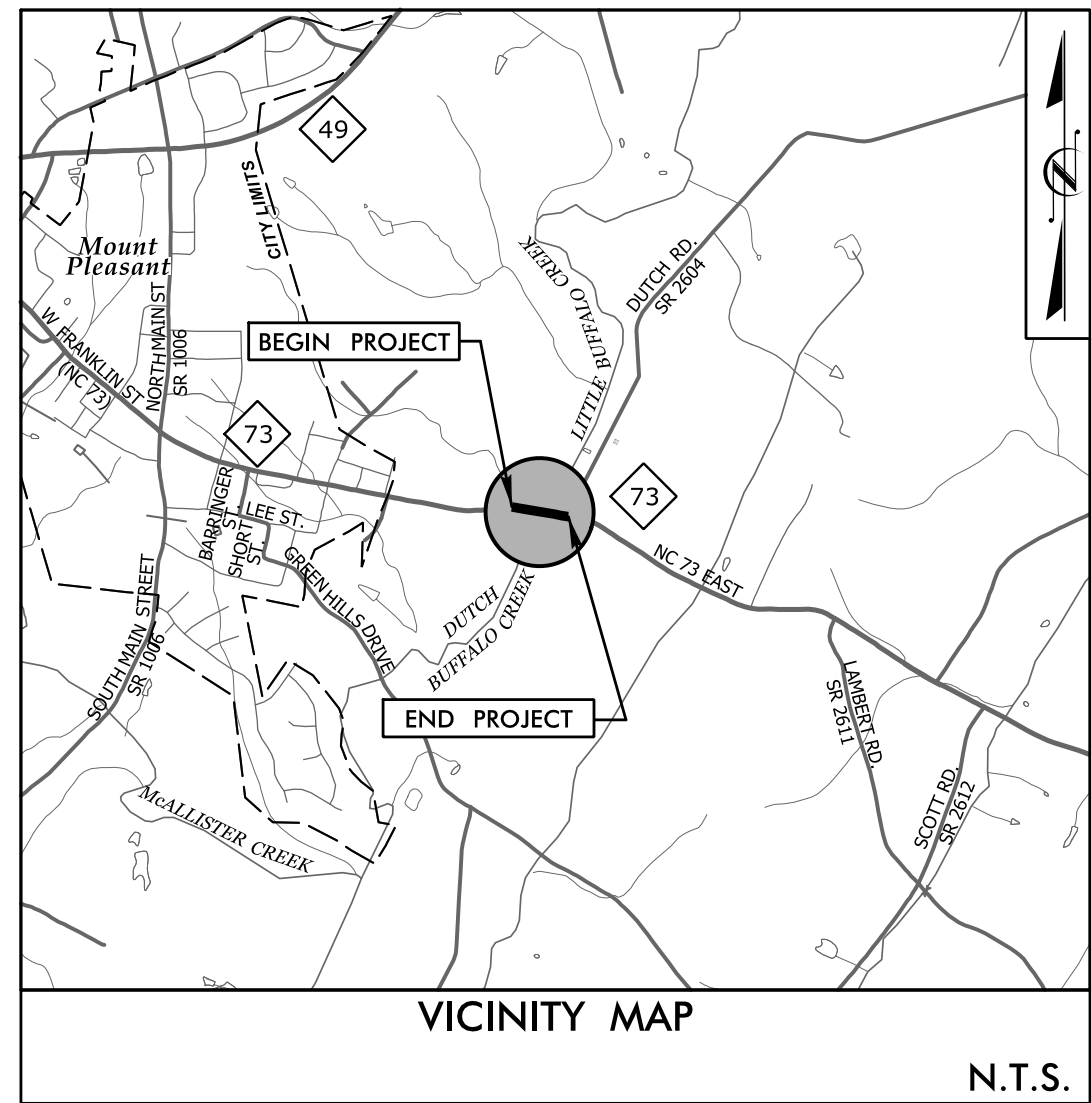


TIP PROJECT: B-5813



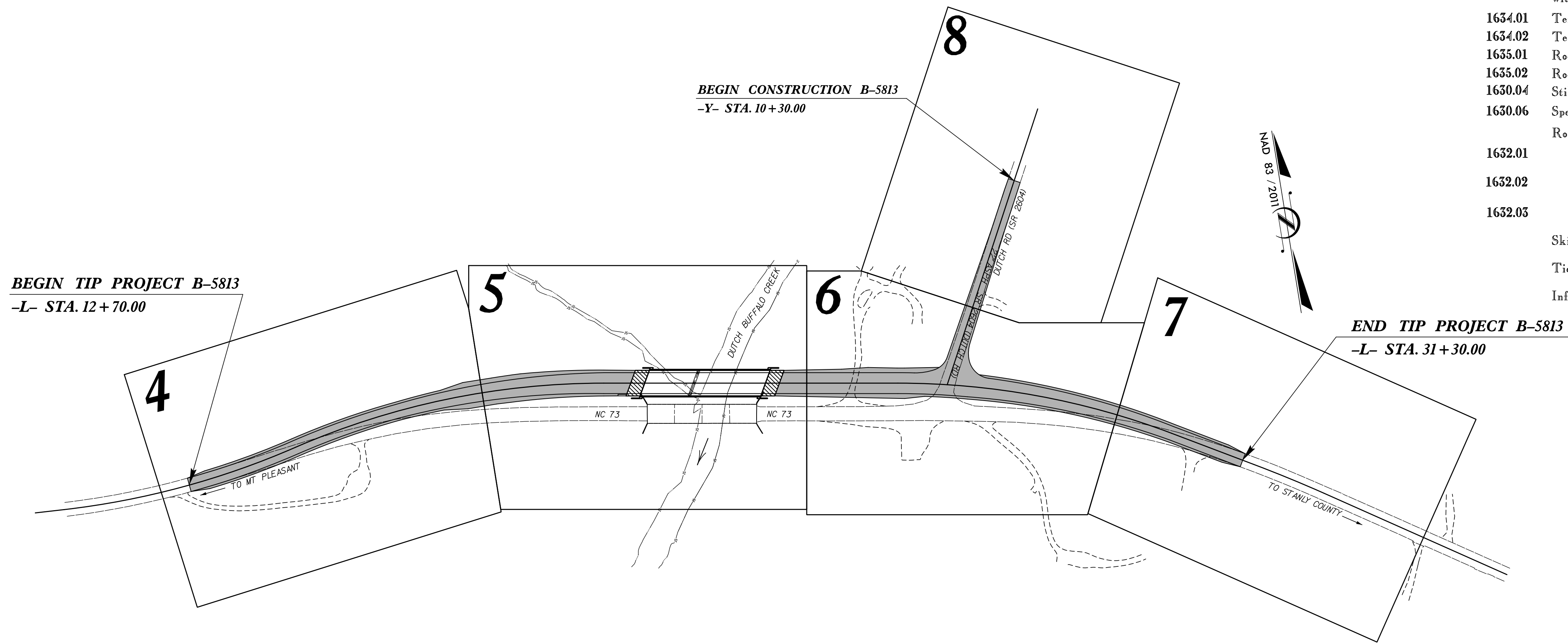
EROSION CONTROL

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

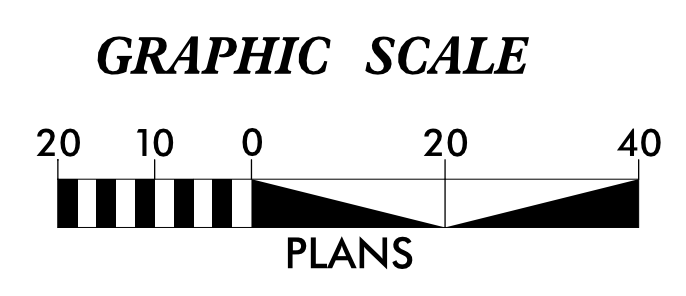
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5813	EC-1	18
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45767.1.1		P.E.	
45767.2.1		ROW/UTILITIES	
45767.3.1		CONSTRUCTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
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	[Symbol]
1635.01	Temporary Rock Silt Check Type-A	[Symbol]
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	[Symbol]
1633.02	Temporary Rock Silt Check Type-B	[Symbol]
	Wattle / Coir Fiber Wattle	[Symbol]
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	[Symbol]
1634.01	Temporary Rock Sediment Dam Type-A	[Symbol]
1634.02	Temporary Rock Sediment Dam Type-B	[Symbol]
1635.01	Rock Pipe Inlet Sediment Trap Type-A	[Symbol]
1635.02	Rock Pipe Inlet Sediment Trap Type-B	[Symbol]
1630.04	Stilling Basin	[Symbol]
1630.06	Special Stilling Basin	[Symbol]
	Rock Inlet Sediment Trap:	
1632.01	Type A	A [Symbol]
1632.02	Type B	B [Symbol]
1632.03	Type C	C [Symbol]
	Skimmer Basin	[Symbol]
	Tiered Skimmer Basin	[Symbol]
	Infiltration Basin	[Symbol]



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



**THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.**



Prepared in the Office of:
STV ENGINEERS, INC.
900 WEST TRADE STREET, SUITE 715
CHARLOTTE, NC 28202

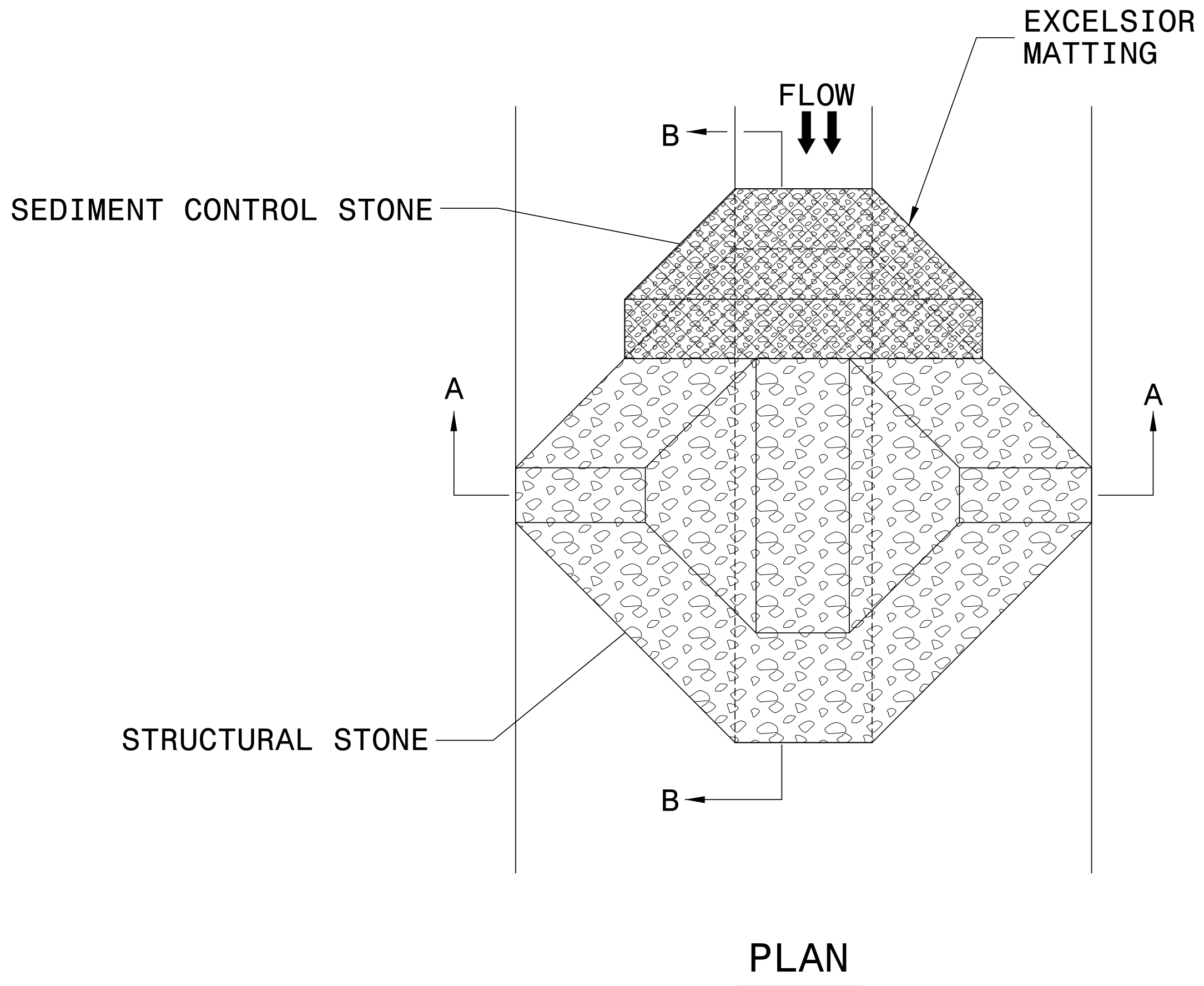
Designed by:
DILLON BAWAYAN **4157**
NAME LEVEL III CERTIFICATION NO.

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	

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



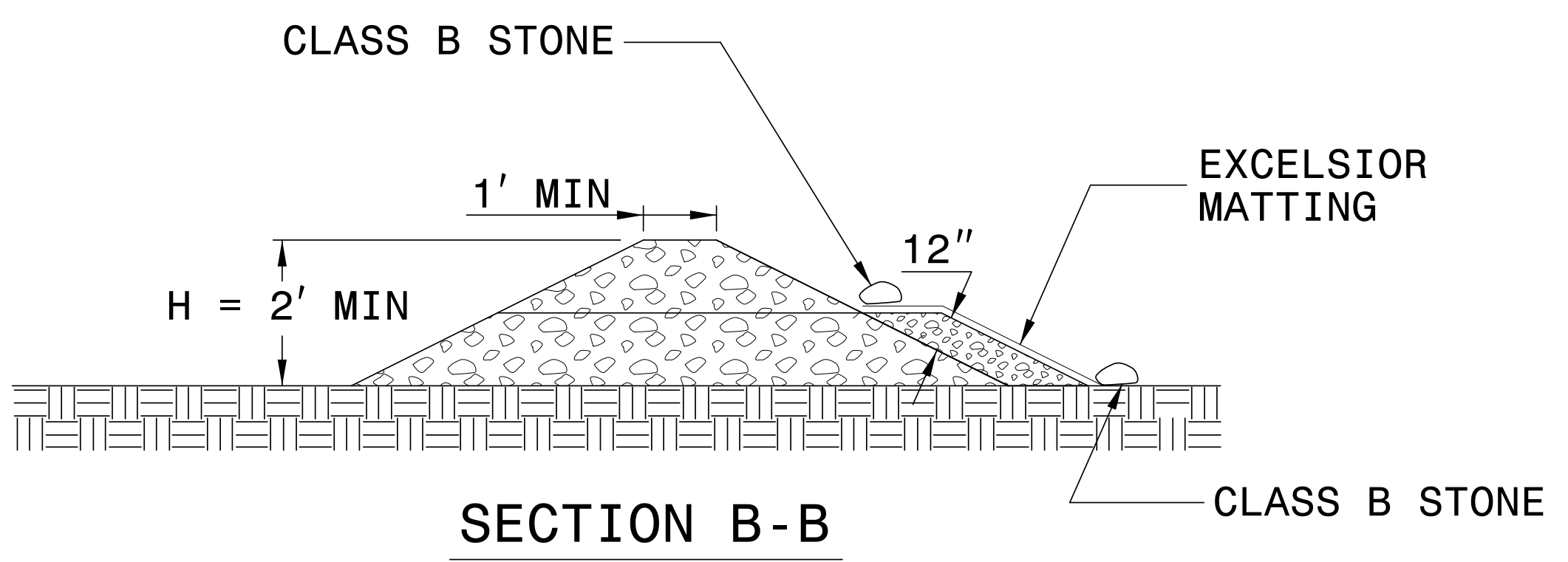
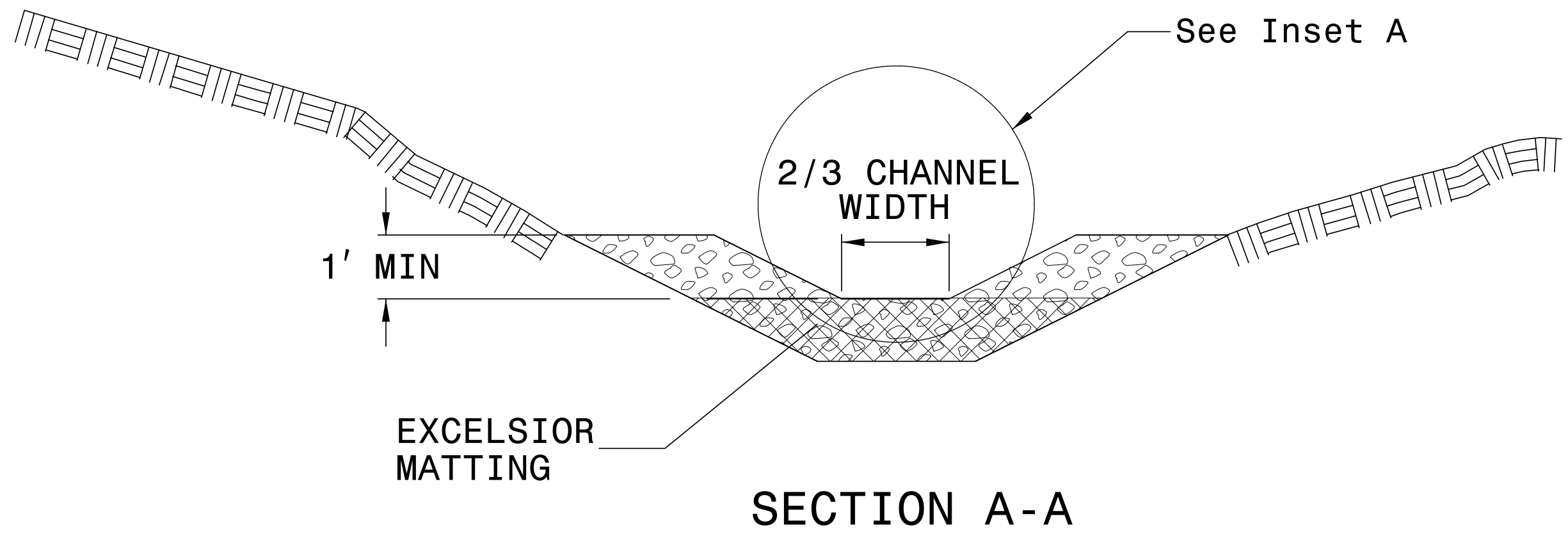
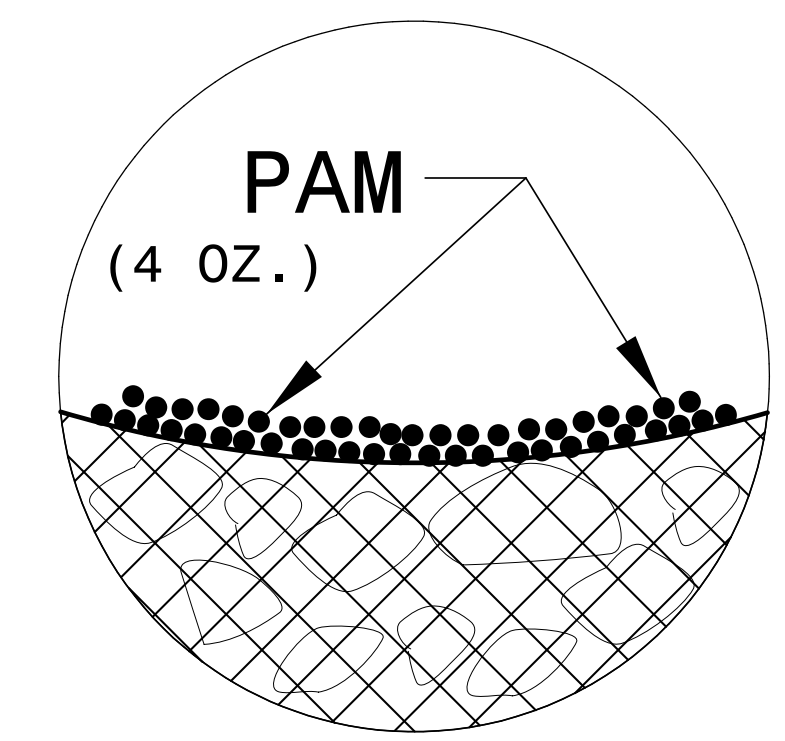
NOTES:

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.

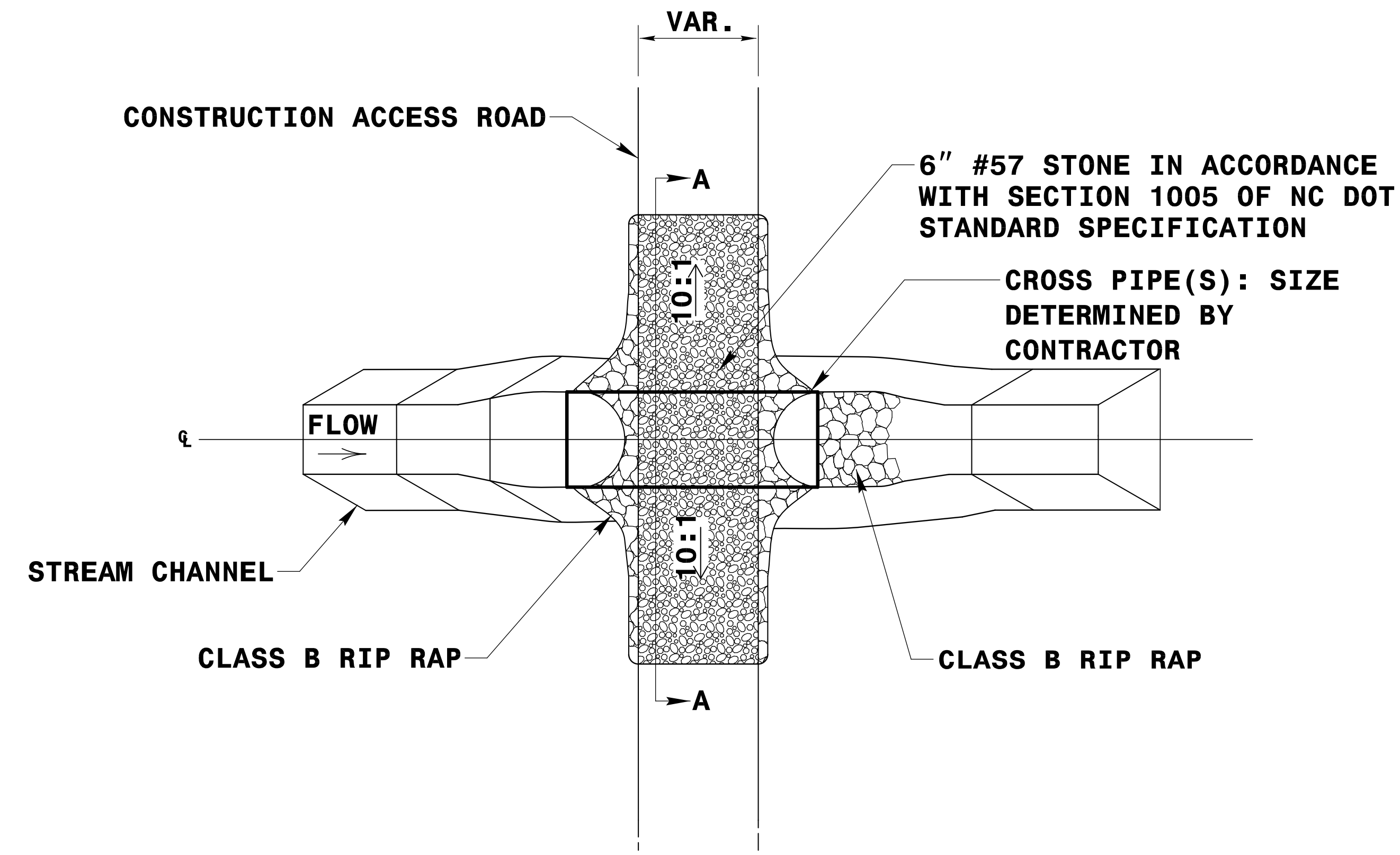
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

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

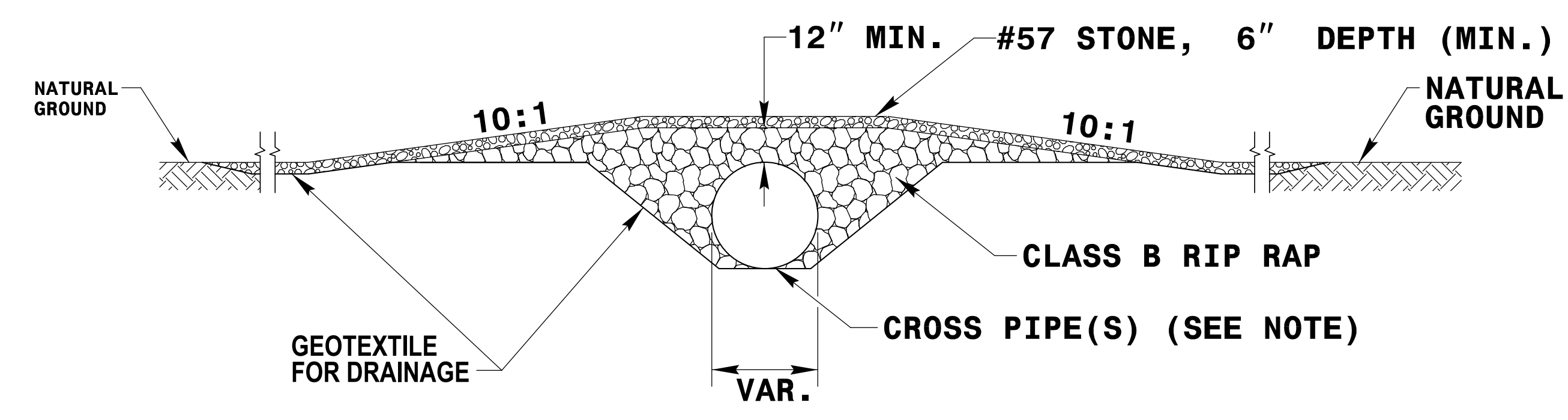


NOT TO SCALE

PROJECT REFERENCE NO. <i>B-5813</i>	SHEET NO. <i>EC-2A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PLAN VIEW



SECTION A-A
NOT TO SCALE

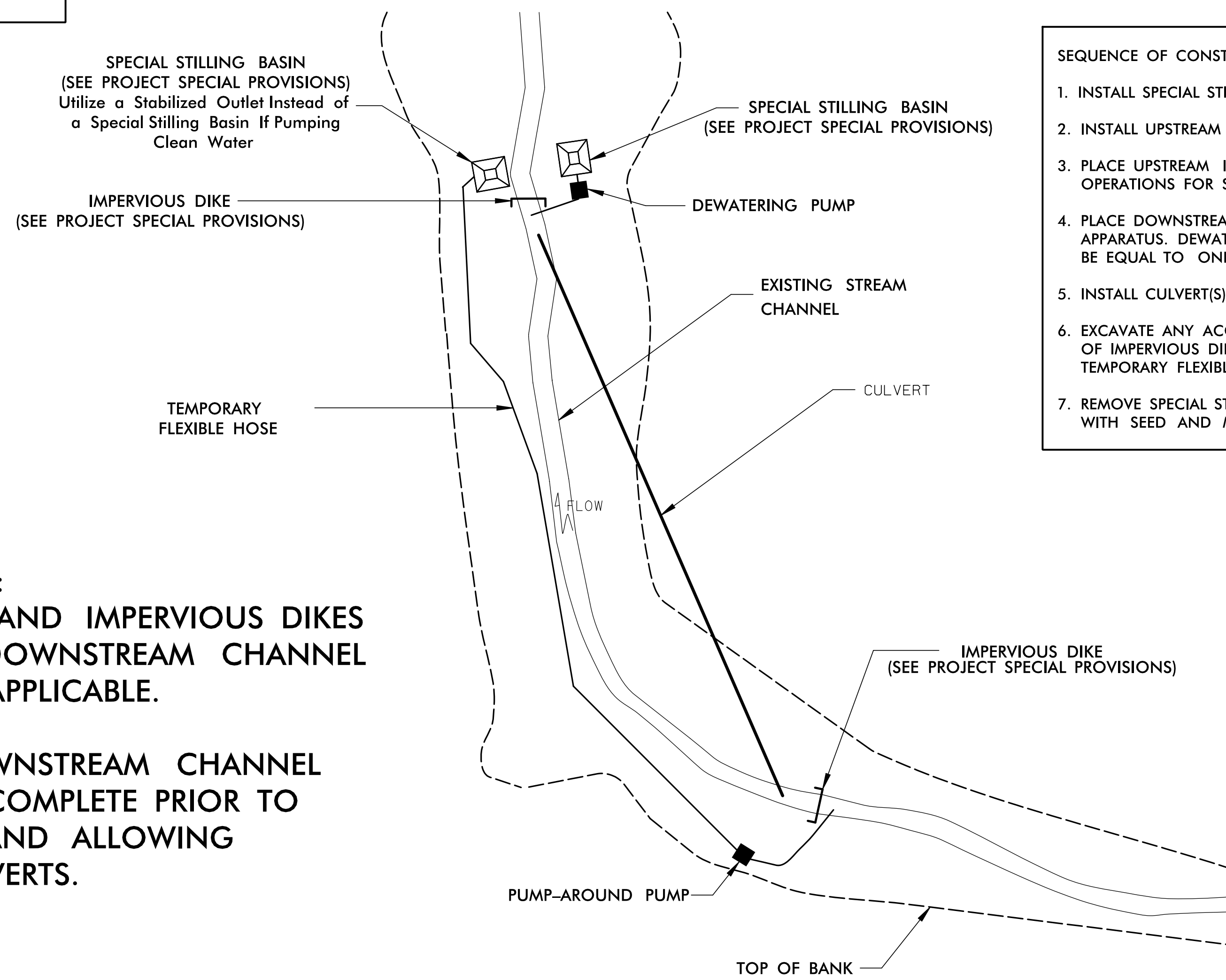
NOTE: PIPE(S) FOR TEMPORARY STREAM CROSSING SHALL BE DESIGNED TO PASS THE PEAK OR BANKFULL FLOW, WHICHEVER IS LESS, FROM A 2-YEAR PEAK STORM, WITHOUT OVER TOPPING.

TEMPORARY STREAM CROSSING - NCDOT STD 1645 01

PROJECT REFERENCE NO.	SHEET NO.
B-5813	EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

****ADDITIONAL PROJECT-SPECIFIC NOTES:**

- 1) USE PUMP-AROUND OPERATION AND IMPERVIOUS DIKES TO COMPLETE UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS/PROTECTIONS AS APPLICABLE.
- 2) ENSURE ALL UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENT/PROTECTIONS ARE COMPLETE PRIOR TO REMOVAL OF IMPERVIOUS DIKES AND ALLOWING STREAM FLOW INTO NEW CULVERTS.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

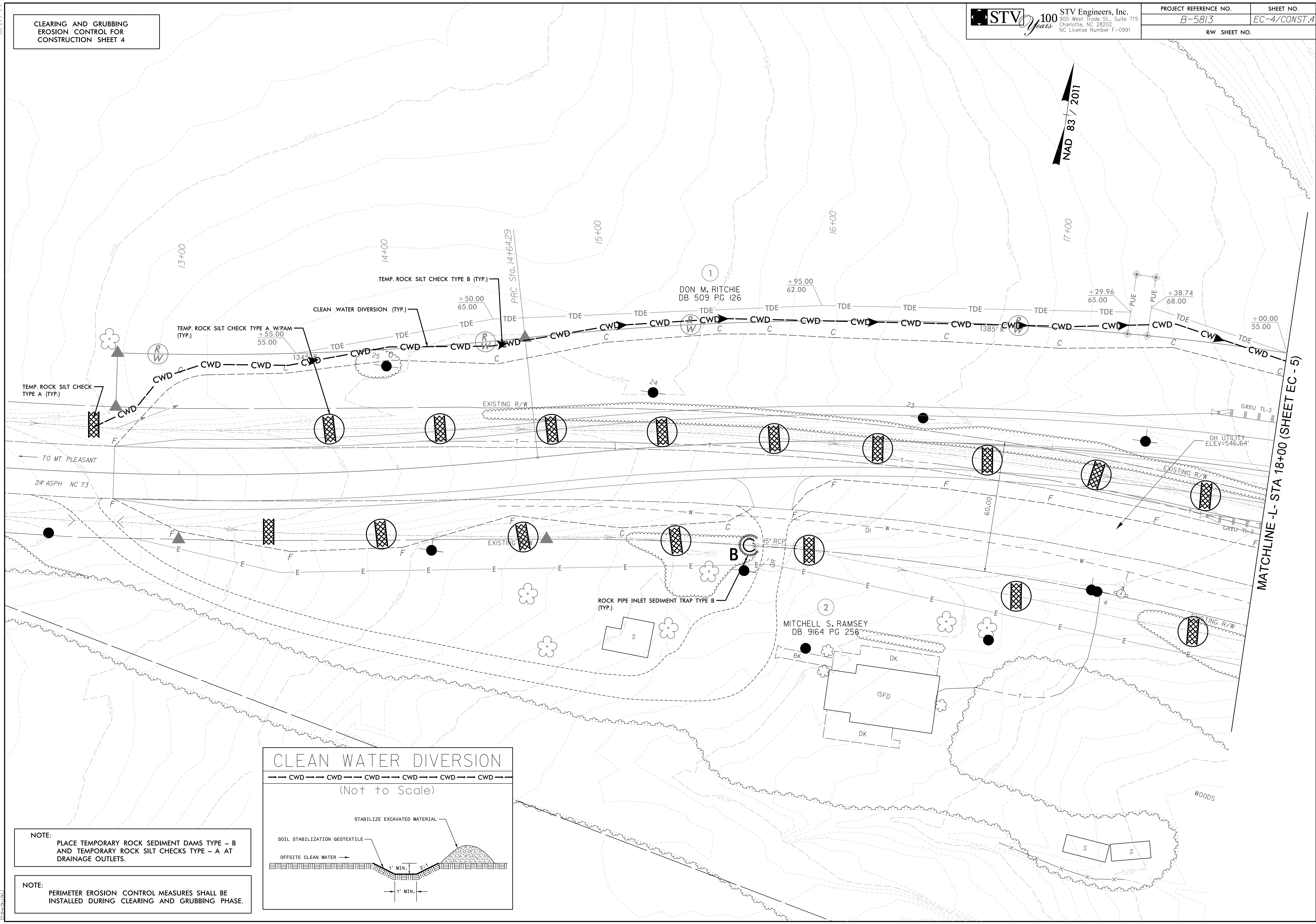
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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

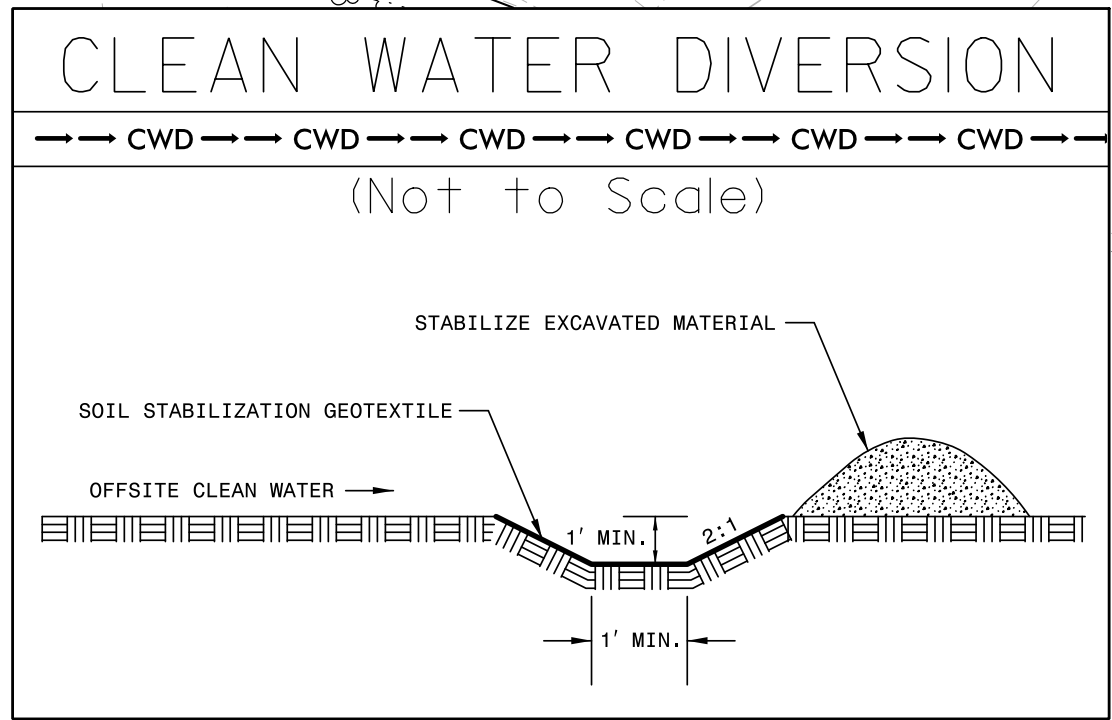
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

STV 100 Years
STV Engineers, Inc.
500 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-5813	EC-4/CONST.4
RW SHEET NO.	



MATCHLINE - L- STA 18+00 (SHEET EC - 5)



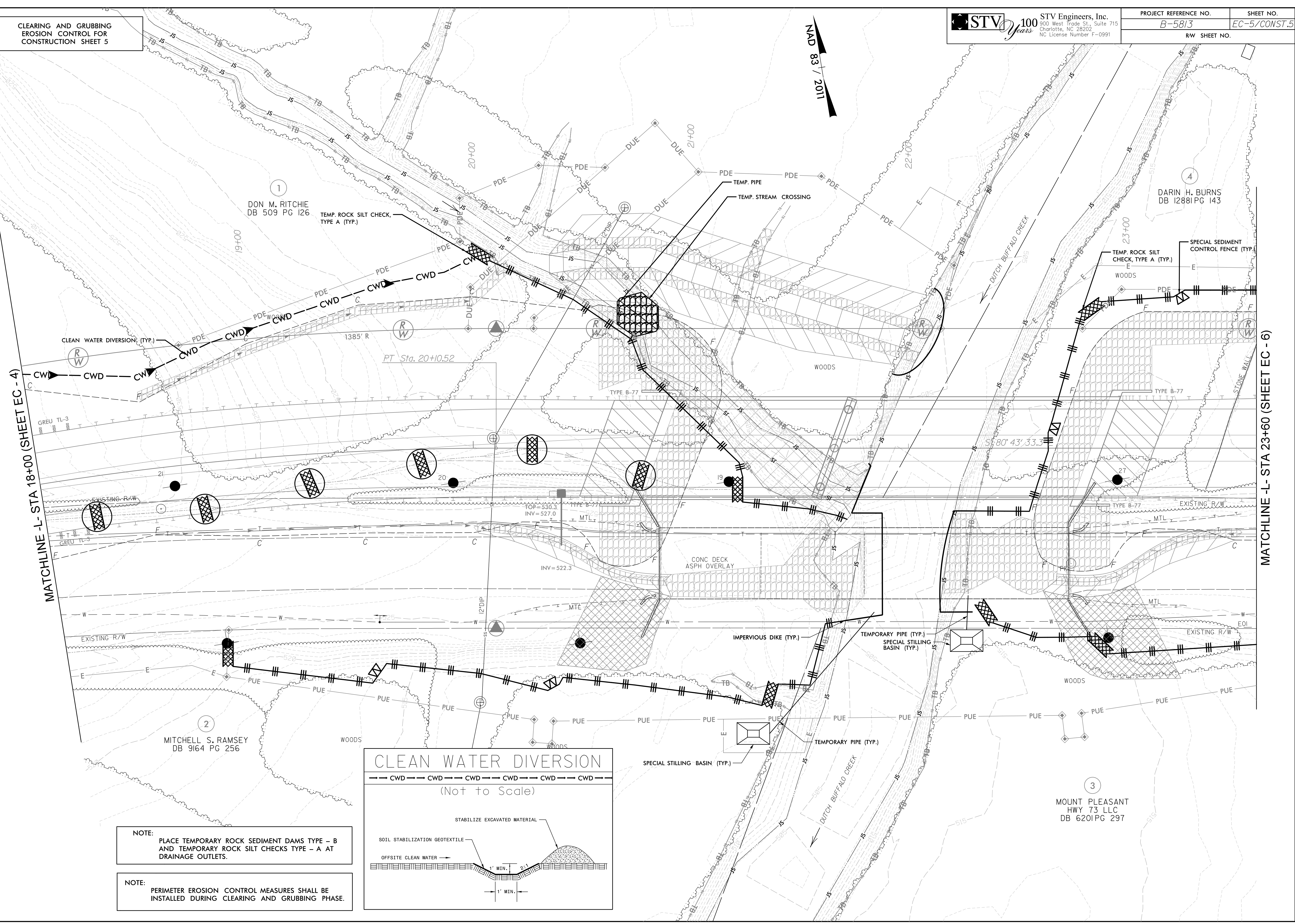
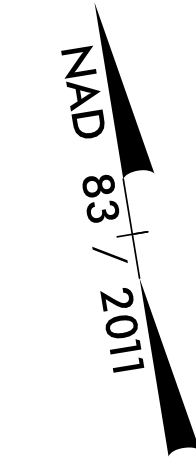
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

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CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 5

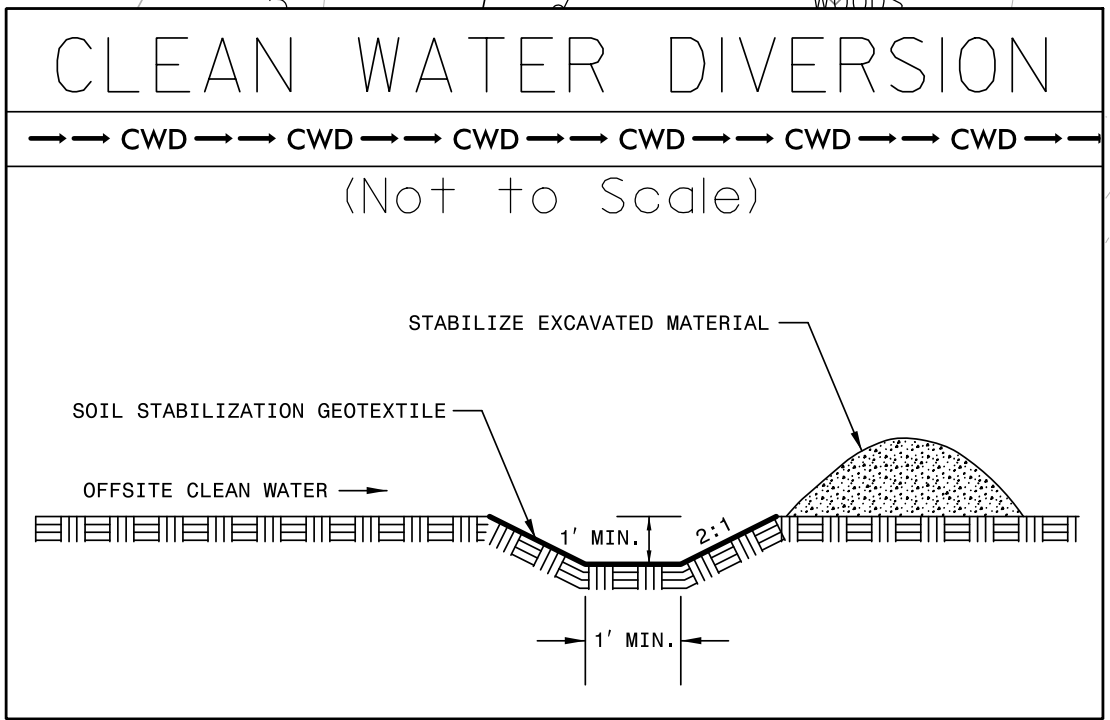


MATCHLINE -L- STA 18+00 (SHEET EC - 4)

MATCHLINE -L- STA 23+60 (SHEET EC - 6)

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

NOTE:
 PERIMETER EROSION CONTROL MEASURES SHALL BE
 INSTALLED DURING CLEARING AND GRUBBING PHASE.



3
 MOUNT PLEASANT
 HWY 73 LLC
 DB 6201PG 297

8/17/99

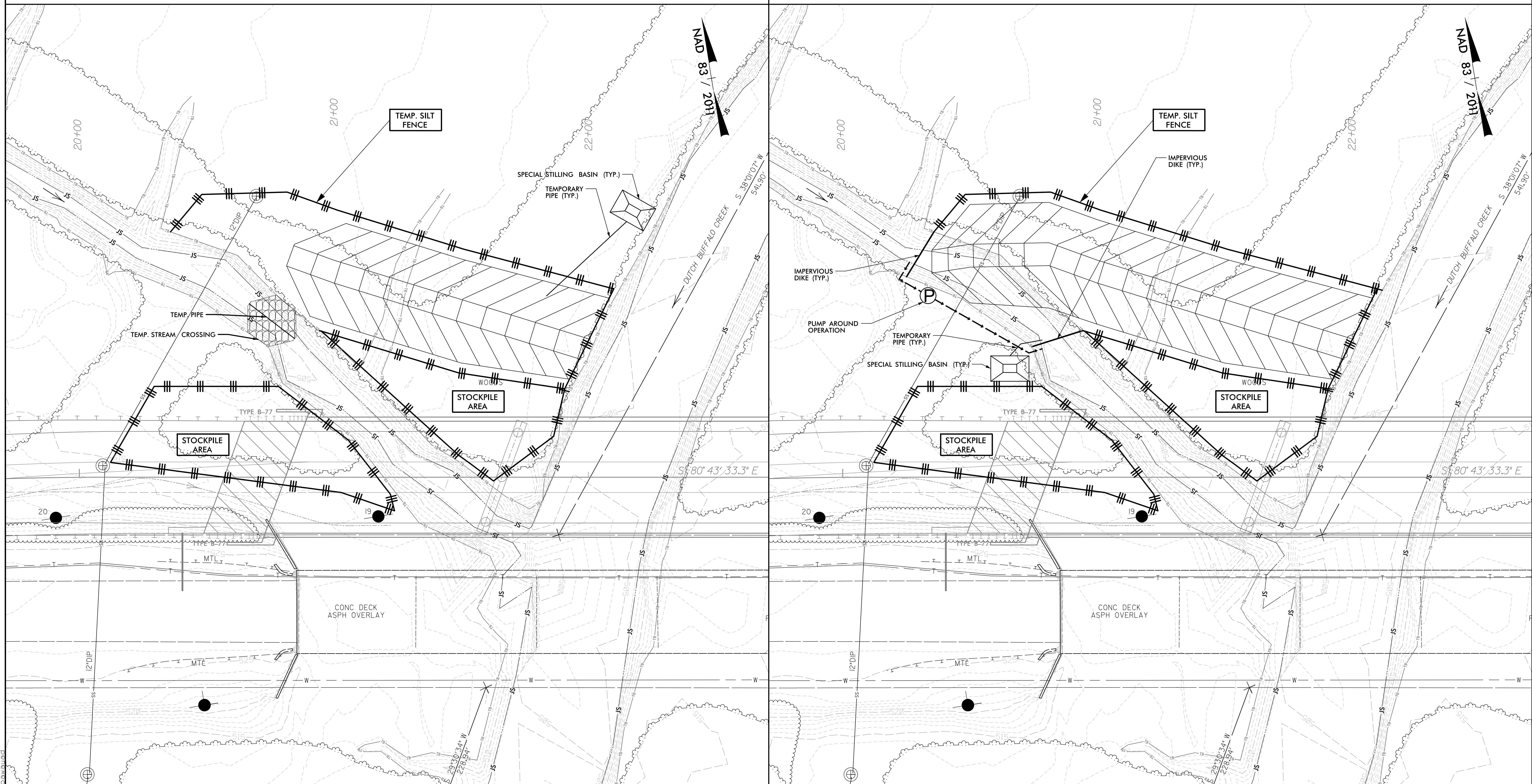
CHANNEL CHANGE CONSTRUCTION SEQUENCE STA. 20+00 -L-

PHASE I

1. CONSTRUCT TEMPORARY STREAM CROSSING TO ACCESS AREA ACROSS STREAM.
2. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT DITCH CONSTRUCTION.
3. INSTALL TEMPORARY SILT FENCE AROUND DITCH CONSTRUCTION AREA AS NEEDED.
4. CONSTRUCT SECTION OF CHANNEL CHANGE FROM TOP OF BANK OF DUTCH BUFFALO CREEK TO TOP OF BANK OF THE TRIBUTARY.
5. STORE EXCAVATED MATERIAL IN DESIGNATED STOCKPILE AREAS TO BE USED LATER TO FILL EXISTING CHANNEL.
6. DEWATER PROPOSED CHANNEL CHANGE CONSTRUCTION AREA AS NEEDED.
7. STABILIZE EXCAVATED AREA WITH SEED AND MULCH TEMPORARILY.
8. THE EXISTING STREAM SHALL BE MAINTAINED WHILE THE CHANNEL CHANGE SECTION IS CONSTRUCTED.

PHASE II

1. INSTALL IMPERVIOUS DIKES AND USE PUMP AROUND OPERATION TO DIVERT STREAM FLOW AROUND WORK SITE.
2. CONTINUE CONSTRUCTION OF THE CHANNEL CHANGE FROM THE END OF PHASE I TO THE CHANNEL CHANGE INLET.
3. STORE ALL ACCUMULATED EXCAVATED MATERIAL TO BE CLEANED AS DIRECTED IN DESIGN PLANS AND DETAILS.
4. ALL INACTIVE WORK AREAS IMPACTED BY CHANNEL CHANGE CONSTRUCTION SHALL BE STABILIZED BY SEED AND MULCH TEMPORARILY.

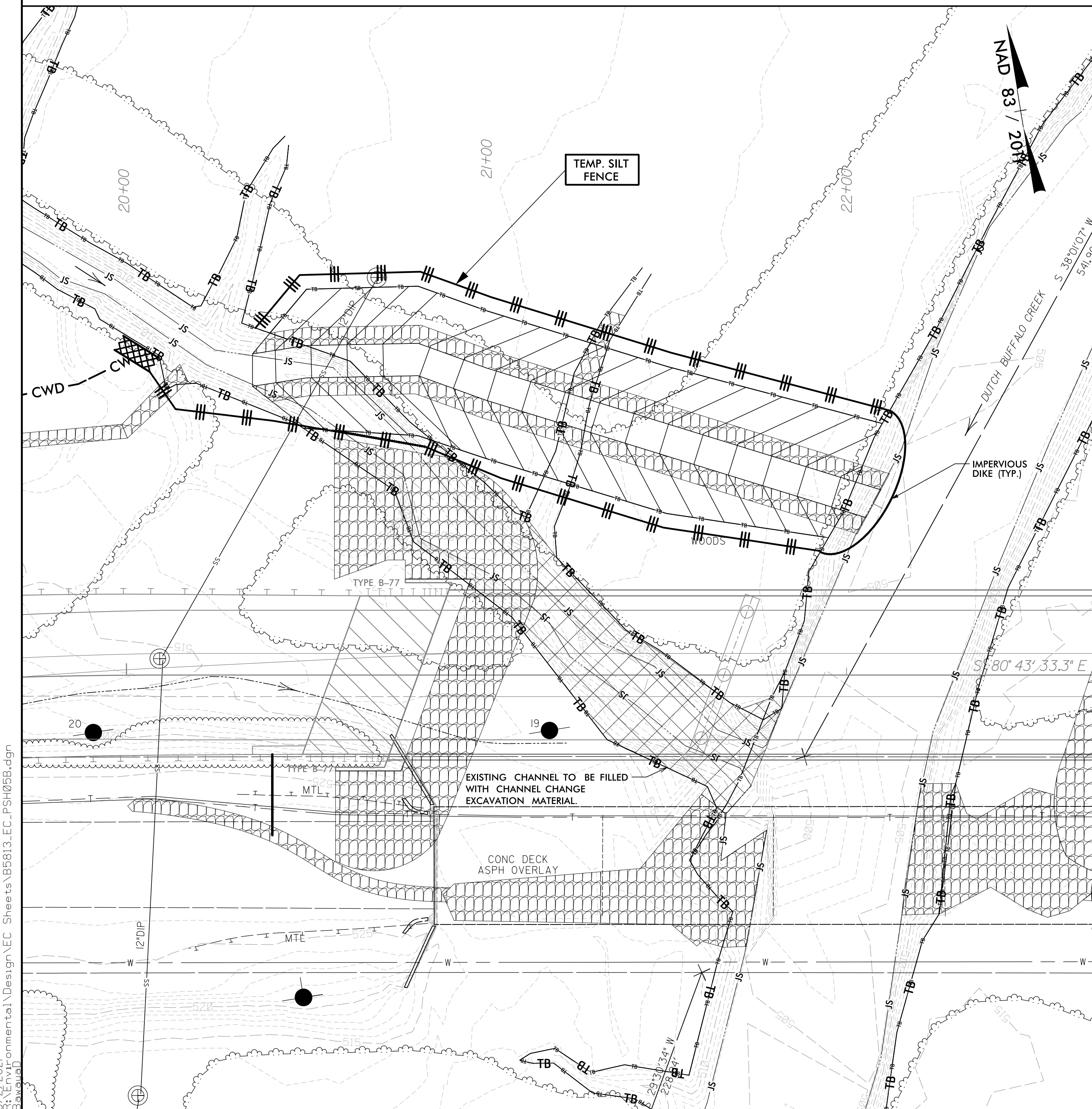


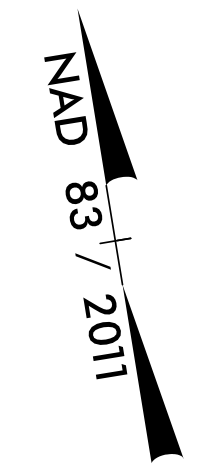
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CHANNEL CHANGE CONSTRUCTION SEQUENCE STA. 20+00 -L-

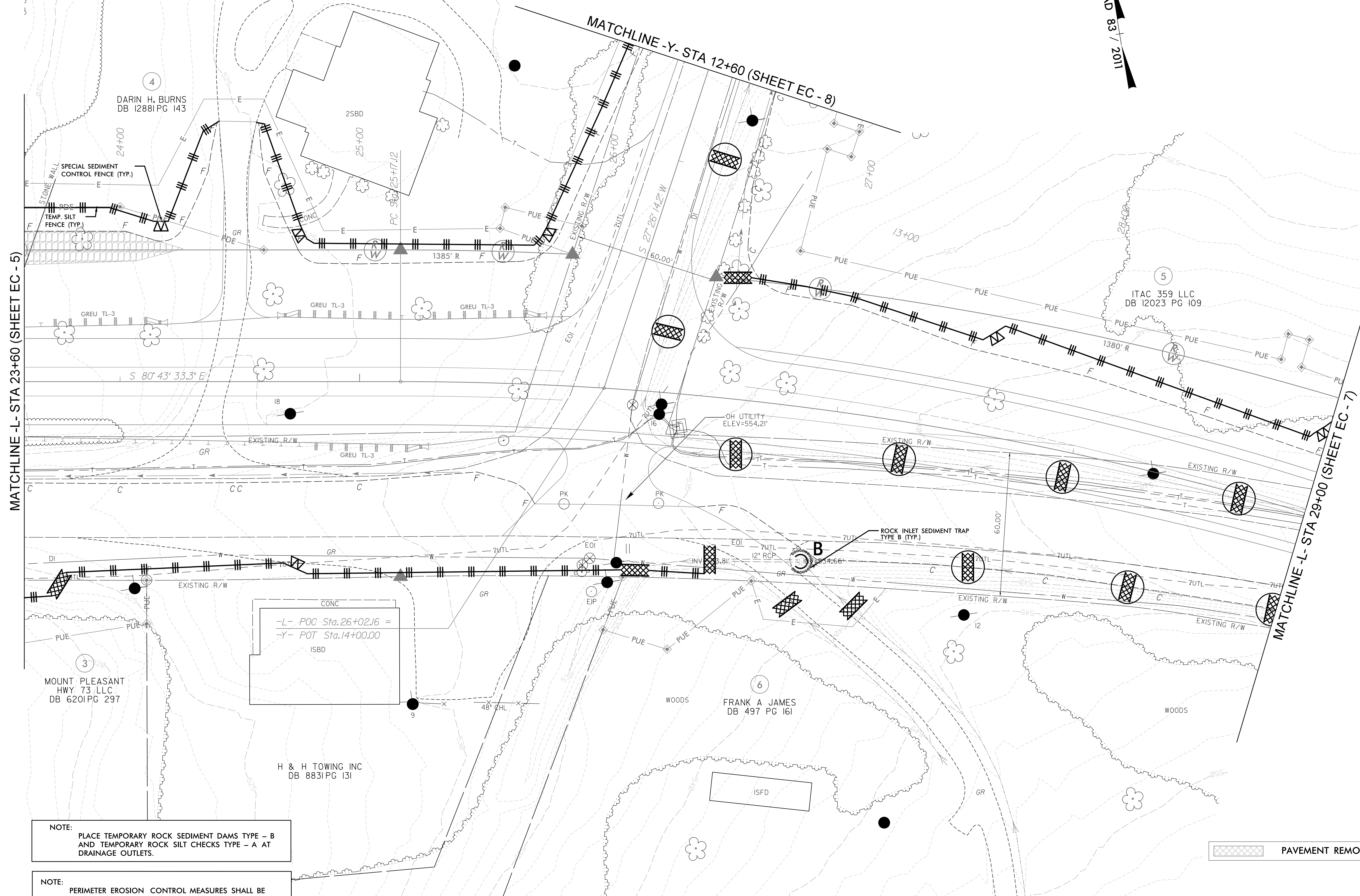
PHASE III

1. INSTALL SILT FENCE CONNECTING TO TOP OF BANKS OF BOTH STREAMS.
2. INSTALL RIPRAP IN CHANNEL CHANGE TO STABILIZE SLOPES.
3. INSTALL IMPERVIOUS DIKE AT CHANNEL CHANGE OUTLET.
4. CONSTRUCT FINAL SECTION OF THE CHANNEL CHANGE FROM THE TOP OF BANK TO THE OUTLET.
5. REMOVE IMPERVIOUS DIKES AND PUMP AROUND OPERATION.
6. FLOW NOW DIVERTED THROUGH NEW CHANNEL.





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.

NOTE:
 PERIMETER EROSION CONTROL MEASURES SHALL BE
 INSTALLED DURING CLEARING AND GRUBBING PHASE.


PAVEMENT REMOVAL

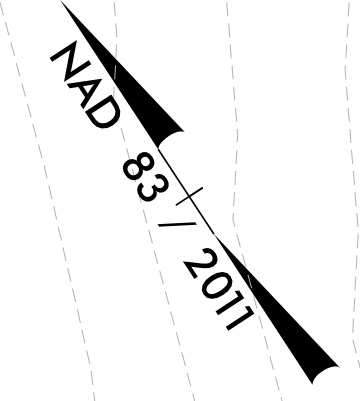
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 -L- POC Sta. 26+02.16 =
 -Y- POT Sta. 14+00.00
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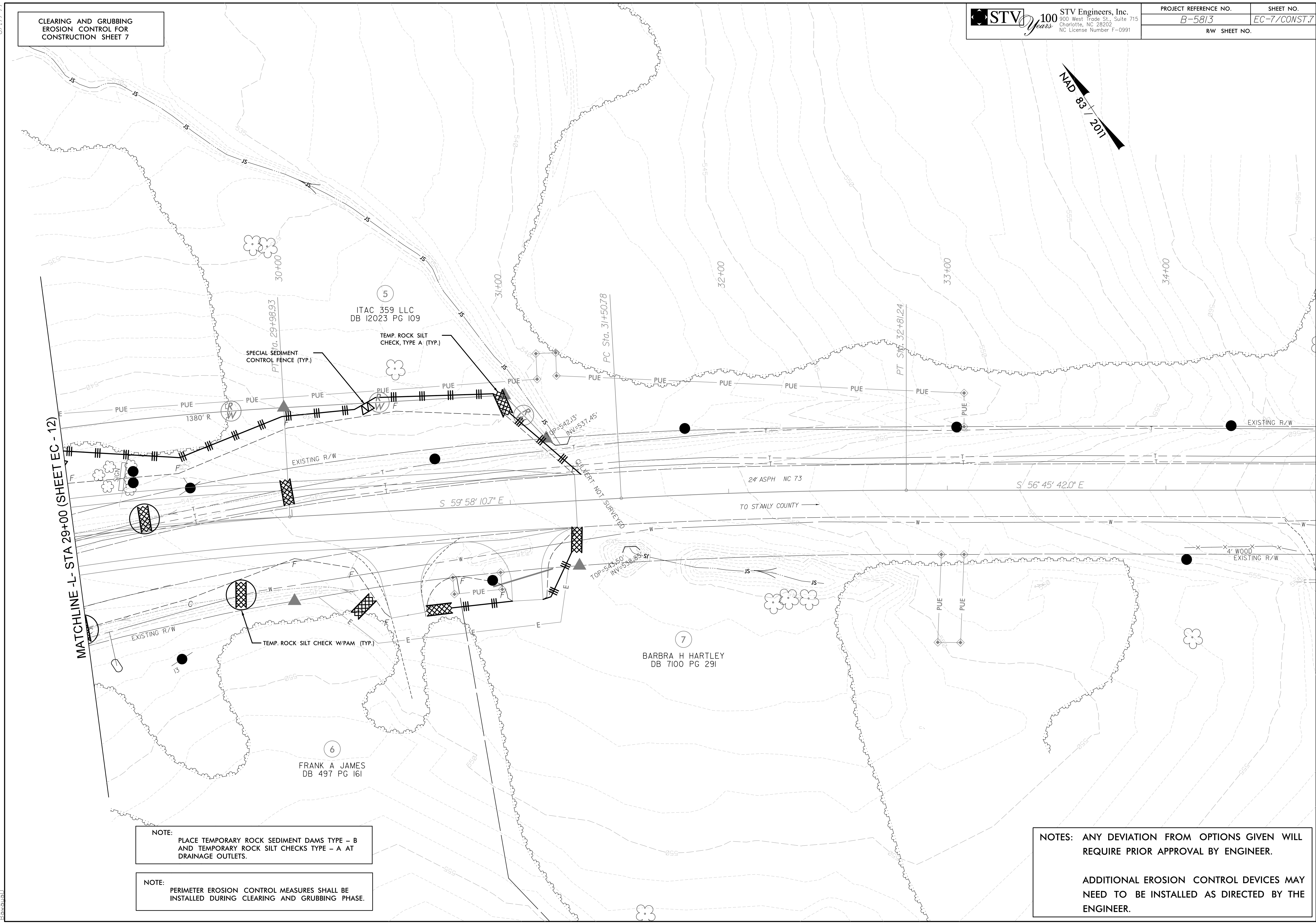
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

 STV 100 Years STV Engineers, Inc. 500 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	PROJECT REFERENCE NO.	SHEET NO.
	B-5813	EC-7/CONST.7
RW SHEET NO.		



MATCHLINE -L- STA 29+00 (SHEET EC - 12)

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Bavaria

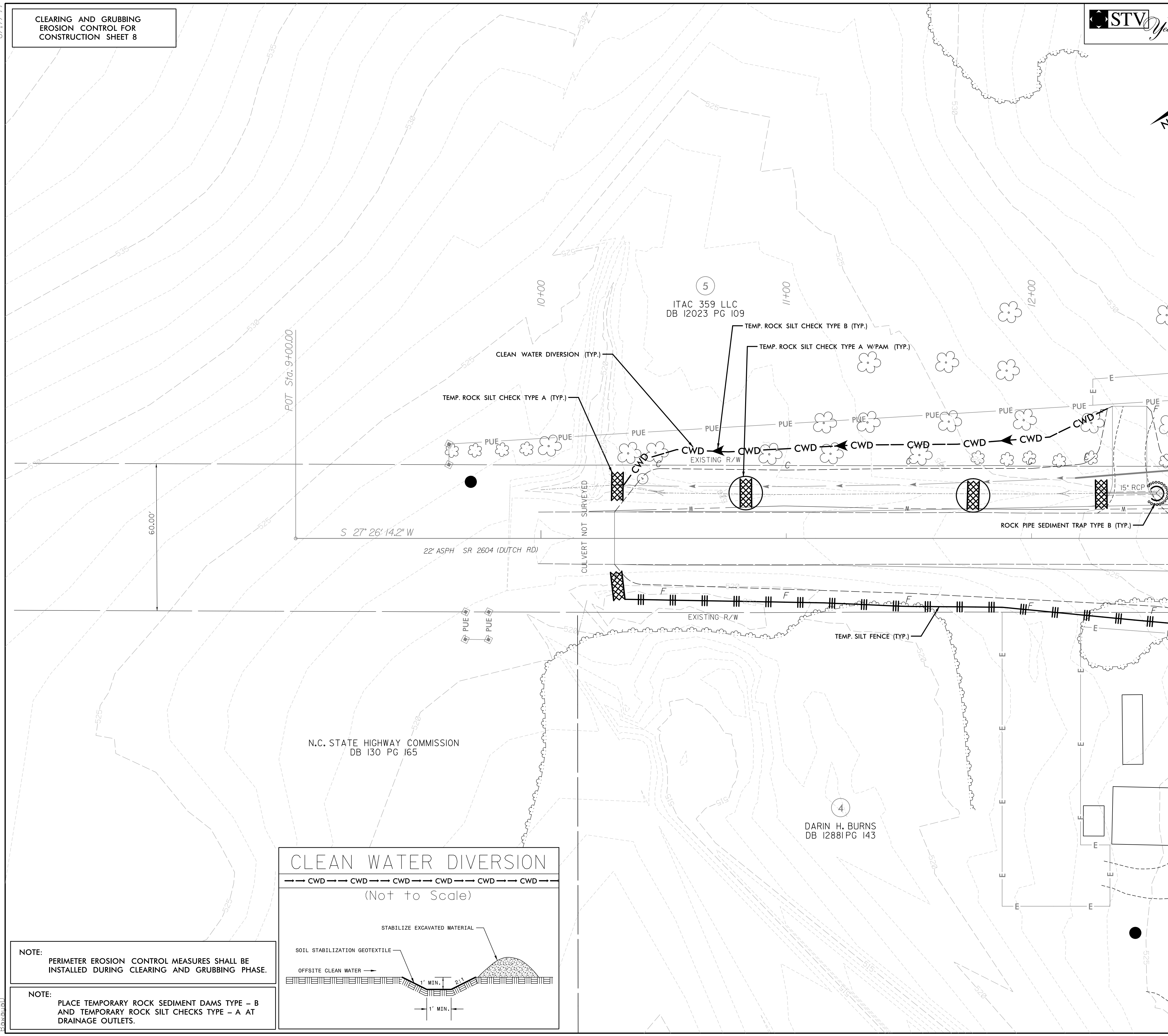
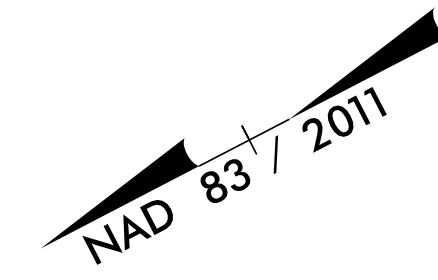


NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

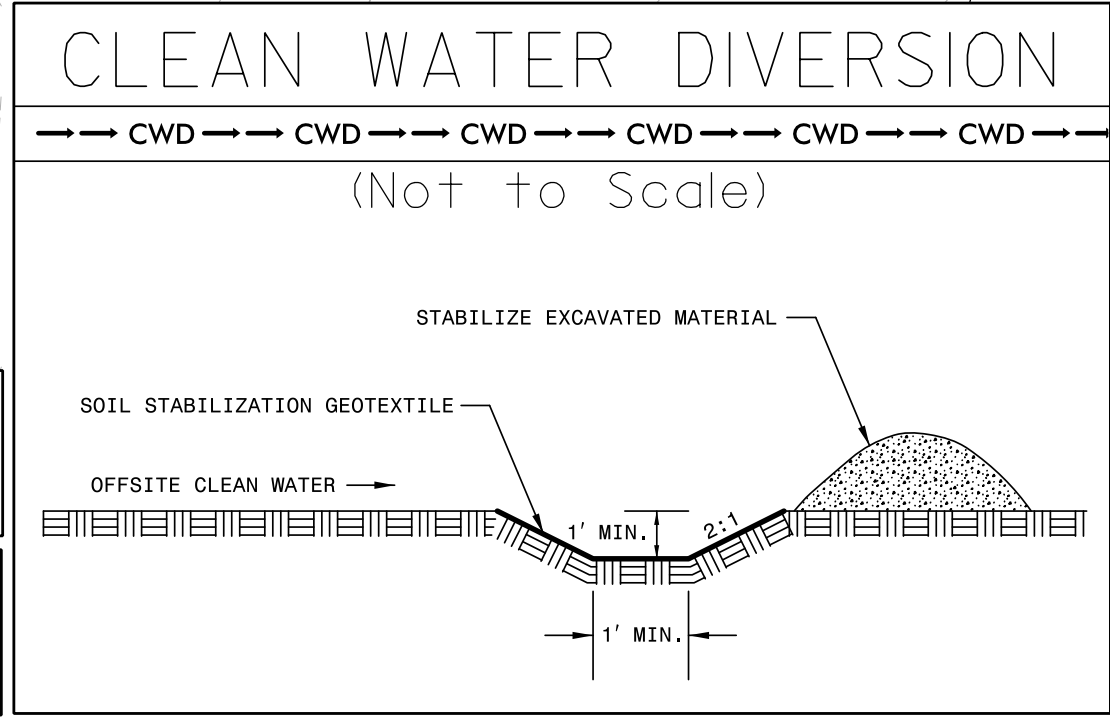
NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.



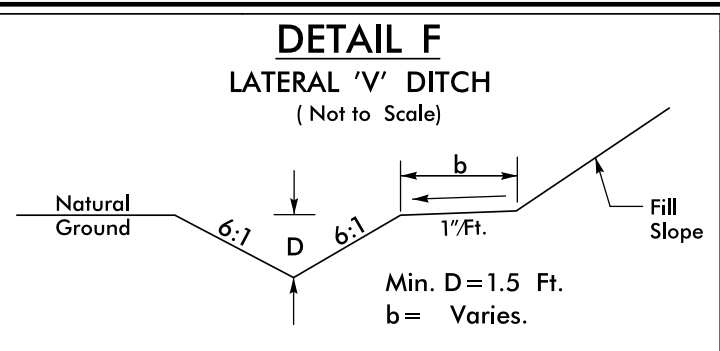
MATCHLINE -Y- STA 12+60 (SHEET EC - 11)



NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

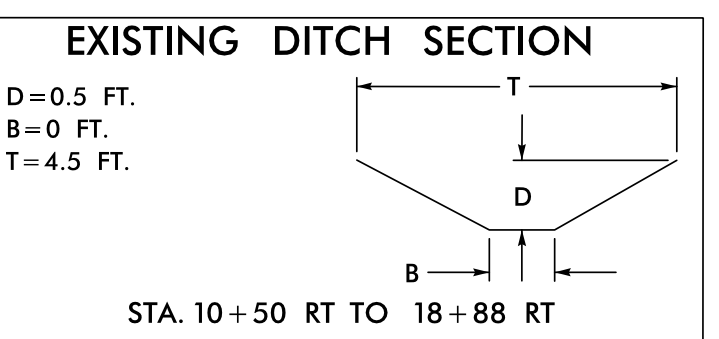
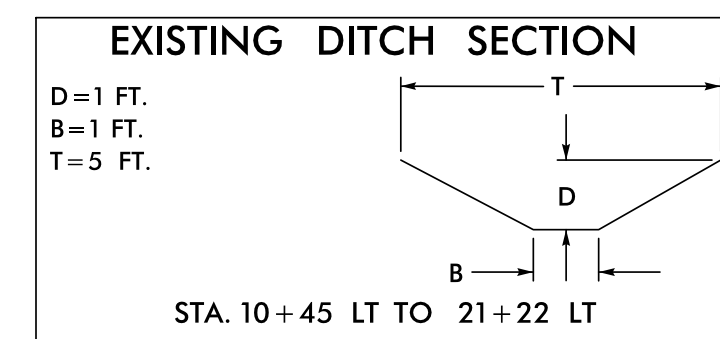
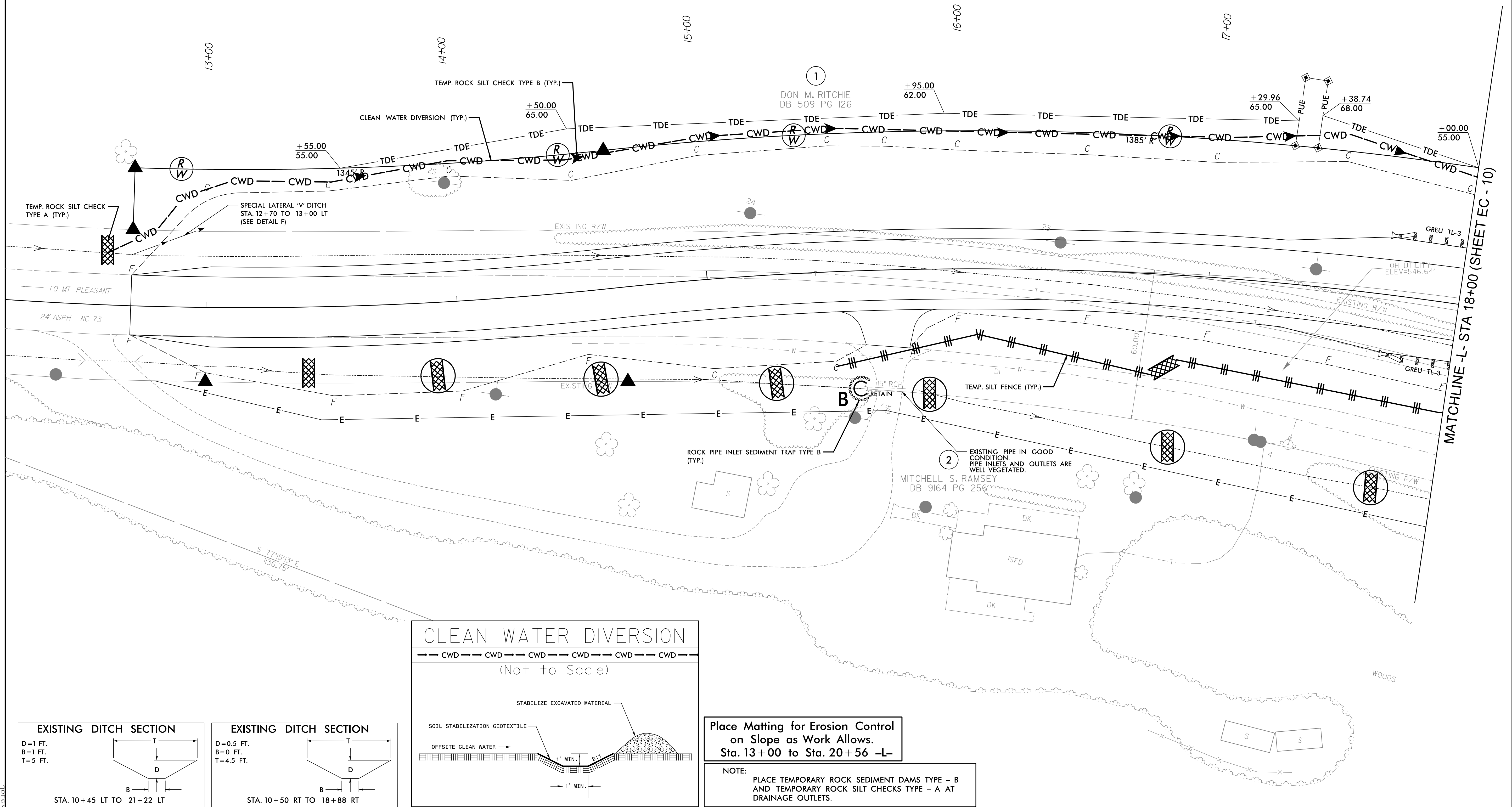
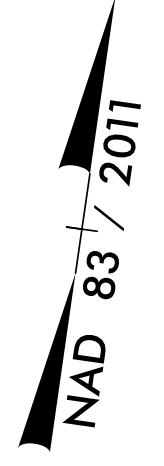
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

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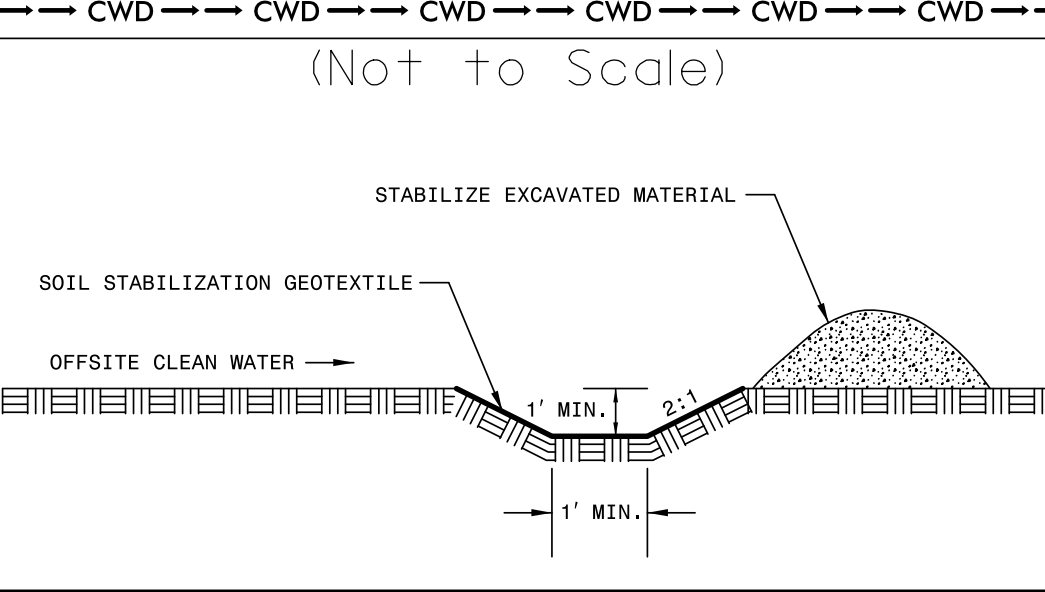


FINAL
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4

FROM STA. 13+00 LT TO STA. 13+50 LT



CLEAN WATER DIVERSION

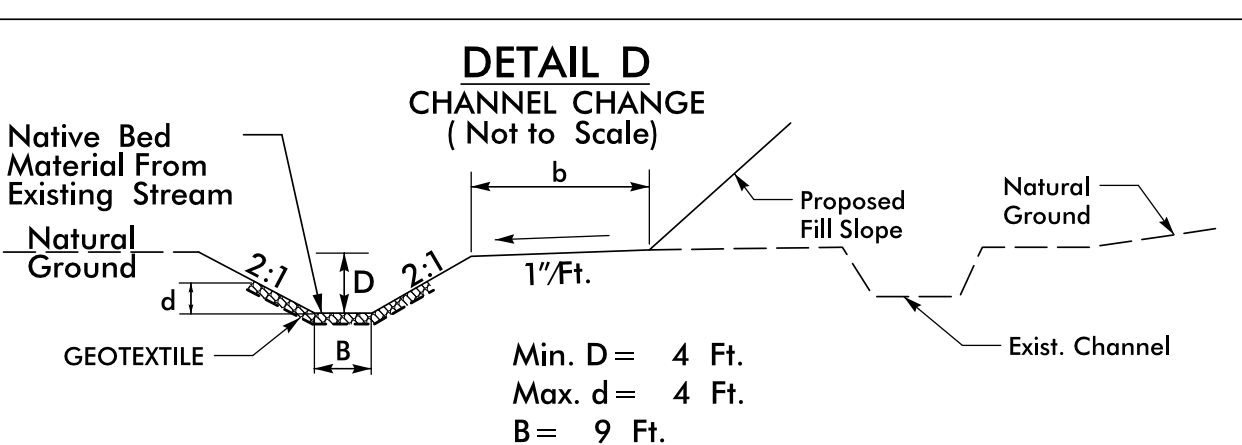
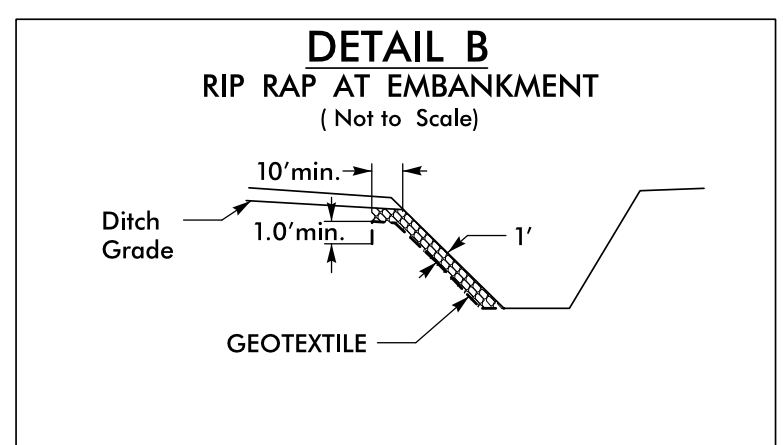
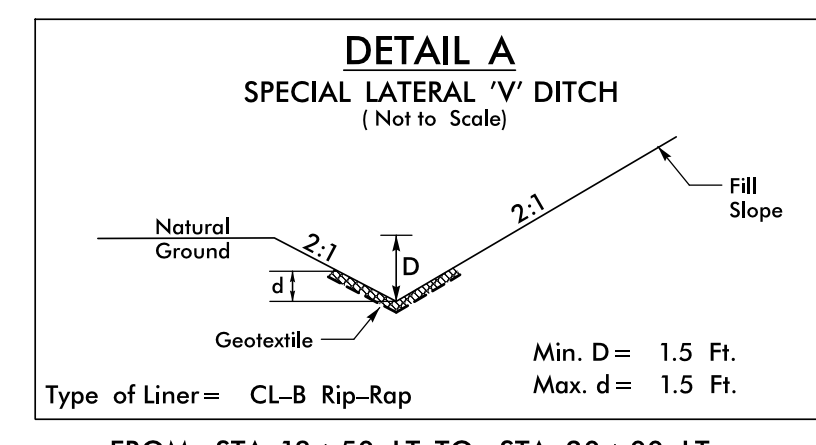


Place Matting for Erosion Control
 on Slope as Work Allows.
 Sta. 13+00 to Sta. 20+56 -L-

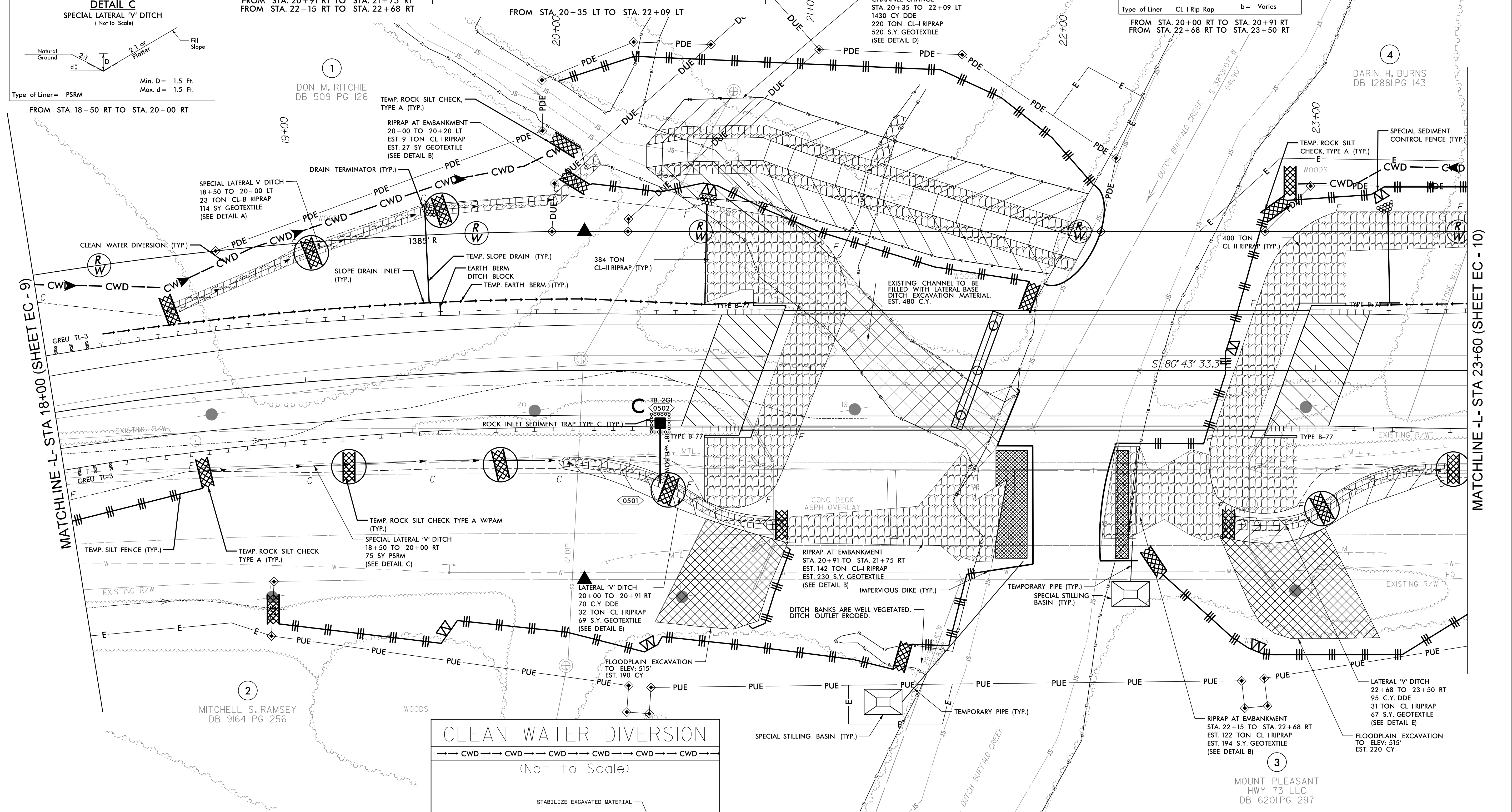
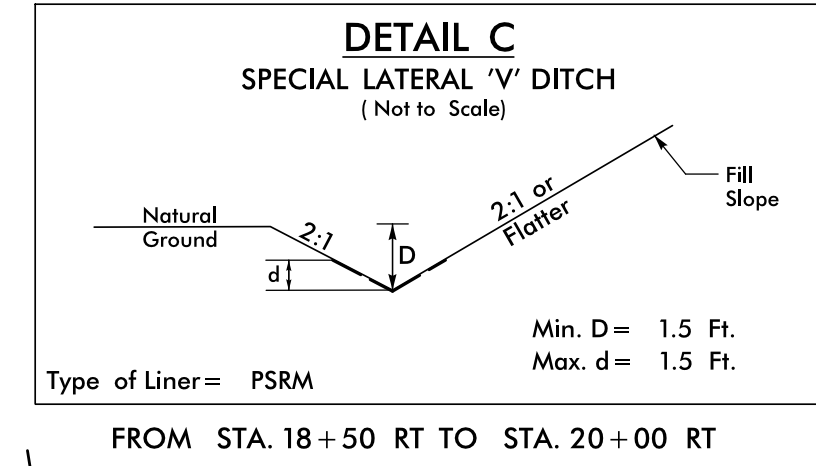
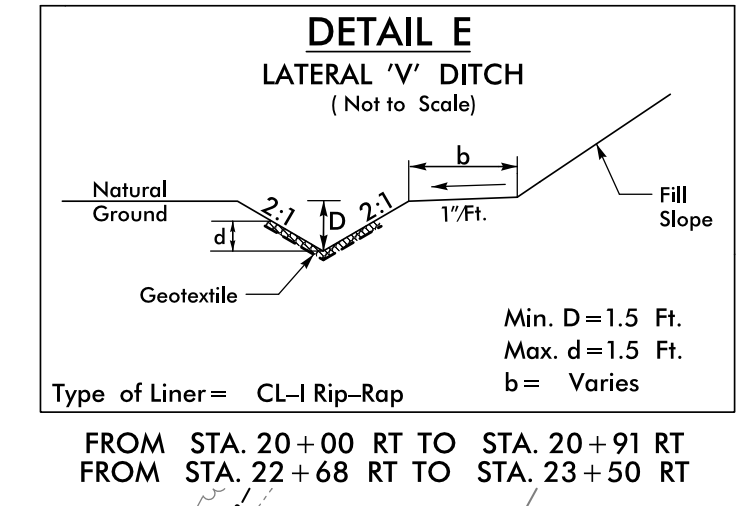
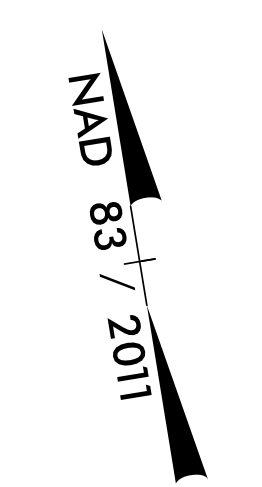
NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

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 3/2/2021
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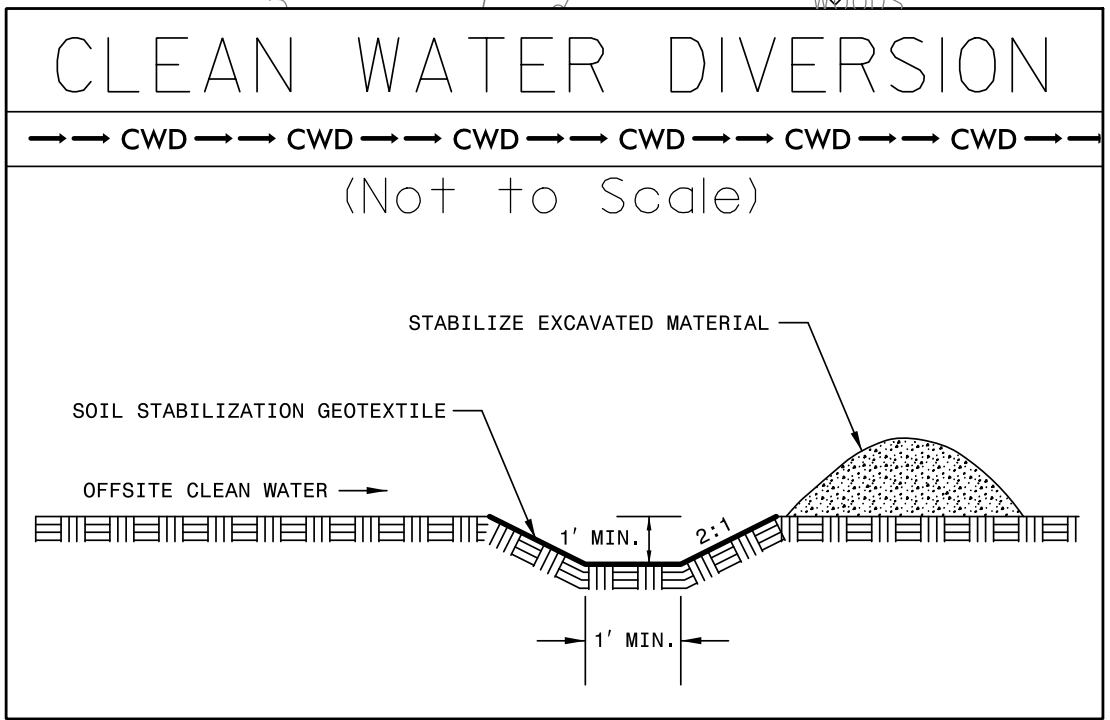


FINAL
EROSION CONTROL FOR
CONSTRUCTION SHEET 5



Place Matting for Erosion Control
on Floodplain Excavatin
As Work Allows

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

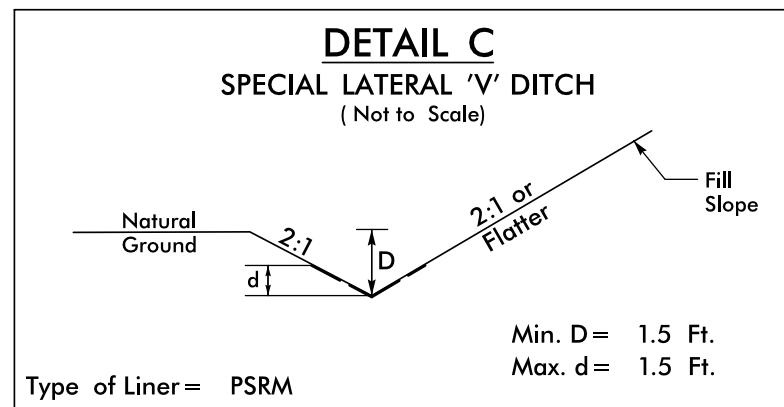


Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 13+00 to Sta. 20+56 -L-

NOTE:
INSTALL TEMPORARY SLOPE DRAINS TO CONVEY RUNOFF
FROM ROAD GRADE INTO PROPOSED DITCHES WITH
A SPACING OF 1000 FT. OR AS DIRECTED.

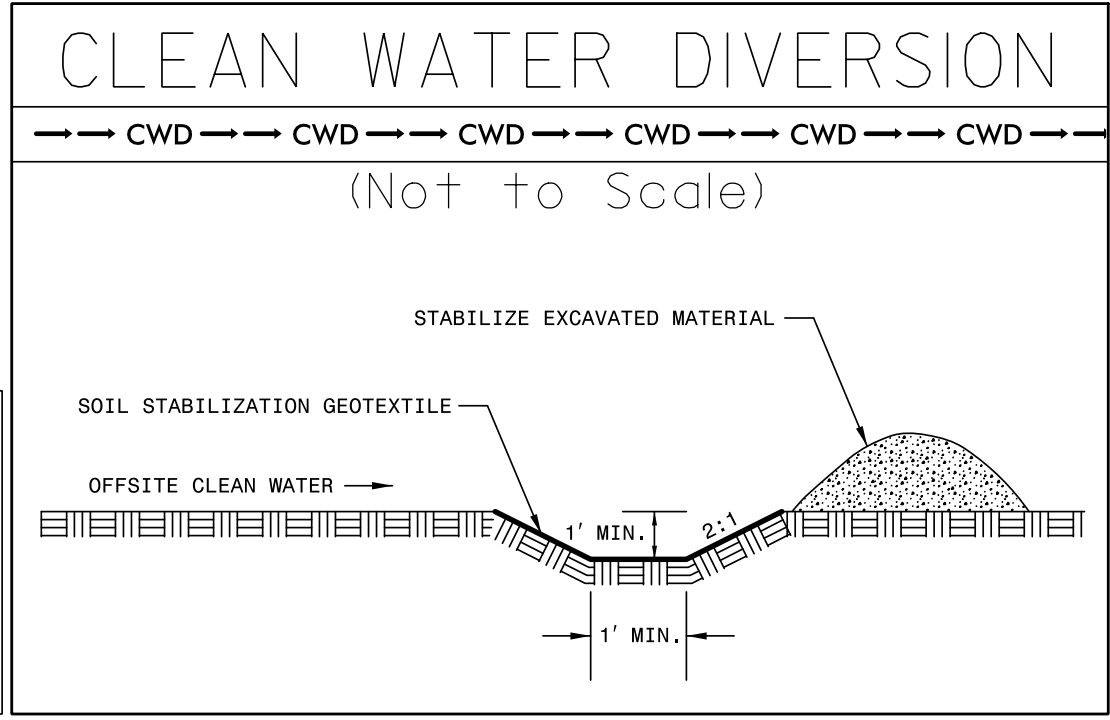
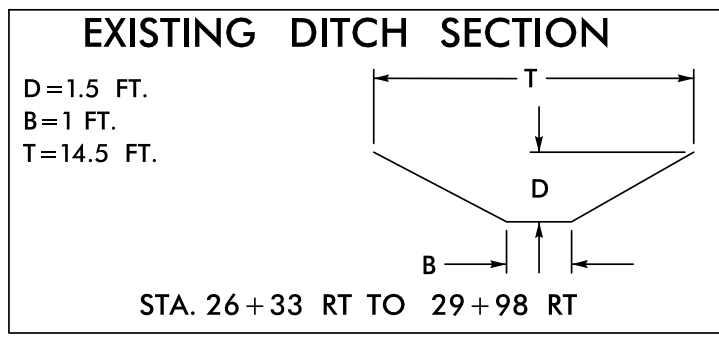
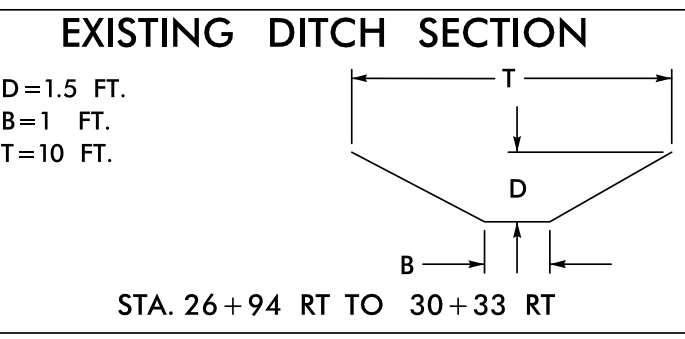
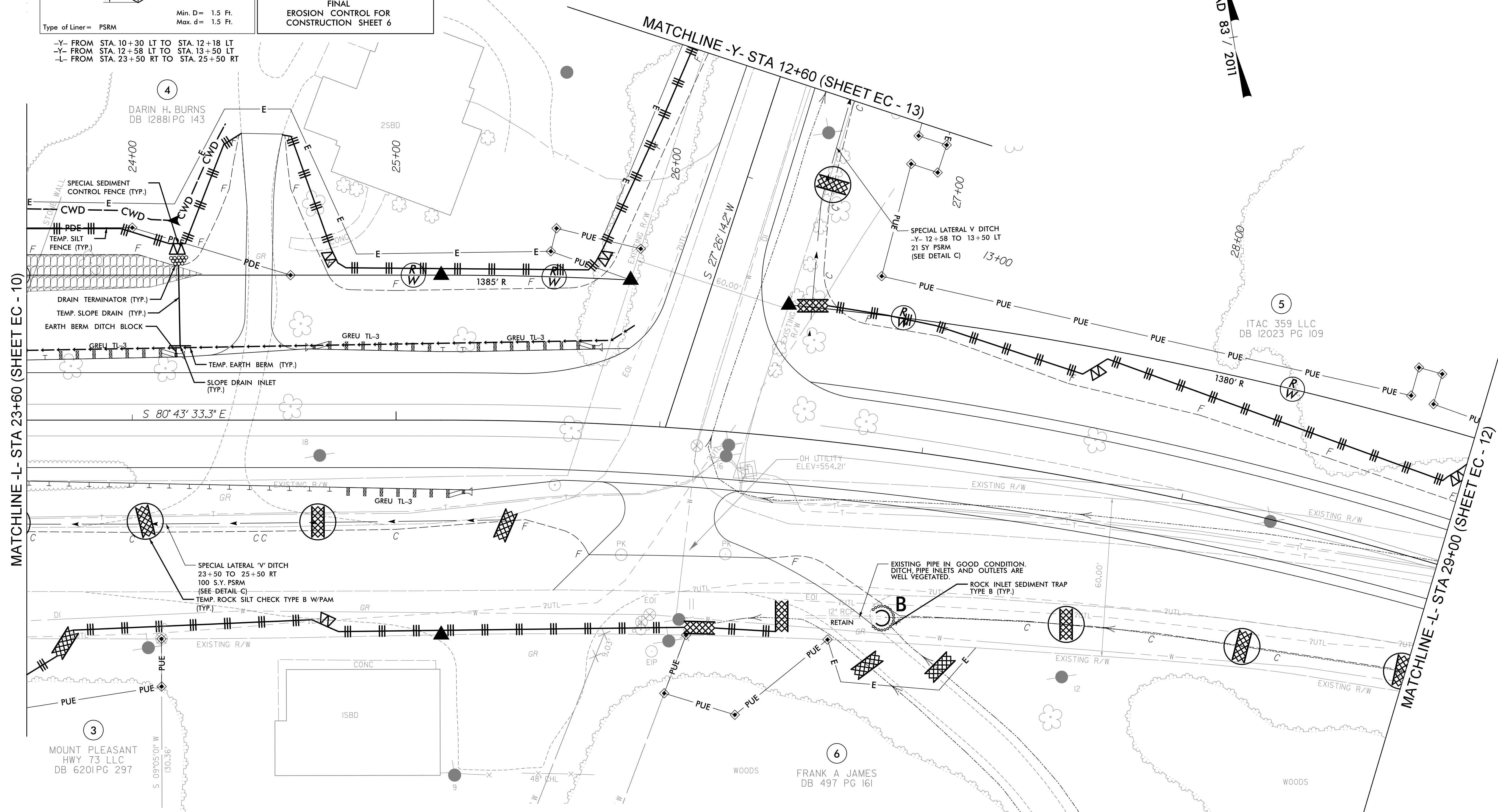
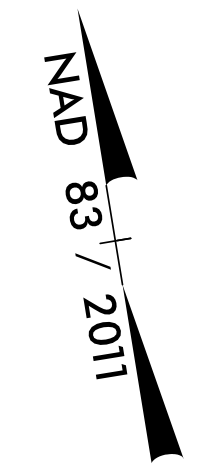
MATCHLINE -L- STA 23+60 (SHEET EC - 10)

MATCHLINE -L- STA 18+00 (SHEET EC - 9)



FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 6

-Y- FROM STA. 10+30 LT TO STA. 12+18 LT
 -Y- FROM STA. 12+58 LT TO STA. 13+50 LT
 -L- FROM STA. 23+50 RT TO STA. 25+50 RT



Place Matting for Erosion Control on Slope as Work Allows. Sta. 23+10 to Sta. 25+88 -L-

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

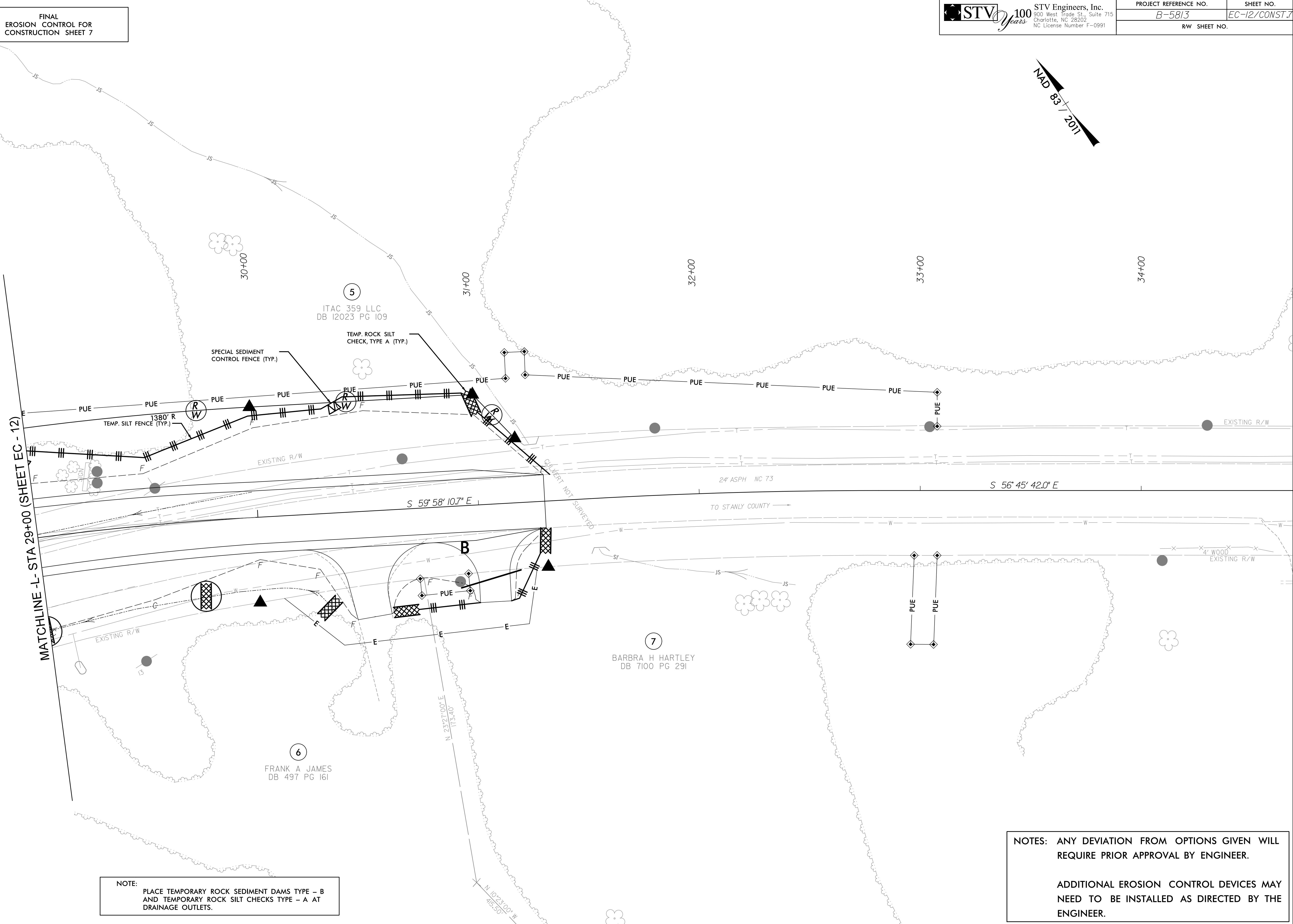
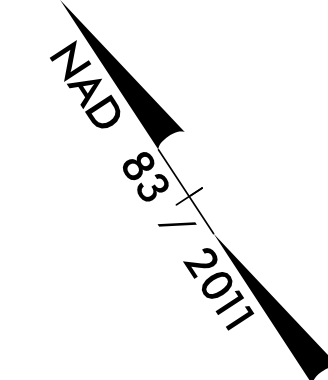
8/17/99
 3/2/2021
 R:\E\20\environmental\Design\EC_Sheets\B5813_EC_PSH1.dgn
 Bawash

8/17/99

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 7

STV 100 Years STV Engineers, Inc. 800 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-5813	EC-12/CONST.7
RW SHEET NO.	



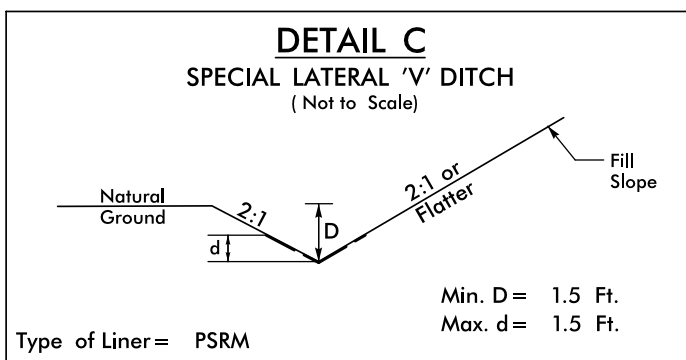
NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
 REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
 NEED TO BE INSTALLED AS DIRECTED BY THE
 ENGINEER.

3/2/2021
 R:\Environmental\Design\EC_Sheets\B5813_EC_PSH12.dgn
 Bawala

8/17/99

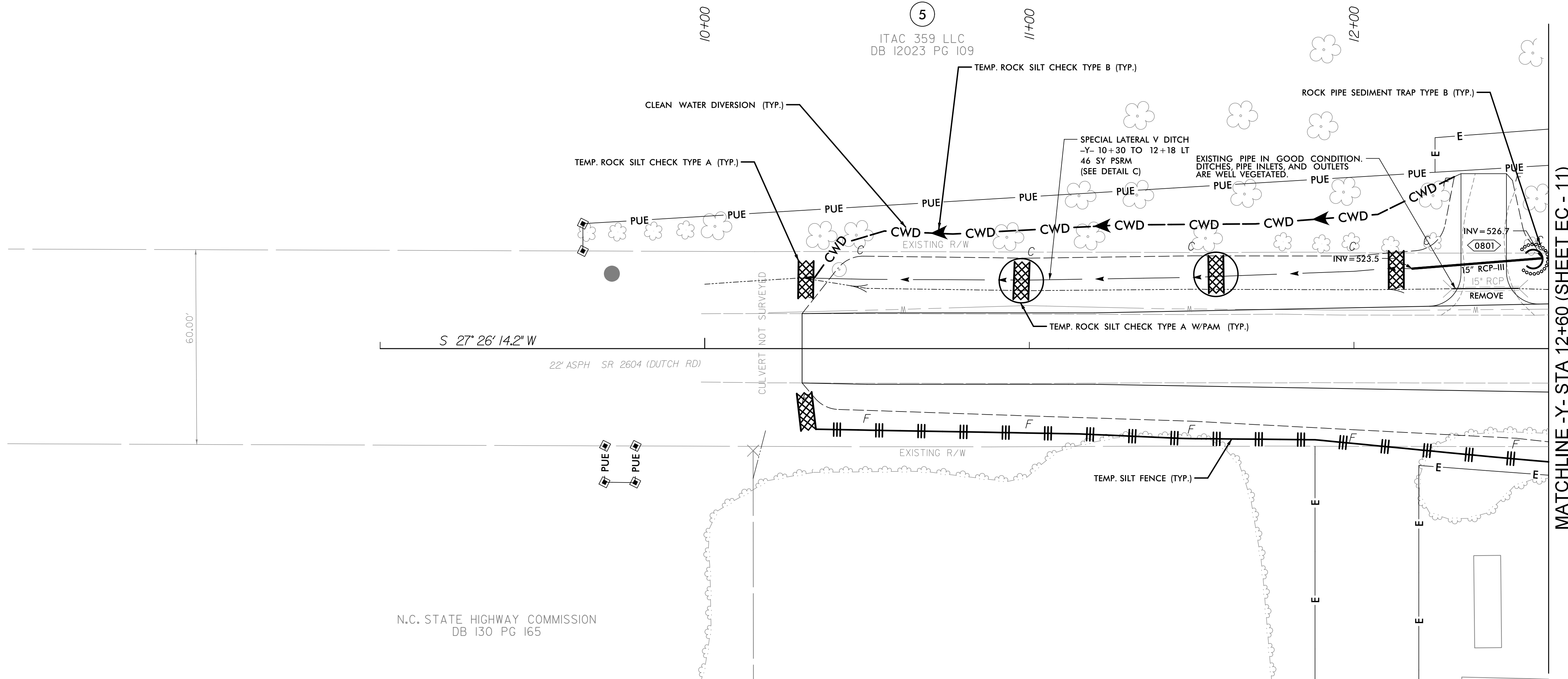
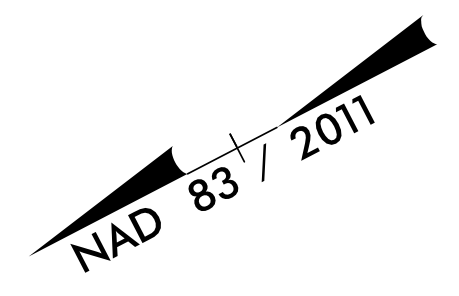


-Y- FROM STA. 10+30 TO STA. 12+18 LT
-Y- FROM STA. 12+58 TO STA. 13+50 LT

FINAL
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

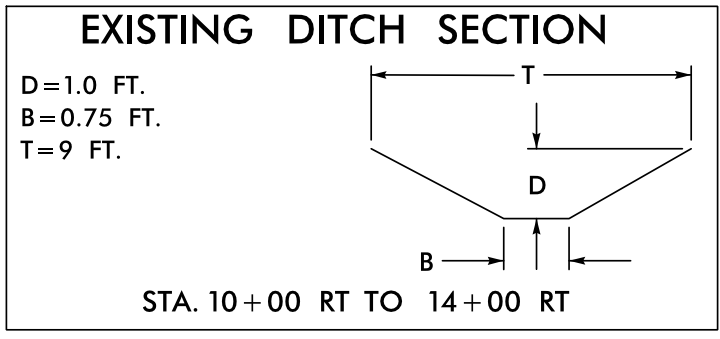
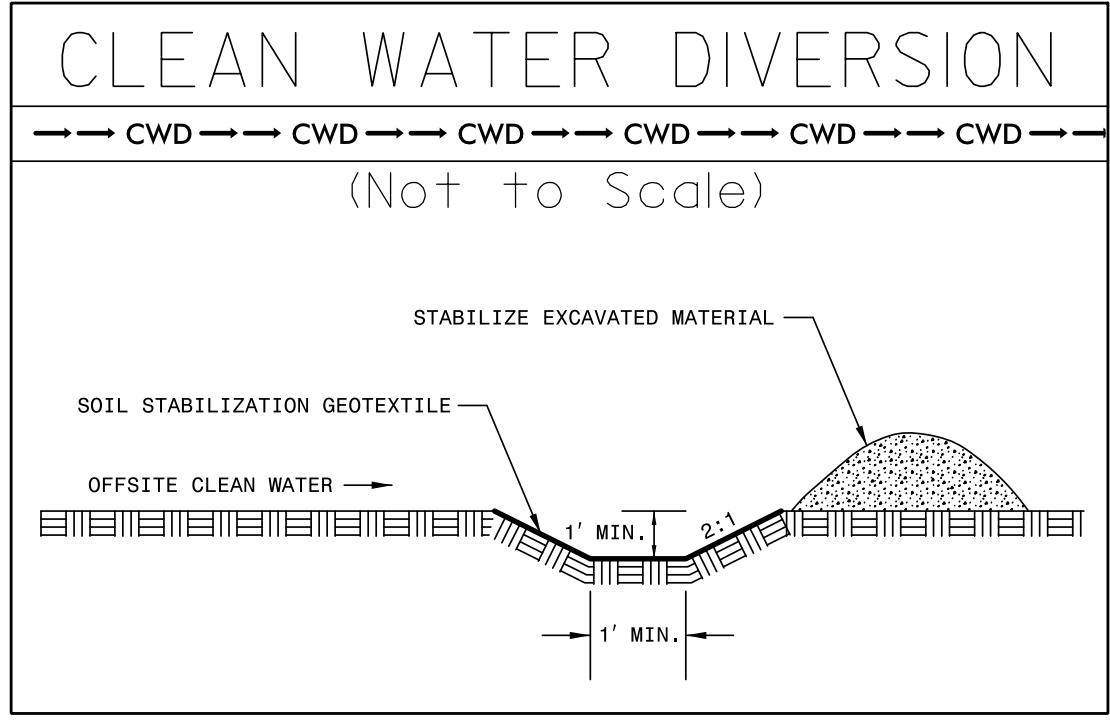
STV 100 Years
STV Engineers, Inc.
500 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO. B-5813	SHEET NO. EC-13/CONST.8
RW SHEET NO.	



MATCHLINE -Y- STA 12+60 (SHEET EC - 11)

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



3/2/2021
C:\Users\Boromental\Design\EC_Sheets\B5813_EC_PSH13.dgn
Boromental