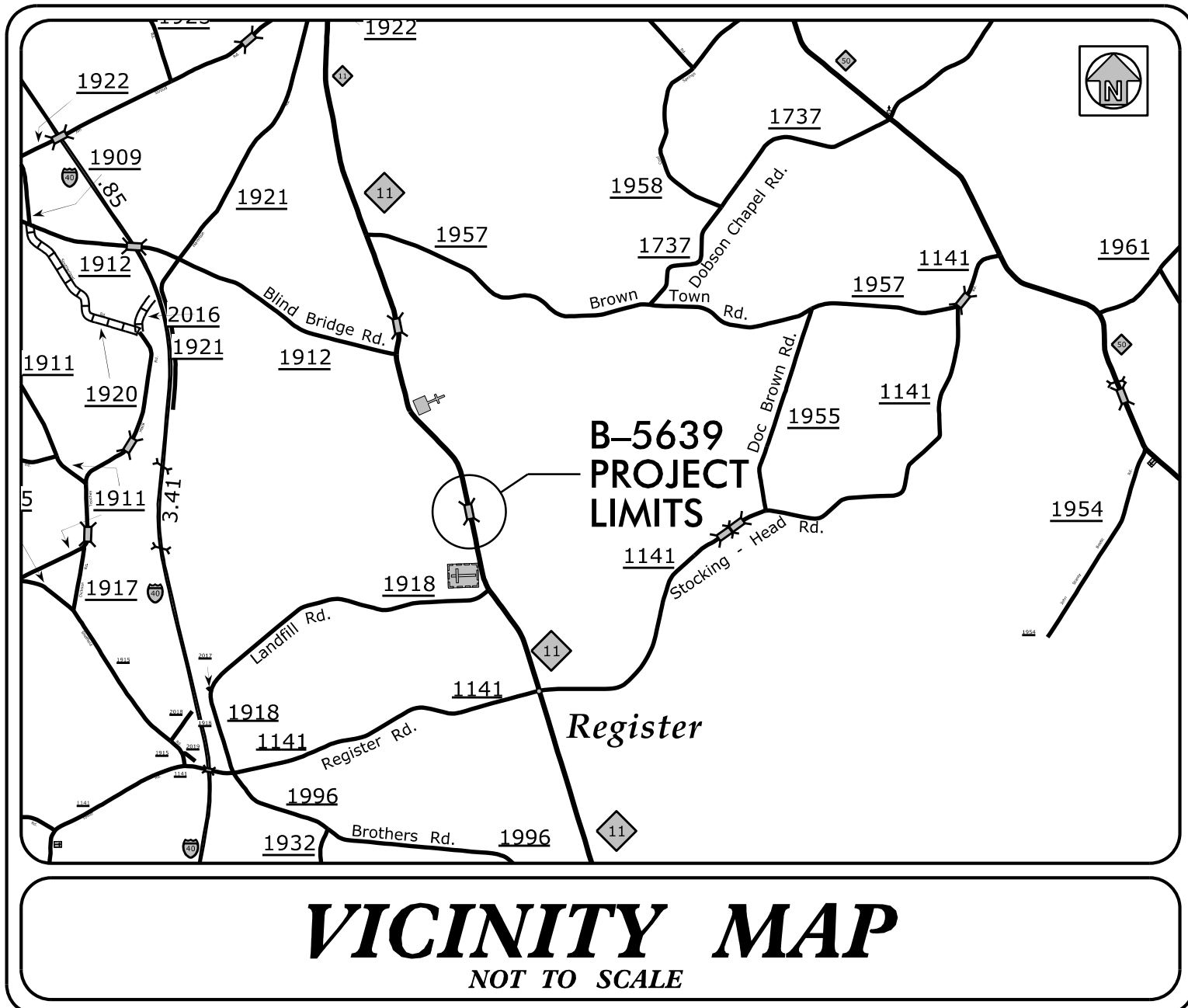


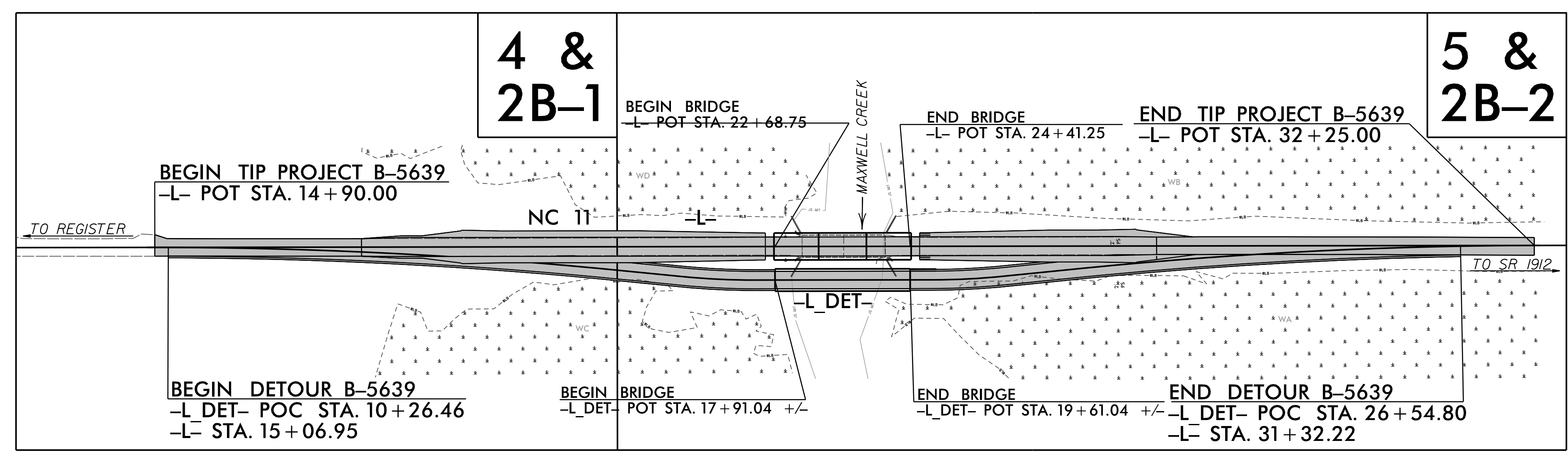
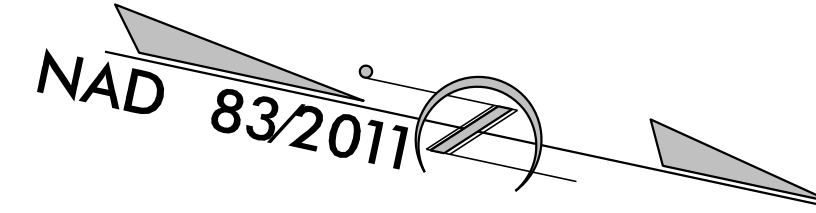
TIP PROJECT: B-5639



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

**LOCATION: BRIDGE NO. 36 OVER MAXWELL CREEK
 ON NC 11 (CLODFELTER ROAD)**

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

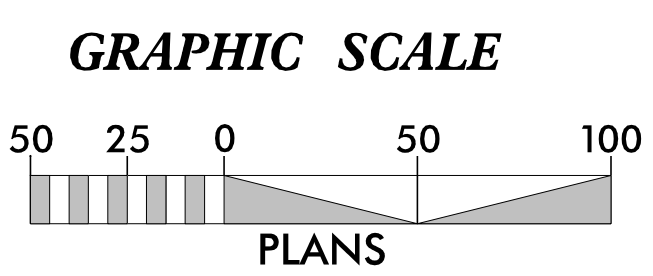


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5639	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45594.1.1		P.E.	
45594.2.1		RW & UTL	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	no
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	▲▲▲▲▲▲▲▲
1622.01	Temporary Berms and Slope Drains	—
1630.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	U
1635.02	Rock Pipe Inlet Sediment Trap Type-B	U
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

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:
SUNGATE DESIGN GROUP, P.A.

905 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 859-2243
 ENG FIRM LICENSE NO. C-890

Designed by:
MATTHEW C. EDWARDS, EI 3992
 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	

3/7/2020 EC_den_psh_01.dgn

PROJECT REFERENCE NO. B-5639	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) 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.

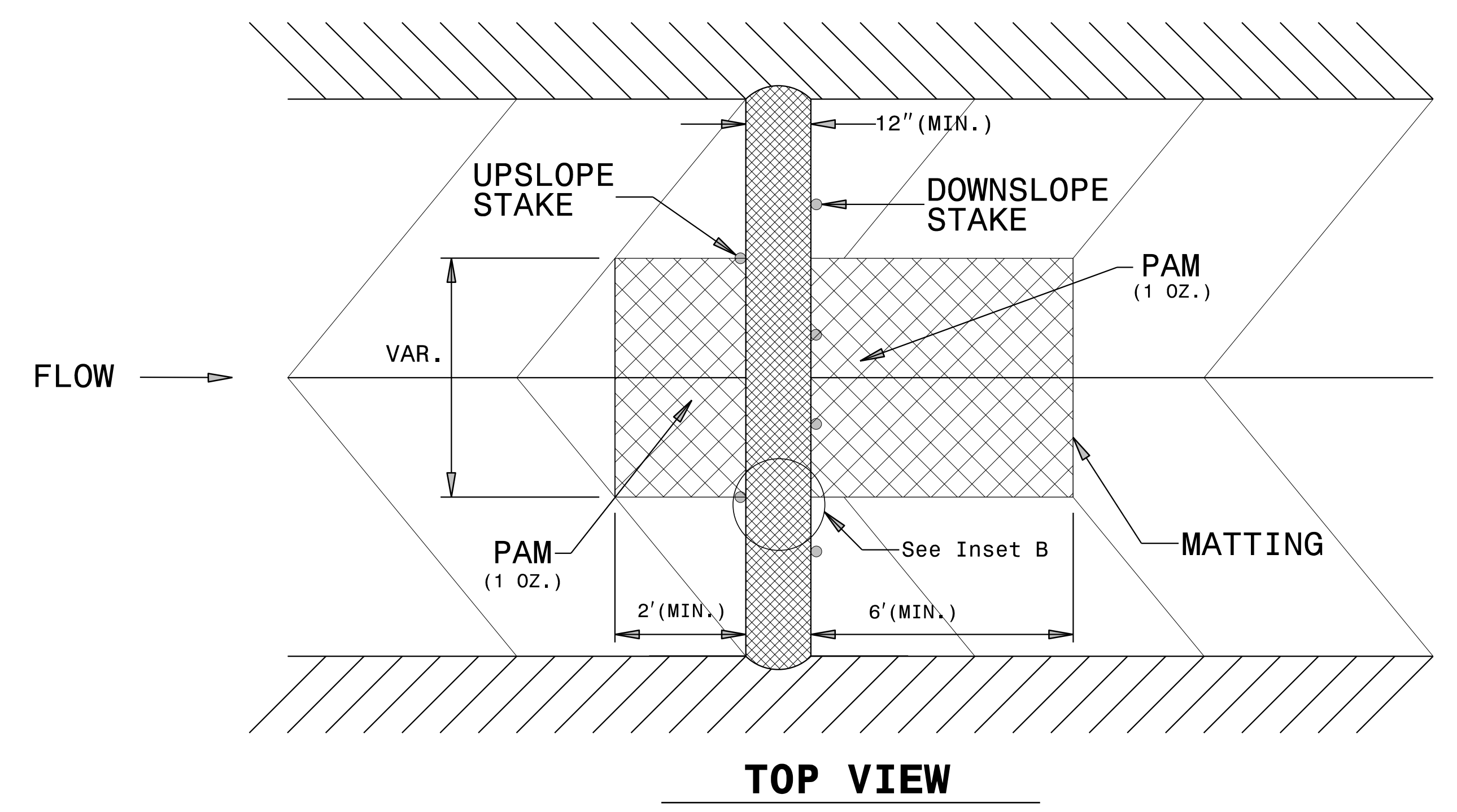
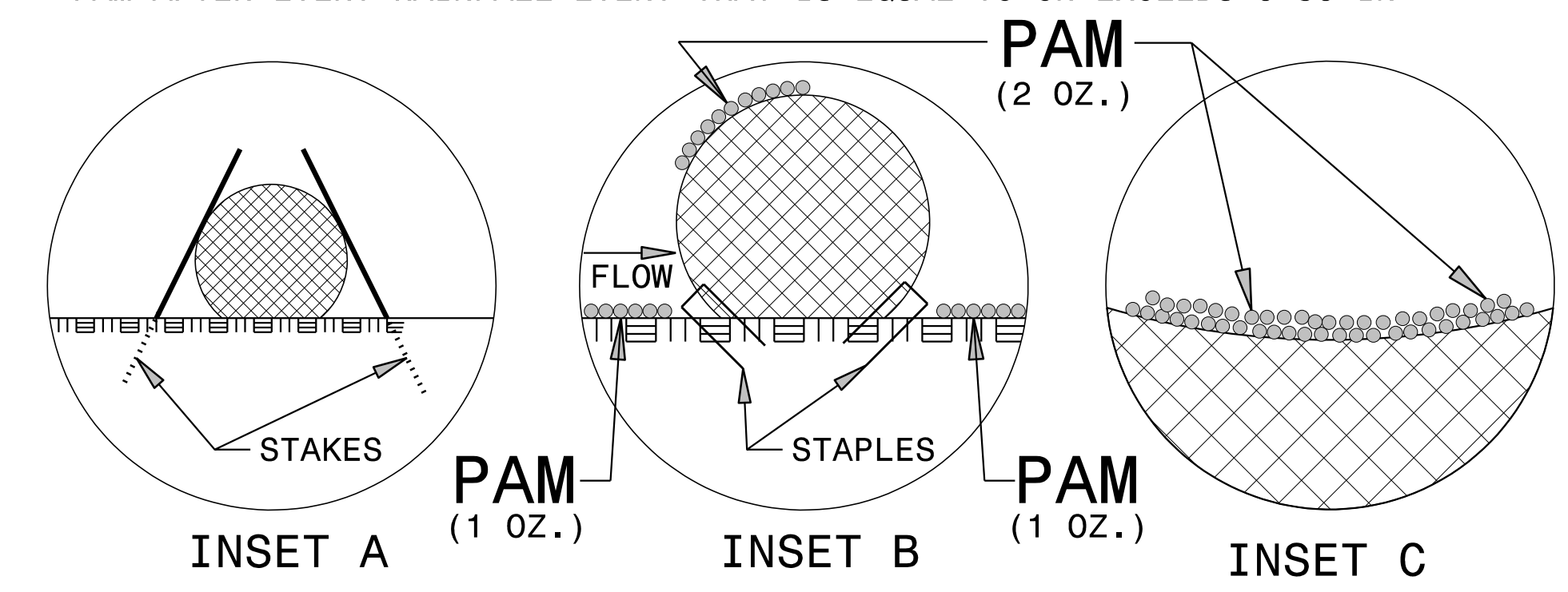
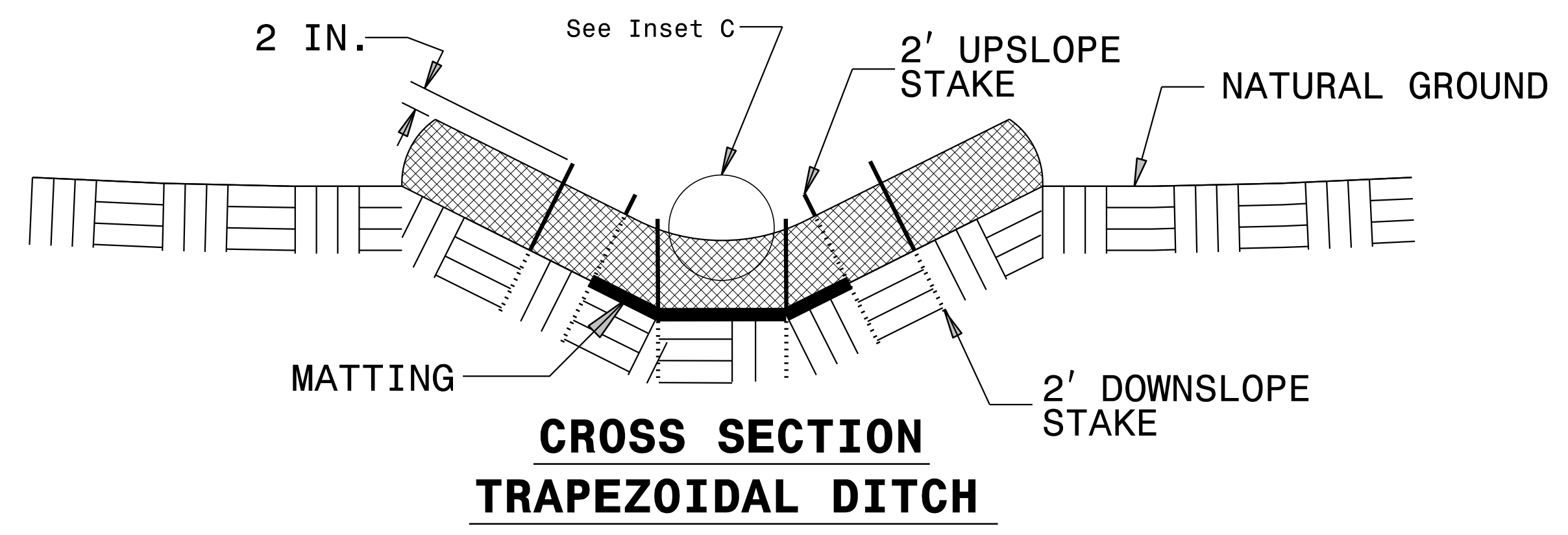
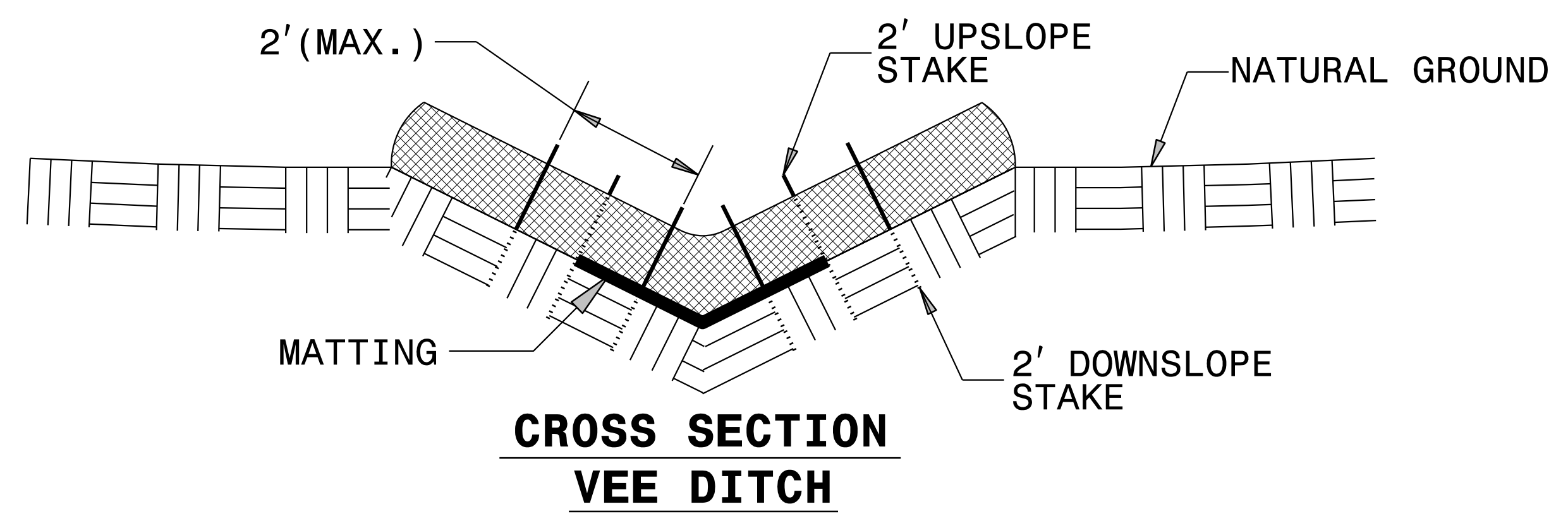
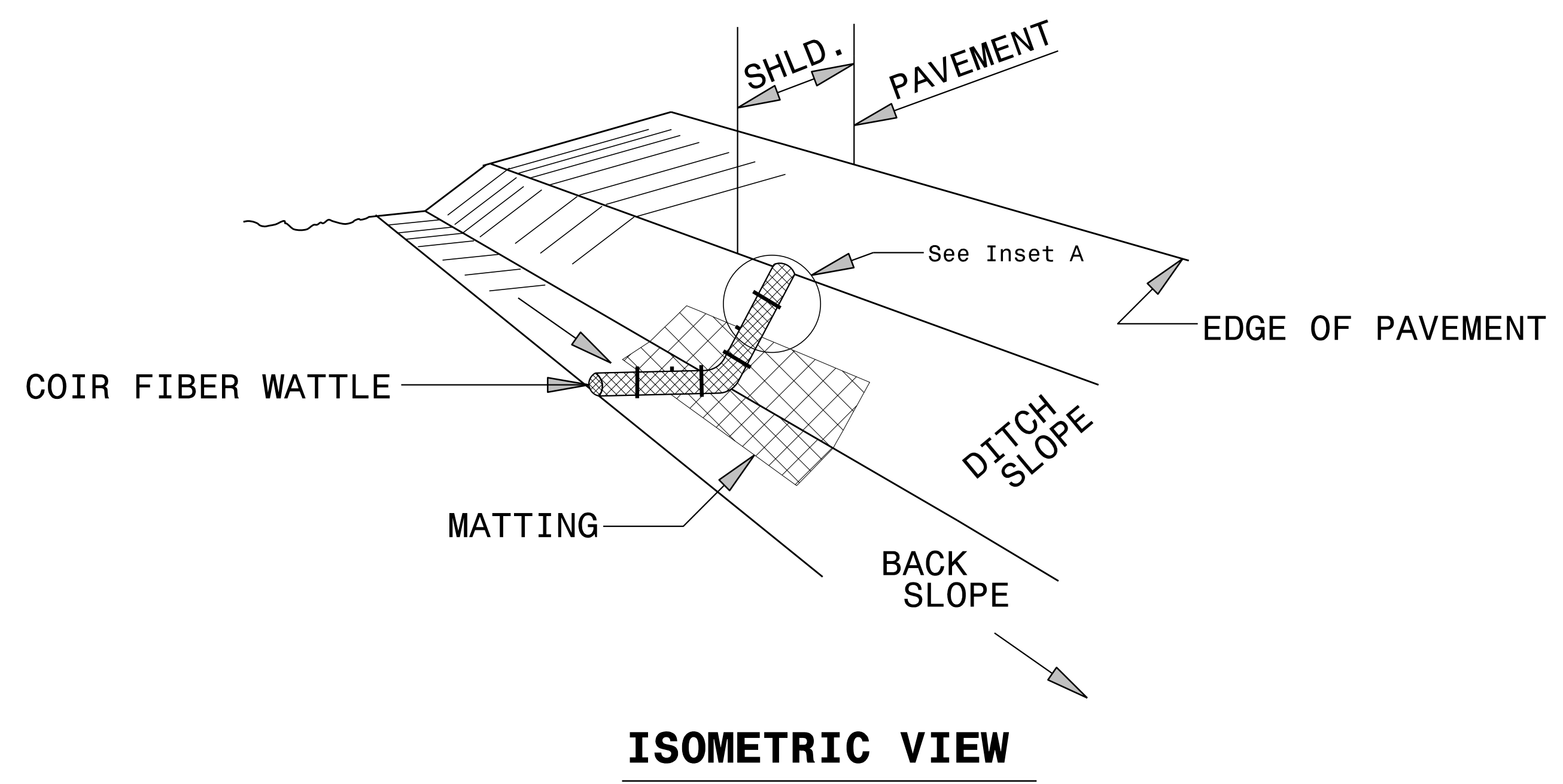
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

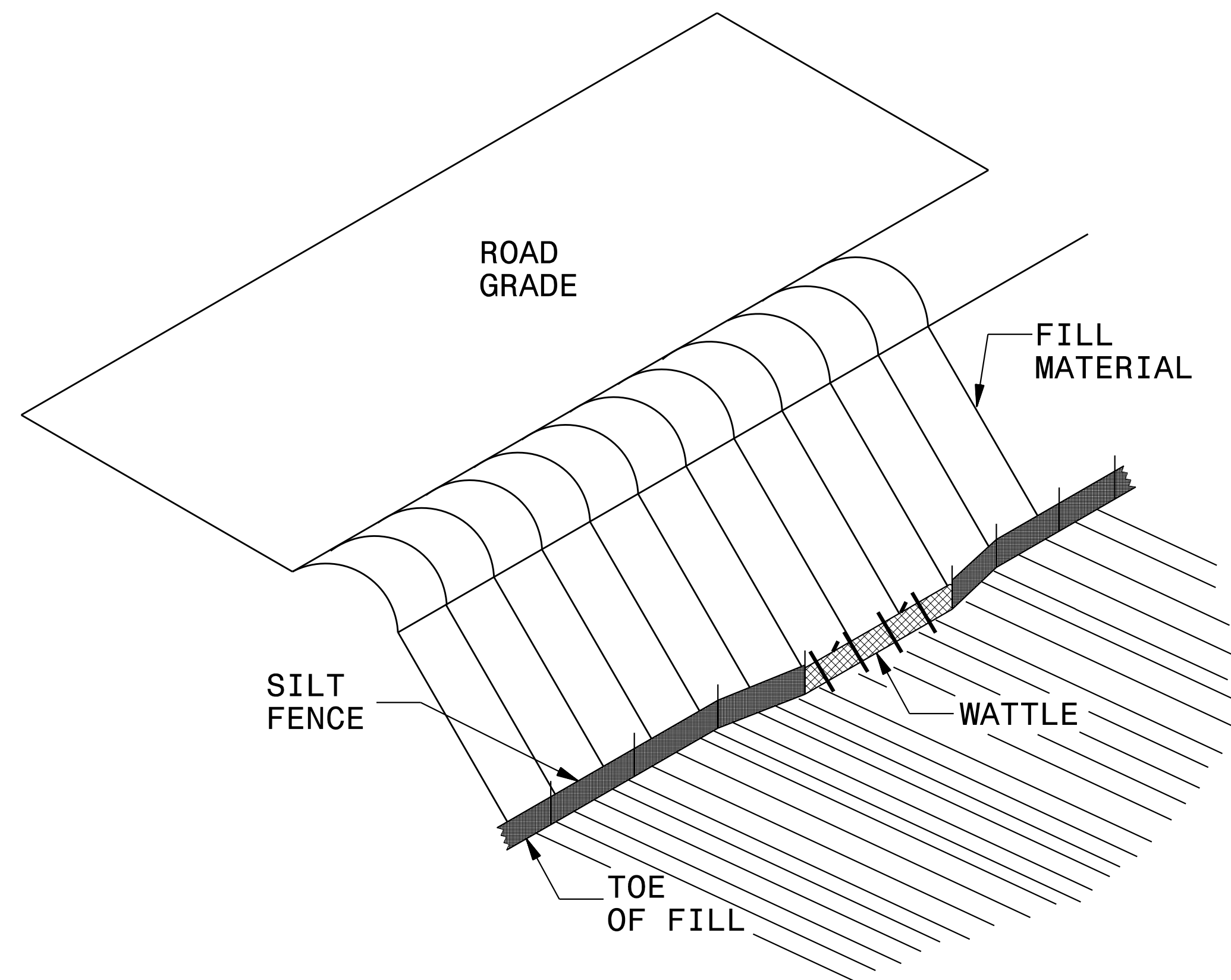
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



SILT FENCE COIR FIBER WATTLE BREAK DETAIL

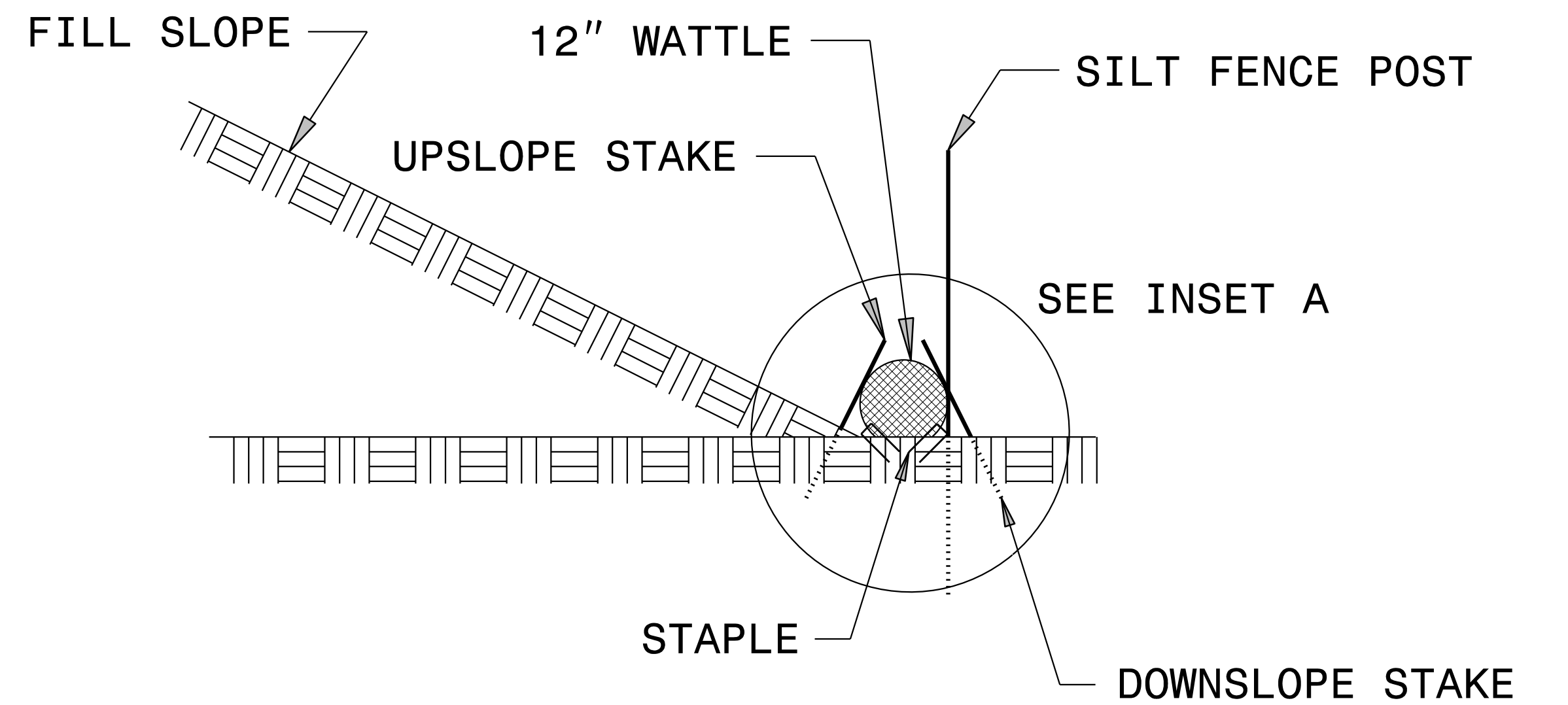
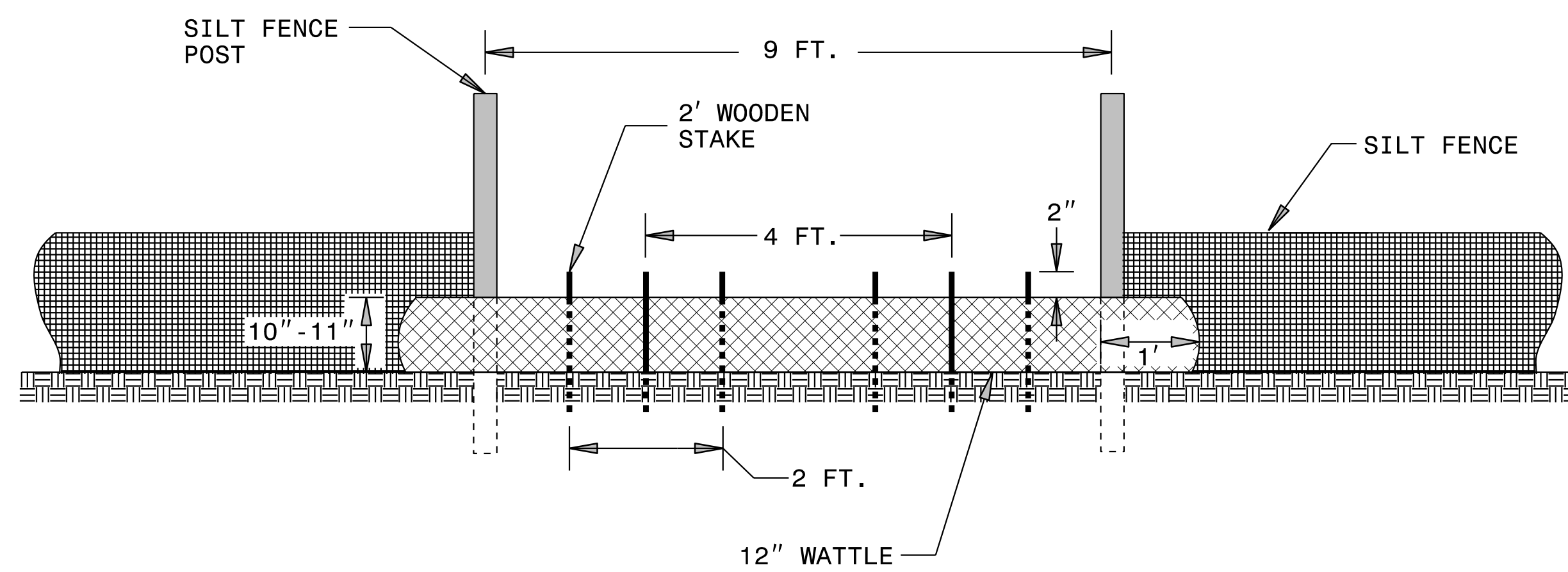
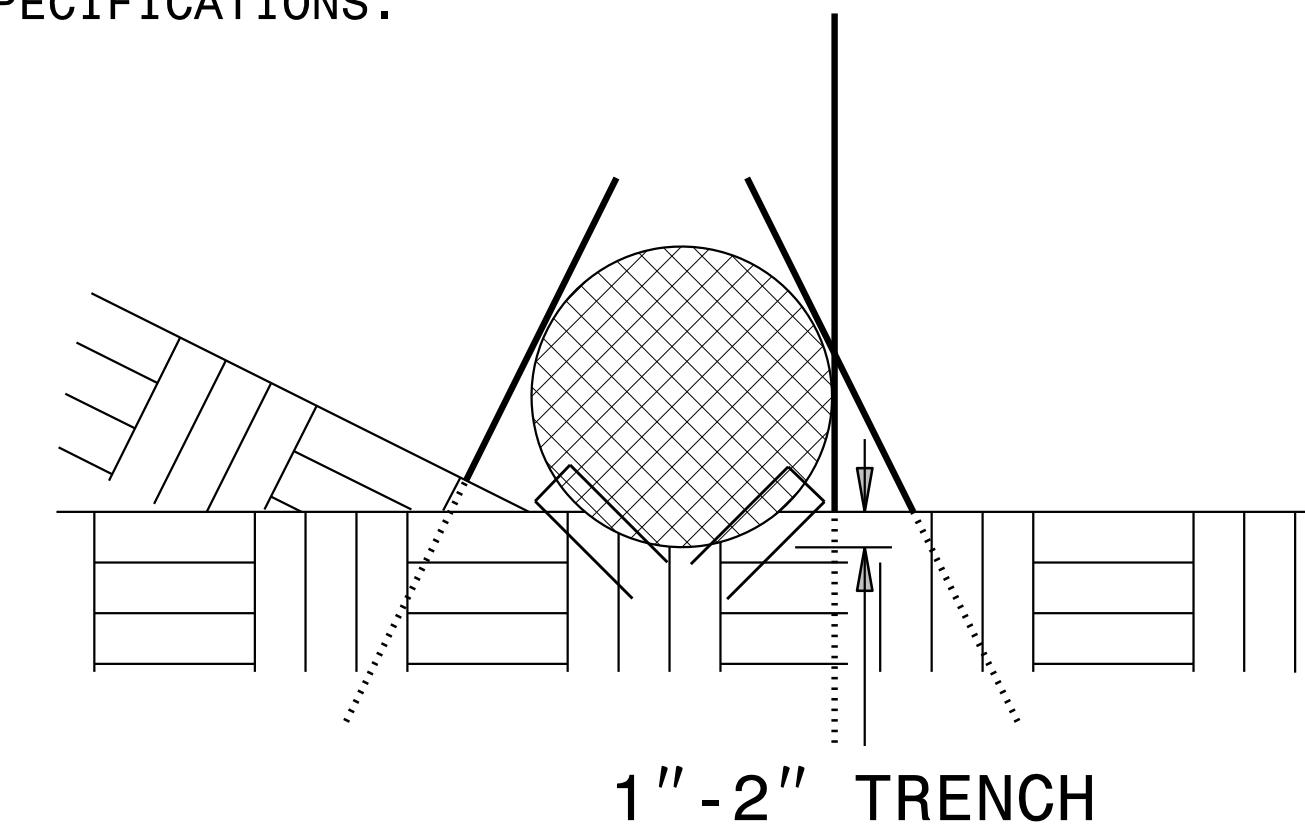
PROJECT REFERENCE NO. <i>B-5639</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:

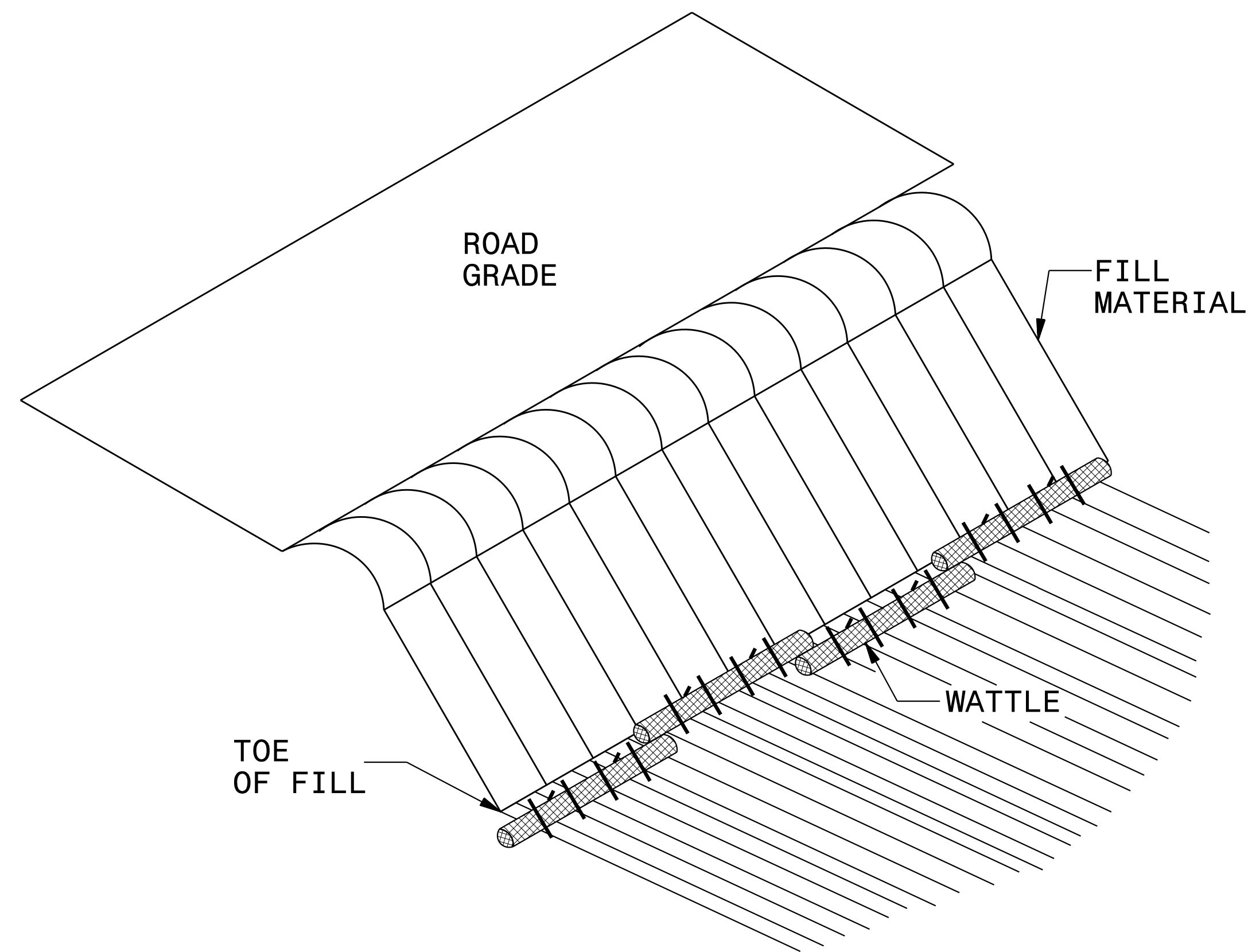
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A

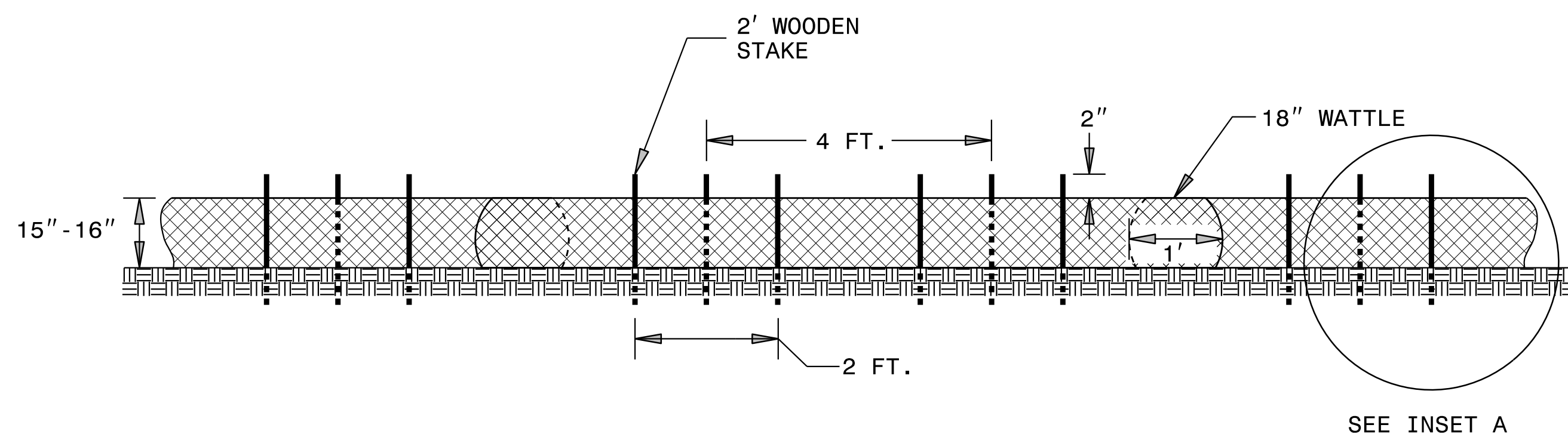


PROJECT REFERENCE NO. <i>B-5639</i>	SHEET NO. <i>EC-2B</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE BARRIER DETAIL



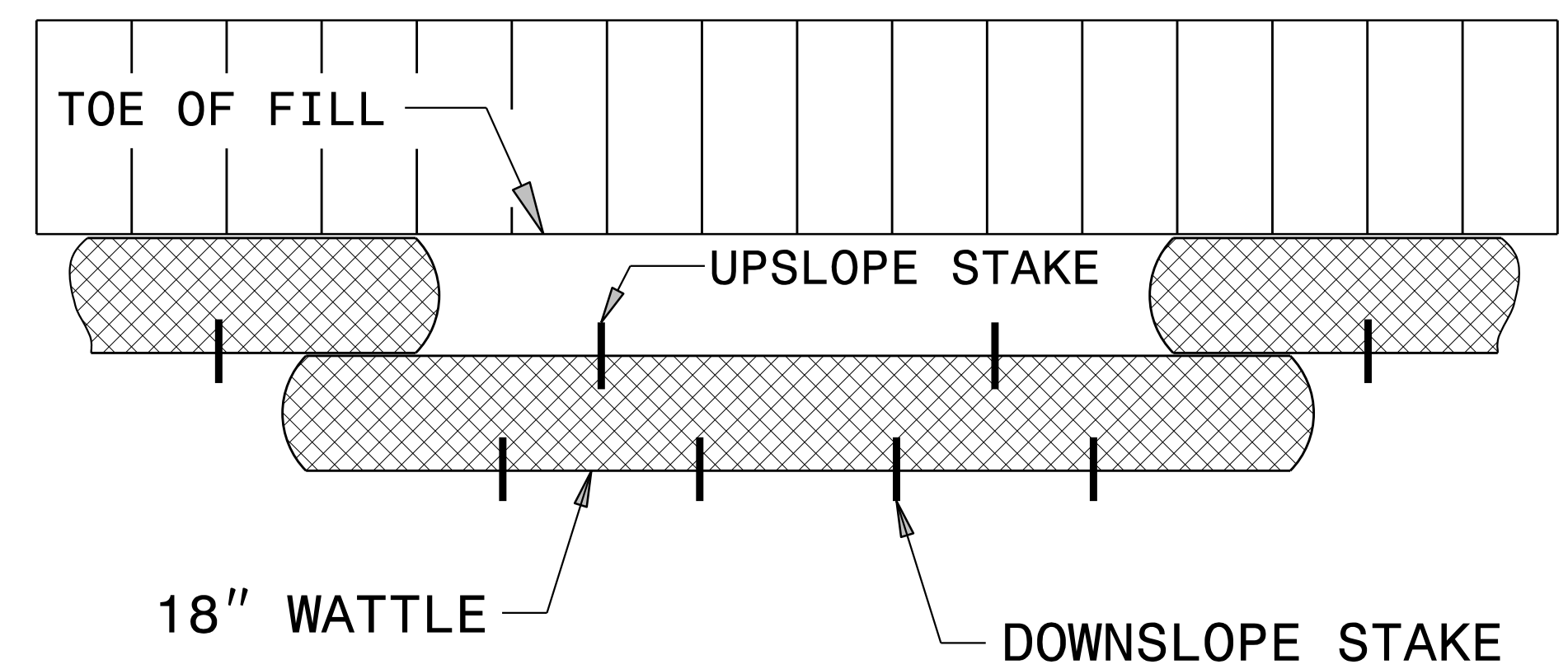
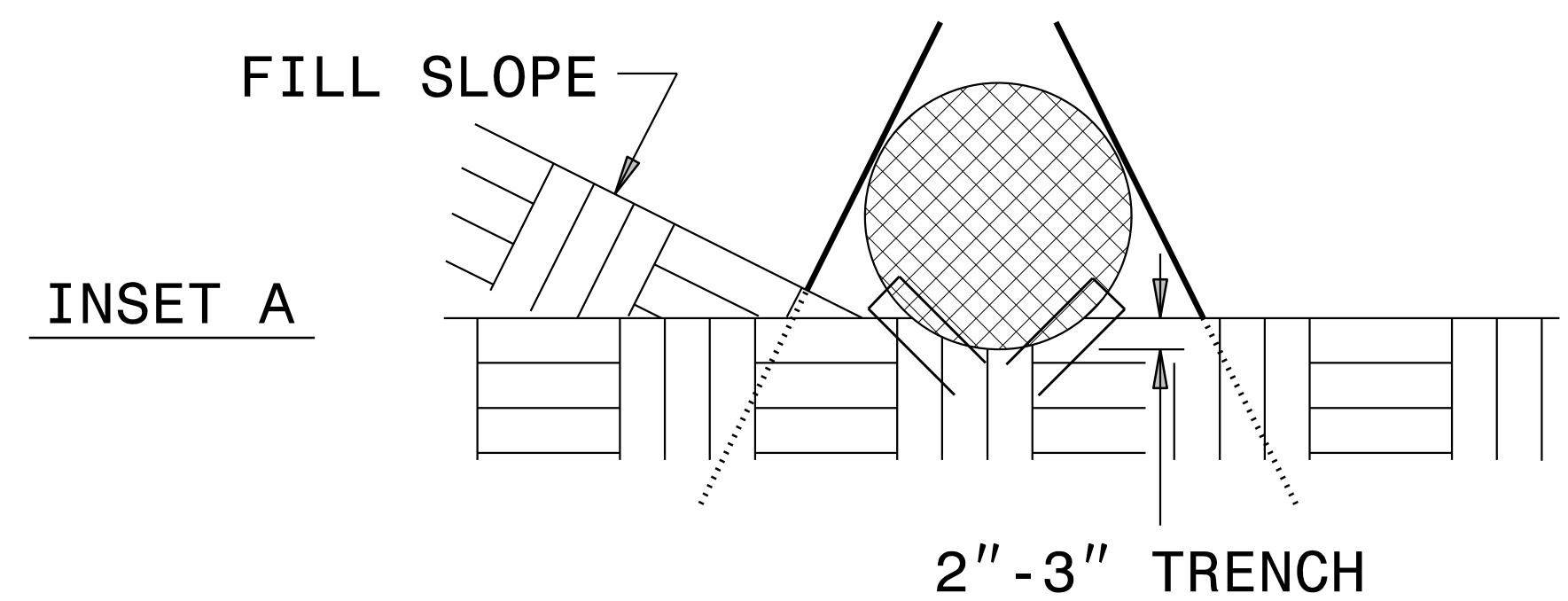
ISOMETRIC VIEW



FRONT VIEW

NOTES:

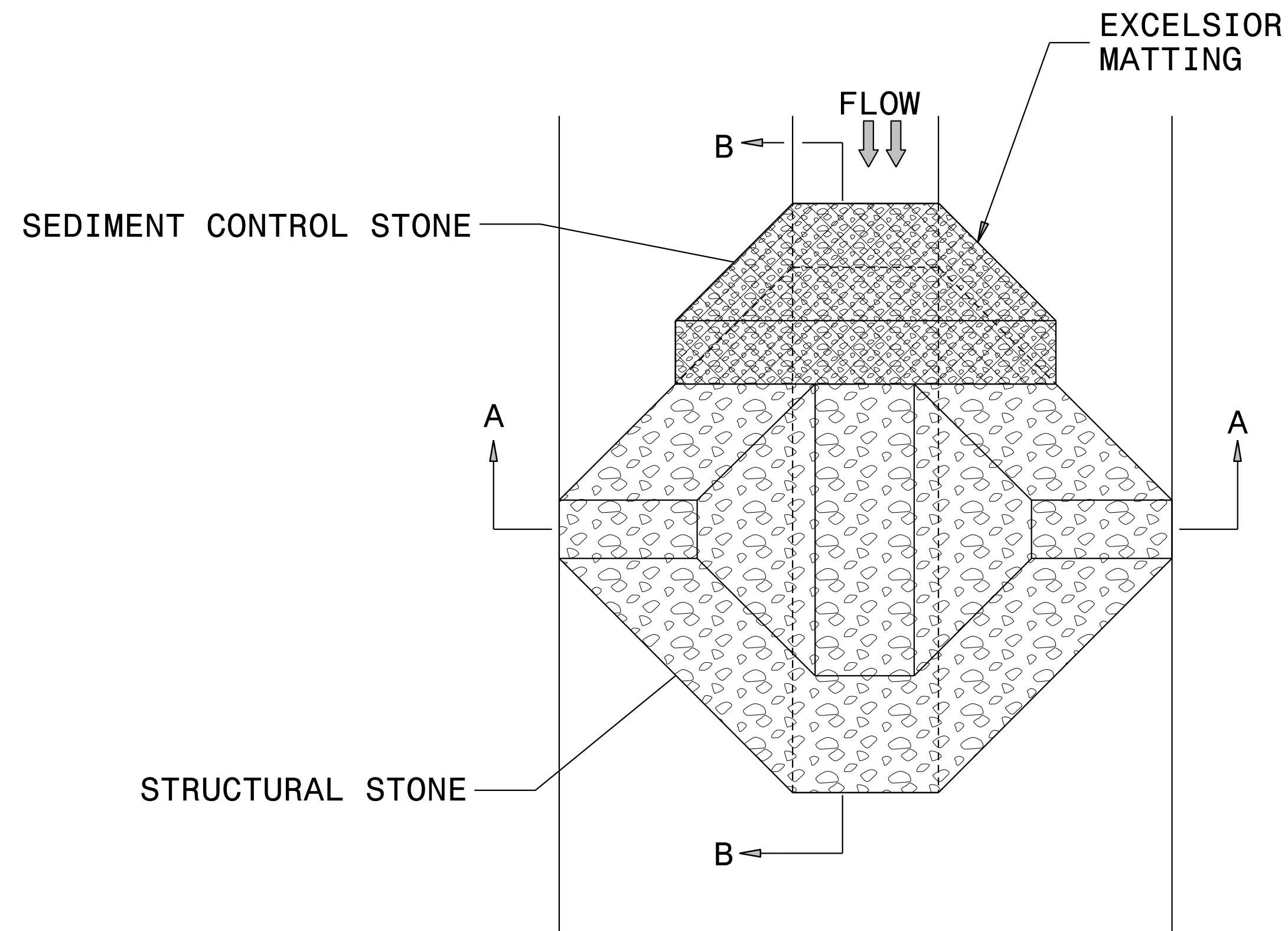
- USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLES ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.



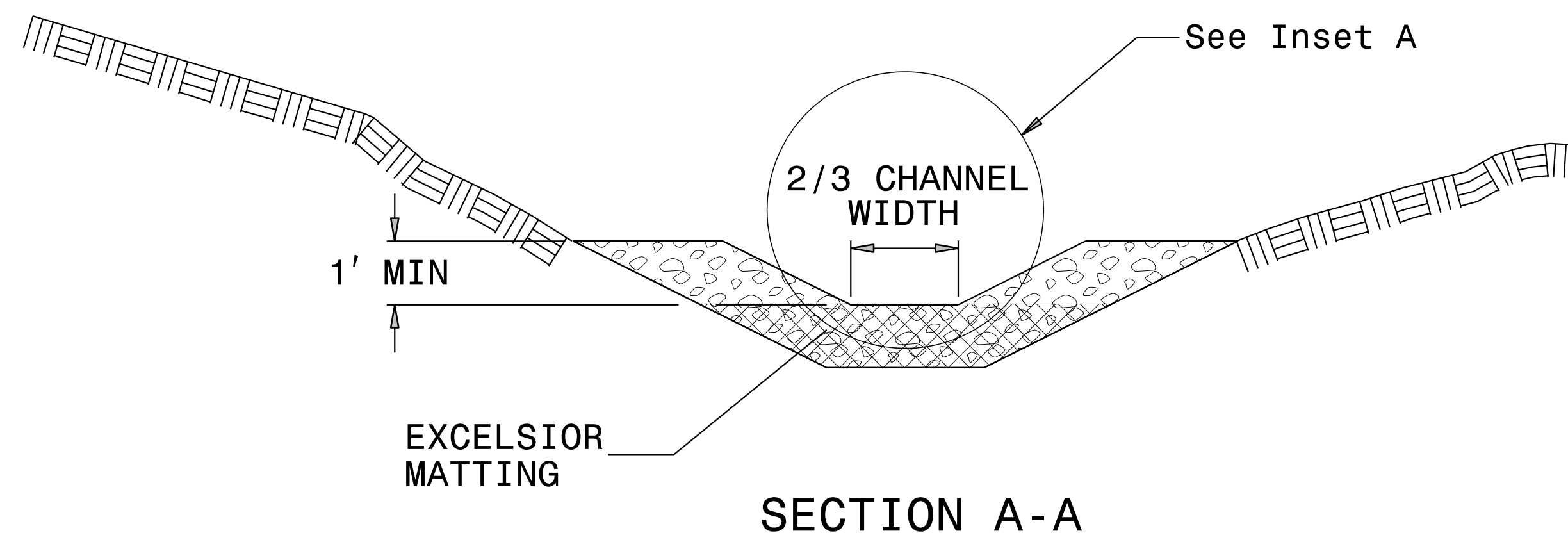
TOP VIEW

PROJECT REFERENCE NO. B-5639	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

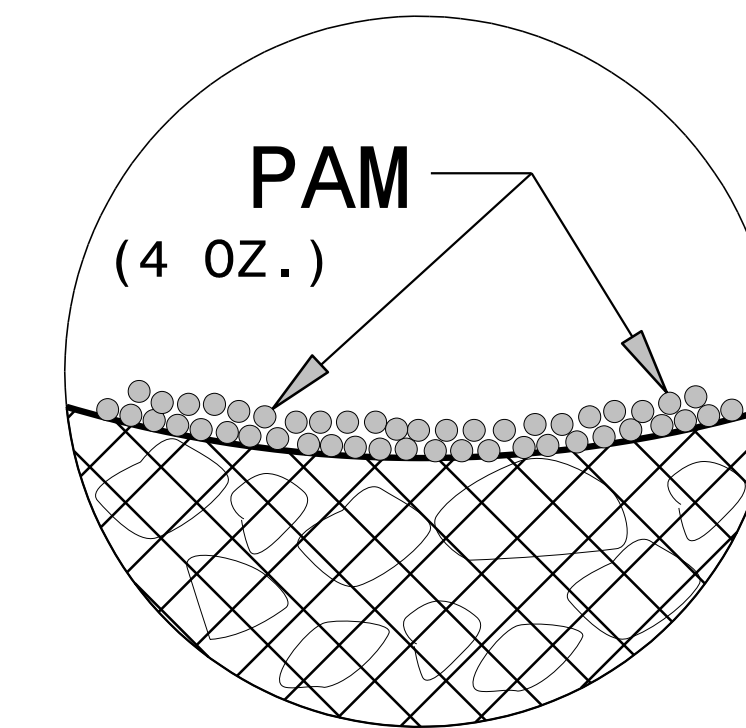
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

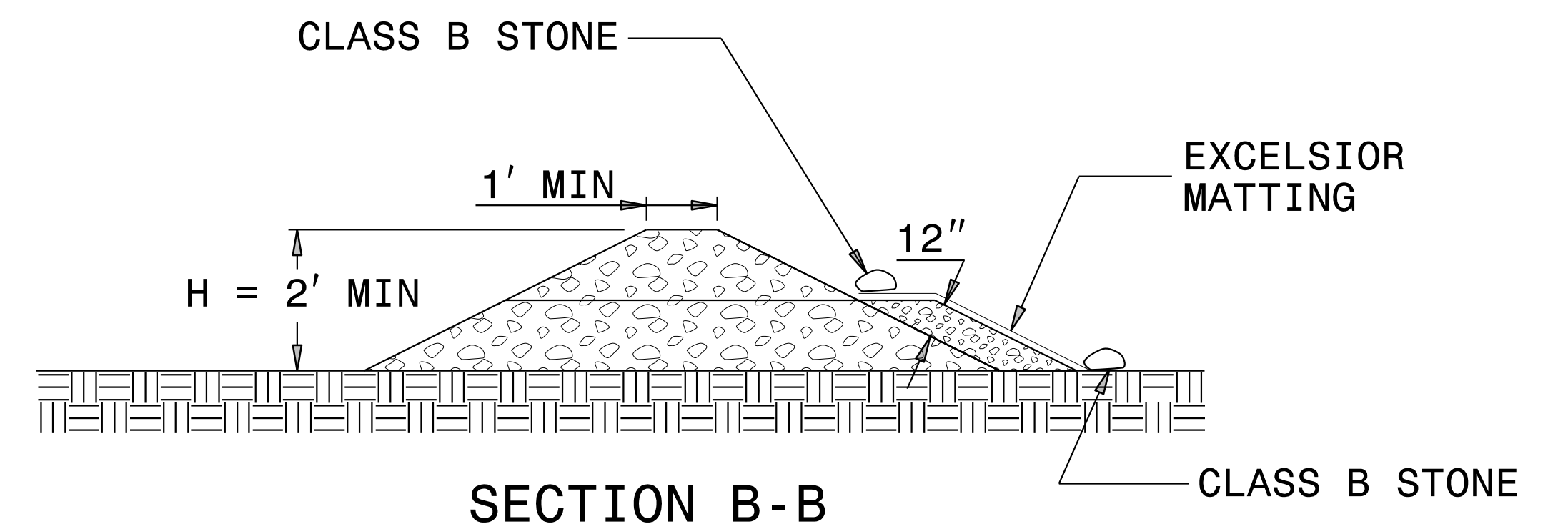
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-5639</i>	SHEET NO. <i>EC-3</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. <i>B-5639</i>	SHEET NO. <i>EC-04/CONST.04</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED.

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

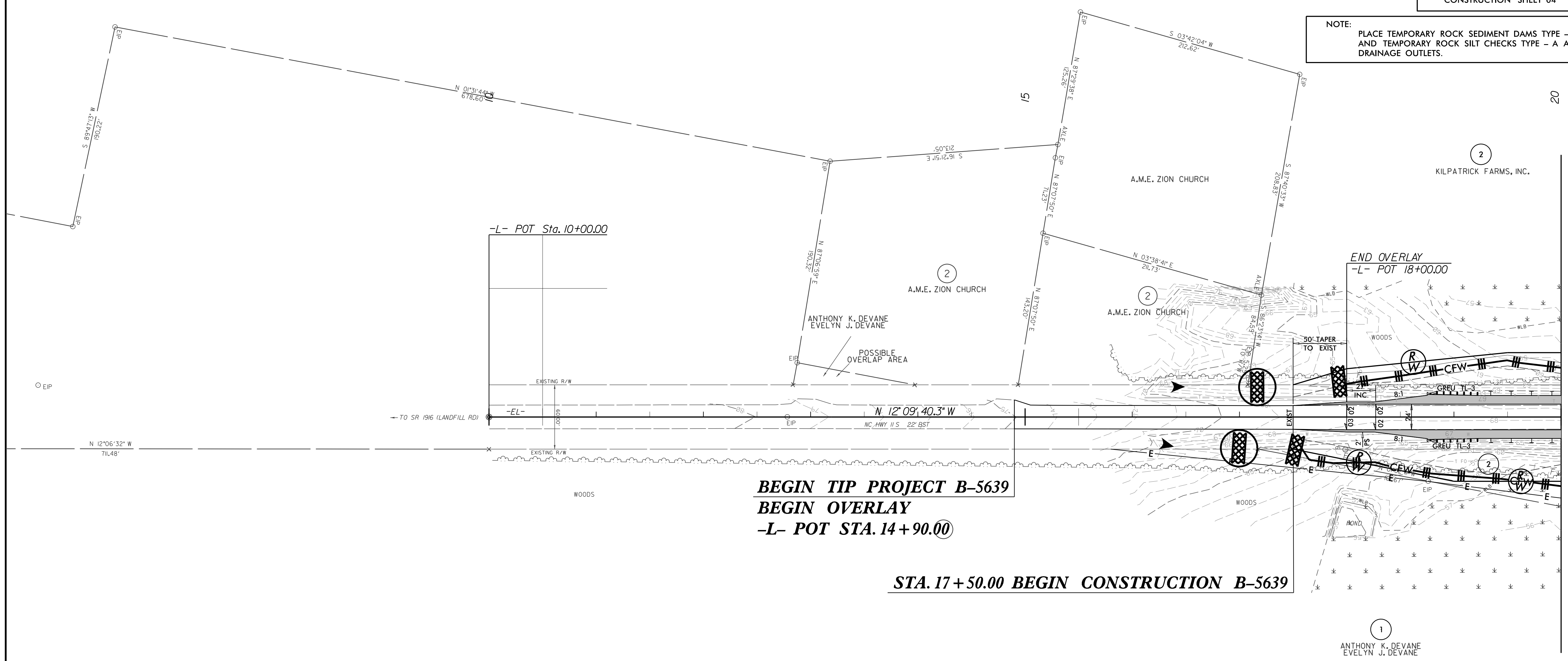
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE:
THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE).

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NAD 83/2011



-L- POT Sta. 10+00.00

END OVERLAY
-L- POT 18+00.00

BEGIN TIP PROJECT B-5639
BEGIN OVERLAY
-L- POT STA. 14 + 90.00

STA. 17 + 50.00 BEGIN CONSTRUCTION B-5639

MATCHLINE -L- STA. 20 + 00.00 SEE SHEET 5

FOR -L- PROFILE, SEE SHEET 6
FOR DETOUR DESIGN, SEE SHEETS 2B-1 & 2B-2

PROJECT REFERENCE NO. B-5639	SHEET NO. EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED.

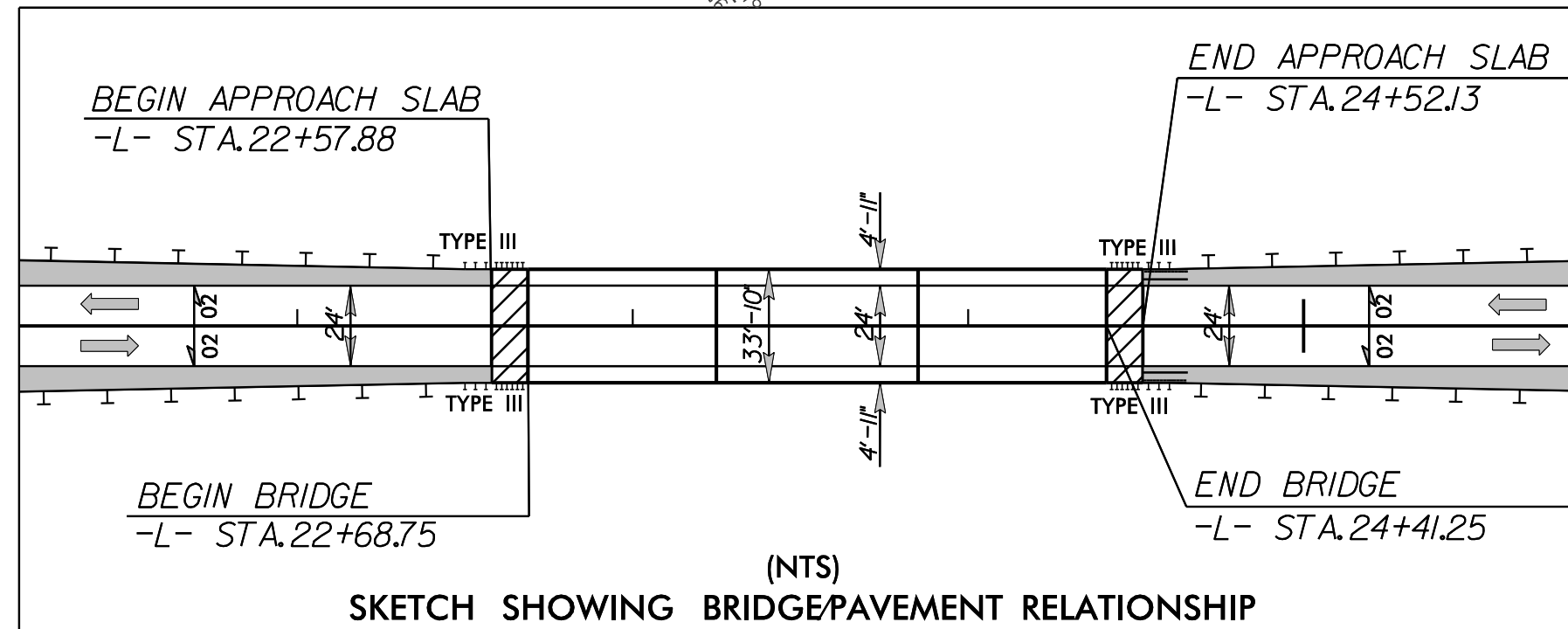
NOTE: UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE: THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE).

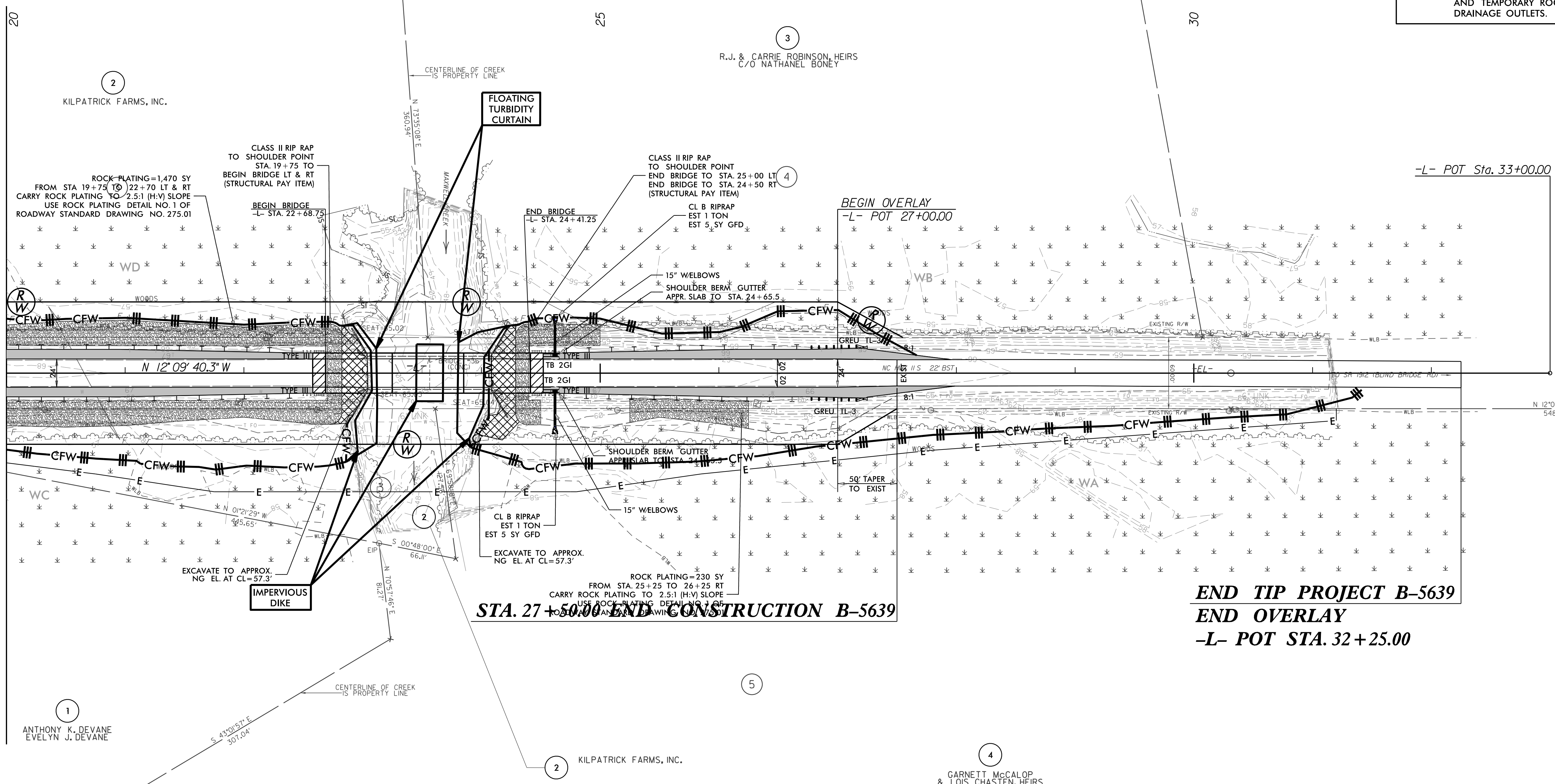
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 05

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.



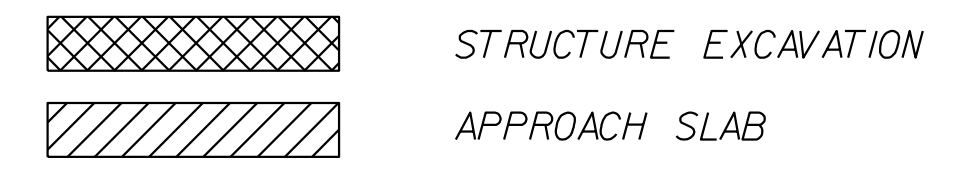
NAD 832011

MATCHLINE -L- STA. 20 + 00.00 SEE SHEET 4



STA. 27 + 50.00 END CONSTRUCTION B-5639

END TIP PROJECT B-5639
END OVERLAY
-L- POT STA. 32 + 25.00



FOR -L- PROFILE, SEE SHEET 6
FOR DETOUR DESIGN, SEE SHEETS 2B-1 & 2B-2

PROJECT REFERENCE NO. B-5639	SHEET NO. EC-06/CONST.2B-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED.

NOTE: UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

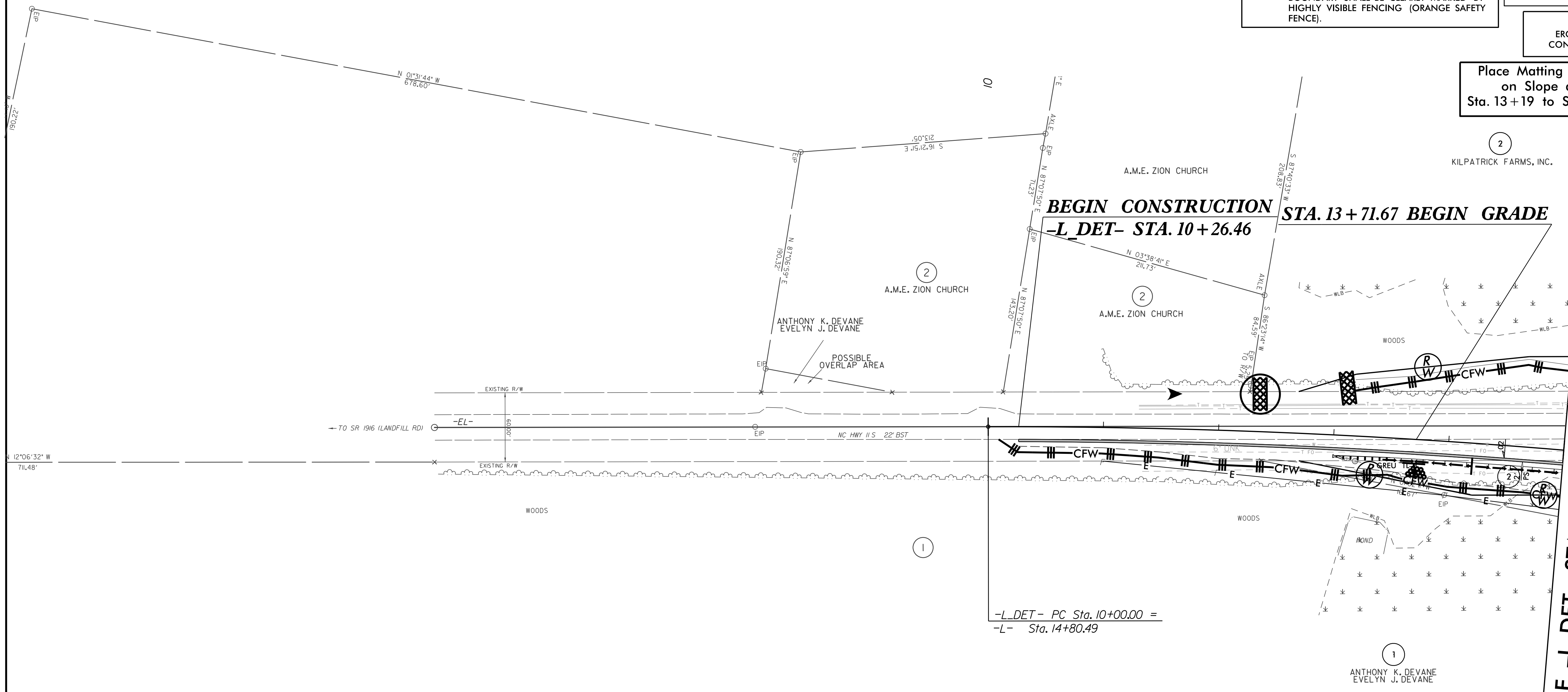
NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE: THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE).

DETOUR EROSION CONTROL FOR CONSTRUCTION SHEET 2B-1

Place Matting for Erosion Control on Slope as Work Allows. Sta. 13+19 to Sta. 15+00 -L_DET- RT

NAD 83/2011



BEGIN CONSTRUCTION -L_DET- STA. 10+26.46
STA. 13+71.67 BEGIN GRADE

MATCHLINE -L_DET- STA. 15+00.00 SEE SHEET 2B-2

-L_DET- PC Sta. 10+00.00 =
 -L- Sta. 14+80.49

FOR -L_DET- PROFILE, SEE SHEET 7
 FOR -L- DESIGN, SEE SHEETS 4 & 5

PROJECT REFERENCE NO. B-5639	SHEET NO. EC-07/CONST.2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED.

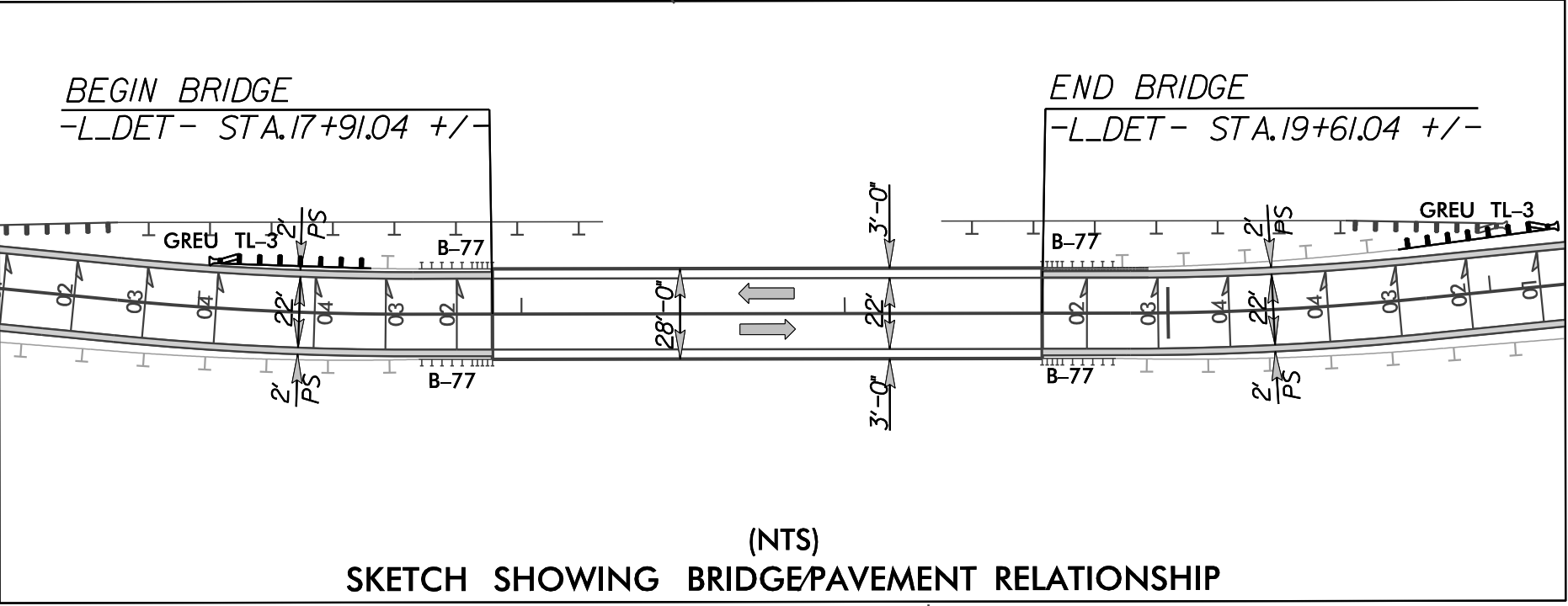
NOTE: UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE: THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE).

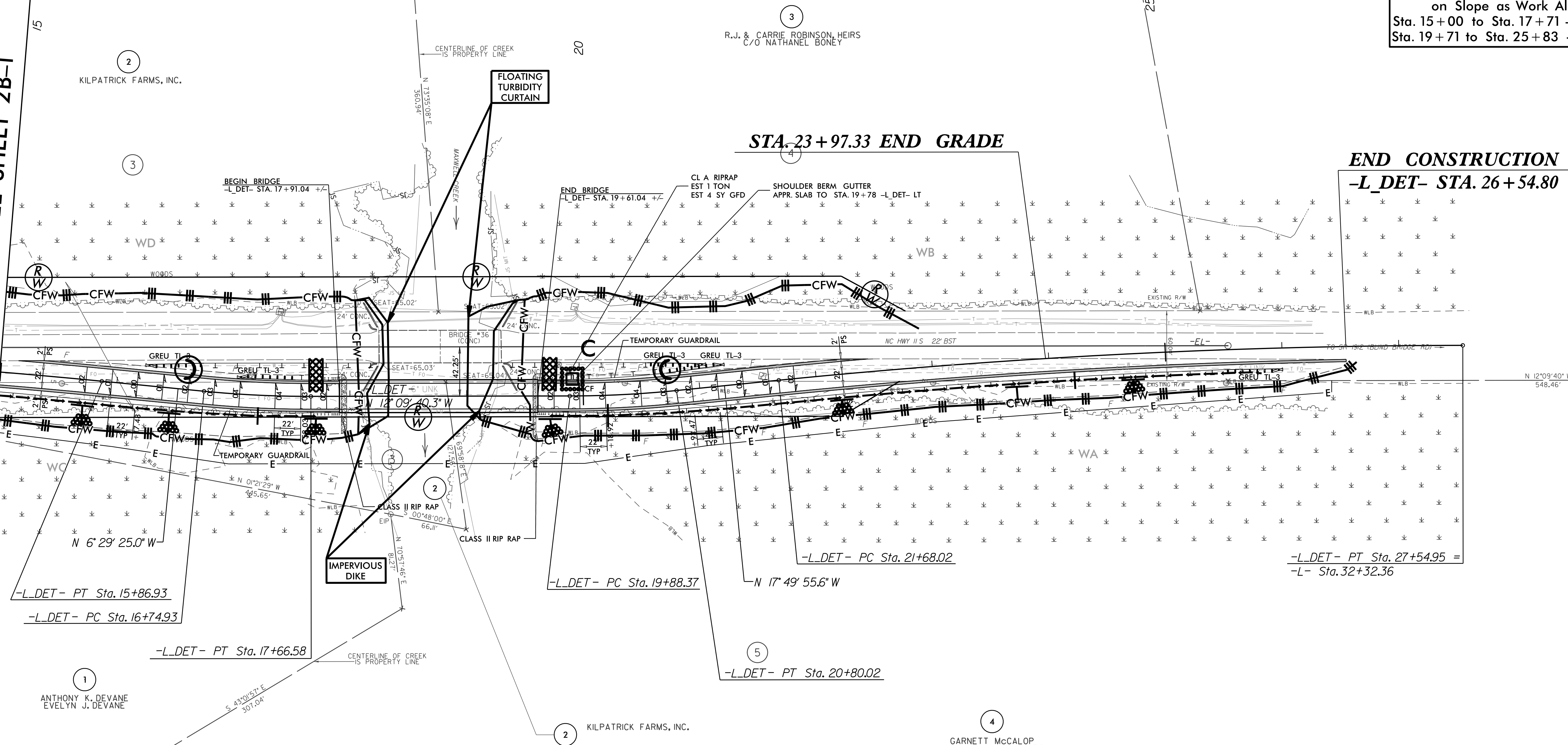
DETOUR EROSION CONTROL FOR CONSTRUCTION SHEET 2B-2

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 15+00 to Sta. 17+71 -L_DET- RT
Sta. 19+71 to Sta. 25+83 -L_DET- RT



NAD 83/2011

MATCHLINE -L_DET- STA. 15+00.00 SEE SHEET 2B-1



STA. 23+97.33 END GRADE

END CONSTRUCTION
-L_DET- STA. 26+54.80

FOR -L_DET- PROFILE, SEE SHEET 7
FOR -L- DESIGN, SEE SHEETS 4 & 5

PROJECT REFERENCE NO. <i>B-5639</i>	SHEET NO. <i>EC-08/CONST.04</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED.

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

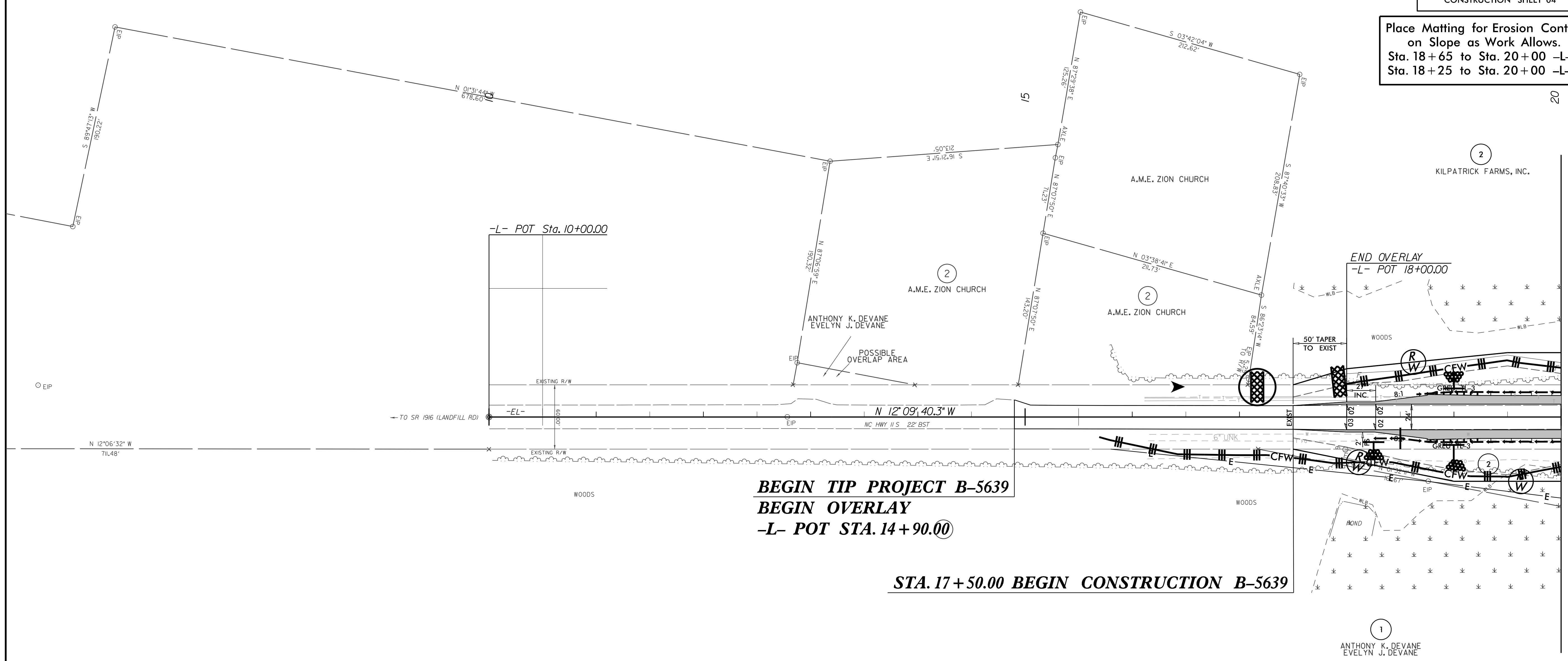
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE:
THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE).

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 18+65 to Sta. 20+00 -L- LT
Sta. 18+25 to Sta. 20+00 -L- RT

NAD 83/2011



BEGIN TIP PROJECT B-5639
BEGIN OVERLAY
-L- POT STA. 14+90.00

STA. 17+50.00 BEGIN CONSTRUCTION B-5639

MATCHLINE -L- STA. 20+00.00 SEE SHEET 5

FOR -L- PROFILE, SEE SHEET 6
FOR DETOUR DESIGN, SEE SHEETS 2B-1 & 2B-2

PROJECT REFERENCE NO. <i>B-5639</i>	SHEET NO. <i>EC-09/CONST.05</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 05

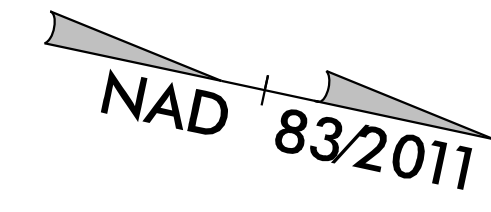
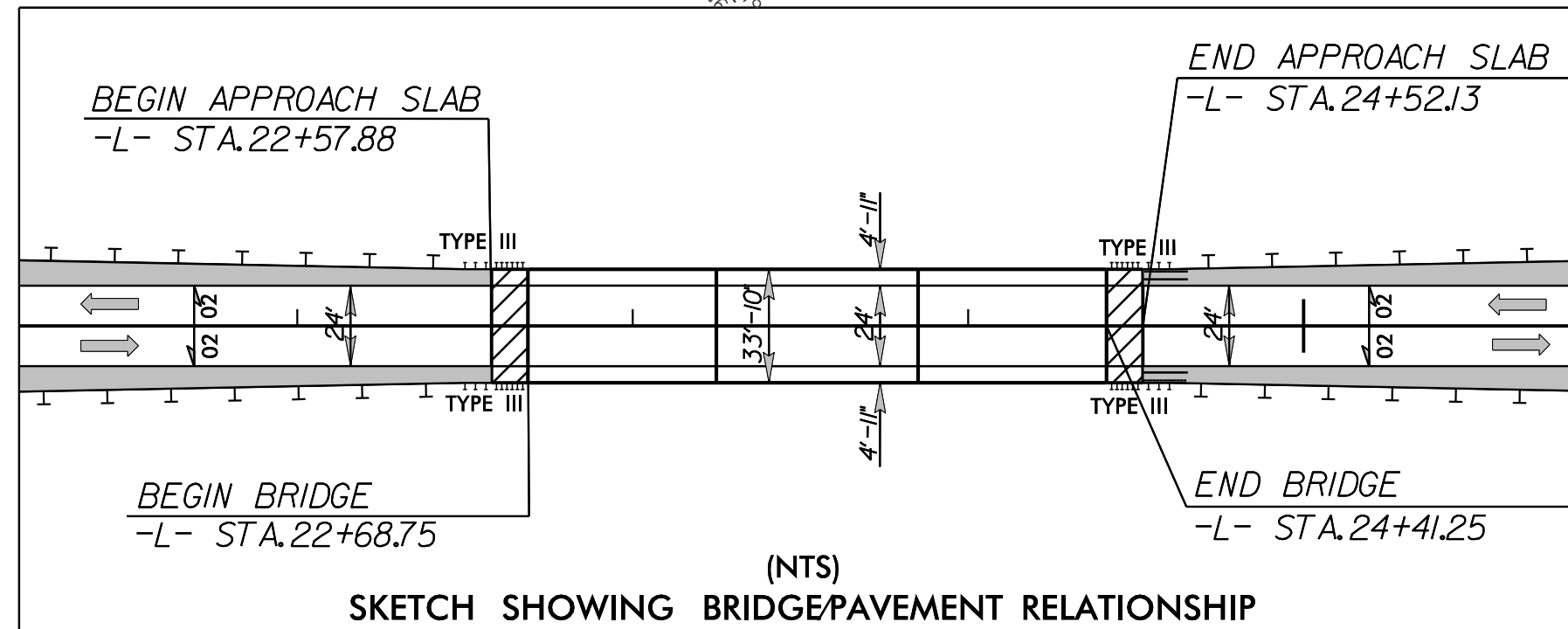
Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 20+00 to Sta. 22+50 -L- LT
Sta. 26+15 to Sta. 27+00 -L- LT
Sta. 20+00 to Sta. 22+50 -L- RT
Sta. 24+50 to Sta. 27+00 -L- RT

NOTE:
IMPERVIOUS DIKES MAY BE MODIFIED
AND/OR ELIMINATED AS DIRECTED.

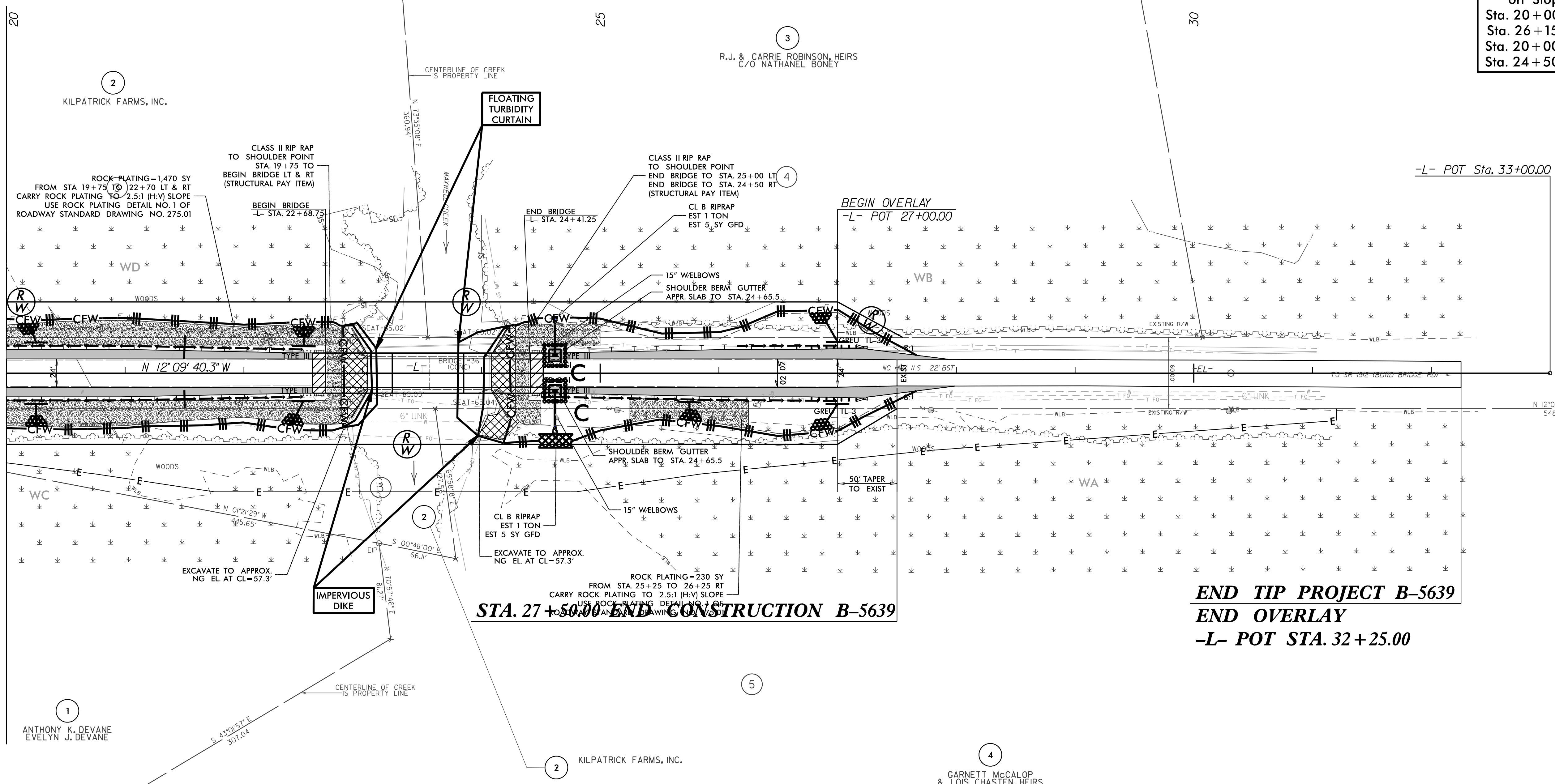
NOTE:
UTILIZE SPECIAL STILLING BASIN(S)
AS STILLING BASIN WHERE APPLICABLE.

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS/JURISDICTIONAL AREAS, AND AS
DIRECTED.

NOTE:
THE OUTSIDE BUFFER, WETLAND OR WATER
BOUNDARY SHALL BE CLEARLY MARKED BY
HIGHLY VISIBLE FENCING (ORANGE SAFETY
FENCE).



MATCHLINE -L- STA. 20+00.00 SEE SHEET 4



STA. 27+50.00 END CONSTRUCTION B-5639

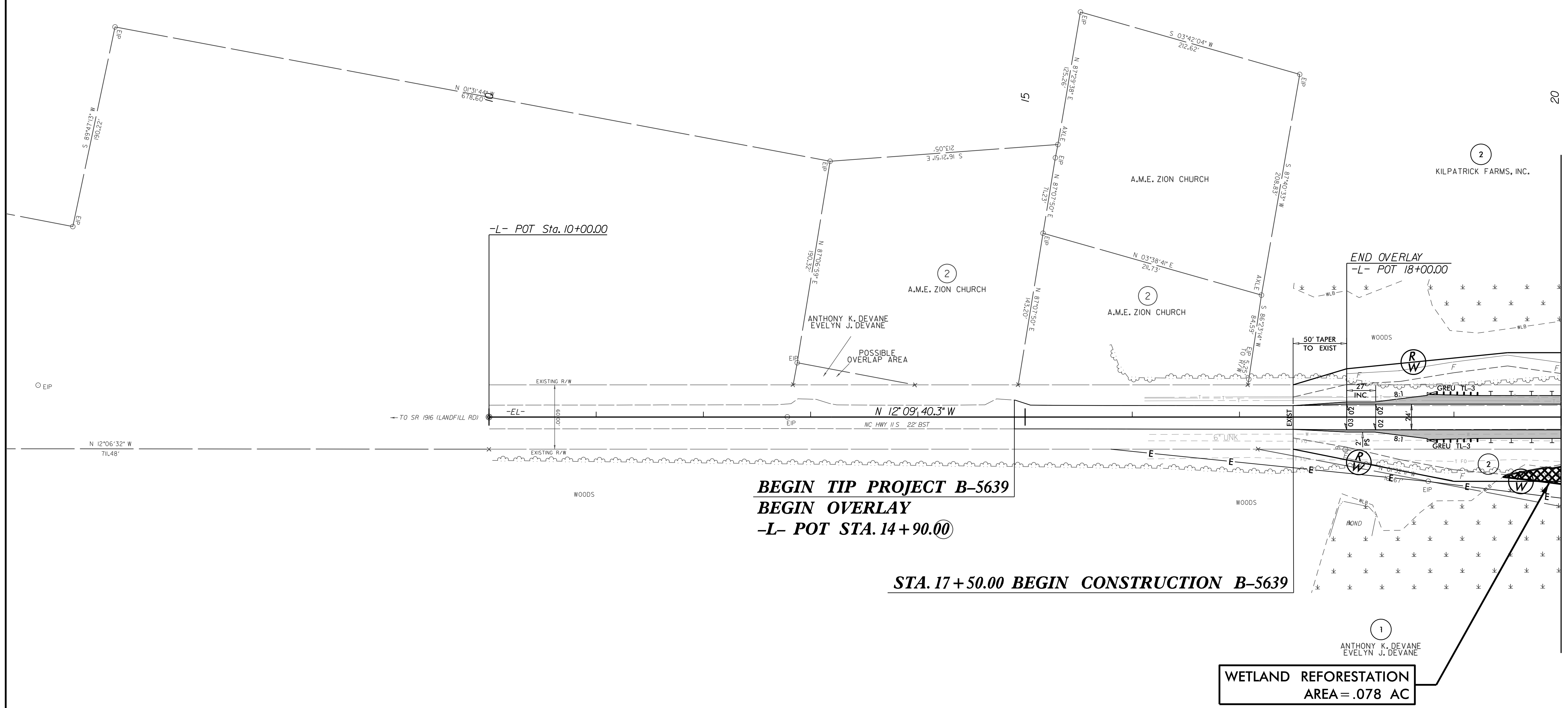
END TIP PROJECT B-5639
END OVERLAY
-L- POT STA. 32+25.00

STRUCTURE EXCAVATION
 APPROACH SLAB

FOR -L- PROFILE, SEE SHEET 6
FOR DETOUR DESIGN, SEE SHEETS 2B-1 & 2B-2

PROJECT REFERENCE NO. <i>B-5639</i>	SHEET NO. <i>EC-10/CONST.04</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

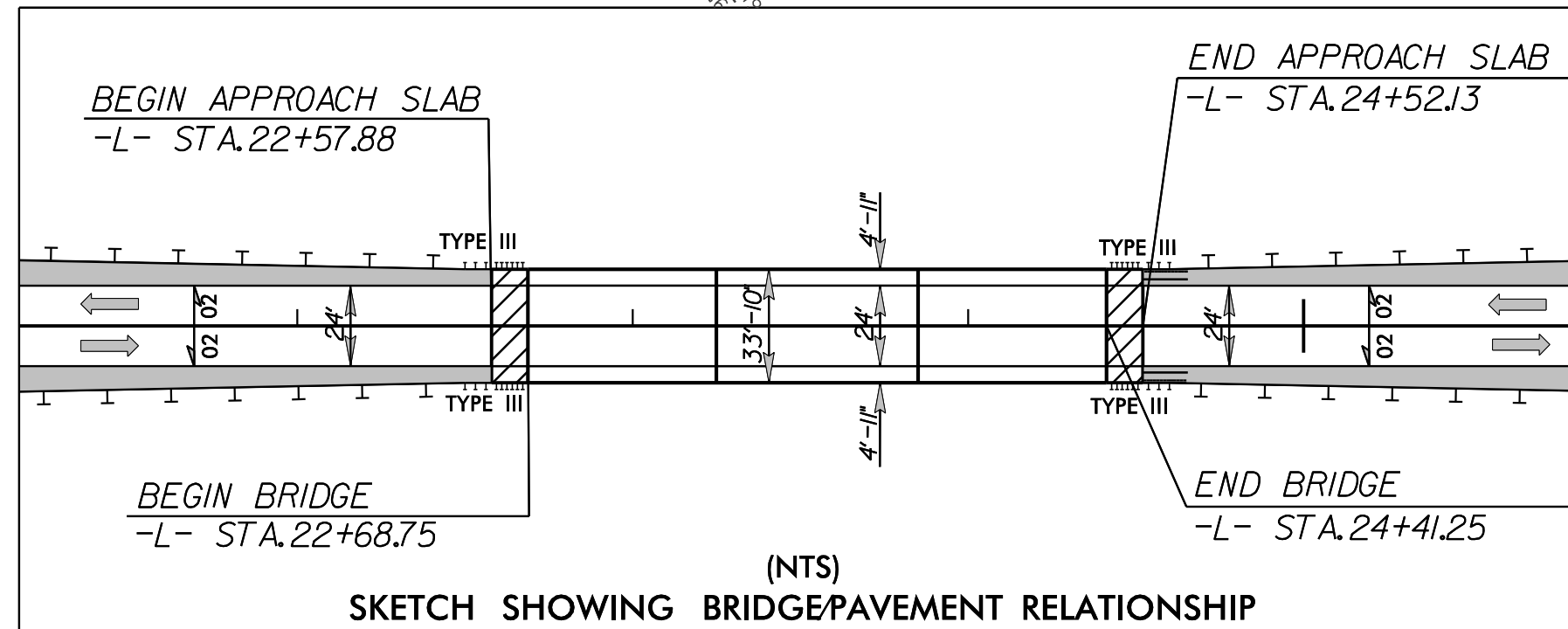
NAD 83/2011



MATCHLINE -L- STA. 20 + 00.00 SEE SHEET 5

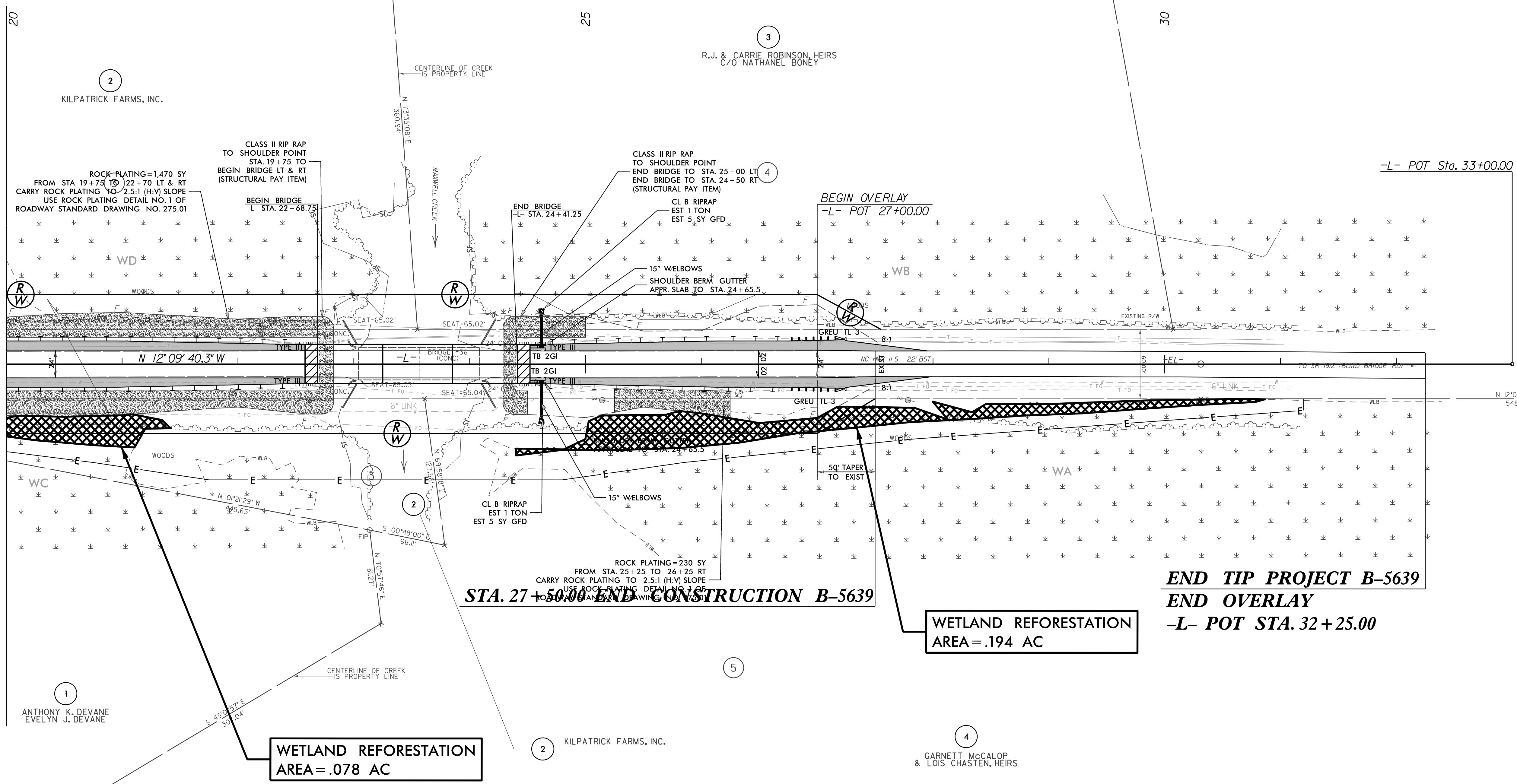
FOR -L- PROFILE, SEE SHEET 6
FOR DETOUR DESIGN, SEE SHEETS 2B-1 & 2B-2

PROJECT REFERENCE NO.	SHEET NO.
B-5639	EC-II/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 832011

MATCHLINE -L- STA. 20 + 00.00 SEE SHEET 4



STA. 27 + 50.00 END CONSTRUCTION B-5639

**END TIP PROJECT B-5639
END OVERLAY
-L- POT STA. 32 + 25.00**

**WETLAND REFORESTATION
AREA = .194 AC**

**WETLAND REFORESTATION
AREA = .078 AC**

APPROACH SLAB

FOR -L- PROFILE, SEE SHEET 6
FOR DETOUR DESIGN, SEE SHEETS 2B-1 & 2B-2