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09/08/2015

TIP PROJECT: W-5518

See Sheet 1-A For Index of Sheets

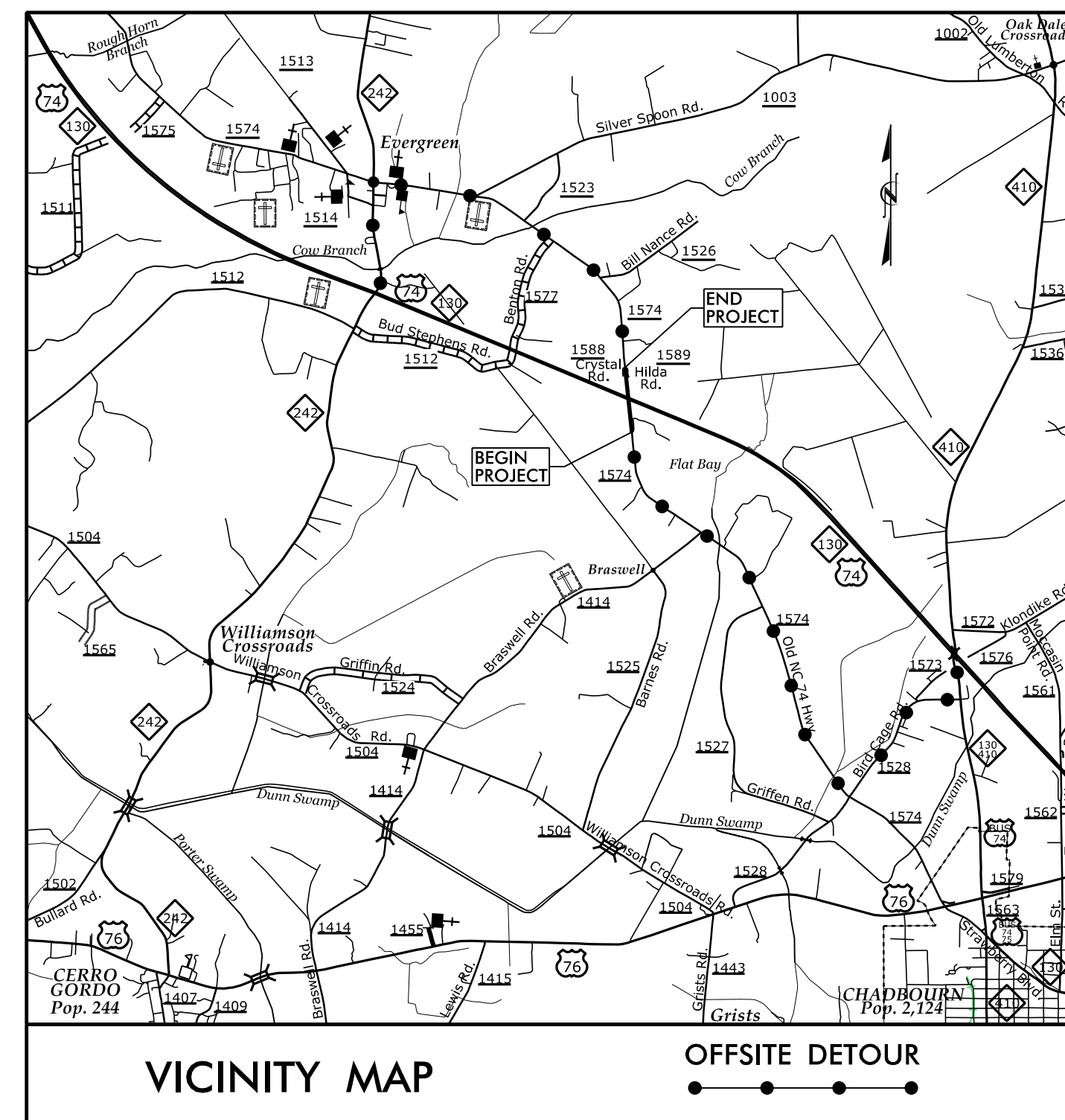
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

COLUMBUS COUNTY

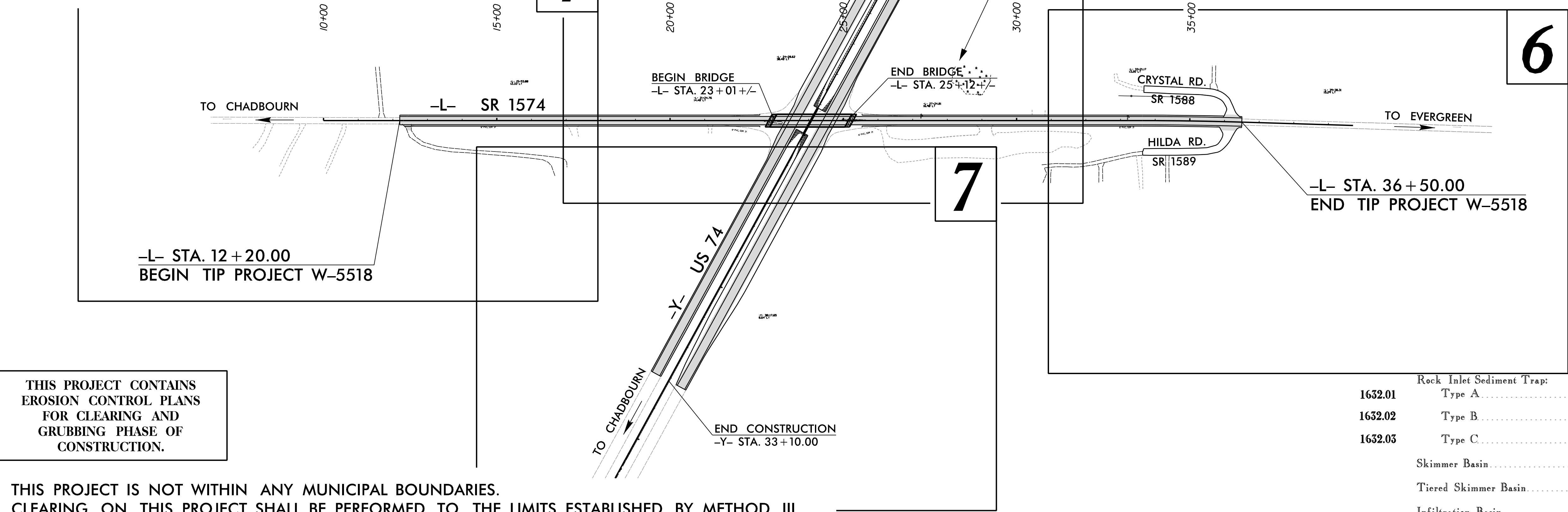
LOCATION: CONSTRUCT OVERPASS OF SR
1574 (OLD US 74) OVER US 74

TYPE OF WORK: GRADING, DRAINAGE,
PAVING & STRUCTURE



VICINITY MAP

OFFSITE DETOUR



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

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

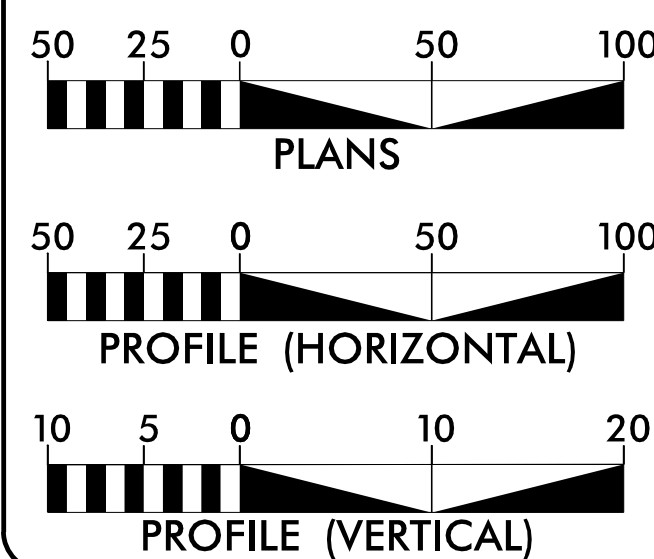
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5518	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
43741.1.FS1	HSIP-0074(155)	PE	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
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	—
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	—
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	⊗
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊗
1630.04	Stilling Basin	□
1630.06	Special Stilling Basin	□



GRAPHIC SCALES



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

MULKEY
ENGINEERS & CONSULTANTS
7500 EAST INDEPENDENCE BOULEVARD
SUITE 100
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(704) 537-7300
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Designed by:
JAMES R. HOPSON, JR. 3736
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Reviewed by:
JEREMY GOODWIN, PE, CPESC, CPSWQ

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 2012 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		

12/10/2015 R:\Environment\W-5518_hyd_EC_tsh.dgn Keys

PROJECT REFERENCE NO. W-5518	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.

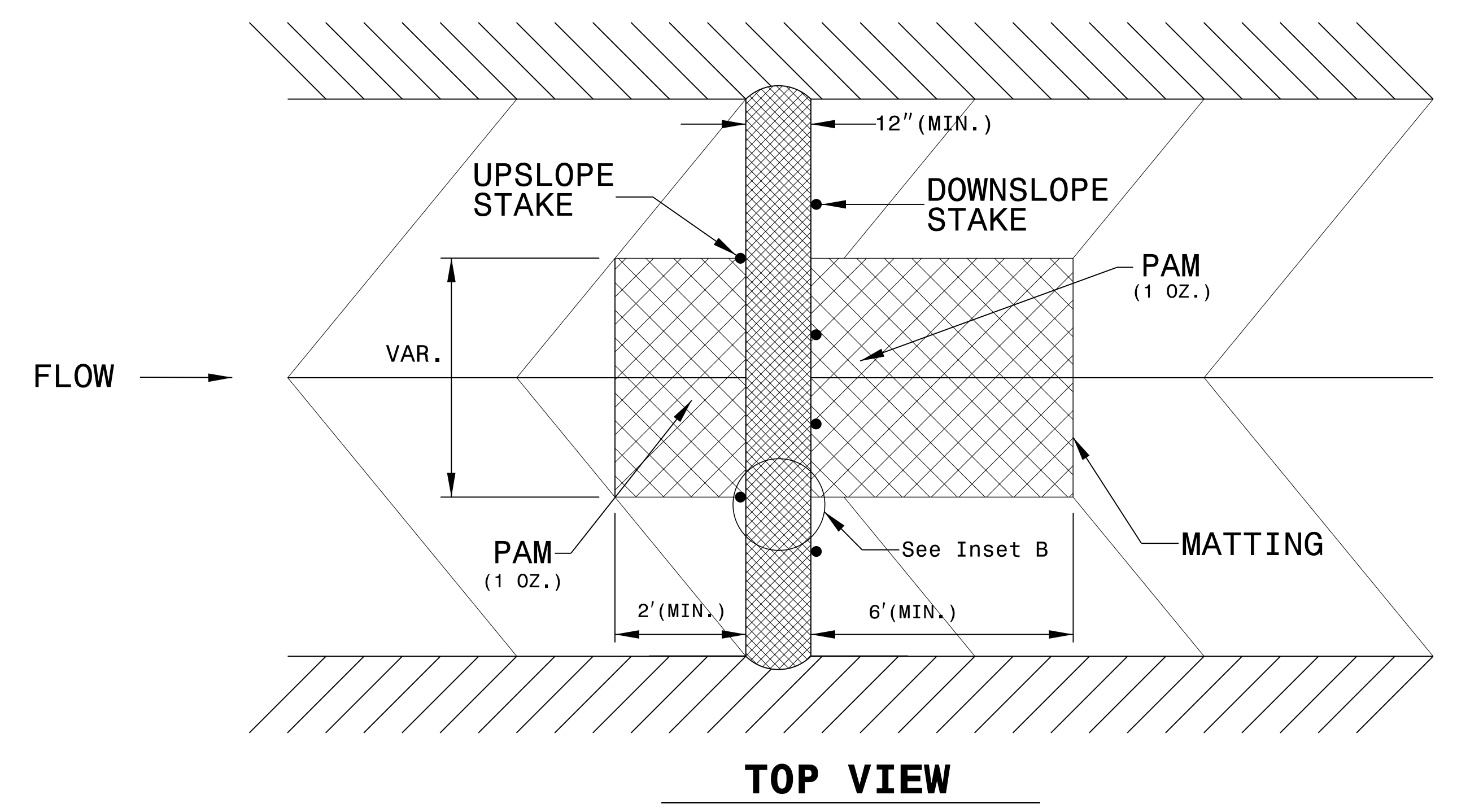
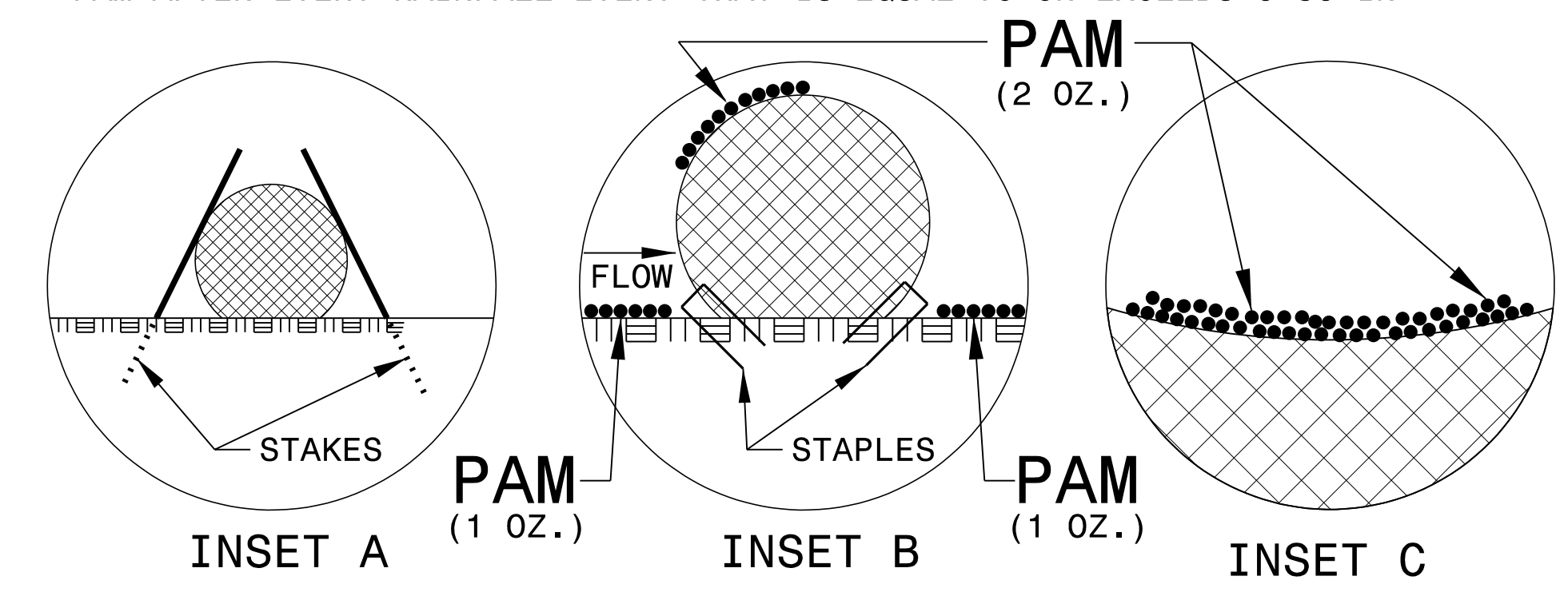
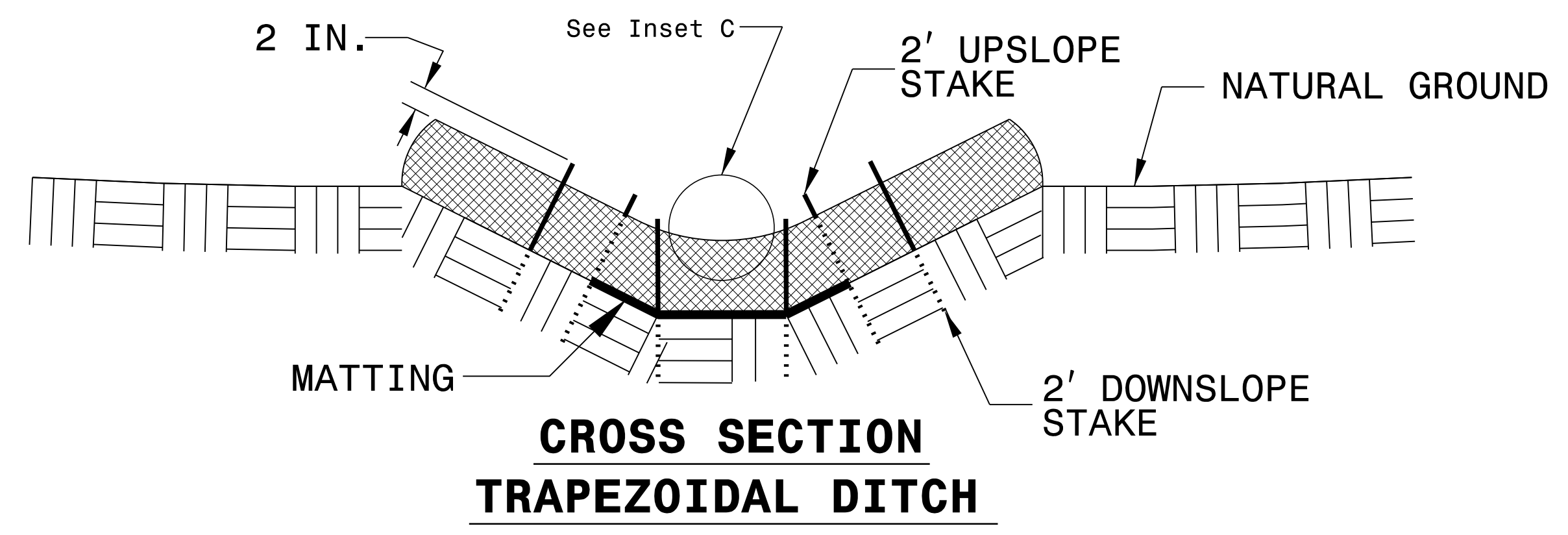
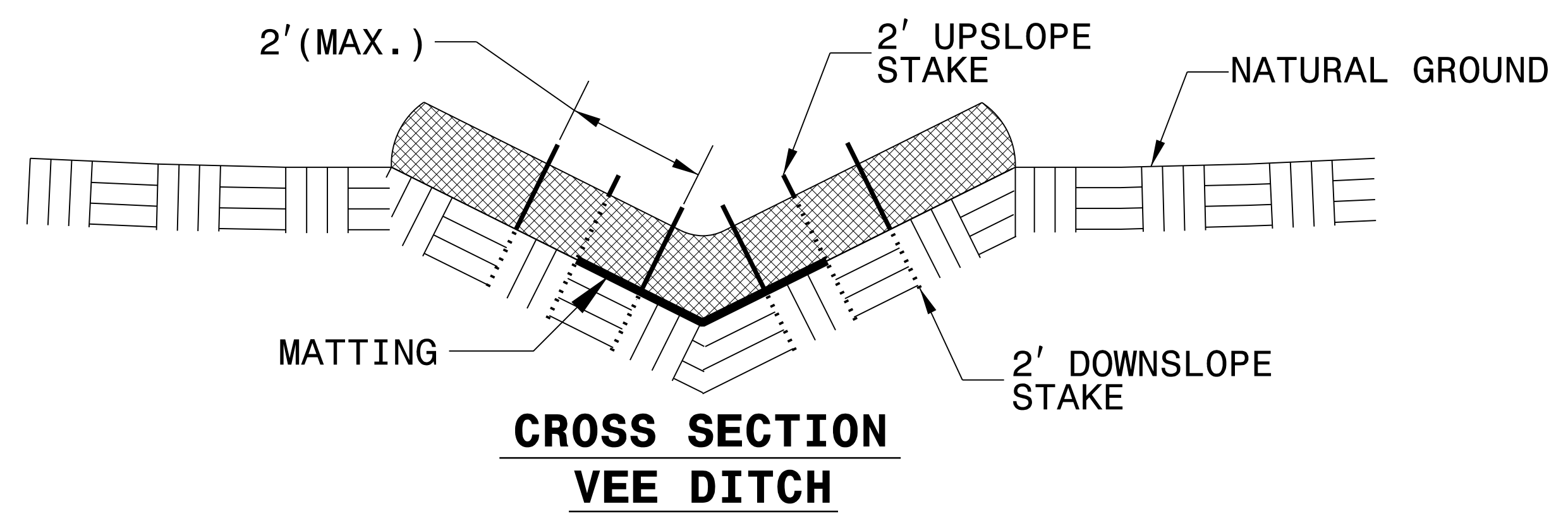
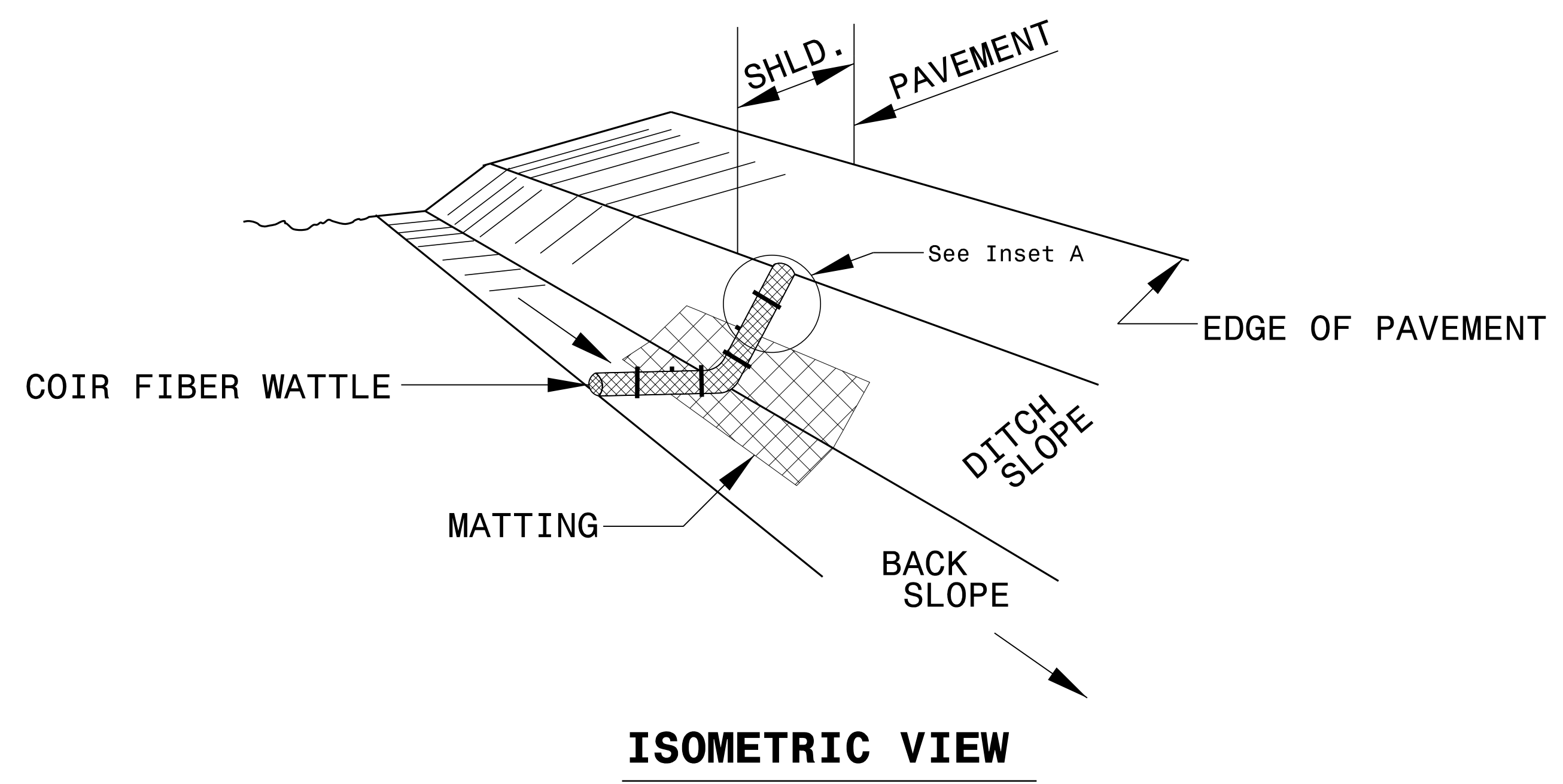
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

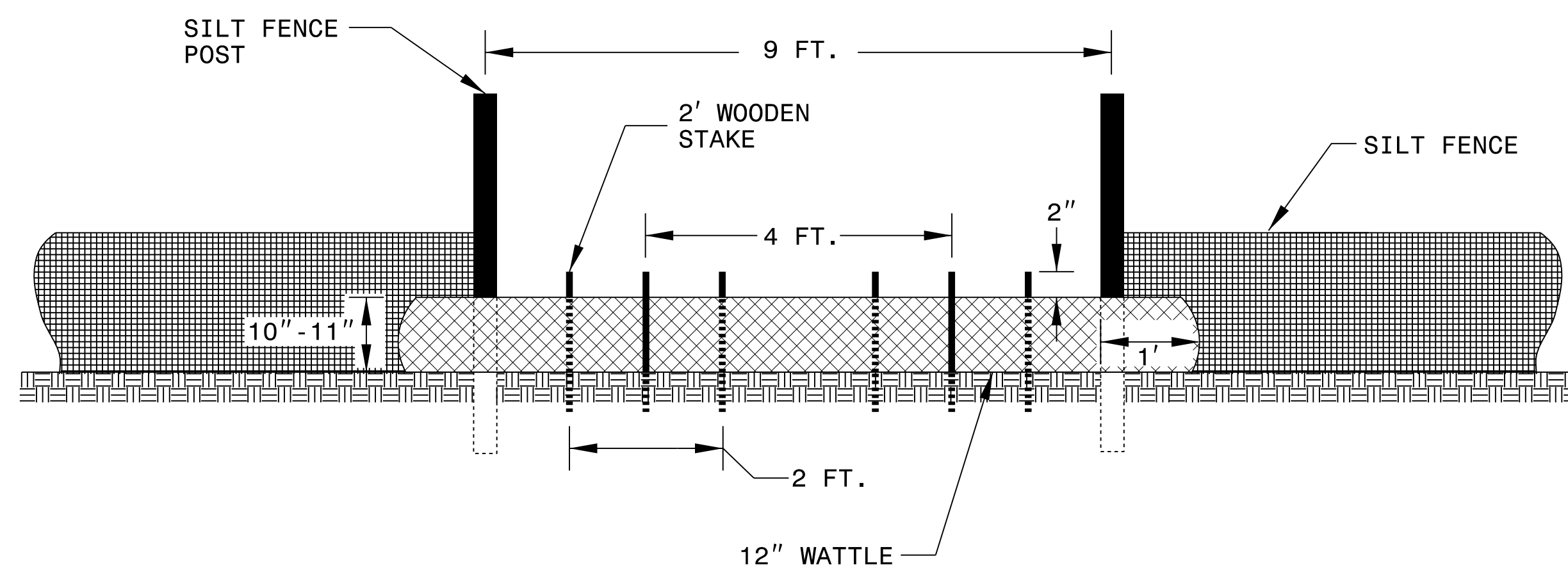
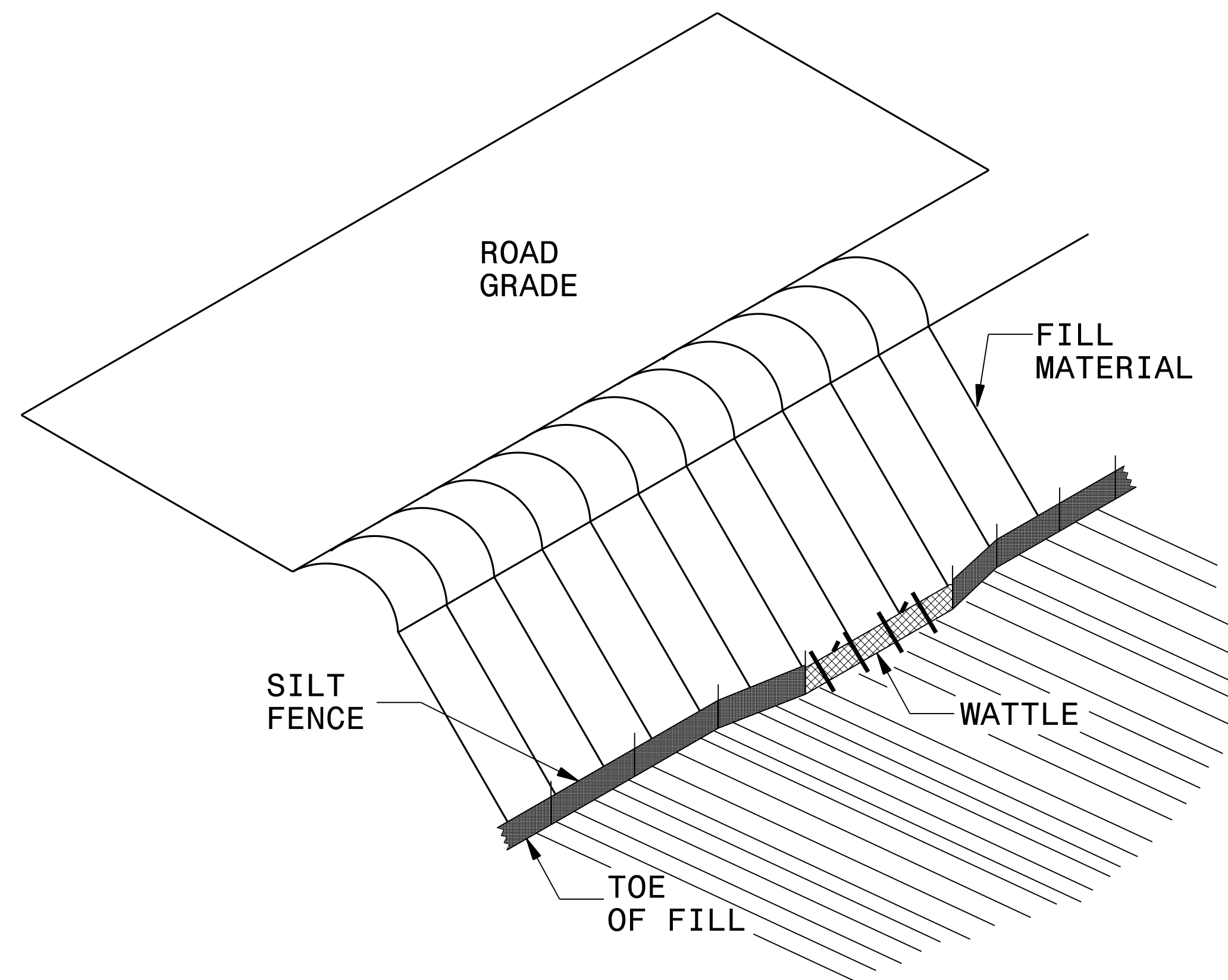
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

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

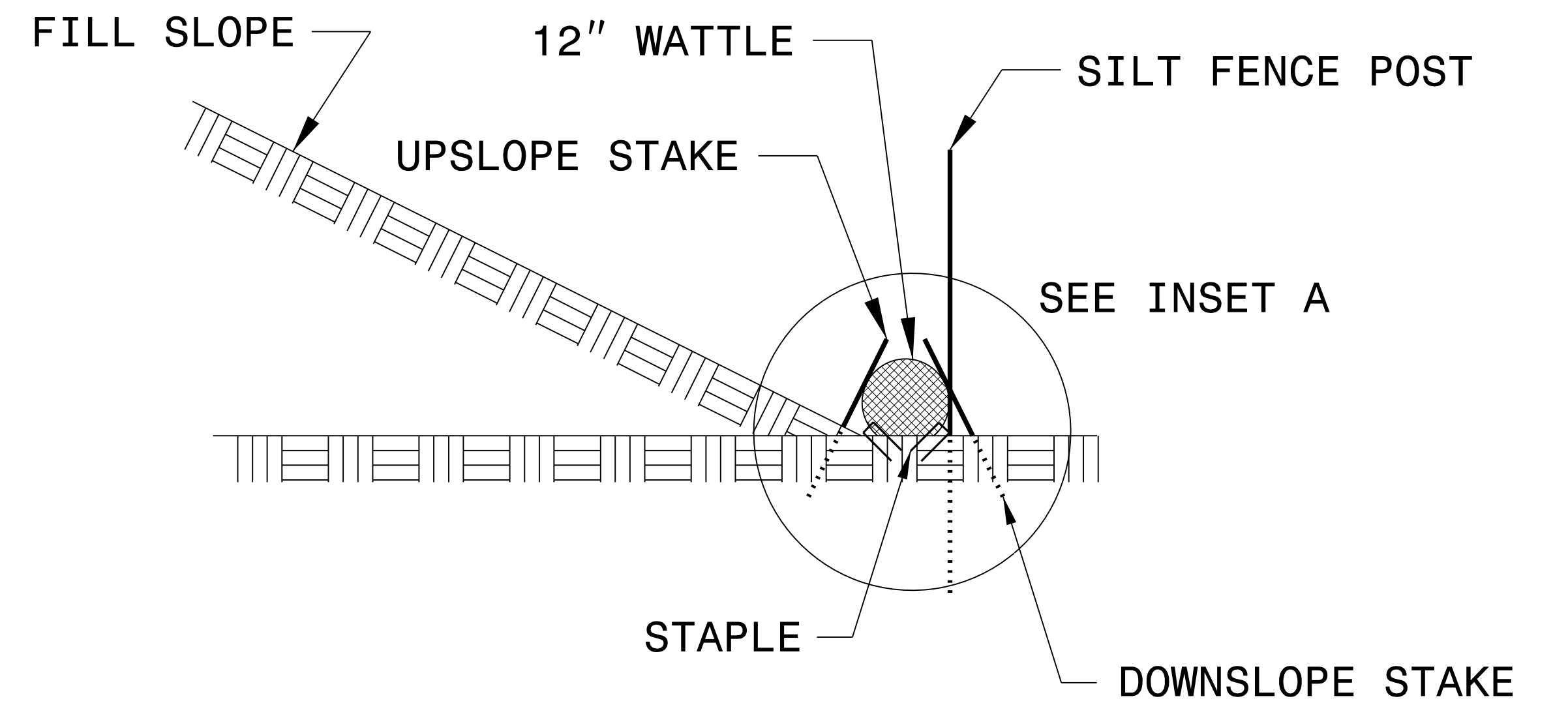
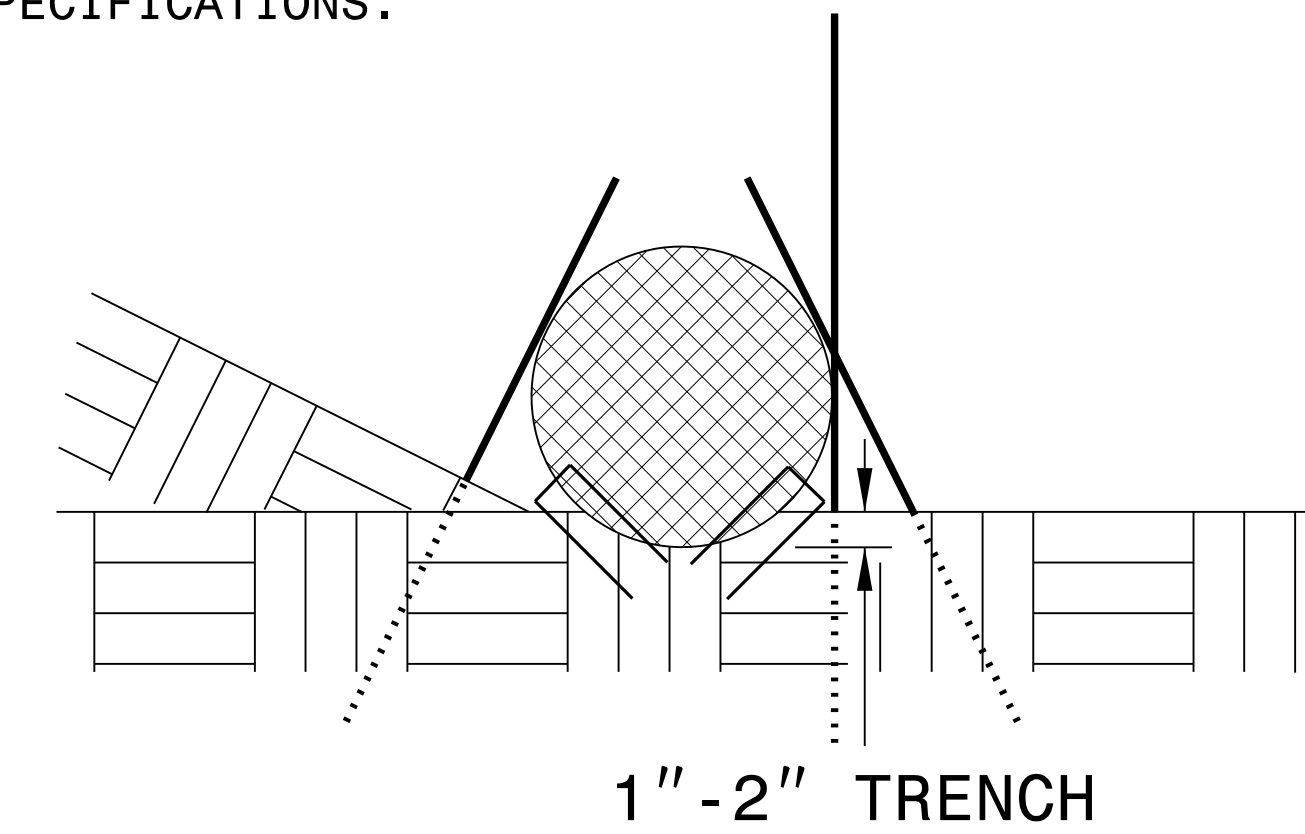
PROJECT REFERENCE NO. <i>W-5518</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:

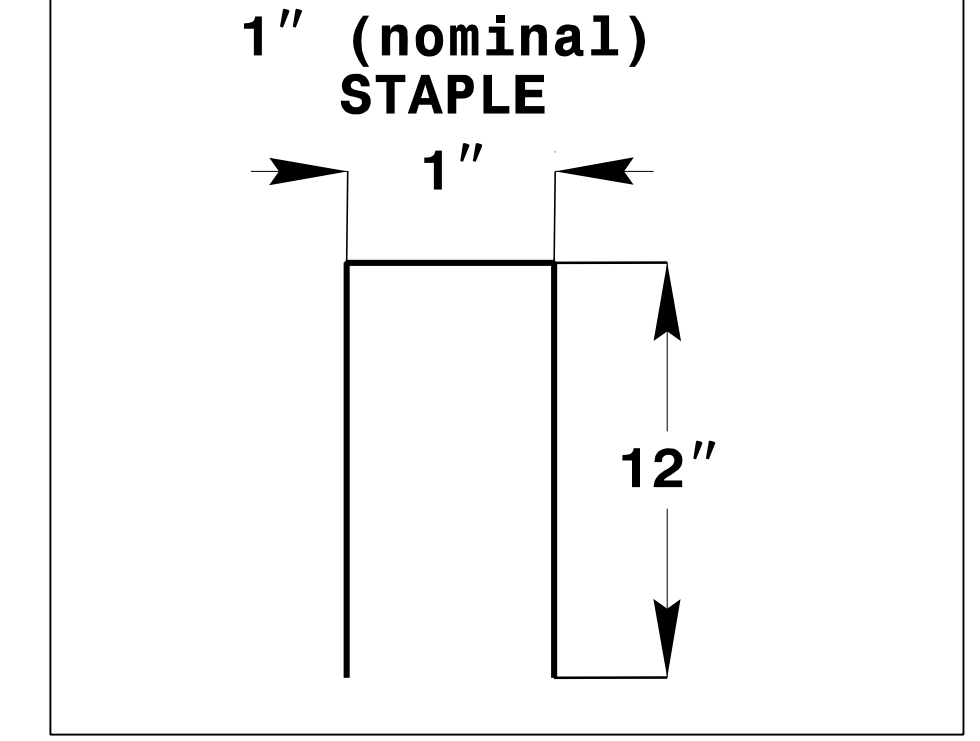
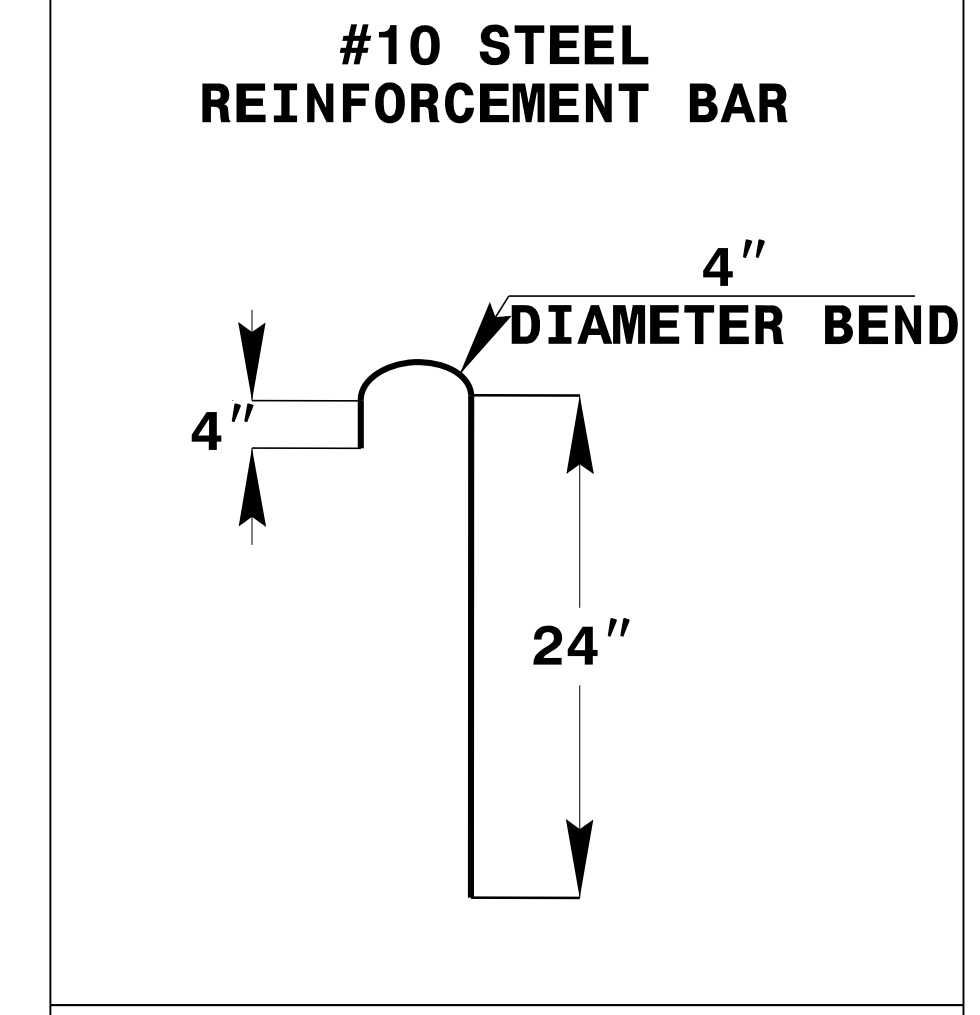
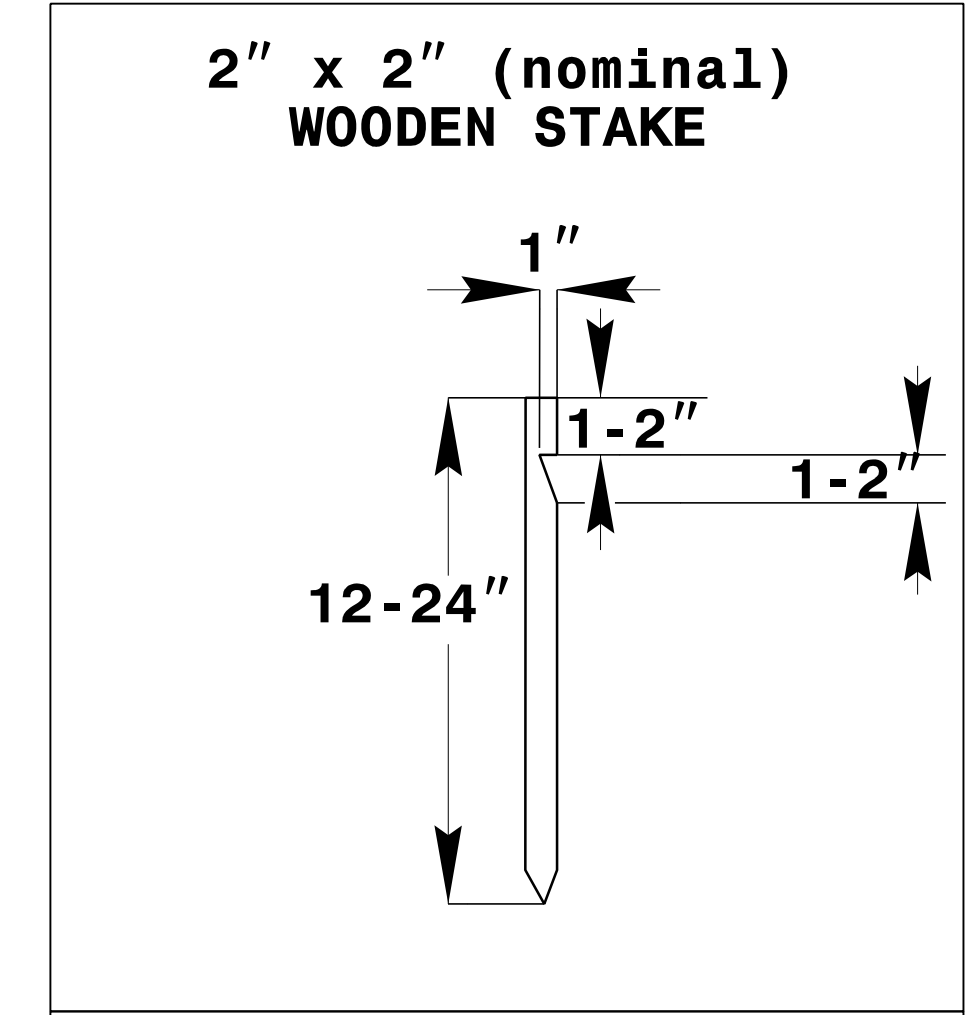
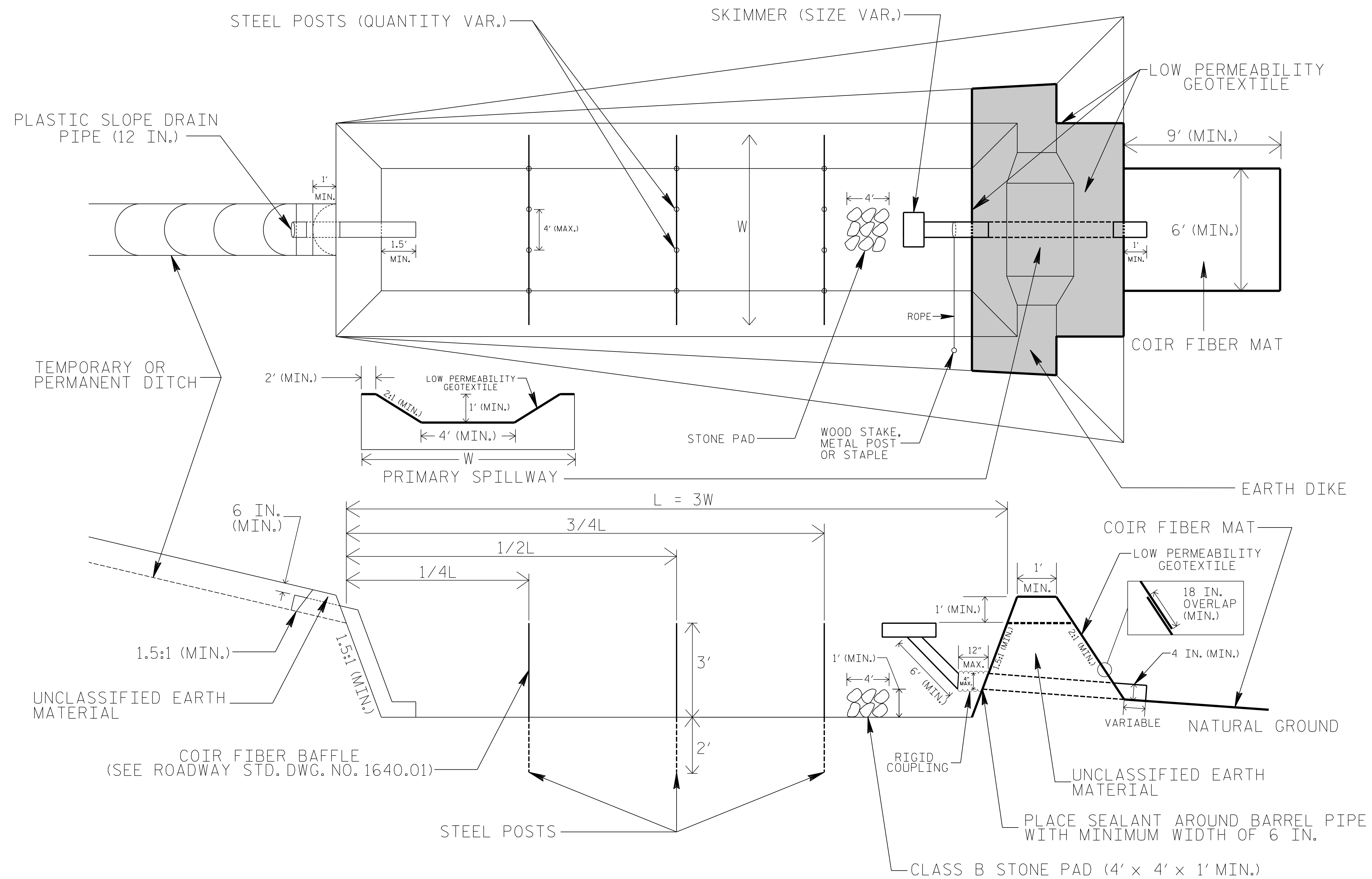
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE 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. W-55/B	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL (EAST)



COIR FIBER MAT ANCHOR OPTIONS

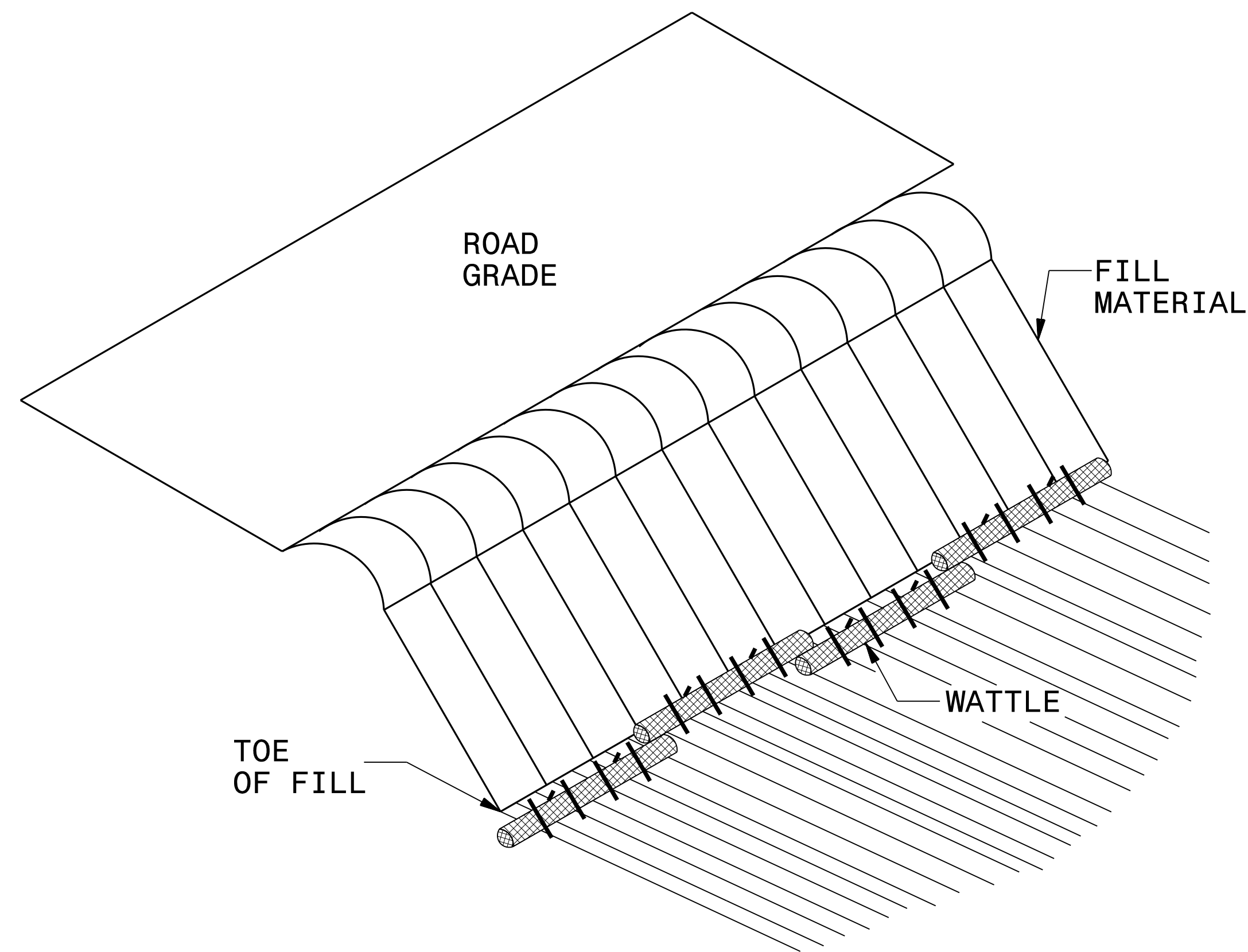
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING $Q/0.4$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

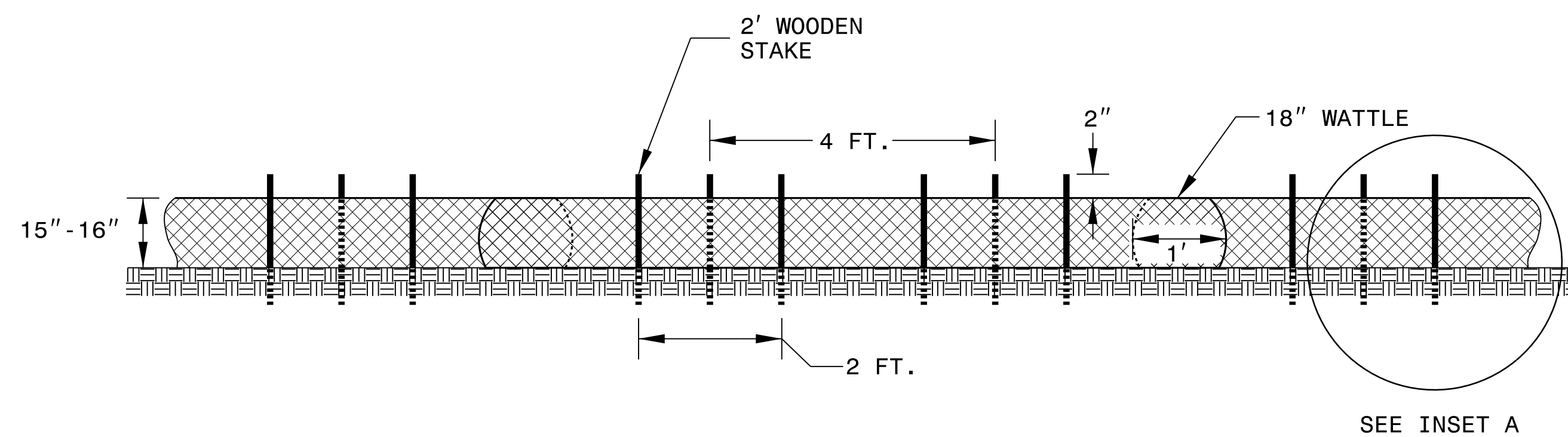
NOT TO SCALE

PROJECT REFERENCE NO. W-5518	SHEET NO. EG-20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE BARRIER DETAIL



ISOMETRIC VIEW



FRONT VIEW

NOTES:

USE MINIMUM 18 IN. NOMINAL DIAMETER EXCELSIOR 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.

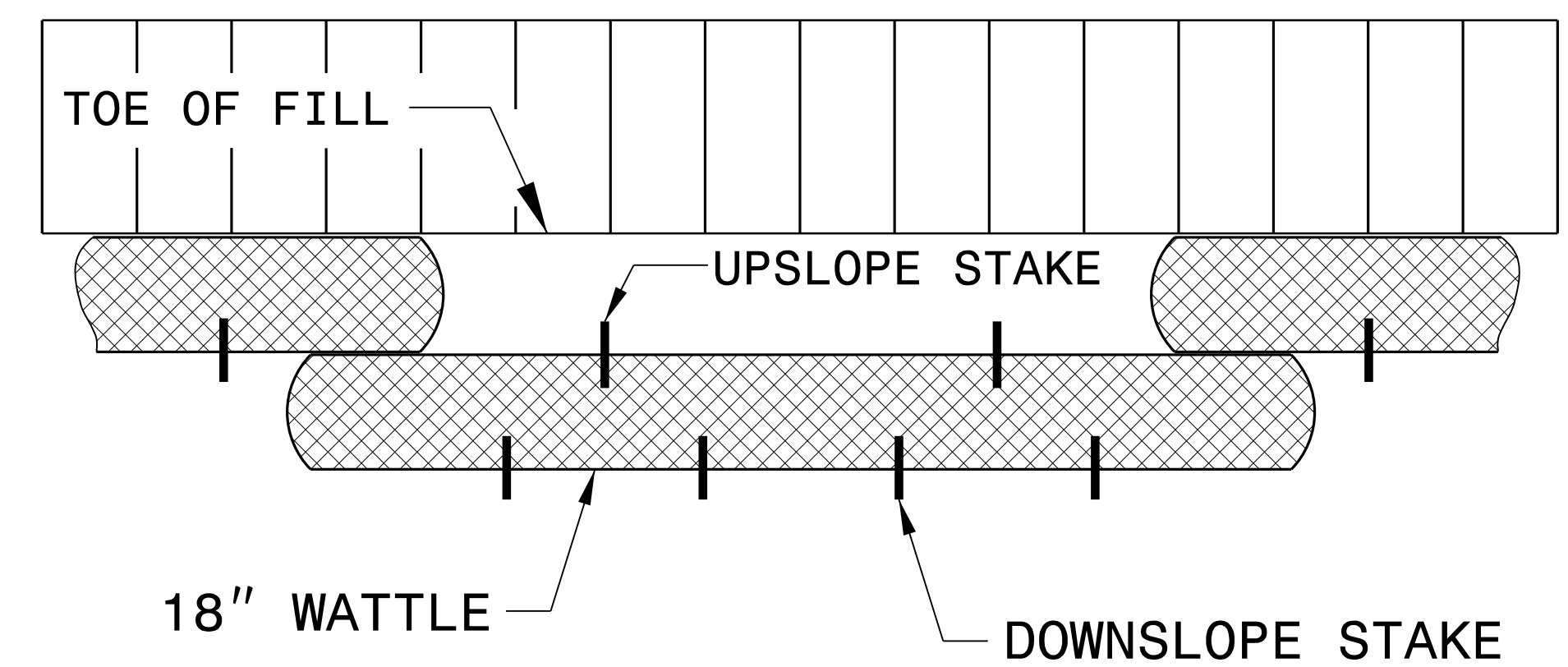
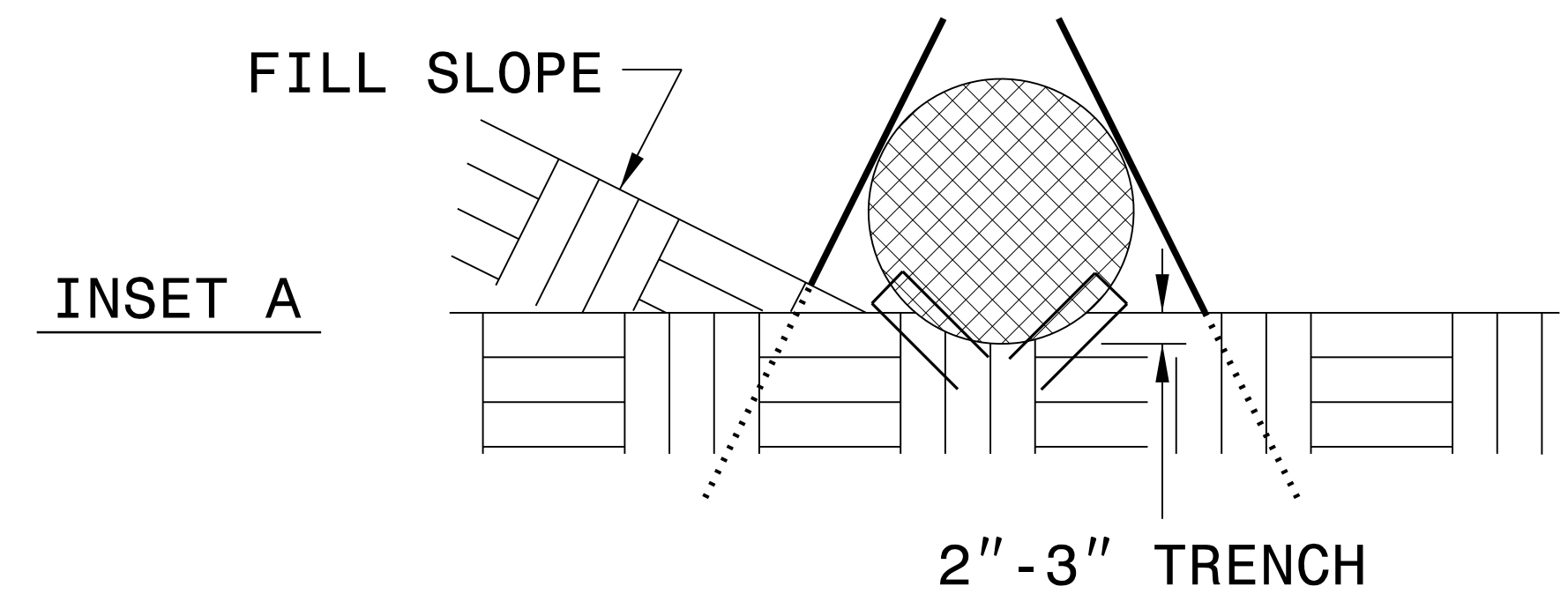
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>W-5518</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.

8/17/99

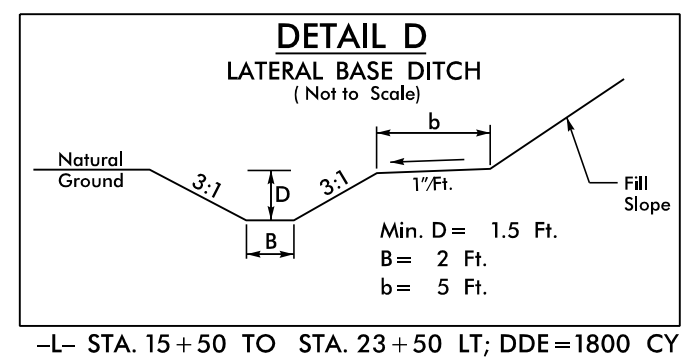
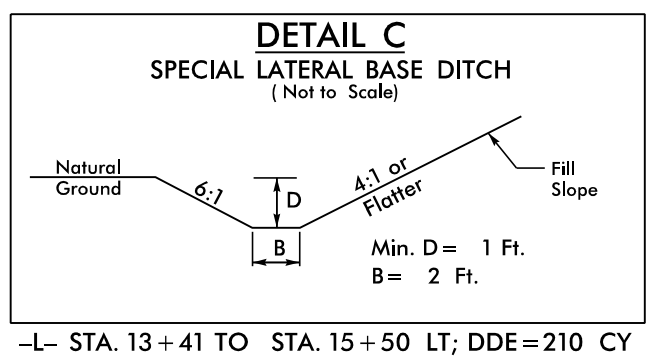
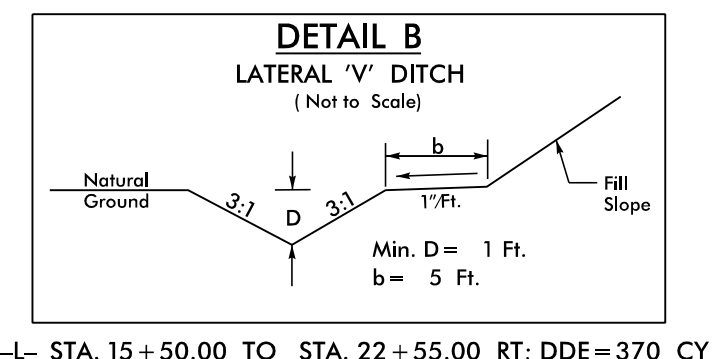
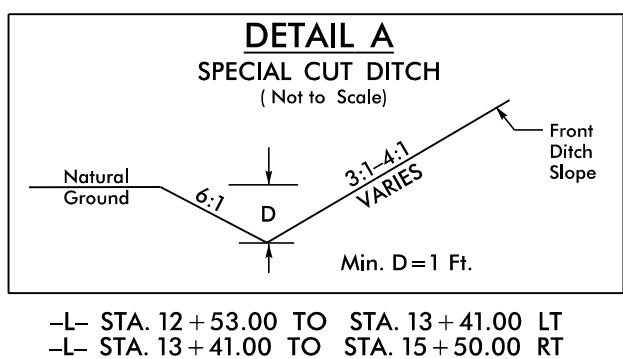
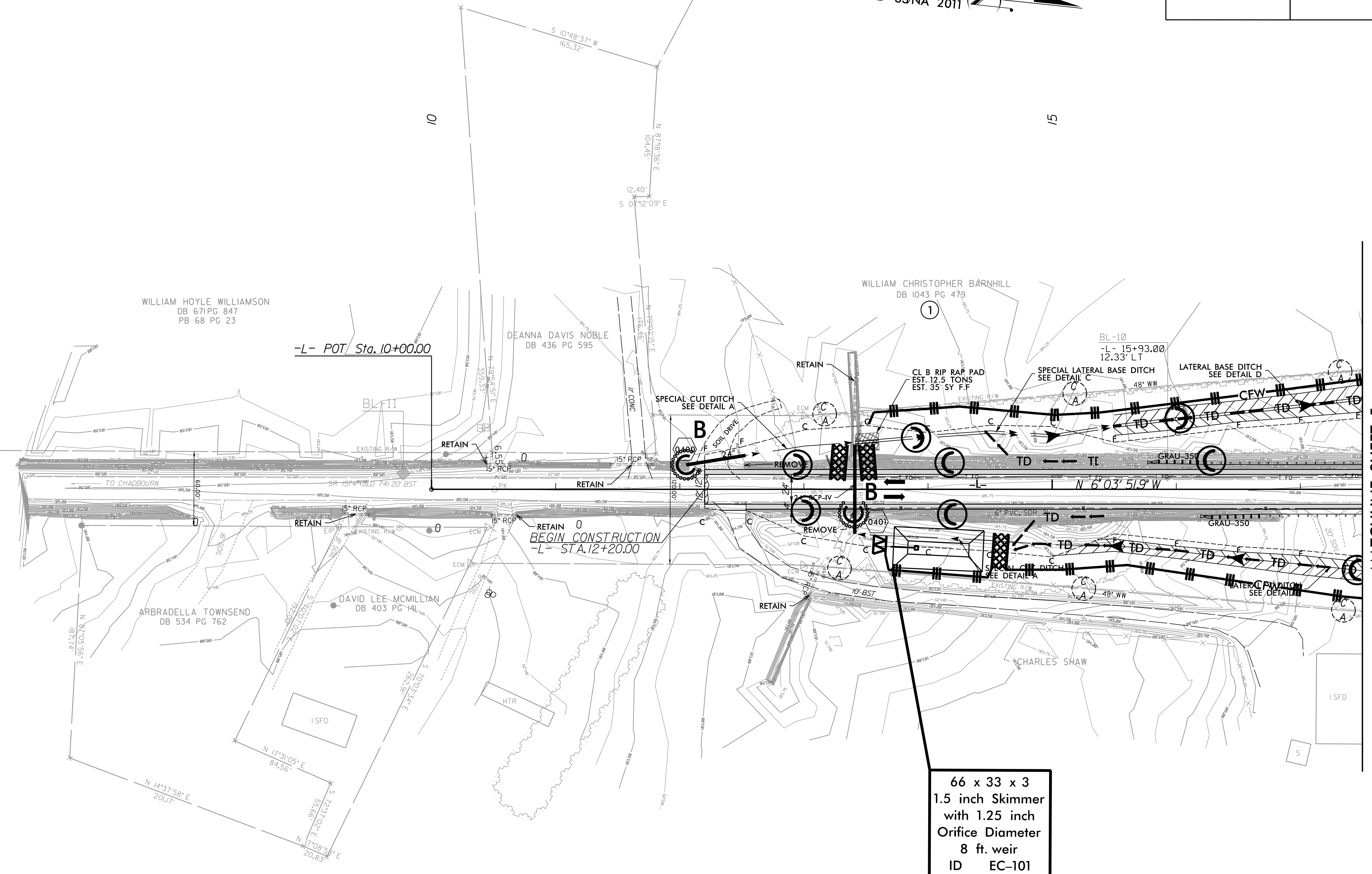
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

PROJECT REFERENCE NO.	SHEET NO.
W-5518	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



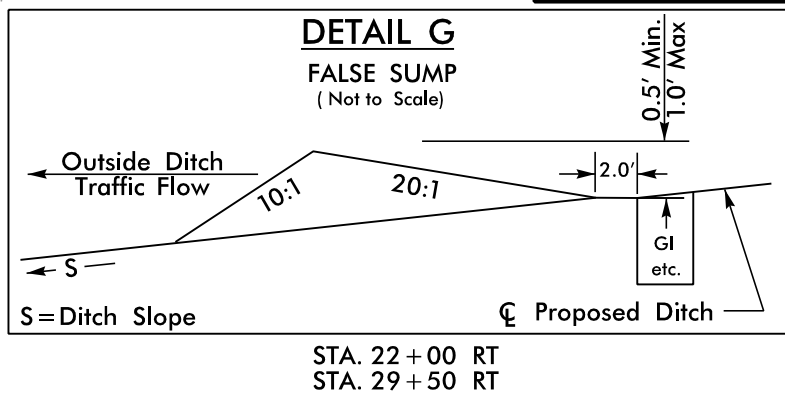
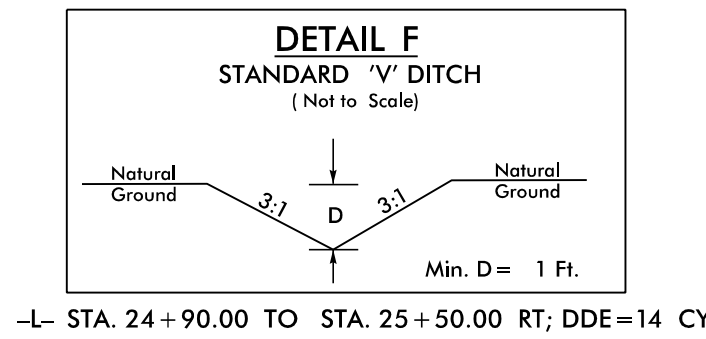
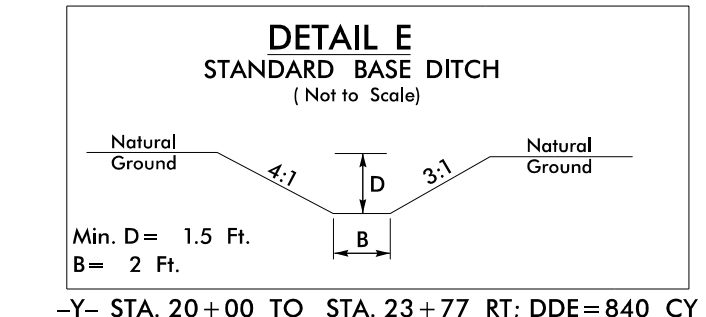
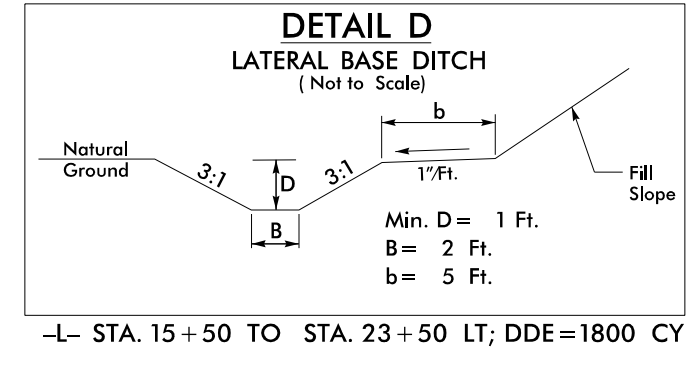
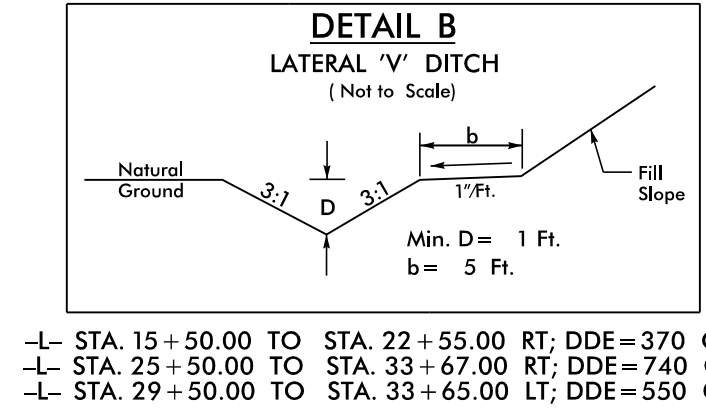
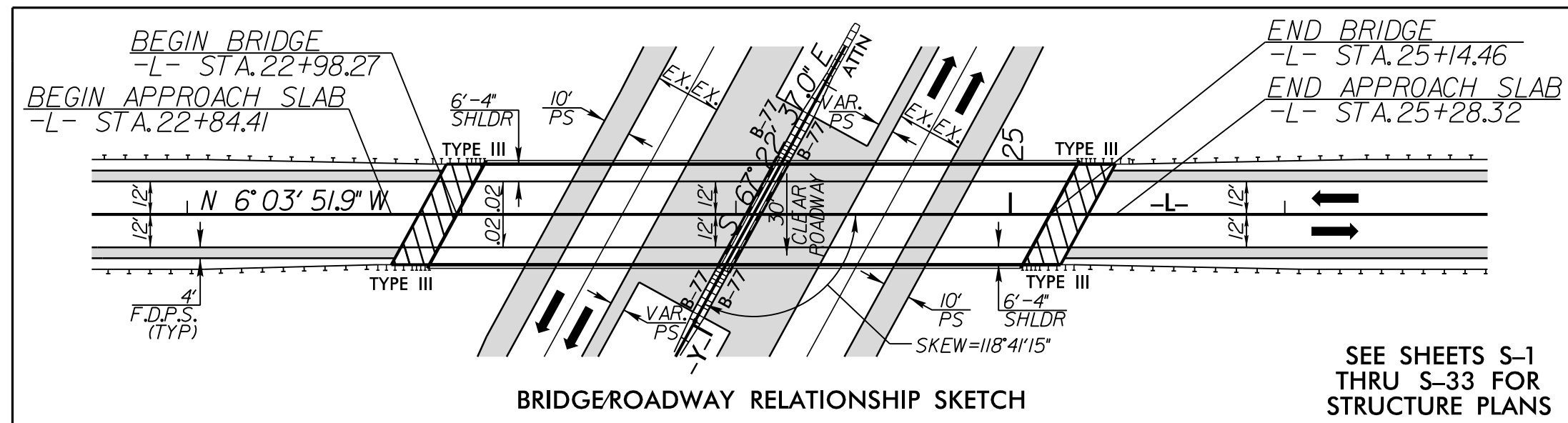
REVISIONS



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EJL

SEE SHEET 8 FOR -L- PROFILE

PROJECT REFERENCE NO. W-5518	SHEET NO. EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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

NOTE:
BEGIN DOUBLE FACED CABLE GUIDERAIL
-Y- STA. 13+24.90
END DOUBLE FACED CABLE GUIDERAIL
-Y- STA. 35+85.03

88 x 44 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
14 ft. weir
ID EC-100

44 x 22 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID EC-103

48 x 24 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID EC-102

MATCHLINE SHEET 4
-L- STA. 17 + 50.00

MATCHLINE SHEET 7
-Y- STA. 26 + 50.00

MATCHLINE SHEET 6
-L- STA. 31 + 50.00

REVISIONS

12/10/2015
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EJL

ALIECE H. JOHNSON
DB 832 PG 93
DB 451PG 285

SEE SHEET 8 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
W-5518	EC-06/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

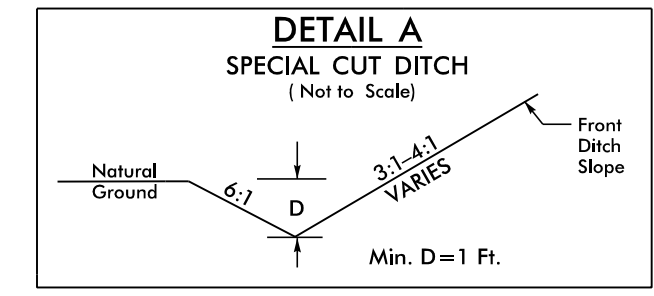
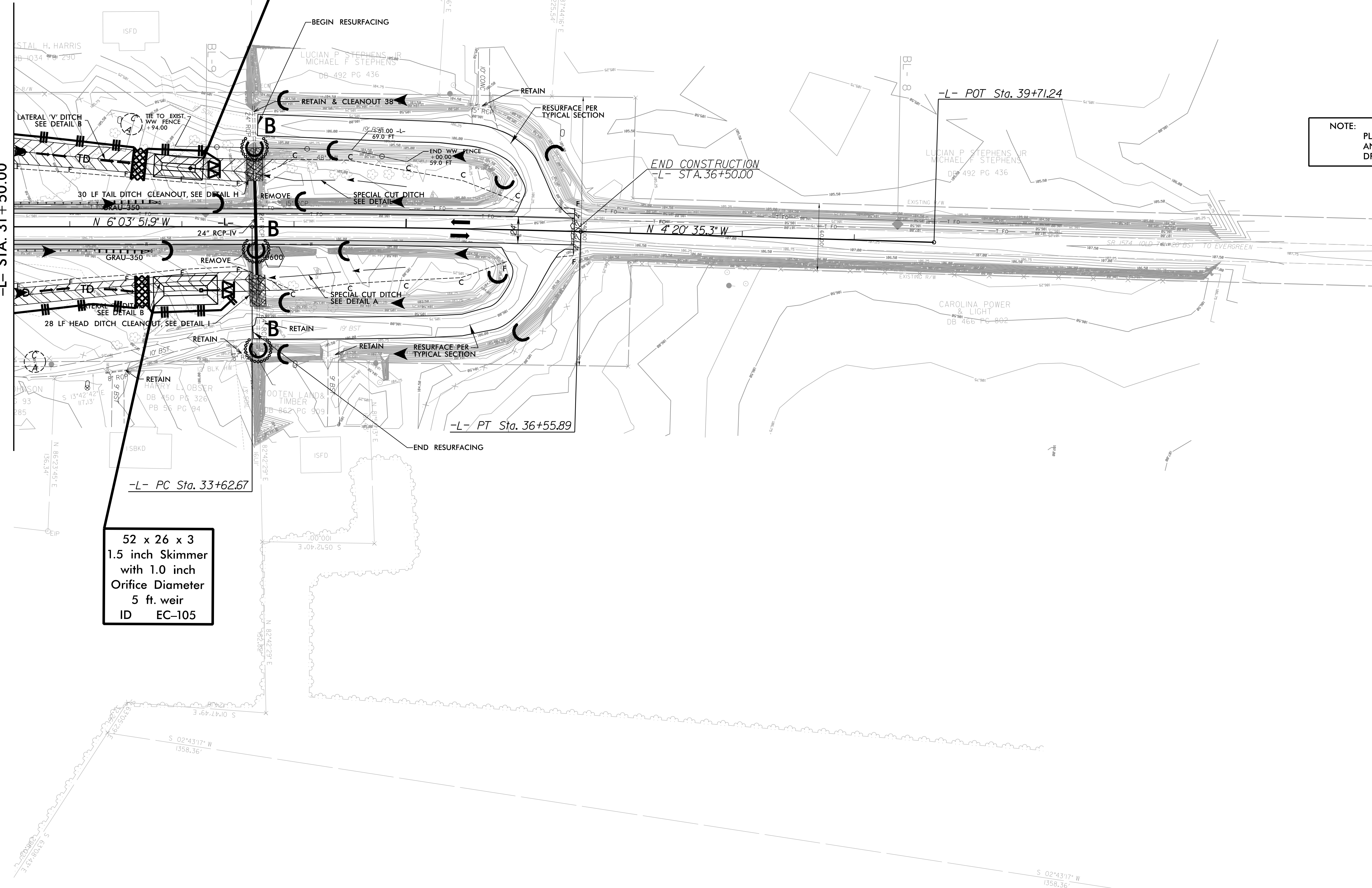
-L-
PI Sta. 35+09.29
 $\Delta = 1' 43' 16.7''$ (RT)
D = 0' 35' 13.4"
L = 293.21'
T = 146.62'
R = 9,760.00'
SUPER = NC
DS = 60MPH

40 x 20 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID EC-104

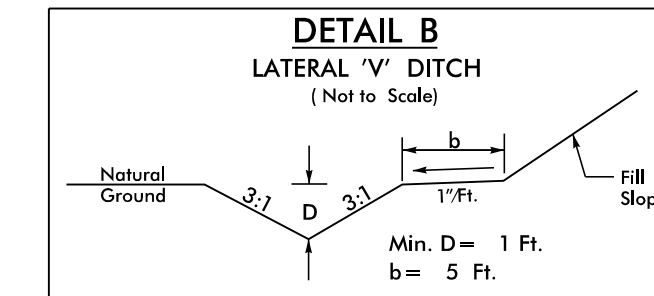
52 x 26 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID EC-105

MATCHLINE SHEET 5
-L- STA. 31 + 50.00

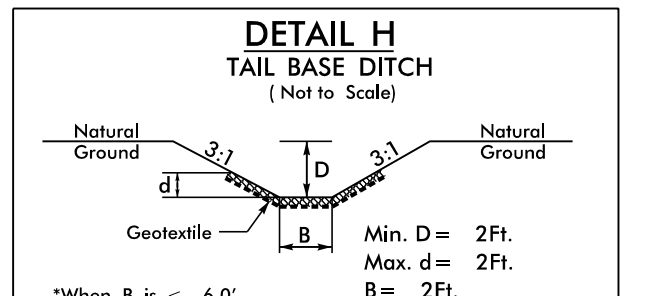
REVISIONS



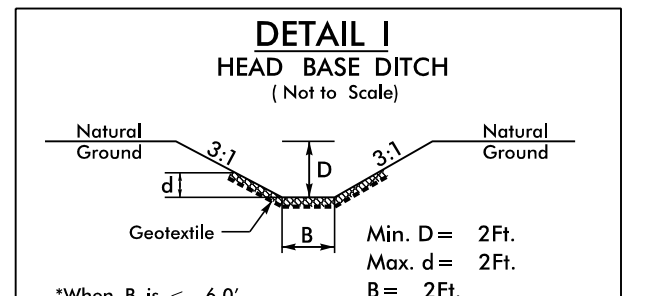
-L- STA. 33+65.00 TO STA. 35+00.00 LT
-L- STA. 33+67.00 TO STA. 35+00.00 RT



-L- STA. 25+50.00 TO STA. 33+67.00 RT; DDE=740 CY
-L- STA. 26+05.00 TO STA. 28+00.00 LT; DDE=150 CY
-L- STA. 29+50.00 TO STA. 33+65.00 LT; DDE=550 CY



*When B is < 6.0'
DDE=14 CY
Type of Liner=19 TON CLASS B Rip-Rap
Geotextile=53 SY
-L- STA. 33+65 LT



*When B is < 6.0'
DDE=13 CY
Type of Liner=17.5 TON CLASS B Rip-Rap
Geotextile=49 SY
-L- STA. 33+67 RT

SEE SHEET 8 FOR -L- PROFILE

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12/10/2015
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PROJECT REFERENCE NO.	SHEET NO.
W-5518	EC-07/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE SHEET 5
-Y- STA. 26+50.00

END CONSTRUCTION
-Y- STA. 33+00.00

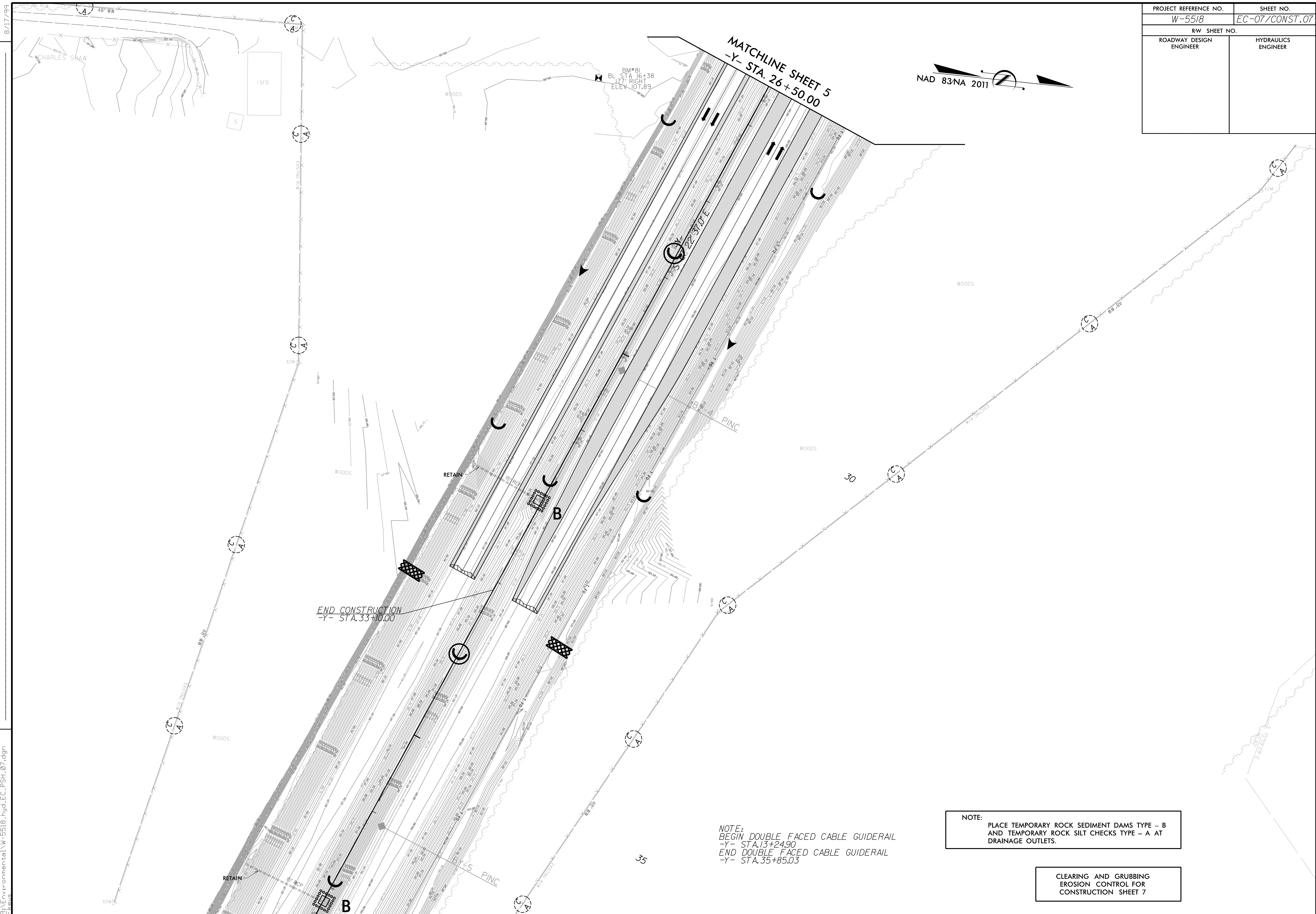
NOTE:
 BEGIN DOUBLE FACED CABLE GUIDERAIL
 -Y- STA. 13+24.90
 END DOUBLE FACED CABLE GUIDERAIL
 -Y- STA. 35+85.03

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

**CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 7**

REVISIONS

12/10/2015
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 ELEM

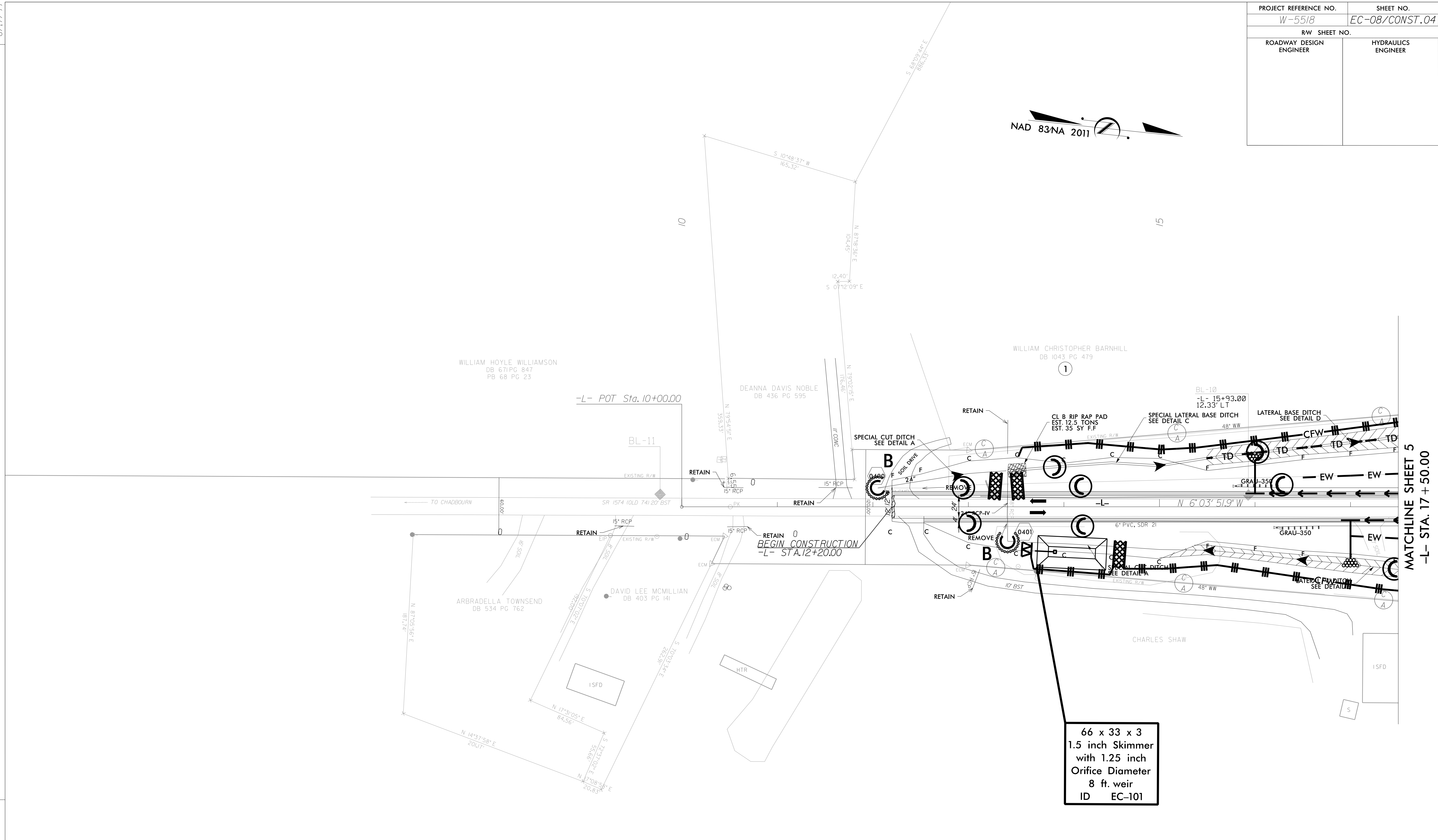


PROJECT REFERENCE NO. W-5518	SHEET NO. EC-08/CONST.04
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

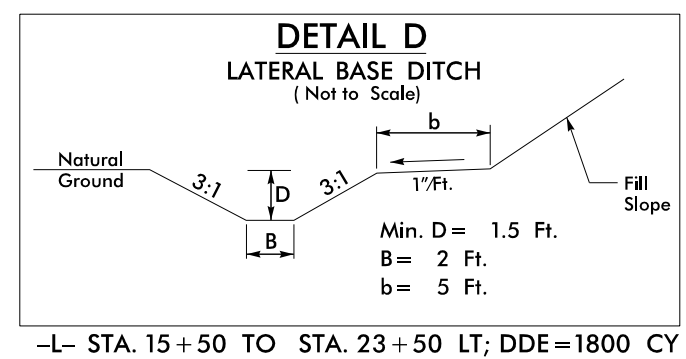
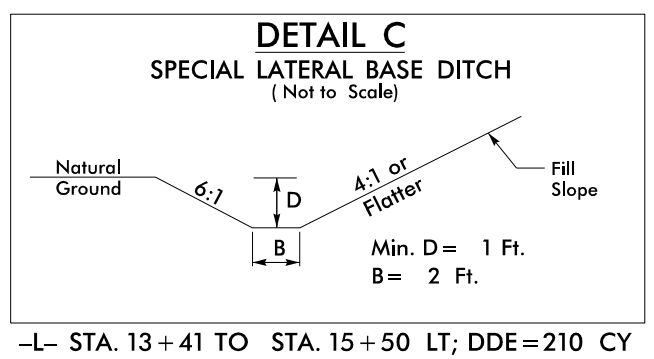
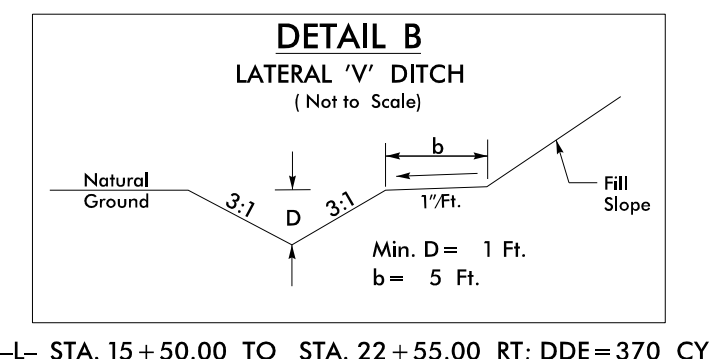
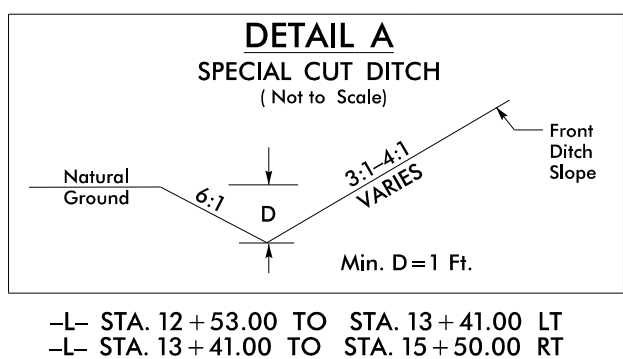


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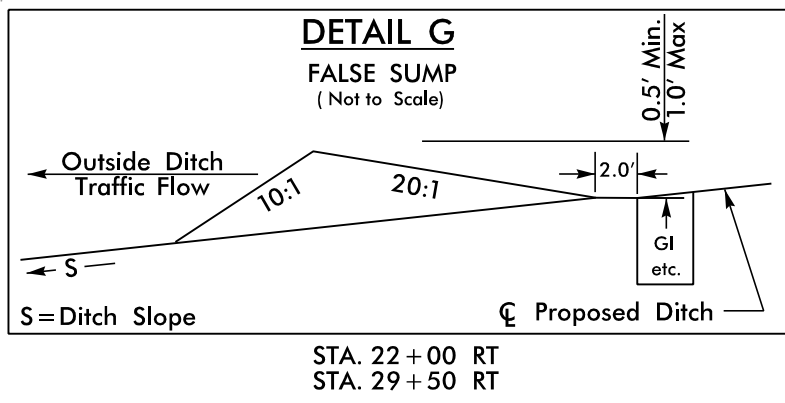
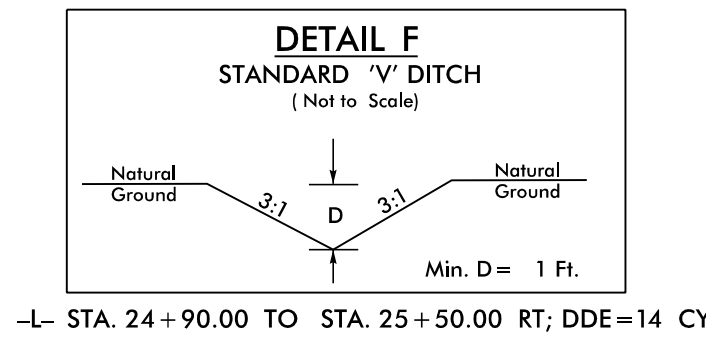
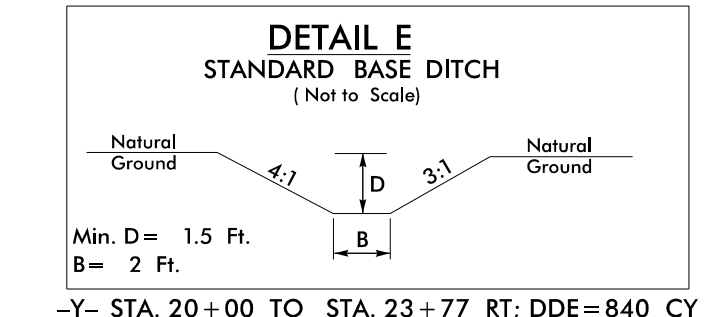
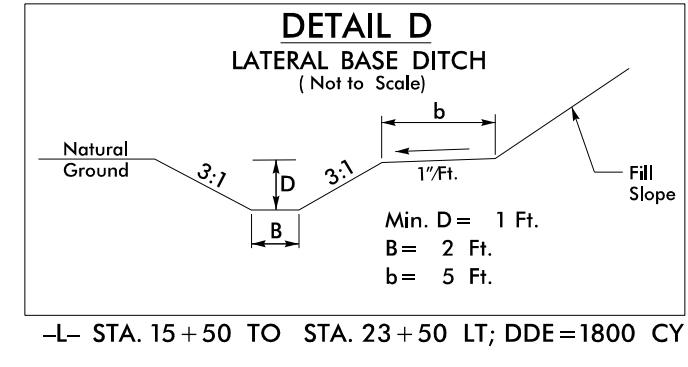
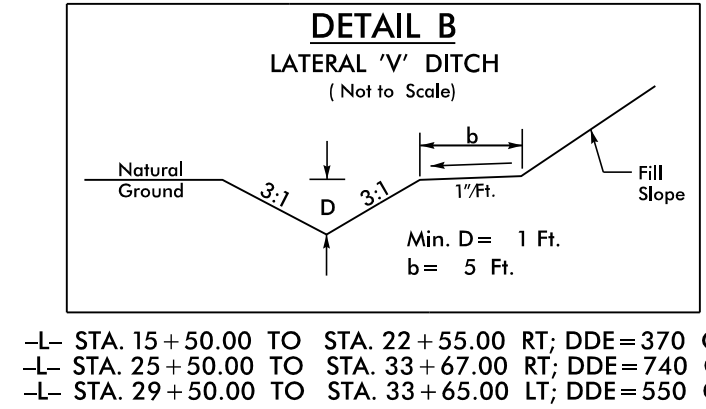
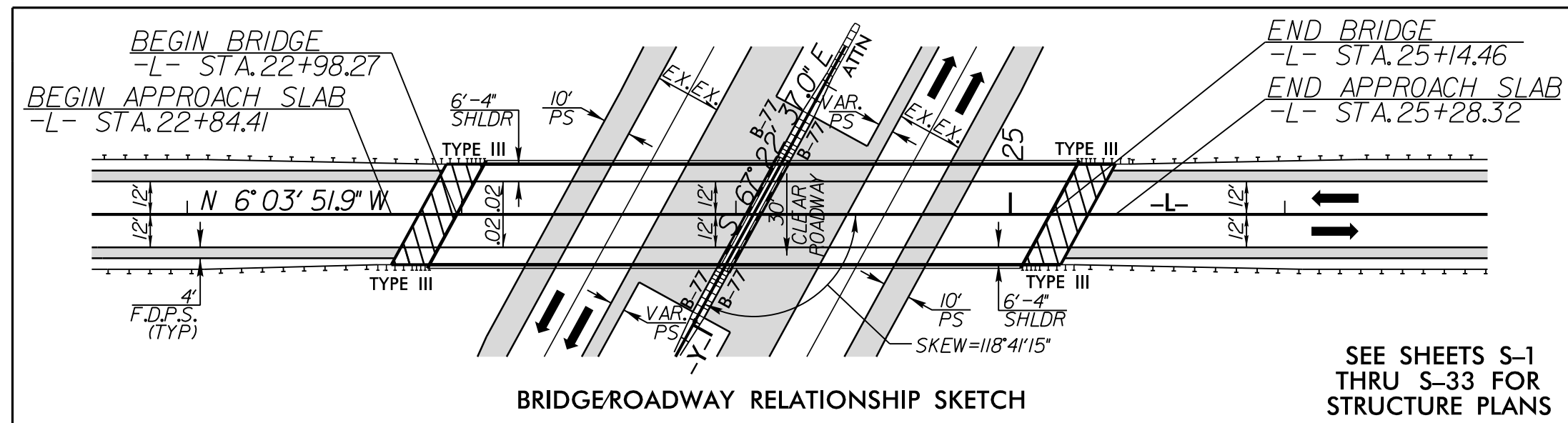
66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID EC-101



12/10/2015
K:\Environmental\W-5518_Hyd_EC_PSH_08.dgn
E.Keys

SEE SHEET 8 FOR -L- PROFILE

PROJECT REFERENCE NO. W-5518	SHEET NO. EC-09/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SEE SHEETS S-1 THRU S-33 FOR STRUCTURE PLANS

NOTE:
BEGIN DOUBLE FACED CABLE GUIDERAIL
-Y- STA. 13+24.90
END DOUBLE FACED CABLE GUIDERAIL
-Y- STA. 35+85.03

88 x 44 x 3
2 inch Skimmer
with 1.25 inch
Orifice Diameter
14 ft. weir
ID EC-100

44 x 22 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID EC-103

48 x 24 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID EC-102

MATCHLINE SHEET 4
-L- STA. 17 + 50.00

MATCHLINE SHEET 6
-L- STA. 31 + 50.00

MATCHLINE SHEET 7
-Y- STA. 26 + 50.00

SEE SHEET 8 FOR -L- PROFILE

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Environmental\W-5518_hyd_EC_PSH_09.dgn

ALIECE H. JOHNSON
DB 832 PG 93
DB 451 PG 285

PROJECT REFERENCE NO.	SHEET NO.
W-5518	EC-10/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



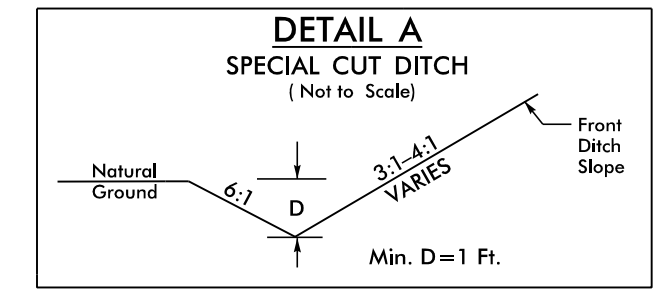
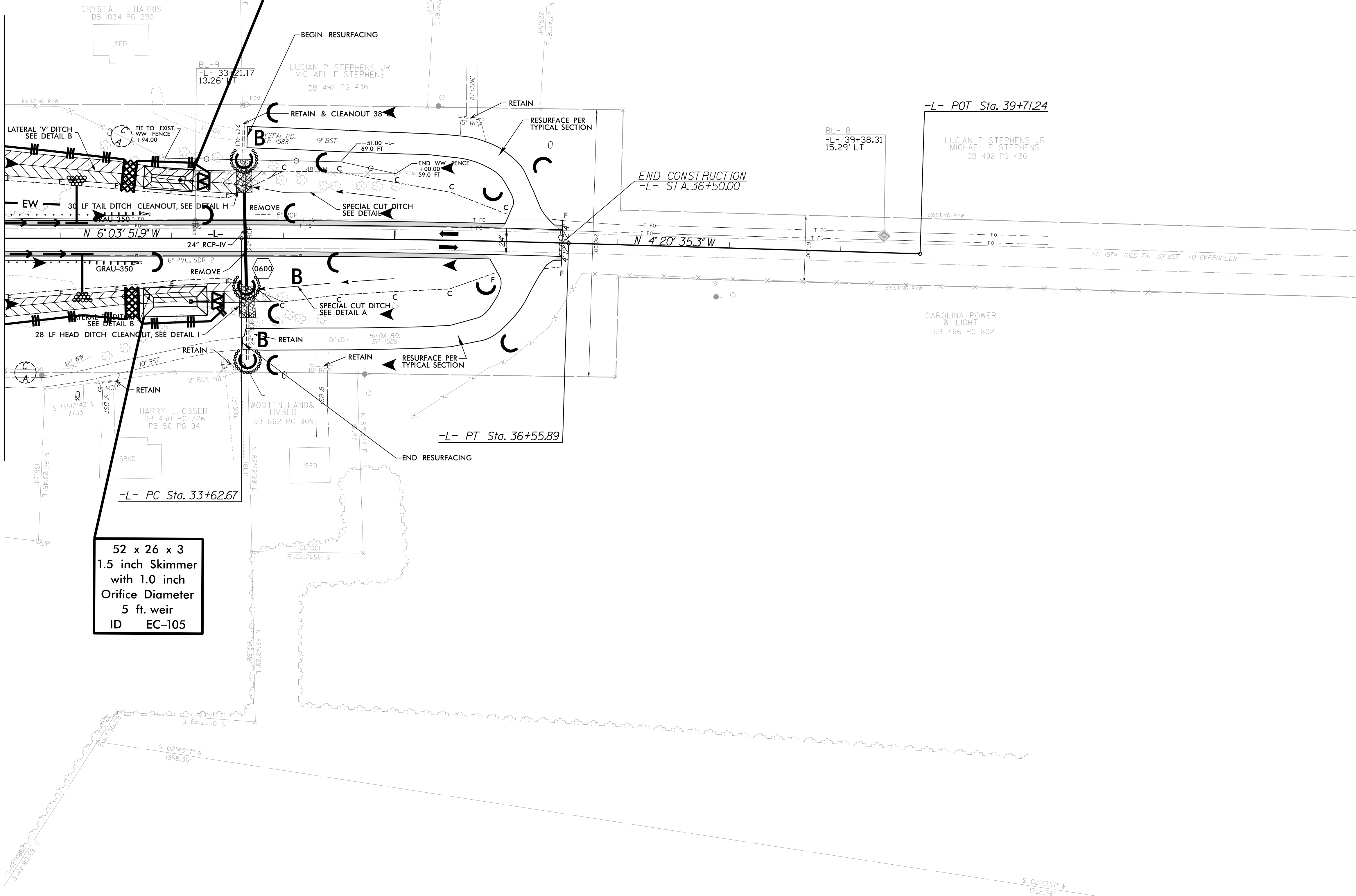
-L-
 PI Sta. 35+09.29
 $\Delta = 1' 43' 16.7''$ (RT)
 $D = 0' 35' 13.4''$
 $L = 293.21'$
 $T = 146.62'$
 $R = 9,760.00'$
 SUPER = NC
 DS = 60MPH

40 x 20 x 3
 1.5 inch Skimmer
 with 0.75 inch
 Orifice Diameter
 4 ft. weir
 ID EC-104

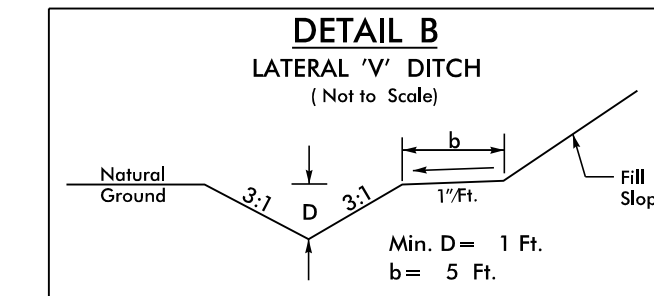
52 x 26 x 3
 1.5 inch Skimmer
 with 1.0 inch
 Orifice Diameter
 5 ft. weir
 ID EC-105

MATCHLINE SHEET 5
 -L- STA. 31 + 50.00

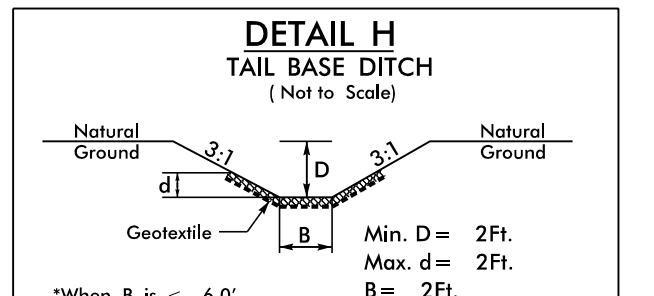
REVISIONS



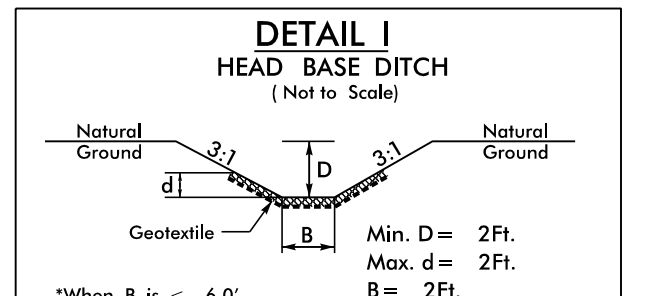
-L- STA. 33+65.00 TO STA. 35+00.00 LT
 -L- STA. 33+67.00 TO STA. 35+00.00 RT



-L- STA. 25+50.00 TO STA. 33+67.00 RT; DDE=740 CY
 -L- STA. 26+05.00 TO STA. 28+00.00 LT; DDE=150 CY
 -L- STA. 29+50.00 TO STA. 33+65.00 LT; DDE=550 CY



-L- STA. 33+65 LT
 *When B is < 6.0'
 DDE=14 CY
 Type of Liner=19 TON CLASS B Rip-Rap
 Geotextile=53 SY



-L- STA. 33+67 RT
 *When B is < 6.0'
 DDE=13 CY
 Type of Liner=17.5 TON CLASS B Rip-Rap
 Geotextile=49 SY

SEE SHEET 8 FOR -L- PROFILE

8/17/99
 12/10/2015
 R:\Environmental\W-5518_hyd_EC_PSH.10.dgn
 E:\Users\jphillips\My Documents\Projects\W-5518_hyd_EC_PSH.10.dgn

