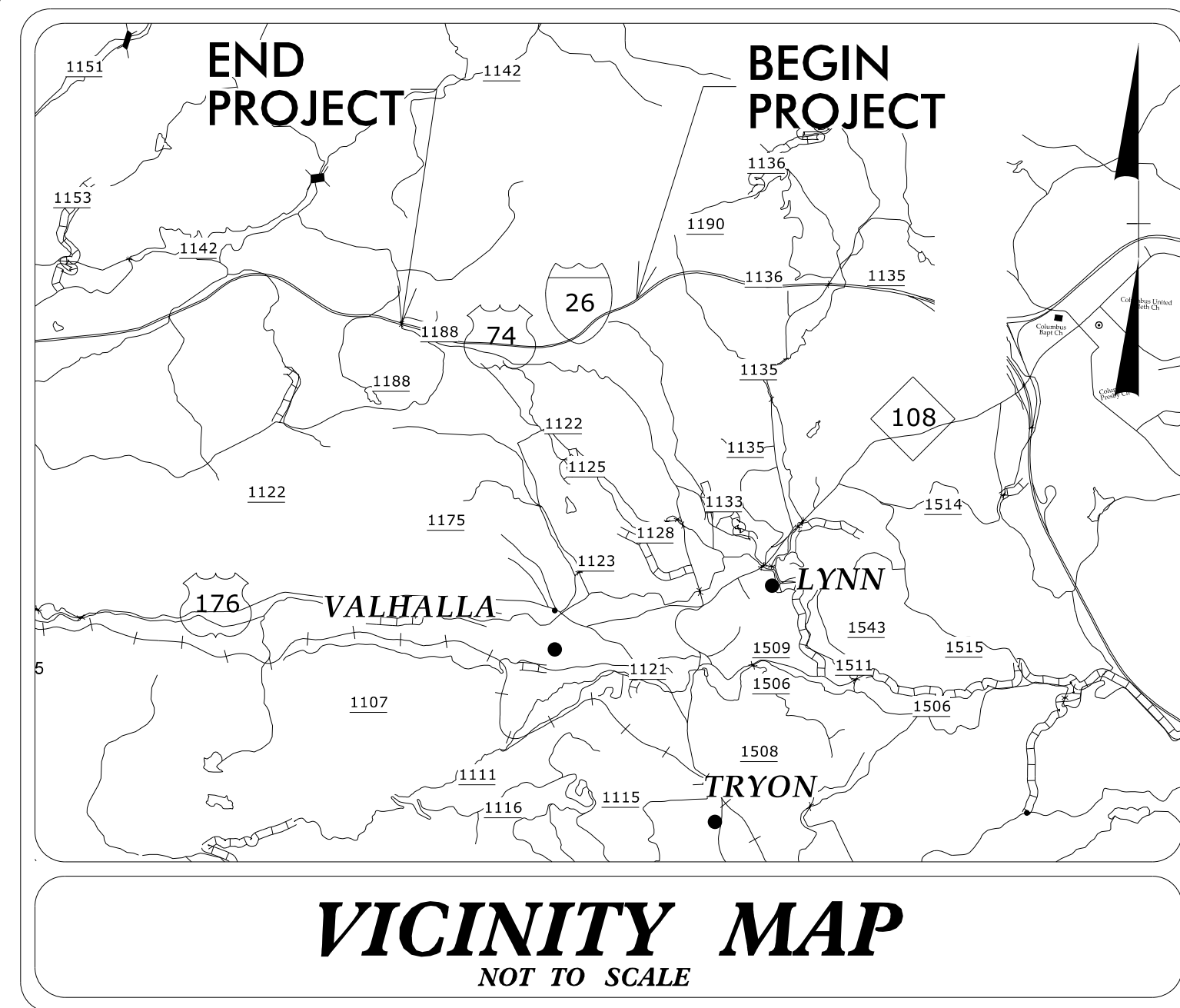
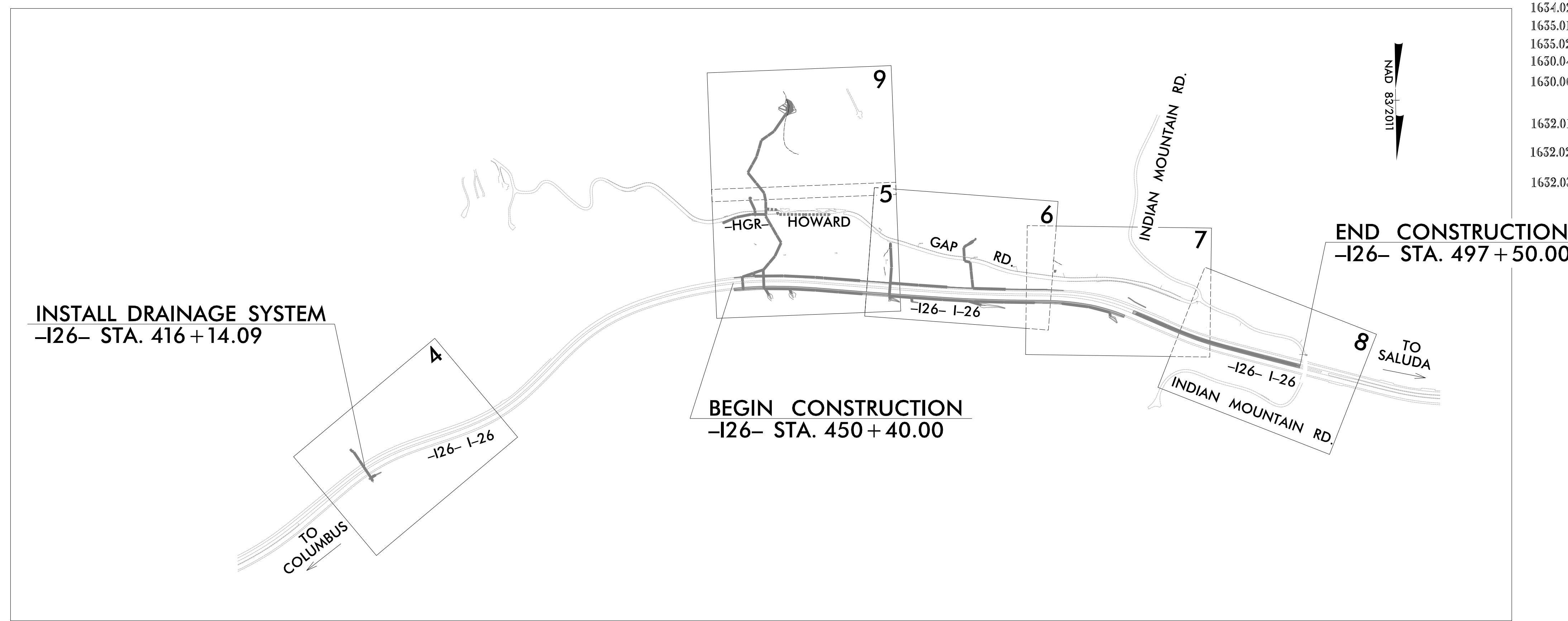


PROJECT: 15614.1075010



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

LOCATION: I-26/SR 1122 (HOWARD GAP RD)
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	15614.1075010	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
15614.1075010	N/A	PE	
15614.1075010	N/A	RW & UTIL	
15614.1075010	N/A	CONST.	

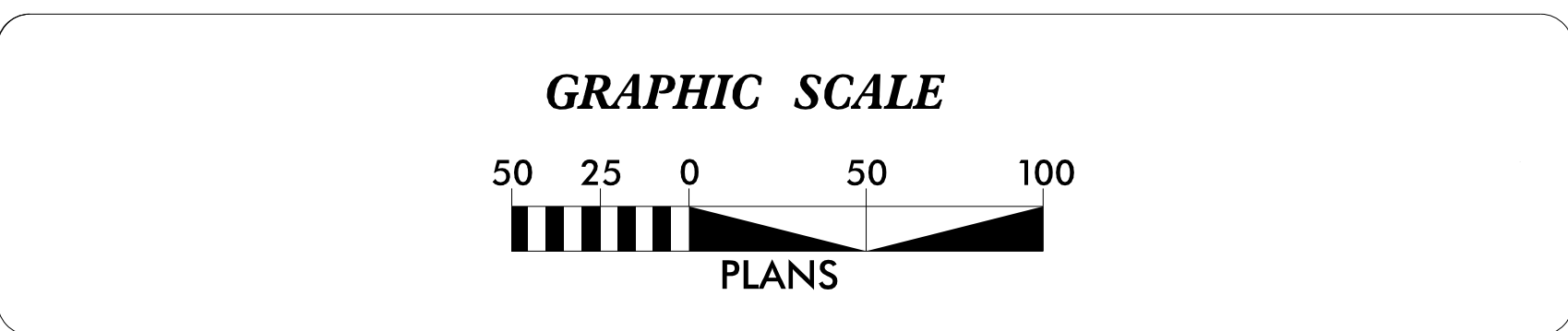
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.05	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle / Coir Fiber Wattle	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTRA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTRB
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	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

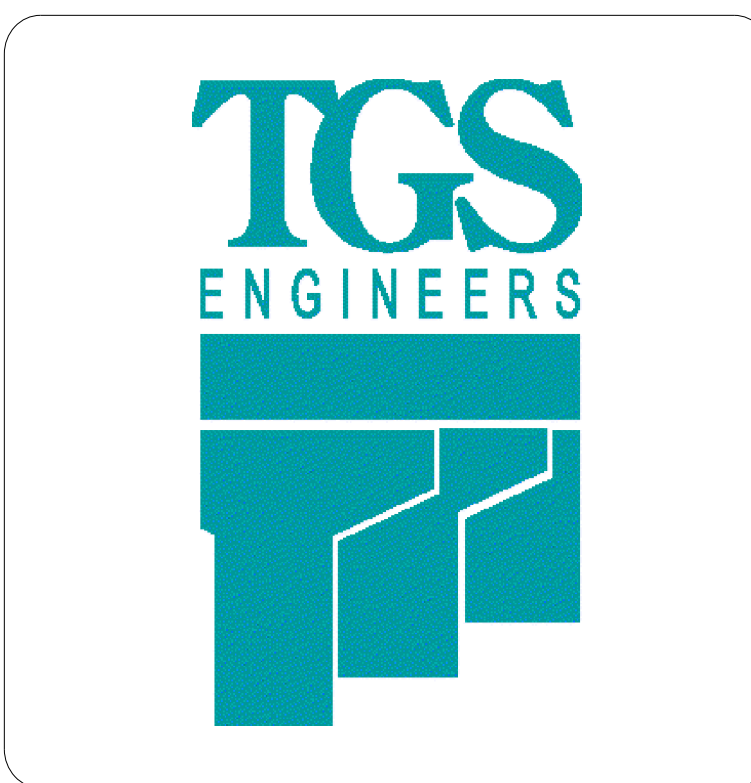
THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.



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:
TGS ENGINEERS
706 HILLSBOROUGH ST.
SUITE 200
RALEIGH, NC 27603

Designed by:
Briana A. James, EI **4041**
NAME LEVEL III CERTIFICATION NO.

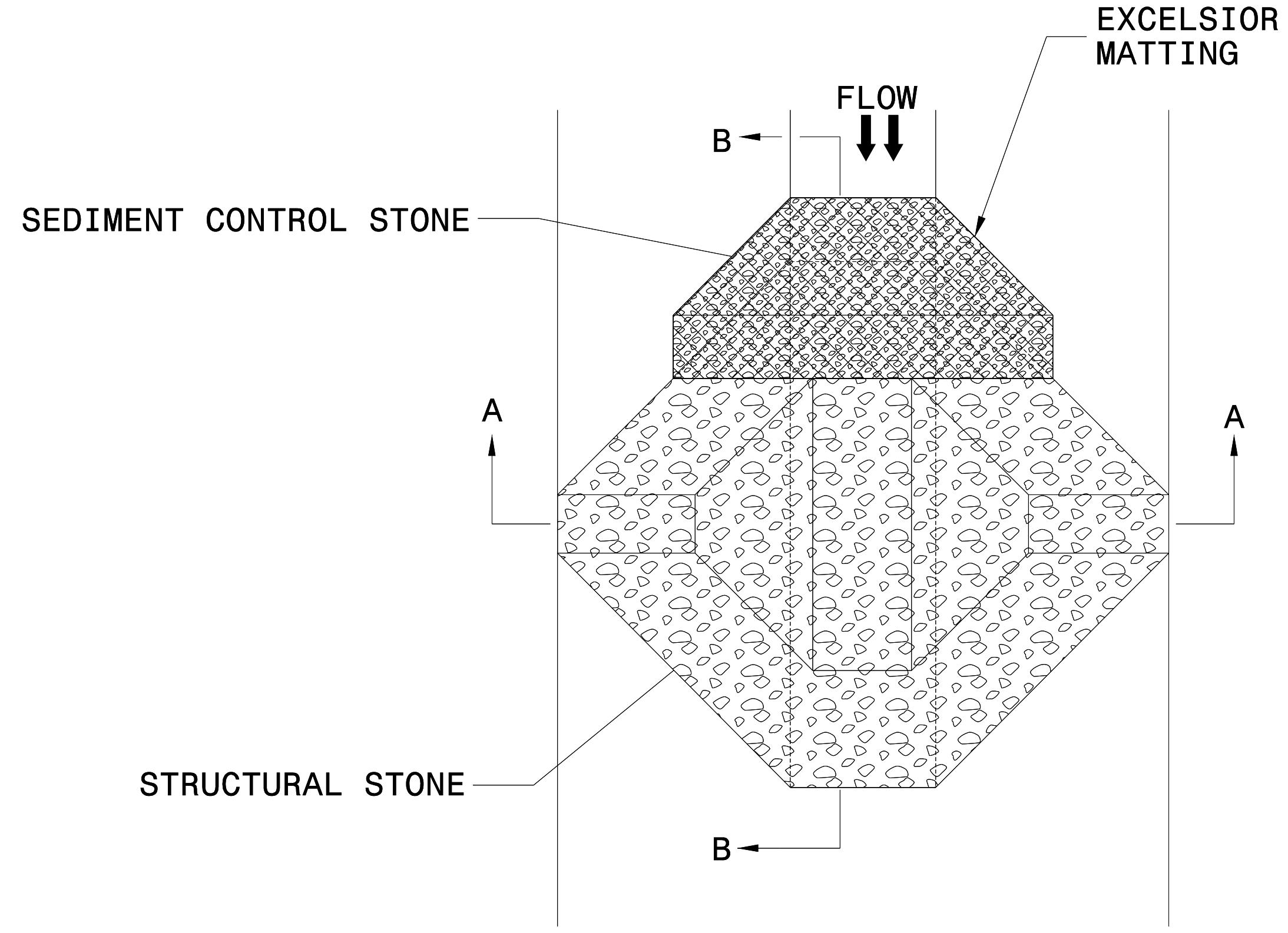
Roadway Standard Drawings

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. 15614J075010	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

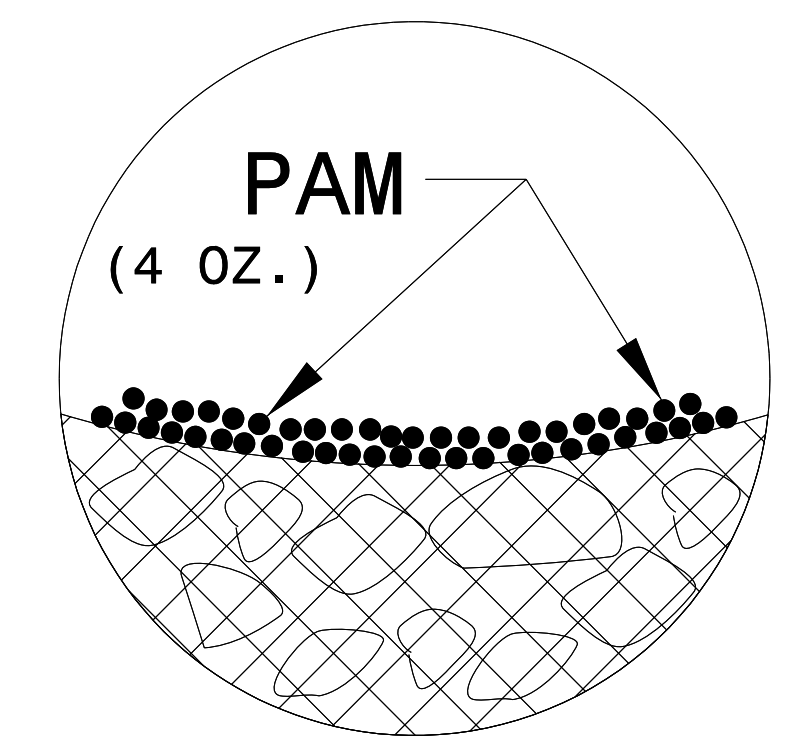
NOTES:

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

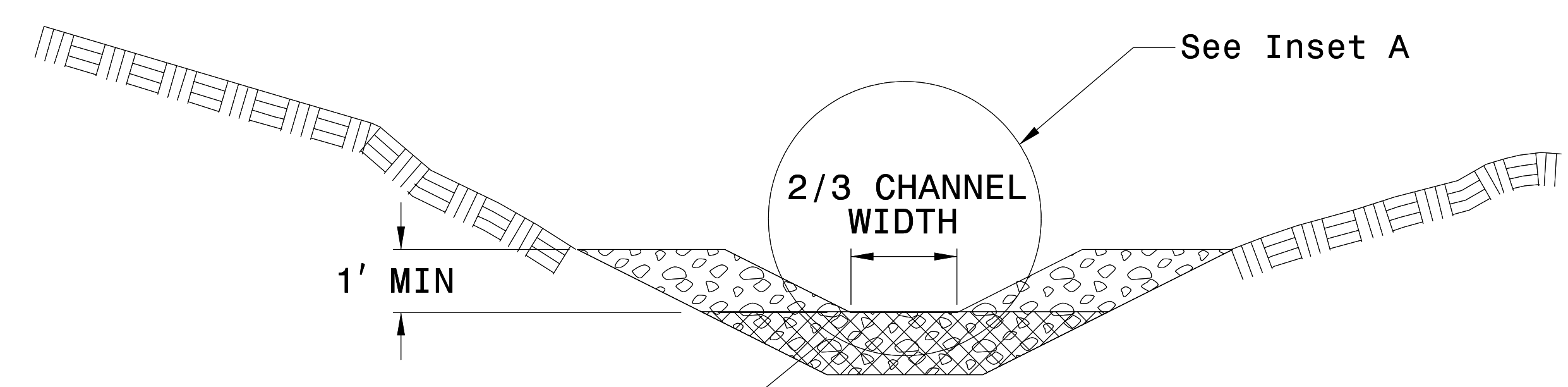
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

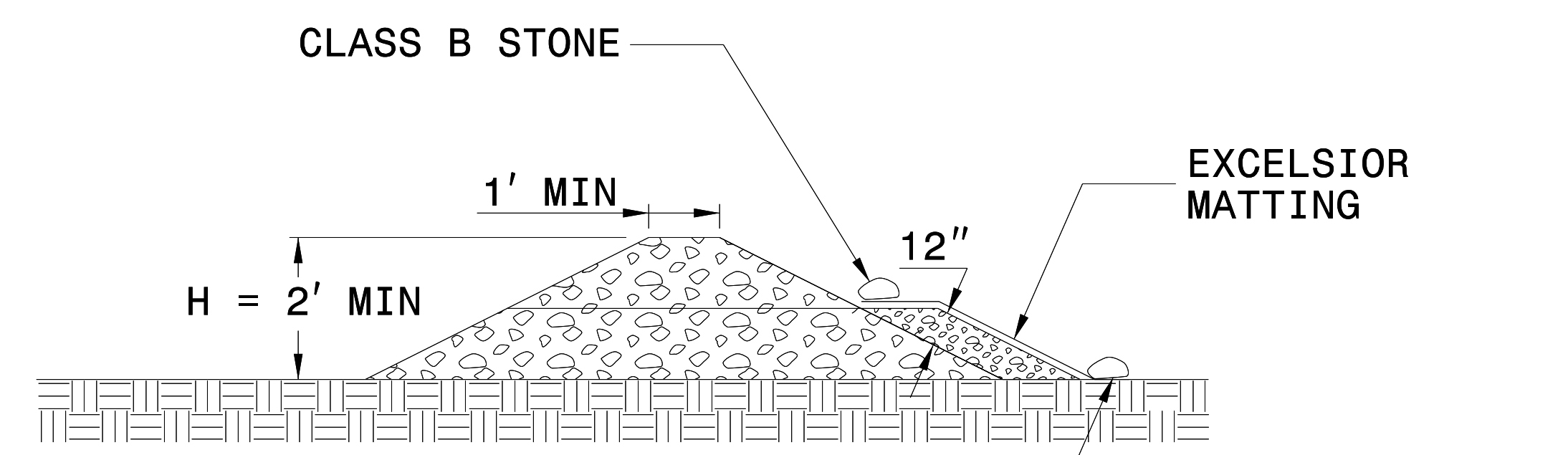
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



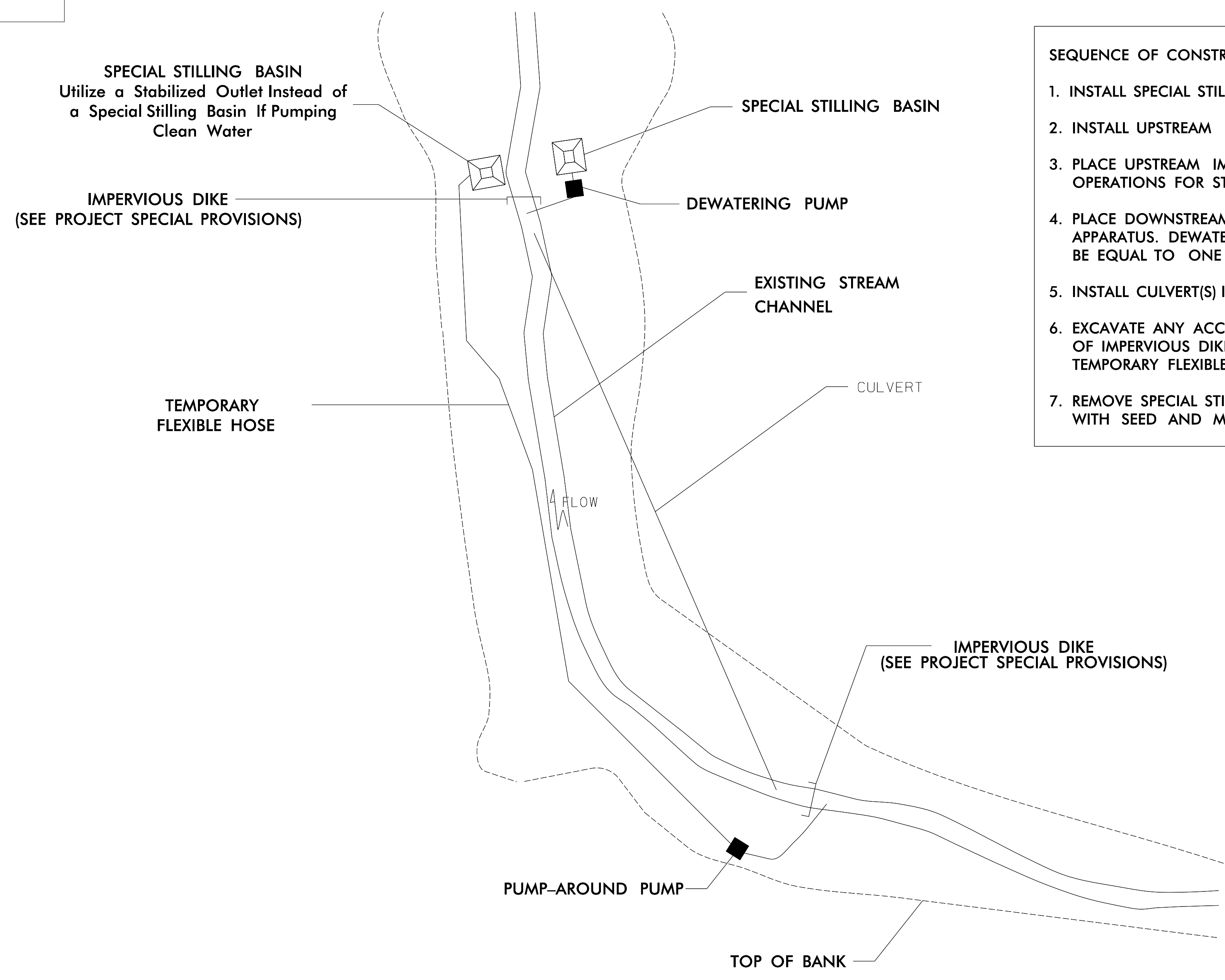
SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
15614J075010	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER


EXAMPLE OF PUMP-AROUND OPERATION

- NOTES:
- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
 - 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
 - 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
 - 4) Pumps and hoses shall be of sufficient size to dewater the work area.




- SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA
1. INSTALL SPECIAL STILLING BASIN(S).
 2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
 5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
 6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
 7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>15614.1075010</i>		SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275		

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.

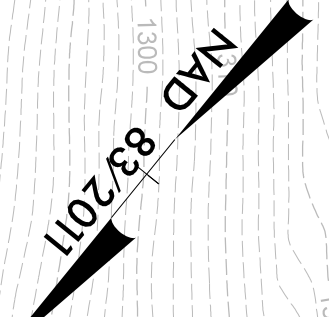
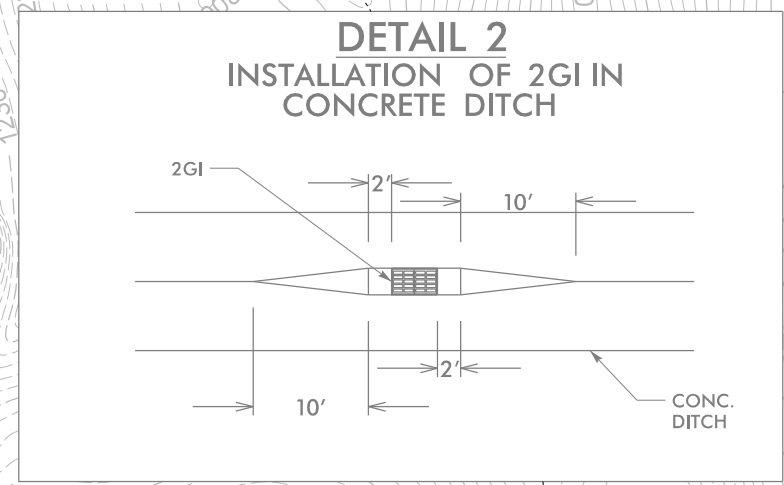
PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

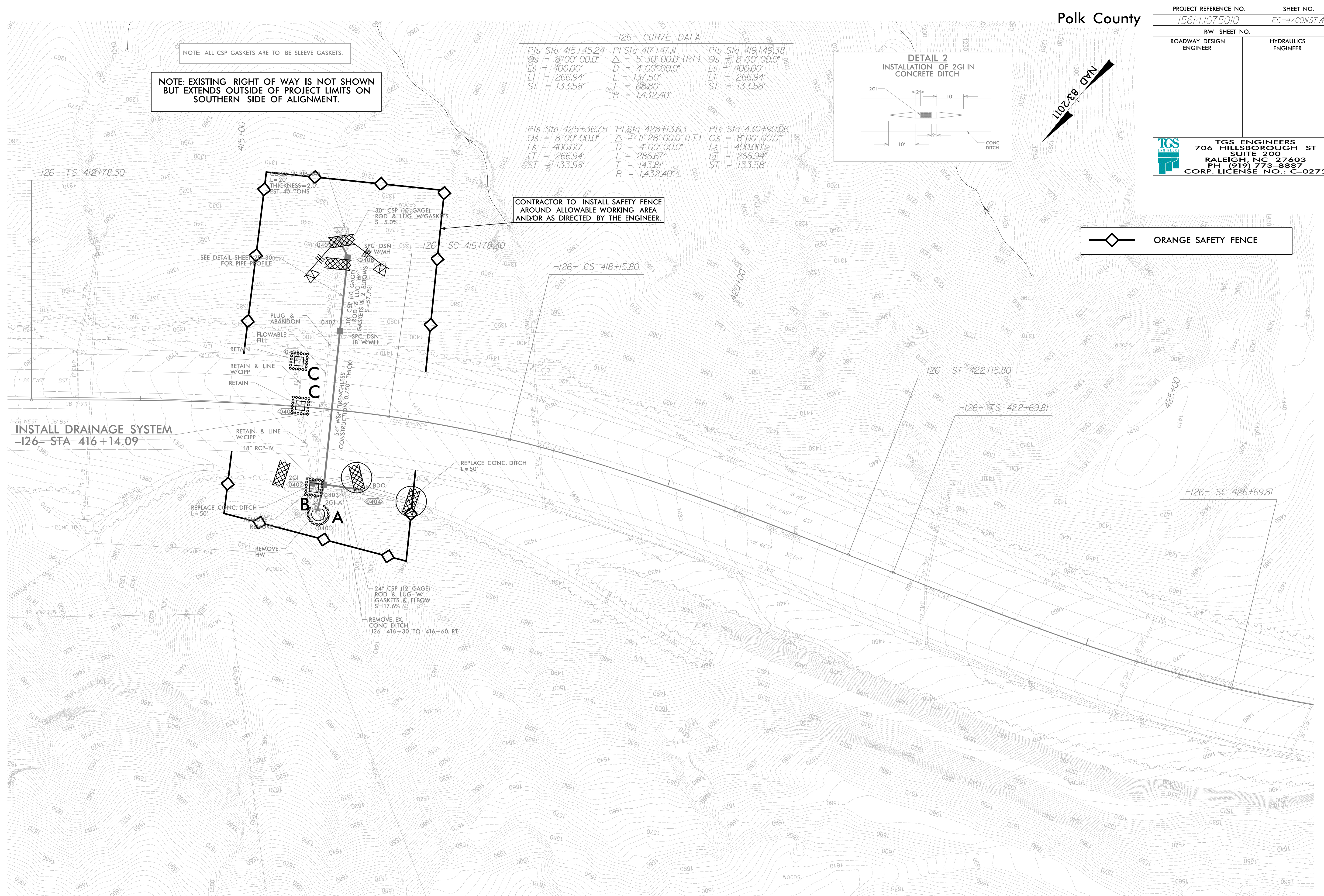
NOTE: EXISTING RIGHT OF WAY IS NOT SHOWN BUT EXTENDS OUTSIDE OF PROJECT LIMITS ON SOUTHERN SIDE OF ALIGNMENT.

-126- CURVE DATA

PIs Sta 415+45.24 @s = 8'00" 00.0" Ls = 400.00' LT = 266.94' ST = 133.58'	PI Sta 417+47.11 Δ = 5'30" 00.0" (RT) D = 4'00" 00.0" L = 137.50' T = 68.80' R = 1,432.40'	PIs Sta 419+49.38 @s = 8'00" 00.0" Ls = 400.00' LT = 266.94' ST = 133.58'
PIs Sta 425+36.75 @s = 8'00" 00.0" Ls = 400.00' LT = 266.94' ST = 133.58'	PI Sta 428+13.63 Δ = 1'28" 00.0" (LT) D = 4'00" 00.0" L = 286.67' T = 143.81' R = 1,432.40'	PIs Sta 430+90.06 @s = 8'00" 00.0" Ls = 400.00' LT = 266.94' ST = 133.58'



CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.



INSTALL DRAINAGE SYSTEM
-126- STA 416+14.09

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

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 4

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

MATCH LINE MATCH TO SHEET NO. 9

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

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C,
UTILIZE FABRIC INSERT INLET PROTECTION
DEVICES IN AREAS WHERE WATER MAY
POND ON ROAD OPEN TO LIVE TRAFFIC AND
ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

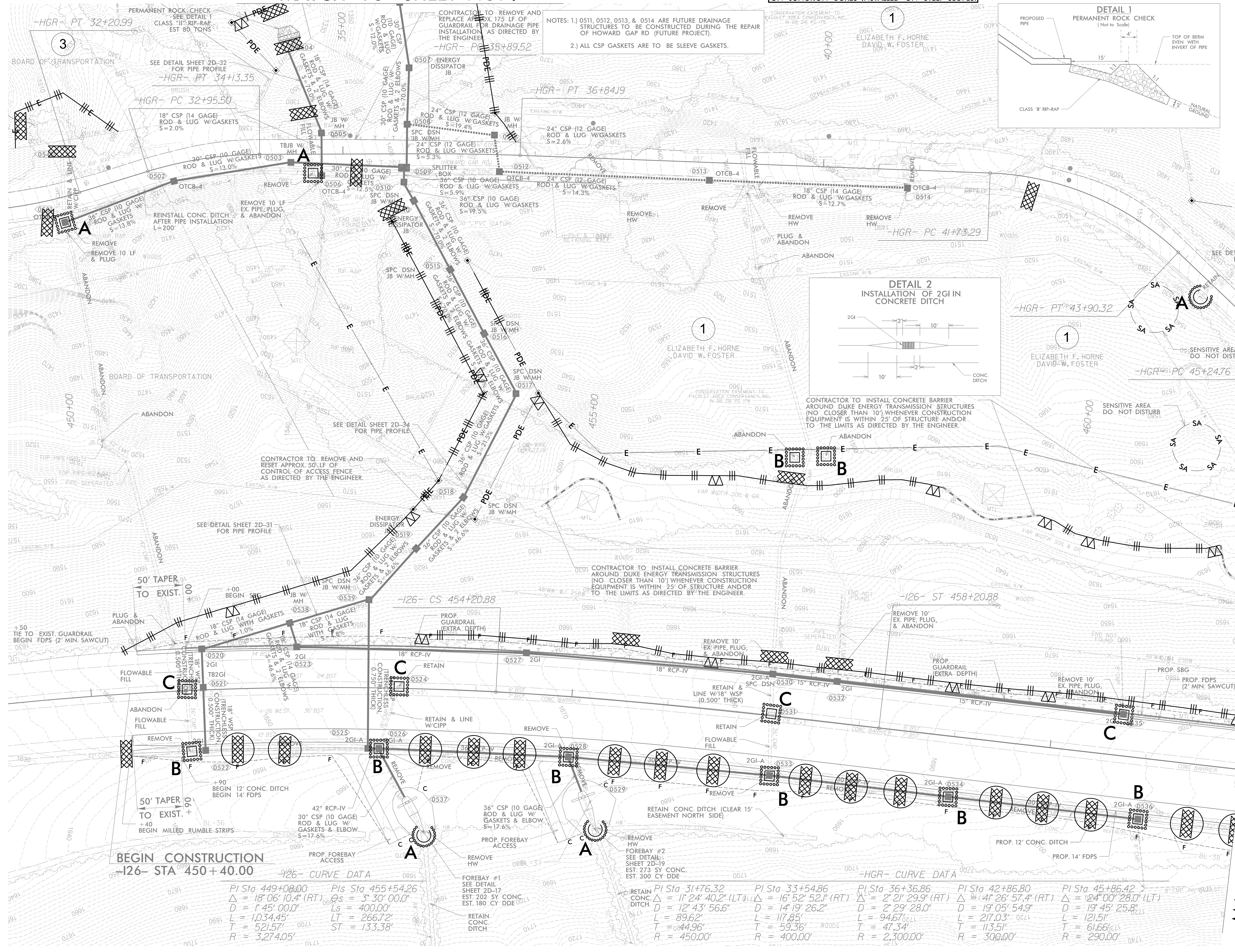
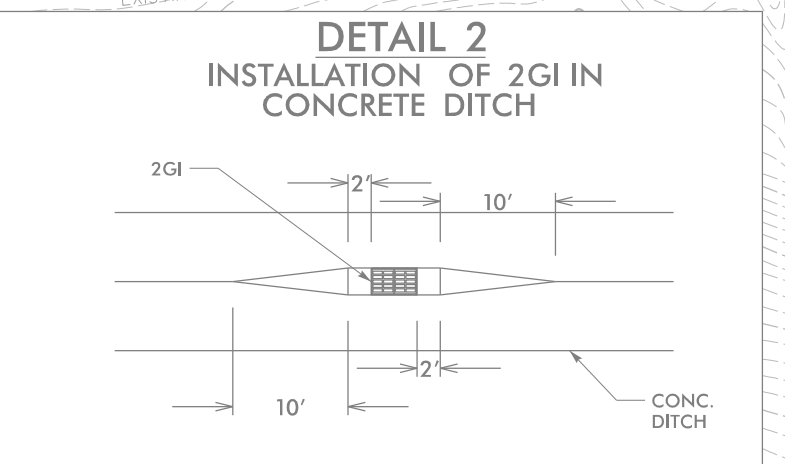
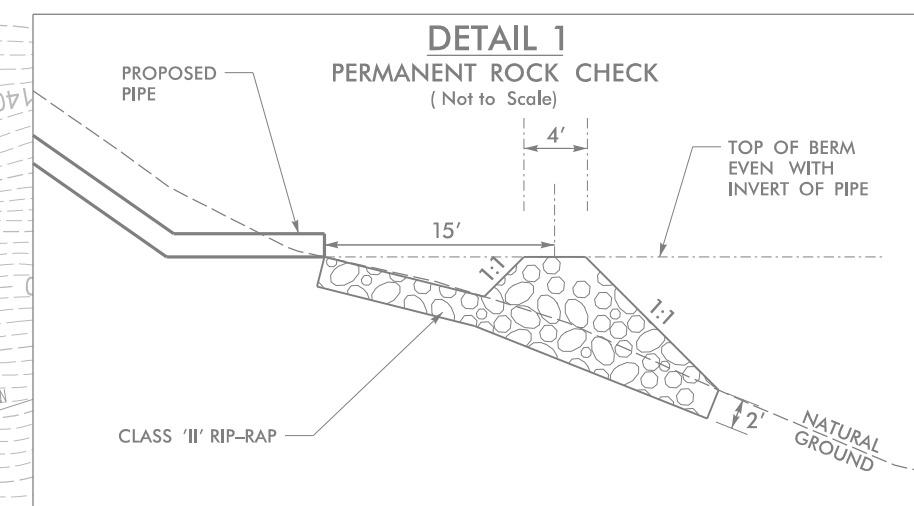
SA SENSITIVE AREA

Polk County

PROJECT REFERENCE NO. 15614.1075010
SHEET NO. EC-5/CONST.5

RW SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275




BEGIN CONSTRUCTION
-126- STA 450+40.00


-126- CURVE DATA

PI Sta 449+08.00 Δ = 18° 08' 10.4" (RT) D = 1' 45' 00.0" L = 1,034.45' T = 521.57' R = 3,274.05'	Pis Sta 455+54.26 Δs = 3° 30' 00.0" Ls = 400.00' LT = 266.72' ST = 133.38'	PI Sta 31+76.32 Δ = 11° 24' 40.2" (LT) D = 12' 43' 56.6" L = 89.62' T = 44.96' R = 450.00'	PI Sta 33+54.86 Δ = 16° 52' 52.1" (RT) D = 14' 19' 26.2" L = 117.85' T = 59.36' R = 400.00'	-HGR- CURVE DATA PI Sta 36+36.86 Δ = 2° 21' 29.9" (RT) D = 2' 29' 28.0" L = 94.67' T = 47.34' R = 2,300.00'	PI Sta 42+86.80 Δ = 41° 26' 57.4" (RT) D = 19' 05' 54.9" L = 121.03' T = 113.51' R = 300.00'	PI Sta 45+86.42 Δ = 124° 00' 28.0" (LT) D = 19' 45' 25.8" L = 121.51' T = 61.66' R = 290.00'
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MATCH LINE STA. -126- 462+00
MATCH TO SHEET NO. 6

NAD 83/2011

PROJECT REFERENCE NO. 156141075010		SHEET NO. EC-6/CONST.6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275			

 ORANGE SAFETY FENCE

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES

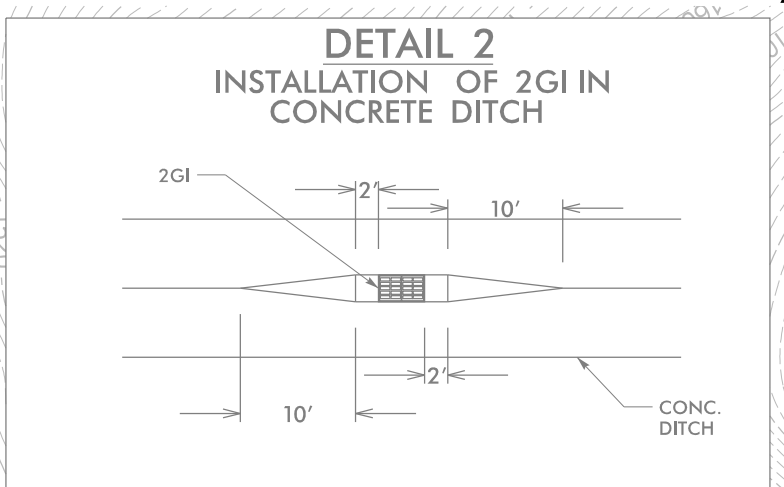
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

-HGR- CURVE DATA

PI Sta	PI Sta	PI Sta	PI Sta	PIs Sta	PI Sta	PIs Sta
45+86.42	50+90.24	53+74.76	56+52.71	468+13.01	469+36.39	472+59.68
$\Delta = 24^{\circ} 00' 28.0"$ (LT)	$\Delta = 10^{\circ} 08' 44.8"$ (LT)	$\Delta = 13^{\circ} 18' 26.3"$ (RT)	$\Delta = 12^{\circ} 50' 07.5"$ (LT)	$\Delta = 0^{\circ} 30' 00.0"$	$\Delta = 2^{\circ} 34' 00.0"$ (LT)	$\Delta = 0^{\circ} 30' 00.0"$
$D = 19^{\circ} 45' 25.8"$	$D = 5^{\circ} 08' 56.5"$	$D = 6^{\circ} 44' 26.4"$	$D = 5^{\circ} 37' 02.0"$	$Ls = 200.00'$	$D = 0^{\circ} 30' 00.0"$	$Ls = 200.00'$
$L = 121.51'$	$L = 198.33'$	$L = 197.42'$	$L = 228.50'$	$Lt = 133.33'$	$L = 513.33'$	$Lt = 133.33'$
$T = 61.66'$	$T = 99.42'$	$T = 99.16'$	$T = 114.73'$	$ST = 66.67'$	$T = 256.71'$	$ST = 66.67'$
$R = 290.00'$	$R = 1120.00'$	$R = 850.00'$	$R = 1020.00'$		$R = 11459.16'$	

-126- CURVE DATA



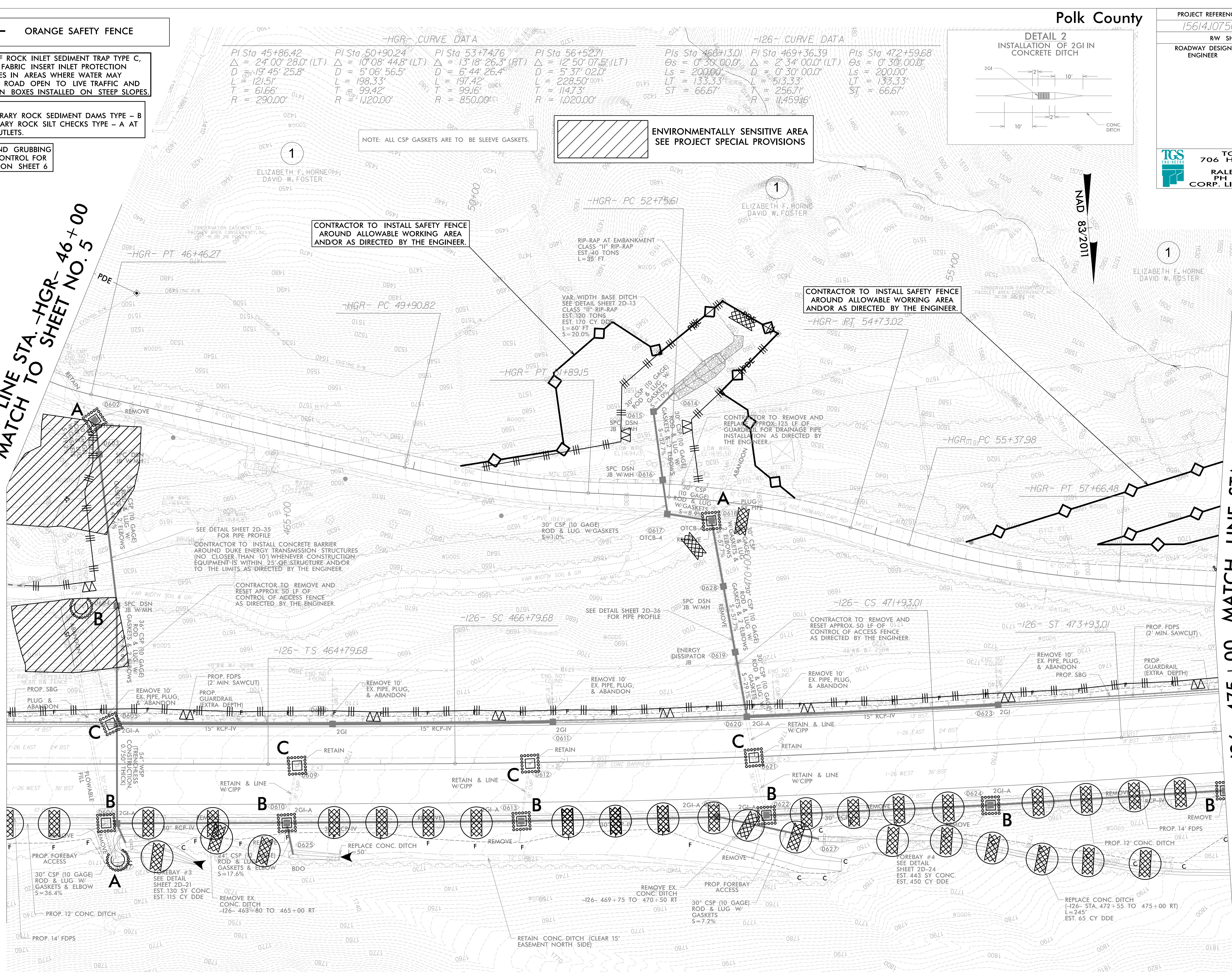
 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

MATCH LINE STA. -HGR- 46+00
MATCH TO SHEET NO. 5

MATCH LINE STA. -126- 462+00
MATCH TO SHEET NO. 5

MATCH LINE STA. -HGR- 58+70
MATCH TO SHEET NO. 7



CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO INSTALL CONCRETE BARRIER AROUND DUKE ENERGY TRANSMISSION STRUCTURES (NO CLOSER THAN 10') WHENEVER CONSTRUCTION EQUIPMENT IS WITHIN 25' OF STRUCTURE AND/OR TO THE LIMITS AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO REMOVE AND REPLACE APPROX. 125 LF OF GUARDRAIL FOR DRAINAGE PIPE INSTALLATION AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO REMOVE AND RESET APPROX. 50 LF OF CONTROL OF ACCESS FENCE AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO REMOVE AND RESET APPROX. 50 LF OF CONTROL OF ACCESS FENCE AS DIRECTED BY THE ENGINEER.


CONTRACTOR TO REMOVE AND RESET APPROX. 50 LF OF CONTROL OF ACCESS FENCE AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO REMOVE AND RESET APPROX. 50 LF OF CONTROL OF ACCESS FENCE AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO REMOVE AND RESET APPROX. 50 LF OF CONTROL OF ACCESS FENCE AS DIRECTED BY THE ENGINEER.

CONTRACTOR TO REMOVE EX. CONC. DITCH -126- STA. 472+55 TO 475+00 RT L=245' EST. 65 CY DDE

CONTRACTOR TO REMOVE EX. CONC. DITCH -126- STA. 472+55 TO 475+00 RT L=245' EST. 65 CY DDE

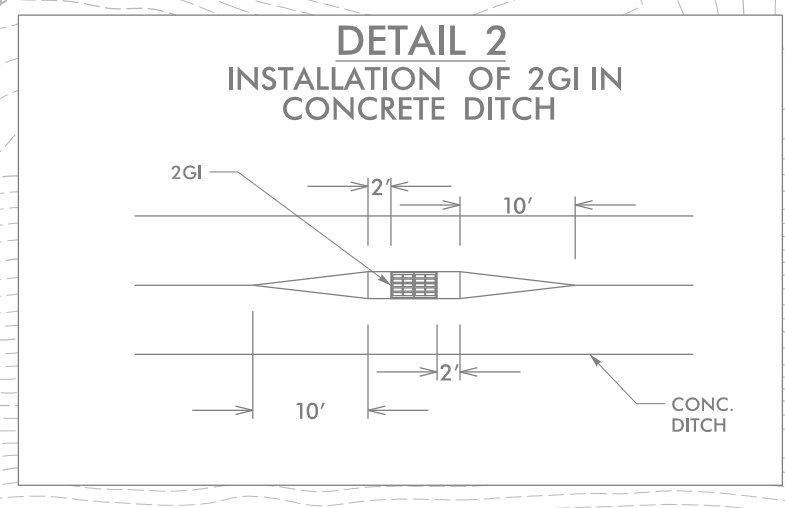
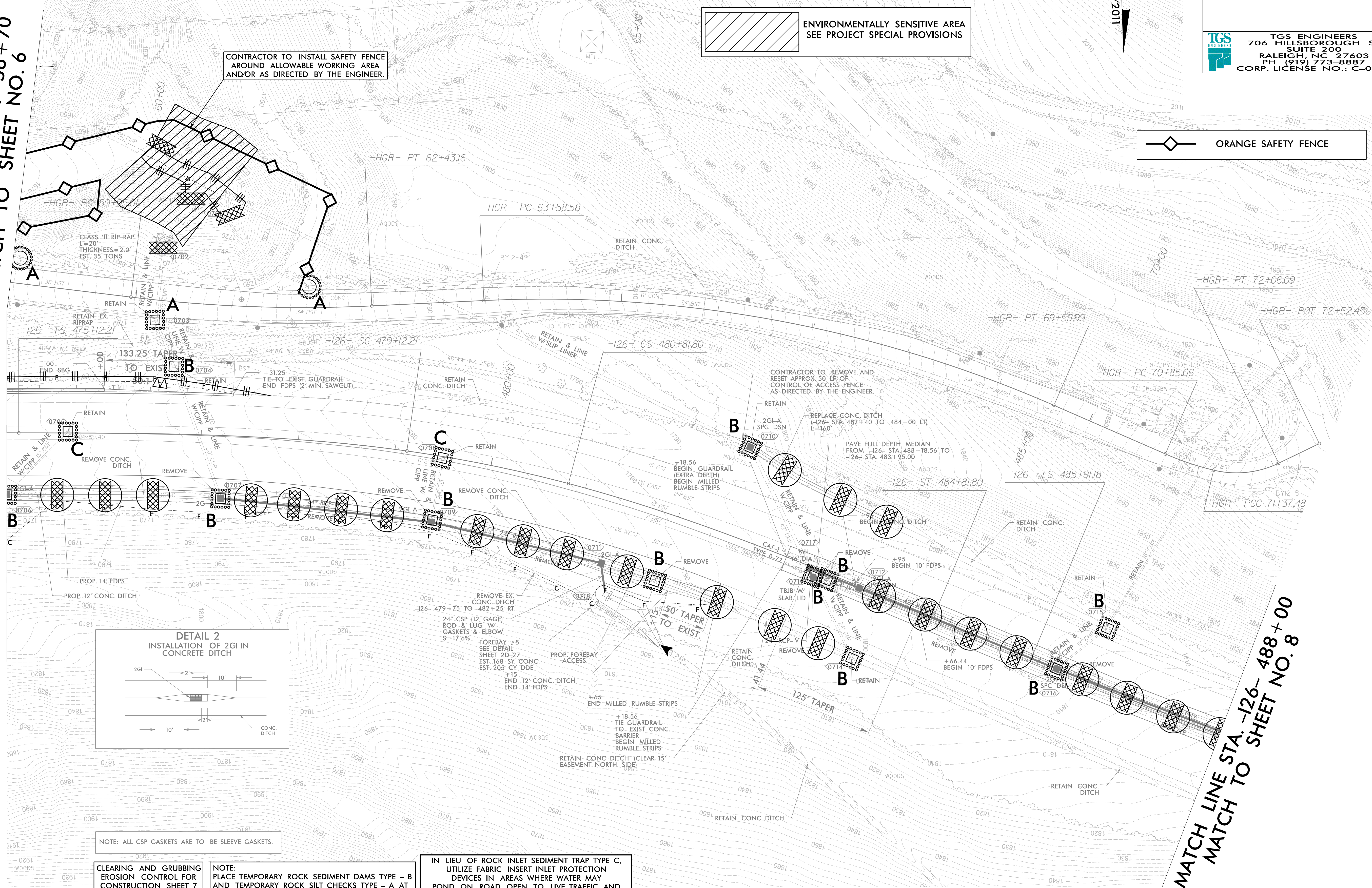
PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

MATCH LINE STA. -126- 475+00 MATCH LINE STA. -HGR- 58+70
 MATCH TO SHEET NO. 6 MATCH TO SHEET NO. 6

-126- CURVE DATA				-HGR- CURVE DATA			
PI Sta 477+79.15	PI Sta 479+97.10	PI Sta 482+15.38	PI Sta 487+91.25	PI Sta 66+19.38	PI Sta 66+64.68	PI Sta 71+11.33	PI Sta 71+73.19
$\Delta = 8^{\circ} 00' 00.0"$	$\Delta = 6^{\circ} 47' 00.0"$ (RT)	$\Delta = 8^{\circ} 00' 00.0"$	$\Delta = 4^{\circ} 30' 00.0"$	$\Delta = 9^{\circ} 40' 19.5"$ (LT)	$\Delta = 26^{\circ} 18' 14.6"$ (RT)	$\Delta = 10^{\circ} 00' 42.7"$ (LT)	$\Delta = 39^{\circ} 18' 35.0"$ (LT)
Ls = 400.00'	D = 4' 00' 00.0"	Ls = 400.00'	Ls = 300.00'	D = 3' 53' 51.6"	D = 4' 22' 25.4"	D = 19' 05' 54.9"	D = 57' 17' 44.8"
LT = 266.94'	L = 169.58'	LT = 266.94'	LT = 200.06'	L = 248.15'	L = 601.41'	L = 52.42'	L = 68.61'
ST = 133.58'	T = 84.89'	ST = 133.58'	ST = 100.06'	T = 124.37'	T = 306.10'	T = 26.28'	T = 35.72'
	R = 1,432.39'			R = 1,470.00'	R = 1,310.00'	R = 300.00'	R = 100.00'

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

 ORANGE SAFETY FENCE



NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7

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

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

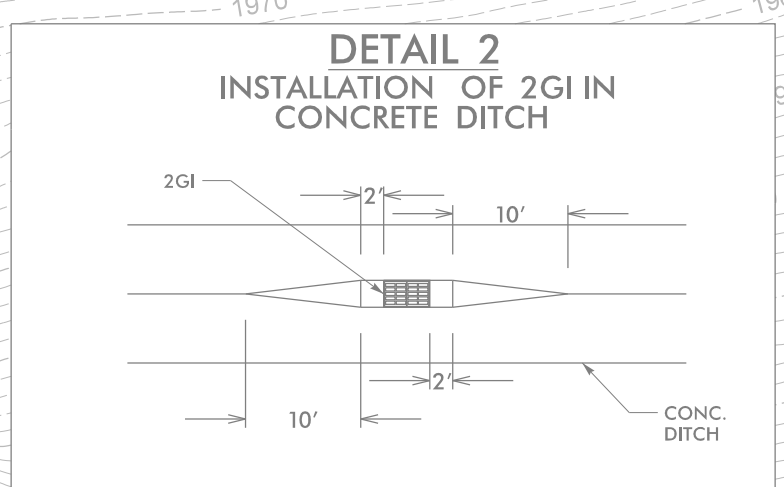
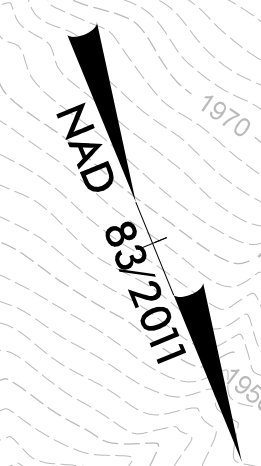
MATCH LINE STA. -126- 488+00
 MATCH TO SHEET NO. 8

PROJECT REFERENCE NO. 156141075010	SHEET NO. EC-8/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

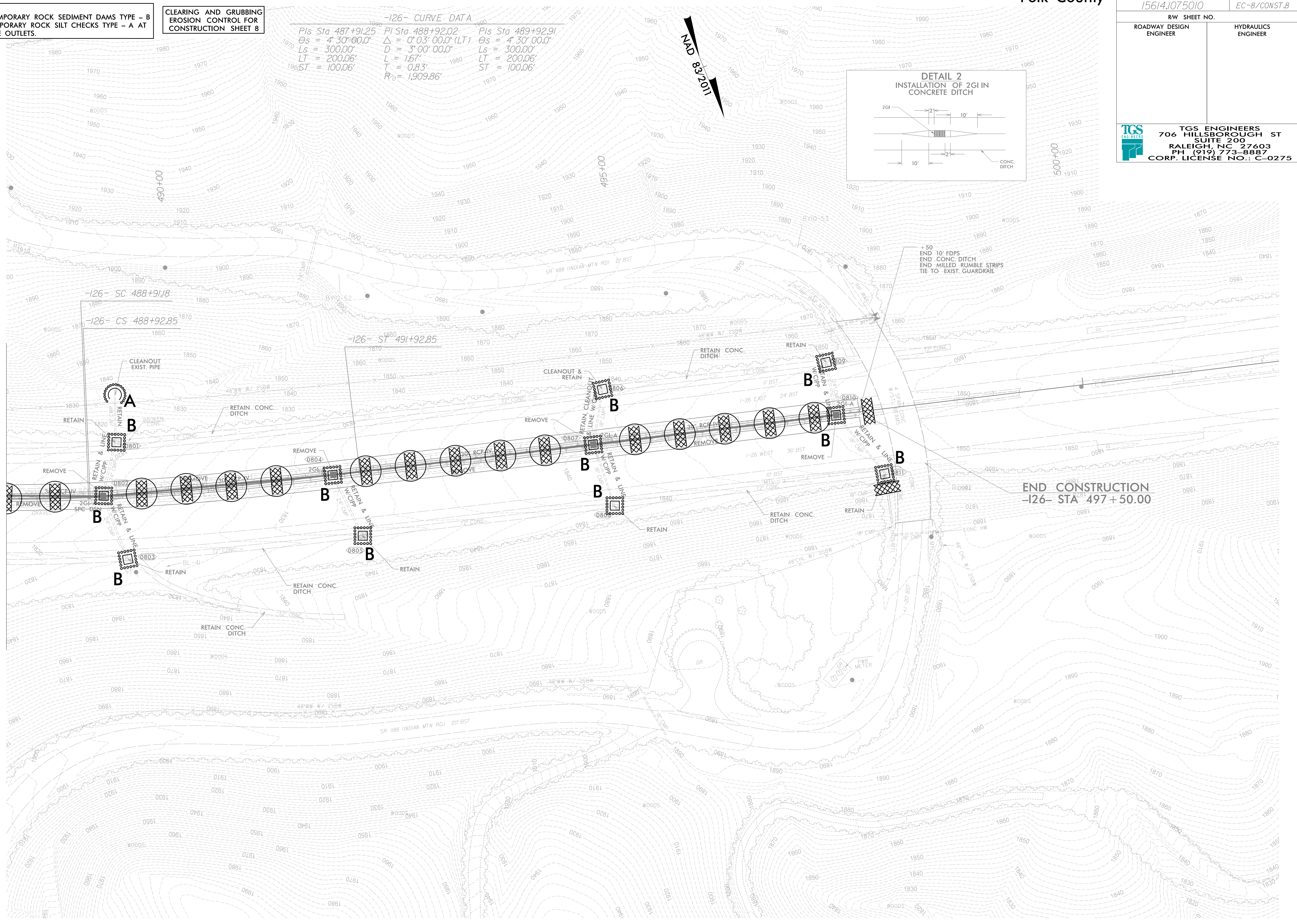
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

-126- CURVE DATA
 Pls Sta 487+91.25 Pls Sta 488+92.02 Pls Sta 489+92.91
 $\Delta = 4^{\circ}30'00.0''$ $\Delta = 0^{\circ}03'00.0''$ (LT) $\Delta = 4^{\circ}30'00.0''$
 $L_s = 300.00'$ $D = 3^{\circ}00'00.0''$ $L_s = 300.00'$
 $LT = 200.06'$ $T = 1.67'$ $LT = 200.06'$
 $ST = 100.06'$ $R_c = 0.83'$ $ST = 100.06'$
 $R_c = 1,909.86'$



MATCH LINE STA. -126- 488+00
MATCH TO SHEET NO. 7



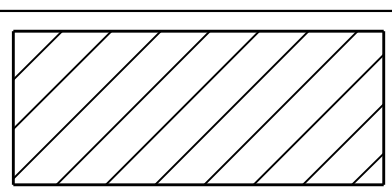
END CONSTRUCTION
-126- STA 497+50.00

TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

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

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C,
UTILIZE FABRIC INSERT INLET PROTECTION
DEVICES IN AREAS WHERE WATER MAY
POND ON ROAD OPEN TO LIVE TRAFFIC AND
ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

ALL EASEMENTS ON THIS
SHEET ARE MEASURED
FROM -HGR- ALIGNMENT.

Polk County

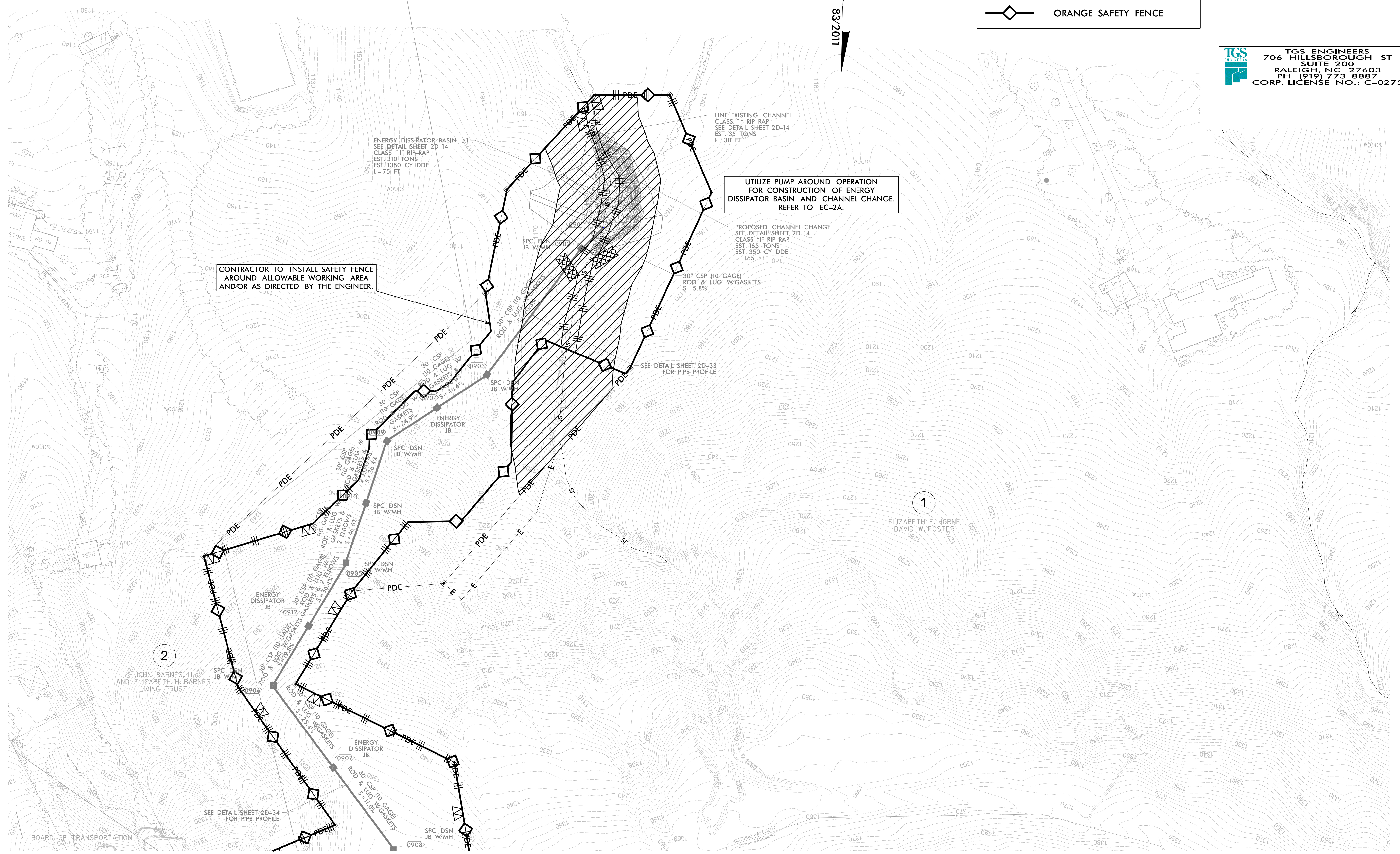
PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-9/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



ORANGE SAFETY FENCE

NAD
83/2011



CONTRACTOR TO INSTALL SAFETY FENCE
AROUND ALLOWABLE WORKING AREA
AND/OR AS DIRECTED BY THE ENGINEER.

UTILIZE PUMP AROUND OPERATION
FOR CONSTRUCTION OF ENERGY
DISSIPATOR BASIN AND CHANNEL CHANGE.
REFER TO EC-2A.

PROPOSED CHANNEL CHANGE
SEE DETAIL SHEET 2D-14
CLASS "1" RIP-RAP
EST. 165 TONS
EST. 350 CY DDE
L=165 FT

30" CSP (10 GAGE)
ROD & LUG W/GASKETS
S=5.8%

SEE DETAIL SHEET 2D-33
FOR PIPE PROFILE

ENERGY DISSIPATOR BASIN #1
SEE DETAIL SHEET 2D-14
CLASS "1" RIP-RAP
EST. 310 TONS
EST. 1350 CY DDE
L=75 FT


LINE EXISTING CHANNEL
CLASS "1" RIP-RAP
SEE DETAIL SHEET 2D-14
EST. 35 TONS
L=30 FT

2

1

SEE DETAIL SHEET 2D-34
FOR PIPE PROFILE

MATCH LINE
MATCH TO SHEET NO. 5

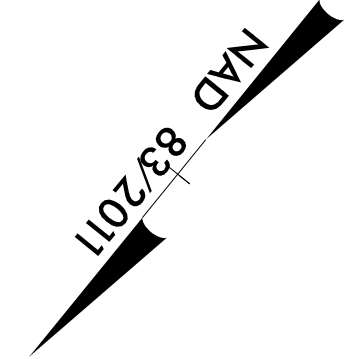
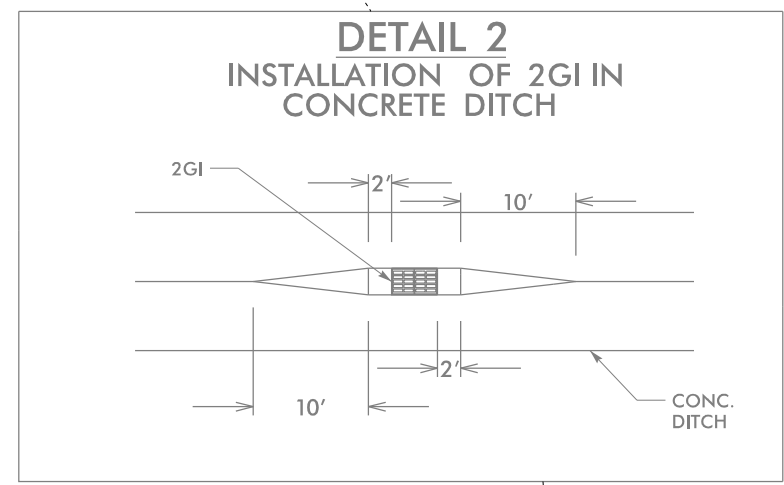
PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-10/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

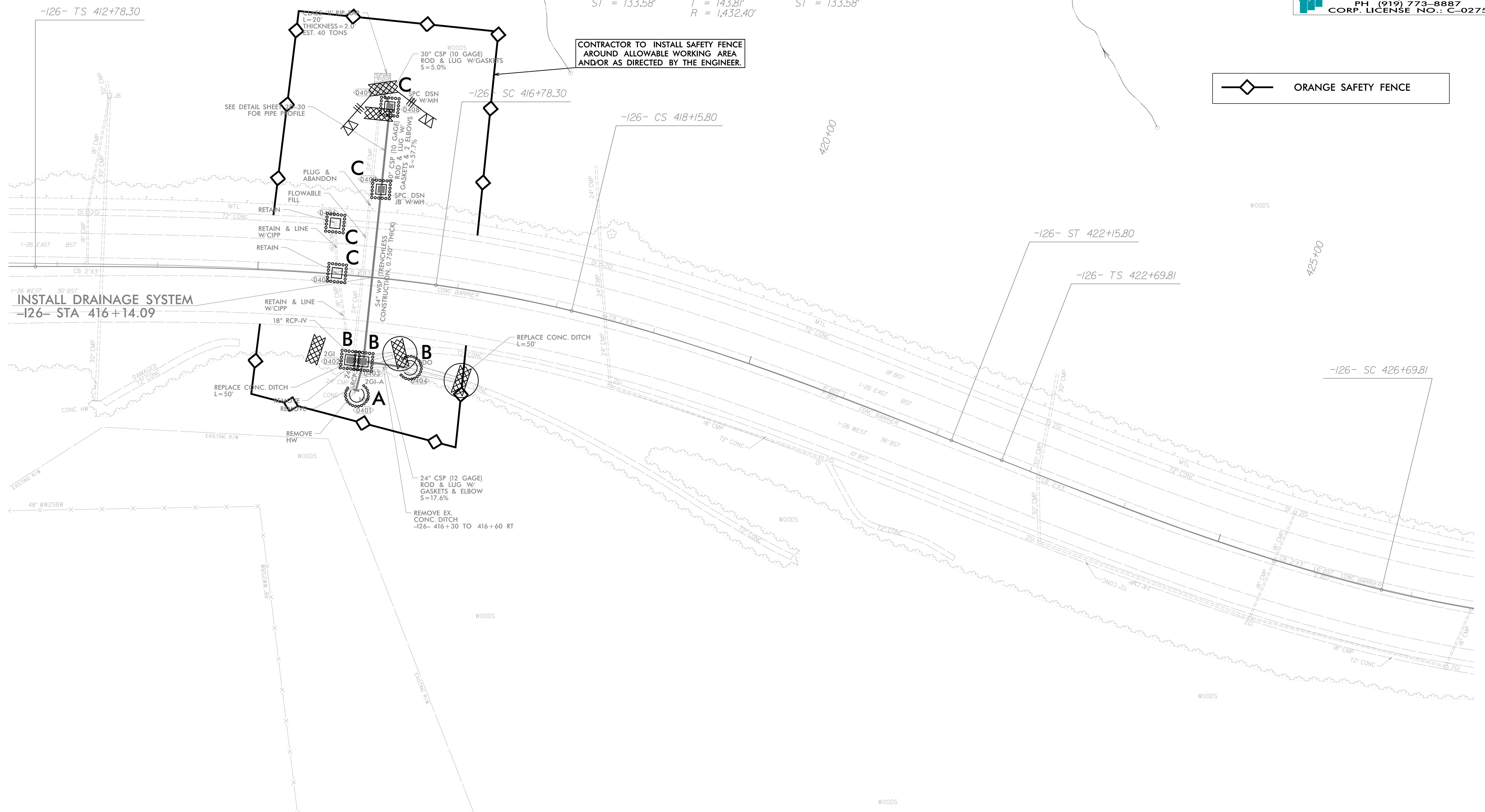
NOTE: EXISTING RIGHT OF WAY IS NOT SHOWN BUT EXTENDS OUTSIDE OF PROJECT LIMITS ON SOUTHERN SIDE OF ALIGNMENT.

-126- CURVE DATA

PIs Sta 415+45.24 Os = 8'00'00.0" Ls = 400.00' LT = 266.94' ST = 133.58'	PI Sta 417+47.11 Δ = 5'30'00.0" (RT) D = 4'00'00.0" L = 137.50' T = 68.80' R = 1,432.40'	PIs Sta 419+49.38 Os = 8'00'00.0" Ls = 400.00' LT = 266.94' ST = 133.58'
PIs Sta 425+36.75 Os = 8'00'00.0" Ls = 400.00' LT = 266.94' ST = 133.58'	PI Sta 428+13.63 Δ = 11'28'00.0" (LT) D = 4'00'00.0" L = 286.67' T = 143.81' R = 1,432.40'	PIs Sta 430+90.06 Os = 8'00'00.0" Ls = 400.00' LT = 266.94' ST = 133.58'



CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.



IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

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


MATCH LINE MATCH TO SHEET NO. 9

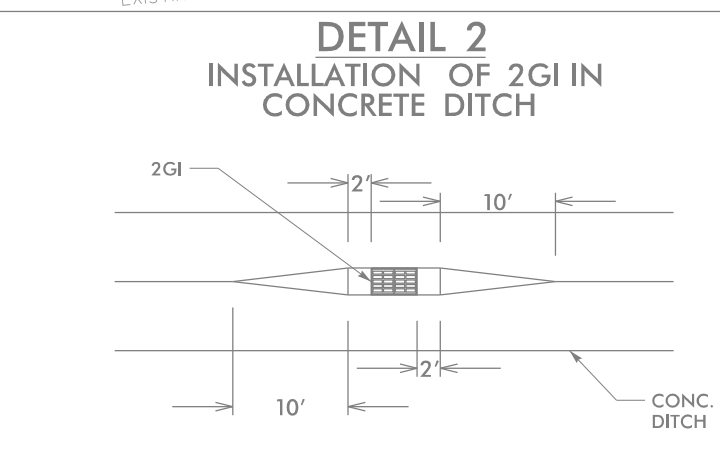
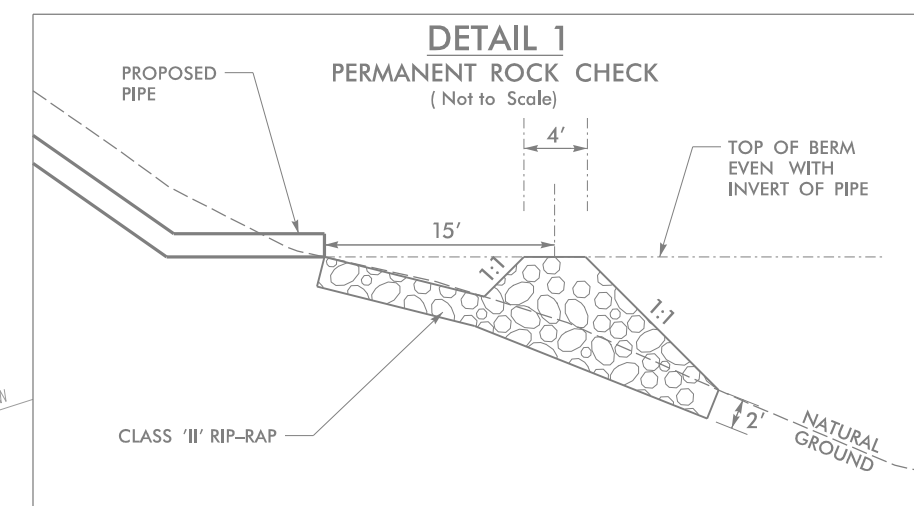
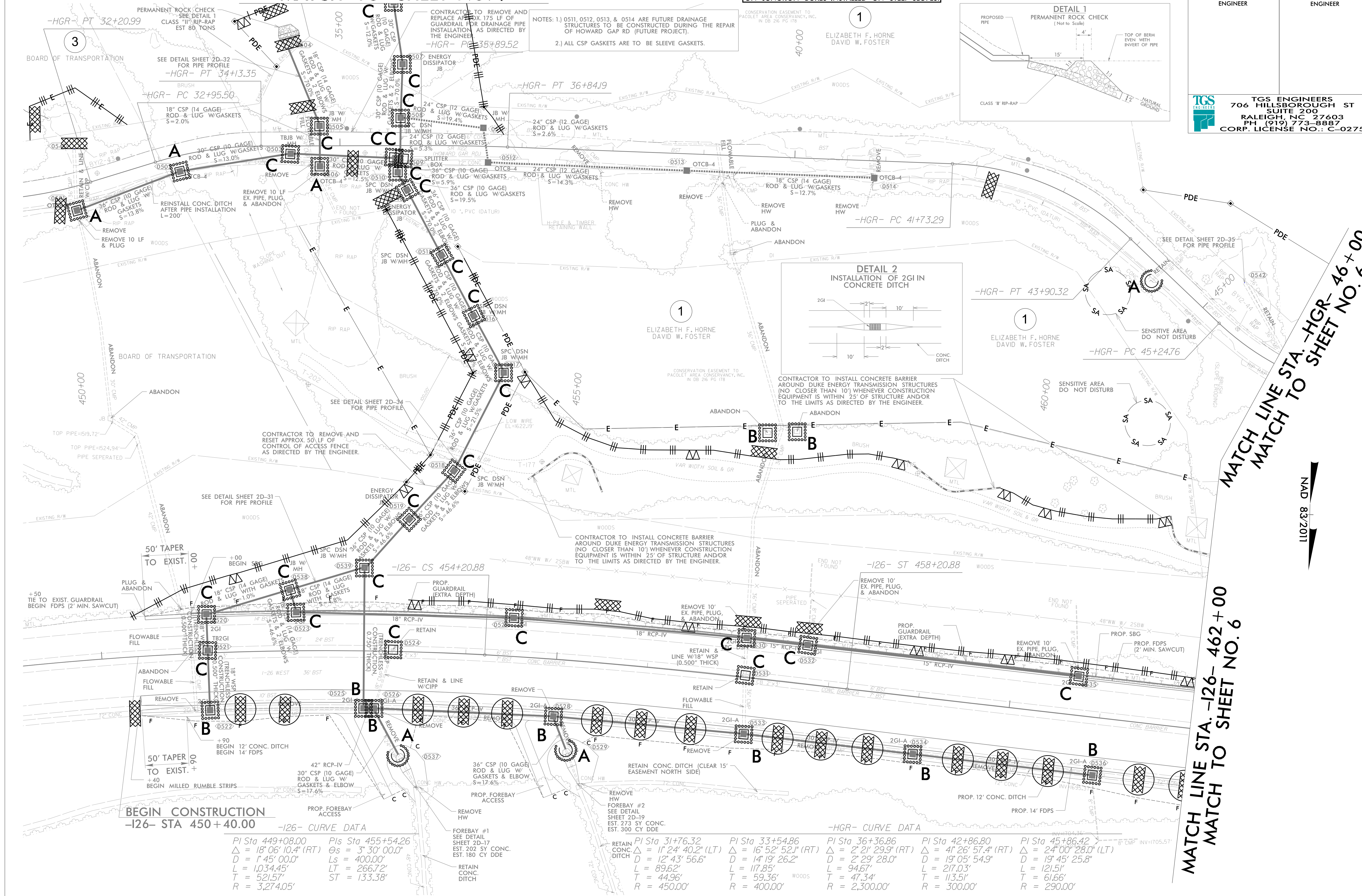
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

**IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C,
UTILIZE FABRIC INSERT INLET PROTECTION
DEVICES IN AREAS WHERE WATER MAY
POND ON ROAD OPEN TO LIVE TRAFFIC AND
ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.**

SA SENSITIVE AREA

Polk County

PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-11/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



BEGIN CONSTRUCTION
-126- STA 450+40.00


-126- CURVE DATA

PI Sta 449+08.00 Δ = 18° 08' 10.4" (RT) D = 1' 45' 00.0" L = 1,034.45' T = 521.57' R = 3,274.05'	PIs Sta 455+54.26 θs = 3° 30' 00.0" Ls = 400.00' LT = 266.72' ST = 133.38'	PI Sta 31+76.32 Δ = 11° 24' 40.2" (LT) D = 12' 43' 56.6" L = 89.62' T = 44.96' R = 450.00'	PI Sta 33+54.86 Δ = 16° 52' 52.1" (RT) D = 14' 19' 26.2" L = 117.85' T = 59.36' R = 400.00'	PI Sta 36+36.86 Δ = 2° 29' 29.9" (RT) D = 2' 29' 28.0" L = 11.75' T = 47.34' R = 2,300.00'	PI Sta 42+86.80 Δ = 41° 26' 57.4" (RT) D = 19' 05' 54.9" L = 217.03' T = 113.51' R = 300.00'	PI Sta 45+86.42 Δ = 24° 00' 28.0" (LT) D = 19' 45' 25.8" L = 121.51' T = 61.66' R = 290.00'
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**MATCH LINE STA. -126- 462+00
MATCH TO SHEET NO. 6**

**MATCH LINE STA. -HGR- 46+00
MATCH TO SHEET NO. 6**

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
15614.1075010	EC-12/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

ORANGE SAFETY FENCE

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES

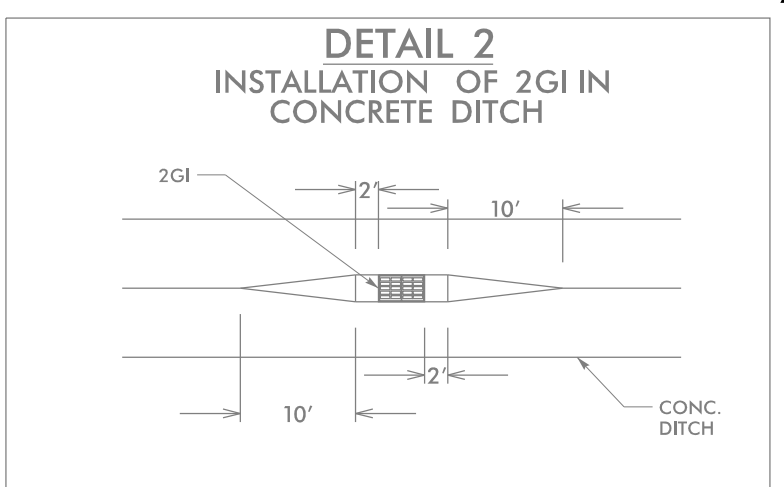
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

-HGR- CURVE DATA

PI Sta 45+86.42 Δ = 24'00" 28.0" (LT) D = 19'45" 25.8" L = 121.51' T = 61.66' R = 290.00'	PI Sta 50+90.24 Δ = 10'08" 44.8" (LT) D = 5'06" 56.5" L = 198.33' T = 99.42' R = 1,120.00'	PI Sta 53+74.76 Δ = 13'18" 26.3" (RT) D = 6'44" 26.4" L = 197.42' T = 99.16' R = 850.00'	PI Sta 56+52.71 Δ = 12'50" 07.5" (LT) D = 5'37" 02.0" L = 228.50' T = 114.73' R = 1,020.00'
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-I26- CURVE DATA

PIs Sta 466+13.01 Θs = 0° 30' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'	PI Sta 469+36.39 Δ = 2' 34' 00.0" (LT) D = 0' 30' 00.0" L = 513.33' T = 256.71' R = 11,459.16'	PIs Sta 472+59.68 Θs = 0° 30' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'
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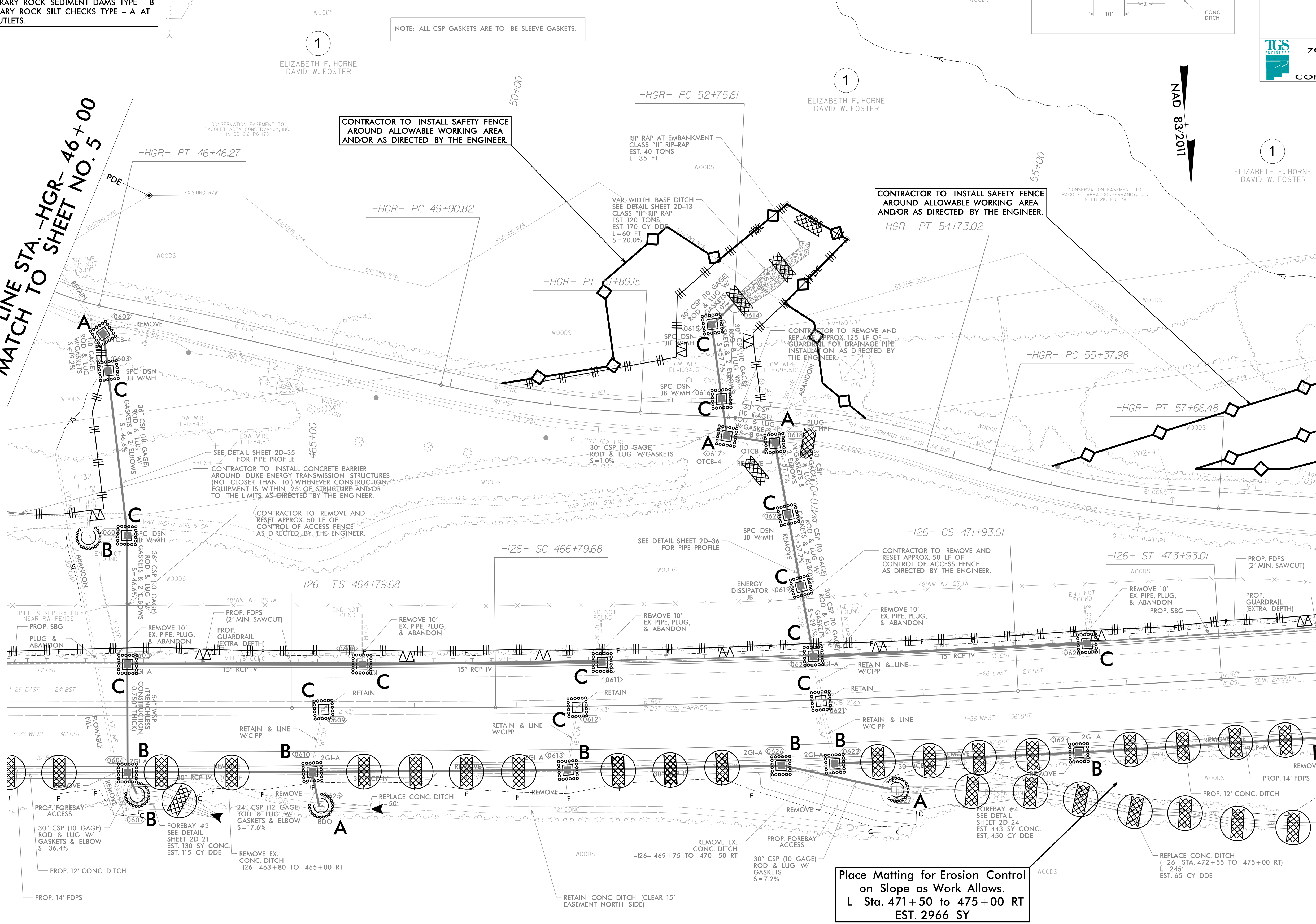


MATCH LINE STA. -HGR- 46+00
MATCH TO SHEET NO. 5

MATCH LINE STA. -I26- 462+00
MATCH TO SHEET NO. 5

MATCH LINE STA. -HGR- 58+70
MATCH TO SHEET NO. 7


MATCH LINE STA. -I26- 475+00
MATCH TO SHEET NO. 7



NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.

Place Matting for Erosion Control on Slope as Work Allows. -L- Sta. 471+50 to 475+00 RT EST. 2966 SY

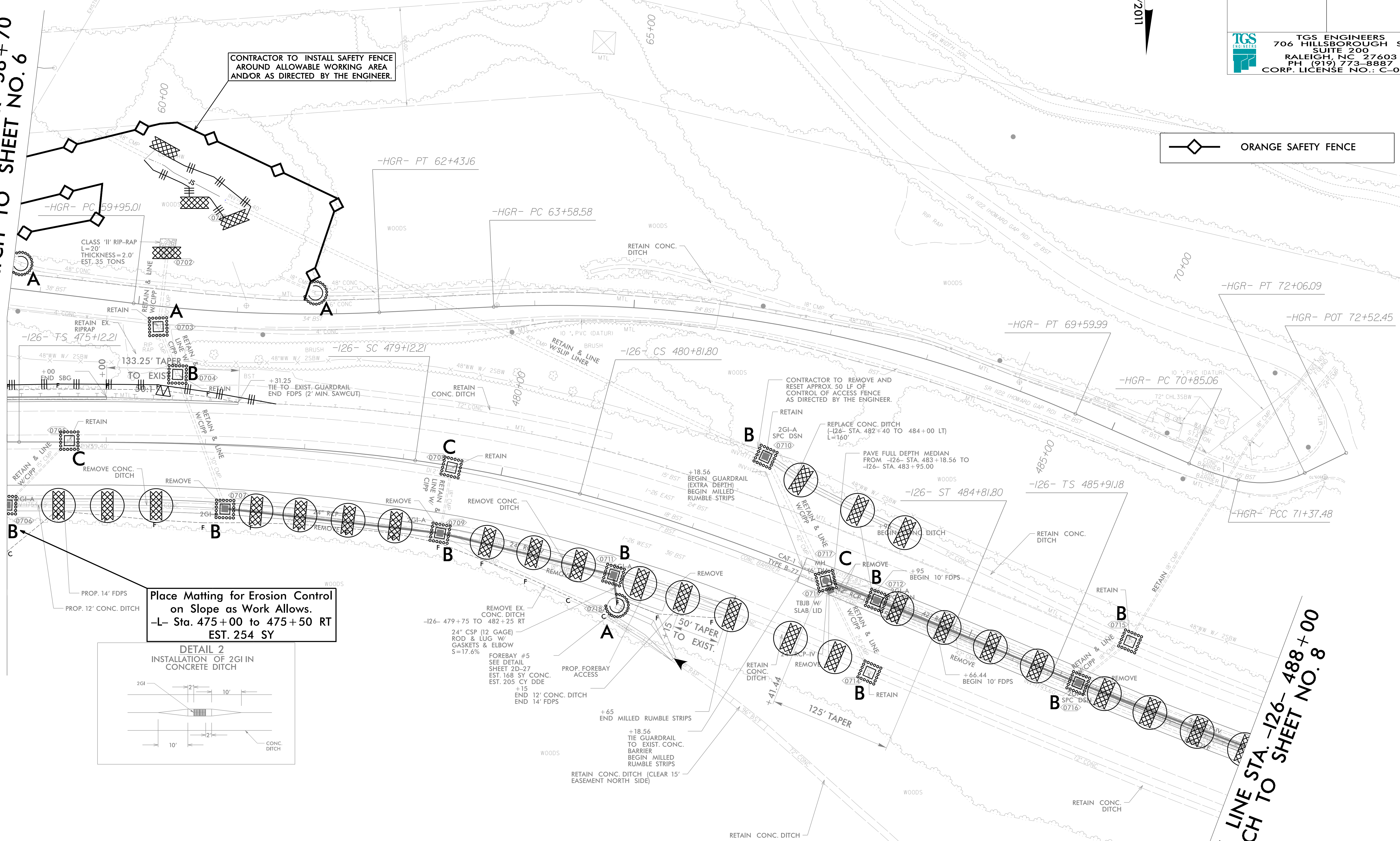
PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-13/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

NAD 83/2011

-126- CURVE DATA				HGR- CURVE DATA			
PIs Sta 477+79.15	PI Sta 479+97.10	PIs Sta 482+15.38	PIs Sta 487+91.25	PI Sta 61+19.38	PI Sta 66+64.68	PI Sta 71+11.33	PI Sta 71+73.19
$\Delta s = 8' 00'' 00.0''$	$\Delta = 6' 47'' 00.0''$ (RT)	$\Delta s = 8' 00'' 00.0''$	$\Delta s = 4' 30'' 00.0''$	$\Delta = 9' 40'' 19.5''$ (LT)	$\Delta = 26' 18'' 14.6''$ (RT)	$\Delta = 10' 00'' 42.7''$ (LT)	$\Delta = 39' 18'' 35.0''$ (LT)
$Ls = 400.00'$	$D = 4' 00'' 00.0''$	$Ls = 400.00'$	$Ls = 300.00'$	$D = 3' 53'' 51.6''$	$D = 4' 22'' 25.4''$	$D = 19' 05'' 54.9''$	$D = 57' 17'' 44.8''$
$LT = 266.94'$	$L = 169.58'$	$LT = 266.94'$	$LT = 200.06'$	$L = 248.15'$	$L = 601.41'$	$L = 52.42'$	$L = 68.61'$
$ST = 133.58'$	$T = 84.89'$	$ST = 133.58'$	$ST = 100.06'$	$T = 124.37'$	$T = 306.10'$	$T = 26.28'$	$T = 35.72'$
	$R = 1,432.39'$			$R = 1,470.00'$	$R = 1,310.00'$	$R = 300.00'$	$R = 100.00'$

MATCH LINE STA. -126- 475+00 MATCH LINE STA. -HGR- 58+70
MATCH TO SHEET NO. 6 MATCH TO SHEET NO. 6

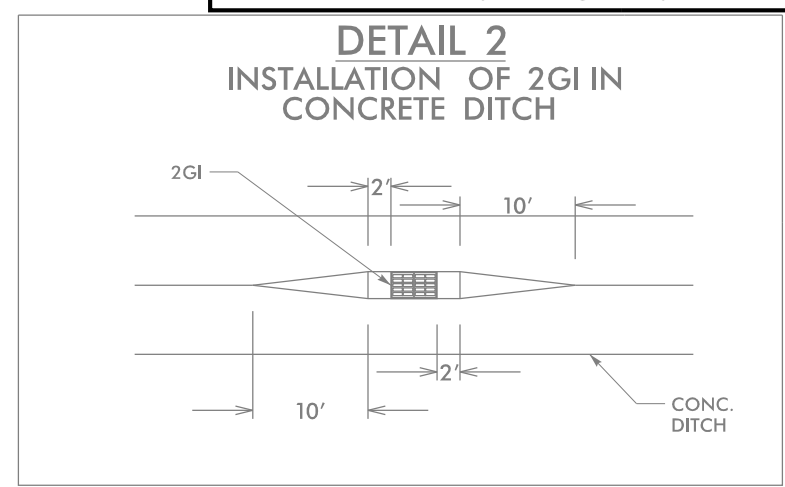
MATCH LINE STA. -126- 488+00
MATCH TO SHEET NO. 8



CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.

ORANGE SAFETY FENCE


Place Matting for Erosion Control on Slope as Work Allows. -L- Sta. 475+00 to 475+50 RT EST. 254 SY



NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

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

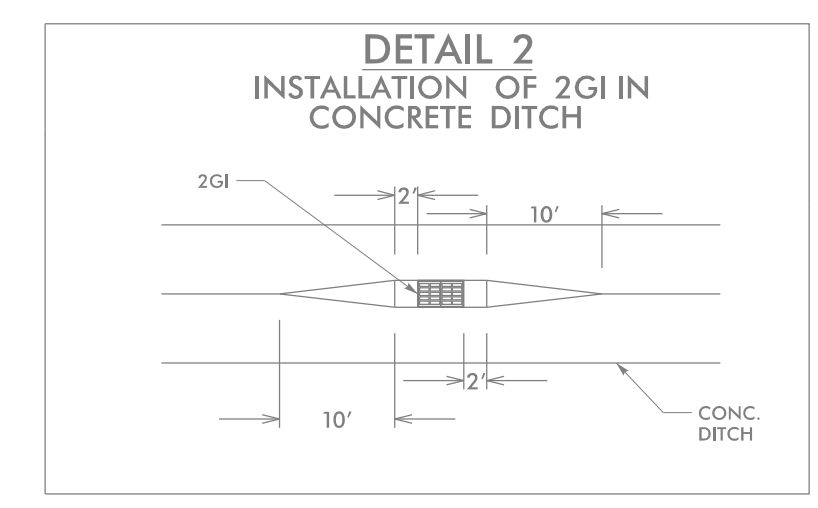
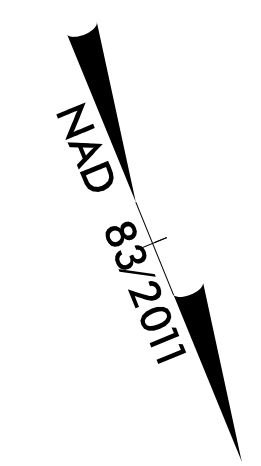
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-14/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

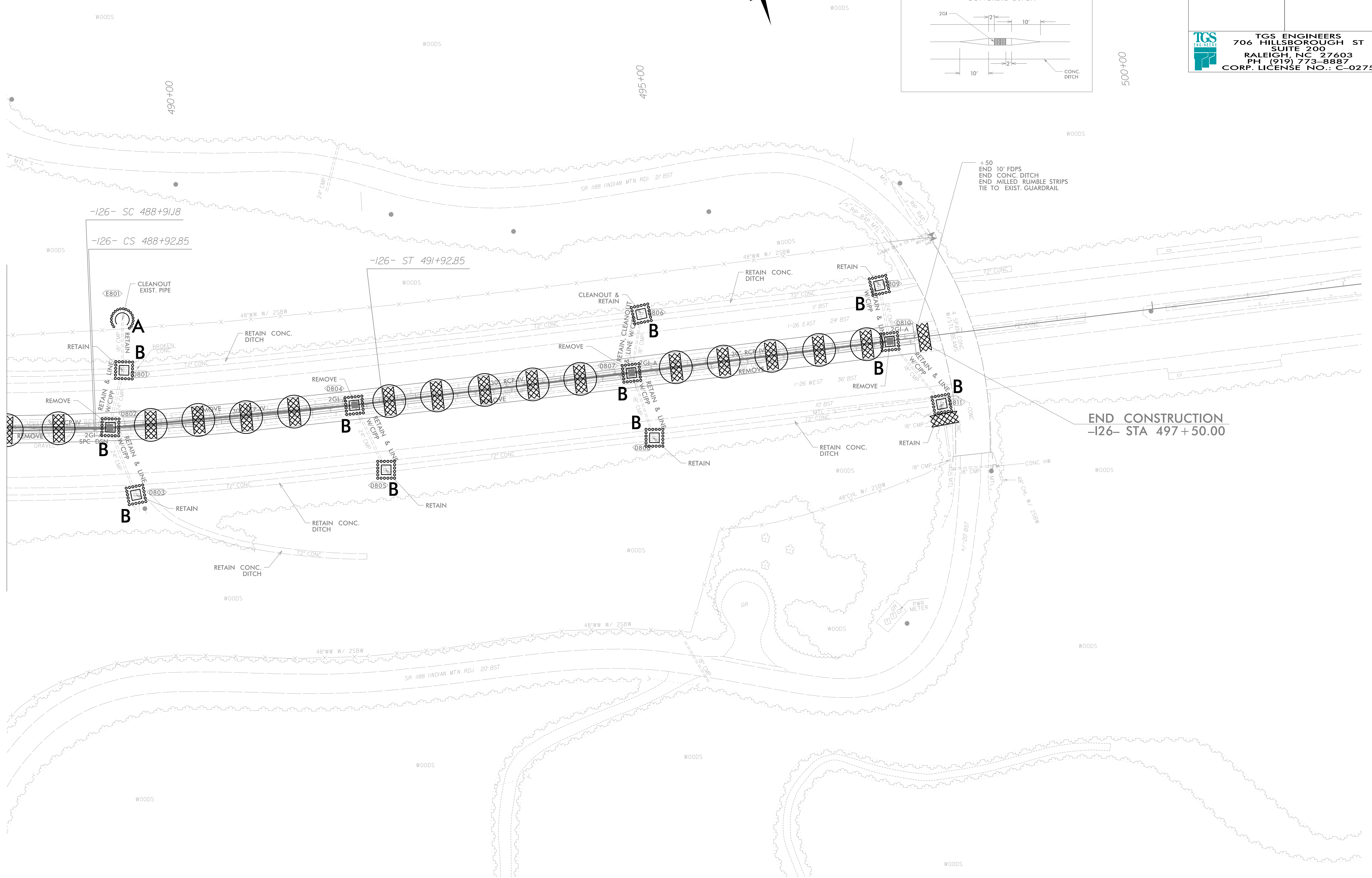
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

-126- CURVE DATA

PIs Sta 487+91.25	PI Sta 488+92.02	PIs Sta 489+92.91
$\Theta_s = 4' 30'' 00.0''$	$\Delta = 0' 03'' 00.0''$ (LT)	$\Theta_s = 4' 30'' 00.0''$
$L_s = 300.00'$	$D = 3' 00'' 00.0''$	$L_s = 300.00'$
$LT = 200.06'$	$L = 1.67'$	$LT = 200.06'$
$ST = 100.06'$	$T = 0.83'$	$ST = 100.06'$
	$R = 1,909.86'$	




MATCH LINE STA. -126- 488+00
MATCH TO SHEET NO. 7



+50
END 10' FDPDS
END CONC. DITCH
END MILLED RUMBLE STRIPS
TIE TO EXIST. GUARDRAIL

END CONSTRUCTION
-126- STA 497+50.00

PROJECT REFERENCE NO. 15614.1075010	SHEET NO. EC-15/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

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

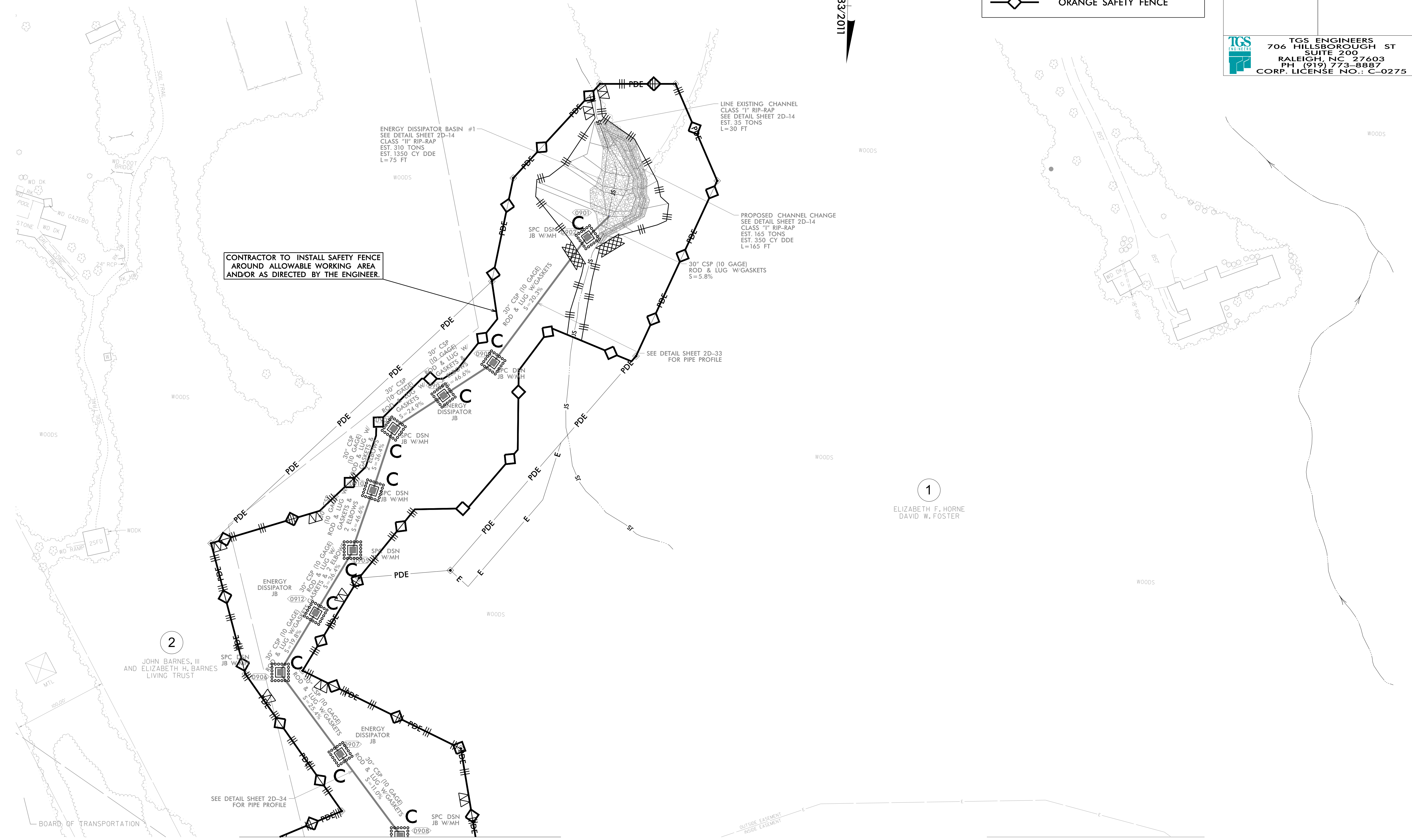
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC AND ON JUNCTION BOXES INSTALLED ON STEEP SLOPES.

ALL EASEMENTS ON THIS SHEET ARE MEASURED FROM -HGR- ALIGNMENT.

NOTE: ALL CSP GASKETS ARE TO BE SLEEVE GASKETS.

NAD 83/2011

ORANGE SAFETY FENCE



CONTRACTOR TO INSTALL SAFETY FENCE AROUND ALLOWABLE WORKING AREA AND/OR AS DIRECTED BY THE ENGINEER.

1
ELIZABETH F. HORNE
DAVID W. FOSTER

2
JOHN BARNES, III
AND ELIZABETH H. BARNES
LIVING TRUST

MATCH LINE
MATCH TO SHEET NO. 5