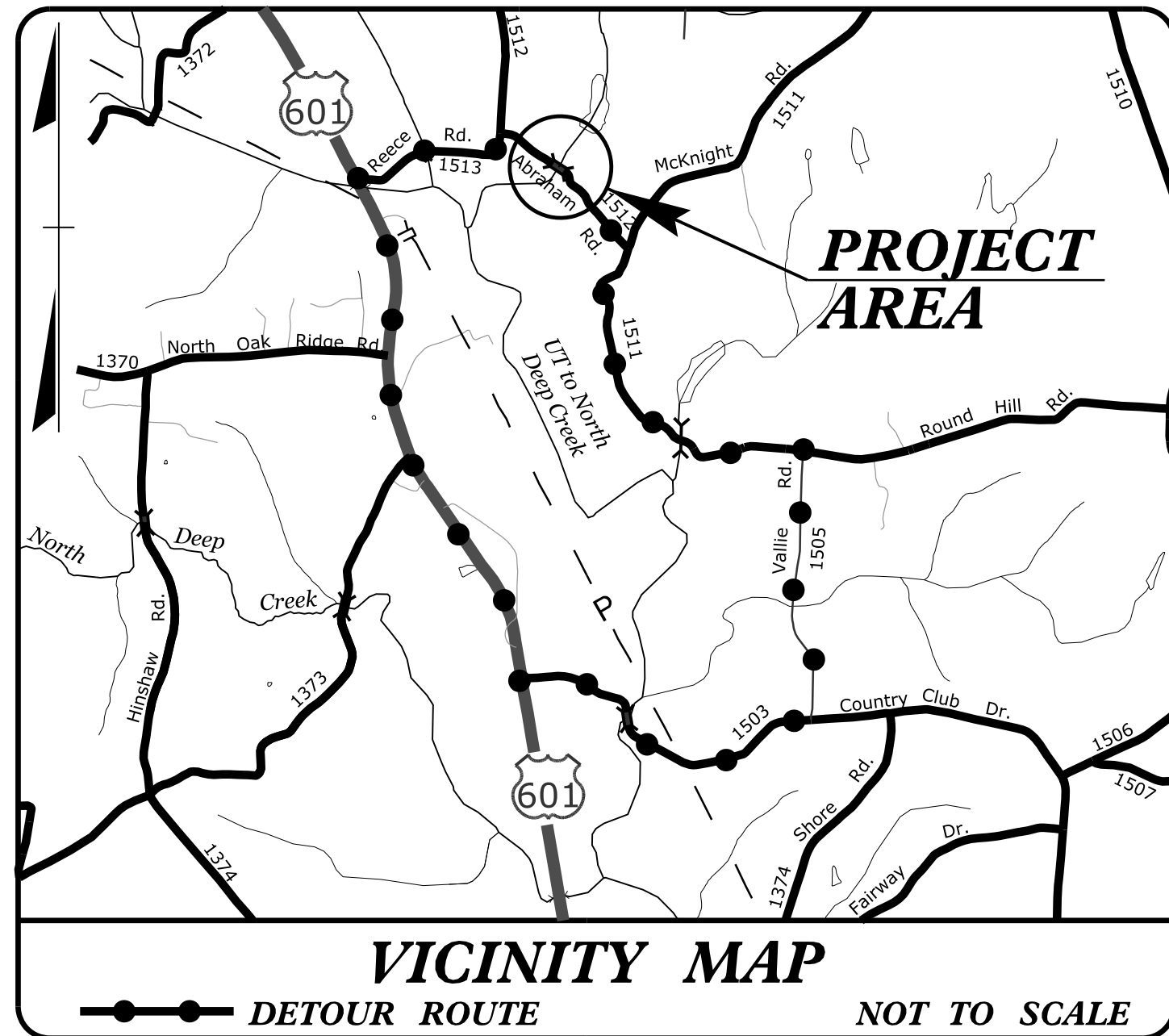


**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

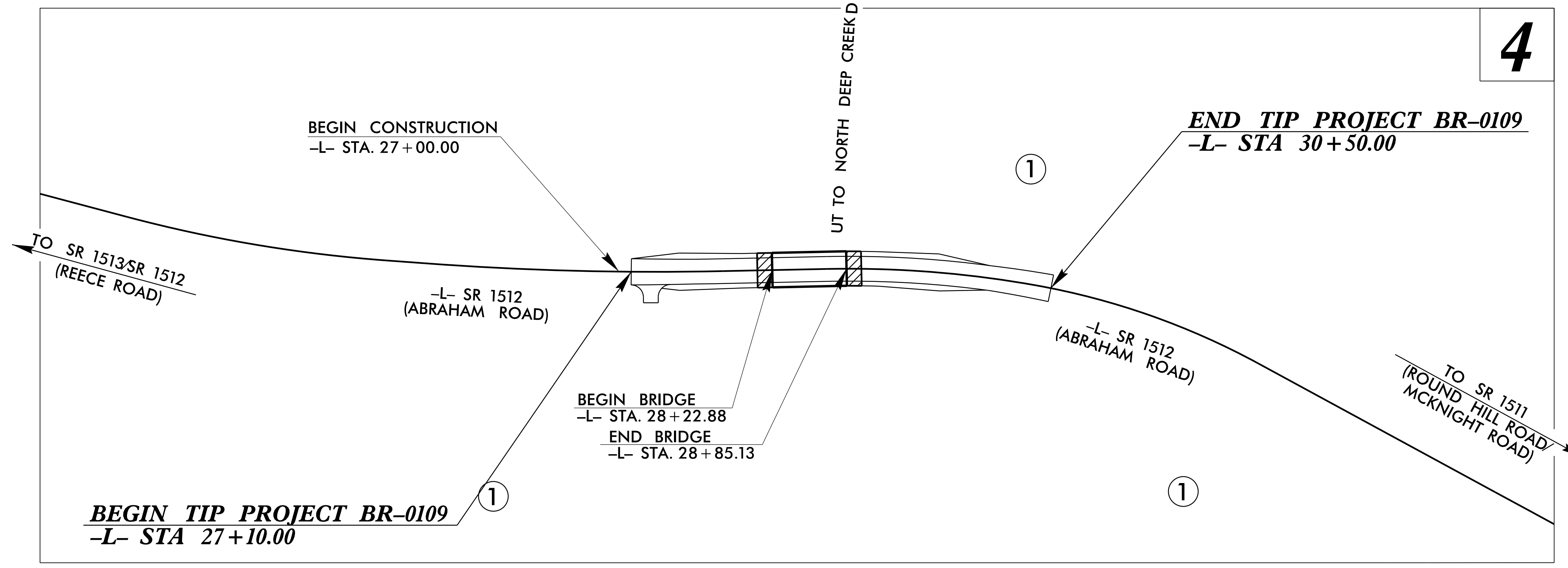
**This file or an individual page
shall not be considered a certified document.**

TIP PROJECT: BR-0109



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
YADKIN COUNTY**

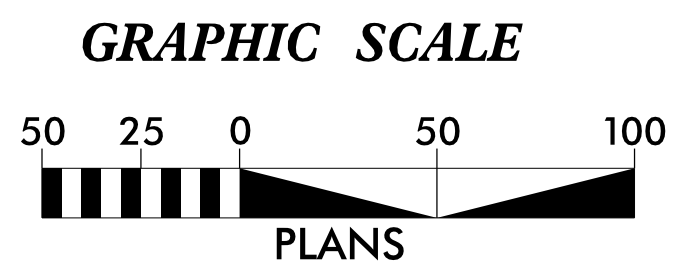
**LOCATION: REPLACE BRIDGE NO. 80 ON SR 1512 (ABRAHAM RD.
OVER NORTH DEEP CREEK TRIB 4B
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE**



4

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	--- TD ---
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	--- Z ---
1622.01	Temporary Berms and Slope Drains	--- B ---
1630.02	Silt Basin Type B	[Symbol]
1633.01	Temporary Rock Silt Check Type-A	[Symbol]
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	[Symbol]
1633.02	Temporary Rock Silt Check Type-B	[Symbol]
	Wattle / Coir Fiber Wattle	[Symbol]
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	[Symbol]
1634.01	Temporary Rock Sediment Dam Type-A	[Symbol]
1634.02	Temporary Rock Sediment Dam Type-B	[Symbol]
1635.01	Rock Pipe Inlet Sediment Trap Type-A	[Symbol]
1635.02	Rock Pipe Inlet Sediment Trap Type-B	[Symbol]
1630.04	Stilling Basin	[Symbol]
1630.06	Special Stilling Basin	[Symbol]
	Rock Inlet Sediment Trap:	
1632.01	Type A	A [Symbol]
1632.02	Type B	B [Symbol]
1632.03	Type C	C [Symbol]
	Skimmer Basin	[Symbol]
	Tiered Skimmer Basin	[Symbol]
	Infiltration Basin	[Symbol]

THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.



Prepared in the Office of:

DEWBERRY
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

Designed by:

BRADLEY EVERHART **4118**
NAME LEVEL III CERTIFICATION NO.

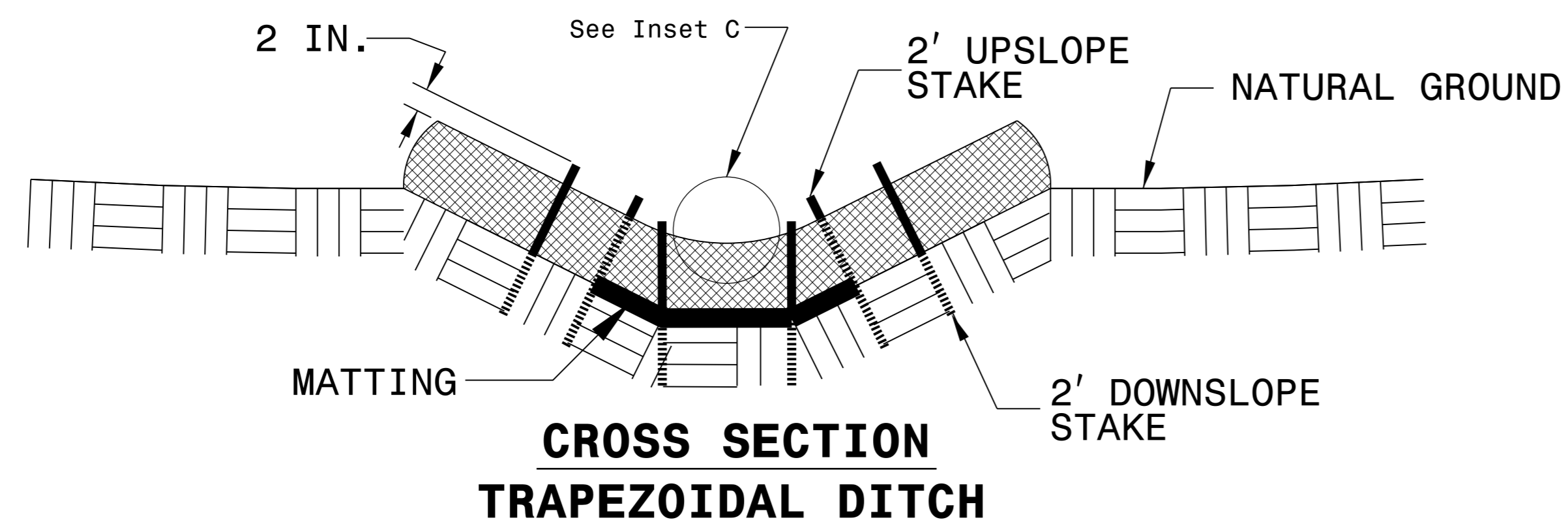
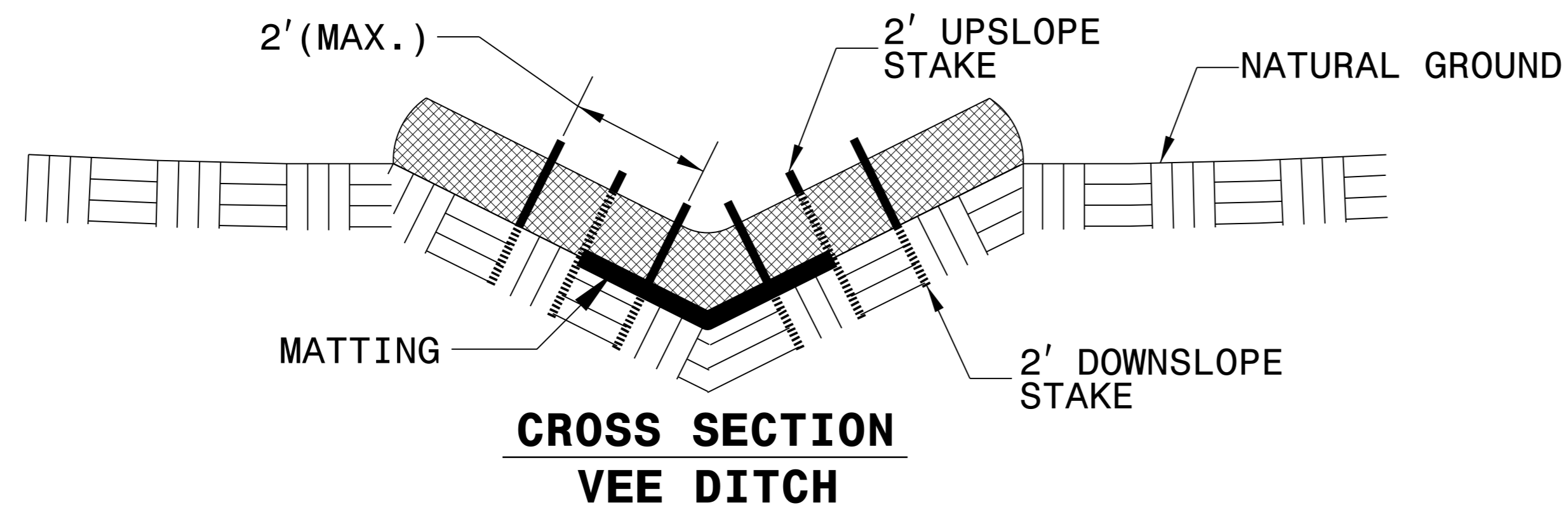
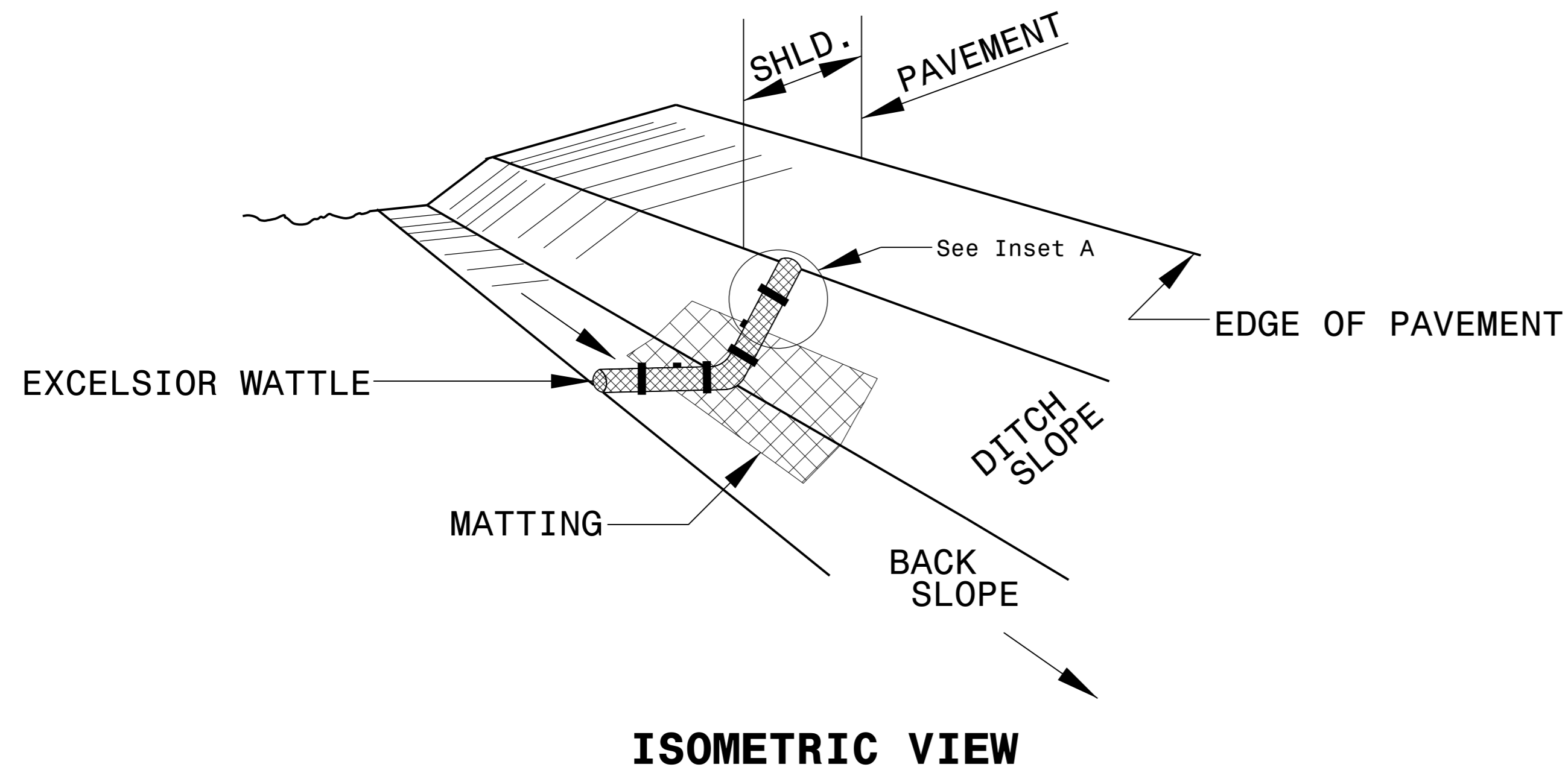
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

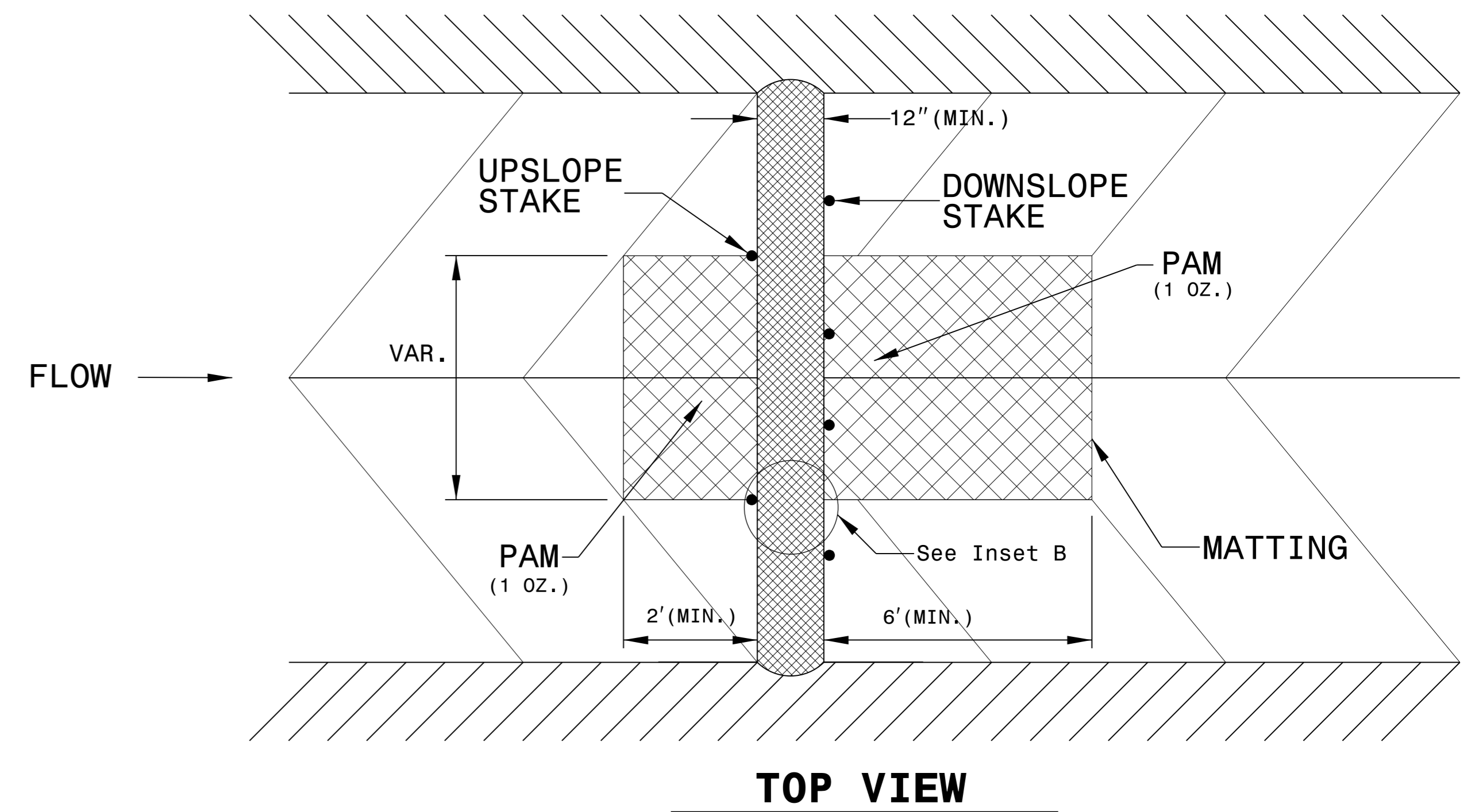
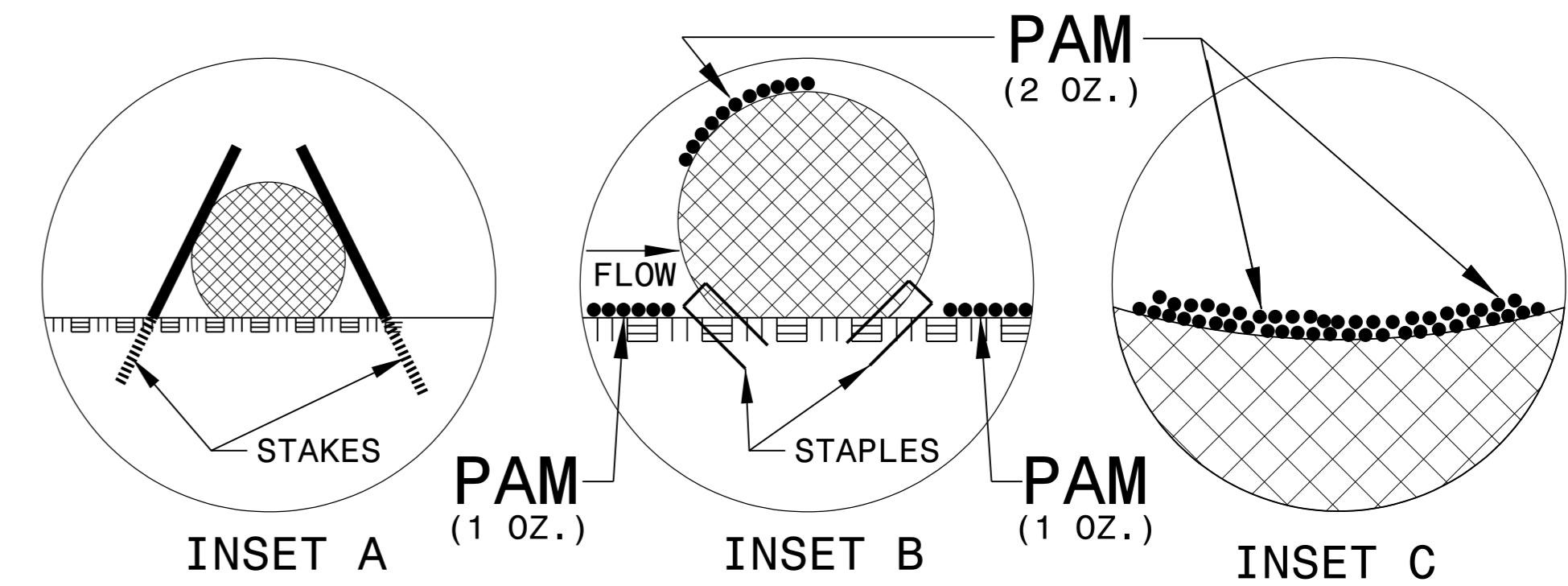
PROJECT REFERENCE NO. <i>BR-0109</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



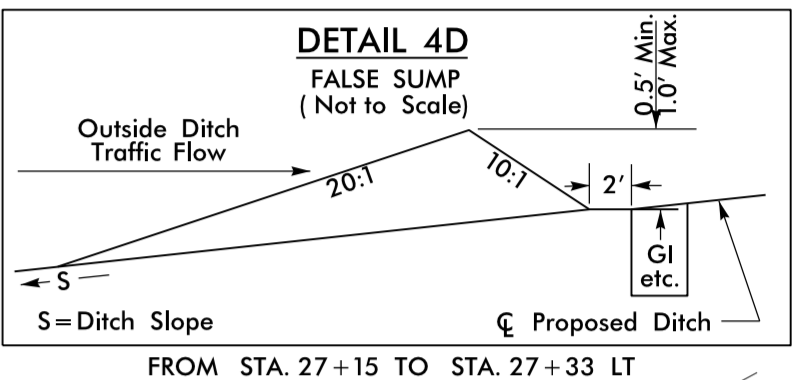
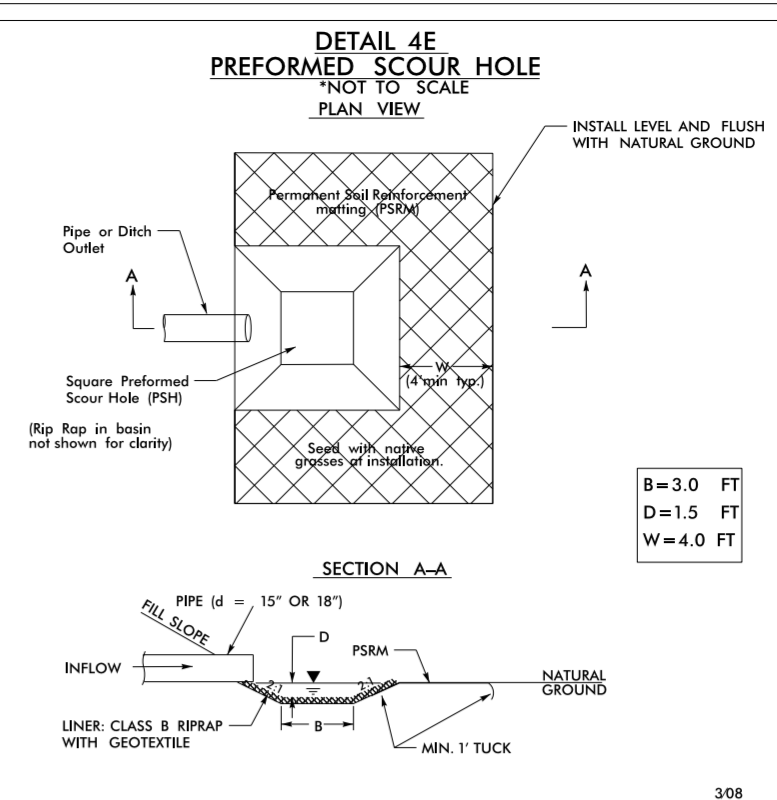
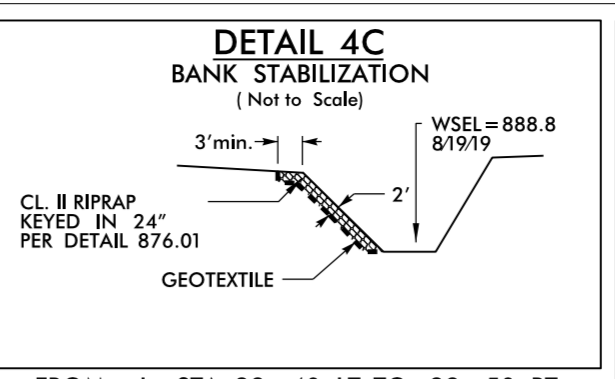
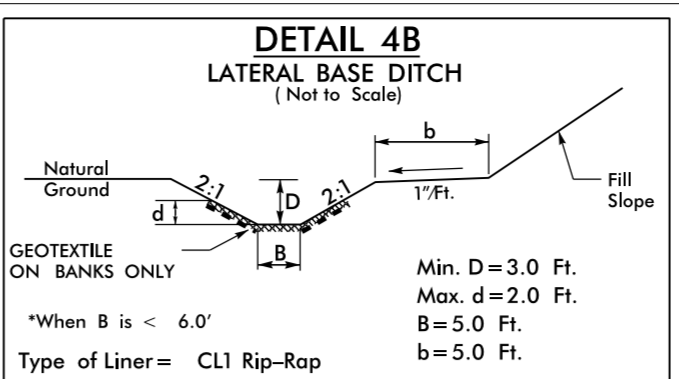
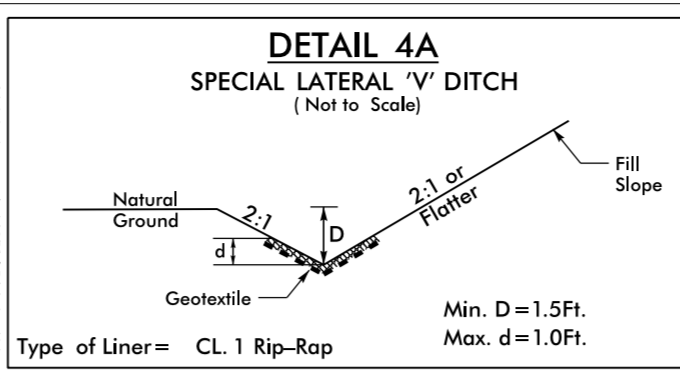
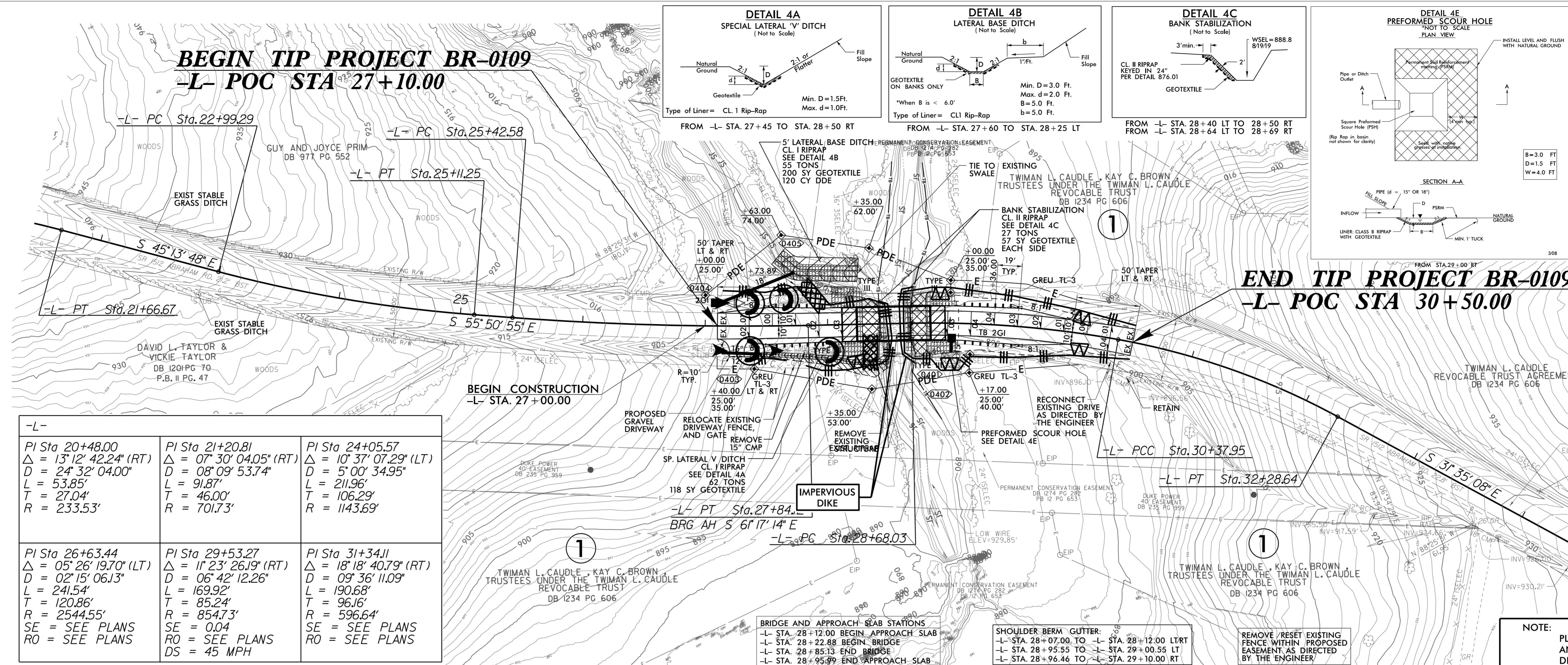
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>BR-0109</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

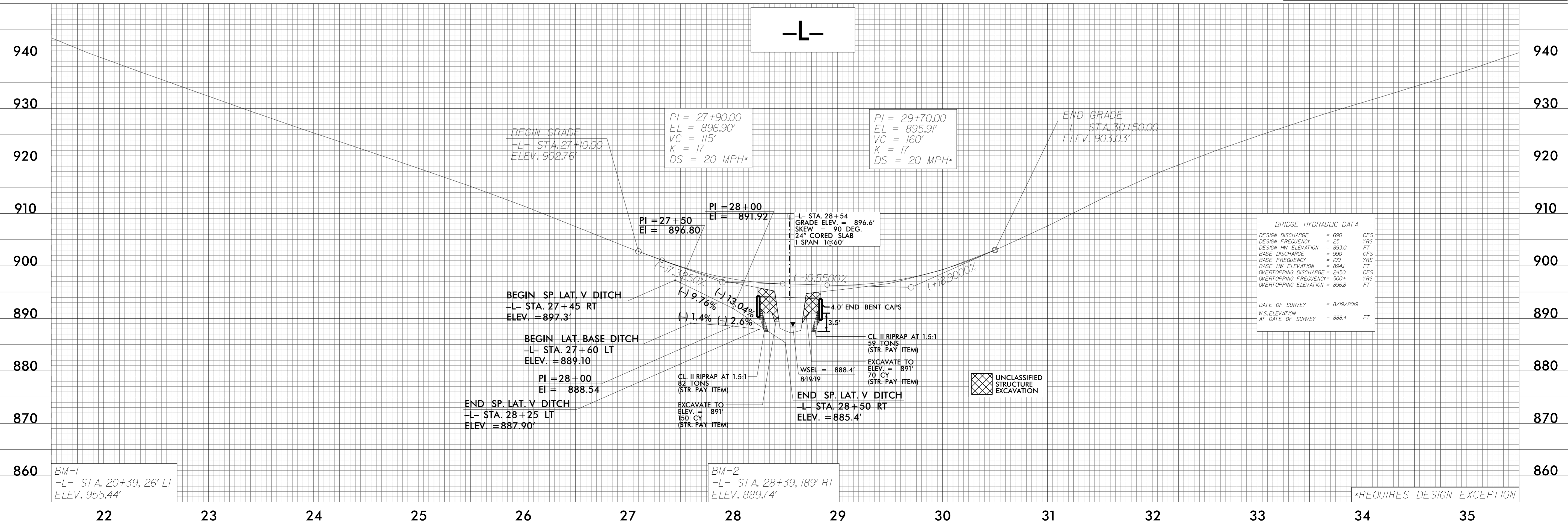
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
BR-0109	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



<p>-L- PI Sta 20+48.00 Δ = 13° 12' 42.24" (RT) D = 24' 32' 04.00" L = 53.85' T = 27.04' R = 233.53'</p>	<p>PI Sta 21+20.81 Δ = 07° 30' 04.05" (RT) D = 08' 09' 53.74" L = 91.87' T = 46.00' R = 701.73'</p>	<p>PI Sta 24+05.57 Δ = 10° 37' 07.29" (LT) D = 5' 00' 34.95" L = 211.96' T = 106.29' R = 1143.69'</p>
<p>PI Sta 26+63.44 Δ = 05° 26' 19.70" (LT) D = 02' 15' 06.13" L = 241.54' T = 120.86' R = 2544.55' SE = SEE PLANS RO = SEE PLANS</p>	<p>PI Sta 29+53.27 Δ = 11° 23' 26.19" (RT) D = 06' 42' 12.26" L = 169.92' T = 85.24' R = 854.73' SE = 0.04 DS = 45 MPH</p>	<p>PI Sta 31+34.11 Δ = 18° 18' 40.79" (RT) D = 09' 36' 11.09" L = 190.68' T = 96.16' R = 596.64' SE = SEE PLANS RO = SEE PLANS</p>



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 630 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 893.0 FT
BASE DISCHARGE	= 990 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 894.1 FT
OVERTOPPING DISCHARGE	= 2450 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 896.8 FT
DATE OF SURVEY	= 8/19/2019
W.S. ELEVATION AT DATE OF SURVEY	= 888.4 FT

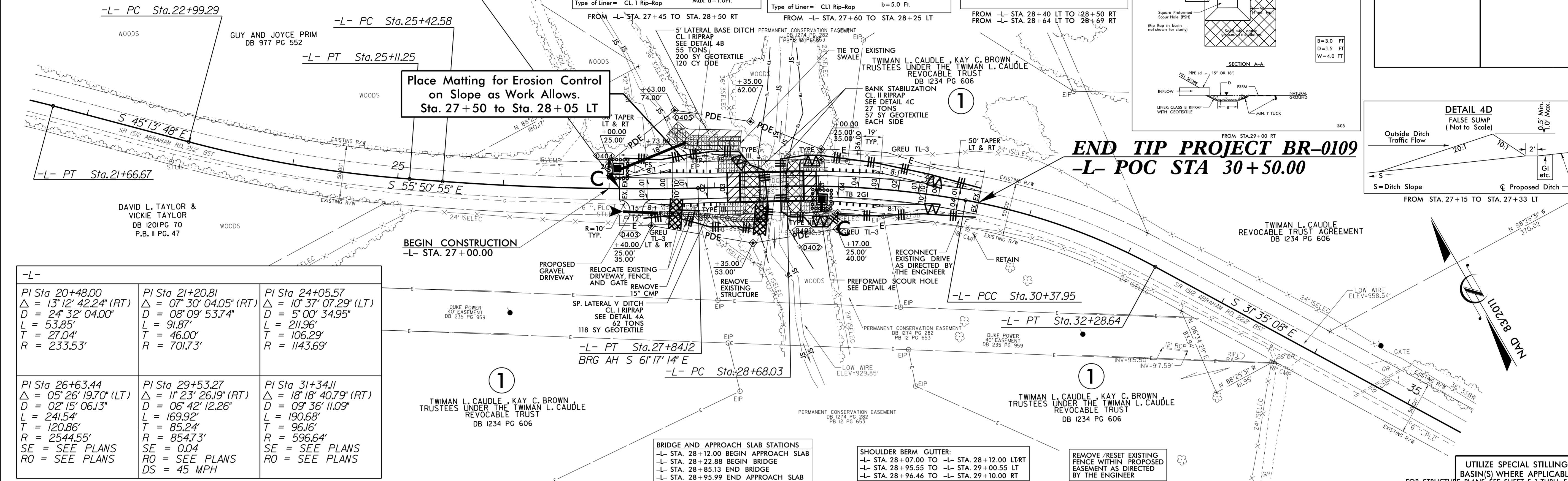
REVISIONS

2/16/2024 8:52:40 AM
J:\S\104.dgn

*REQUIRES DESIGN EXCEPTION

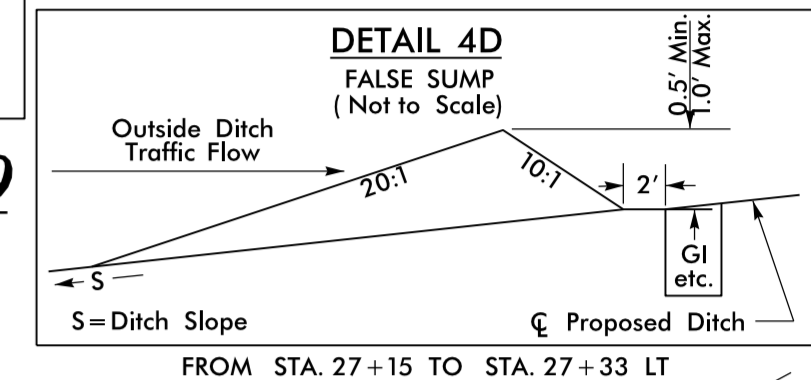
BEGIN TIP PROJECT BR-0109
-L- POC STA 27+10.00

PROJECT REFERENCE NO.	SHEET NO.
BR-0109	EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

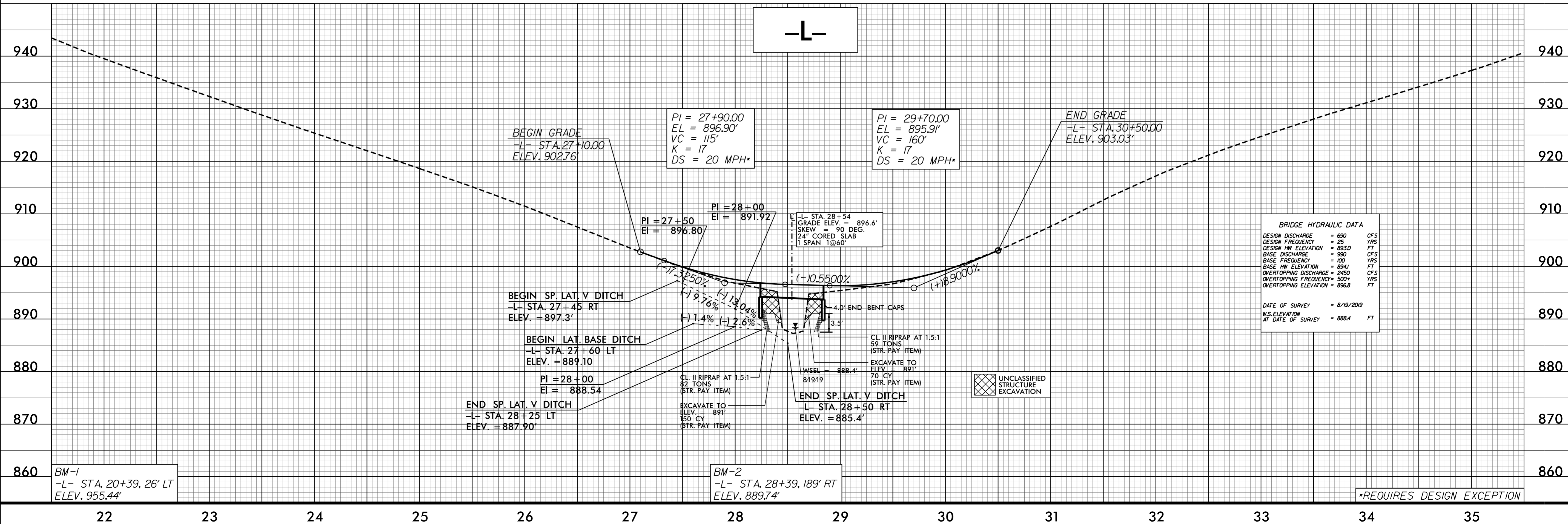


-L-		
PI Sta 20+48.00 Δ = 13° 12' 42.24" (RT) D = 24' 32' 04.00" L = 53.85' T = 27.04' R = 233.53'	PI Sta 21+20.81 Δ = 07° 30' 04.05" (RT) D = 08' 09' 53.74" L = 91.87' T = 46.00' R = 701.73'	PI Sta 24+05.57 Δ = 10° 37' 07.29" (LT) D = 5' 00' 34.95" L = 211.96' T = 106.29' R = 1143.69'
PI Sta 26+63.44 Δ = 05° 26' 19.70" (LT) D = 02' 15' 06.13" L = 241.54' T = 120.86' R = 2544.55' SE = SEE PLANS RO = SEE PLANS	PI Sta 29+53.27 Δ = 11° 23' 26.19" (RT) D = 06' 42' 12.26" L = 169.92' T = 85.24' R = 854.73' SE = 0.04 RO = SEE PLANS DS = 45 MPH	PI Sta 31+34.11 Δ = 18° 18' 40.79" (RT) D = 09' 36' 11.09" L = 190.68' T = 96.16' R = 596.64' SE = SEE PLANS RO = SEE PLANS

- BRIDGE AND APPROACH SLAB STATIONS
 -L- STA. 28+12.00 BEGIN APPROACH SLAB
 -L- STA. 28+22.88 BEGIN BRIDGE
 -L- STA. 28+85.13 END BRIDGE
 -L- STA. 28+95.99 END APPROACH SLAB
- SHOULDER BERM GUTTER:
 -L- STA. 28+07.00 TO -L- STA. 28+12.00 LTRT
 -L- STA. 28+95.55 TO -L- STA. 29+00.55 LT
 -L- STA. 28+96.46 TO -L- STA. 29+10.00 RT
- REMOVE / RESET EXISTING FENCE WITHIN PROPOSED EASEMENT AS DIRECTED BY THE ENGINEER



UTILIZE SPECIAL STILLING BASIN(S) WHERE APPLICABLE FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-22



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 600	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 893.0	FT
BASE DISCHARGE	= 990	CFS
BASE FREQUENCY	= 50	YRS
BASE HW ELEVATION	= 894.1	FT
OVERTOPPING DISCHARGE	= 2450	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 896.8	FT

DATE OF SURVEY = 8/19/2019
 W.S. ELEVATION AT DATE OF SURVEY = 888.4 FT

UNCLASSIFIED STRUCTURE EXCAVATION

BM-1
 -L- STA. 20+39, 26' LT
 ELEV. 955.44'

BM-2
 -L- STA. 28+39, 189' RT
 ELEV. 889.74'

*REQUIRES DESIGN EXCEPTION

REVISIONS

8/17/19

2/16/2024 8:07:48 AM
 H:\PROJECTS\BR-0109\EC-05\CONST\04\BR-0109-05.dgn