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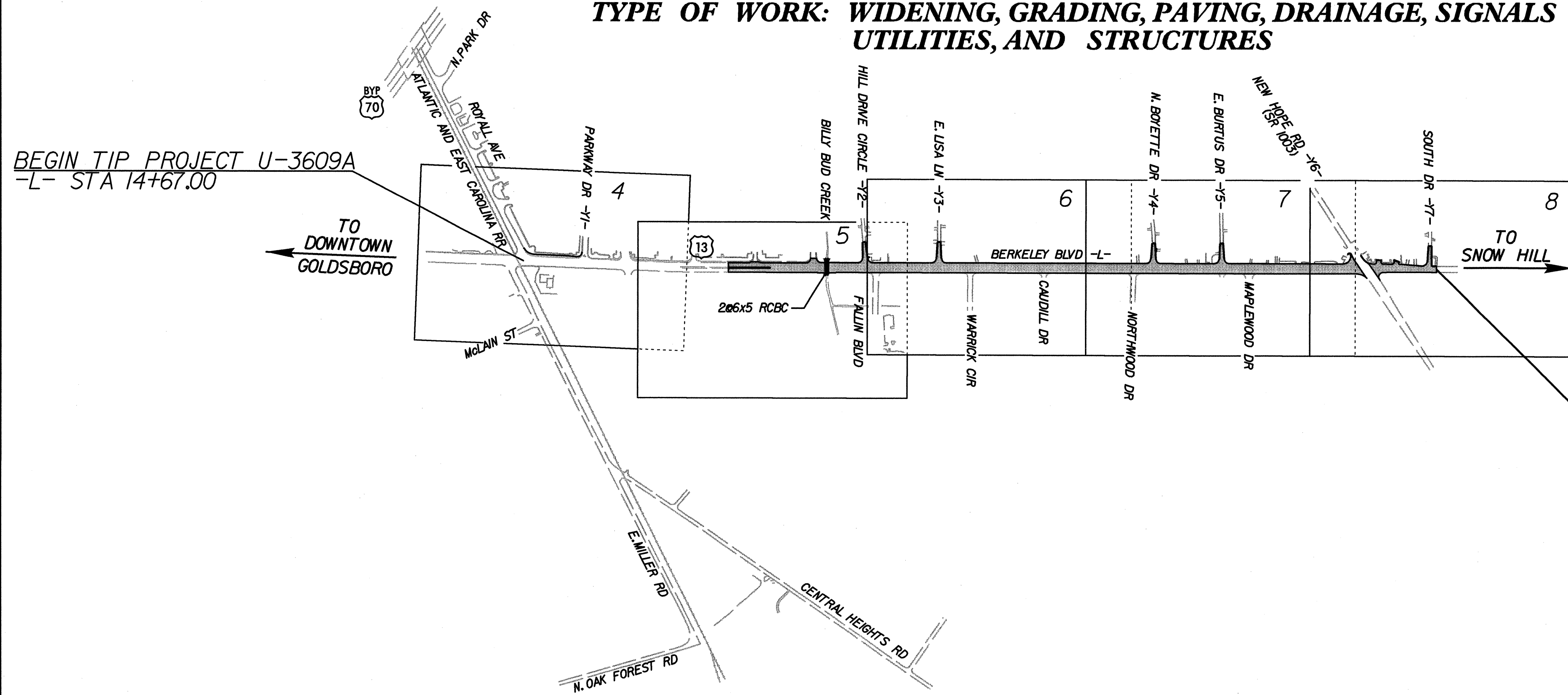
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**TIP PROJECT: U-3609A**

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**

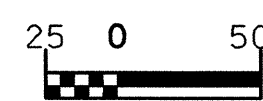
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	—
1630.05	Temporary Diversion	—
1605.01	Temporary Silt Fence	—
1606.01	Special Sediment Control Fence	—
1622.01	Temporary Berms and Slope Drains	—
1630.02	Silt Basin Type B	—
1633.01	Temporary Rock Silt Check Type-A	—
	Temporary Rock Silt Check Type-A 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	—
	Rock Inlet Sediment Trap:	
1632.01	Type A	—
1632.02	Type B	—
1632.03	Type C	—
	Skimmer Basin	—
	Tiered Skimmer Basin	—
	Infiltration Basin	—

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

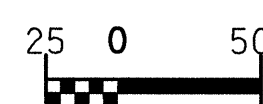
**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

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

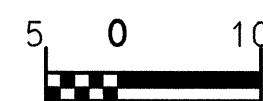
**GRAPHIC SCALE**



PLANS



PROFILE (HORIZONTAL)

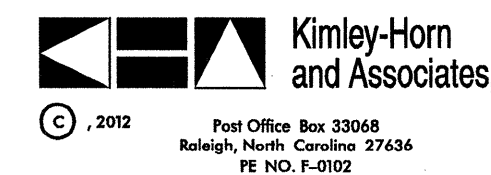


PROFILE (VERTICAL)

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:



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.

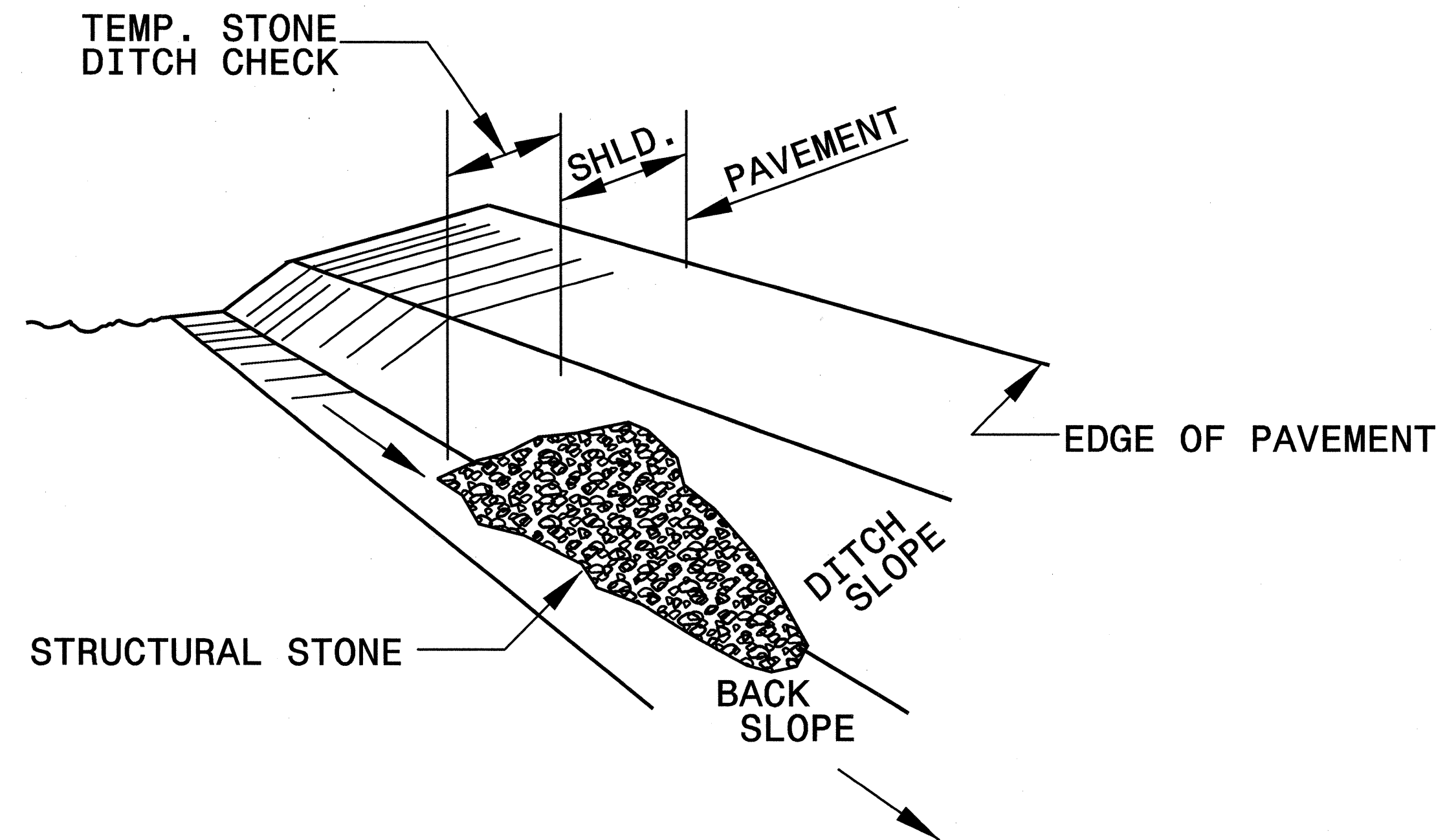
1605.01 Temporary Silt Fence	1632.03 Rock Inlet Sediment Trap Type C
1606.01 Special Sediment Control Fence	1633.01 Temporary Rock Silt Check Type A
1607.01 Gravel Construction Entrance	1633.02 Temporary Rock Silt Check Type B
1622.01 Temporary Slope Drain	1640.01 Coir Fiber Baffle
1630.03 Temporary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

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1/17/2013

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

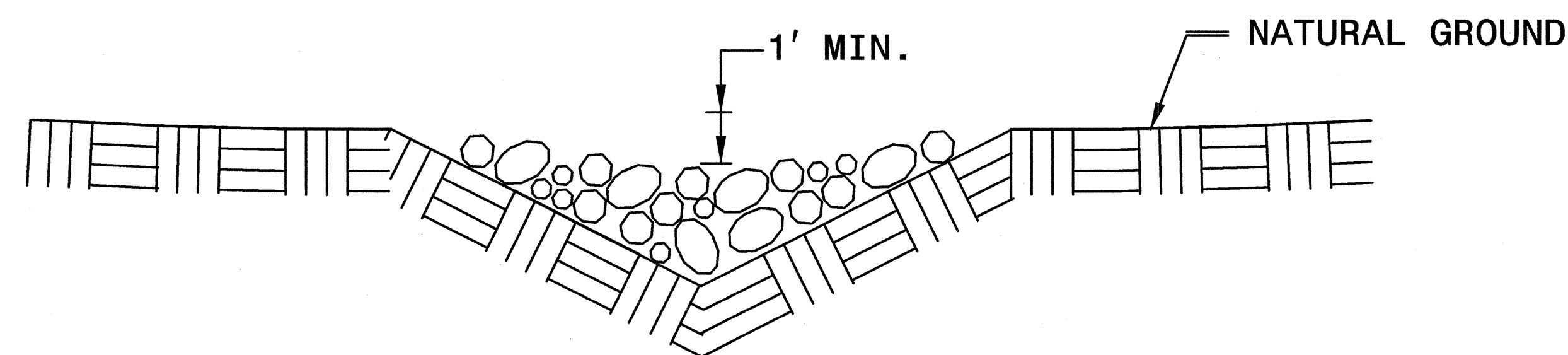


**ISOMETRIC VIEW**

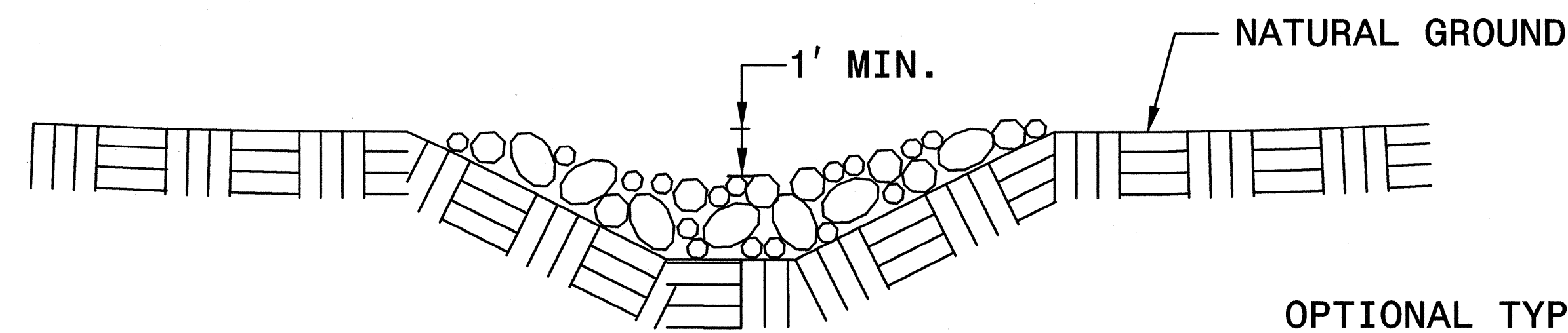
**NOTES:**

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

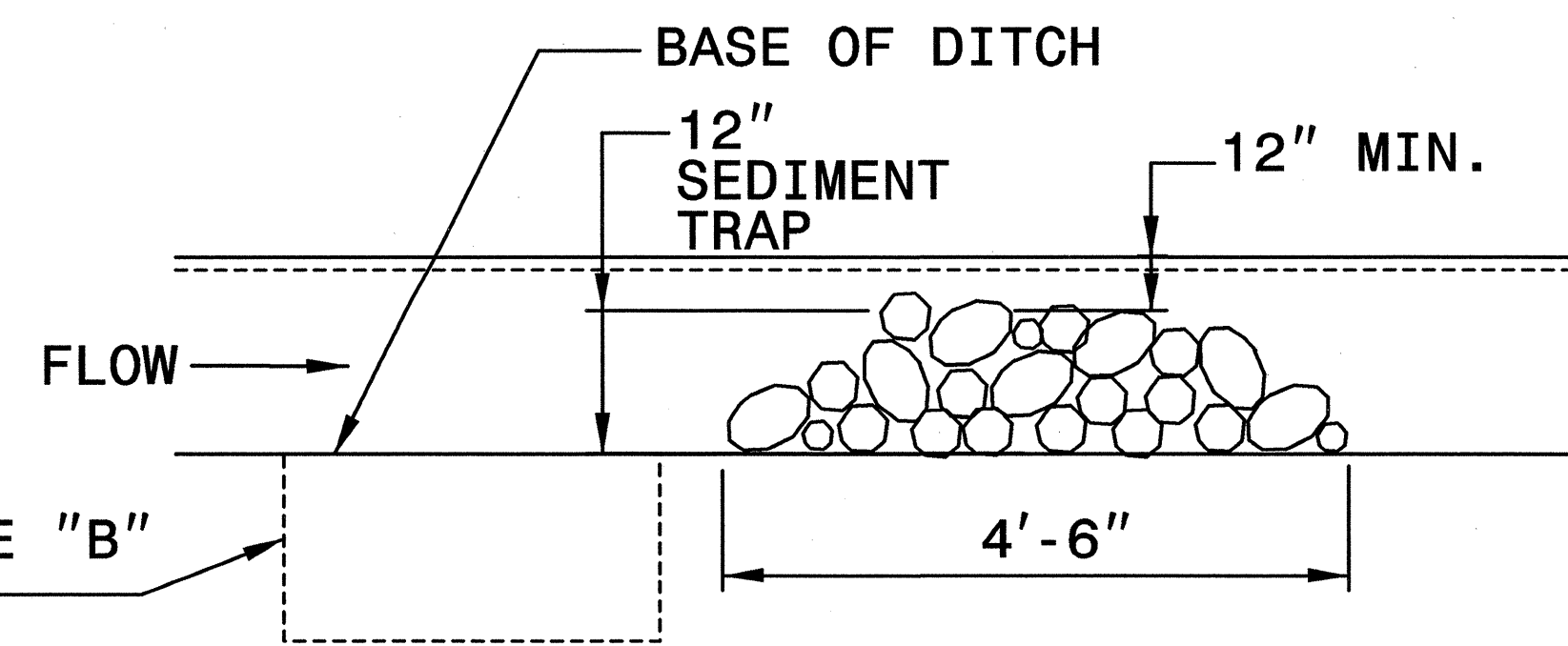
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION  
VEE DITCH**

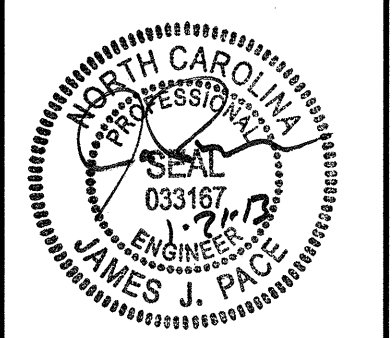
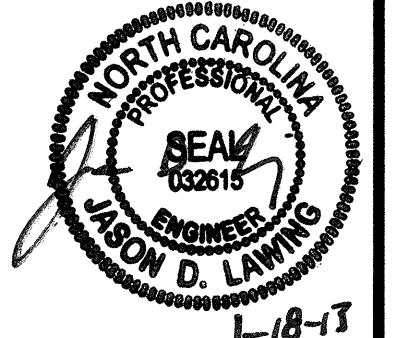


**CROSS SECTION  
TRAPEZOIDAL DITCH**

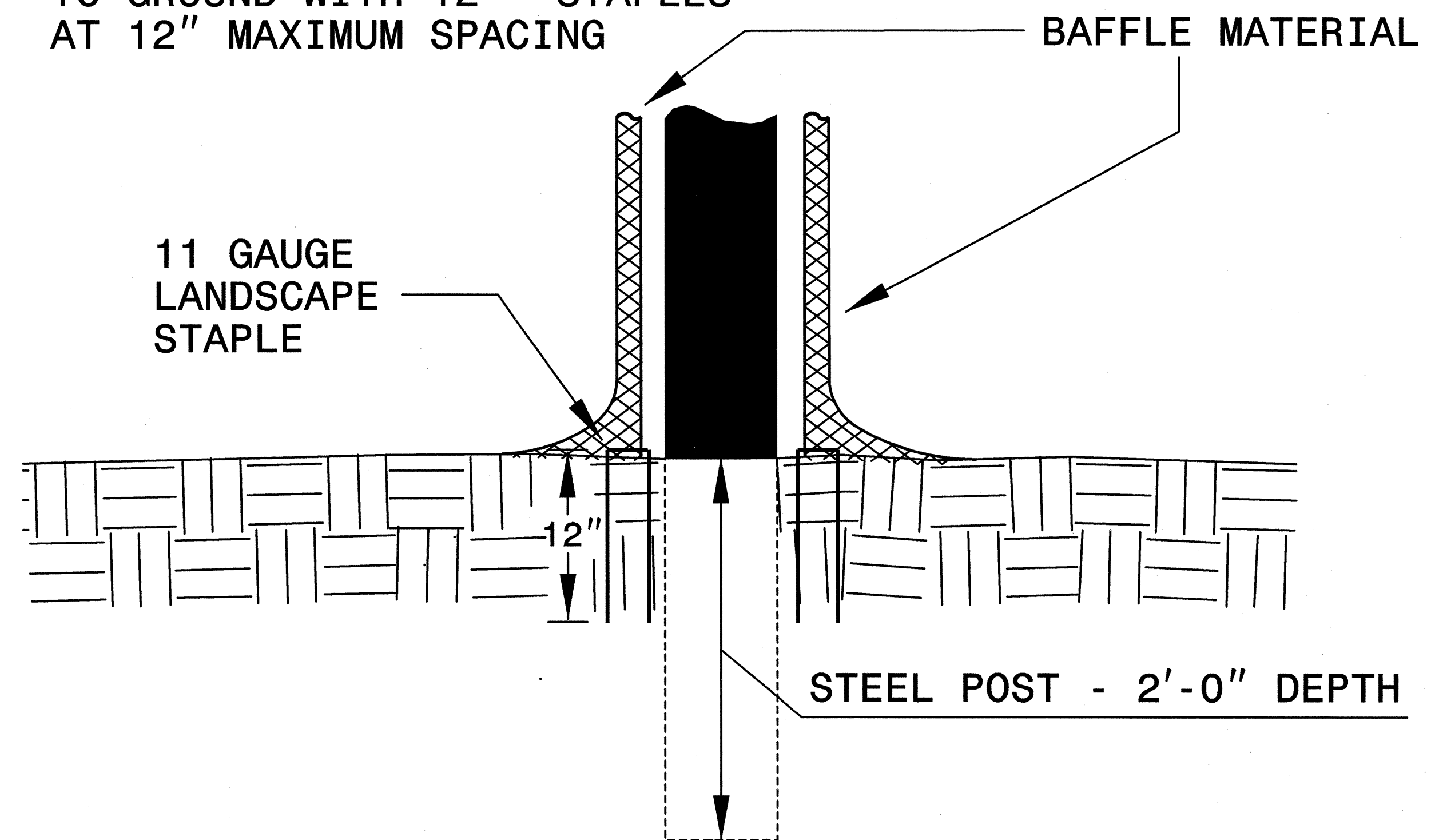
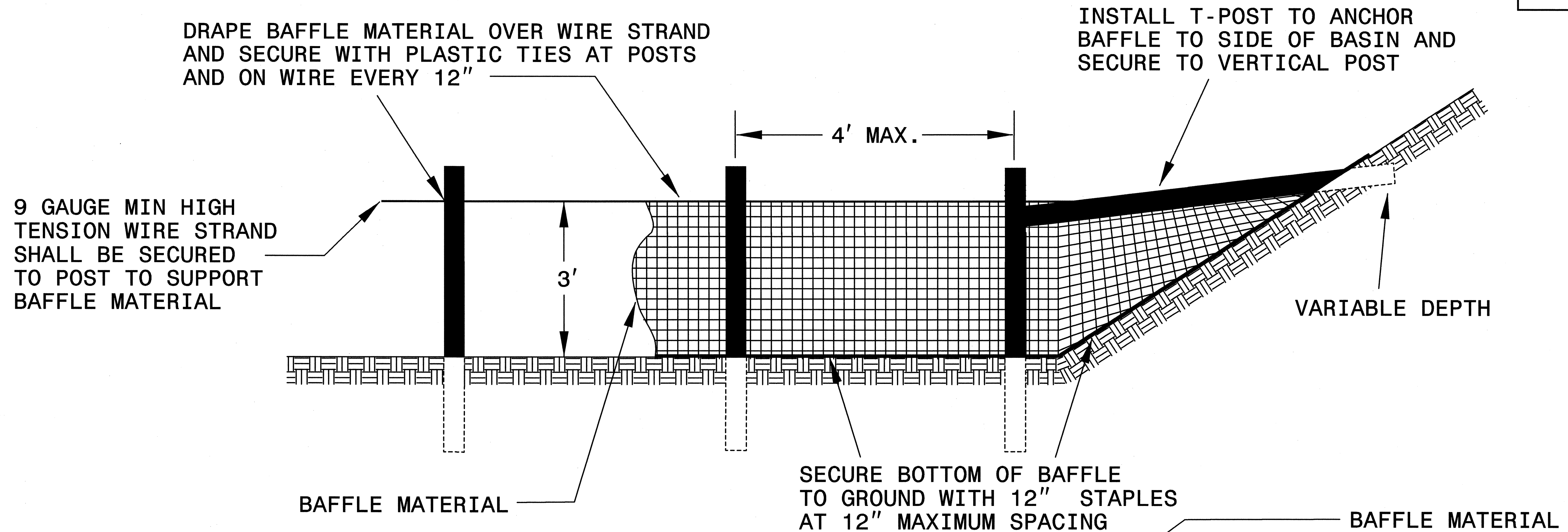


**ELEVATION VIEW**



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

# COIR FIBER BAFFLE DETAIL



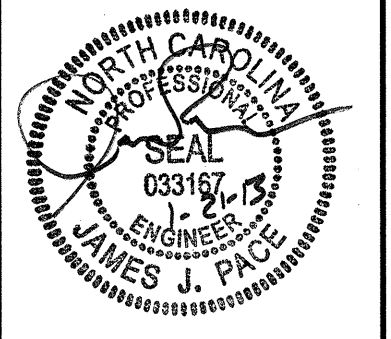
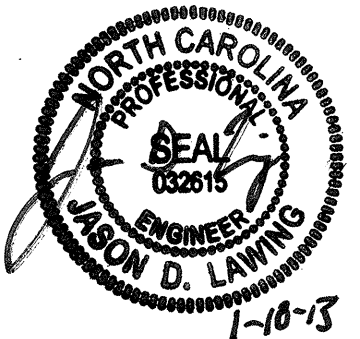
## NOTES:

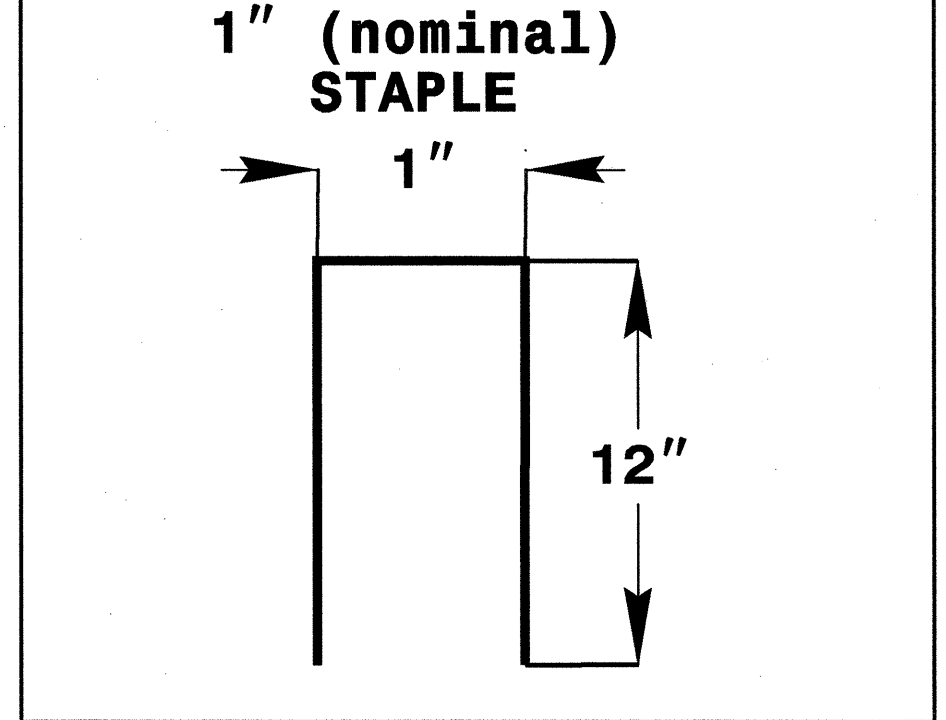
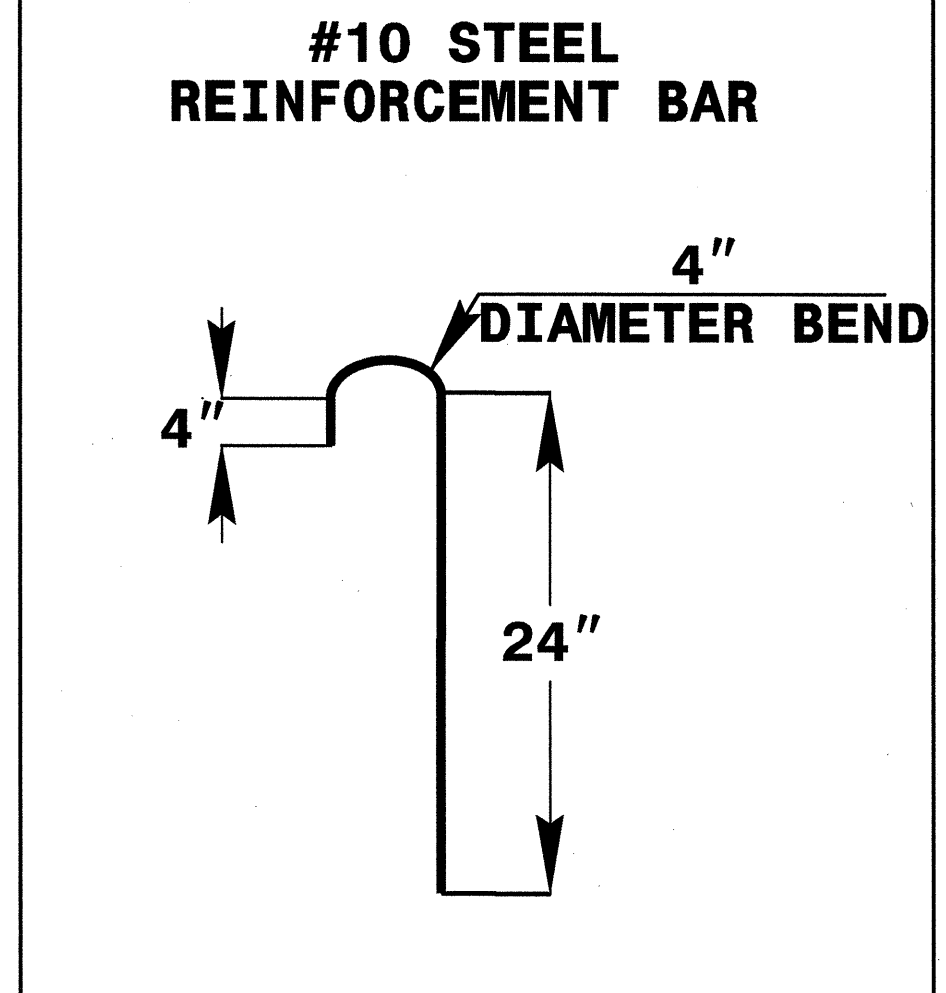
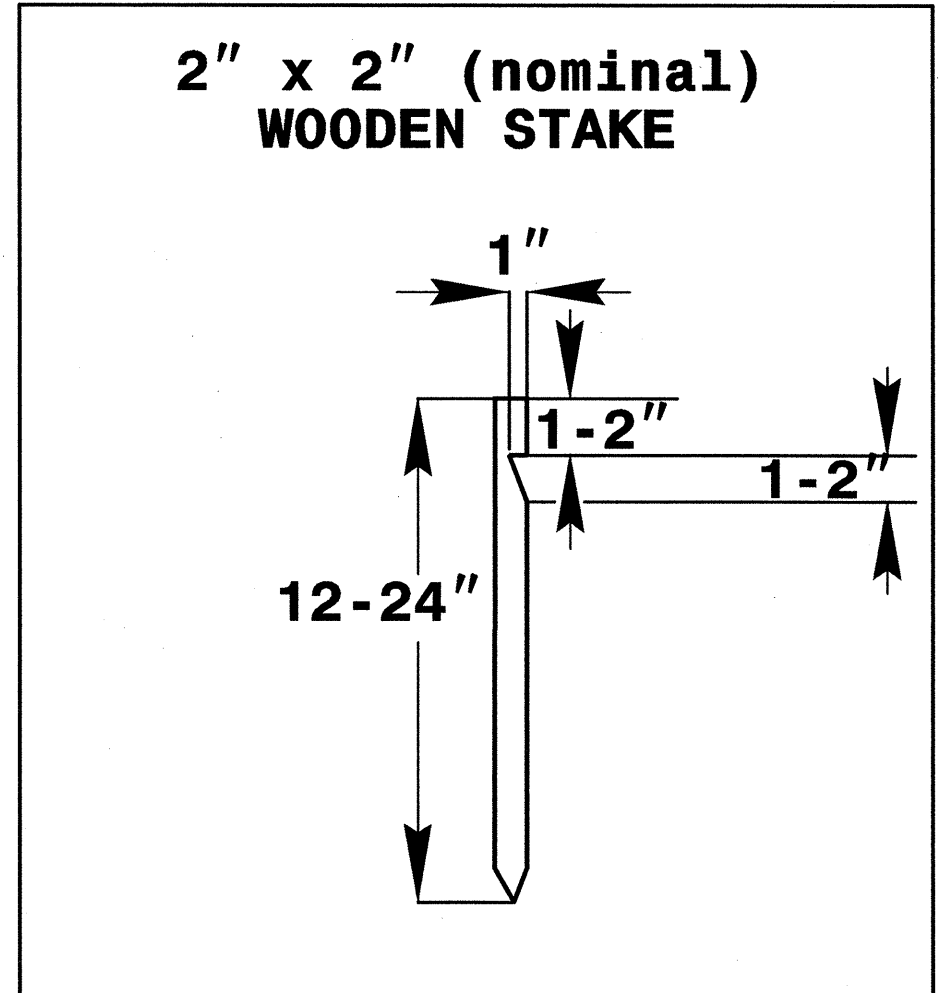
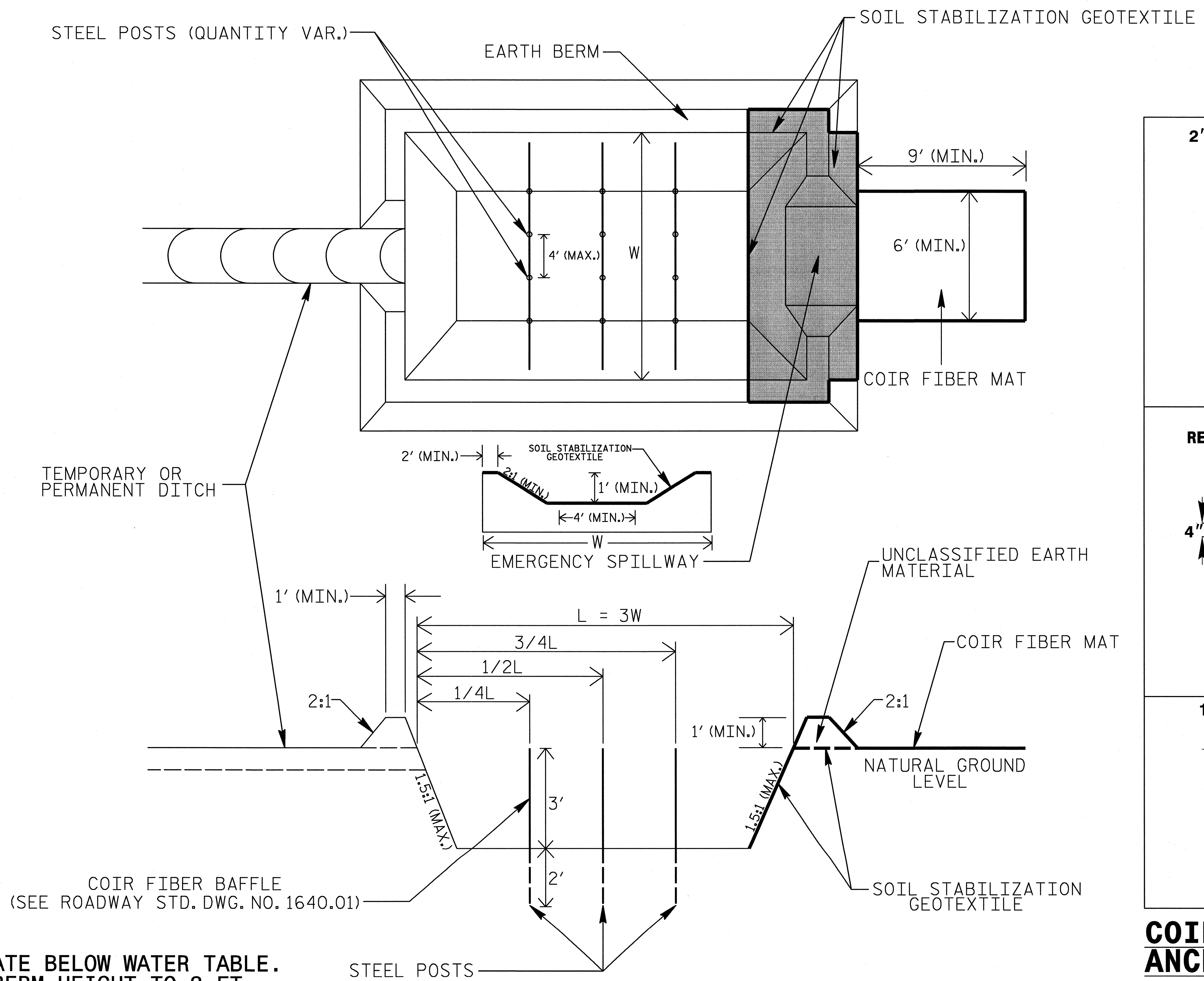
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF  $\frac{1}{4}$  THE BASIN LENGTH.
2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF  $\frac{1}{3}$  THE BASIN LENGTH.
3. TOP HEIGHT 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



# INFILTRATION BASIN WITH BAFFLES DETAIL

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



## COIR FIBER MAT ANCHOR OPTIONS

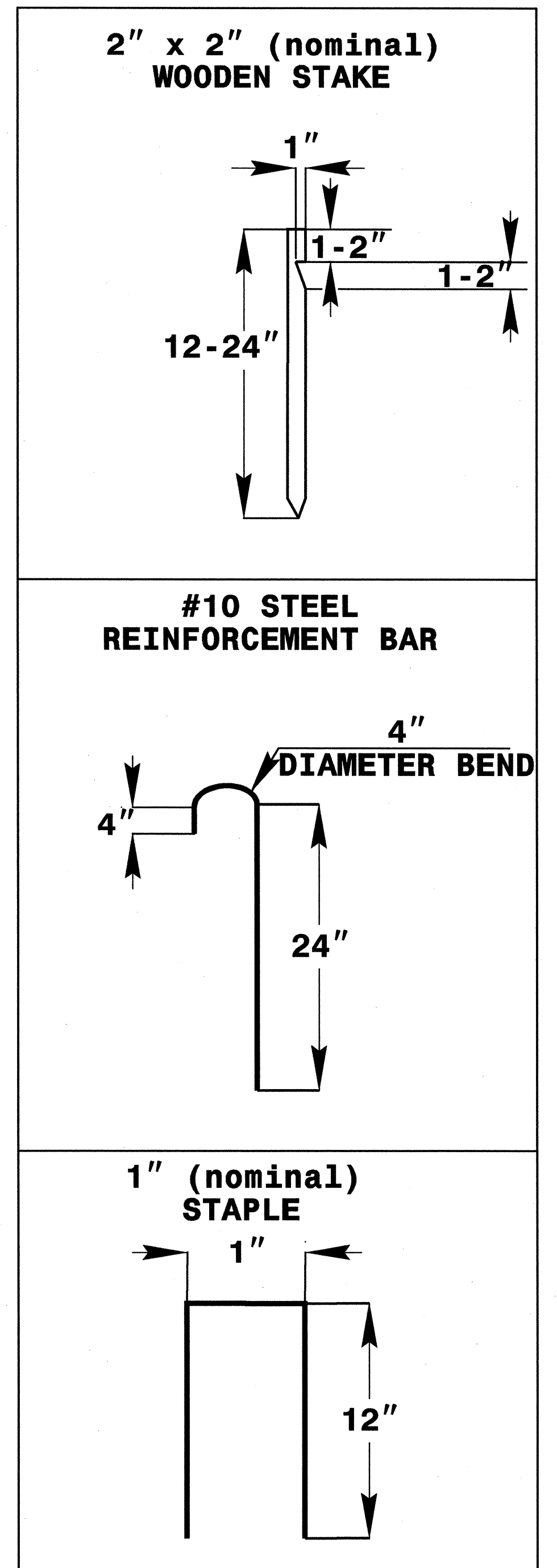
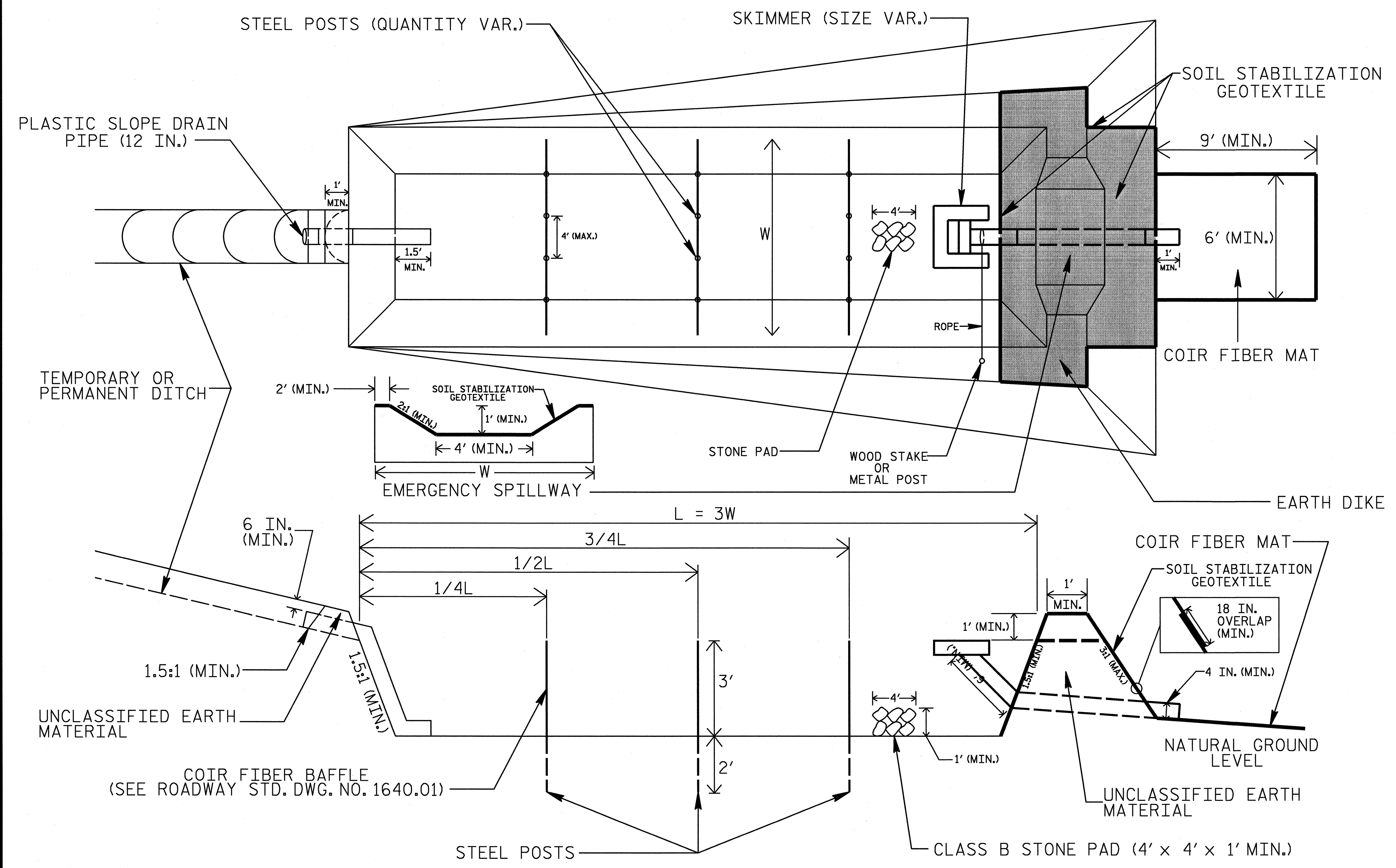
### NOTES

1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

# SKIMMER BASIN WITH BAFFLES DETAIL

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



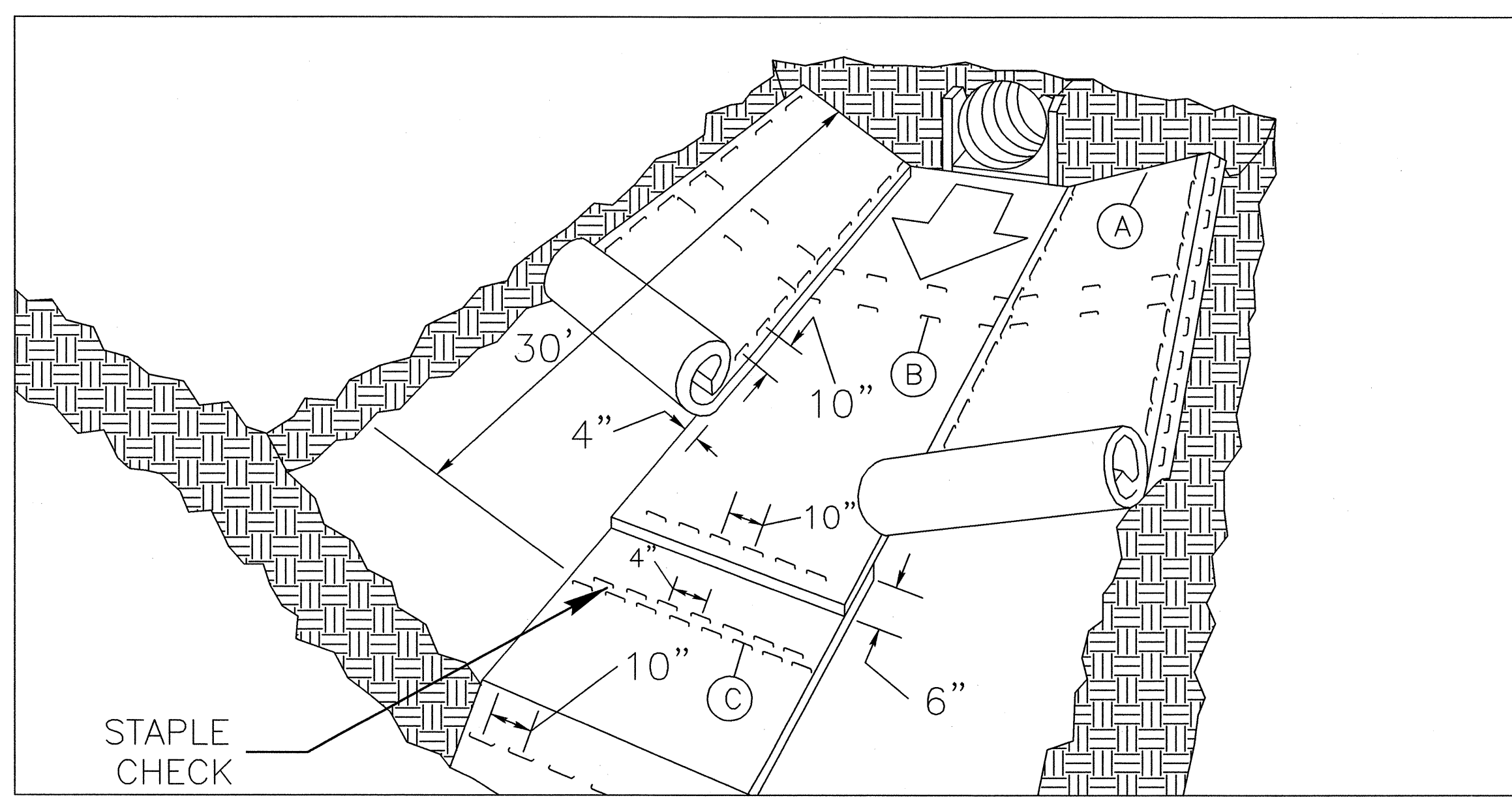
## NOTES

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**

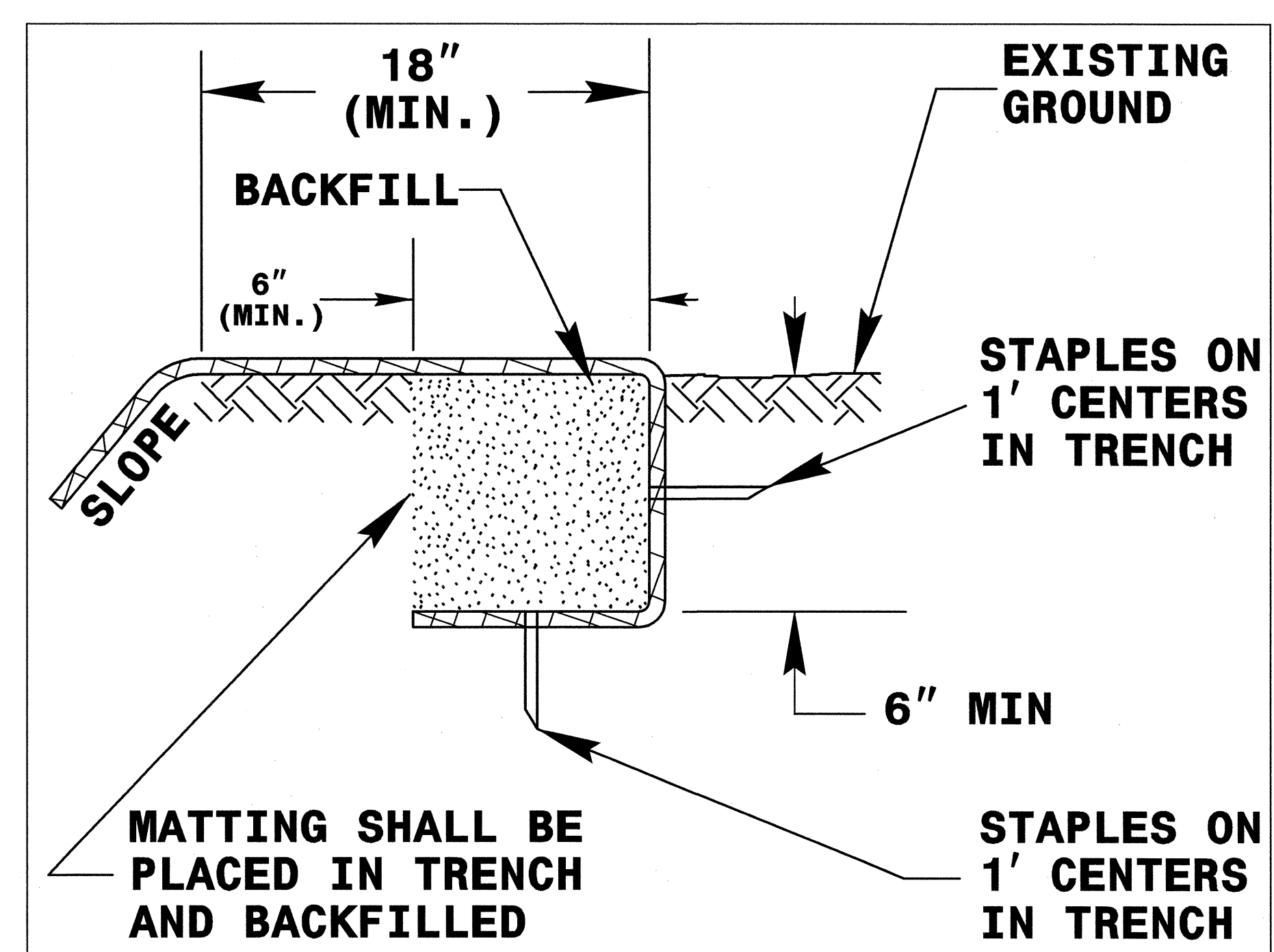
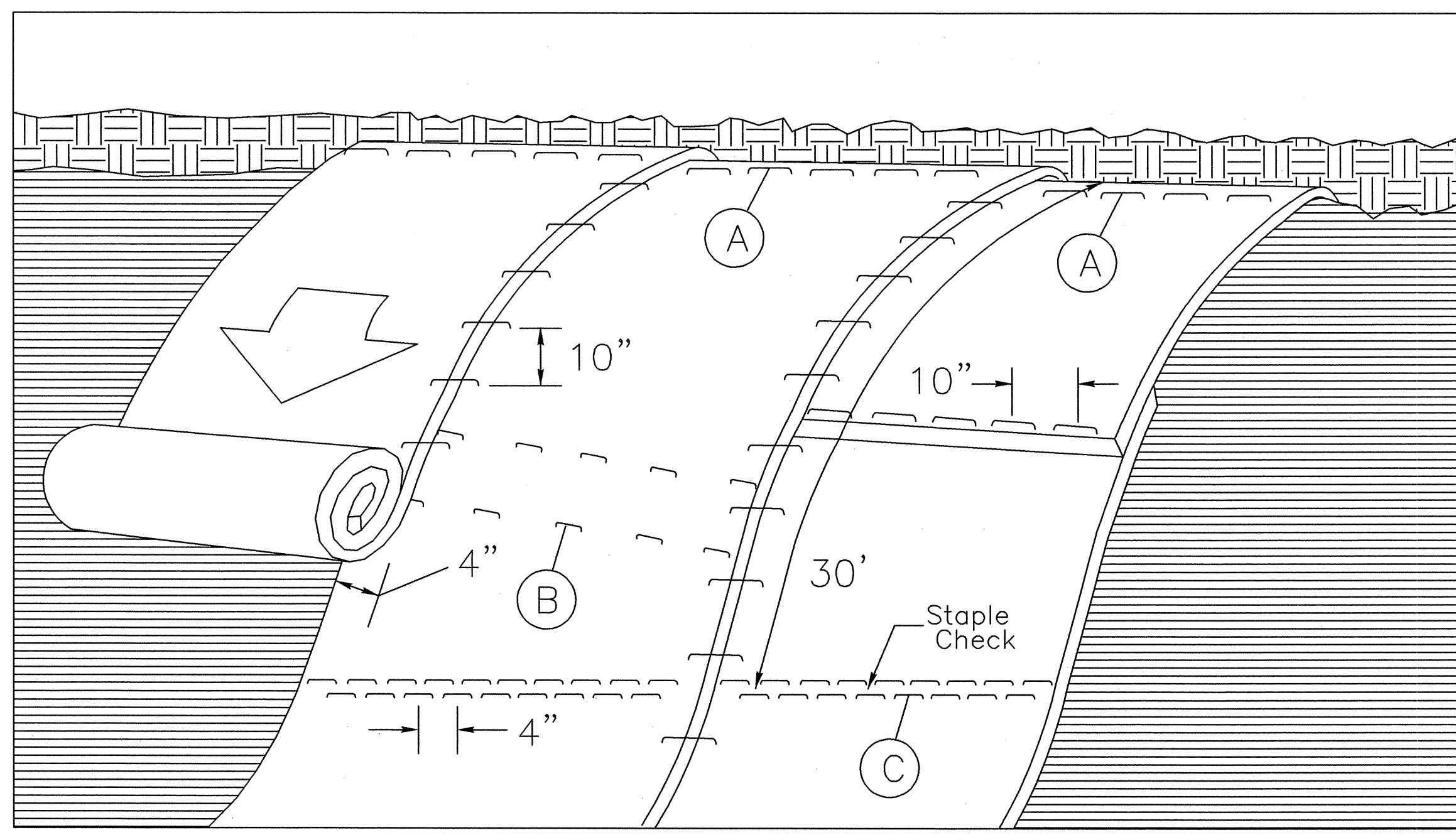


DIAGRAM (A)



**MATTING ON SLOPES**

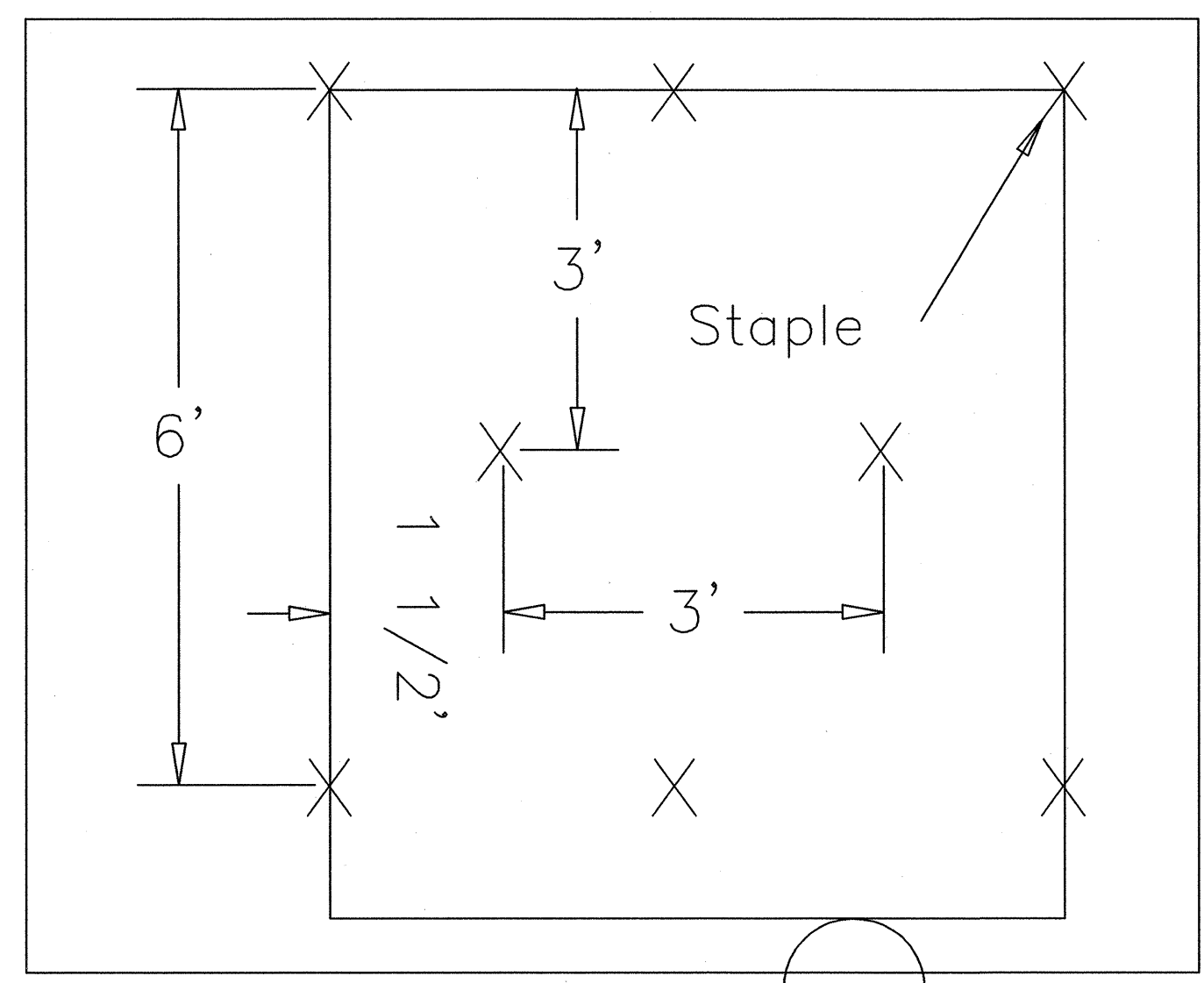


DIAGRAM B

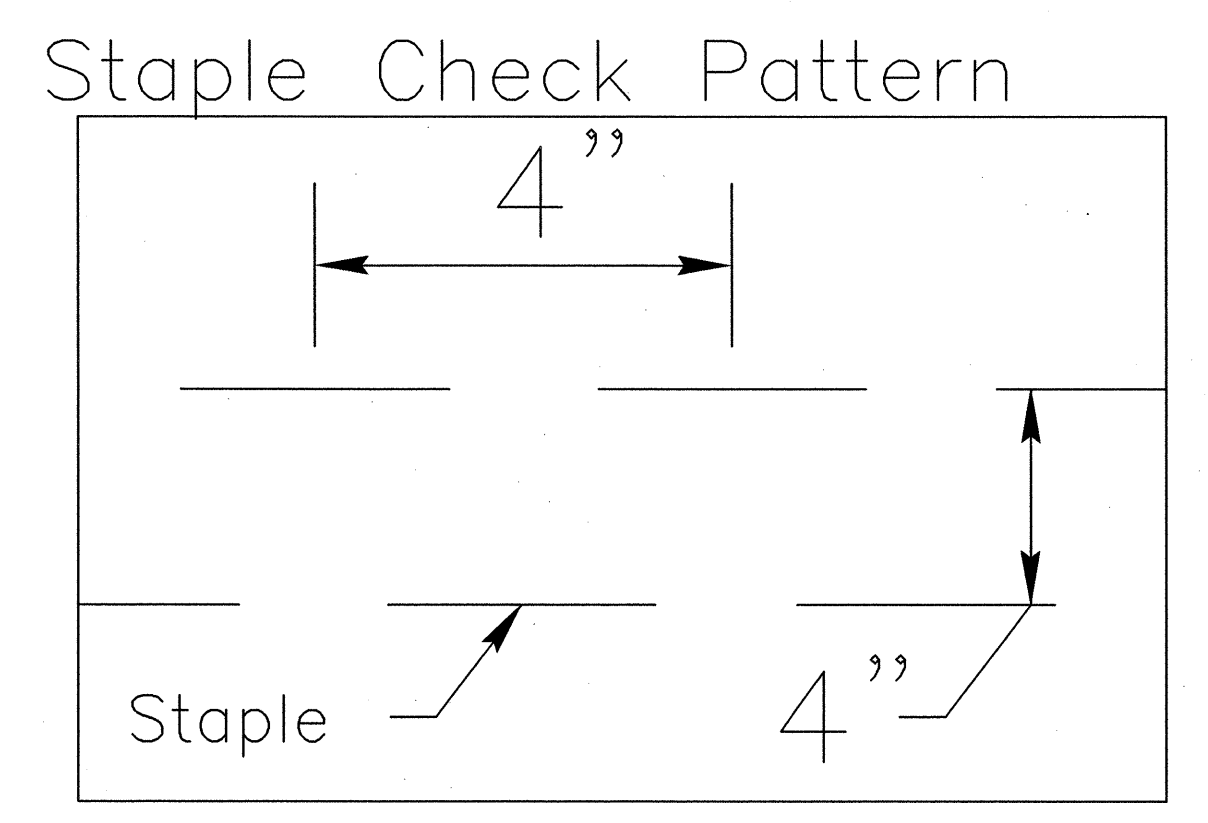


DIAGRAM (C)

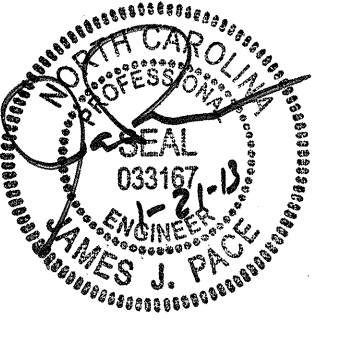

**NOTES:**

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



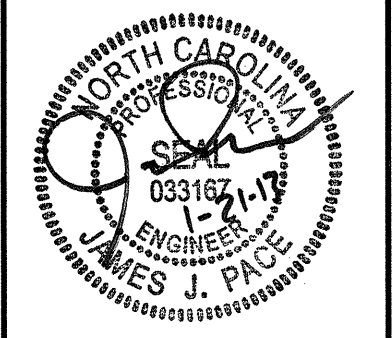

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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. <i>U-3609A</i>	SHEET NO. <i>EC-3</i>
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





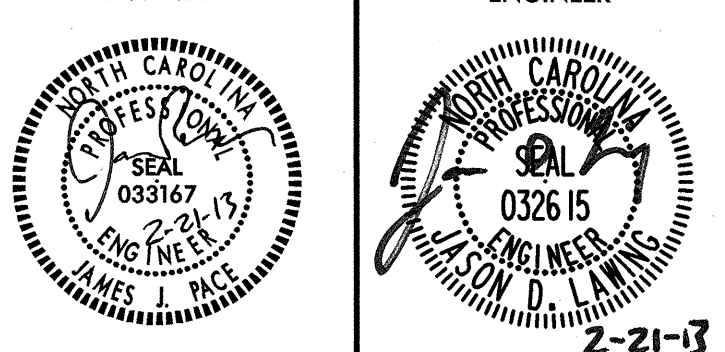
Kimley-Horn  
and Associates, Inc.

P.O. BOX 33068  
RALEIGH, N.C. 27636-3068

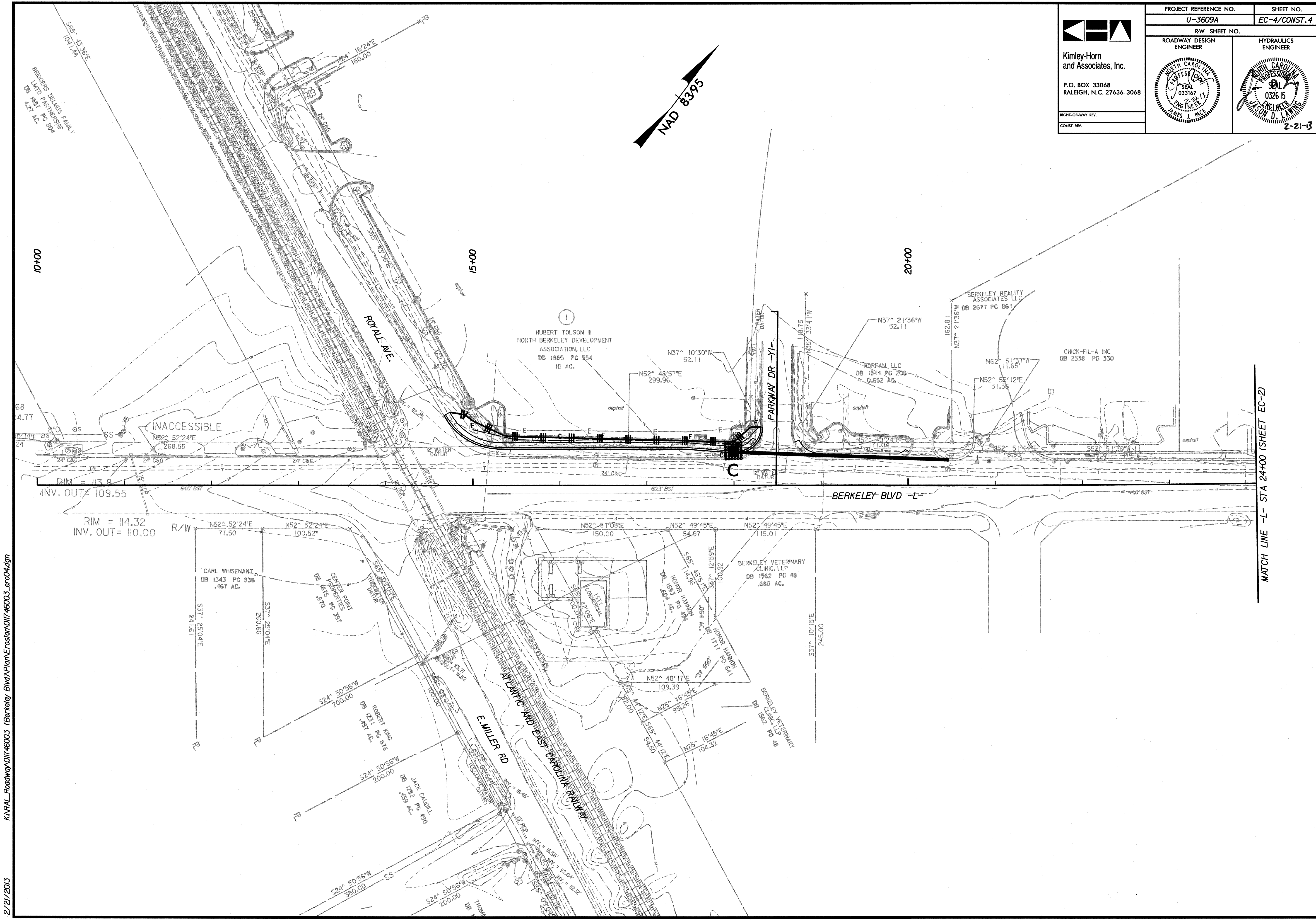
RIGHT-OF-WAY REV.  
CONST. REV.

PROJECT REFERENCE NO. SHEET NO.  
U-3609A EC-4/CONST.4

R/W SHEET NO. HYDRAULICS ENGINEER



MATCH LINE -L- STA 24+00 (SHEET EC-2)



10+00

15+00

20+00

68  
14.77  
24

RIM = 113.8  
INV. OUT = 109.55

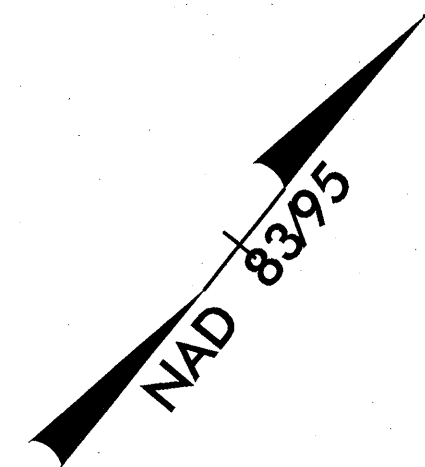
RIM = 114.32  
INV. OUT = 110.00

BERKELEY BLVD -L-

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2/21/2013





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

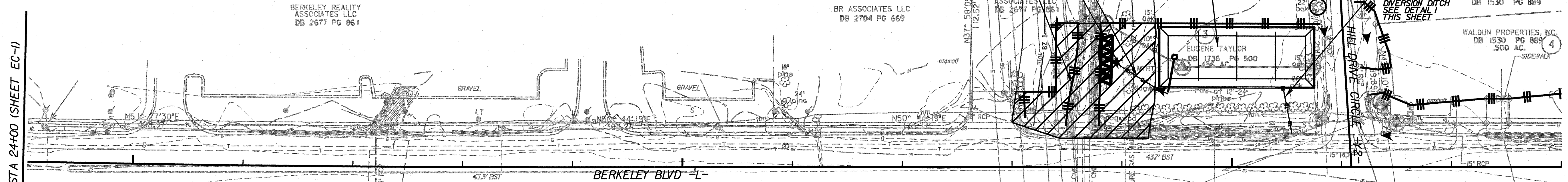
PROJECT REFERENCE NO. U-3609A	SHEET NO. EC-5/CONST.5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE -L- STA 24+00 (SHEET EC-1)

25+00

30+00

35+00

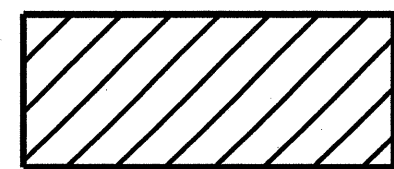


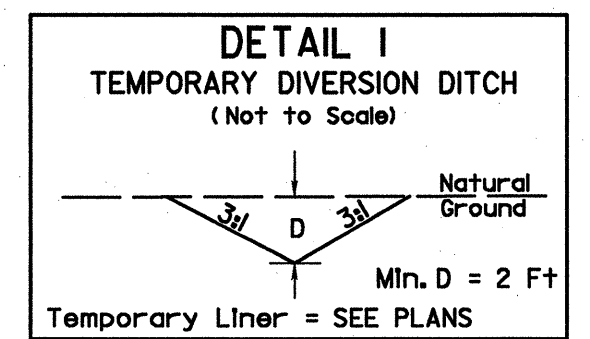
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

NOTE:  
UTILIZE SKIMMER BASIN AS STILLING  
BASIN WHERE APPLICABLE.

NOTE:  
UTILIZE INFILTRATION BASIN AS STILLING  
BASIN WHERE APPLICABLE.

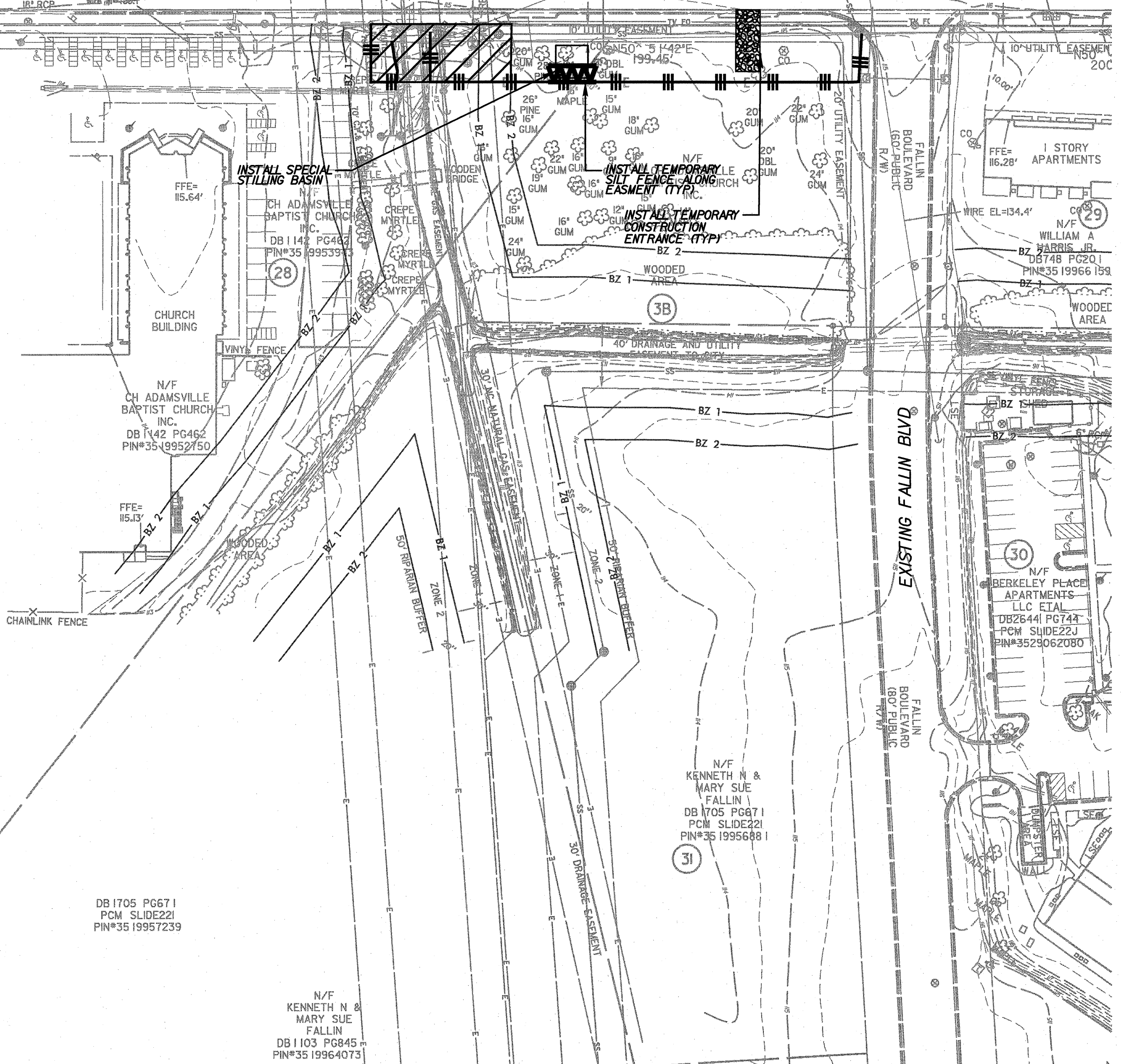
INSTALL PIPE(S) IN JURISDICTIONAL AREAS ACCORDING TO  
NCDOT BEST MANAGEMENT PRACTICES FOR  
CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

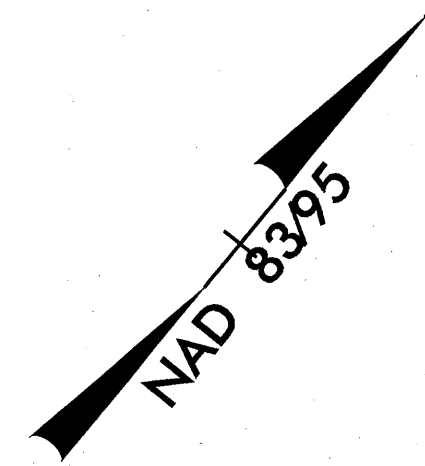


-L- STA 33+80 TO 34+42 (LT)  
-L- STA 35+46 TO 35+49 (LT)

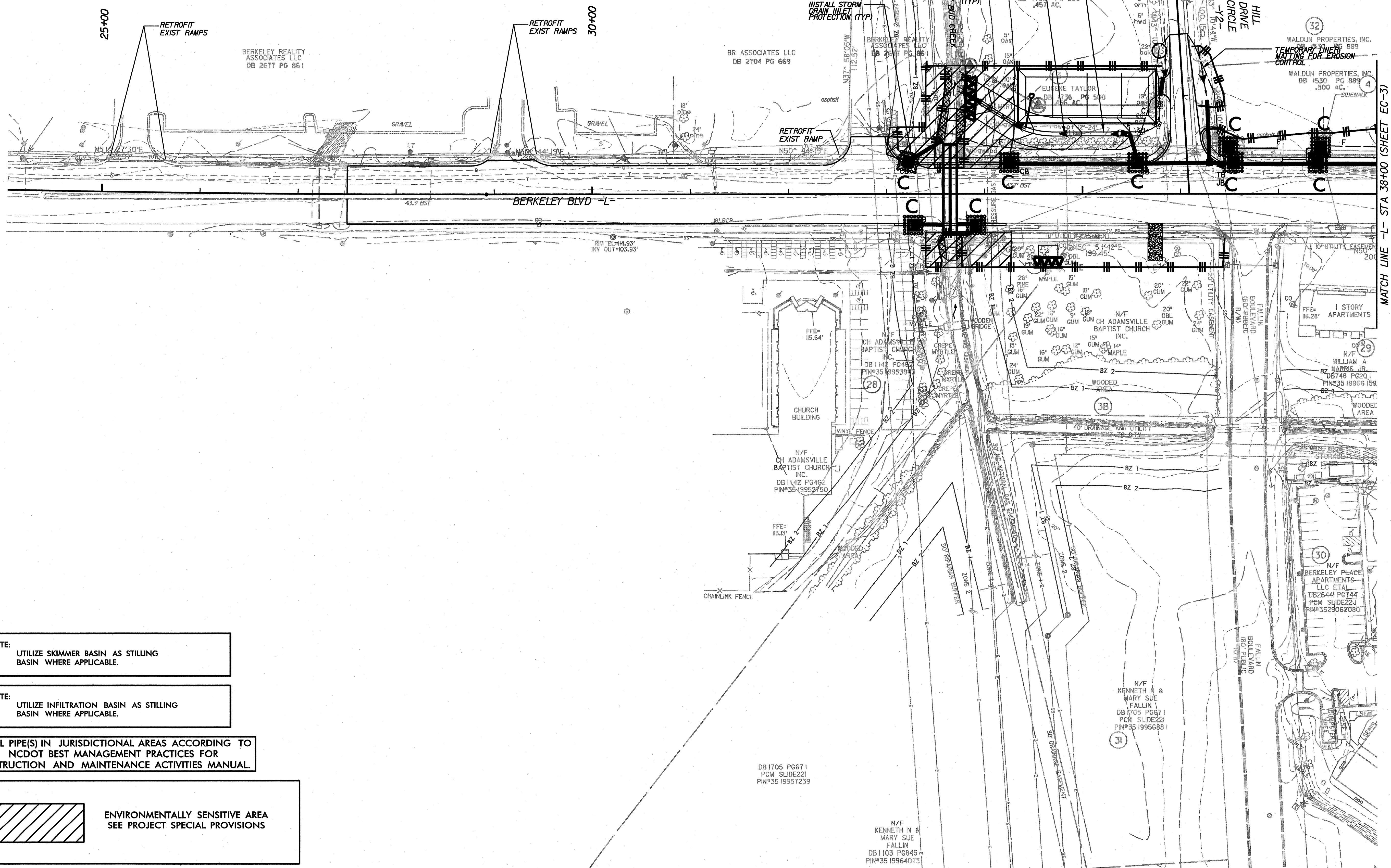
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PROJECT REFERENCE NO. U-3609A		SHEET NO. EC-6/CONST.5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Kimley-Horn and Associates, Inc. P.O. BOX 33068 RALEIGH, N.C. 27636-3068			



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

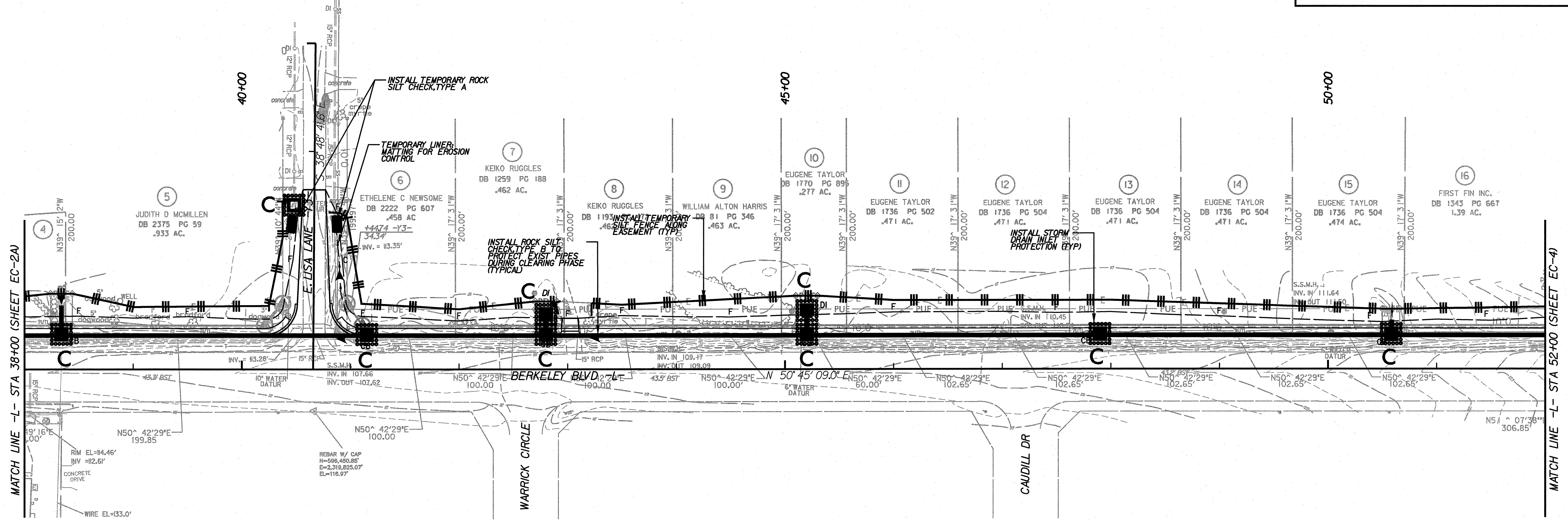
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1/26/2015

MATCH LINE -L- STA 38+00 (SHEET EC-3)



	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.

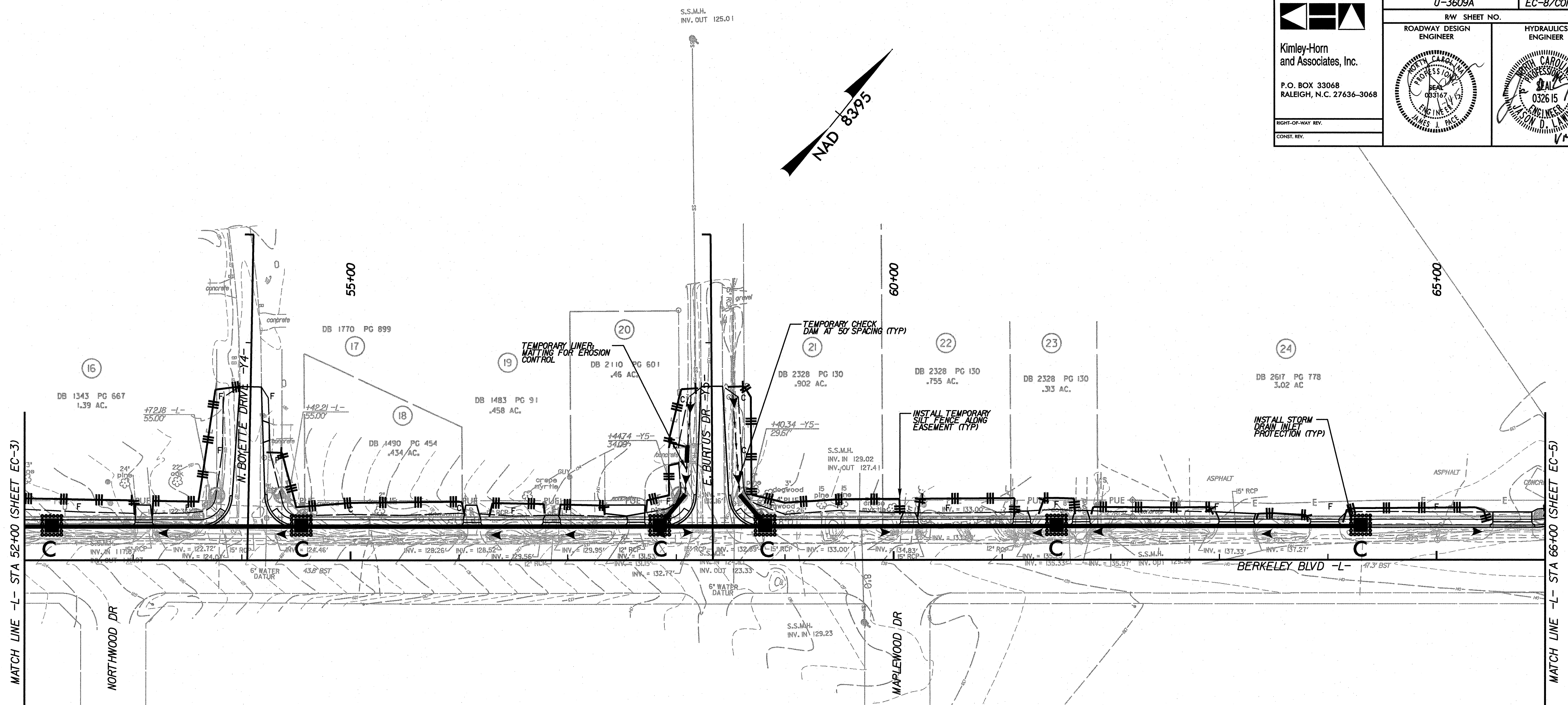


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1/14/2015

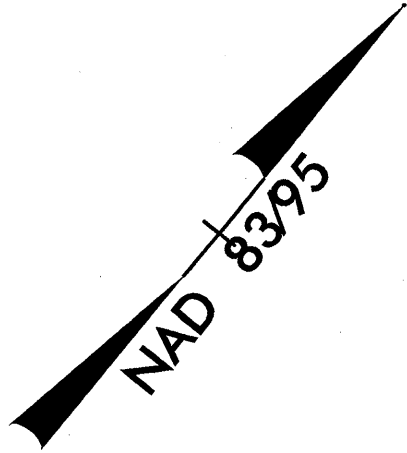





	PROJECT REFERENCE NO.	SHEET NO.
	U-3609A	EC-8/CONST.8
Kimley-Horn and Associates, Inc.  P.O. BOX 33068 RALEIGH, N.C. 27636-3068  RIGHT-OF-WAY REV. CONST. REV.	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

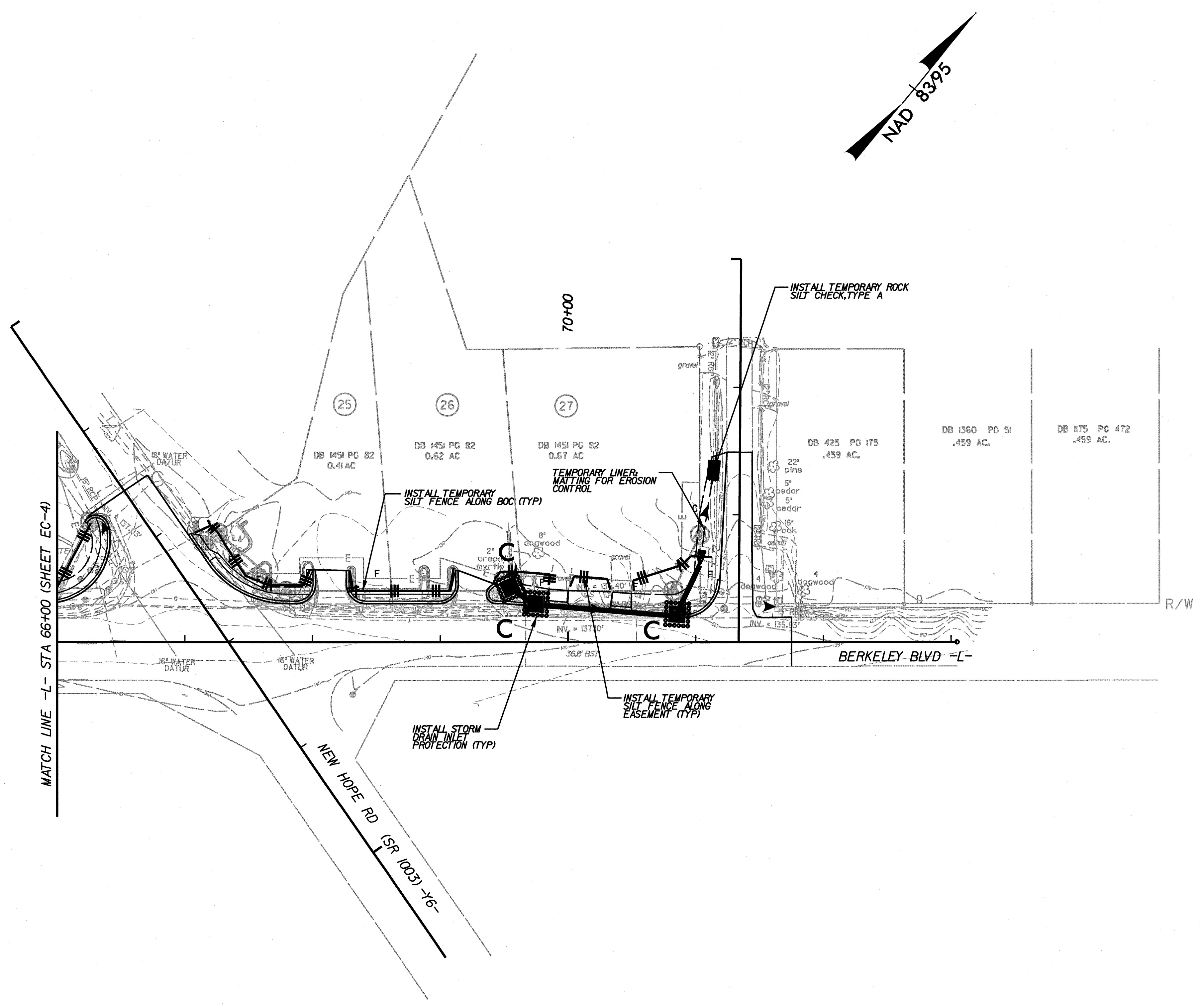


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1/14/2015

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

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



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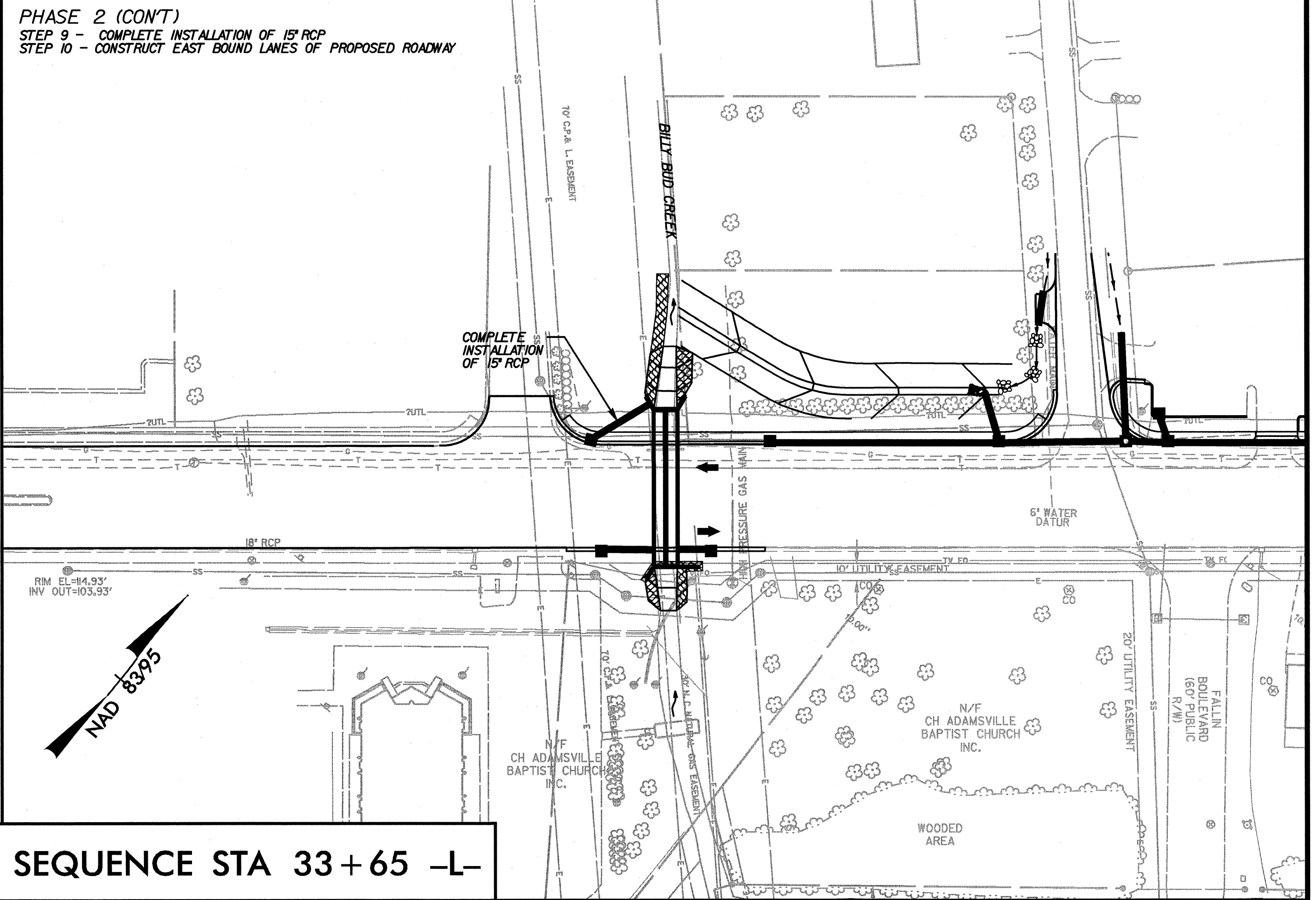
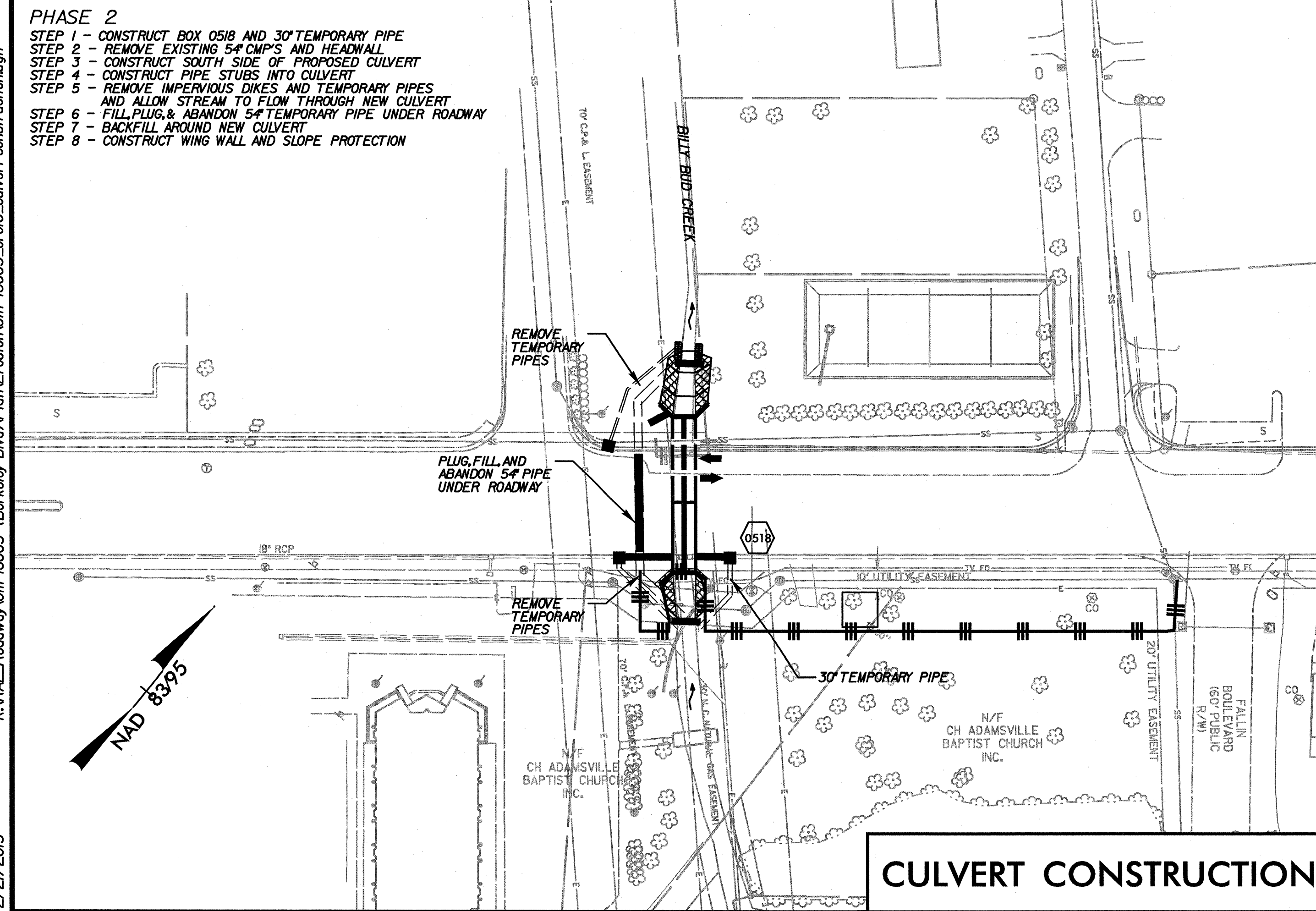
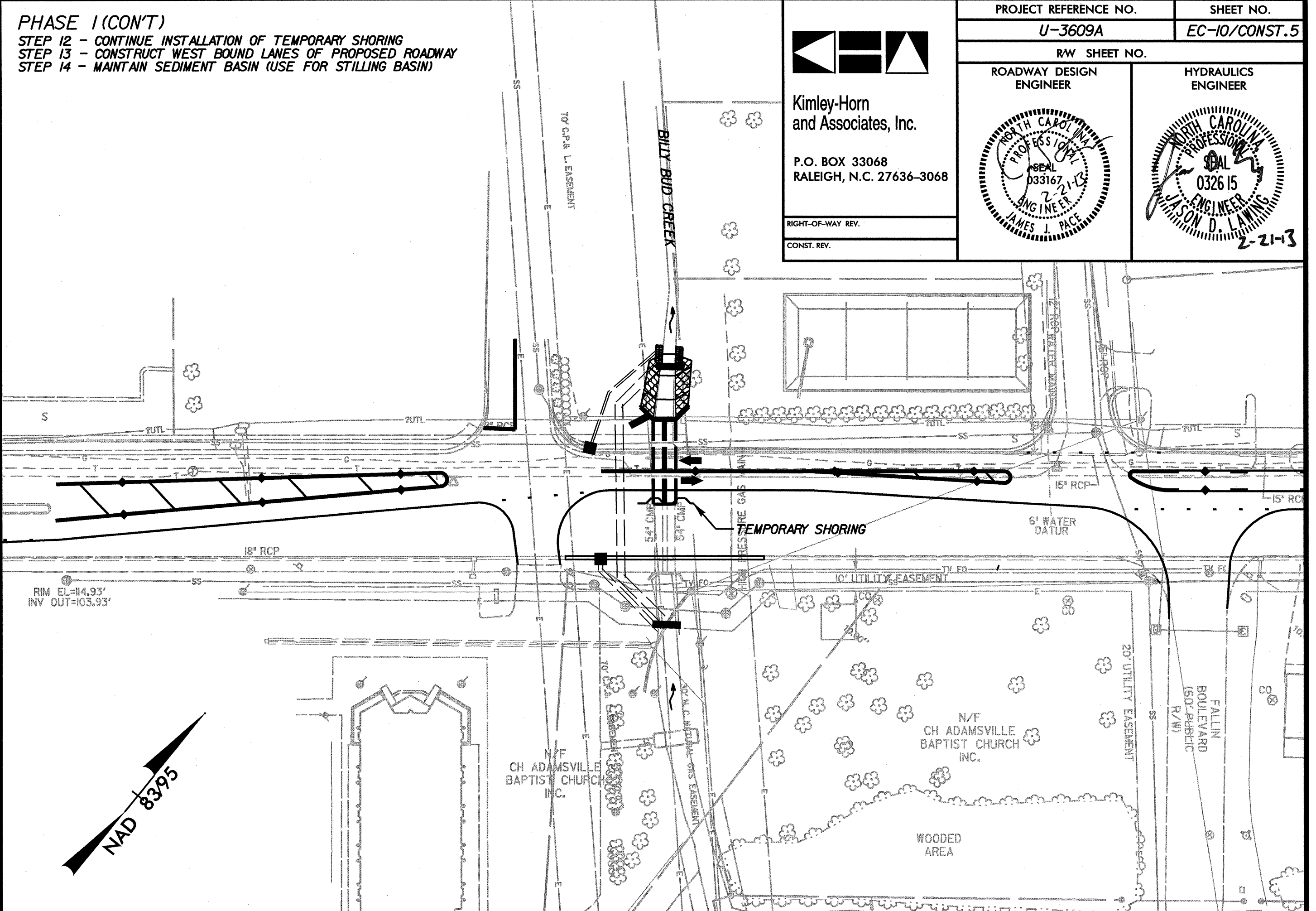
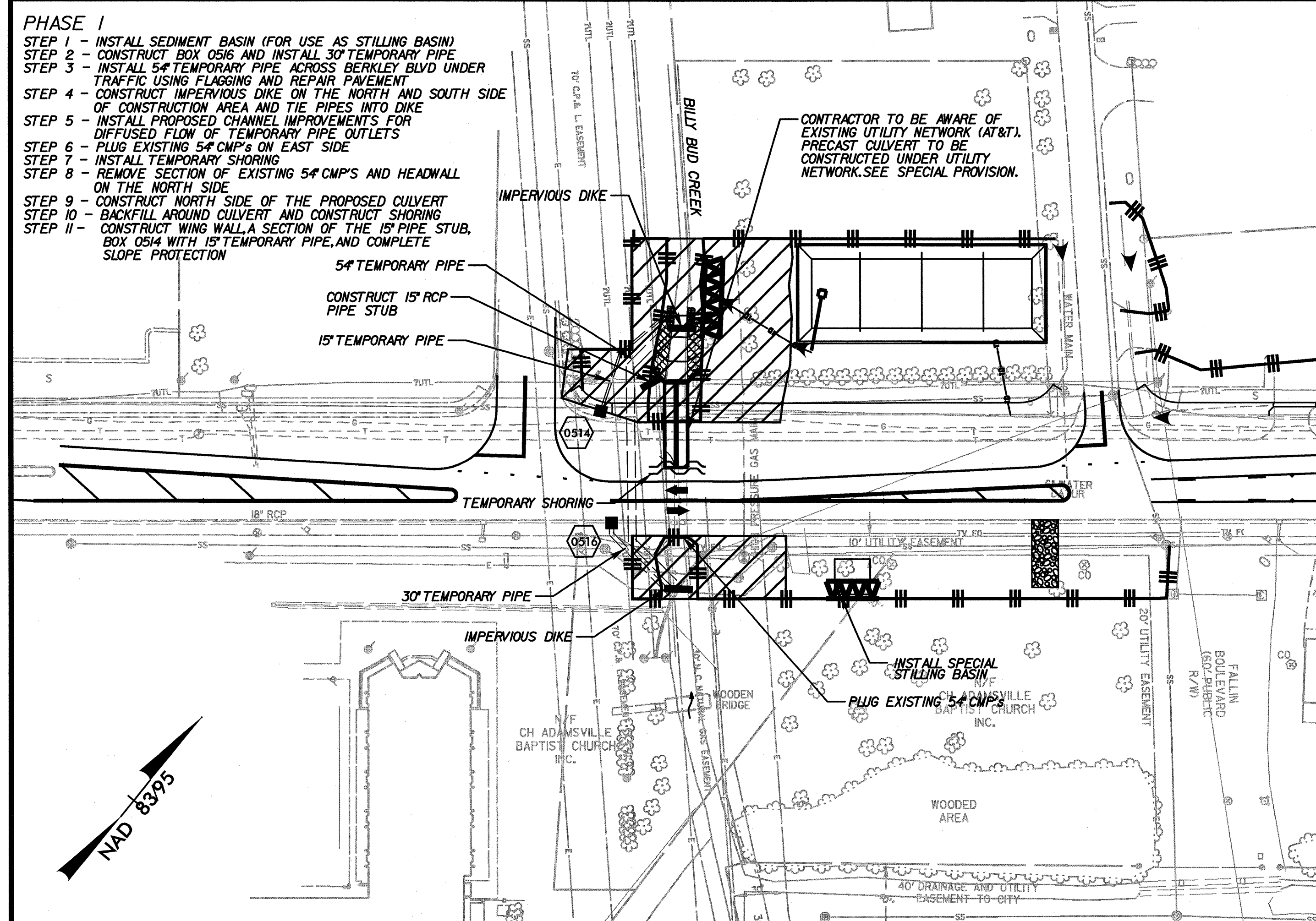
2/21/2013



PROJECT REFERENCE NO. U-3609A	SHEET NO. EC-10/CONST.5
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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