TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Water Resources
William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor,
Nashville, Tennessee, 37243
1-888-891-8332 (TDEC)

Application for Aquatic Resource Alteration Permit (ARAP) & State §401 Water Quality Certification

OFFICIAL STATE USE ONLY	Site #:		Permit #:	NR2407.50

Section 1. Applicant Information (individual responsible for site, signs certification below)

Applicant Name (company or individual): Jones Bros. Contractors, LLC		SOS #: 0000305296	Status: Active
Primary Contact/Signatory: Andrew Wall		Signatory's Title or Position: President	
Mailing Address: 1010 Pleasant Grove Place, Suite 300		City: Mt. Juliet	State: TN Zip: 37122
Phone: 615-864-7388	Fax:	E-mail: awall@jonesbroscont.com	

Section 2. Alternate Contact/Consultant Information (a consultant is not required)

Alternate Contact Name:				
Company:		Title or Position:		
Mailing Address:		City:	State:	Zip:
Phone:	Fax:	E-mail:		

Section 3. Fee (application will be incomplete until fee is received)

☐ No Fee ☒ Fee Submitted with Application Amount Submitted: $ 500

Current application fee schedules can be found at the Division of Water Resources webpage at:
https://www.tn.gov/environment/permit-permits/water-permits1/aquatic-resource-alteration-permit--arap-.html
or by calling (615) 532-0625. Please make checks payable to "Treasurer, State of Tennessee".

Billing Contact (if different from Applicant): Name: Email:

Address: Phone:

Section 4. Project Details (fill in information and check appropriate boxes)

Site or Project Name: CNV009 - Miller Waste Area		Nearest City, Town or Major Landmark: Crossville
Street Address or Location (include zip): 132 Maynard Road		
County(ies): Cumberland	MS4 Jurisdiction: N/A	Latitude (dd.dddd): 36.0441 Longitude (dd.dddd): -85.0556

Resources Proposed for Alteration: ☐ Stream / River ☑ Wetland ☐ Reservoir

Name of Water Resource (for more information, access *http://tdeconline.tn.gov/dwr*): Scott Creek (TN06010208013_0500)

Brief Project Description (a more detailed description is required under Section 8):
Fill of wetland for TDOT support area and potential future commercial development

Does the proposed activity require approval from the U.S. Army Corps of Engineers, the Tennessee Valley Authority, or any other federal, state, or local government agency? ☐ Yes ☒ No

If Yes, provide the permit reference numbers: USACE NWP #18 Non-PCN

Will the activity require a 401 Water Quality Certification: ☐ Yes ☒ No

If Yes, attach any 401 WQC pre-filing meeting request documentation

Is the proposed activity associated with a larger common plan of development: ■ Yes ☐ No

If Yes, submit site plans and identify the location and overall scope of the common plan of development.

Plans attached? ☒ Yes ☐ No

If applicable, indicate any other federal, state, or local permits that are associated with the overall project site (common plan of development) that have been obtained in the past (e.g., construction general permit and/or other ARAP): TNR172591

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Section 5. Project Schedule (fill in information and check appropriate boxes)		
Proposed start date: July 2024	Estimated end date: September 2027	
Is any portion of the activity complete now?	☐ Yes	☒ No
If yes, describe the extent of the completed portion:		

The required information in Sections 6-11 must be submitted on a separate sheet(s) and submitted in the same numbered format as presented below. If any question in not applicable, state the reason why it is not applicable.

Section 6. Description		**Attached** Yes	No
6.1	A narrative description of the scope of the project	☒	☐
6.2	USGS topographic map indicating the exact location of the project (can be a photographic copy)	☒	☐
6.3	Photographs of the resource(s) proposed for alteration with location description (photo locations should be noted on map)	☒	☐
6.4	A narrative description of the **existing** stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation	☒	☐
6.5	A narrative description of the **proposed** stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation	☒	☐
6.6	In the case of wetlands, include a wetland delineation with delineation forms and site map denoting location of data points	☒	☐
6.7	A copy of all hydrologic or jurisdictional determination documents issued for water resources on the project site	☒	☐

Section 7. Project Rationale	**Attached** Yes	No
Describe the need for the proposed activity, including, but not limited to the purpose, alternatives considered and rationale for selection of least impactful alternative, and what will be done to avoid or minimize impacts to water resources	☒	☐

Section 8. Technical Information		**Attached** Yes	No
8.1	Detailed plans, specifications, blueprints, or legible sketches of present site conditions and the proposed activity. Plans must be 8.5.x 11 inches. Additional larger plans may also be submitted to aid in application review. The detailed plans should be superimposed on existing and new conditions (e.g., stream cross sections where road crossings are proposed)	☒	☐
8.2	For the proposed activity and compensatory mitigation, provide a discussion regarding the sequencing of events and construction methods and any proposed monitoring	☒	☐
8.3	Depiction and narrative on the location and type of erosion prevention and sediment control (EPSC) measures for the proposed alterations and any other measures to treat, control, or manage impacts to waters	☒	☐

Section 9. Water Resources Degradation (degree of proposed impact)

Note that in most cases, activities that exceed the scope of the General Permit limitations are considered greater than *de minimis* degradation to water quality.

Please provide your basis for concluding the proposed activity will cause one of the following levels of water quality degradation:

- ☒ a. *De minimis* degradation, no appreciable permanent loss of resource values
- ☐ b. Greater than *de minimis* degradation (if greater than *de minimis* complete Sections 10-11)

For information and guidance on the definition of de minimis and degradation, refer to the Antidegradation Statement in Chapter 0400-40-03-.06 of the Tennessee Water Quality Criteria Rule:
https://publications.tnsosfiles.com/rules/0400/0400-40/0400-40.htm
For more information on specifics on what General Permits can cover, refer to the Natural Resources Unit webpage at:
https://www.tn.gov/environment/permit-permits/water-permits1/aquatic-resource-alteration-permit--arap-.html

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Section 10. Detailed Alternatives Analysis		Attached Yes	Attached No
10.1	Analyze all reasonable alternatives and describe the level of degradation and permanent loss of resource value caused by each alternative. Assessment must consider options other than the "Preferred" and "No Action" alternatives. Provide associated rationale for selecting or rejecting all alternatives considered and demonstration that the least impactful practicable alternative was selected.	☐	☒
10.2	Discuss the social and economic consequences of each alternative	☐	☒
10.3	Demonstrate that the degradation associated with the preferred alternative will not violate water quality criteria for uses designated in the receiving waters, and is necessary to accommodate important economic and social development in the area	☐	☒

Section 11. Compensatory Mitigation		Attached Yes	Attached No
11.1	A detailed discussion of the proposed compensatory mitigation. Provide evidence of credit reservation if proposing to utilize a third-party provider.	☐	☒
11.2	Analysis of any proposed appreciable loss of resource value using the TN Stream Mitigation Guidelines. Provide Stream Quantification Tool (SQT) results if applicable. Include Existing Condition Score (ECS) and debit/credit calculations.	☐	☒
11.3	Describe how the compensatory mitigation would result in no net loss of resource value	☐	☒
11.4	Provide a detailed monitoring plan for the compensatory mitigation site if permittee-responsible project is proposed	☐	☒
11.5	Describe the long-term protection measures for the compensatory mitigation site if permittee-responsible project is proposed (e.g., deed restrictions, conservation easement)	☐	☒

Certification and Signature

An application submitted by a corporation must be signed by a principal executive officer; from a partnership or proprietorship, by the partner or proprietor respectively; from a municipal, state, federal or other public agency or facility, the application must be signed by either a principal executive officer, ranking elected official, or other duly authorized employee. ***I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.***

Andrew Wall	President	[signature]	01/17/24
Printed Name	Official Title	Signature	Date

Note that this form must be signed by the principal executive officer, partner or proprietor, or a ranking elected official in the case of a municipality; for details see **Certification and Signature** statement above. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit the completed ARAP Application form (keep a copy for your records) to the appropriate EFO for the county(ies) where the proposed activity is located, addressed to **Attention: ARAP Processing**. You may also electronically submit the complete application and all associated attachments to water.permits@tn.gov.

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett	38133-4119	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305-4316	Chattanooga	1301 Riverfront Pkwy., Ste. 206	37402
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601

Jones Bros. Contractors, LLC – Minor Alterations to Wetlands
General Aquatic Resource Alteration Permit
Fill of Wetland

**The numbering scheme below follows TDEC's Form CN-1091*

Section 6: Description

6.1 Narrative Description of the Scope of the Project

Jones Bros. Contractors, LLC (Jones) is proposing the filling of a small wetland for an associated TDOT support area located at 132 Maynard Road, Crossville, Cumberland County, TN. Jones is proposing filling within the project boundary using material from the associated TDOT project (CNV009) and will result in the taking of the wetland as well as a non-jurisdictional farm pond.

6.2 USGS Topographic Map showing the location of the project.

See attached Figures 1 and 2.

6.3 Photographs

See the attached photo summary and photo location indicated in Figure 3.

6.4 Narrative Description of Existing Stream and/or Wetland Characteristics

WTL-1 is a small low-quality wetland feature located at the downgradient toe of the existing (non-jurisdictional) farm pond. The feature possesses only herb stratum, no riparian tree coverage with only 5% redox depletions noted within the soil matrix. The total area of the feature measures 0.04 acres.

The attached photographic summary depicts conditions present along the stream during the site visit.

6.5 Narrative Description of Proposed Stream and/or Wetland Characteristics

During Stage 1 of the attached EPSC plans, WTL-1 will be protected from impact using silt fence and outfall protection until ARAP coverage is attained. Once ARAP coverage is attained, WTL-1 will be permanently filled during Stage 2. Disturbance caused during the placement of proposed fill will be stabilized permanent seed mixture and erosion control blanket (if necessary).

6.6 Wetlands

See the attached Jurisdictional Determination (and Amendment 1) for wetland delineation forms & Figure 2 – Hydrologic Feature Location Map, as well as TDEC concurrence.

6.7 Hydrologic or Jurisdictional Determination Documents

A hydrologic determination by a qualified hydrologic professional, William Methvin, QHP 1221-TN22. The feature's status has been determined to be a wetland. The hydrologic determination was submitted to TDEC for concurrence, which responded with agreement of the wetland determination performed by CEC.

Section 7: Project Rationale

The use of this location for a TDOT support area will enable the usage of soil waste material generated by the adjacent TDOT Project CNV009. In addition, the proposed fill site will provide the property owner with an opportunity to develop portions of their property that could not be previously utilized due to the presence of an aquatic feature. Three project alternatives were considered.

The first alternative considered was a no-build option. This alternative was determined not to be feasible because the location is needed to provide support activities for TDOT Project CNV009. Additionally, this location is preferrable due to its close proximity with the TDOT project. Other potential locations would have increased the hauling distance between the site and the TDOT project.

The second alternative considered was a revised site plan that provided maximum grading extents as shown within Stage 2 of the EPSC plans. This alternative was determined not to be feasible because the proposed volume of fill required for the TDOT project waste is greater than what the site would be able to accept.

The third alternative considered was to fill in WTL-1 and extend the grading to the Limits of Disturbance shown within the EPSC plans. This alternative was determined to be feasible because it provided the volume of fill required for the TDOT project waste without encroaching within the buffer of WTL-2.

Temporary erosion and sediment controls will be implemented to ensure sediment resulting from project construction will remain onsite. EPSC measures will be installed downgradient of proposed disturbances according to the attached EPSC plans and will be maintained until final stabilization is achieved.

Section 8: Technical Information

8.1 Detailed Plans

Please see the attached construction plan typical details.

8.2 Sequencing of events

The proposed construction will not begin until all materials necessary for the proposed fill site are available on-site. Effort will be made to schedule work when site conditions are as dry as practicable. An experienced contractor will perform the work. Due to the degree of the proposed impact, no mitigation is proposed.

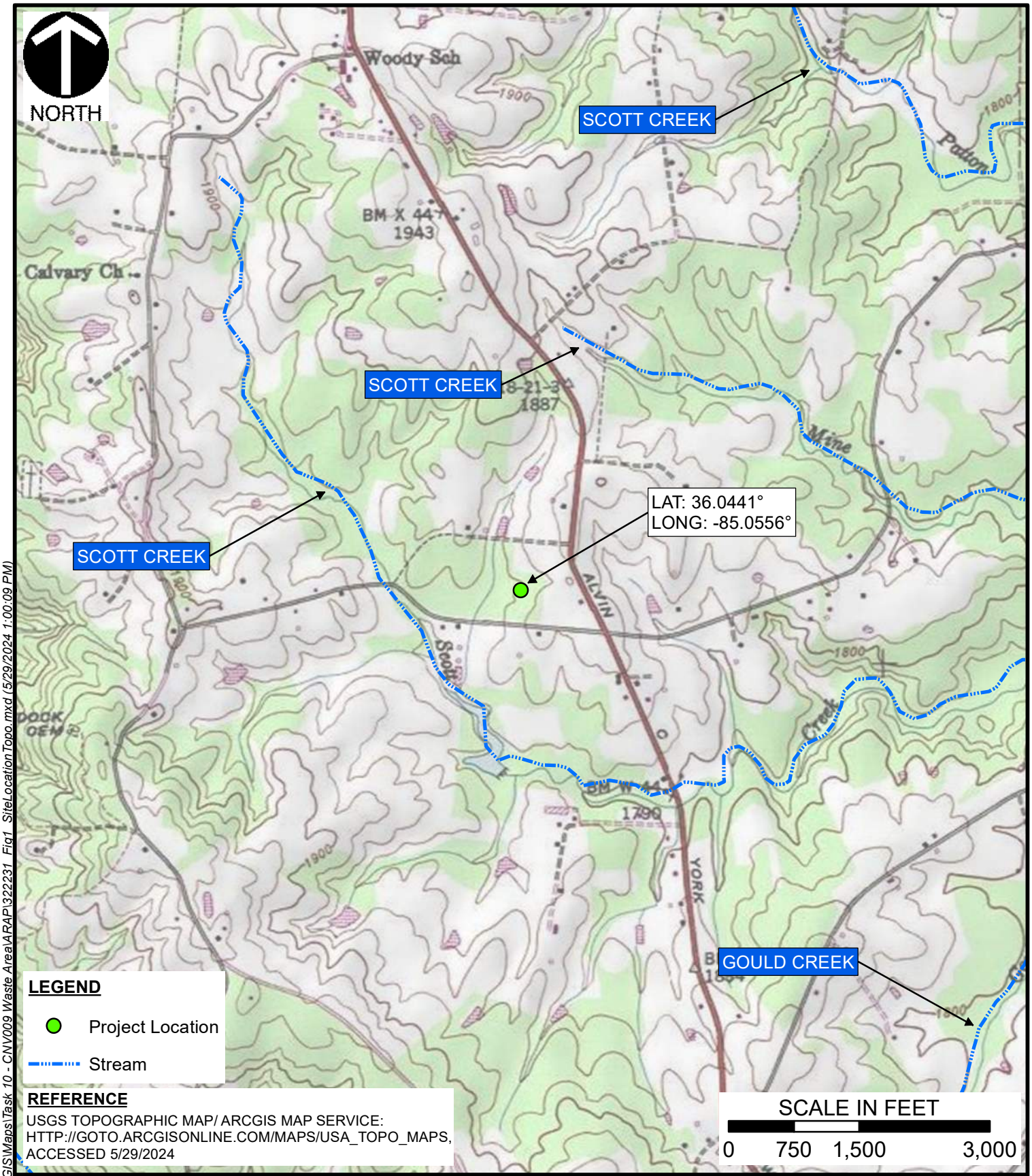
See the attached EPSC plans for additional sequencing of construction.

8.3 Erosion Prevention and Sediment Controls (EPSC)

All proposed fill work will be performed when site conditions are as dry as practicable. Silt fence and outfall protection will remain in place downgradient of the disturbance during Stage 1. Once fill activities are completed, the associated disturbance will be stabilized using seed and erosion control blanket (if necessary). The site will not be considered stabilized until the disturbed area has achieved final stabilization as defined by Tennessee's Construction General Permit.

The Contractor is responsible for and must maintain the quality of the water discharged from this construction site. The construction activities shall be carried out in a manner that will prevent violations of water quality criteria as stated in Rule 1200-4-3-.03 of the Rules of the Tennessee Department of Environment and Conservation. This includes, but is not limited to, the prevention of any discharge that causes a condition in which solids, bottom deposits, or turbidity impairs the usefulness of this water for any of the uses designated by Rule 1200-4-4.

All EPSC control measures must be properly installed and maintained in accordance with TDEC's Erosion & Sediment Control Handbook, 4th Edition. The Contractor is responsible for maintaining the effectiveness of the controls and must replace or modify the controls if they are deemed no longer effective.



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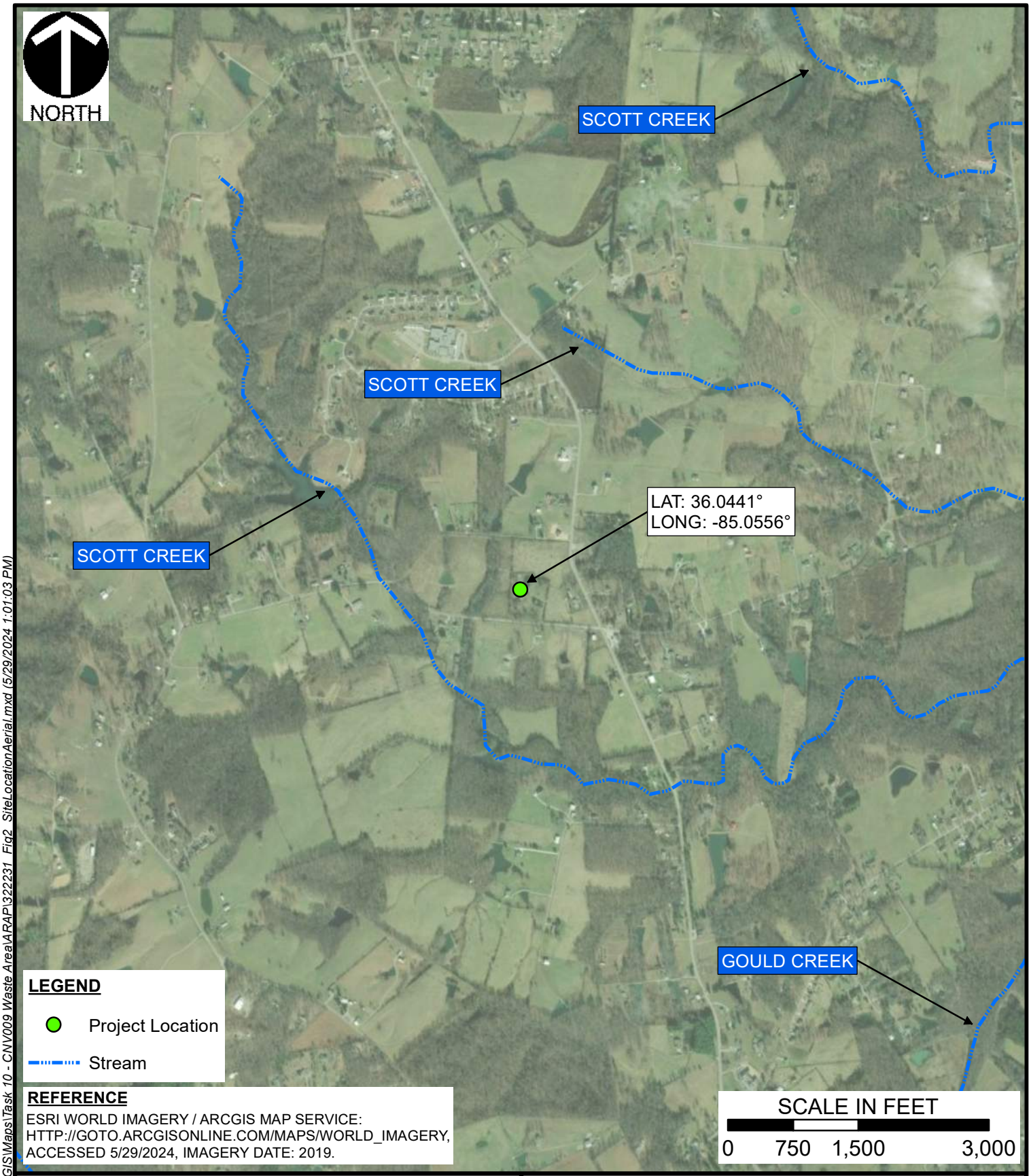
615-333-7797 • 800-763-2326
www.cecinc.com

JONES BROS. CONTRACTORS, LLC.
CNV009 MILLER WASTE AREA
TDEC GARAP APPLICATION
CROSSVILLE, CUMBERLAND CO., TENNESSEE

TOPOGRAPHIC SITE LOCATION MAP

DRAWN BY:	JTM	CHECKED BY:	JLW	APPROVED BY:	JLW	FIGURE NO:	1
DATE:	5/29/2024	SCALE:	1 " = 1,500 '	PROJECT NO:	322-231.0010		



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AERIAL SITE LOCATION MAP

DRAWN BY:	JTM	CHECKED BY:	JLW	APPROVED BY:	JLW	FIGURE NO:	2
DATE:	5/29/2024	SCALE:	1 " = 1,500 '	PROJECT NO:	322-231.0010		

\\SVR-NASH\P:\320-000\322-231\-GIS\Maps\Task 10 - CNV009 Waste Area\ARAP\322231 Fig2 SiteLocationAerial.mxd (5/29/2024 1:01:03 PM)

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PHOTO LOCATION MAP

DRAWN BY:	JTM	CHECKED BY:	DRAFT	APPROVED BY:	DRAFT	FIGURE NO:	3
DATE:	5/29/2024	SCALE:	1 " = 100 '	PROJECT NO:	322-231.0010		

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Photo 1 – General view looking northwest (downgradient) toward WTL-1 from the adjacent farm pond (non-jurisdictional).

Photo 2 – General view looking northwest (downgradient) toward WTL-1 from the adjacent farm pond (non-jurisdictional).

Photo 3 – General view looking northeast (upgradient) toward the adjacent farm pond (non-jurisdictional) from upgradient of WTL-1.

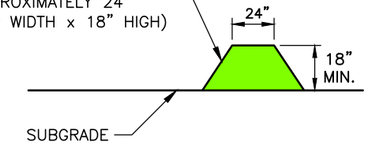
Photo 4 – General view looking southeast (upgradient) toward WTL-1 from downgradient location.

Photo 5 – General view looking west toward WTL-2 (not proposed for impact).

NORTH

TOPSOIL STOCKPILE AREA
SILT FENCE OR 18" SEDIMENT TUBES TO BE INSTALLED ON DOWNGRADIENT SIDE.

TEMPORARY BERM (COMPACTED SOIL, APPROXIMATELY 24" TOP WIDTH x 18" HIGH)



LEGEND:

- ENHANCED ROCK CHECK DAM
- EXISTING PROPERTY LINE
- EXISTING FENCE
- LIMITS OF DISTURBANCE
- BERM
- WETLAND/VEGETATED BUFFER
- SF — SILT FENCE
- 1860 — EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR

TEMPORARY CONSTRUCTION EXIT

OUTFALL 1

OUTFALL 2

OUTFALL 3

AREA 5.47 AC

APPROX. 100'x100' PAD FRONTAGE

WTL-1

WTL-2

30' BUFFER

30' BUFFER

WTL-1 AND THE ASSOCIATED BUFFER ZONE ARE NOT TO BE DISTURBED UNTIL THE ARAP IS ISSUED.

HIGHWAY #127N

MAYNARD RD.

GENERAL NOTES:

1. THIS SITE WILL BE ACCESSED VIA HIGHWAY 127N. CONSTRUCTION EXIT PER TDOT STD. DRAWING EC-STR-25 SHALL BE INSTALLED AT ALL POINTS OF EGRESS.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND EPSC MEASURES WHEN SEDIMENT HAS ACCUMULATED TO 50% OF THE MEASURE'S STORAGE CAPACITY.
3. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA WITHIN 14 DAYS OF THE CESSATION OF WORK.
4. LOCATION OF EPSC MEASURES ARE APPROXIMATE.
5. STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE TO BE PERMANENTLY STABILIZED WITH EROSION CONTROL BLANKET.
6. IDENTIFY LIMITS OF DISTURBANCE, CLEARLY MARK AREAS TO REMAIN UNDISTURBED, INSTALL CAUTION FENCE IF NECESSARY.
7. J-HOOKS SHALL BE ADDED EVERY 20 FEET FOR SILT FENCE ACROSS CONTOUR.

REFERENCE:

1. TOPOGRAPHIC INFORMATION TAKEN FROM http://www.tn.gov/finance/sts-gis/gis/gis-projects/gis_projects-elevation.html
2. EXISTING FEATURES TAKEN FROM GOOGLE EARTH.

* HAND SIGNATURE ON FILE

SCALE IN FEET

0 100' 200'

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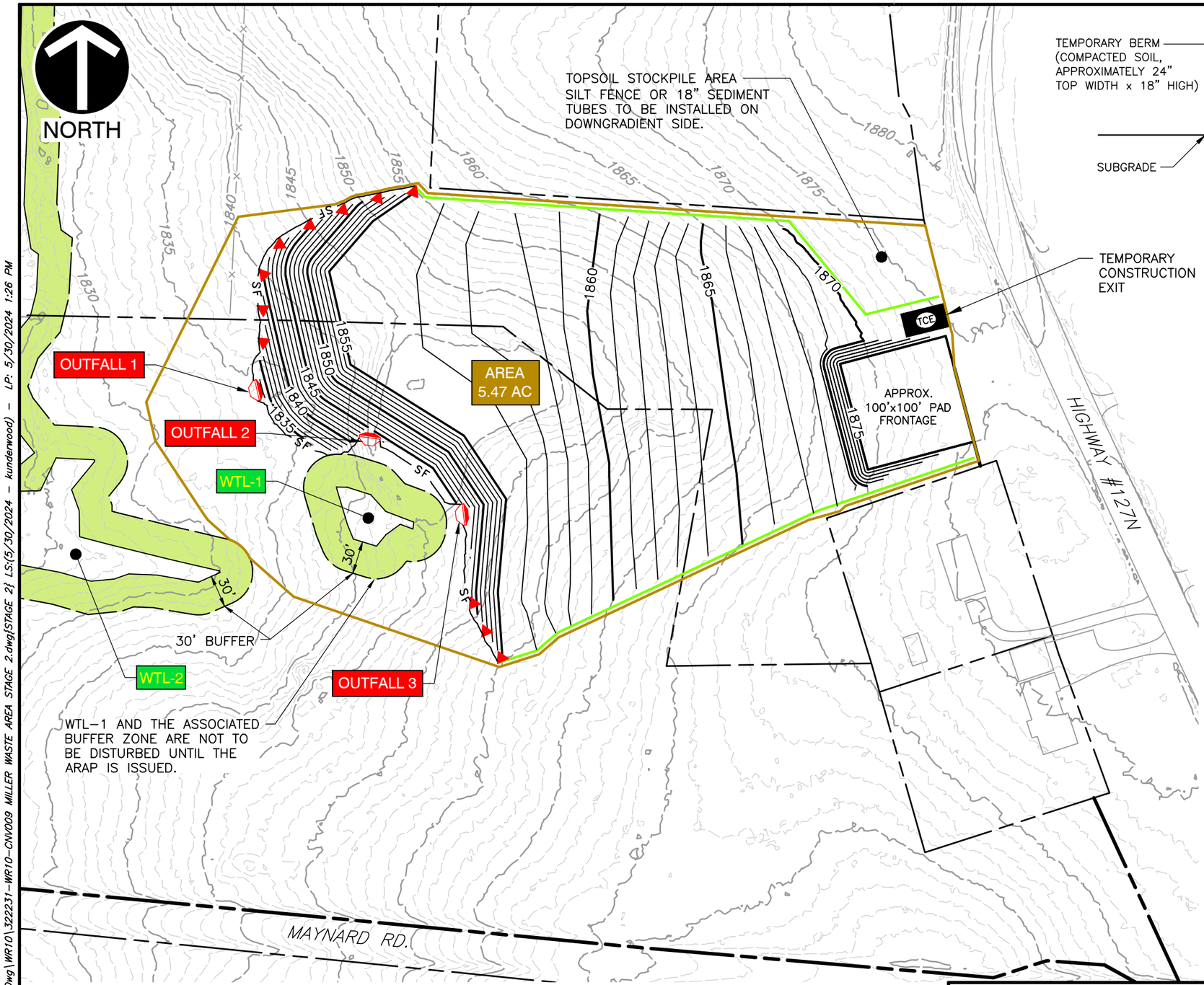
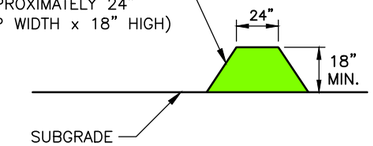
STAGE 1
EROSION & SEDIMENT CONTROL PLAN

DRAWN BY:	KLU	CHECKED BY:	JTM	APPROVED BY:	*JLW	DRAWING NO.:	1
DATE:	MAY 2024	DWG SCALE:	1"=100'	PROJECT NO:	322-231		

P:\320-000\322-231\-CADD\Dwg\WR10\322231-WR10-CNV009 MILLER WASTE AREA STAGES1-3.dwg[STAGE 1] LS:(5/30/2024 - kunderwood) - LP: 5/30/2024 1:25 PM



TEMPORARY BERM
(COMPACTED SOIL,
APPROXIMATELY 24"
TOP WIDTH x 18" HIGH)



LEGEND:

- ENHANCED ROCK CHECK DAM
- ROCK CHECK DAM OR PYRAMID STACKED 12" SEDIMENT TUBES
- EXISTING PROPERTY LINE
- EXISTING FENCE
- LIMITS OF DISTURBANCE
- BERM
- WETLAND/VEGETATED BUFFER
- SF — SILT FENCE
- 1860 — EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- 1860 — PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR

GENERAL NOTES:

1. THIS SITE WILL BE ACCESSED VIA HIGHWAY 127N. CONSTRUCTION EXIT PER TDOT STD. DRAWING EC-STR-25 SHALL BE INSTALLED AT ALL POINTS OF EGRESS.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND EPSC MEASURES WHEN SEDIMENT HAS ACCUMULATED TO 50% OF THE MEASURE'S STORAGE CAPACITY.
3. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA WITHIN 14 DAYS OF THE CESSATION OF WORK.
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6. IDENTIFY LIMITS OF DISTURBANCE, CLEARLY MARK AREAS TO REMAIN UNDISTURBED, INSTALL CAUTION FENCE IF NECESSARY.
7. J-HOOKS SHALL BE ADDED EVERY 20 FEET FOR SILT FENCE ACROSS CONTOUR.

REFERENCE:

1. TOPOGRAPHIC INFORMATION TAKEN FROM http://www.tn.gov/finance/sts-gis/gis/gis-projects/gis projects-elevation.html
2. EXISTING FEATURES TAKEN FROM GOOGLE EARTH.

* HAND SIGNATURE ON FILE

SCALE IN FEET

0 100' 200'

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STAGE 2
EROSION & SEDIMENT CONTROL PLAN

DRAWN BY:	KLU	CHECKED BY:	JTM	APPROVED BY:	*JLW	DRAWING NO.:	2
DATE:	MAY 2024	DWG SCALE:	1"=100'	PROJECT NO:	322-231		

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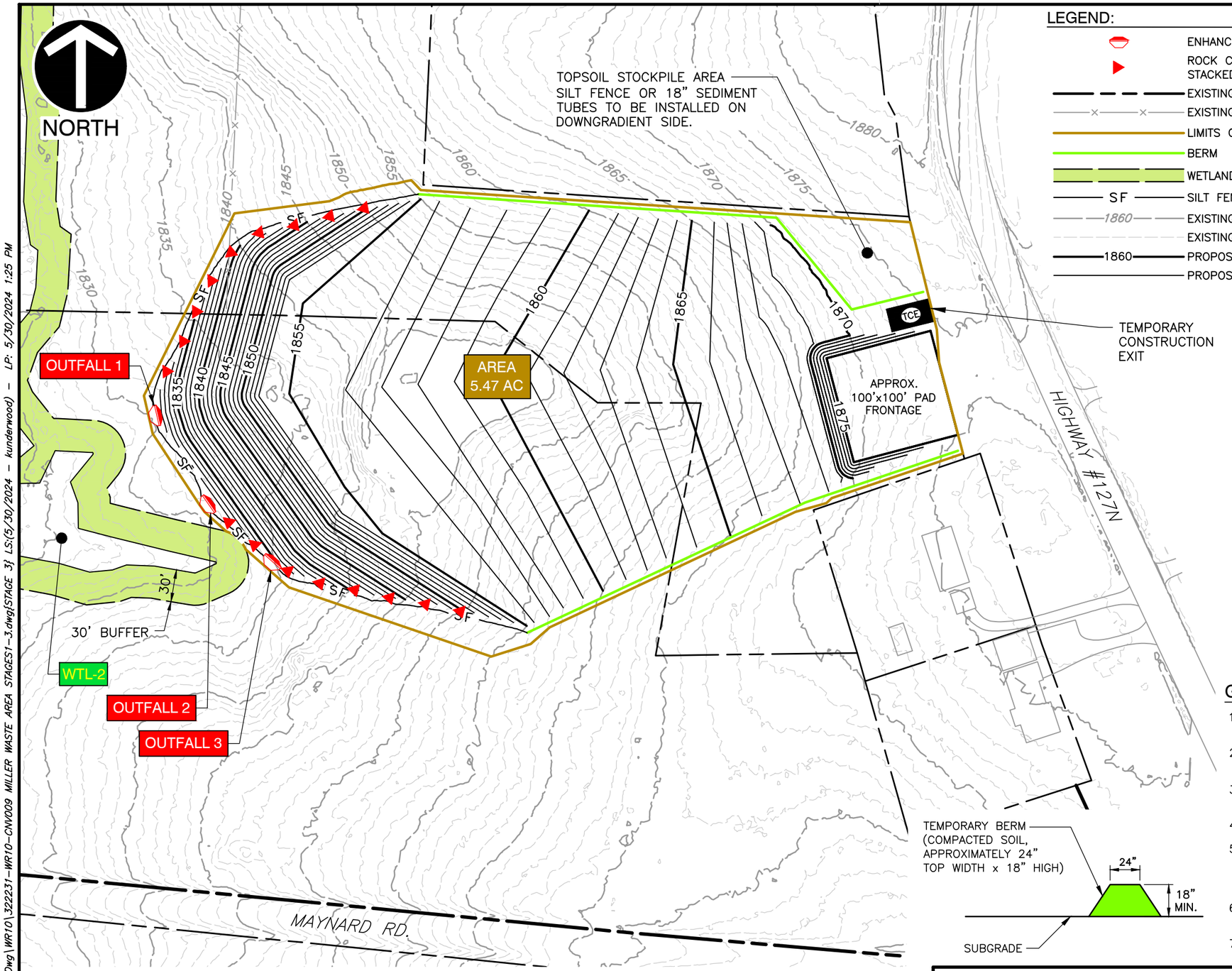


LEGEND:

- ENHANCED ROCK CHECK DAM
- ROCK CHECK DAM OR PYRAMID STACKED 12" SEDIMENT TUBES
- EXISTING PROPERTY LINE
- EXISTING FENCE
- LIMITS OF DISTURBANCE
- BERM
- WETLAND/VEGETATED BUFFER
- SF — SILT FENCE
- 1860 — EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- 1860 — PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR

918.01-1: GRASS SEED

SEED	QUANTITY PER CENT BY WEIGHT	SEEDING DATES
GROUP "A"		
KENTUCKY 31 FESCUE	80%	
KOREAN LESPEDEZA	15%	FEBRUARY 1 – JULY 1
ANNUAL RYE GRASS	5%	
GROUP "B"		
KENTUCKY 31 FESCUE	75%	
KOREAN LESPEDEZA	15%	JUNE 1 – AUGUST 15
GERMAN MILLET	10%	
GROUP "B1"		
BERMUDAGRASS (HULLED)	70%	APRIL 15 – AUGUST 15
ANNUAL LESPEDEZA	30%	
GROUP "C"		
KENTUCKY 31 FESCUE	70%	
ANNUAL RYE GRASS	20%	AUGUST 1 – DECEMBER 1
WHITE CLOVER	10%	
GROUP "C1"		
CROWN VETCH	25%	
KENTUCKY 31 FESCUE	70%	FEBRUARY 1 – DECEMBER
ANNUAL RYE GRASS	5%	

GROUPS "A", "B", AND "C" WHEN SOWN ON SLOPES 3:1 AND STEEPER, SHALL BE OVER SEEDED WITH SERICEA LESPEDEZA AT THE RATE OF 15 POUNDS PER ACRE. WHEN OVER-SEEDING IS PERFORMED BETWEEN FEBRUARY 1 AND JULY 1, USE SCARIFIED SERICEA LESPEDEZA WITH AN ADDITIONAL 2 POUNDS PER ACRE OF WEEPING LOVEGRASS. BETWEEN JULY 1 AND DECEMBER, USE UNHULLED SERICEA LESPEDEZA. ONLY USE GROUP "C1" WHEN SHOWN ON THE PLANS.

918.01-6: TEMPORARY SEEDING

GROUP "D"		
ANNUAL RYE GRASS	33-1/3%	
KOREAN LESPEDEZA	33-1/3%	JANUARY 1 – MAY 1
SPRING OATS	33-1/3%	
GROUP "E"		
SORGHUM-SUDAN CROSSES[1] OR GERMAN MILLET[2]	100% OR 100%	MAY 1 – JULY 15
GROUP "F"		
CEREAL RYE	66-2/3%	
ANNUAL RYE GRASS	33-1/3%	JULY 15 – JANUARY 1

[1] DEKALB SUDAN SX11, LINDSEY 77F, TN FARMER'S CO-OP GHS-1 OR GHS-2A.

[2] GERMAN MILLET, GaHi-1

GENERAL NOTES:

1. THIS SITE WILL BE ACCESSED VIA HIGHWAY 127N. CONSTRUCTION EXIT PER TDOT STD. DRAWING EC-STR-25 SHALL BE INSTALLED AT ALL POINTS OF EGRESS.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND EPSC MEASURES WHEN SEDIMENT HAS ACCUMULATED TO 50% OF THE MEASURE'S STORAGE CAPACITY.
3. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA WITHIN 14 DAYS OF THE CESSATION OF WORK.
4. LOCATION OF EPSC MEASURES ARE APPROXIMATE.
5. STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE TO BE PERMANENTLY STABILIZED WITH EROSION CONTROL BLANKET.
6. IDENTIFY LIMITS OF DISTURBANCE, CLEARLY MARK AREAS TO REMAIN UNDISTURBED, INSTALL CAUTION FENCE IF NECESSARY.
7. J-HOOKS SHALL BE ADDED EVERY 20 FEET FOR SILT FENCE ACROSS CONTOUR.

REFERENCE:

1. TOPOGRAPHIC INFORMATION TAKEN FROM http://www.tn.gov/finance/sts-gis/gis/gis-projects/gis projects-elevation.html
2. EXISTING FEATURES TAKEN FROM GOOGLE EARTH.

* HAND SIGNATURE ON FILE

SCALE IN FEET

0 100' 200'

Civil & Environmental Consultants, Inc.

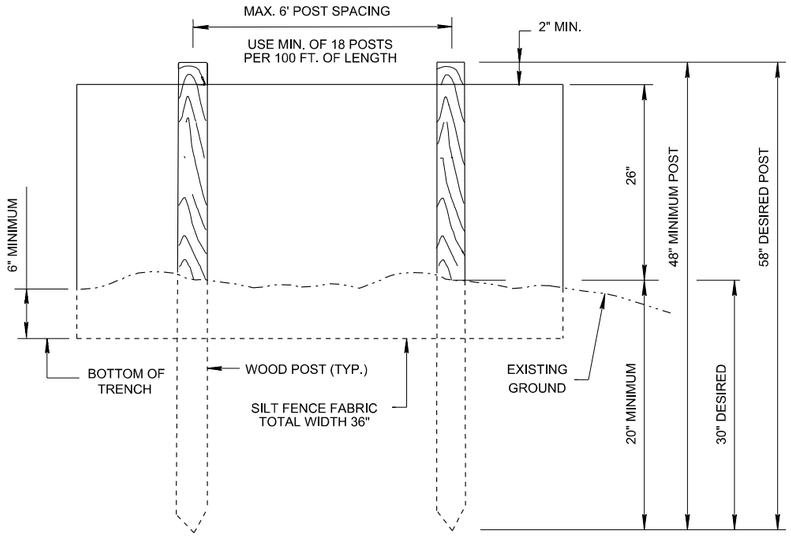
117 Seaboard Lane
Suite E-100
Franklin, TN 37067
Ph: 615.333.7797
www.cecinc.com

JONES BROTHERS CONTRACTORS, LLC
CNV009 MILLER WASTE AREA
CROSSVILLE, CUMBERLAND CO., TENNESSEE

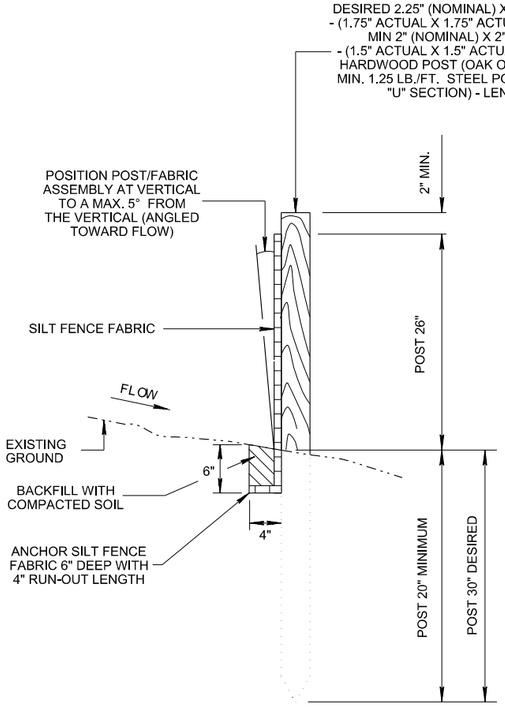
STAGE 3
EROSION & SEDIMENT CONTROL PLAN

DRAWN BY:	KLU	CHECKED BY:	JTM	APPROVED BY:	*JLW	DRAWING NO.:	3
DATE:	MAY 2024	DWG SCALE:	1"=100'	PROJECT NO:	322-231		

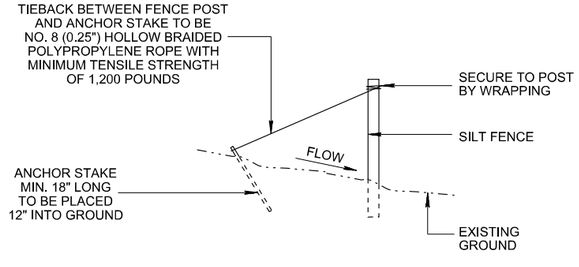
P:\320-000\322-231\-CADD\Dwg\WR10\322231-WR10-CNV009 MILLER WASTE AREA STAGES1-3.dwg[STAGE 3] LS:(5/30/2024 - kunderwood) - LP: 5/30/2024 1:25 PM



ELEVATION VIEW



SECTIONAL VIEW



SILT FENCE TIEBACK

FOR STEEL POSTS OR WOOD POSTS

(WHEN REQUIRED BY THE ENGINEER OR NOTED IN THE PLANS.
COST TO BE INCLUDED IN THE ITEMS FOR SILT FENCE)

EROSION CONTROL PLAN LEGEND: *** SF * SF * SF *** **SILT FENCE**

NOT TO SCALE

SILT FENCE FABRIC SPECIFICATIONS

FABRIC PROPERTY AND TEST METHODS	REQUIRED PHYSICAL PROPERTIES (MARV VALUES OF TEST DATA)
GEOTEXTILE FABRIC TYPE	WOVEN SLIT FILM (PER AASHTO M288)
APPARENT OPENING SIZE (ASTM D4751)	#30 TO #70 STANDARD SIEVE
WATER FLUX (ASTM D4491)	≥ 4 GPM/FT^2
TENSILE STRENGTH (ASTM D4632)	≥ 120 LB. (WARP DIRECTION) X 100 LB. (FILL DIRECTION)
ULTRAVIOLET STABILITY (AFTER 500 HRS PER ASTM D4355)	≥ 70%
ELONGATION (ASTM D4632)	≤ 20% (MAX)
BURST STRENGTH (ASTM D3786)	≥ 250 PSI
PUNCTURE STRENGTH (ASTM D4833)	≥ 60 LB.
TRAPEZOIDAL TEAR (ASTM D4533)	≥ 50 LB. (WARP DIRECTION) X 40 LB. (FILL DIRECTION)

SILT FENCE GENERAL NOTES

(A) SILT FENCE IS USED TO INTERCEPT SMALL AMOUNTS OF SEDIMENT AND REDUCE VELOCITY FROM SHEET FLOW ONLY. DO NOT USE IT ADJACENT TO NATURAL WATER RESOURCES (WETLANDS OR STREAMS) OR ACROSS CONCENTRATED FLOW PATHS.

(B) THE MAXIMUM DRAINAGE AREA SIZE FOR A CONTINUOUS BARRIER SHALL BE 1/4 ACRE PER 100 LINEAR FEET OF FENCE LENGTH UP TO A MAXIMUM DRAINAGE AREA OF 2 ACRES. MAXIMUM SLOPE LENGTH BEHIND FENCE ON UPSLOPE SIDE SHALL BE 110 FEET (AS MEASURED ALONG THE GROUND SURFACE).

(C) WHEN INSTALLED AT THE TOE OF A SLOPE, SILT FENCE SHOULD BE PLACED 5 FEET TO 7 FEET AWAY FROM THE TOE TO ALLOW SPACE FOR PONDING OF WATER, COLLECTION OF SEDIMENT, AND EASE OF MAINTENANCE AND REMOVAL.

(D) WHEN TWO SECTIONS OF SILT FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE JOINED ACCORDING TO THE DETAILS ON STANDARD DRAWING EC-STR-3E.

(E) MAINTENANCE SHALL BE PERFORMED AS NEEDED; CAPTURED SOIL MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND/OR OTHER EVIDENCE OF FILTER CLOGGING IS OBSERVED.

(F) STEEL POSTS SHALL BE ROLLED FROM HIGH CARBON STEEL AND SHALL HAVE A MINIMUM WEIGHT OF 1.25 LB/FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH GRADE WEATHER RESISTANT STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH AN ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED TO AID IN THE ATTACHMENT OF THE WIRE BACKING. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702.

(G) WHEN STEEL POSTS ARE USED THEY SHALL HAVE A PROJECTION FOR FASTENING WIRE TO THEM. THE WIRE FASTENERS SHOULD BE EVENLY SPACED WITH AT LEAST FIVE PER POST.

(H) IF THE FILTER MATERIAL IS STAPLED TO THE WOODEN STAKES, HEAVY DUTY WIRE STAPLES WITH ONE-HALF INCH LENGTH AND 1 INCH WIDTH SHALL BE USED AND EVENLY SPACED WITH AT LEAST FOUR PER POST. SILT FENCE FABRIC SHALL NOT BE STAPLED TO TREES.

(I) SILT FENCES SHOULD BE PLACED ALONG OR NEAR THE GROUND CONTOUR. THE BOTTOM OF FENCE AT GROUNDLINE SHOULD BE ON A ZERO PERCENT (0%) GRADE, PLUS OR MINUS FIVE TENTHS OF ONE PERCENT (\0.5%). THE ENDS OF A ROW OF SILT FENCE SHOULD BE TURNED UPSLOPE FORMING A J-HOOK TO FILTER ANY CONCENTRATED FLOW BEHIND FENCE.

(J) A PREASSEMBLED SILT FENCE MEETING THE REQUIREMENTS OF THIS DRAWING IS ACCEPTABLE IN LIEU OF A FIELD CONSTRUCTED SILT FENCE.

(K) STATIC SLICING IS THE PREFERRED METHOD OF FENCE INSTALLATION. STATIC SLICING INVOLVES THE INSERTION OF A NARROW CUTTING BLADE, PLACED AT THE SPECIFIED ANCHOR DEPTH FOR THE GIVEN FABRIC AS SHOWN ON THE APPLICABLE DETAIL, AND SIMULTANEOUSLY PULLING THE FENCE FABRIC INTO THE TRENCH AS THE TRENCH IS BEING EXCAVATED. ALTERNATE TRENCH-BASED METHODS ARE ALSO ACCEPTABLE. DO NOT USE EQUIPMENT THAT WILL DISTURB WIDER THAN 4" IN-SITU SOIL SUCH AS BACKHOE. FOR TRENCH-BASED INSTALLATIONS, SILT FENCING SHALL BE INSTALLED PER THE FOLLOWING STEPS AND IN THE FOLLOWING ORDER:

1. EXCAVATE TRENCH A MAXIMUM OF 4 INCHES WIDE AND 6 INCHES DEEP. THE TRENCH SHALL BE HAND-CLEANED FOLLOWING EXCAVATION TO REMOVE BULKY DEBRIS SUCH AS ROCKS, STICKS, AND SOIL CLODS FROM THE TRENCH.
2. INSTALL FABRIC IN TRENCH.
3. BACKFILL TRENCH (OVER-FILL) WITH SOIL PLACED AROUND FABRIC.
4. COMPACT SOIL BACKFILL WITH MECHANICAL EQUIPMENT. DO NOT DAMAGE THE FABRIC DURING COMPACTION (DAMAGED FABRIC SHALL BE REPLACED).
5. DRIVE AND SET SUPPORT POSTS PER SPACING REQUIREMENTS GIVEN ON THE APPLICABLE FENCE DETAIL. FOR PRE-ASSEMBLED SILT FENCE, DRIVE SUPPORT IN TO GROUND FIRST, FOLLOWED BY FABRIC PLACEMENT IN TRENCH.
6. ATTACH FABRIC TO THE POSTS USING WIRE TIES OR STAPLES. SPACING AND DENSITY OF TIES OR STAPLES SHALL BE INSTALLED AS DESCRIBED IN NOTES (G) AND (H).

(L) ONLY SILT FENCE FABRIC LISTED ON THE QUALIFIED PRODUCTS LIST MAY BE USED. ANY PRODUCTS LISTED ON THE QUALIFIED PRODUCTS LIST AS AN APPROVED ALTERNATE MAY ALSO BE USED.

(M) SILT FENCE SHALL BE PAID FOR UNDER ITEM NUMBER 209-08.03 TEMPORARY SILT FENCE (WITHOUT BACKING) PER LINEAR FOOT. PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF THE SILT FENCE.

(N) SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE STRUCTURE AND PAID FOR UNDER ITEM NUMBER 209-05, SEDIMENT REMOVAL PER CUBIC YARD.

REV. 12-18-03: MODIFIED TABLE (1) AND GENERAL NOTE (E).

REV. 7-29-04: CHANGED VALUES IN TABLE (1) FROM MEAN TO MARV VALUES.

REV. 4-15-06: REMOVED POA SPECS. FROM TABLE (1). ADDED NOTE (L). REVISED TABLE TITLE, REORDERED GENERAL NOTES. REFORMATTED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.

REV. 4-1-08: REMOVED TEMPORARY REFERENCE, REVISED NOTES, AND MISC. EDITS TO DRAWING.

REV. 8-1-12: MINOR EDITS TO GENERAL NOTES.

REV. 3-16-17: CHANGED SECOND NOTE (M) TO NOTE (N).

REV. 05-01-20: ADDED AASHTO REFERENCE IN TABLE, UPDATED GENERAL NOTES (K) AND REDREW SHEET.

REV: 06-15-21: ADDED ALTERNATE POST SIZE AND REVISED POST EMBEDMENT LENGTH.

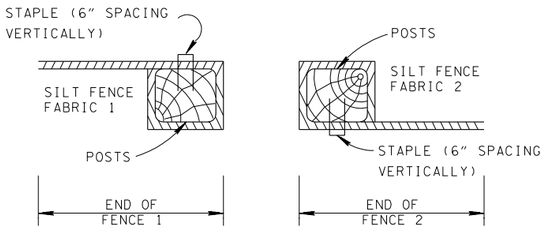
STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

SILT FENCE

12-18-2002 | EC-STR-3B

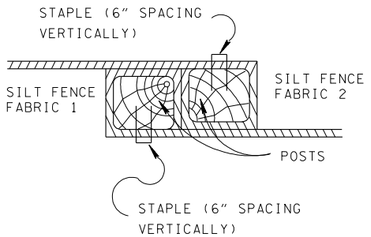
- REV. 4-15-06: REFORMATTED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.
- REV. 4-1-08: MISC. EDITS TO DRAWING, CHANGED DRAWING NAME, REFORMATTED SHEET.

STEP 1

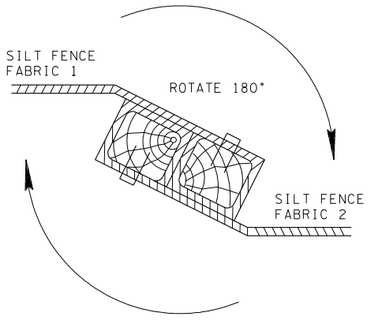


1. WRAP FABRIC AROUND END SUPPORTS AS SHOWN AND ANCHOR FABRIC TO POSTS.
2. POSITION POSTS/FABRIC AS SHOWN ABOVE.

STEP 2



STEP 3

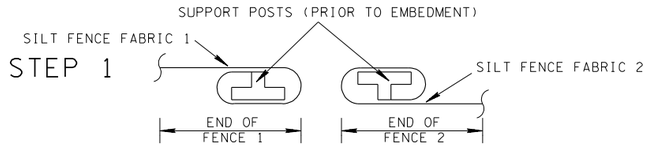


1. ROTATE BOTH POSTS WITH FABRIC CLOCKWISE AT LEAST 180°.
2. EMBED BOTH POSTS INTO GROUND PER SILT FENCE STANDARD DRAWING EC-STR-3B.

PLAN VIEW

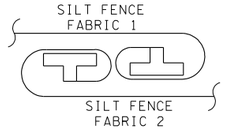
JOINING SILT FENCE FABRIC SECTIONS (WOOD POSTS)

STEP 1



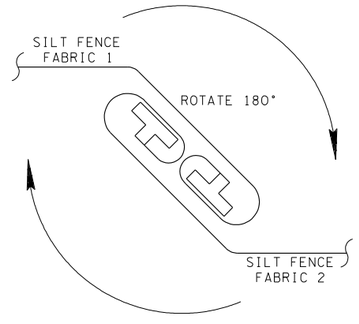
1. WRAP FABRIC AROUND END SUPPORTS AS SHOWN AND ANCHOR FABRIC TO POSTS.
2. POSITION POSTS/FABRIC AS SHOWN ABOVE.

STEP 2



1. POSITION THE SILT FENCE FABRIC 2 POST INSIDE OF THE SILT FENCE FABRIC 1 POST AS SHOWN ABOVE.

STEP 3



1. ROTATE BOTH POSTS WITH FABRIC CLOCKWISE AT LEAST 180°.
2. EMBED BOTH POSTS INTO GROUND PER APPLICABLE SILT FENCE STANDARD DRAWING. (EC-STR-3B, EC-STR-3C, OR EC-STR-3D)

PLAN VIEW

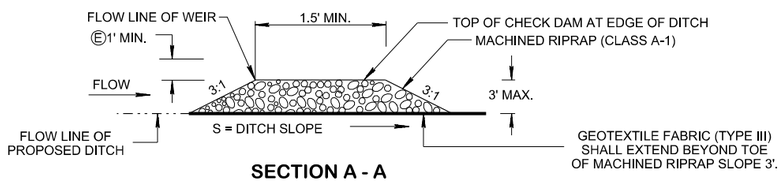
JOINING SILT FENCE FABRIC SECTIONS (STEEL POSTS)

- MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

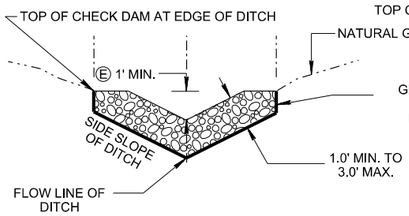
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SILT FENCE FABRIC JOINING DETAILS

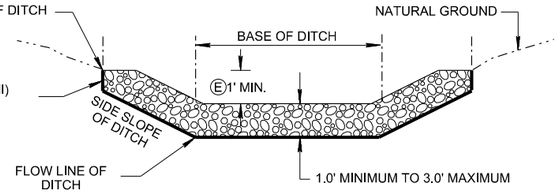
12-18-02 | EC-STR-3E



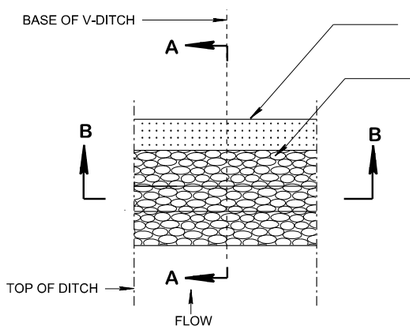
SECTION A - A



SECTION B - B

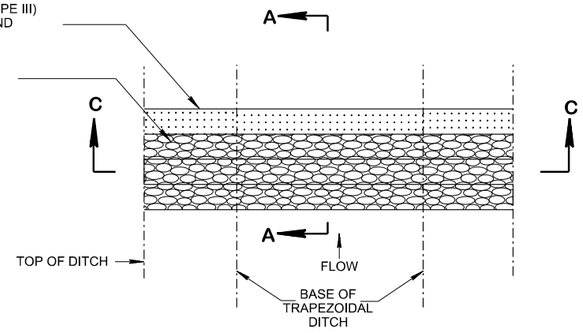


SECTION C - C



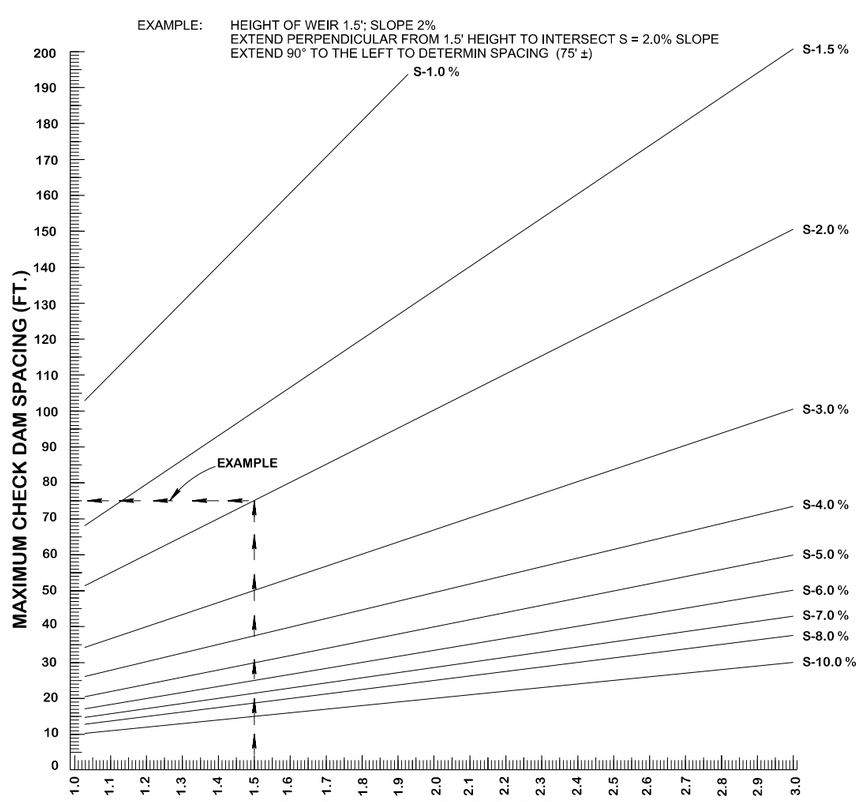
PLAN VIEW

DETAIL FOR V-DITCH

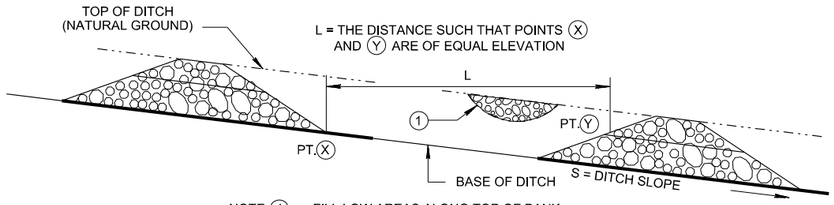


PLAN VIEW

DETAIL FOR TRAPEZOIDAL DITCH



ROCK CHECK DAM SPACING



NOTE (1): FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXISTING DITCH

DETAIL FOR SPACING BETWEEN CHECK DAMS

ROCK CHECK DAM ESTIMATED QUANTITIES

	2:1 DITCH SLOPE			3:1 DITCH SLOPE			4:1 DITCH SLOPE		
V-DITCH (2)	HEIGHT FT	RIP RAP TON	GEOTEXTILE SF	HEIGHT FT	RIP RAP TON	GEOTEXTILE SF	HEIGHT FT	RIP RAP TON	GEOTEXTILE SF
	1.5	6.5	16.8	1.5	9.2	23.7	1.5	12.0	30.9
	2.0	13.0	24.6	2.0	18.4	34.8	2.0	24.1	45.4
	2.5	22.8	33.9	2.5	32.3	48.0	2.5	42.1	62.5
	3.0	36.5	44.7	3.0	51.7	63.2	3.0	67.3	82.5
TRAPEZOIDAL DITCH (3)	HEIGHT FT	RIP RAP TON	GEOTEXTILE SF	HEIGHT FT	RIP RAP TON	GEOTEXTILE SF	HEIGHT FT	RIP RAP TON	GEOTEXTILE SF
	1.5	8.9	22.8	1.5	11.6	29.7	1.5	14.4	36.9
	2.0	16.9	31.9	2.0	22.3	42.1	2.0	27.9	52.7
	2.5	28.7	42.6	2.5	38.1	56.6	2.5	47.9	71.2
	3.0	44.7	54.7	3.0	59.8	73.2	3.0	75.5	92.4

(2) ESTIMATED QUANTITIES BASED ON 4:1 SIDE SLOPES. QUANTITIES WILL VARY BASED ON ACTUAL DITCH CONFIGURATION.

(3) ESTIMATED QUANTITIES BASED ON 4 FT BOTTOM WIDTH, AND 4:1 SIDE SLOPES. QUANTITIES WILL VARY BASED ON ACTUAL DITCH CONFIGURATION.

EROSION CONTROL PLAN LEGEND : **ROCK CHECK DAM (V-DITCH),** **ROCK CHECK DAM (TRAPEZOIDAL DITCH)**

NOT TO SCALE

ROCK CHECK DAM GENERAL NOTES

(A) ROCK CHECK DAMS ARE TO BE USED FOR VELOCITY REDUCTION AND EROSION PREVENTION IN AREAS WHERE CONCENTRATED FLOW EXISTS. ROCK CHECK DAMS SHALL NOT BE USED IN STREAMS OR OTHER NATURAL WATER RESOURCES. ROCK CHECK DAMS ARE NOT TO BE USED FOR SEDIMENT CONTROL AND SHOULD NOT BE CONSIDERED A SEDIMENT TRAPPING DEVICE.

(B) THE DRAINAGE AREA FOR THE ROCK CHECK DAMS SHALL BE 10 ACRES OR LESS.

(C) ROCK CHECK DAMS MAY REMAIN IN PLACE AS PERMANENT CHECK DAMS, IF SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

(D) THE CENTER OF THE ROCK CHECK DAM MUST BE AT LEAST ONE (1) FOOT LOWER THAN THE OUTER EDGES.

(E) THE DEPTH OF FLOW ON THE CENTER OF THE STRUCTURE SHALL BE COMPUTED FOR THE PEAK FLOW RATE GENERATED BY THE 2-YEAR, 24-HOUR STORM IN ORDER TO ENSURE THAT THE TOP OF THE STRUCTURE WILL NOT BE OVERTOPPED. FOR SITES WHICH DRAIN TO EXCEPTIONAL TENNESSEE WATERS OR SEDIMENT-IMPARIED STREAMS, THE DEPTH SHOULD BE DETERMINED FOR THE 5-YEAR, 24-HOUR PEAK FLOW RATE. THIS WILL ELIMINATE THE ROCK-SOIL FAILURE POINT WHERE THE ROCK CHECK DAM AND NATURAL GROUND MERGE.

(F) FOR SITES WHICH DRAIN TO EXCEPTIONAL TENNESSEE WATERS OR SEDIMENT-IMPAIRED STREAMS, THE MINIMUM HEIGHT OF THE STRUCTURE ABOVE THE DITCH BOTTOM SHALL BE INCREASED TO 2 FEET.

(G) THE MAXIMUM SPACING BETWEEN ROCK CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE FLOW LINE OF THE WEIR OF THE DOWNSTREAM DAM (SEE ROCK CHECK SPACING GRAPH THIS SHEET).

(H) ONLY GEOTEXTILE FABRIC (TYPE III) LISTED ON THE QUALIFIED PRODUCTS LIST SHALL BE USED.

(I) PRODUCTS LISTED ON THE QUALIFIED PRODUCTS LIST FOR FILTER SOCK DITCH APPLICATION (SEE STANDARD DRAWING EC-STR-8) MAY BE USED AND SHALL BE PAID UNDER FOLLOWING ITEM NUMBER:

209-08.09, FILTER SOCK CHECK DAM, EACH.

(J) ROCK CHECK DAMS SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:

209-08.07, ROCK CHECK DAM, EACH.

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ROCK CHECK DAMS.

(K) SEDIMENT SHALL BE REMOVED FROM BEHIND THE ROCK CHECK DAMS WHEN IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE DAM AND PAID FOR UNDER ITEM NUMBER:

209-05, SEDIMENT REMOVAL, C.Y.

REV. 12-18-95: CHANGED DRAWING NO. FROM ESC-STR-6 TO EC-STR-6.

REV. 7-29-96: MADE MINOR CORRECTIONS TO GENERAL NOTES.

REV. 4-15-98: CHANGED PAY ITEMS FOR CHECK DAMS.

REV. 5-27-01: CHANGED DESCRIPTION FOR GEOTEXTILE FABRIC (TYPE III, CLASS A) TO GEOTEXTILE FABRIC (TYPE III).

REV. 12-18-02: CHANGED GENERAL NOTE (G).

REV. 1-22-03: CORRECTED NOTE IN SECTION A-A.

REV. 4-15-06: REFORMATTED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.

REV. 4-1-08: REMOVED TEMPORARY REFERENCE, REVISED NOTES, MISC. EDITS TO DRAWING, MODIFIED SPACING CHART.

REV. 8-1-12: MINOR EDITS TO GENERAL NOTES.

REV. 5-6-16: REVISED QUANTITIES TABLE, REVISED GENERAL NOTE (I). REVISED DITCH DETAIL.

REV. 11-30-20: REDREW SHEET. REVISED GENERAL NOTE (J) ITEM DESCRIPTION.

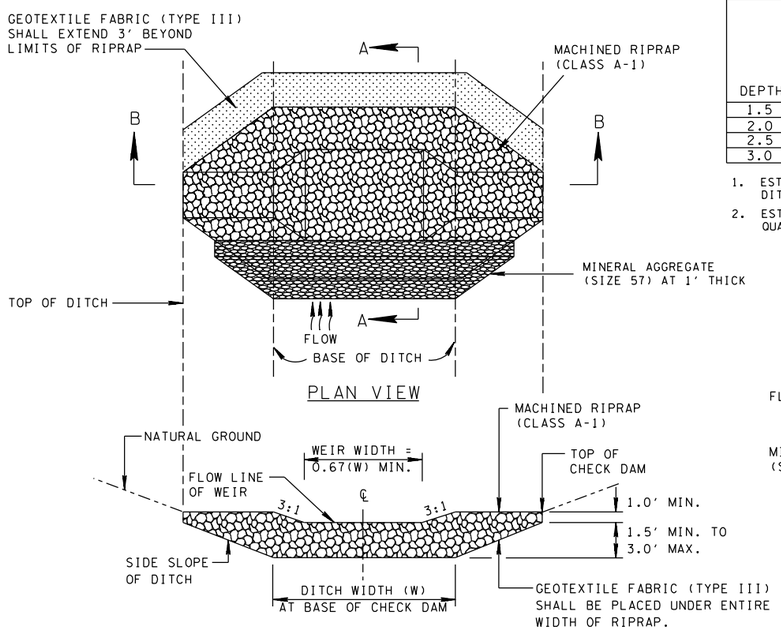
STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

ROCK CHECK DAM

10-26-1992 EC-STR-6

- REV. 8-1-12: MINOR EDITS TO GENERAL NOTES.
- REV. 5-6-16: REVISED GENERAL NOTE (H).

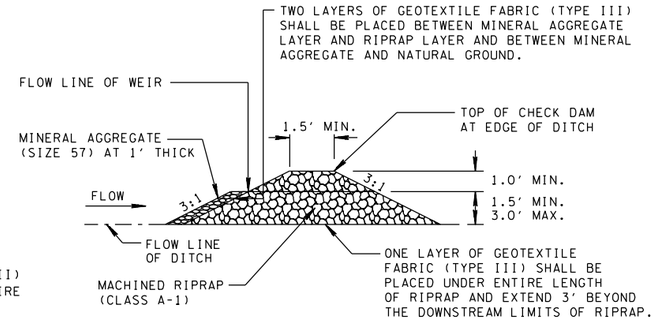
DETAIL FOR TRAPEZOIDAL DITCH



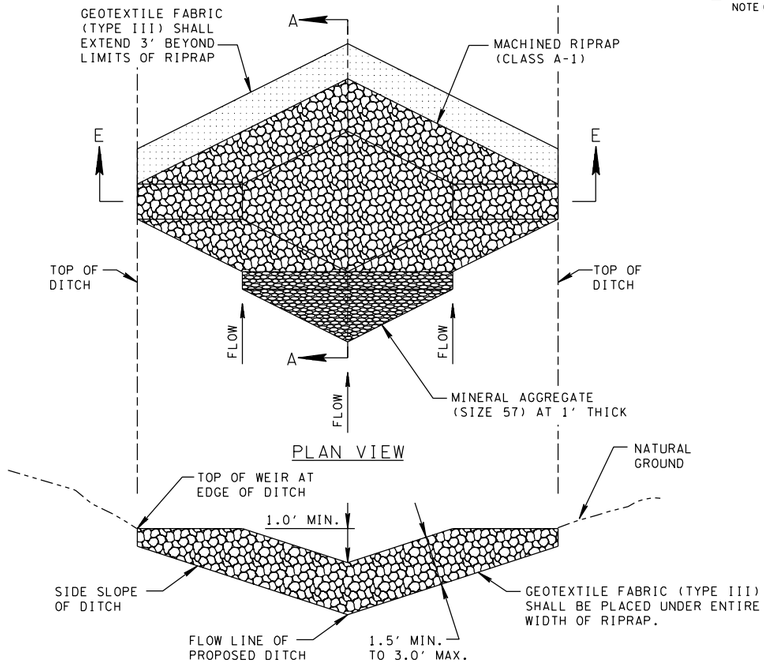
ENHANCED ROCK CHECK DAM ESTIMATED QUANTITIES

DEPTH	V-DITCH[1] MINERAL AGGREGATE (SIZE 57) (TON)	V-DITCH[1] MACHINED RIPRAP (CLASS A-1) (TON)	V-DITCH[1] GEOTEXTILE FABRIC (TYPE III) (S.Y.)	TRAPEZOIDAL DITCH[2] MINERAL AGGREGATE (SIZE 57) (TON)	TRAPEZOIDAL DITCH[2] MACHINED RIPRAP (CLASS A-1) (TON)	TRAPEZOIDAL DITCH[2] GEOTEXTILE FABRIC (TYPE III) (S.Y.)
1.5	0.21	12.2	31.7	0.29	17.2	40.3
2.0	0.33	20.2	44.0	0.44	27.6	54.7
2.5	0.48	31.1	58.3	0.62	41.2	71.0
3.0	0.66	45.1	74.7	0.83	58.3	89.3

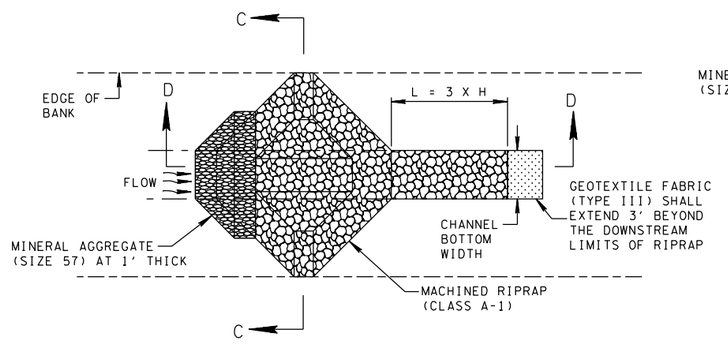
1. ESTIMATED QUANTITIES BASED ON 4:1 SIDE SLOPES. QUANTITIES WILL VARY BASED ON ACTUAL DITCH CONFIGURATION.
2. ESTIMATED QUANTITIES BASED ON 4FT BOTTOM WIDTH, 4 FT DEPTH, AND 4:1 SIDE SLOPES. QUANTITIES WILL VARY BASED ON ACTUAL DITCH CONFIGURATION.

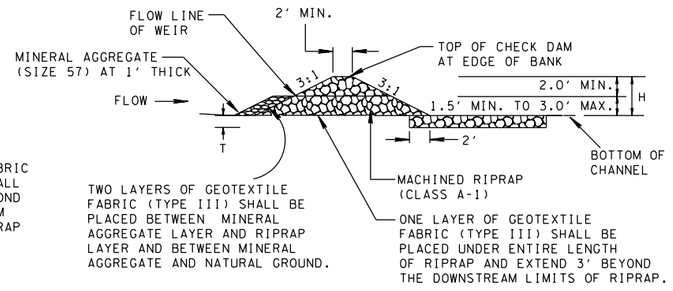


DETAIL FOR V-DITCH



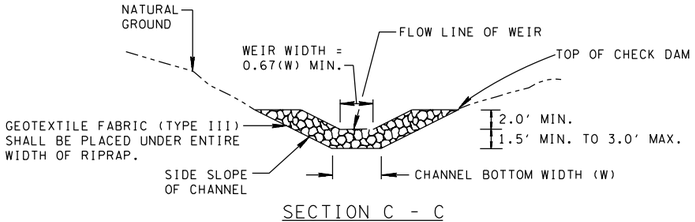
DETAIL FOR CHANNELS





SECTION D - D

T = 1.0' MINIMUM TO 1.5' MAXIMUM
H = HEIGHT OF CHECK DAM
L = LENGTH OF RIPRAP PAD
W = WIDTH OF DITCH (CHANNEL) BOTTOM



SECTION C - C

EROSION CONTROL PLAN LEGEND:

ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)

ENHANCED ROCK CHECK DAM (V-DITCH)

ENHANCED ROCK CHECK DAM (CHANNEL)

ENHANCED ROCK CHECK DAM GENERAL NOTES

(A) ENHANCED ROCK CHECK DAMS MAY BE USED TO REDUCE FLOW VELOCITIES TO ALLOW SEDIMENTS TO DROP OUT. THEY MAY BE EMPLOYED WHERE THE DRAINAGE AREA EXCEEDS THE MAXIMUM FOR ROCK CHECK DAMS OR WHERE A FILTRATION FUNCTION FOR VERY LOW FLOWS IS DESIRED. ENHANCED ROCK CHECK DAMS SHALL NOT BE USED IN STREAMS OR WETLANDS UNLESS PROVIDED FOR IN THE PERMITS.

(B) AT MOST SITES, THE MAXIMUM ALLOWABLE DRAINAGE AREA SHALL BE 30 ACRES. AT SITES WHICH DRAIN TO EXCEPTIONAL TENNESSEE WATERS OR SEDIMENT-IMPAIRED STREAMS, THE MAXIMUM ALLOWABLE DRAINAGE AREA SHALL BE 20 ACRES.

(C) ENHANCED CHECK DAM MAY REMAIN IN PLACE AS PERMANENT CHECK DAM. IF SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

(D) THE CENTER OF THE ENHANCED ROCK CHECK DAM USED IN DITCHES MUST BE AT LEAST ONE (1) FOOT LOWER THAN THE OUTER EDGES. THE CENTER OF ENHANCED ROCK CHECK DAMS USED IN CHANNELS MUST BE AT LEAST TWO (2) FEET LOWER THAN THE OUTER EDGES.

(E) THE DEPTH OF FLOW ON THE CENTER OF THE STRUCTURE SHALL BE COMPUTED FOR THE PEAK FLOW RATE GENERATED BY THE 2-YEAR, 24-HOUR STORM IN ORDER TO ENSURE THAT THE TOP OF THE STRUCTURE WILL NOT BE OVERTOPPED. FOR SITES WHICH DRAIN TO EXCEPTIONAL TENNESSEE WATERS OR SEDIMENT IMPAIRED STREAMS, THE DEPTH SHOULD BE DETERMINED FOR THE 5-YEAR, 24-HOUR PEAK FLOW RATE. THIS WILL ELIMINATE THE ROCK - SOIL FAILURE POINT WHERE THE ENHANCED ROCK CHECK DAM AND NATURAL GROUND MERGE.

(F) THE MAXIMUM SPACE BETWEEN ENHANCED ROCK CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM IS AT THE SAME ELEVATION AS THE FLOW LINE OF THE WEIR OF THE DOWNSTREAM DAM. (SEE ROCK CHECK DAM SPACING GRAPH ON EC-STR-6)

(G) ONLY GEOTEXTILE FABRIC (TYPE III) LISTED ON THE QUALIFIED PRODUCTS LIST SHALL BE USED.

(H) PRODUCTS LISTED ON THE QUALIFIED PRODUCTS LIST FOR FILTER SOCK DITCH APPLICATION MAY BE USED AND SHALL BE PAID UNDER FOLLOWING ITEM NUMBER:

209-08.09 FILTER SOCK CHECK DAM PER EACH

(I) ENHANCED ROCK CHECK DAMS SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:

209-08.08 ENHANCED ROCK CHECK DAM PER EACH

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ENHANCED ROCK CHECK DAMS.

(J) SEDIMENT SHALL BE REMOVED FROM BEHIND THE ENHANCED ROCK CHECK DAM WHEN IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE STRUCTURE AND PAID FOR UNDER ITEM NUMBER 209-05, SEDMENT REMOVAL PER CUBIC YARD.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

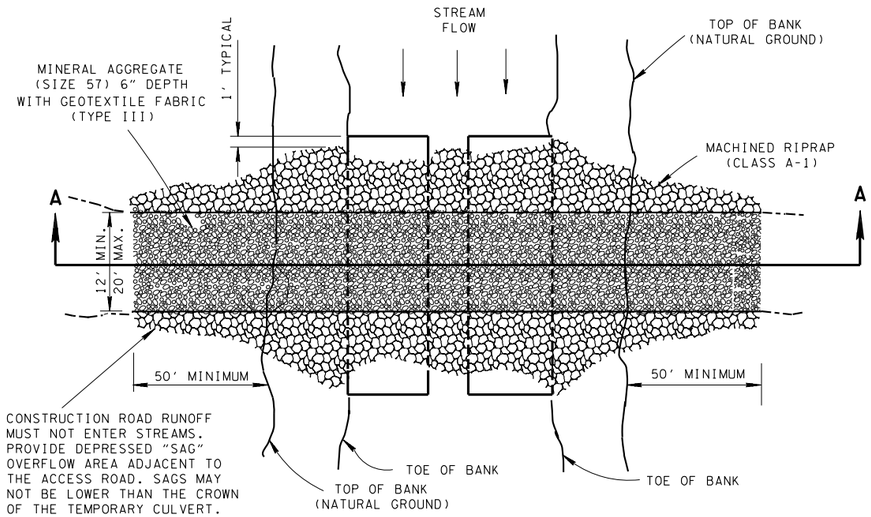
NOT TO SCALE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

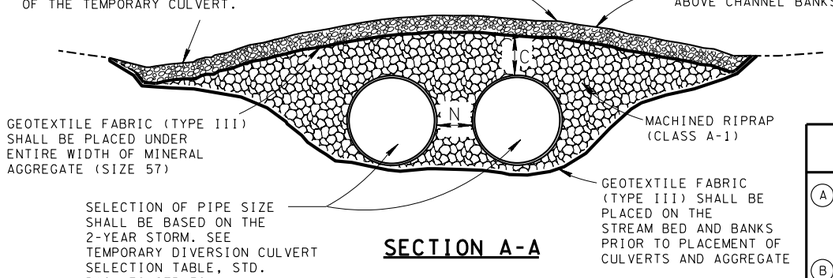
ENHANCED ROCK CHECK DAM

4-1-08 | EC-STR-6A

TEMPORARY CULVERT CROSSING



PLAN VIEW OF TEMPORARY CULVERT CROSSING

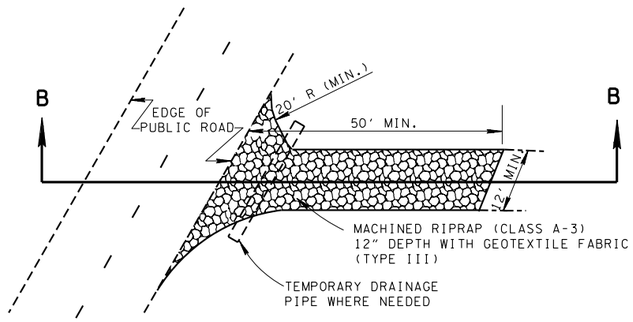


SECTION A-A

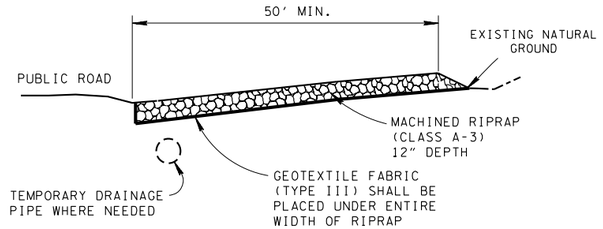
C = ½ DIAMETER OF PIPE OR 18" WHICHEVER IS GREATER

N = ½ DIAMETER OF PIPE OR 12" WHICHEVER IS GREATER

TEMPORARY CONSTRUCTION EXIT



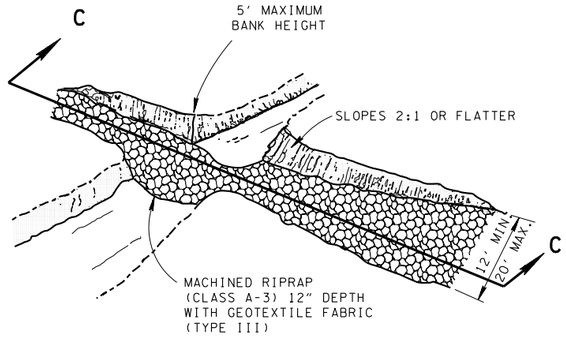
PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



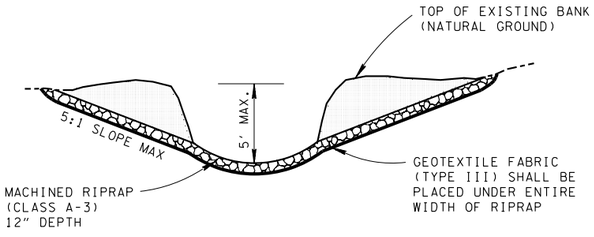
SECTION B-B

TEMPORARY CONSTRUCTION FORD

(NOT TO BE PLACED IN STREAMS)



PLAN VIEW OF TEMPORARY CONSTRUCTION FORD



SECTION C-C

- REV. 12-18-95: CHANGED DRAWING NO. FROM ESC-STR-25 TO EC-STR-25.

  REV. 5-27-01: CHANGED ITEM NO. 303-15.01 TO 303-10.01. CHANGED DESCRIPTIONS IN ITEM NOS. 621-03.02 TO 621-03.10, AND 709-05.05 TO 709-05.07.
- REV. 12-18-02: CHANGED GENERAL NOTE (B).
- REV. 1-22-03: CORRECTED GENERAL NOTE (C).
- REV.7-29-03: ADDED GEOTEXTILE FABRIC TO TEMPORARY CULVERT CROSSING AND TEMPORARY CONSTRUCTION ROAD ENTRANCE DETAILS. CHANGED MINERAL AGGREGATE TO CLASS A-3 RIPRAP IN TEMPORARY CONSTRUCTION ROAD ENTRANCE DETAIL. CHANGED GENERAL NOTES (D) AND (F).
- REV. 4-15-06: REFORMATTED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.
- REV. 4-1-08: REVISED VARIOUS GENERAL NOTES, MISC. EDITS TO DRAWING, AND REMOVED CLASS A-2 RIPRAP.
- REV. 8-1-12: MINOR EDITS TO GENERAL NOTES.

EROSION CONTROL PLAN LEGEND:

TCC — TEMPORARY CULVERT CROSSING (DESCRIBE NUMBER AND SIZE OF PIPES)

TCE — TEMPORARY CONSTRUCTION EXIT

TCF — TEMPORARY CONSTRUCTION FORD

GENERAL NOTES

(A) TEMPORARY CULVERT CROSSINGS SHALL CONSIST OF ONE OR MORE TEMPORARY DRAINAGE PIPES INSTALLED ACROSS A FLOWING WATER COURSE FOR USE BY CONSTRUCTION EQUIPMENT. THE TEMPORARY DRAINAGE PIPES WILL VARY IN SIZE FROM EIGHTEEN TO SEVENTY-TWO INCHES IN DIAMETER.

(B) MINIMIZE CLEARING OF VEGETATION FROM STREAM BANKS WHEN USING TEMPORARY CULVERT CROSSINGS.

(C) TEMPORARY CULVERT CROSSINGS SHALL BE SEPARATED FROM FLOWING WATER DURING THEIR CONSTRUCTION AND REMOVAL.

(D) PROVISION SHOULD BE MADE TO PREVENT CONSTRUCTION ROAD RUNOFF FROM ENTERING THE STREAM.

(E) TEMPORARY CULVERT CROSSINGS SHOULD BE REMOVED, INCLUDING THE AGGREGATE AND GEOTEXTILE, AS SOON AS POSSIBLE AFTER THE CROSSING IS NO LONGER REQUIRED. ANY EXPOSED AREAS SHOULD BE IMMEDIATELY STABILIZED.

(F) FOR SITES WHICH DRAIN TO EXCEPTIONAL TENNESSEE WATERS OR SEDIMENT -IMPAIRED STREAMS, A 9-INCH LAYER OF MACHINED RIPRAP (CLASS A-3) SHALL BE SUBSTITUTED FOR THE MINERAL AGGREGATE (SIZE 57) USED TO TOP-DRESS A TEMPORARY CULVERT CROSSING.

(G) ALL TEMPORARY CULVERT CROSSINGS AND TEMPORARY CONSTRUCTION FORDS SHALL BE PLACED PERPENDICULAR TO THE STREAM WHERE POSSIBLE. CROSSINGS MAY DEVIATE AS MUCH AS 15 DEGREES FROM PERPENDICULAR, IF NECESSARY.

(H) TEMPORARY CONSTRUCTION EXITS SHALL BE BUILT TO REDUCE SEDIMENT LEAVING THE CONSTRUCTION SITE VIA CONSTRUCTION VEHICLES AND TO REDUCE SEDIMENT TRACKING ON TO PUBLIC ROADS AND OTHER PAVED AREAS.

(I) ADDITIONAL STONE MAY BE REQUIRED TO TOP-DRESS THE STONE PAD IF IT BECOMES CLOGGED WITH SEDIMENT TO ENSURE THE TEMPORARY CONSTRUCTION EXIT REMAINS EFFECTIVE.

(J) ON SITES WHERE THE GRADE TOWARD THE PUBLIC ROAD IS GREATER THAN 2% A MOUNTABLE BERM AT LEAST 6 INCHES HIGH WITH 3:1 SIDE SLOPES SHOULD BE PROVIDED AT THE END OF THE PAD TO PREVENT RUNOFF FROM LEAVING THE SITE.

(K) TEMPORARY CONSTRUCTION EXITS SHOULD BE REMOVED WHEN NO LONGER REQUIRED. ANY EXPOSED AREAS SHOULD BE IMMEDIATELY STABILIZED.

(L) TEMPORARY CONSTRUCTION FORDS ARE EFFECTIVE FOR INFREQUENT CROSSINGS OF DITCHES OR SWALES. THEY SHALL NOT BE USED IN STREAMS, WETLANDS OR OTHER NATURAL WATER RESOURCES.

(M) TEMPORARY CONSTRUCTION FORDS SHOULD BE CONSTRUCTED TO MINIMIZE THE BLOCKAGE OF FLOW AND TO ALLOW FREE FLOW OVER THE FORD. THE MAXIMUM AMOUNT OF BLOCKAGE ALLOWED IS THE LESSER OF TWELVE INCHES OR ONE-HALF THE HEIGHT OF THE EXISTING BANKS.

(N) A MOUNTABLE BERM AT LEAST 6 INCHES HIGH WITH 3:1 SIDE SLOPES SHOULD BE PROVIDED ON EITHER SIDE OF THE CHANNEL TO PREVENT RUNOFF FROM ENTERING THE CHANNEL.

(O) TEMPORARY CONSTRUCTION FORDS SHOULD BE REMOVED WHEN NO LONGER REQUIRED. THE CHANNEL BANKS SHOULD BE RESTORED TO THEIR ORIGINAL DIMENSIONS. ANY EXPOSED AREAS SHOULD BE IMMEDIATELY STABILIZED.

(P) ONLY GEOTEXTILE FABRIC (TYPE III) LISTED ON THE QUALIFIED PRODUCTS LIST SHALL BE USED.

(Q) TEMPORARY CULVERT CROSSINGS, TEMPORARY CONSTRUCTION EXITS, AND TEMPORARY CONSTRUCTION FORDS SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:

203-01	ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED) PER CUBIC YARD
303-10.01	MINERAL AGGREGATE (SIZE 57) PER TON
621-03.02 THRU 621-03.11	_ _" TEMPORARY DRAINAGE PIPE PER LINEAR FOOT
709-05.05	MACHINED RIPRAP (CLASS A-3) PER TON
709-05.06	MACHINED RIPRAP (CLASS A-1) PER TON
740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL) PER SQUARE YARD

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF TEMPORARY CULVERT CROSSINGS, TEMPORARY CONSTRUCTION EXITS, AND TEMPORARY CONSTRUCTION FORDS.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

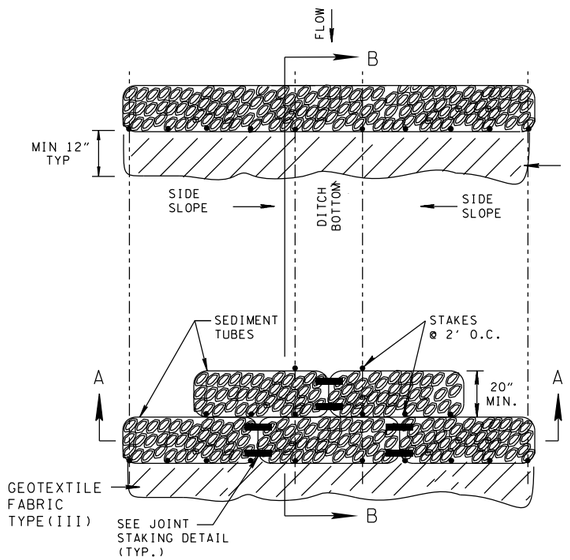
NOT TO SCALE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD

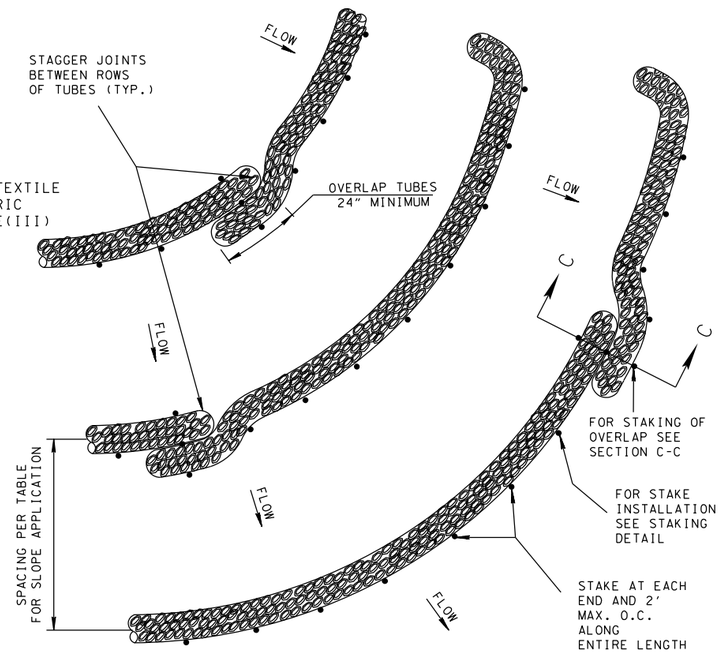
10-26-92 EC-STR-25

- ☐ REV. 4-15-06: REFORMATTED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.
- ☐ REV. 4-1-08: REMOVED TEMPORARY REFERENCE, ADDED OVERLAP DETAIL, OTHER MINOR MISC. EDITS, REVISED GENERAL NOTES.
- ☐ REV. 8-1-12: MINOR EDITS TO GENERAL NOTES.
- ☐ REV. 6-10-14: MODIFIED SPACING TABLES. ADDED GEOTEXTILES ADDED NOTE (P).



PLAN VIEW FOR DITCH APPLICATION

SEE NOTE (G)



PLAN VIEW FOR SLOPE APPLICATION

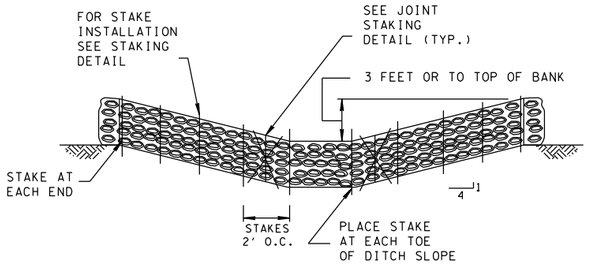
SEDIMENT TUBE SPACING FOR SLOPE APPLICATION					
SLOPE	8"	12"	18"	20"	24"
2%	70'	80'	N/A	N/A	N/A
5%	30'	60'	80'	N/A	N/A
10%	20'	30'	70'	80'	80'
6:1	N/A	20'	40'	50'	55'
4:1	N/A	20'	30'	30'	30'
3:1	N/A	N/A	20'	20'	25'
2:1	N/A	N/A	20'	20'	20'

(P)

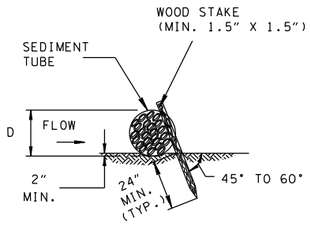
N/A = NOT RECOMMENDED
SPACING NOT TO EXCEED 80'

SEDIMENT TUBE SPACING TABLE FOR DITCH APPLICATION	
SLOPE	MAXIMUM SEDIMENT TUBE SPACING
LESS THAN 2%	80'
2%	80'
3%	50'
4%	40'
5%	30'
6%	20'
GREATER THAN 6%	20'

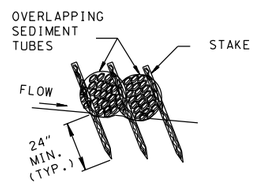
BASED ON A 20" SEDIMENT TUBE
SEE TABLE ON EC-STR-6 FOR OTHER HEIGHTS.



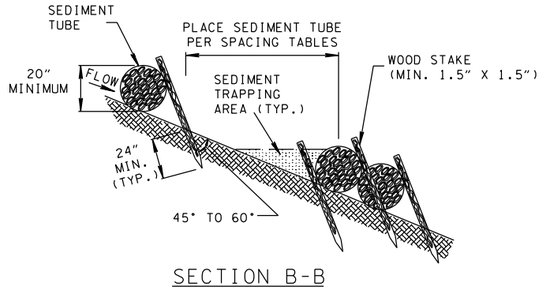
SECTION A-A



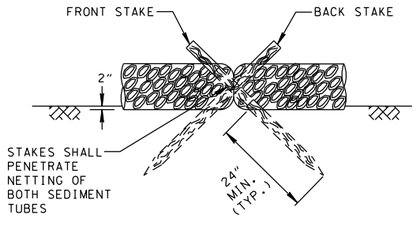
STAKING DETAIL



SECTION C-C



SECTION B-B



JOINT STAKING DETAIL

(DITCH APPLICATION ONLY)

EROSION CONTROL PLAN LEGEND: TUBE••TUBE••TUBE SEDIMENT TUBE

SEDIMENT TUBE GENERAL NOTES

(A) SEDIMENT TUBES CAN BE PLACED AT THE TOP, ON THE FACE, OR AT THE TOE OF SLOPES TO INTERCEPT RUNOFF, REDUCE FLOW VELOCITY, RELEASE THE RUNOFF AS SHEET FLOW AND PROVIDE REMOVAL OF SEDIMENT FROM THE RUNOFF.

(B) SEDIMENT TUBES SHALL BE INSTALLED ALONG OR ON THE GROUND CONTOUR, AT THE TOE OF SLOPES, OR IN A DITCH TO HELP REDUCE THE EFFECTS OF SOIL EROSION AND RETAIN SEDIMENT. SEDIMENT TUBES SHOULD NOT BE USED IN DITCHES OR STREAMS.

(C) FOR DITCH APPLICATIONS, THE MAXIMUM DRAINAGE AREA SHALL BE 15 ACRES. AT SITES WHICH DRAIN TO EXCEPTIONAL TENNESSEE WATERS OR SEDIMENT-IMPAIRED STREAMS, THE MAXIMUM DRAINAGE AREA SHALL BE 10 ACRES. FOR SLOPE APPLICATIONS, THE MAXIMUM DRAINAGE AREAS SHALL BE ¼ ACRE PER 100 LF OF TUBE.

(D) SEDIMENT TUBES SHALL NOT BE USED ON PAVEMENT, ROCKY SOILS, OR AT ANY OTHER LOCATIONS WHERE THE STAKES CANNOT BE DRIVEN TO THE REQUIRED DEPTH.

(E) SEDIMENT TUBES SHALL BE MANUFACTURED FROM WOOD EXCELSIOR, RICE OR WHEAT STRAW, COCONUT FIBERS, OR HARDWOOD MULCH THAT IS ENCLOSED BY A TUBULAR FLEXIBLE NETTING MATERIAL. ALL MATERIALS INCLUDING THE NETTING SHALL BE BIODEGRADABLE.

(F) PINE NEEDLE AND LEAF MULCH FILLED SEDIMENT TUBES AND STRAW BALES ARE NOT ACCEPTABLE MATERIALS.

(G) THE DIAMETER OF A SEDIMENT TUBE SHALL BE A MINIMUM OF 8 INCHES AND A MAXIMUM OF 24 INCHES. DIAMETER TOLERANCE IS 2 INCHES. FOR DITCH APPLICATIONS, SEDIMENT TUBES SHALL BE A MINIMUM OF 20 INCHES.

(H) SEDIMENT TUBES SHALL BE INSTALLED WITH WOODEN STAKES (MIN. 1.5" x 1.5" ACTUAL). THE STAKE SHALL BE EMBEDDED A MINIMUM OF 2 FEET.

(I) SEDIMENT TUBES SHALL BE TRENCHED IN A MINIMUM OF 2 INCHES.

(J) IF MORE THAN ONE SEDIMENT TUBE IS PLACED IN A ROW IN SLOPE APPLICATION, THE TUBES SHALL BE OVERLAPPED A MINIMUM OF 24 INCHES TO PREVENT FLOW AND SEDIMENT FROM PASSING THROUGH THE FIELD JOINT. WHEN USED IN DITCHES, TWO ROWS OF TUBE SHALL BE PLACED ON THE CHANNEL BOTTOM WITH STAGGERED JOINTS AS SHOWN.

(K) FOR DITCH APPLICATIONS, SEDIMENT TUBES SHALL BE A MINIMUM OF 20 INCH DIAMETER AND SHALL BE PLACED PERPENDICULAR TO THE FLOW OF WATER. SEDIMENT TUBES SHALL CONTINUE UP THE SIDE SLOPES A MINIMUM OF 3 FEET PLUS THE DIAMETER OF THE TUBE, OR TO THE TOP OF THE DITCH, WHICHEVER IS LESS.

(L) SEDIMENT TUBES USED IN SLOPE APPLICATIONS MAY REMAIN IN PLACE TO BIODEGRADE. FOR DITCH APPLICATIONS SEDIMENT TUBES SHALL BE COMPLETELY REMOVED AFTER FULLY ESTABLISHED VEGETATION HAS COMPLETELY DEVELOPED.

(M) SEDIMENT TUBES SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS NUMBERS:

740-11.01 TEMPORARY SEDIMENT TUBE (8 INCH) PER LINEAR FOOT
740-11.02 TEMPORARY SEDIMENT TUBE (12 INCH) PER LINEAR FOOT
740-11.03 TEMPORARY SEDIMENT TUBE (18 INCH) PER LINEAR FOOT
740-11.04 TEMPORARY SEDIMENT TUBE (20 INCH) PER LINEAR FOOT
740-11.05 TEMPORARY SEDIMENT TUBE (24 INCH) PER LINEAR FOOT

PAYMENT SHALL INCLUDE ALL MATERIALS (INCLUDING GEOTEXTILE FABRIC IF USED) AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF SEDIMENT TUBE.

(N) ONLY SEDIMENT TUBES LISTED ON THE QUALIFIED PRODUCTS LIST MAY BE USED.

(O) SEDIMENT SHALL BE REMOVED FROM BEHIND THE SEDIMENT TUBE WHEN IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE STRUCTURE AND PAID FOR UNDER ITEM NUMBER 209-05, SEDIMENT REMOVAL PER CUBIC YARD.

(P) GEOTEXTILE FABRIC REQUIRED FOR SLOPE APPLICATION STEEPER THAN 6:1.

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

NOT TO SCALE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SEDIMENT TUBE

1-20-06 EC-STR-37

STATE OF TENNESSEE
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
COOKEVILLE ENVIRONMENTAL FIELD OFFICE
1221 SOUTH WILLOW AVENUE
COOKEVILLE, TENNESSEE 38506
PHONE (931) 520-6688 STATEWIDE 1-888-891-8332 FAX (931) 432-6952

May 28, 2024

Mr. Randall Miller
132 Maynard Rd.
Crossville, TN 38571

Re: **Approval of Inventoried Water Resources (DWR ID No. 33014)**
Jones Bros. Cumberland Site CNV009
132 Maynard Rd.
Cumberland County

Mr. Miller,

The Tennessee Department of Environment and Conservation, Division of Water Resources (TDEC-DWR) has reviewed the following reports: "Jurisdictional Determination – Cumberland County Site CNV009" and "Amendment No. 1 – Jurisdictional Determination Cumberland County Site CNV009". The final report was prepared by and submitted by CEC, Inc. on May 21, 2024, in support of hydrologic determinations of waters of the state made at the above referenced site.

The Division agrees with the findings of the waters of the state in these reports. These findings as determined by SEC, Inc. are summarized and displayed in the table below and the attached map from the report (Figure 1).

Location[1, 2]	*Determination and Comments*
STR-1 **Starting Coordinates** 36.045837, -85.056671 **End Coordinates** 36.043247, -85.056691	**Stream –** This feature was determined to meet the criteria to be classified as a stream. Stream indicators including *geomorphology, hydrology*, and *biology* were noted. The length of this feature is 1,044ft. **Coverage under an Aquatic Resources Alteration Permit is needed for any alterations to this stream.**
WTL-1 **Location** 336.044120, -85.055496	**Wetland** – This feature was determined to meet the criteria to be classified as a wetland. The delineation of boundaries as presented and marked in the report is approved. The total size of the wetland 1 is estimated to be 0.04 acres. **Coverage under an Aquatic Resources Alteration Permit is needed for any alterations to this wetland.**

WTL-2 **Location** 36.044216, -85.05687	**Wetland** – This feature was determined to meet the criteria to be classified as a wetland. The delineation of boundaries as presented and marked in the report is approved. The total size of wetland 1 is estimated to be 1.64 acres. **Coverage under an Aquatic Resources Alteration Permit is needed for any alterations to this wetland.**
PND-1 **Location** 36.044382, -85.055245	**Non-jurisdictional Pond** – This feature fails to meet the criteria to be classified as waters of the state. The delineation of boundaries as presented and marked in the report is approved. The size of the pond is estimated to be 0.34 acres.

Streams, lakes, reservoirs, groundwater, and wetlands of any size are considered waters of the State pursuant to the Tennessee Water Quality Control Act of 1977. Alterations to waters of the State require permit coverage under an *Aquatic Resources Alteration Permit* (ARAP). Information regarding the ARAP program can be found at http://www.tn.gov/environment/article/permit-water-aquatic-resource-alteration-permit.

Please note that a *Tennessee General Construction Permit* will be needed if future land disturbance activity for this project is one acre or more in size. Information regarding the construction storm water program can be found at http://www.tn.gov/environment/article/permit-water-npdes-stormwater-construction-permit. A completed Notice of Intent form, an application fee, and a storm water pollution prevention plan should be submitted to the above address for review and coverage under this permit.

The subsurface injection of fluids is governed by the Safe Drinking Water Act of 1974. Information regarding the Underground Injection Control program may be seen online at https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/underground-injection-control--uic-.html. A completed Authorization Application for Class V Underground Injection Well and appropriate attachments may be required for coverage under the *Class V Injection Control Permit*.

Hydrologic determinations are advised and governed by Tennessee Department of Environment and Conservation (TDEC) rules and regulations, and therefore only apply to the State's permitting process. Because these and other various water features on-site may potentially also be considered jurisdictional Waters of the United States, any alterations to them should only be performed after consultation with the U.S. Army Corps of Engineers.

We appreciate the opportunity to assess the site prior to site plan finalization and initiation of construction activities. Because natural variation and human activities can alter hydrologic conditions, the division reserves the right to reassess the status of the water features in the future.

Thank you for your interest in water quality in Tennessee. Please contact Lindsay Acuff at 931-213-9435 or by email at Lindsay.Acuff@tn.gov if you have any questions.

Respectfully,

Brad Ulmer
Environmental Field Office Manager
Division of Water Resources
Cookeville Environmental Field Office

Enclosures: Jones Bros. Cumberland Site Hydrologic Features Map (Figure 1)

Cc: Janette Wolf, CEC, Inc.- jwolf@cecinc.com

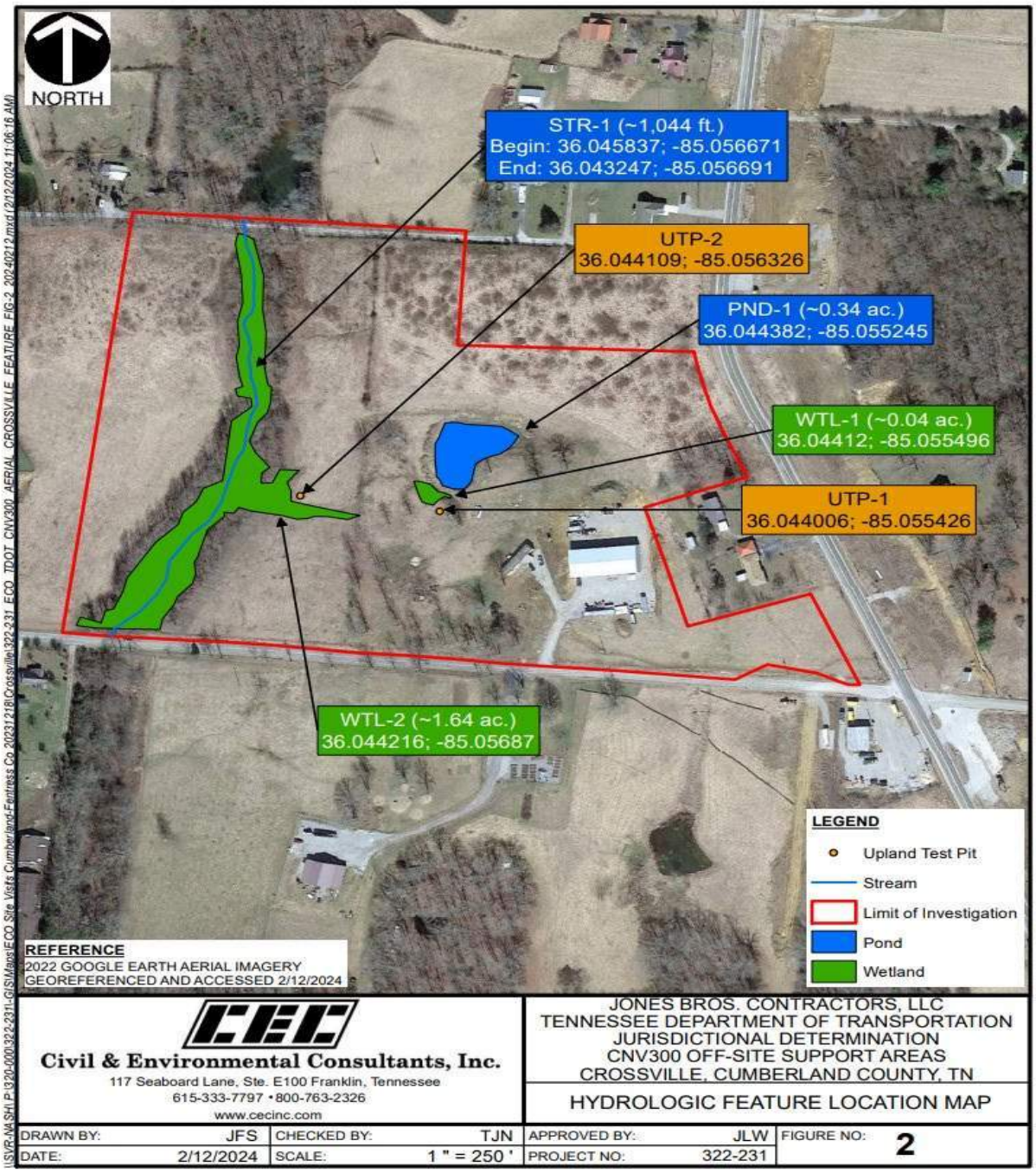


Figure 1: Aerial photo of the Subject Property depicting the location of each aquatic feature and datapoints.