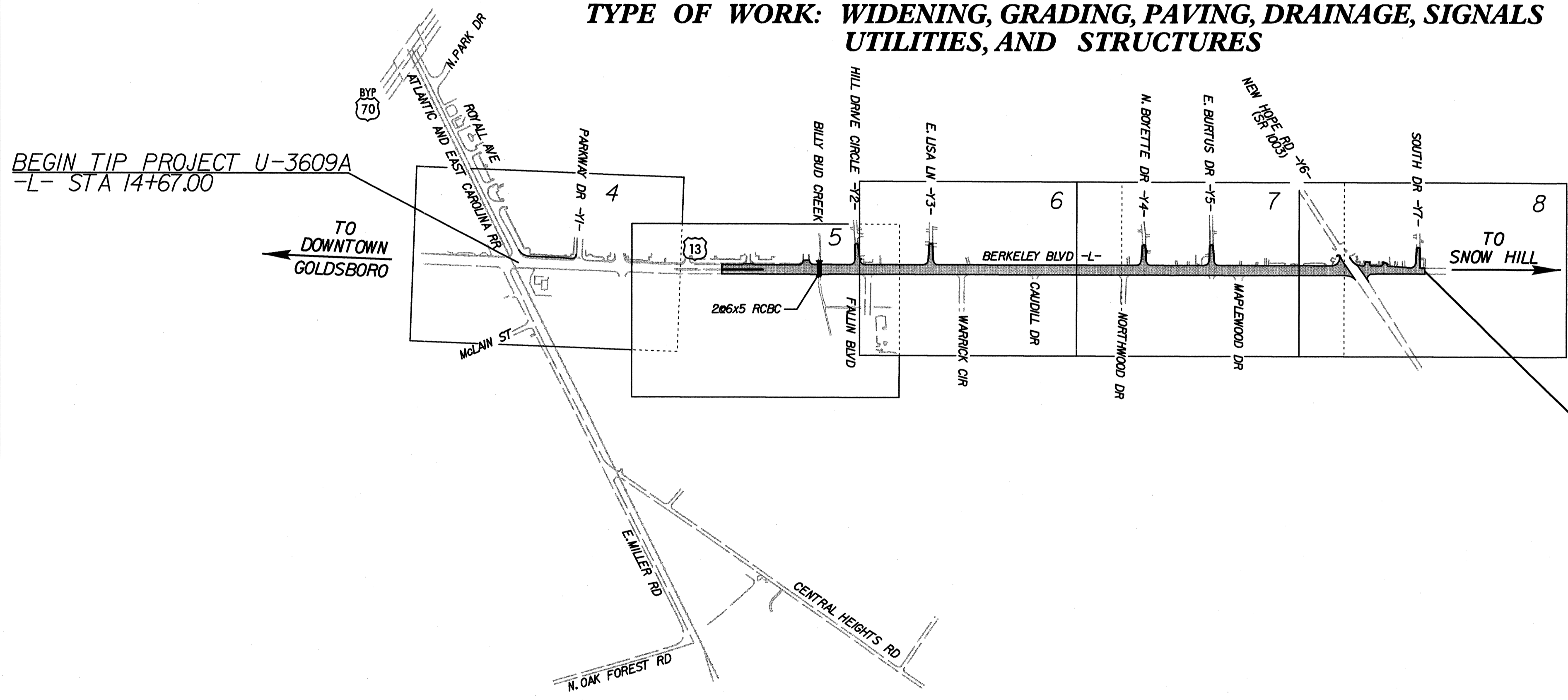


**TIP PROJECT: U-3609A**

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

**LOCATION: US 13 (BERKELEY BOULEVARD) FROM ROYALL AVENUE  
 TO SOUTH DRIVE**  
**TYPE OF WORK: WIDENING, GRADING, PAVING, DRAINAGE, SIGNALS  
 UTILITIES, AND STRUCTURES**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3609A	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

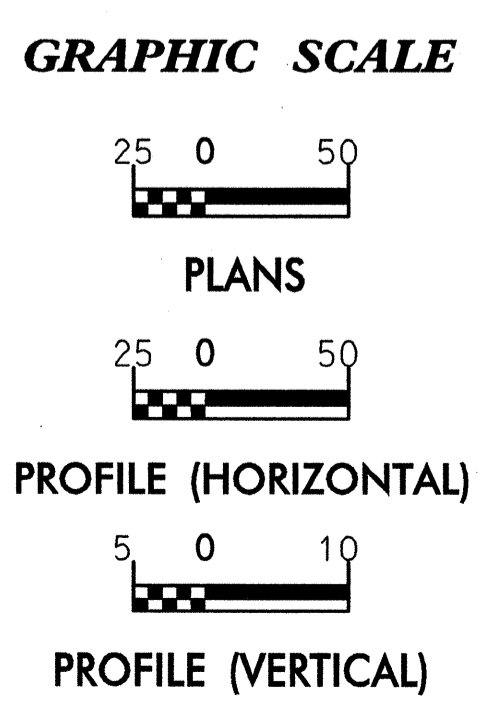
**EROSION AND SEDIMENT CONTROL MEASURES**

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

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

**THIS PROJECT HAS  
 BEEN DESIGNED TO  
 SENSITIVE WATERSHED  
 STANDARDS.**

**ENVIRONMENTALLY  
 SENSITIVE AREA(S) EXIST  
 ON THIS PROJECT**  
*Refer To E. C. Special Provisions  
 for Special Considerations.*



ROADSIDE ENVIRONMENTAL UNIT  
 DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

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.

PLANS PREPARED FOR  
 THE NCDOT BY:

Kimley-Horn  
 and Associates,  
Post Office Box 33068  
 Raleigh, North Carolina 27635  
 PE NO. 1-0102

**2012 STANDARD SPECIFICATIONS**

Roadway Standard Drawings

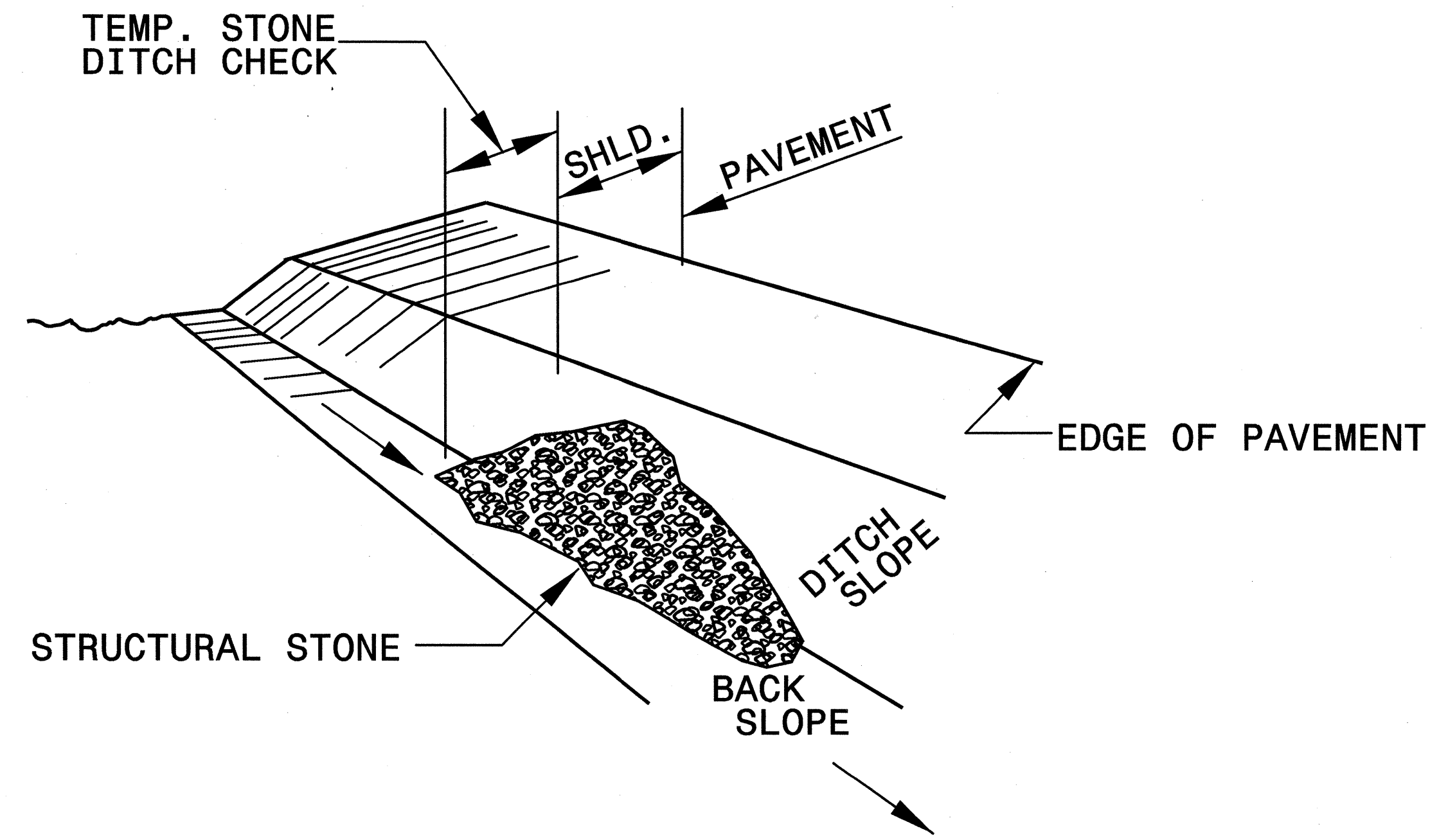
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.03 Rock Inlet Sediment Trap Type C
1606.01 Special Sediment Control Fence	1633.01 Temporary Rock Silt Check Type A
1607.01 Gravel Construction Entrance	1633.02 Temporary Rock Silt Check Type B
1622.01 Temporary Slope Drain	1640.01 Coir Fiber Baffle
1630.03 Temporary Silt Ditch	
1630.05 Temporary Diversion	
1630.06 Special Stilling Basin	
1631.01 Matting Installation	

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PROJECT REFERENCE NO. U-3609A	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	1-18-13

# TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

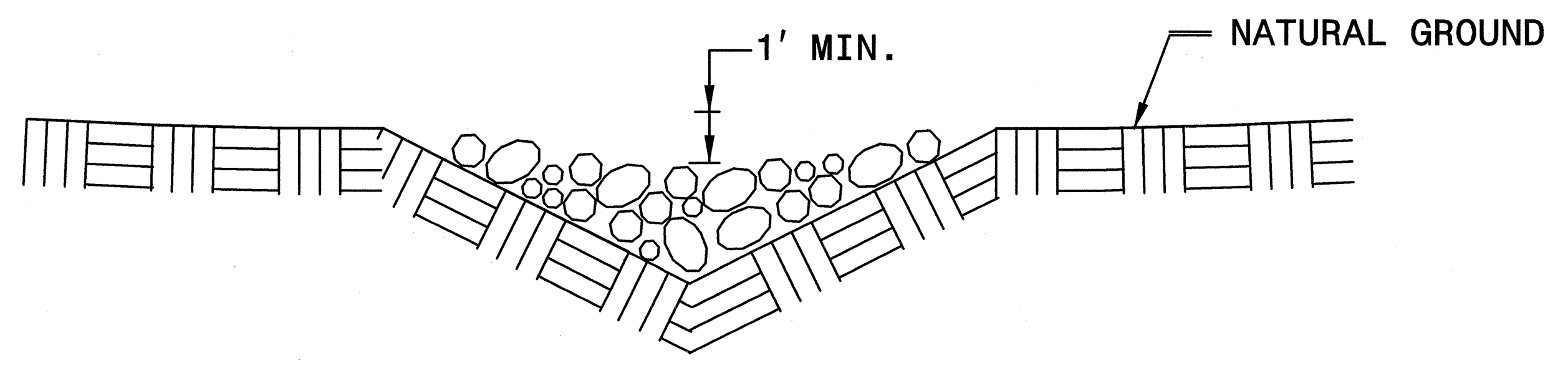


**ISOMETRIC VIEW**

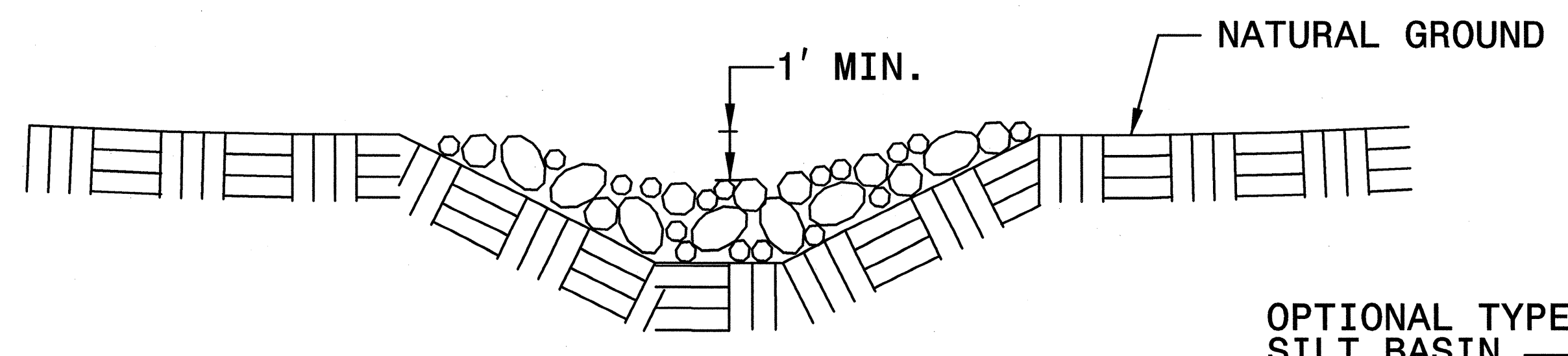
**NOTES:**

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

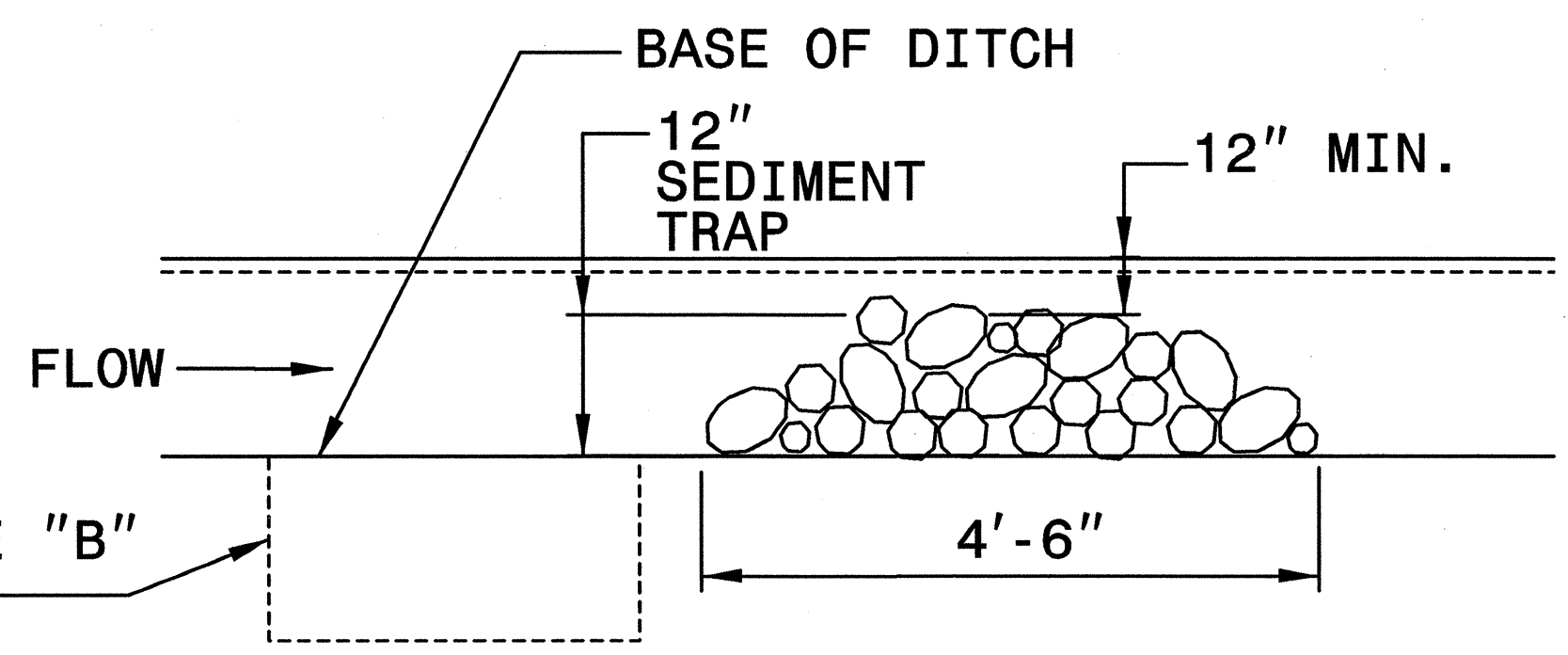
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION  
VEE DITCH**

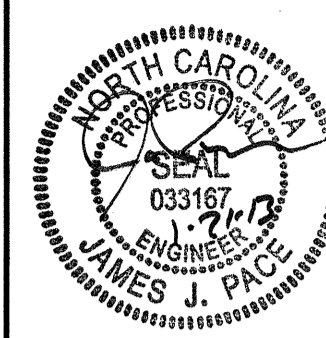



**CROSS SECTION  
TRAPEZOIDAL DITCH**

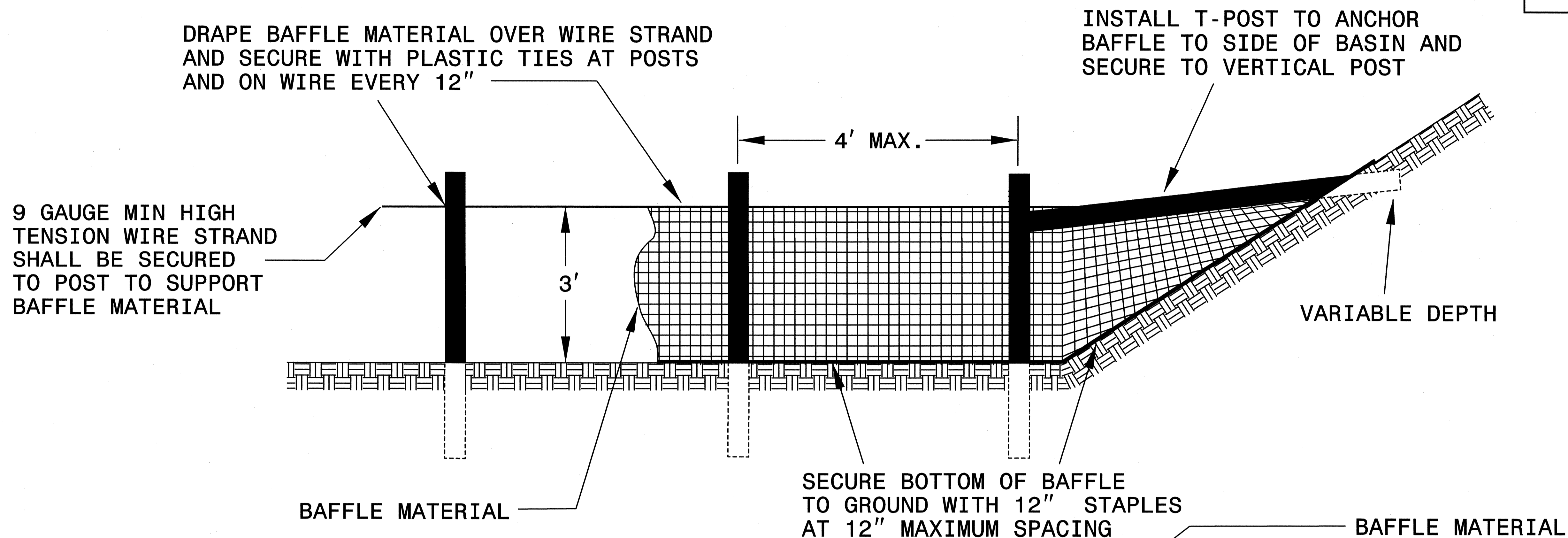


**ELEVATION VIEW**

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PROJECT REFERENCE NO. U-3609A	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

# COIR FIBER BAFFLE DETAIL

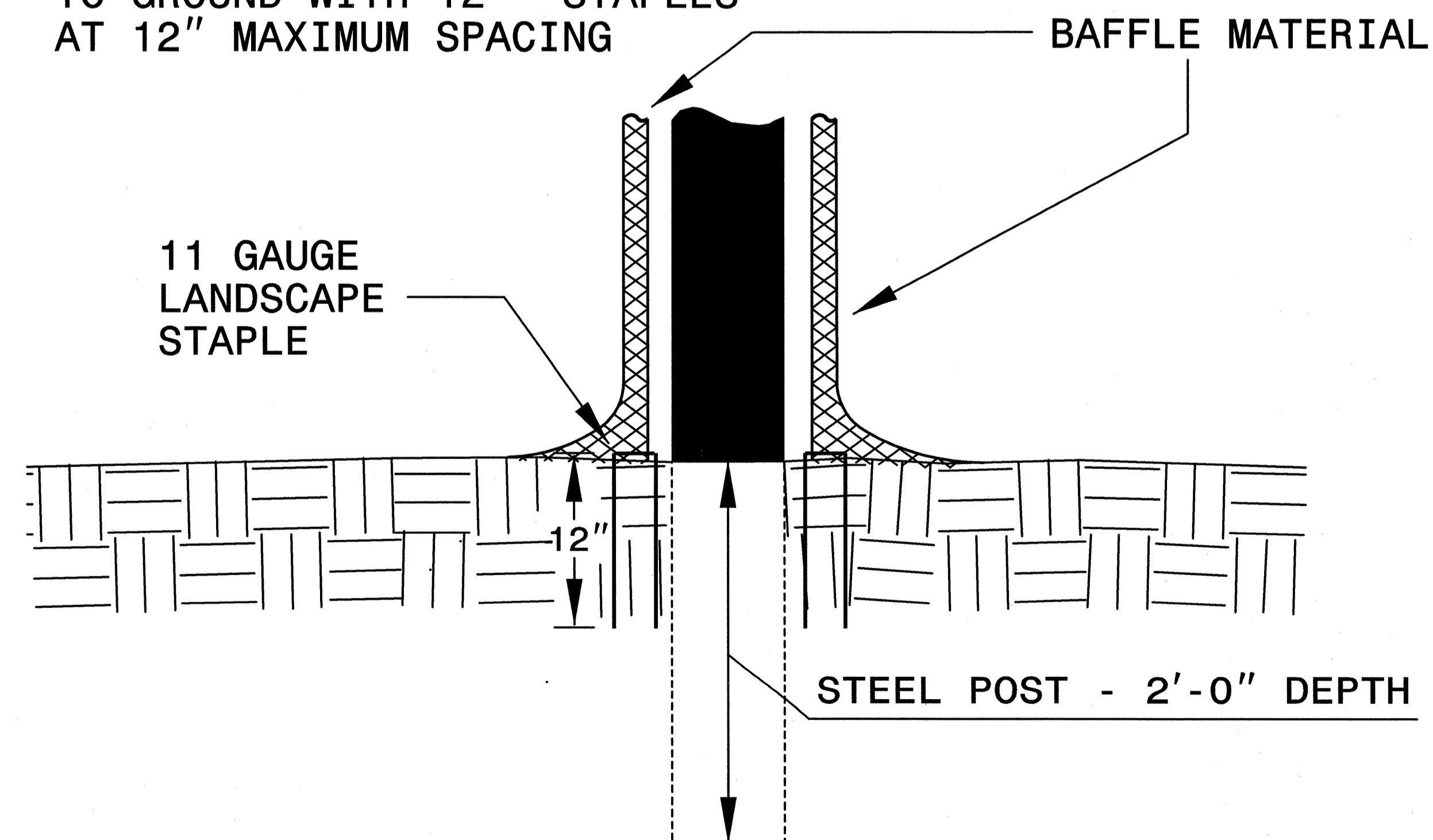


## NOTES:

1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF  $\frac{1}{4}$  THE BASIN LENGTH.

2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF  $\frac{1}{3}$  THE BASIN LENGTH.

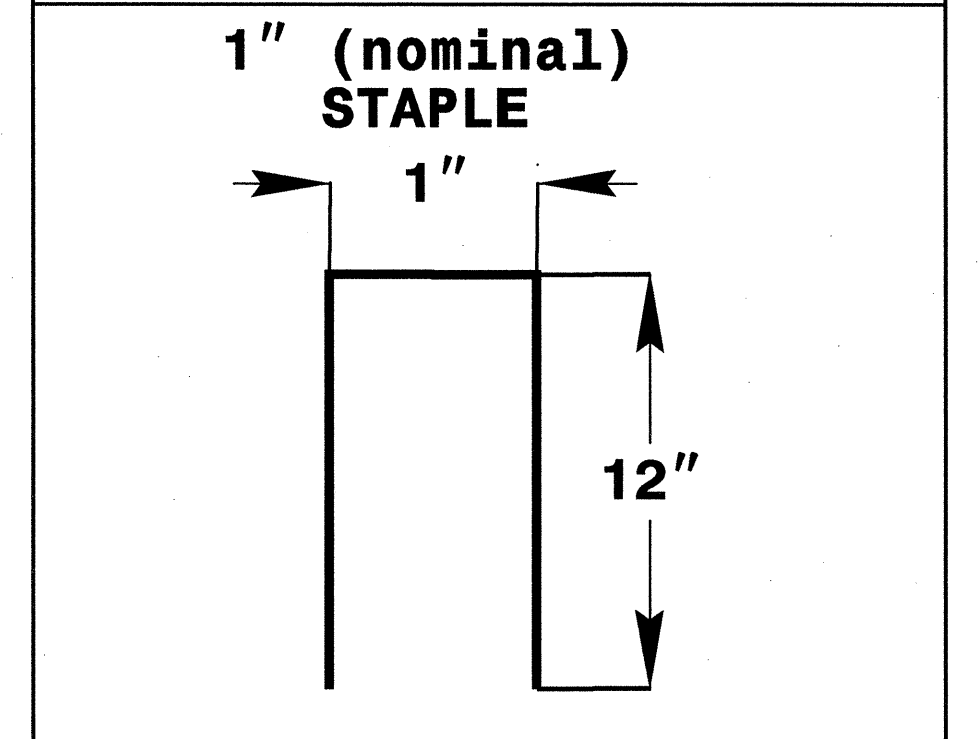
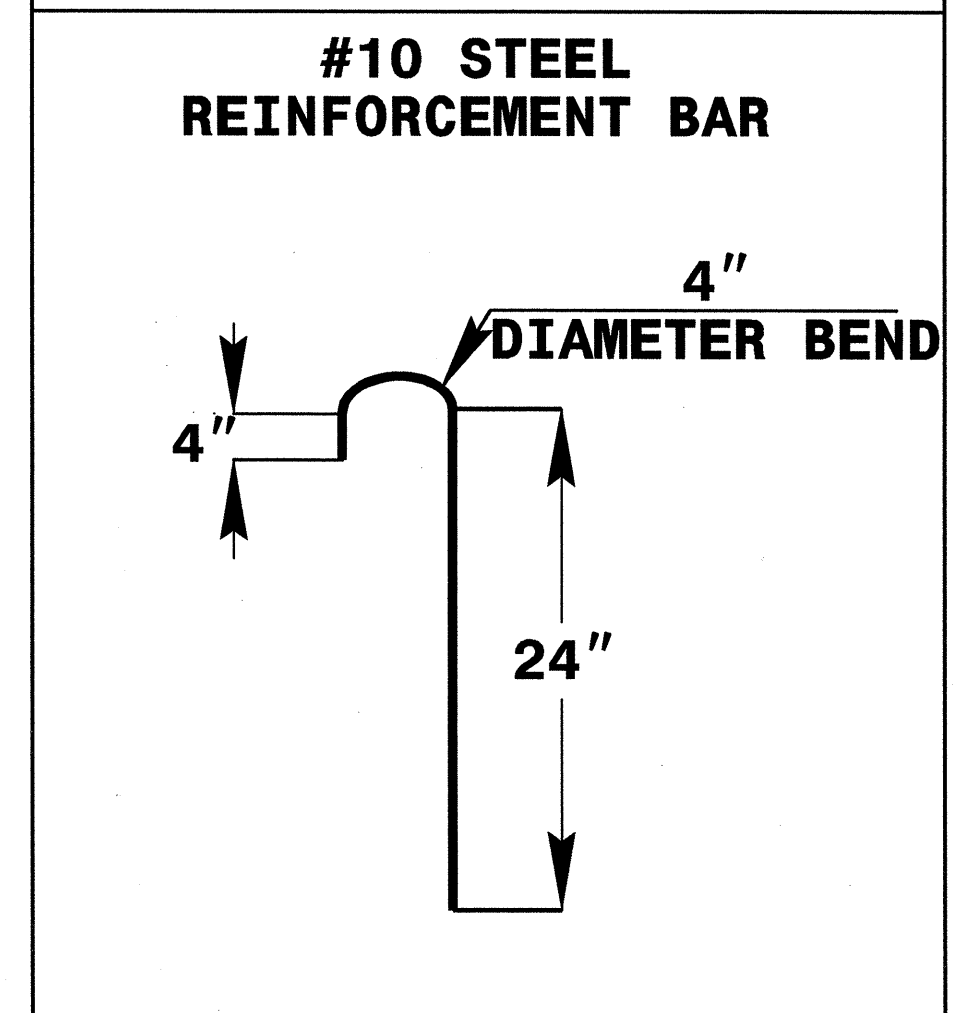
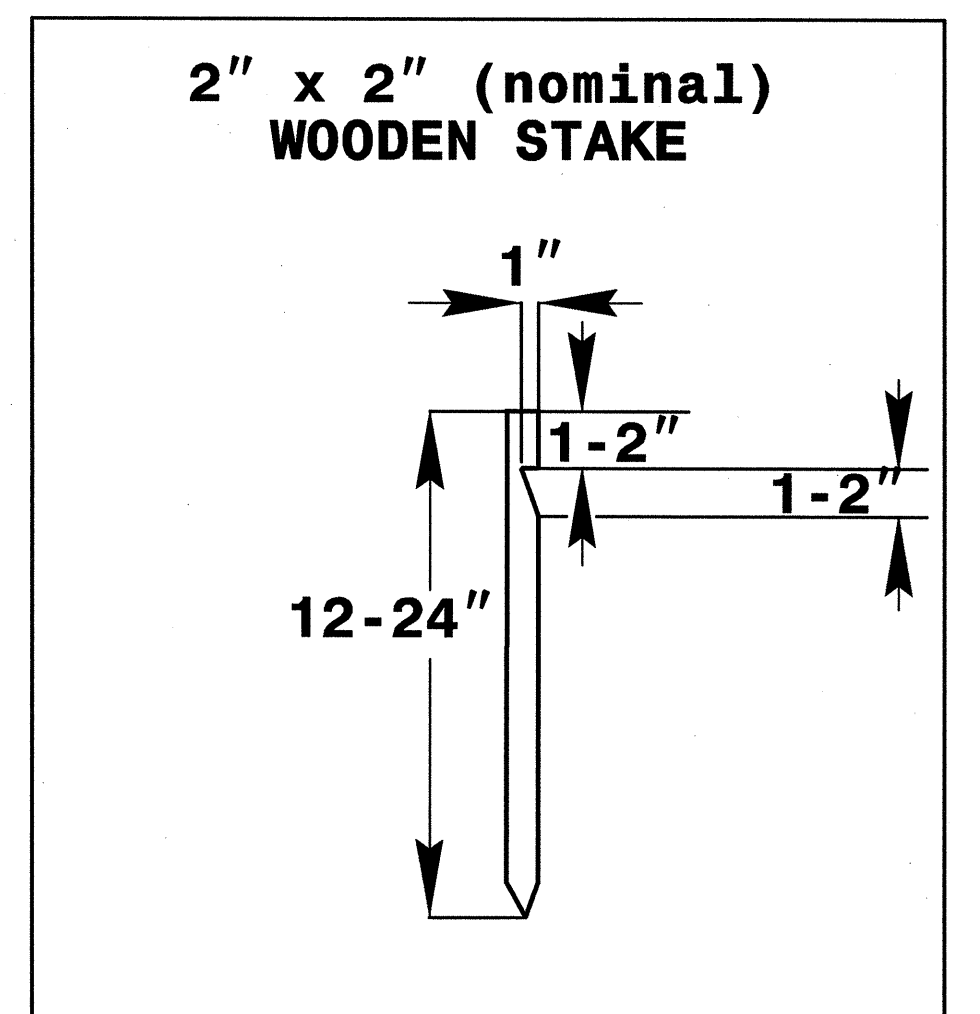
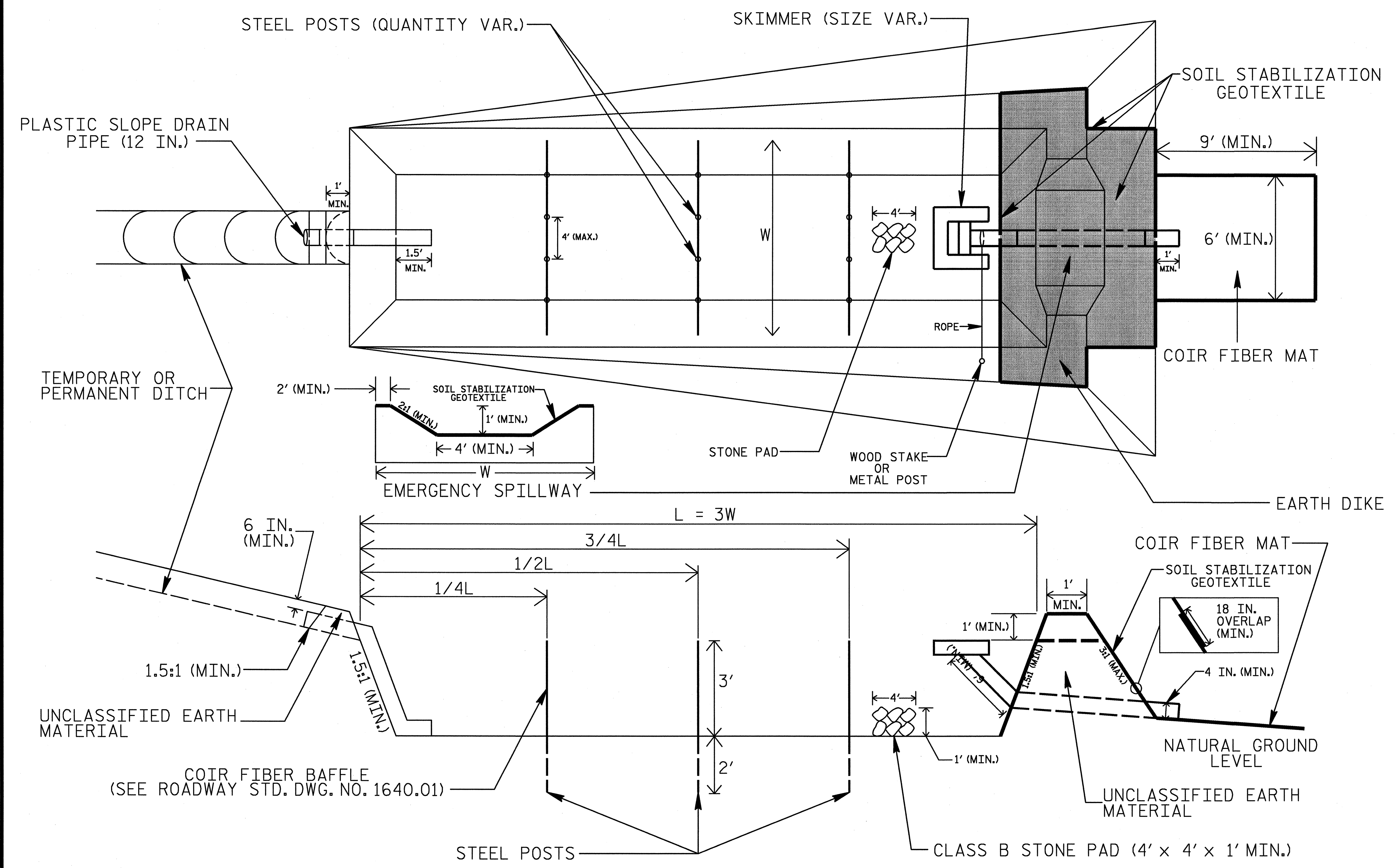
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.



BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES



# SKIMMER BASIN WITH BAFFLES DETAIL



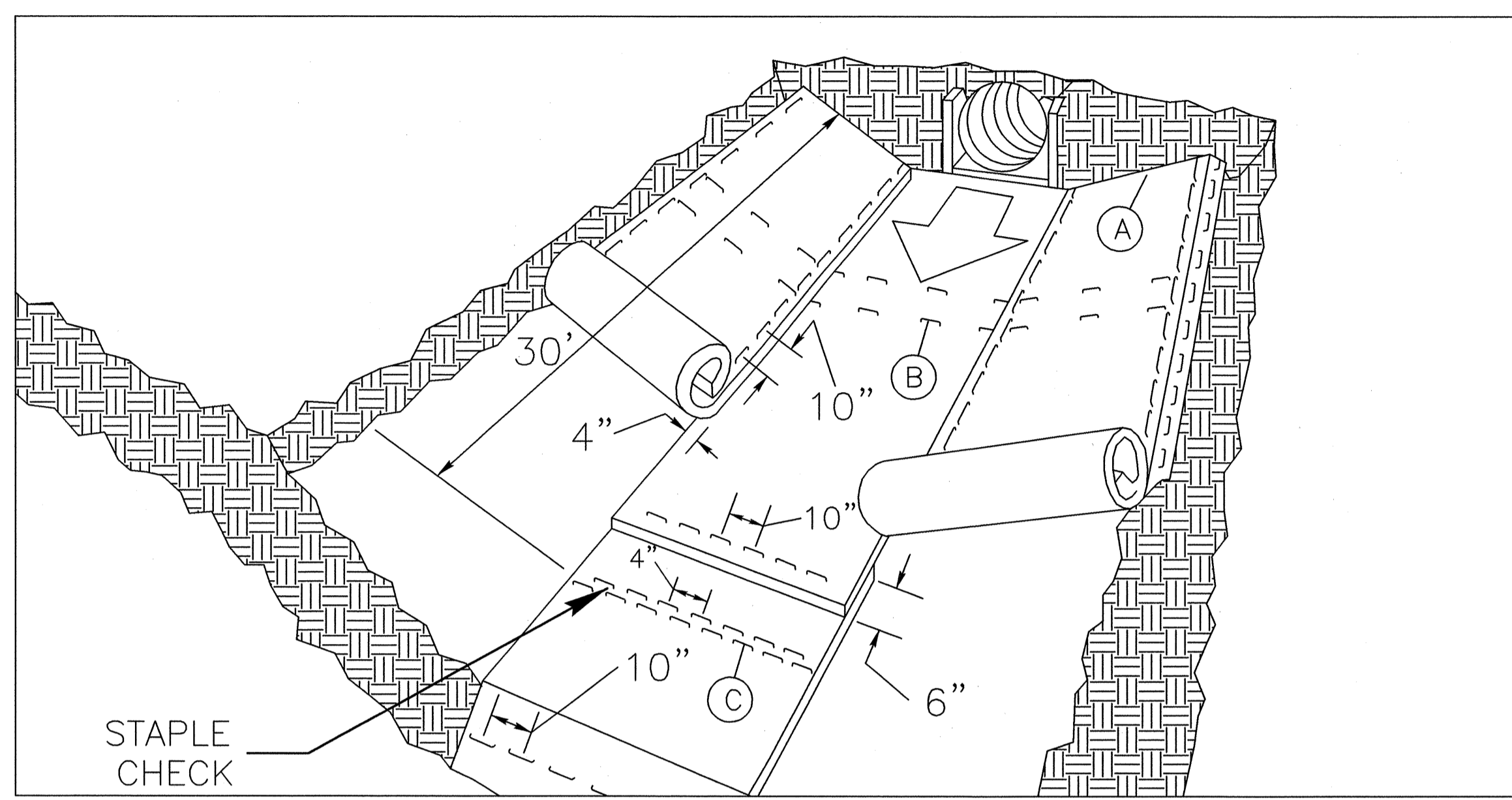
## COIR FIBER MAT ANCHOR OPTIONS

### 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 EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

# MATTING INSTALLATION DETAIL



**MATTING IN DITCHES**

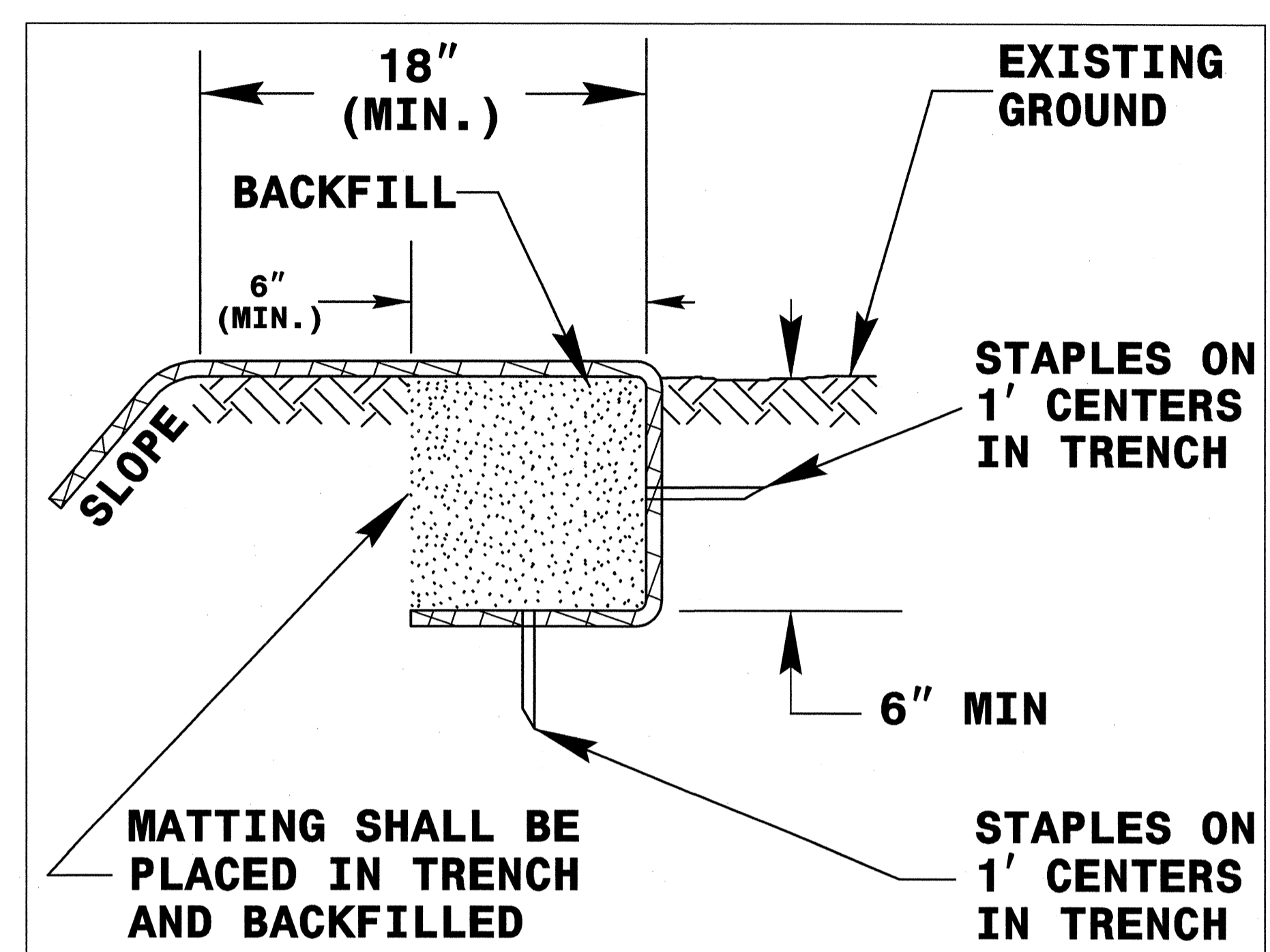
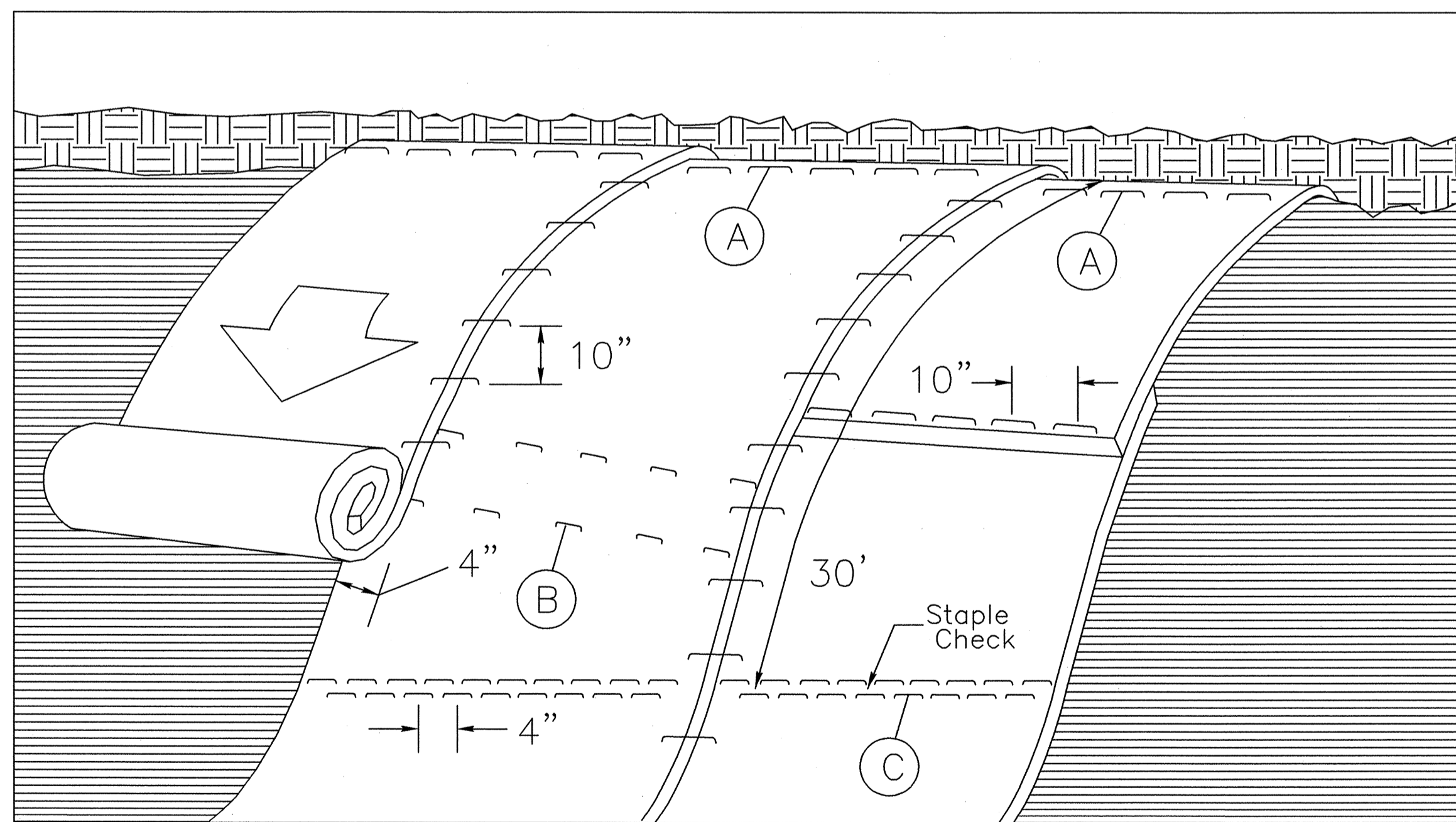


DIAGRAM (A)



**MATTING ON SLOPES**

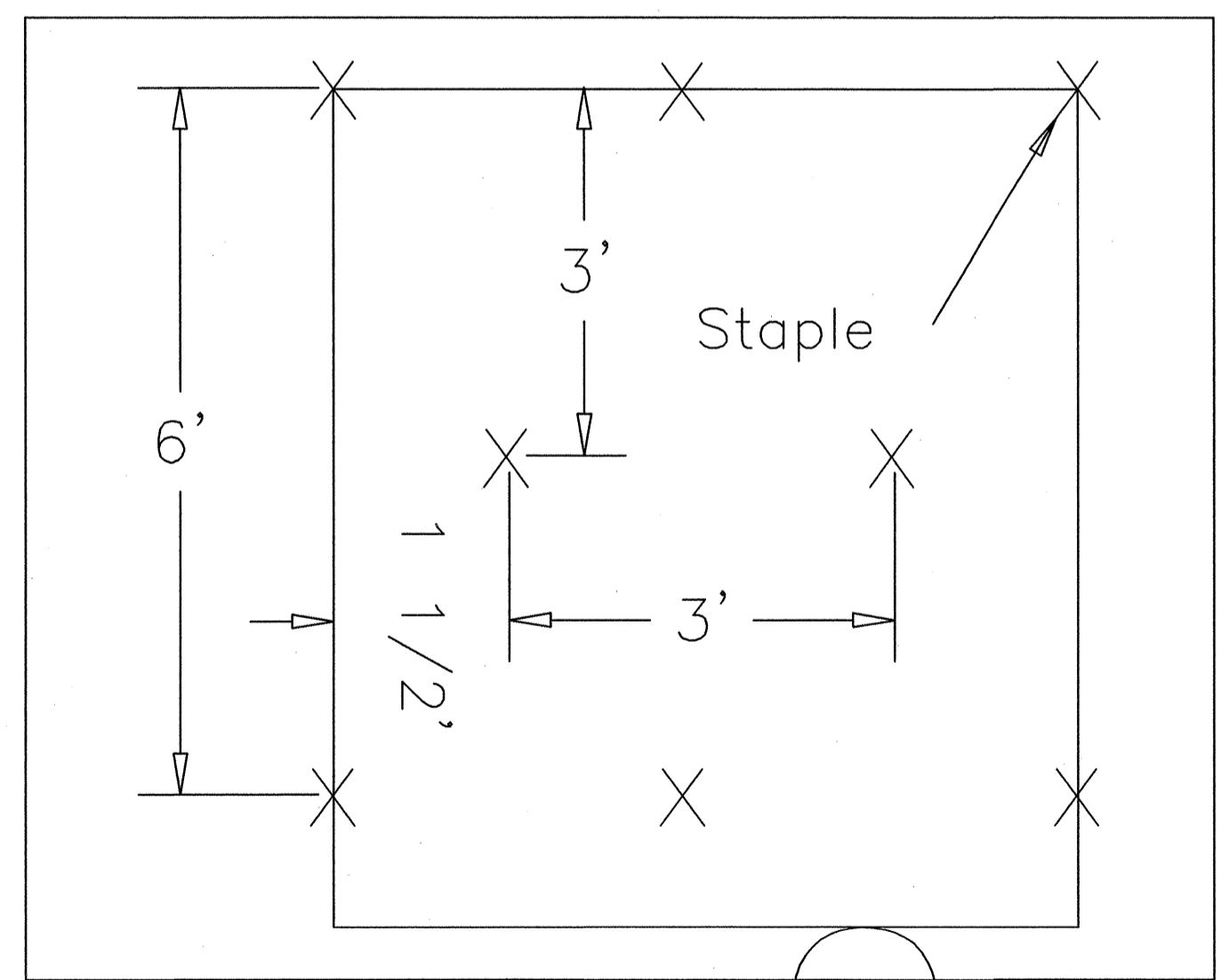


DIAGRAM B

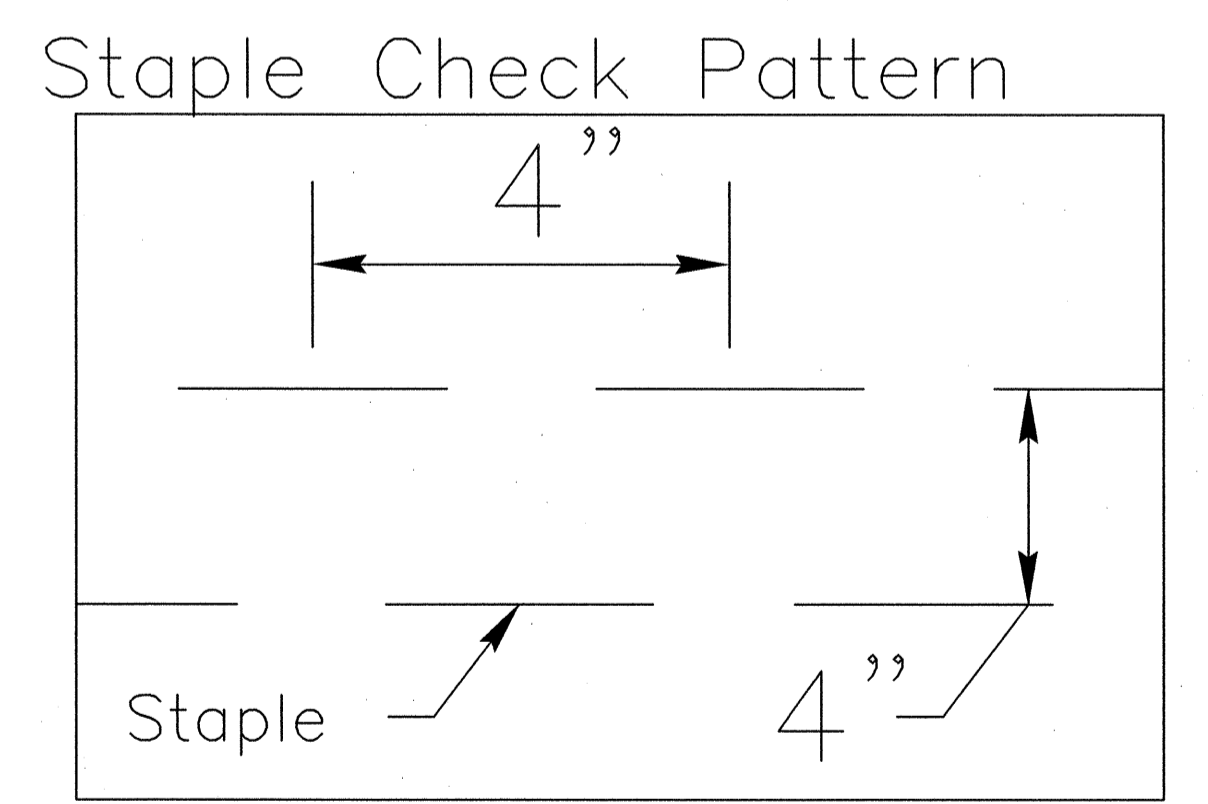


DIAGRAM (C)

**NOTES:**

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.  
 STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

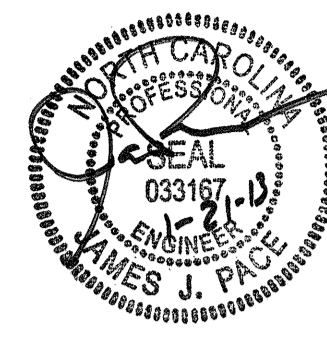

NOT TO SCALE

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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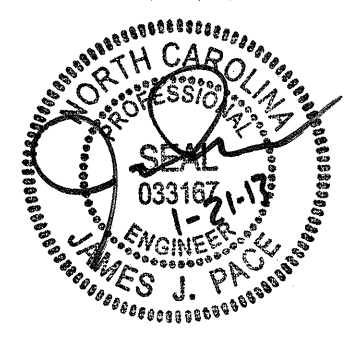
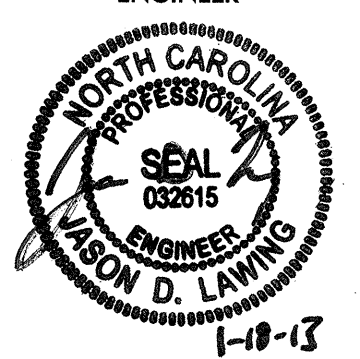
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PROJECT REFERENCE NO. <i>U-3609A</i>	SHEET NO. <i>EC-2E</i>
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

# *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.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. U-3609A	SHEET NO. EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	

**SOIL STABILIZATION SUMMARY SHEET**

**MATTING FOR EROSION CONTROL**

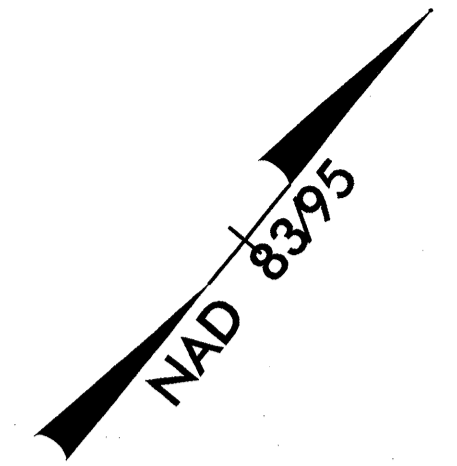
**PERMANENT SOIL REINFORCEMENT MAT**

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-Y2-	12+00	12+35	RT	20
5	-Y2-	11+50	12+05.98	LT	30
5	-Y2-	11+36.98	12+00	RT	30
7	-Y3-	11+58.94	12+40	RT	40
8	-Y5-	11+39.66	12+39.14	RT	50
8	-Y5-	11+36.66	12+39.85	LT	50
9	-Y7-	11+51.35	12+40	RT	40
5	-L- BASIN	35+00		LT	700
			SUBTOTAL		960
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				600
			TOTAL		1650
			SAY		1700

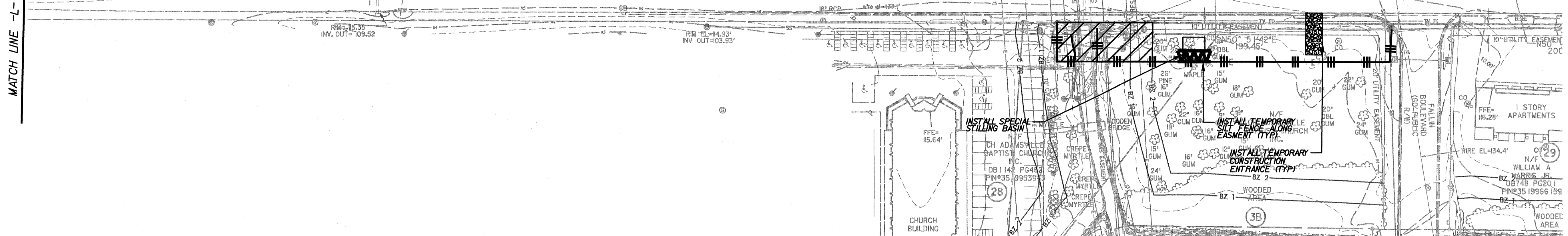
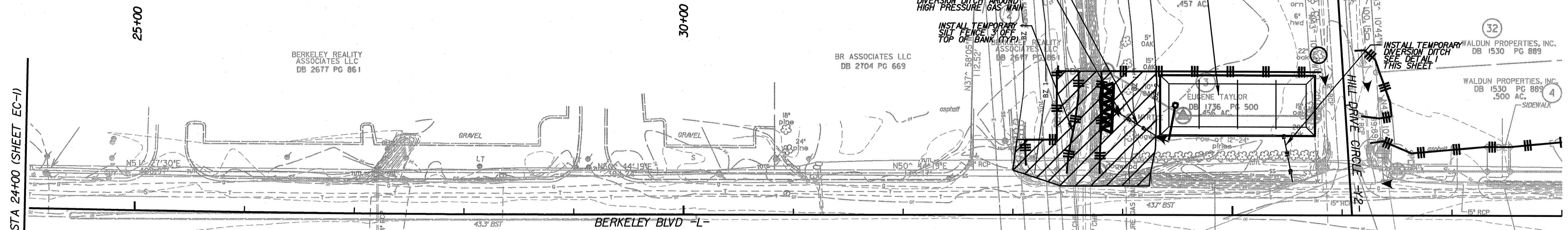
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L-	33+73	35+64	LT	800
			SUBTOTAL		800
			ADDITIONAL PSRM TO BE INSTALLED		135
			TOTAL		935
			SAY		1000







PROJECT REFERENCE NO. U-3609A		SHEET NO. EC-5/CONST.5	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



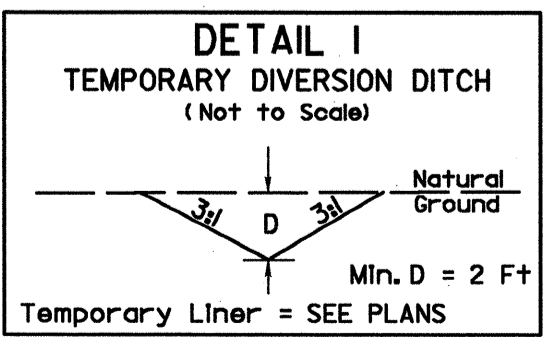
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

NOTE:  
UTILIZE SKIMMER BASIN AS STILLING  
BASIN WHERE APPLICABLE.

NOTE:  
UTILIZE INFILTRATION BASIN AS STILLING  
BASIN WHERE APPLICABLE.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO  
NCDOT BEST MANAGEMENT PRACTICES FOR  
CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS



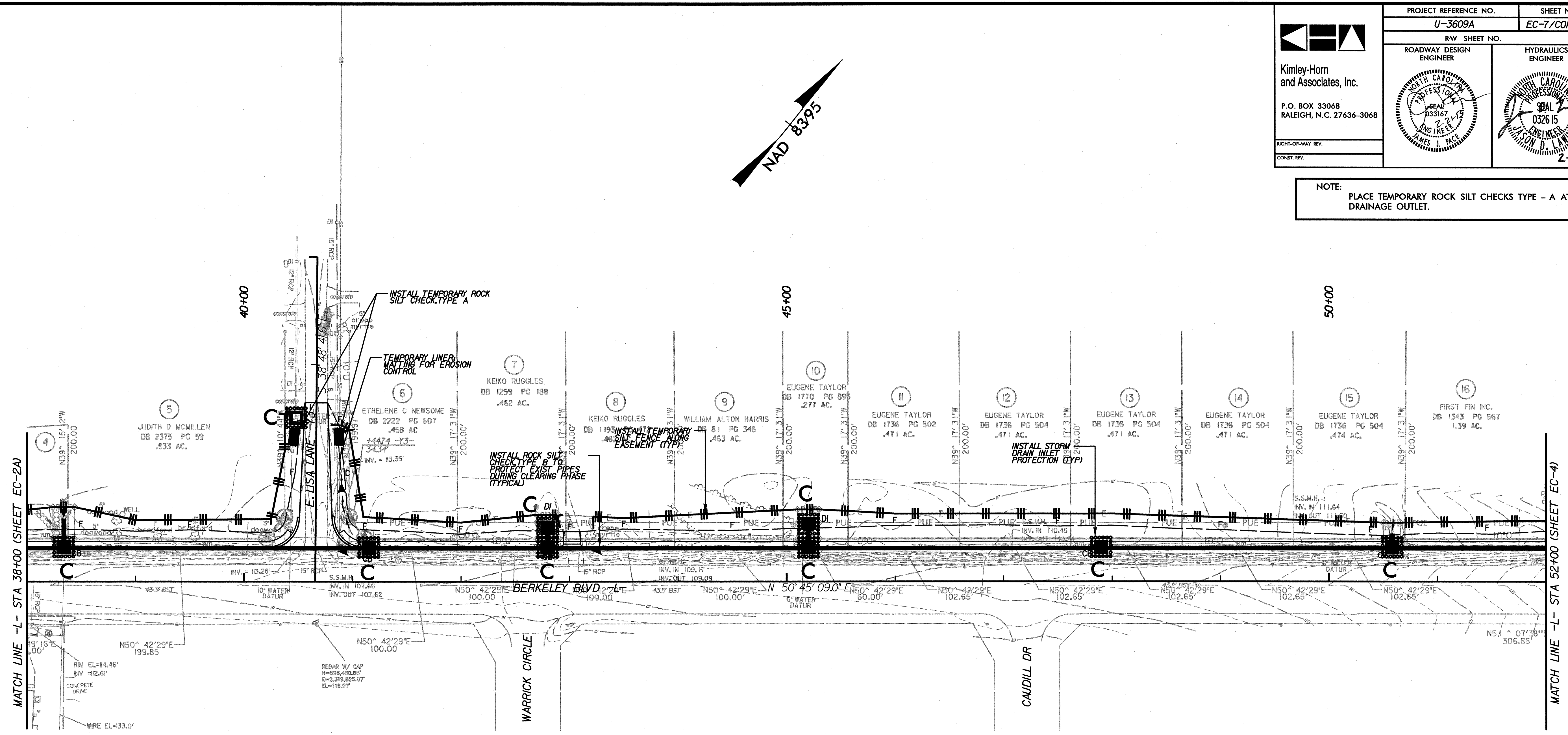
-L- STA 33+80 TO 34+42 (LT)  
-L- STA 35+46 TO 35+49 (LT)

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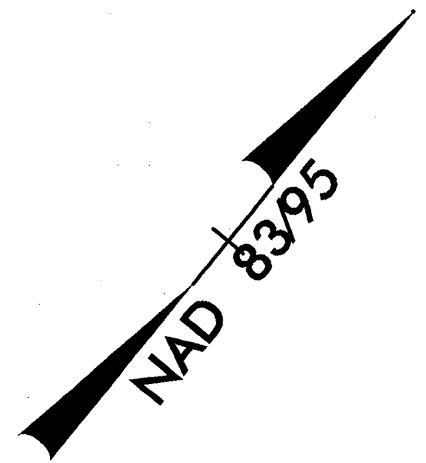

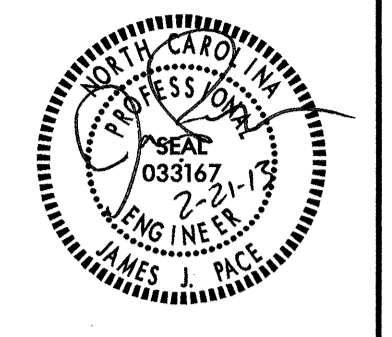



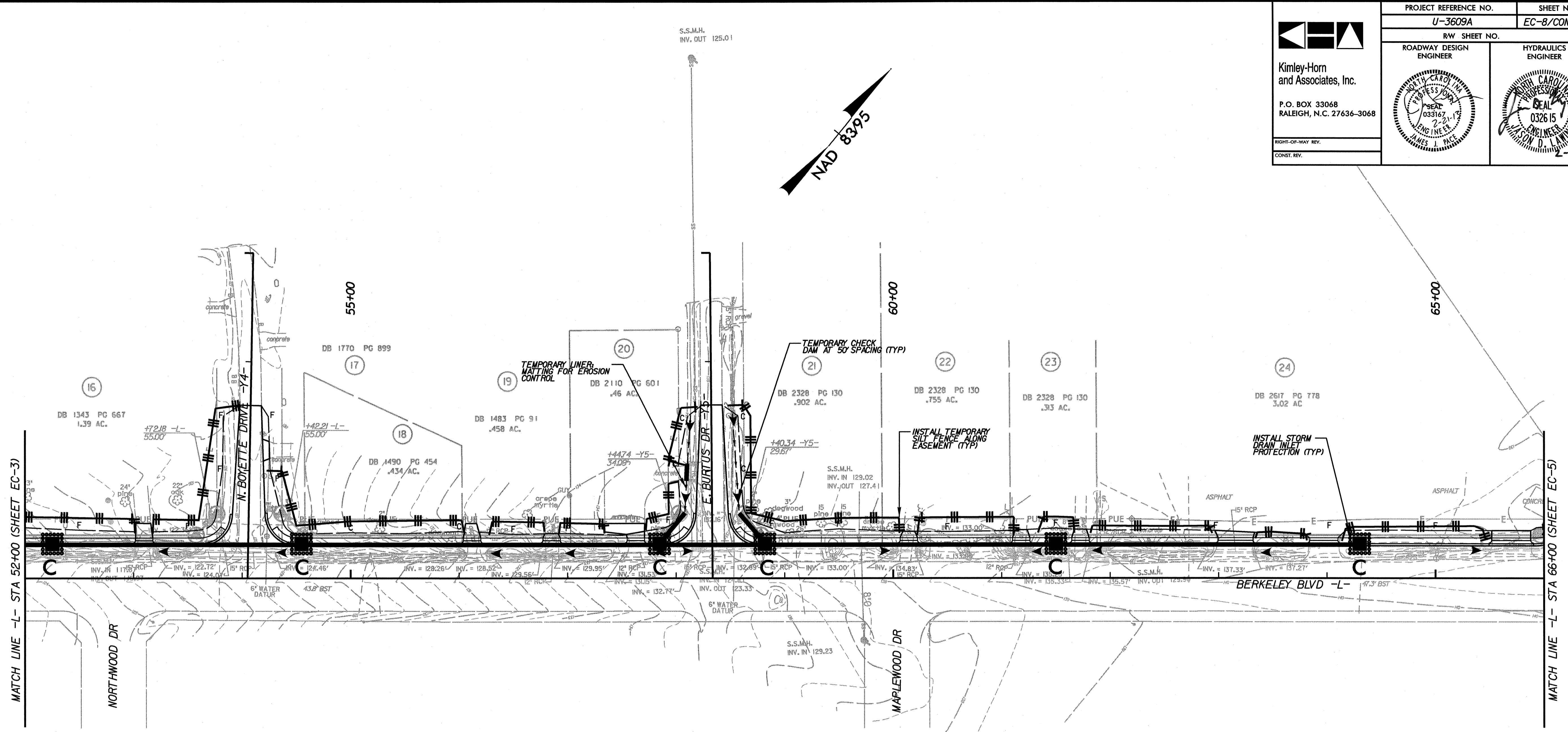
	PROJECT REFERENCE NO.	SHEET NO.
	U-3609A	EC-7/CONST.7
Kimley-Horn and Associates, Inc.  P.O. BOX 33068 RALEIGH, N.C. 27636-3068  RIGHT-OF-WAY REV. CONST. REV.	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLET.



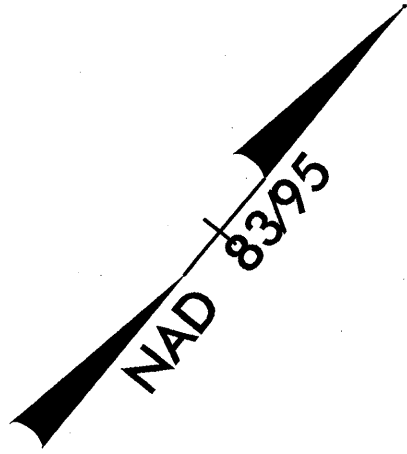

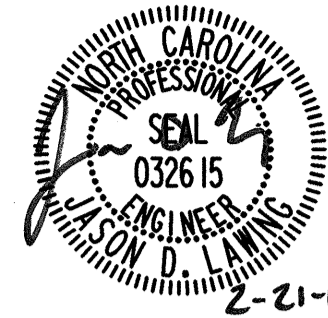
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 2/21/2013

	PROJECT REFERENCE NO.	SHEET NO.
	U-3609A	EC-8/CONST.8
	RW SHEET NO.	HYDRAULICS ENGINEER
	ROADWAY DESIGN ENGINEER	SEAL
Kimley-Horn and Associates, Inc. P.O. BOX 33068 RALEIGH, N.C. 27636-3068		
	RIGHT-OF-WAY REV. CONST. REV.	2-11-13

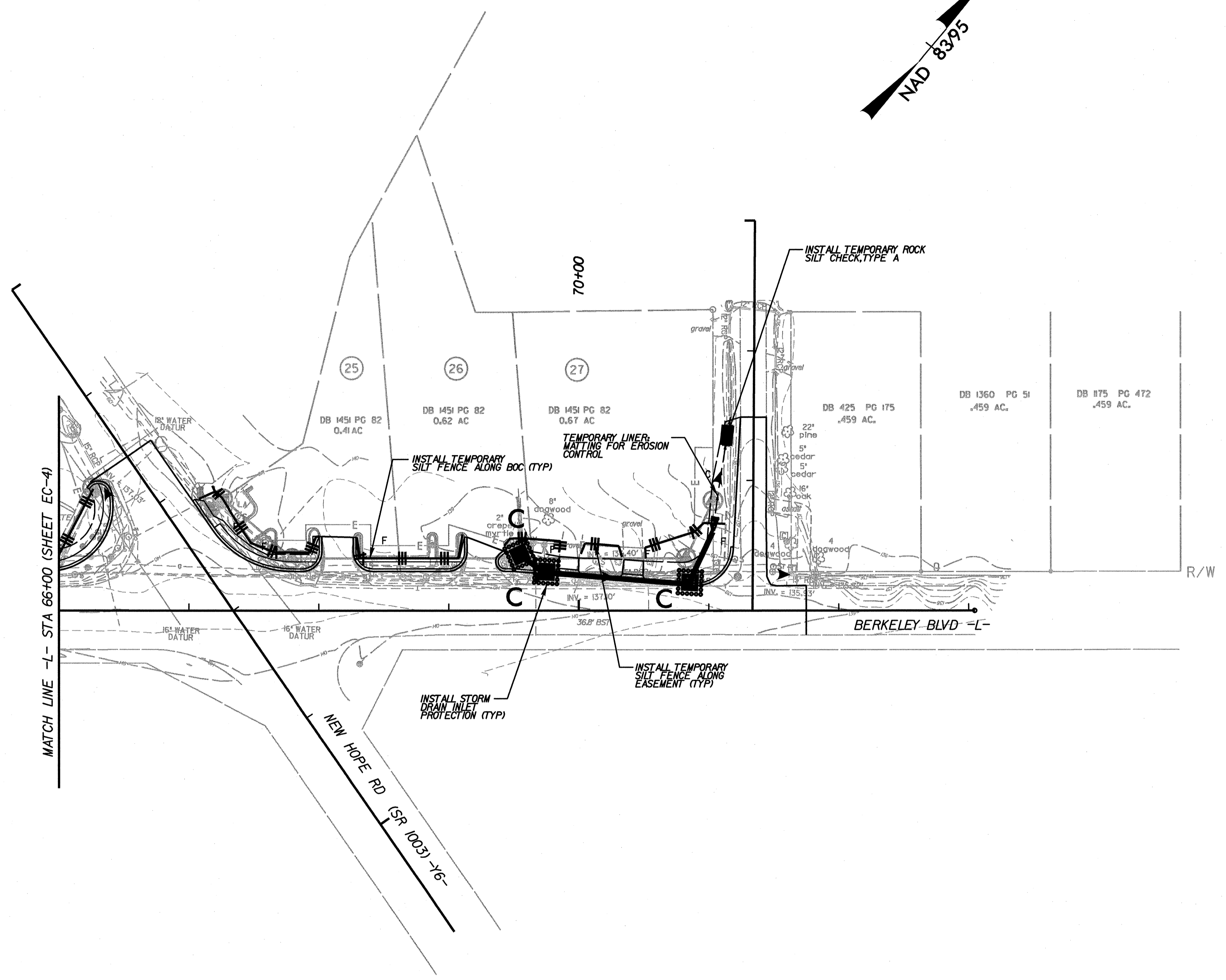


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2/21/2013

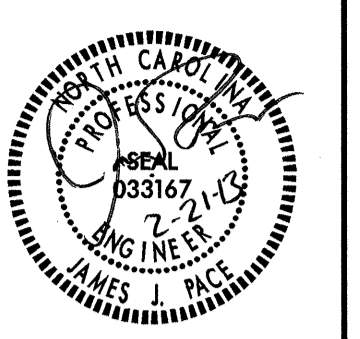

	PROJECT REFERENCE NO.	SHEET NO.
	U-3609A	EC-9/CONST.9
	RW SHEET NO.	
<b>Kimley-Horn and Associates, Inc.</b>  P.O. BOX 33068 RALEIGH, N.C. 27636-3068	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
		
RIGHT-OF-WAY REV.		
CONST. REV.		

NOTE:  
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLET.



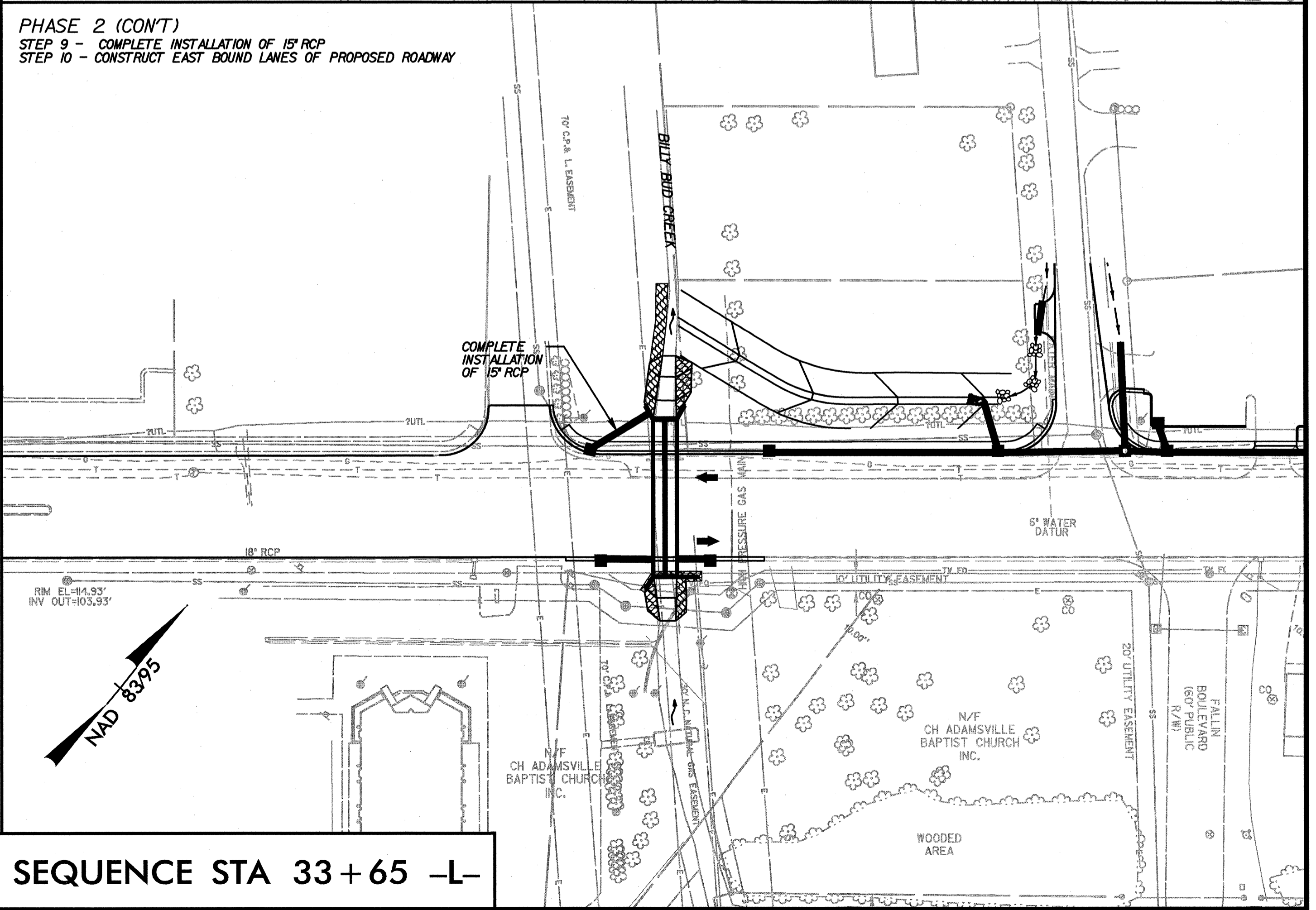
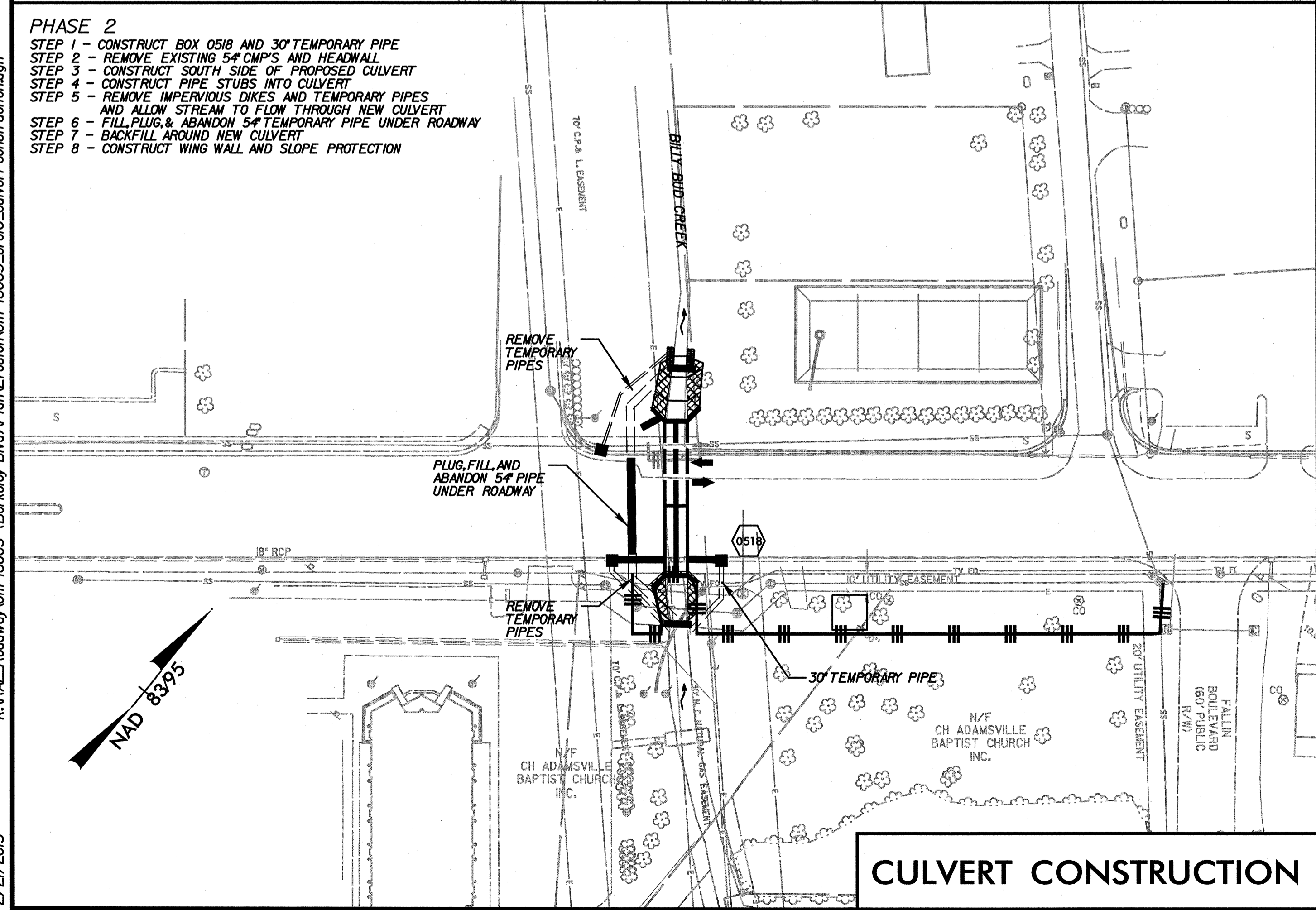
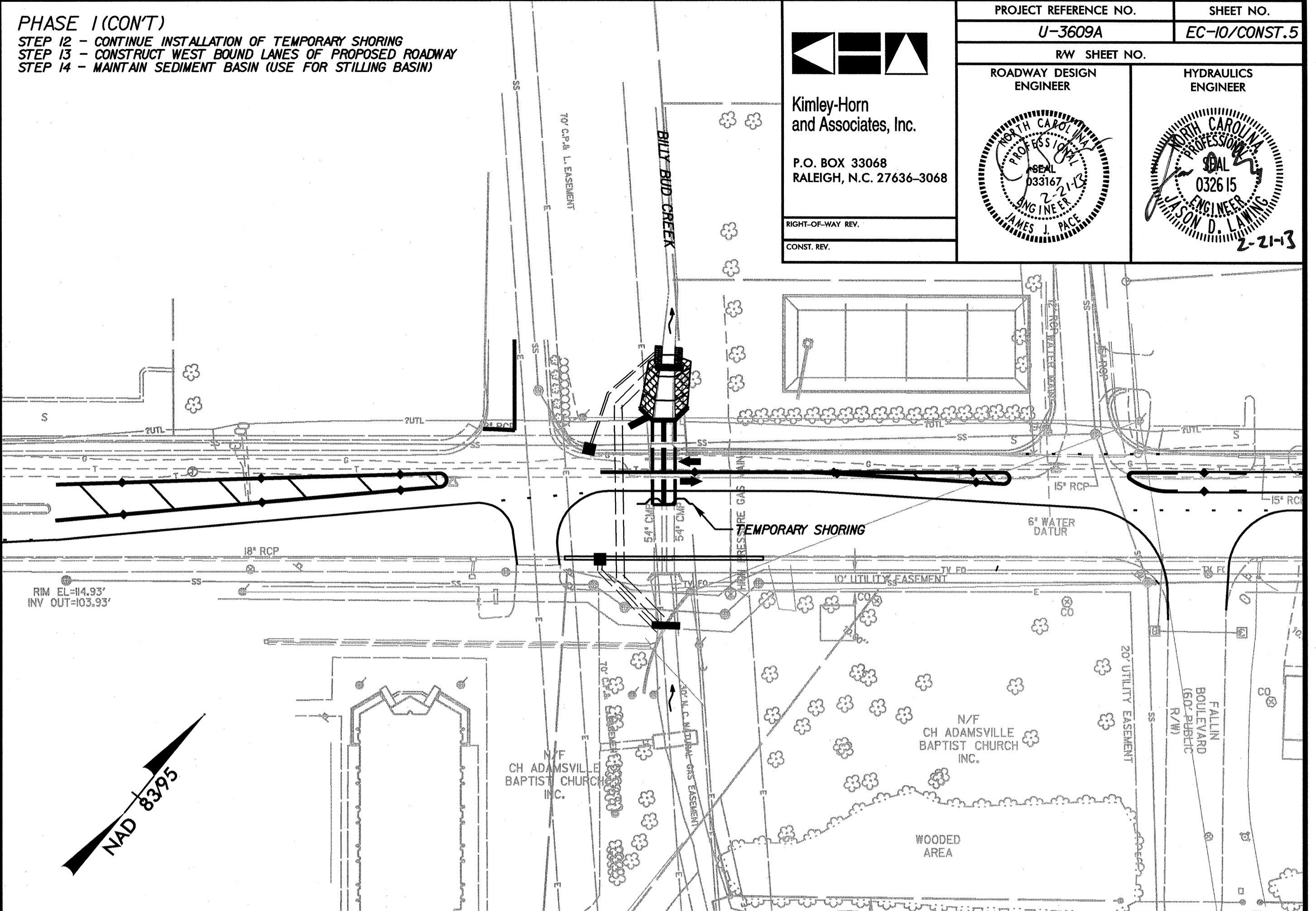
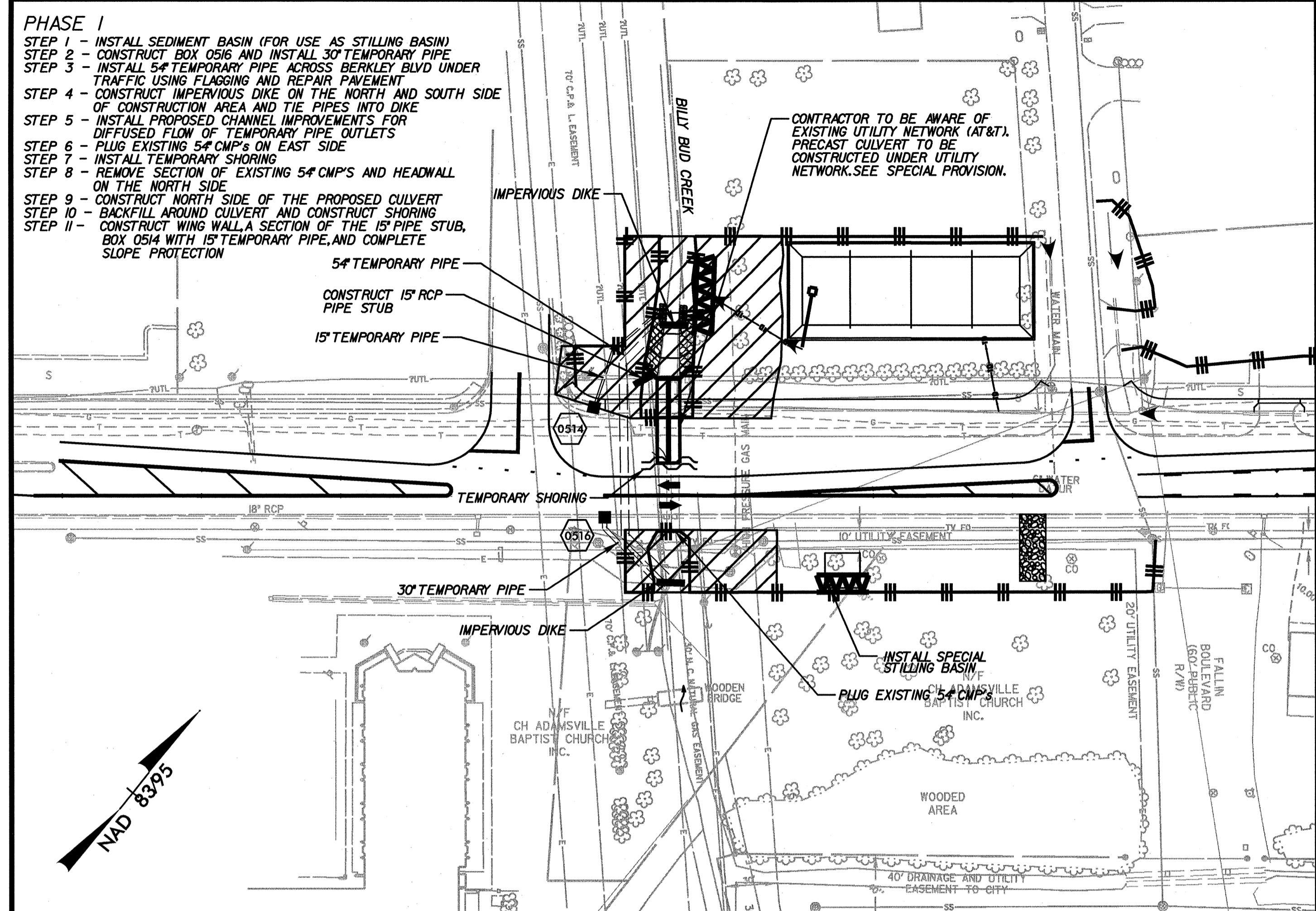
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2/21/2013

PROJECT REFERENCE NO. U-3609A	SHEET NO. EC-10/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	

Kimley-Horn and Associates, Inc.  
P.O. BOX 33068  
RALEIGH, N.C. 27636-3068

RIGHT-OF-WAY REV.  
CONST. REV.



**CULVERT CONSTRUCTION SEQUENCE STA 33+65 -L-**

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2/21/2013