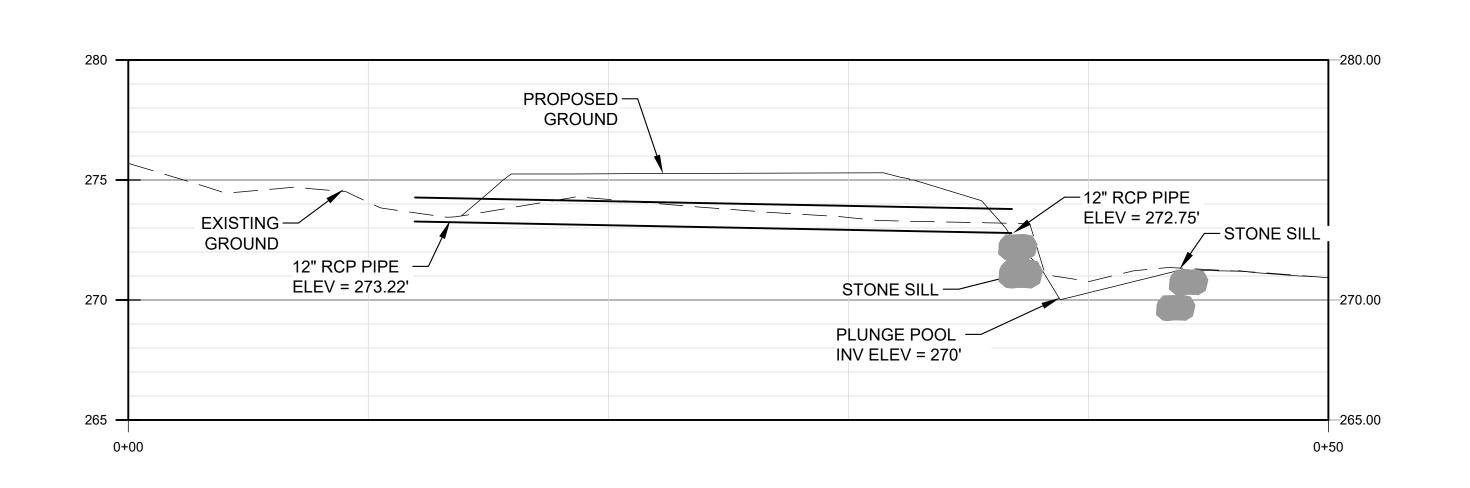




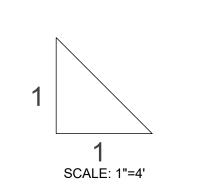






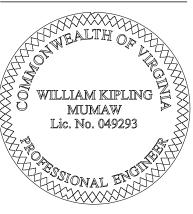


LOCATION B PROPOSED PROFILE





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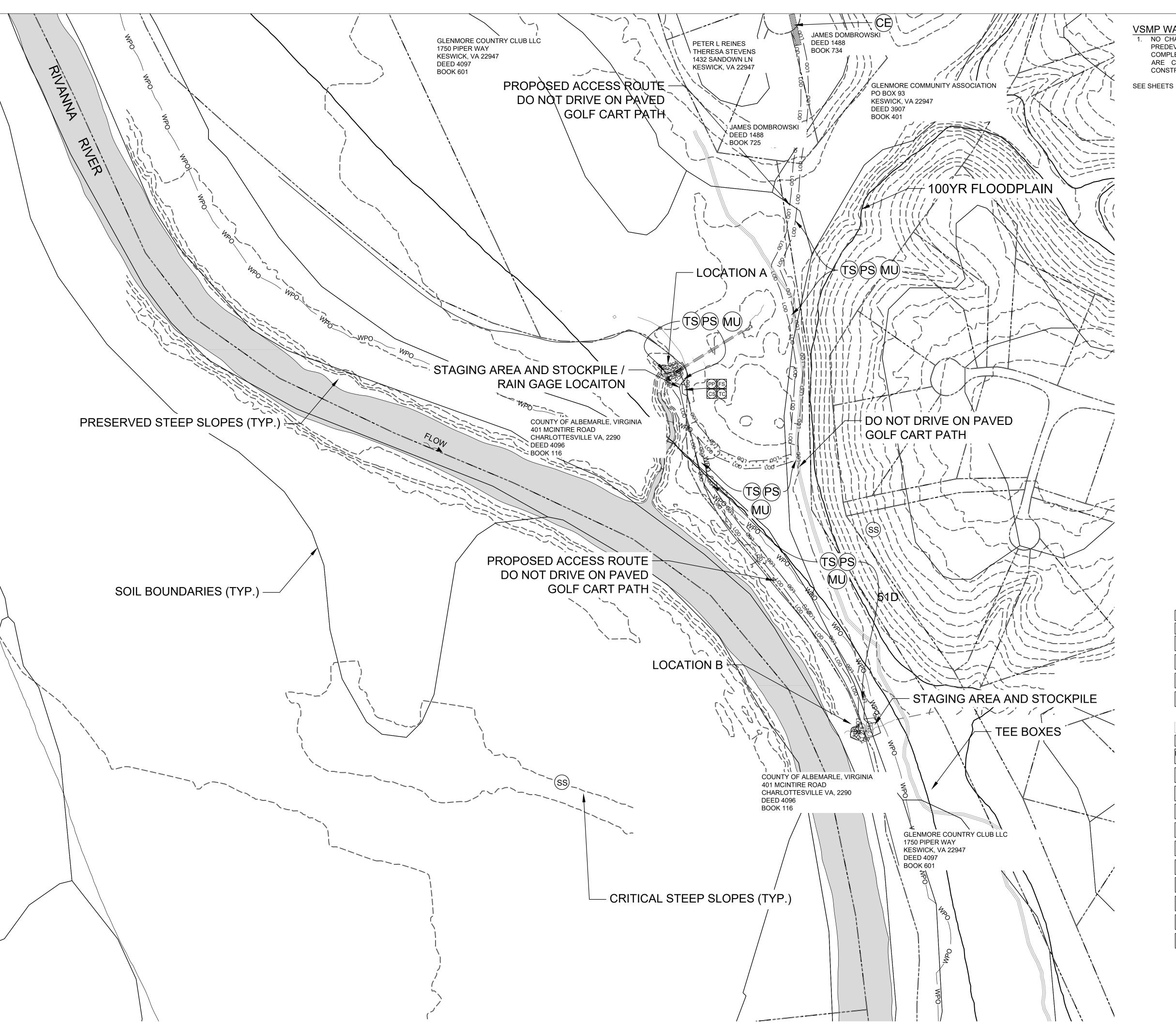
ABILIZATION
- LOCATION E

WPO201800047/VESCP PLAN
PROPOSED CONDITIONS - I

REVISION:

PROJECT MANAGER: WKM
DESIGNED: WKM
DRAWN: JNB/JAT
PROJECT #: 18-0003
DATE: 12/19/18
SHEET:

6



VSMP WAIVER CONDITIONS

NO CHANGES SHALL BE MADE TO THE PROJECT THAT WOULD SIGNIFICANTLY ALTER THE PREDEVELOPMENT RUNOFF CHARACTERISTICS OF THE LAND SURFACE AFTER THE COMPLETION OF CONSTRUCTION AND FINAL STABILIZATION. ACTIVITIES AT LOCATIONS A AND B ARE CONSIDERED PROJECT MAINTENANCE TO STABILIZE AND RESTORE ORIGINALLY CONSTRUCTED CONDITIONS AND ARE EXEMPT FROM THE REQUIREMENTS OF THE VSMP.

SEE SHEETS 11 AND 12 FOR ESC NOTES AND DETAILS

LEGEND

LIMIT OF DISTURBANCE EXISTING MAJOR CONTOUR **EXISTING MINOR CONTOUR** PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR GRAVEL OR RIPRAP, AS NOTED SILT FENCE WATER PROTECTION ORDINANCE, 100' BOUNDARY MULCH-LINED CONSTRUCTION ACCESS ROAD PARCEL BOUNDARY STEEP SLOPES **EXISTING CONTOURS** 474 PROPOSED CONTOURS TREE PROTECTION AND SAFETY FENCE SAFETY FENCE **EXISITING TREE**

	SWPP ELEM	MENTS LEGE	ND*		
NO.	TITLE	KEY		UNITS	QUANTITY
N/A	PORTA POTTY	PP [PP	EA	1
N/A	FUELING STATION	FS [FS	EA	AS NEEDED
N/A	CHEMICAL STORAGE		CS	EA	AS NEEDED
N/A	TRASH CONTAINMENT	TC	TC	EA	AS NEEDED

TREE LINE

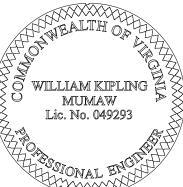
EROSION/SEDIMENT CONTROL LEGEND					
NO.	TITLE	KEY	SYMBOL	UNITS	QUANTITY
MGWC 1.2	PUMP AROUND DIVERSION	P	Р	EA	1
3.05	SILT FENCE	SF	SF	LF	TBD
3.02	TEMP. STONE CONSTRUCTION ENTRANCE	(CE)		EA	1
3.31	TEMPORARY SEEDING	TS	TS	EA	AS NEEDED
3.32	PERMANENT SEEDING	PS	PS	EA	AS NEEDED
3.35	MULCHING		MU	EA	AS NEEDED
N/A	STEEP SLOPES	ss	SS	N/A	N/A
3.36	SOIL STABILIZATION BLANKETS AND MATTING	B_{M}	TREAT 1 TREAT 2	EA	AS NEEDED
3.19	RIPRAP	RR		EA	TBD
3.26	DEWATERING STRUCTURE	DS	FB	EA	1
3.30	TOPSOILING		ТО	EA	AS NEEDED

SCALE: 1"=100



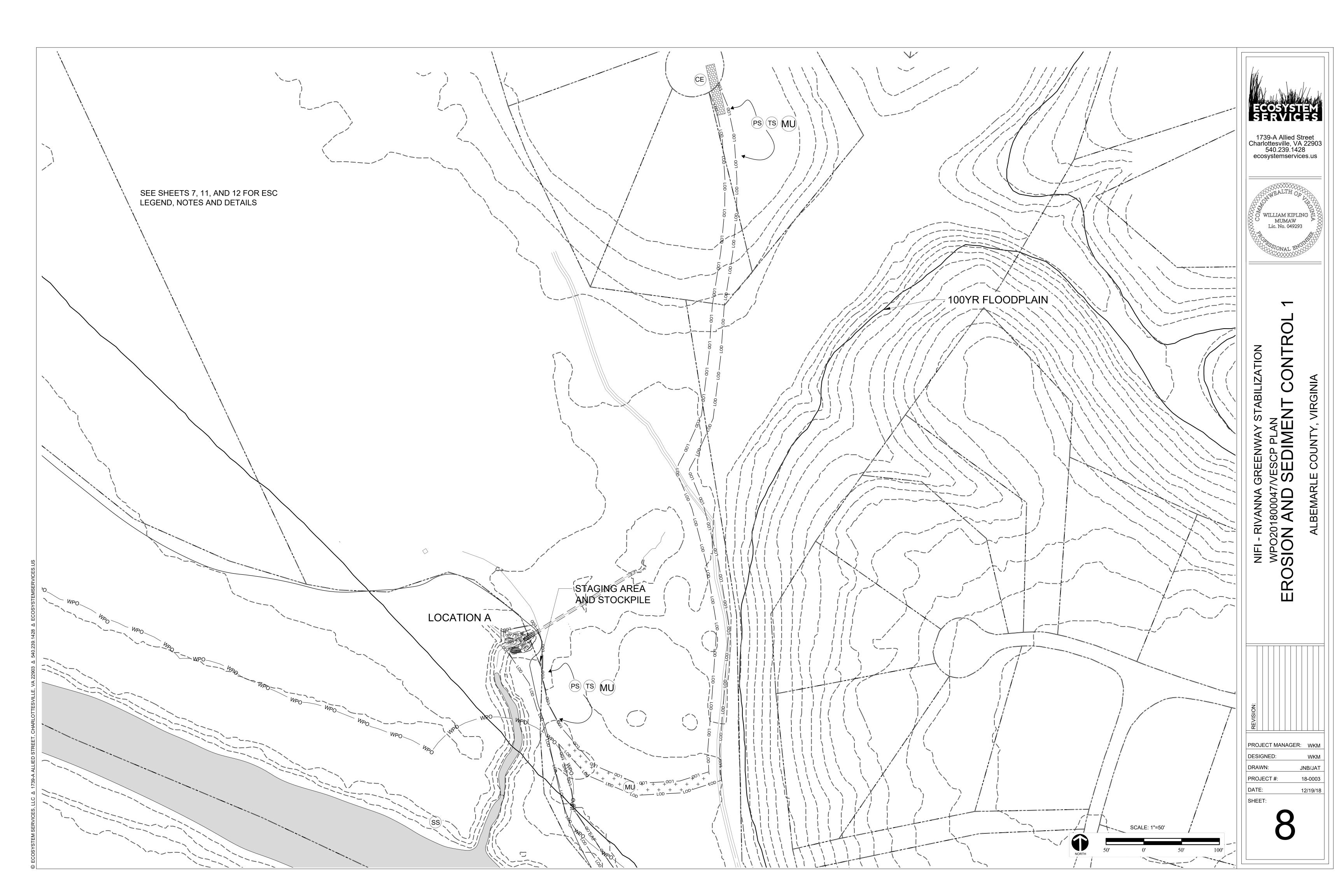


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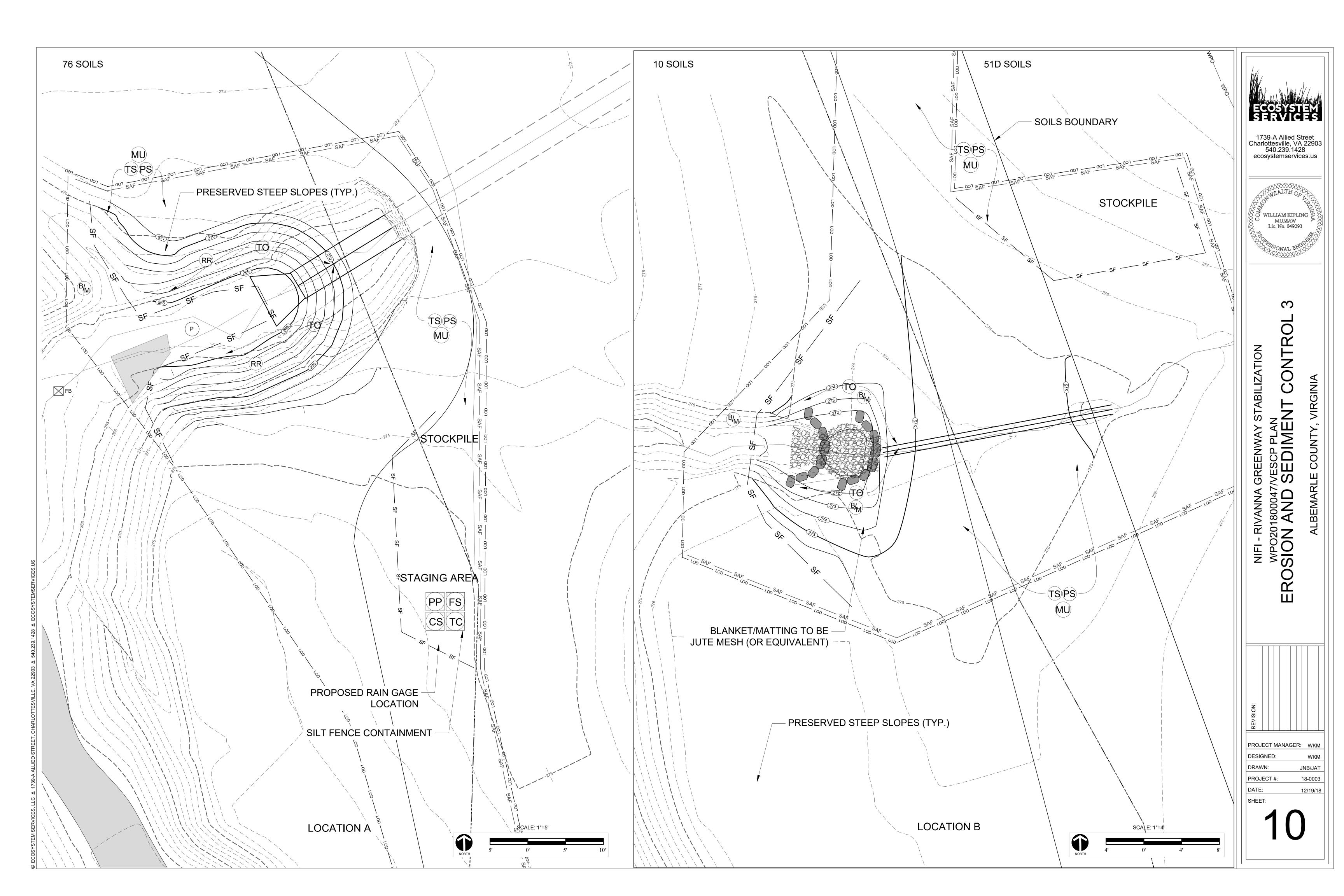


PROJECT MANAGER: WKM DESIGNED: PROJECT #:

SHEET:







EROSION & SEDIMENT CONTROL NARRATIVE

SITE DESCRIPTION

THE PROJECT IS CONTAINED WITHIN TWO CONTIGUOUS PARCELS. THE PROJECT PROPERTY IS LOCATED IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE AND ALL WATER RESOURCES ARE PART OF THE RIVANNA RIVER WATERSHED WHICH DRAINS TO THE JAMES RIVER WATERSHED (HUC: 02080204).

AREA TOPOGRAPHY IS MODERATELY TO SEVERELY STEEP ALONG THE STREAM VALLEYS WITH 10% - 25+% SLOPES AND GENTLY TO MODERATELY SLOPING WITH 0-5% SLOPES LOCATED IN THE STREAM VALLEY FLOOR.

ADJACENT PROPERTY

LAND USES IN THE VICINITY INCLUDE EXISTING RESIDENTIAL AND COMMERCIAL DEVELOPMENT

OFFSITE AREAS

NO OFFSITE AREAS ARE ASSOCIATED WITH THIS PROJECT. IF ADDITIONAL MATERIAL IS REQUIRED TO BE TAKEN OFF-SITE, CONTRACTOR IS TO PROVIDE SWPPP AND ESC PLAN FOR OFF-SITE AREAS..

SOIL S

THE SOILS WITHIN THE PROJECT LIMITS INCLUDE THE FOLLOWING:

- 1) BUNCOMBE LOAMY SAND (10)
- 2) RIVERVIEW LOAM (76)
- 3) MANTEO CHANNERY SILT LOAM, 15 TO 25 PERCENT SLOPES (51D)

CRITICAL EROSION AREAS:

THE ENTIRE PROJECT SITE IS A CRITICAL AREA. WORK IN CRITICAL AREAS SHOULD BE UNDERTAKEN WITH CARE TO NOT IMPACT DOWNSTREAM AQUATIC RESOURCES. THE ESC MEASURES PROPOSED AND SEQUENCE OF CONSTRUCTION ARE PLANNED TO REDUCE DOWNSTREAM SEDIMENTATION TO THE MAXIMUM EXTENT POSSIBLE.

EROSION AND SEDIMENT CONTROL MEASURES

- 1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION (1992). NO EROSION AND SEDIMENT CONTROL STRUCTURE SHALL BE REMOVED WITHOUT THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.
- 2. ALL PERMITS AND EROSION AND SEDIMENT CONTROL PLANS SHALL BE KEPT ONSITE. THE SWPPP SHALL BE HELD ON SITE AND MADE AVAILABLE UPON REQUEST TO ANY REGULATORY AUTHORITY AND THE GENERAL PUBLIC. ALL CONSTRUCTION ACTIVITIES SHALL BE LOGGED AND A RECORD KEPT ONSITE.
- 3. A PRECONSTRUCTION MEETING SHALL BE HELD AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION. AT A MINIMUM THE SITE SUPERINTENDENT SHALL CONTACT THE OWNER, THE PROJECT ENGINEER, DEQ, AND COUNTY REPRESENTATIVES TO SCHEDULE THE
- 4. CONTRACTOR SHALL INSTALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES (STONE CONSTRUCTION ENTRANCE, LIMITS OF DISTURBANCE (TO BE DEMARCATED BY ORANGE SAFETY FENCE AND/OR FLAGGING), STOCKPILE/STAGING AREA AND SILT FENCE) WHERE SHOWN ON PLANS.
- 7. CONTRACTOR SHALL REVIEW THE LOD LIMITS AND ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES WITH THE COUNTY INSPECTOR AND OWNER OR OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
- 9. ALL STREAM WORK SHALL BE COMPLETED IN THE DRY WITH THE USE OF THE PUMP AROUND SYSTEM...
- 10. NO EQUIPMENT OR MATERIALS ARE TO BE STORED IN THE FEMA MAPPED FLOODPLAIN.
- 11. A RAIN GAGE WILL BE INSTALLED ON THE SITE.
- 12. STOCKPILE AREAS SHALL BE UTILIZED PRIMARILY FOR STORAGE OF ROCK AND SOIL. SILT FENCE TO BE UTILIZED ON THE PERIMETER OF THESE AREAS AND ANY ADDITIONAL AREAS IF APPROVED BY COUNTY INSPECTOR AND COUNTY REPRESENTATIVE.
- 13.ESC MATTING (EC-2) SHALL BE APPLIED TO ALL DISTURBED AREAS AT PIPE OUTFALLS AT LOCATION A AND LOCATION B, AND TO ANY UNDISTURBED SLOPE GREATER THAN OR EQUAL TO 3:1.

SEQUENCE OF CONSTRUCTION

- 1. CONSTRUCTION WILL BE CONDUCTED IN ONE PHASE AT EACH LOCATION. OUTFALL WORK WILL BE STABILIZED AT THE END OF EACH DAY.
- 2. PERMANENTLY STABILIZE WITH SEED MIX AND TOPSOIL ONCE FINAL GRADE IS MET. UPON APPROVAL FROM COUNTY ESC INSPECTOR, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED.
- 3. IMPLEMENT PLANTING PLAN

PUMP AROUND PRACTICE - STD. & SPEC. 5.1 (THE VIRGINIA STREAM RESTORATION AND BEST MANAGEMENT PRACTICES GUIDE, 2004.).

PUMP AROUND PRACTICE WILL BE INSTALLED WHERE NECESSARY TO ENSURE PROPER STREAM FLOW MAINTENANCE AND CLEAN WATER DISCHARGE FROM ACTIVE WORK AREAS. SPECIFIC LOCATIONS ARE NOT SPECIFIED ON PLANS AS THE LOCATION AND METHODS WILL VARY THROUGHOUT THE DURATION.

DEWATERING DEVICE - STD. AND SPEC. 3.26 OR DIRT SEDIMENT BAG

FILTER BAG OR AN APPROVED ALTERNATIVE SHALL BE USED AS PART OF THE PUMP AROUND PRACTICE.

TEMPORARY STONE CONSTRUCTION ENTRANCE- STD. & SPEC. 3.02

A TEMPORARY STONE CONSTRUCTION ENTRANCE WILL BE PROVIDED AS SHOWN ON THESE PLANS.

SILT FENCE- STD. & SPEC. 3.05

SILT FENCE WILL BE INSTALLED AT LOCATIONS SHOWN ON THESE PLANS IN ORDER TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM THE DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

TEMPORARY SEEDING & MULCHING -STD. 3.31 & SPEC & 3.35

TEMPORARY SEEDING AND MULCHING WILL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. FOR TEMPORARY SEEDING USE 50% OF THE RECOMMENDED RATES OF FERTILIZER, LIME AND FULL AMOUNT OF SEED AND MULCH REQUIRED FOR REGULAR SEEDING. MULCHING SHALL CONSIST OF STRAW MULCH.

PERMANENT SEEDING-STD. & SPEC 3.32

PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS.

TEMPORARY SEEDING MIXTURE:

THE FOLLOWING TEMPORARY SEEDS SPECIES SHALL BE USED FOR TEMPORARY SOIL STABILIZATION. WHERE SEASONS TRANSITION IT IS RECOMMENDED TO COMBINE BOTH HEAT AND COLD TOLERANT SPECIES. ANNUAL RYE GRASS SHALL NOT BE USED.

Common Name **Botanical Name** Application Rate (lbs/ac) Planting Period Rye Grain Secale cerale Nov. 1st - April 30th Wheat Triticum aestivum 30 Nov. 1st - April 30th German Millet May 1st - Sept. 30th Setaria italic May 1st - Sept. 30th Browntop Millet Urochloa ramosa

STABILIZATION NOTES

- 1. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS. SEEDING AND SELECTION OF THE SEED MIXTURE SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK 3.32. ROADS AND PARKING AREAS SHALL BE STABILIZED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED.
- 2. PLANTING AT TIMES OTHER THAN THOSE SPECIFIED MAY BE DONE ONLY UNDER SPECIFIC CONDITIONS AND WITH THE CONSENT OF THE ENGINEER.
- 3. ALL OPERATIONS SHALL BE PERFORMED ONLY WHEN THE SOIL IS IN PROPER CONDITION TO PERMIT SATISFACTORY WORK.
- SURFACE SHALL BE CLEARED OF ALL GRADE STAKES, TRASH AND ANY OTHER OBJECTS WHICH WOULD HINDER INSTALLATION OF SEED.
 SEED SHALL BE APPLIED WITH AN APPROPRIATE METHOD EITHER BY HYDROSEEDING/HYDROMULCHING OR BROADCAST SPREAD.
- 6. HYDROSEED OR HYDRO MULCH SHALL BE DYED GREEN TO AID IN VISUAL METERING DURING APPLICATION AND SHALL BE APPLIED AT A
- RATE OF 1200 POUNDS PER ACRE.

 7. UNLESS HYDROSEEDING/HYDROMULCHING METHODS ARE USED, SEED SHALL BE RAKED AND LIGHTLY ROLLED. SEED SHALL BE COVERED WITH STRAW MULCH AT A RATE OF 1.5 TONS PER ACRE AND SHALL BE OF STANDARD QUALITY AND FREE OF WEEDS.

MAINTENANCE SCHEDULE

IN GENERAL, THE CONTRACTOR SHALL CHECK ALL EROSION AND SEDIMENT CONTROL MEASURES EVERY FIVE BUSINESS DAYS AND WITHIN 48-HOURS OF THE END OF A STORM EVENT THAT IS 0.25 INCHES OR GREATER. IF A BMP IS FOUND TO BE DEFICIENT, CORRECTIVE ACTION(S) SHALL BE COMPLETED AS SOON AS PRACTICABLE, BUT NO LATER THAN SEVEN DAYS AFTER DISCOVERY OF ANY DEFICIENCY.

UNLESS OTHERWISE SPECIFIED, ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION, 1992. A COPY OF THE APPROVED ESC PLAN SHALL BE MADE AVAILABLE ONSITE AT ALL TIMES.

1. TEMPORARY STONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAYS OR PRIVATE STREETS. PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE SHALL BE EXECUTED AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED AS SOON AS PRACTICABLE BUT NO LATER THAN THE END OF THE WORK DAY.

2. SILT FENCE SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, REPAIRED, AND SEEDED.

3. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM.

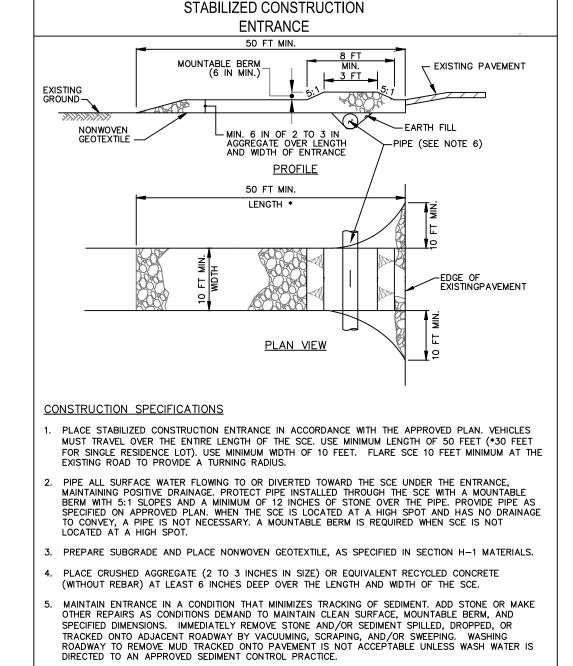
4. STREAM DIVERSIONS SHALL BE INSPECTED DAILY AND AFTER EACH RAIN TO ENSURE PROPER FUNCTION AND THAT THE INTEGRITY OF THE LININGS ARE NOT IMPAIRED.

5. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED TO THE EXTENT THAT SUCH INSPECTIONS ARE PRACTICABLE.

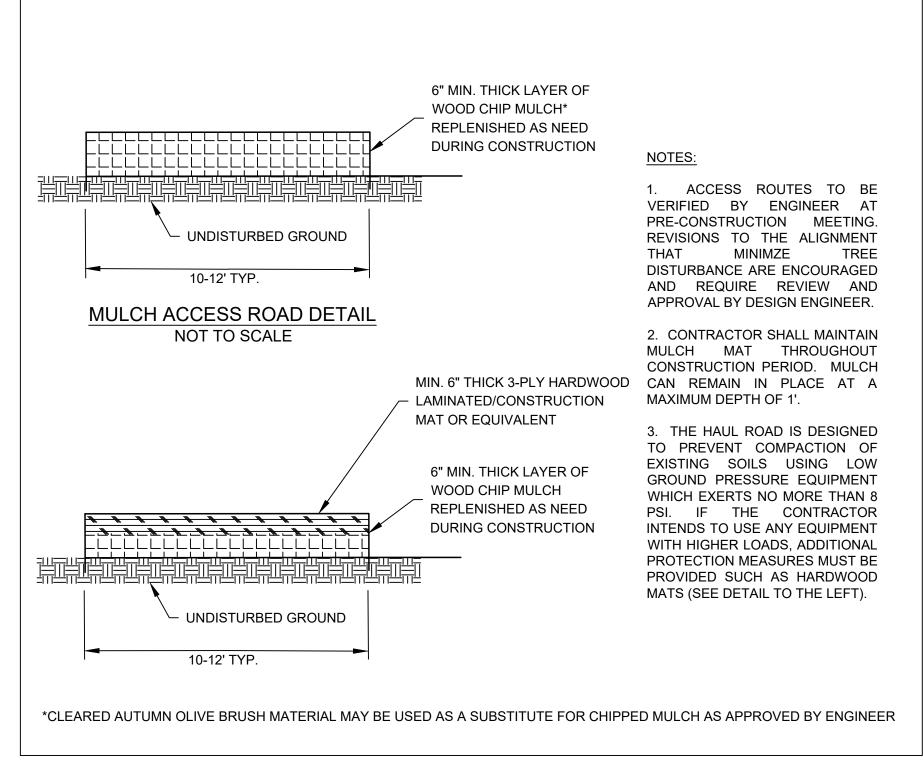
6. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED DAILY FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

EROSION AND SEDIMENT CONTROL NOTES

- 1. THE OWNER/DEVELOPER MUST NOTIFY ALBEMARLE COUNTY AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTIONS IN ACCORDANCE WITH APPLICABLE COUNTY ORDINANCES AND POLICIES.
- 2. THE OWNER/DEVELOPER GRANTS THE RIGHT-OF-ENTRY ON THIS PROPERTY TO THE DESIGNATED ALBEMARLE COUNTY PERSONNEL FOR THE PURPOSE OF INSPECTING AND MONITORING FOR COMPLIANCE WITH TITLE 10.01, CHAPTER 5, ARTICLE 4 OF THE CODE OF VIRGINIA, EROSION AND SEDIMENT CONTROL LAW AND THE DESIGN AND CONSTRUCTION STANDARDS MANUAL SECTION 750.04 (C).
- 3. ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE AND INSPECTED AND APPROVED BY THE DESIGNATED AUTHORITY PRIOR TO CLEARING, STRIPPING OF TOPSOIL OR GRADING.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE DESIGNATED AUTHORITY.
- 5. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES
 AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ADEQUATE STABILIZATIONS IS ACHIEVED.
- WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.
 ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER ADEQUATE SITE STABILIZATION AND AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AS AUTHORIZED BY THE DESIGNATED VESCP INSPECTORS. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- 8. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.



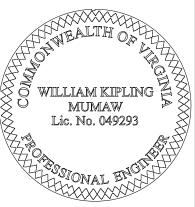
STONE CONSTRUCTION ENTRANCE
STD. & SPEC. 3.02 (CE)



HARDWOOD MAT AND MULCH ACCESS ROAD DETAIL NOT TO SCALE



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TROL DETAILS

IFI - RIVANNA GREENWAY STABILIZA'
VPO201800047/VESCP PLAN
AND SEDIMENT CONTR

EVISION:

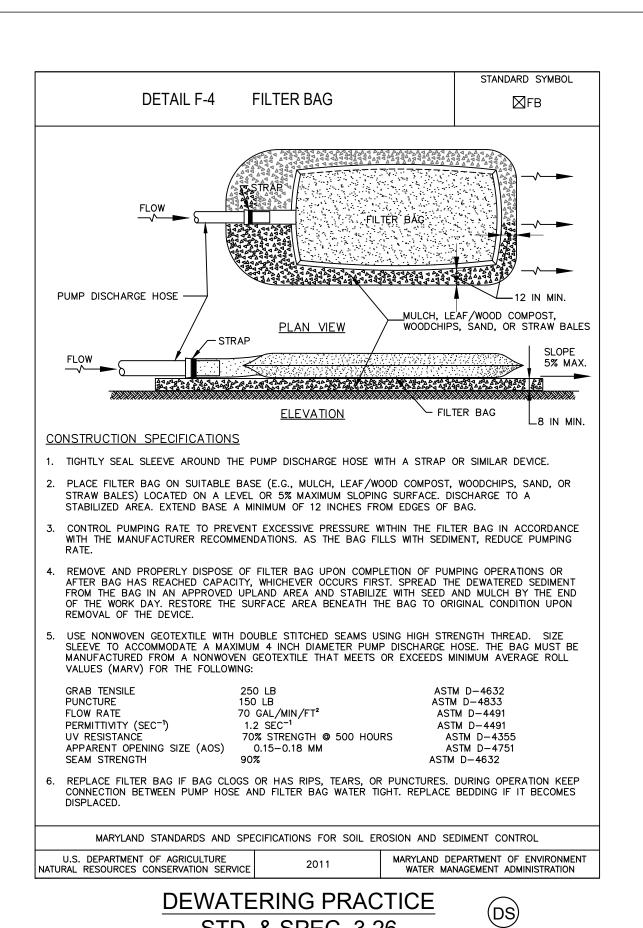
PROJECT MANAGER: WKM
DESIGNED: WKM
DRAWN: JNB/JAT

PROJECT #: 18-0003

DATE: 12/19/18

SHEET:

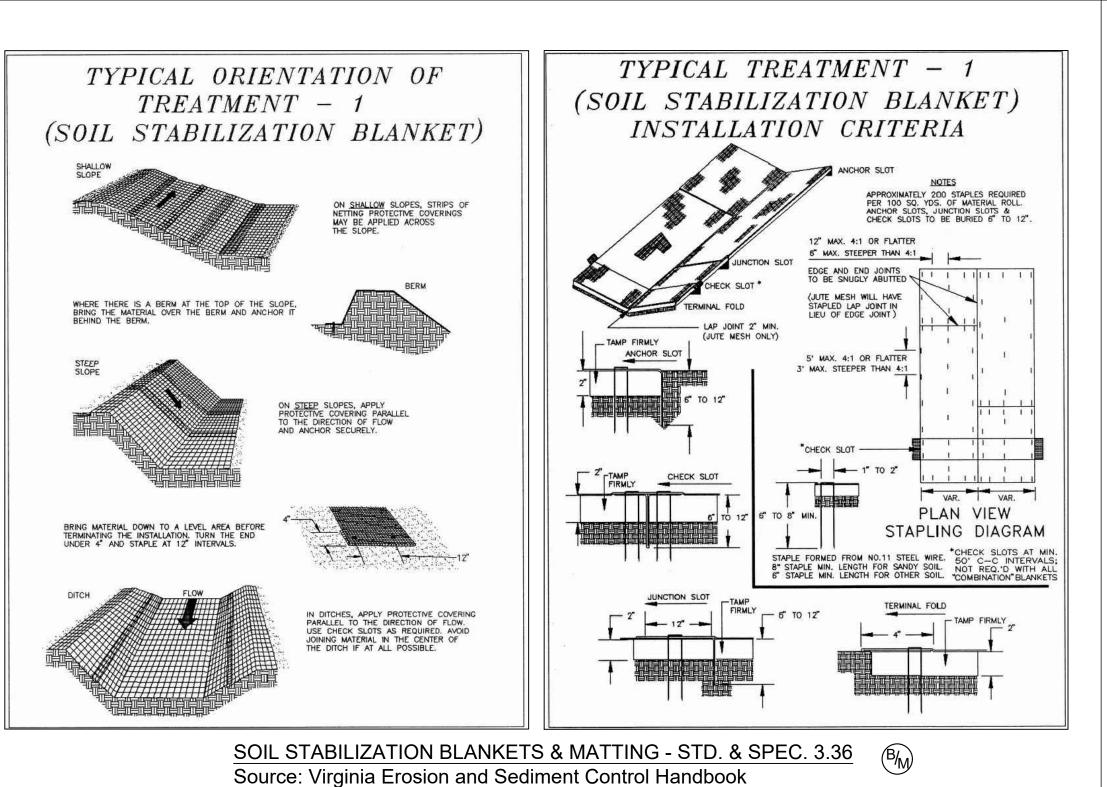
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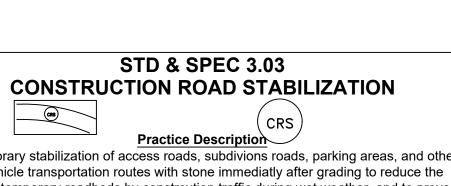


STD. & SPEC. 3.26

DETAIL 1.2: PUMP-AROUND PRACTICE PLAN VIEW - dewatering device diversion pumps discharge hoses intake hose clean water dike sump-hole sediment dike or pool (12" to 18" deep work area 2' dia.) pumps should discharge length not to exceed that which can be onto a stable velocity completed in one day dissipator made of rip rap or sandbags SECTION A-A base flow + 1 foot (2 foot minimum) cross section of sandbag dike REVISED NOVEMBER 2000 MARYLAND DEPARTMENT OF THE ENVIRONMENT PAGE 1.2 - 3 WATER MANAGEMENT ADMINISTRATION PUMP AROUND PRACTICE - STD. & SPEC. 5.1 (P

Maryland's Guidelines To Waterway Construction





The temporary stabilization of access roads, subdivions roads, parking areas, and other on-site vehicle transportation routes with stone immediatly after grading to reduce the erosion of temporary roadbeds by constrcution traffic during wet weather, and to prevent having to regrade permanent roadbeds between the time of initial grading and final

Conditions Where Practice Applies Wherever stone-base roads or parking areas are constructed, whether permanent or temporary, for use by construction traffic.

Construction Specifications

Temporary Access Roads and Parking Areas

- 1. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.
- 2. Temporary parking areas should be located on naturally flat areas to minimize grading. Grading should be sufficient to provide drainage but should not exceed 4
- 3. Roadbeds shall be all east 14 feet wide for one-way traffic and 20 feet wide for two-way traffic.
- 4. All cuts and fills shall be 2:1 or flatter to the extent possible.
- 5. Drainage ditches shall be provided as needed and shall be designed and constructed in accordance with STORMWATER CONVEYANCE CHANNEL, Std. & Spec 3.17.
- 6. The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.
- 7. A 6-inch course of VDOT #1 Coarse Aggregate shall be applied immediatly after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability. Design specifications for filter fabric can be found within Std. & Spec. 3.02, TEMPORARY STONE CONSTRUCTION ENTRANCE. In "heavy duty" traffic situations (see Table 3.02-A) stone should be placed at an 8- to 10-inch depth to avoid excessive dissipation or maintainence needs.

Permanent Roads and Parking Areas Permanent roads and parking areas shall be designed and constructed in accordance

with appicable VDOT or local criteria except that an initial base course of gravel of at least 6 inches shall be applied immediately following grading.

All roadside ditches, cuts, fills and disturbed areas adjacent to the parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications contained in this handbook.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures should be checked regularly to ensure that they do not become clogged with silt or other debris.

SOIL STABILIZATION MATTING SPECIFICATIONS

GRADED SLOPES & STREAM BANKS

1. MATTING SHALL BE WOVEN MACHINE SPUN BRISTLE COIR TWINE MADE OF COIR FIBER OBTAINED FROM FRESH WATER CURED COCONUT HUSKS. 2. SOIL STABILIZATION MATTING SHALL CONFORM TO THE FOLLOWING

SPECIFICATIONS: WEIGHT: 29 OZ/SY (ASTM D 3776) THICKNESS: 0.35 IN. (ASTM D 1777) DRY TENSILE STRENGTH:

MACHINE DIRECTION - 2024 LBS/SF CROSS DIRECTION - 1160 LBS/SF (ASTM D 4595)

WET TENSILE STRENGTH: MACHINE DIRECTION - 1776 LBS/SF CROSS DIRECTION - 936 LBS/SF (ASTM D 4595)

OPEN AREA: 38%

SHEAR STRESS: 4.5 PSF

SOIL LIFTS

. MATTING SHALL BE A DOUBLE LAYERED BIODEGRADABLE EROSION CONTROL FABRIC MADE UP OF AN OUTER LAYER OF HIGH STRENGTH COIR FABRIC AND AN INNER LAYER OF LIGHTWEIGHT JUTE FABRIC TIED TOGETHER.

2. SOIL STABILIZATION MATTING SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

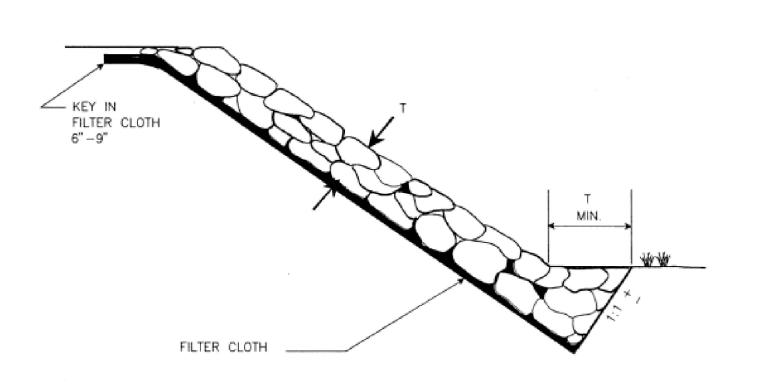
WEIGHT: 33.3 OZ/SY (ASTM D 5261) THICKNESS: 0.35 IN. (ASTM D 5199) WIDE WIDTH TENSILE STRENGTH (OUTER LAYER): 1008 X 936 LBS/FT (ASTM D 4595) WIDE WIDTH TENSILE STRENGTH (INNER LAYER): 612 X 468 LBS/FT (ASTM D 4595)

CLASS D - NONWOVEN GEOTEXTILE FABRIC SPECIFICATIONS APPARENT GRAB TENSILE PUNCTURE OPENING SIZE | STRENGTH MIN | STRENGTH WEIGHT-TYPICAL (LBS) MAX. (MM) 8 OZ/SY (ASTM 0.212 (ASTM 120 (ASTM 65 (ASTM D-4751) D-5261) D-4632) D-4833) LOCATION B -

LOCATION A ---

TOE REQUIREMENTS FOR BANK STABILIZATION

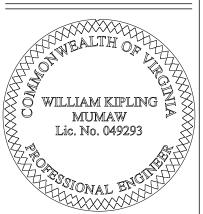
FILTER CLOTH UNDERLINER (PREFERRED)



GRADED RIPRAP - DESIGN VALUES				
Riprap <u>Class</u>	D ₁₅ Weight <u>(lbs.)</u>	Mean D ₁₅ Spherical Diameter(ft.)	Mean D ₅₀ Spherical Diameter _(ft.)	
Class AI	25	0.7	0.9	
Class I	50	0.8	1.1	
Class II	150	1.3	1.6	
Class III	500	1.9	2.2	
Гуре І	1,500	2.6	2.8	
Type II	6,000	4.0	4.5	

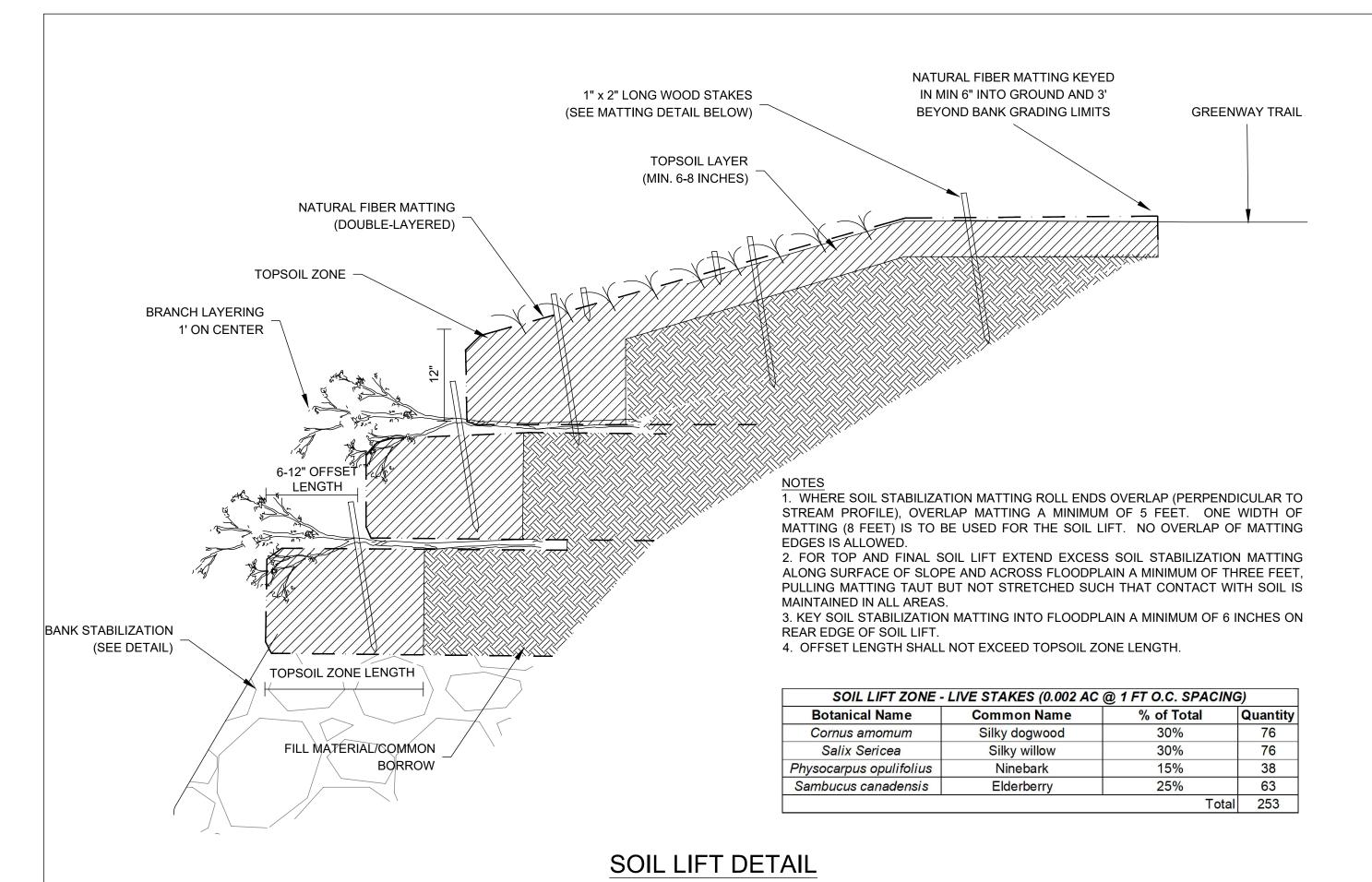
TABLE 3.19-B

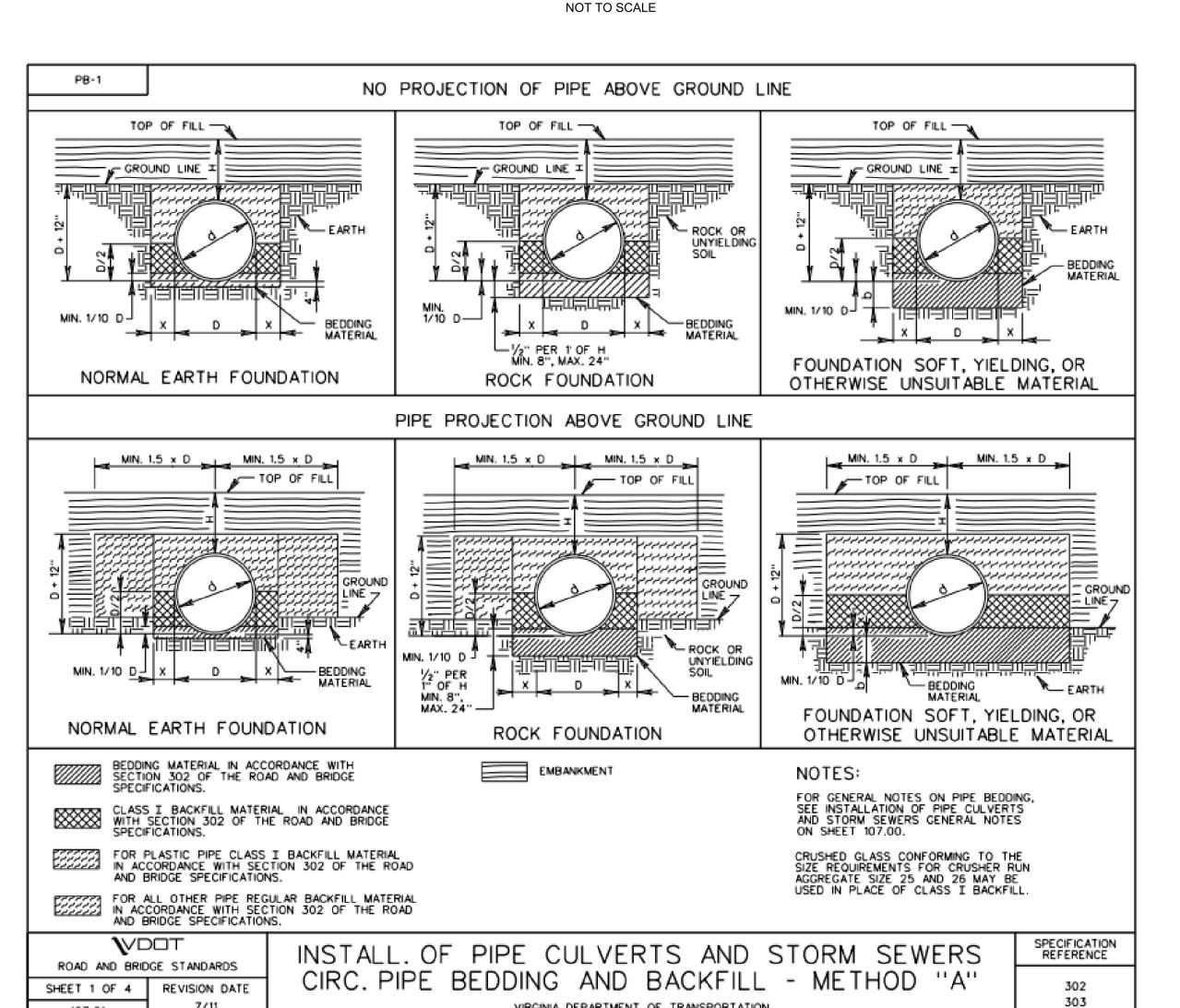
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VPO201800047/VIND SEDIM

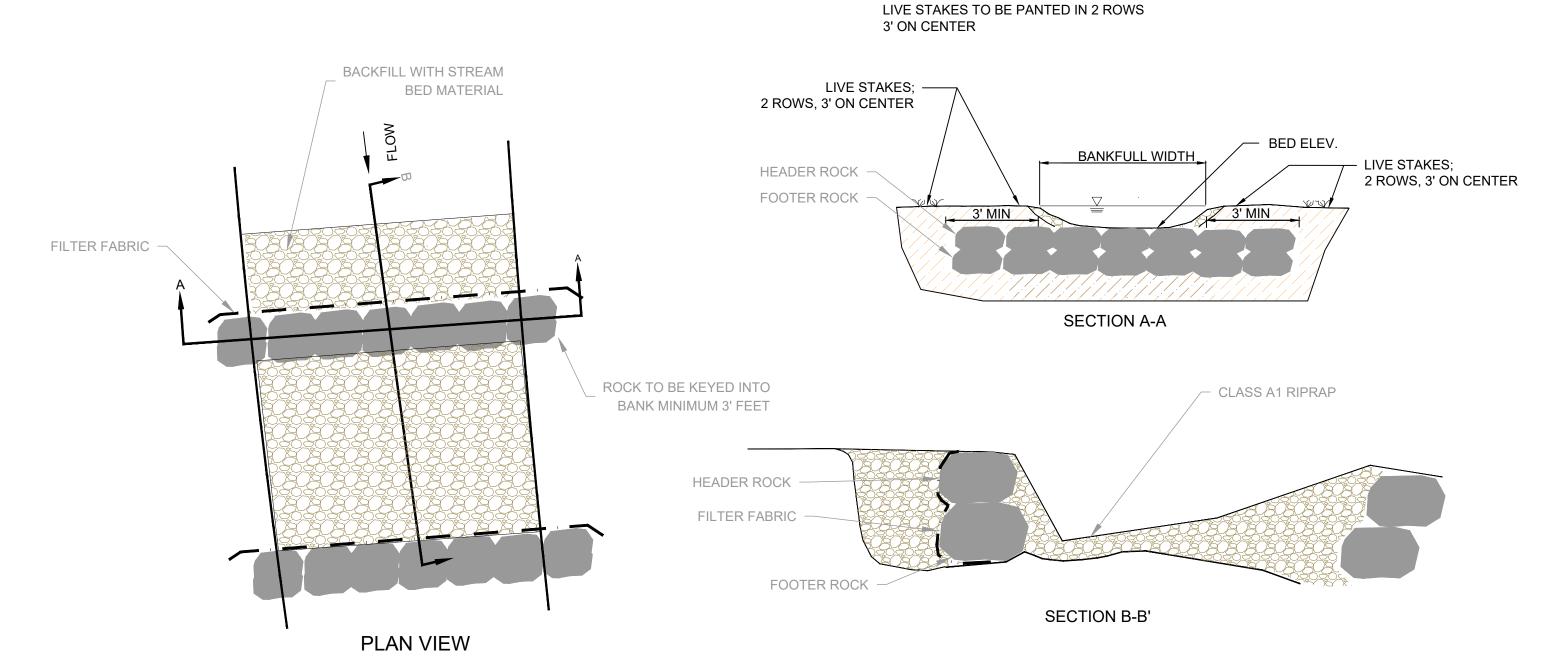
PROJECT MANAGER: WKM DESIGNED: DRAWN: JNB/JAT PROJECT #: 18-0003 DATE: 12/19/18 SHEET:





VIRGINIA DEPARTMENT OF TRANSPORTATION

7711



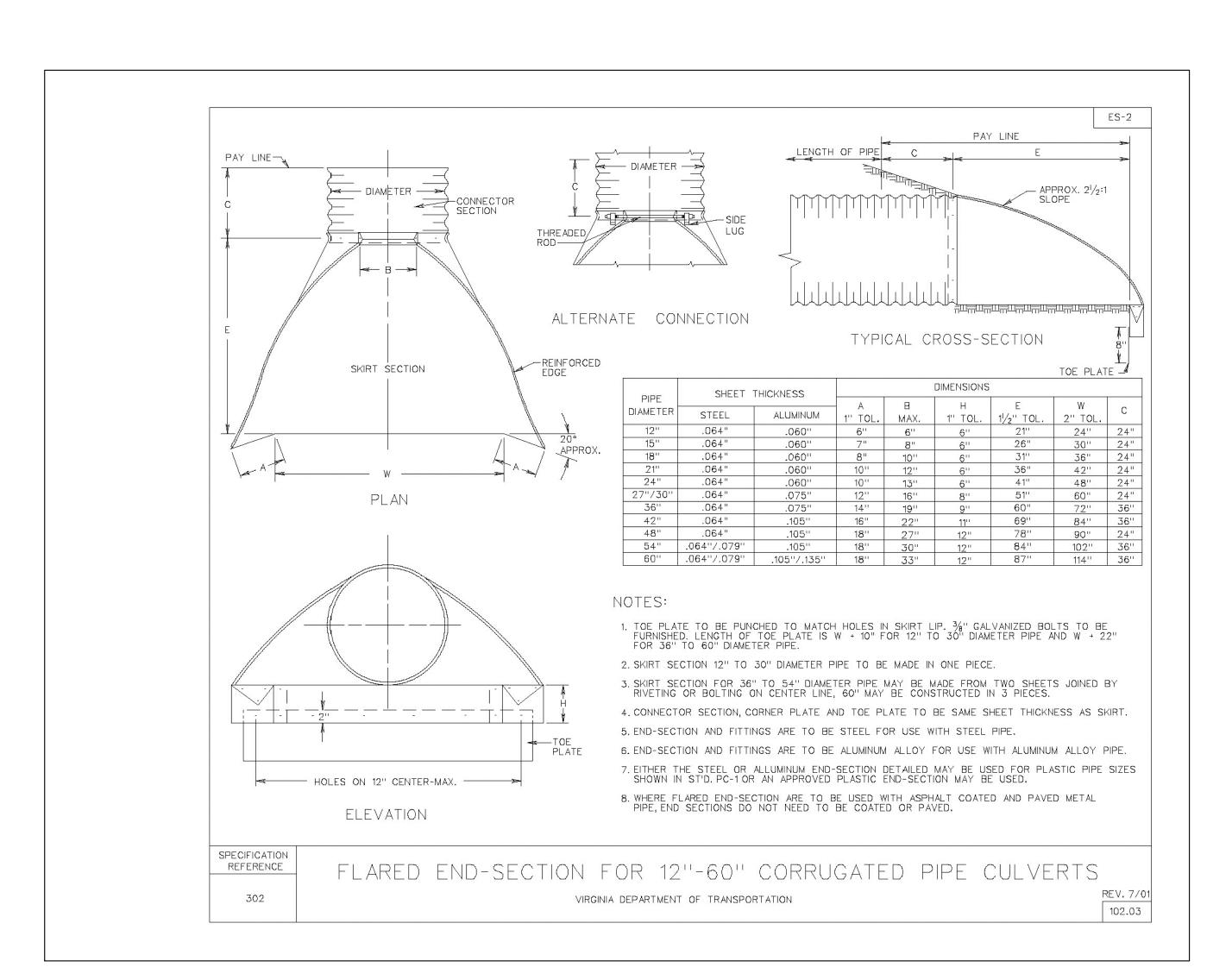
ROCK SILL SHALL BE CONSTRUCTED WITH 1 FOOTER ROCK AND 1 FILTER FABRIC SHALL BE PLACED ON THE UPSTREAM SIDE OF THE

STRUCTURE TO PREVENT WASHOUT OF SEDIMENT THROUGH ROCK GAPS. FILTER FABRIC SHALL EXTEND FROM THE BOTTOM OF THE FOOTER ROCK TO THE FINISHED GRADE ELEVATION AND SHALL BE PLACED THE ENTIRE LENGTH OF THE STRUCTURE.

Botanical Name	Common Name	% of Total	Quantity
Cornus amomum	Silky dogwood	30%	3
Salix Sericea	Silky willow	30%	3
Physocarpus opulifolius	Ninebark	15%	1
Sambucus canadensis	Elderberry	25%	2
		Total	10

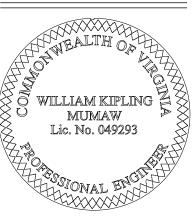
BOULDER SIZING SPECIFICATIONS B - AXIS (MEDIAN DIAMETER) 18"' - 24"' (VDOT CLASS 2)

ROCK SILL NOT TO SCALE





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STABILIZATION STRUCTU

PROJECT MANAGER: WKM DESIGNED: DRAWN: JNB/JAT PROJECT #: 18-0003

DATE: 12/19/18 SHEET: