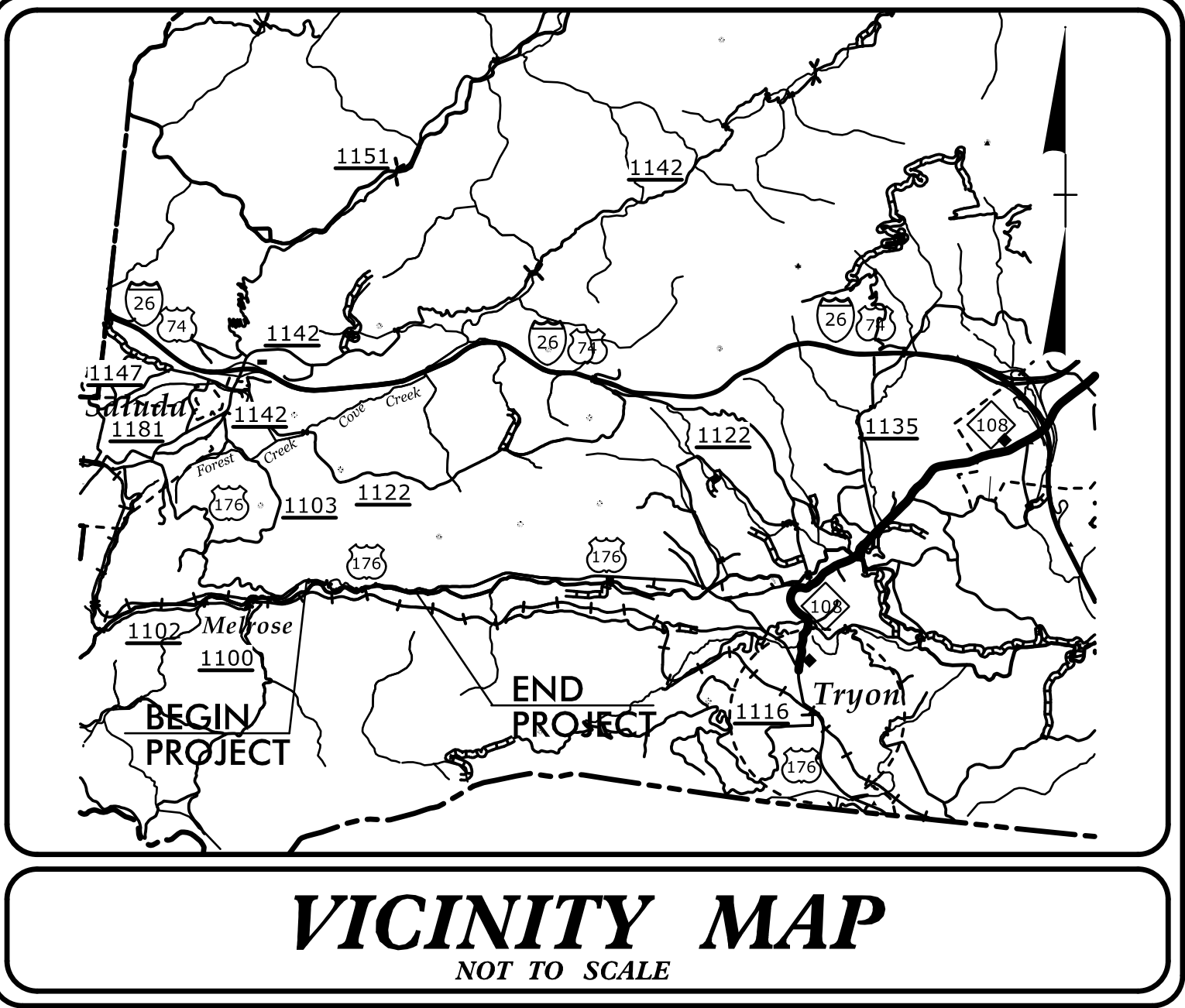


\\p01-21\apps\eng\proj\con\control\Sheets - 900 Series\US176-EC-den-TSH-900.dgn
User: jcochrane

PROJECT: W03293

CONTRACT:

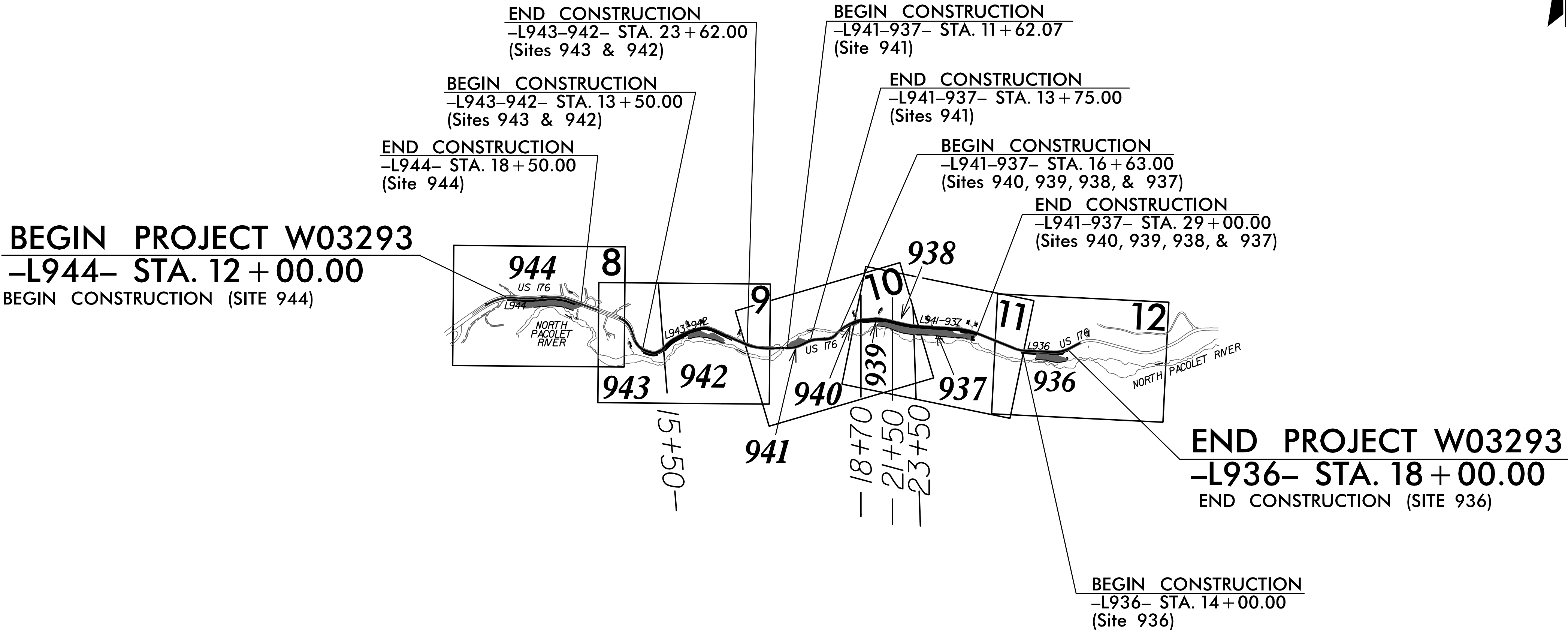


VICINITY MAP
NOT TO SCALE

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

LOCATION: US 176

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND RETAINING WALLS



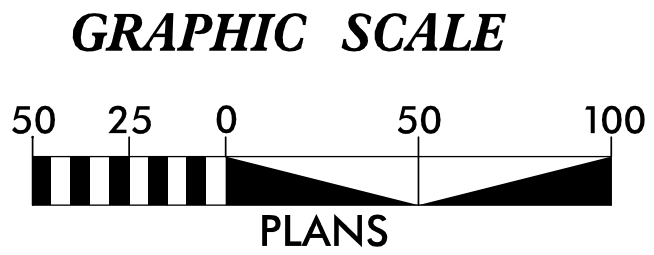
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W03293	EC-1	
STATE PROJ.NO.	F.A. PROJ. NO.	DESCRIPTION	
SEE	ROADWAY	TITLESHEET	

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

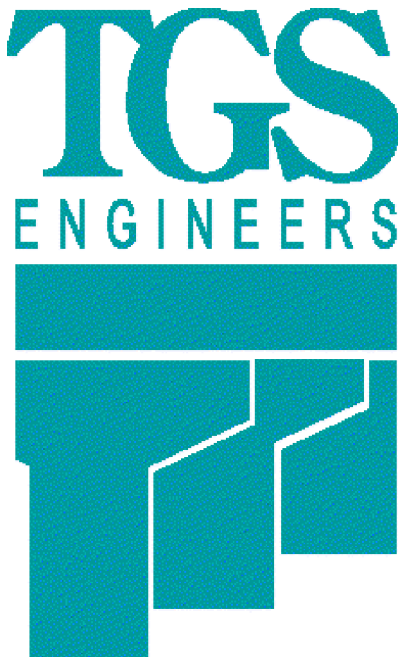
THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.

ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT

Refer To E. C. Special Provisions
for Special Considerations.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE NCG 010000 GENERAL
STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH
CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION
OF ENERGY, MINERAL, AND LAND RESOURCES.



Prepared In the Office of:
TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150

Designed by:
Andrew H. Cochrane, PE 3015
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C.
Department of Transportation - Raleigh, N. C., dated January 2024
and the latest revision thereto are applicable to this project and by
reference hereby are considered a part of these plans.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

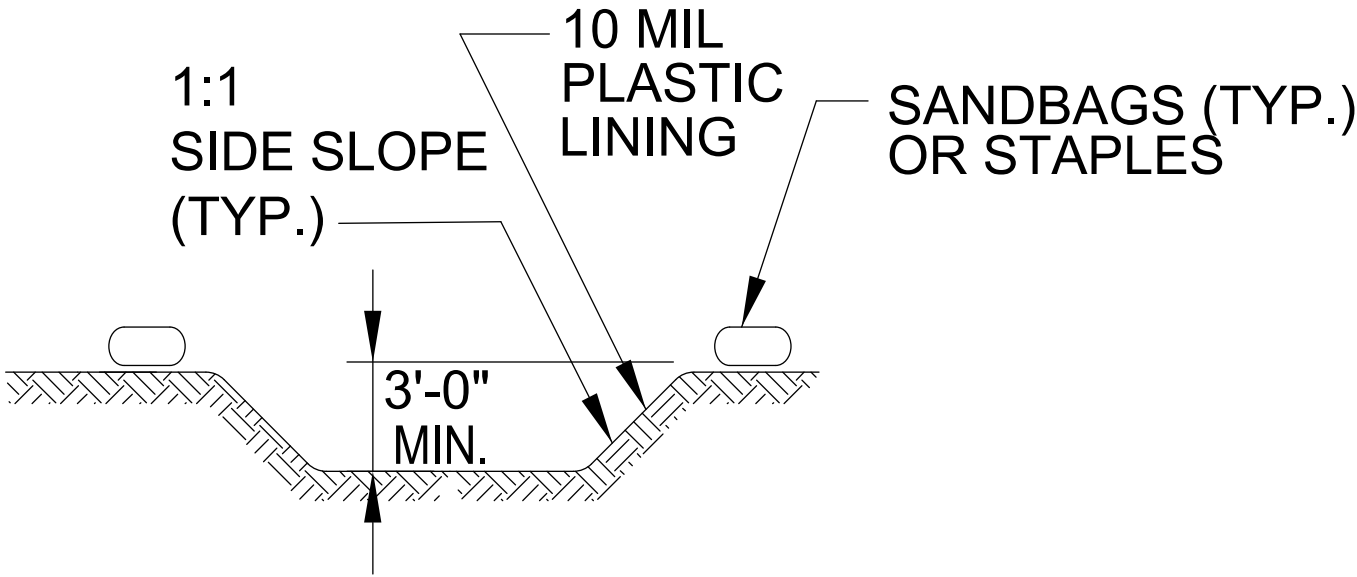
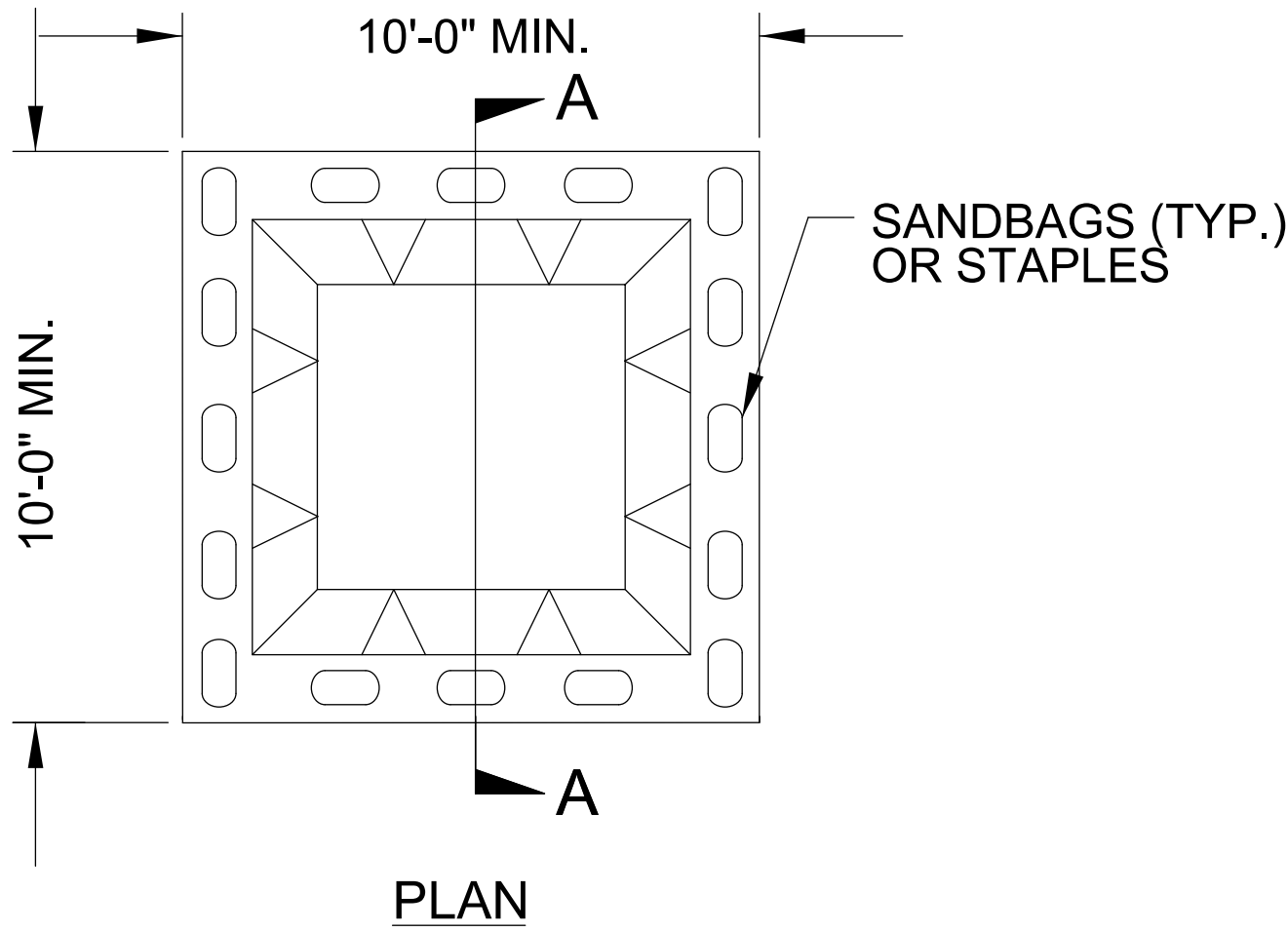
EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	
1630.04	Stilling Basin	
1630.05	Temporary Diversion	
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	

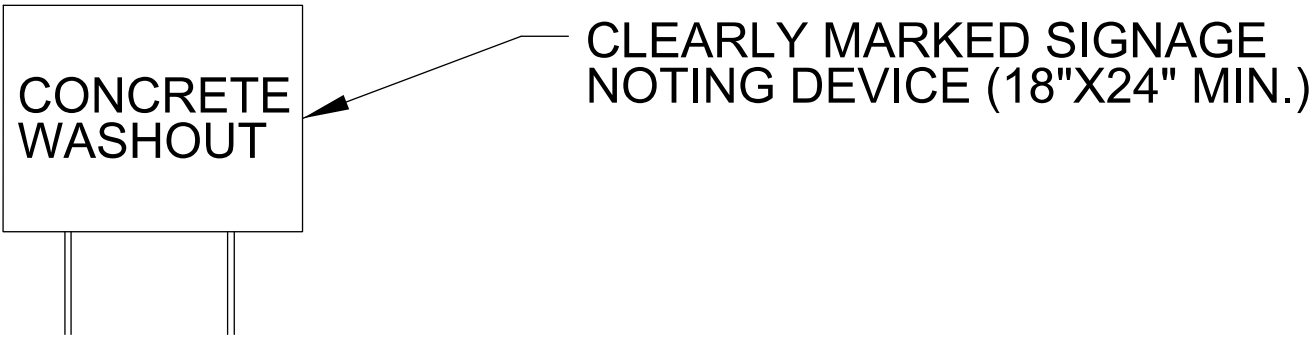
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	
1635.02	Rock Pipe Inlet Sediment Trap Type B	
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	
	Silt Fence Coir Fiber Wattle Break	
1636.03	Excelsior Wattle Barrier	
1636.03	Coir Fiber Wattle Barrier	

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

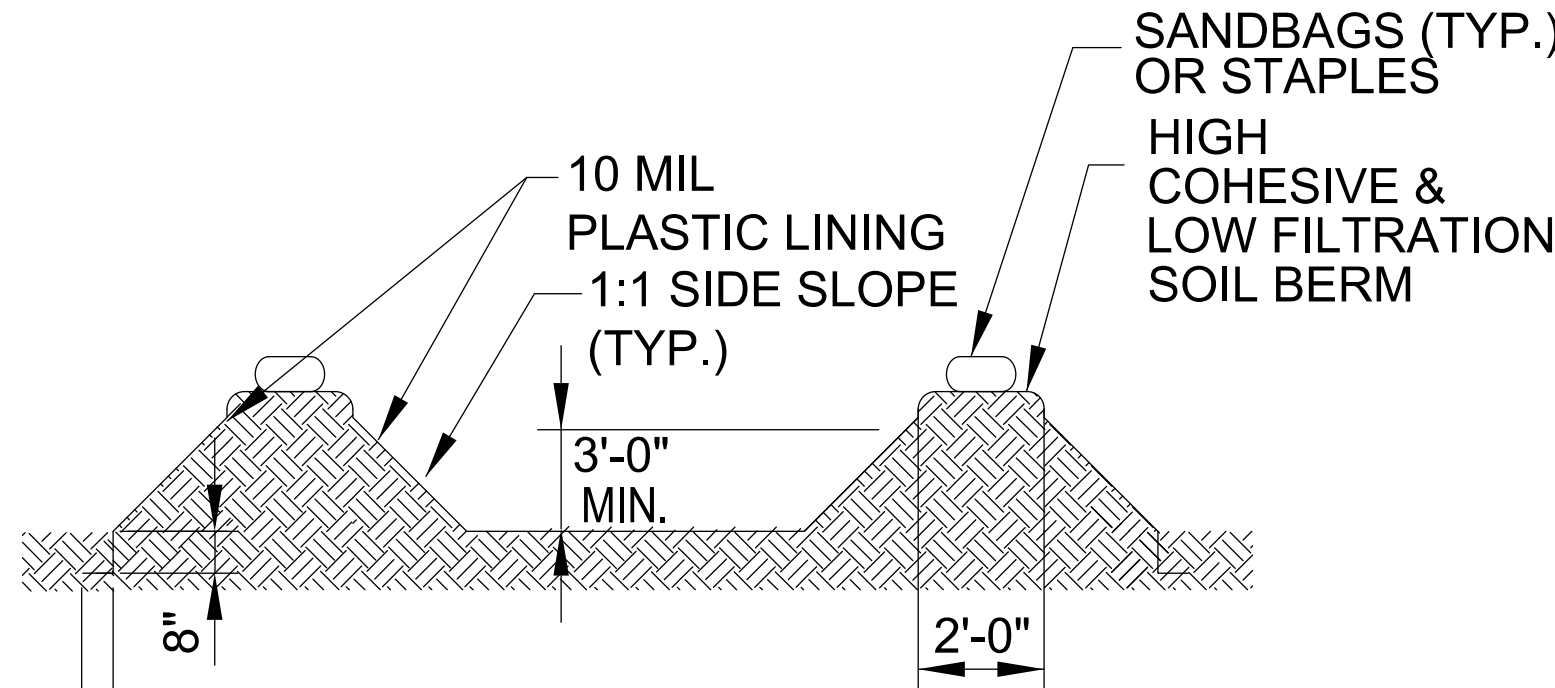
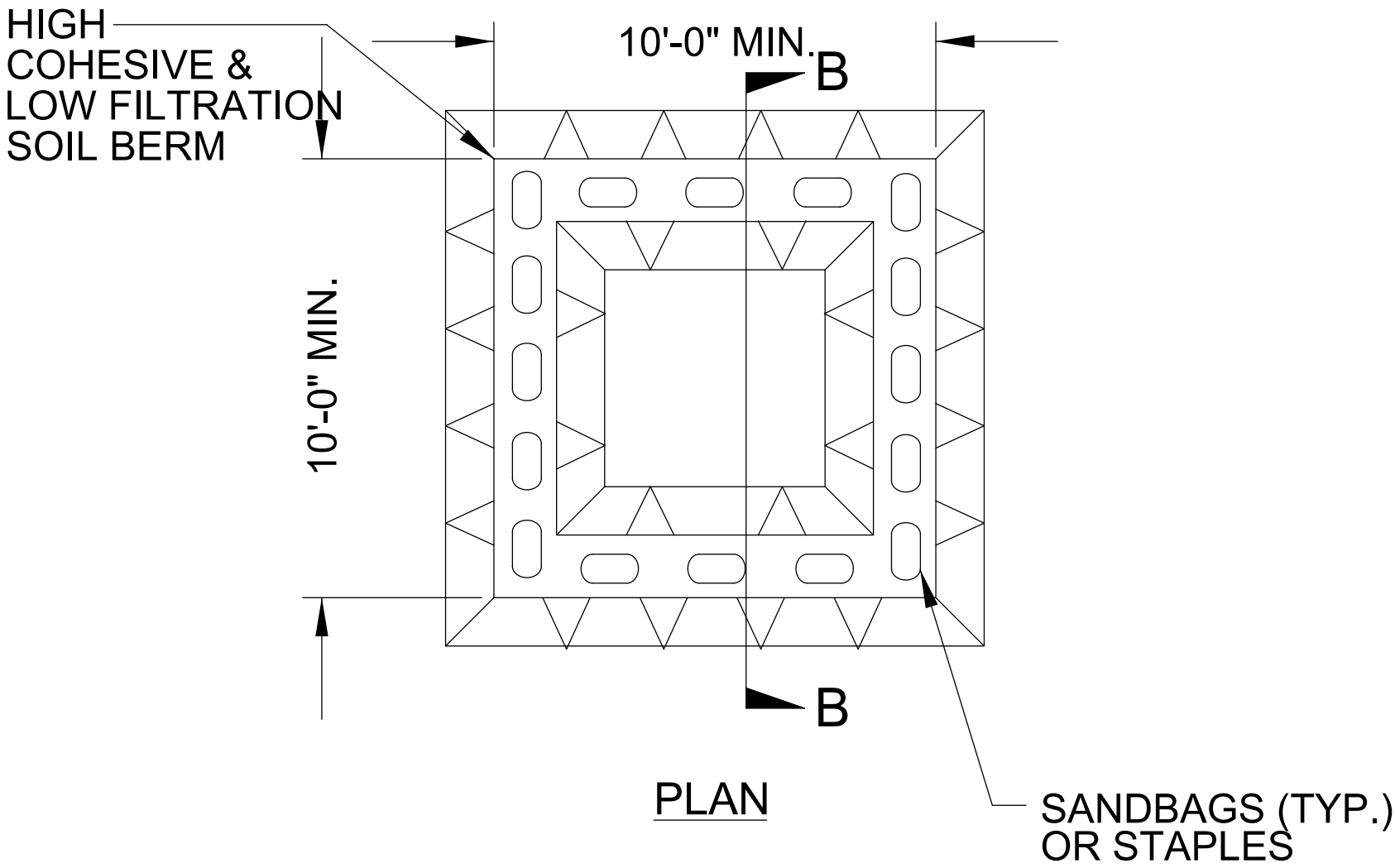


SECTION A-A



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 - 3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.



SECTION B-B



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

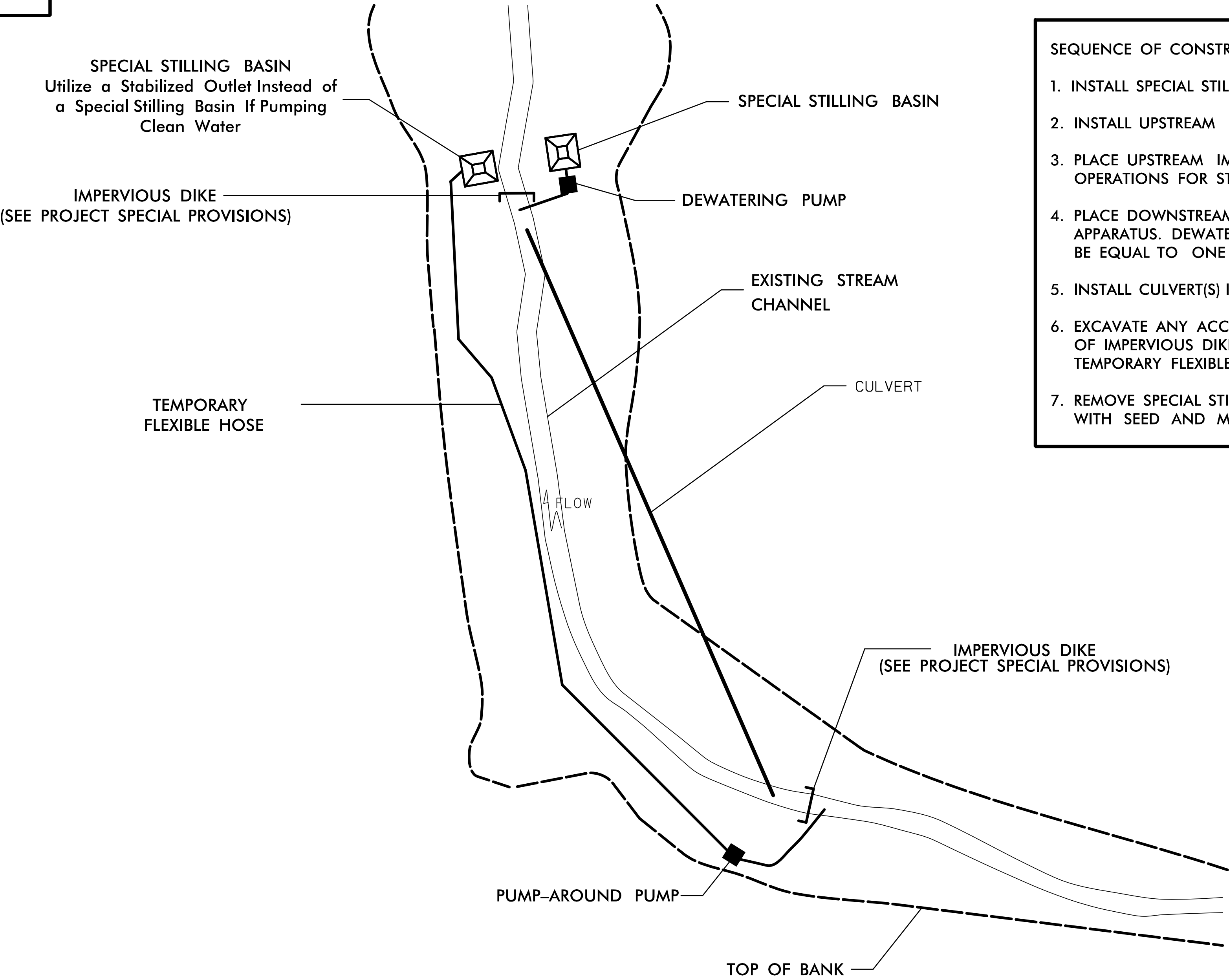
- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 - 3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-2B
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

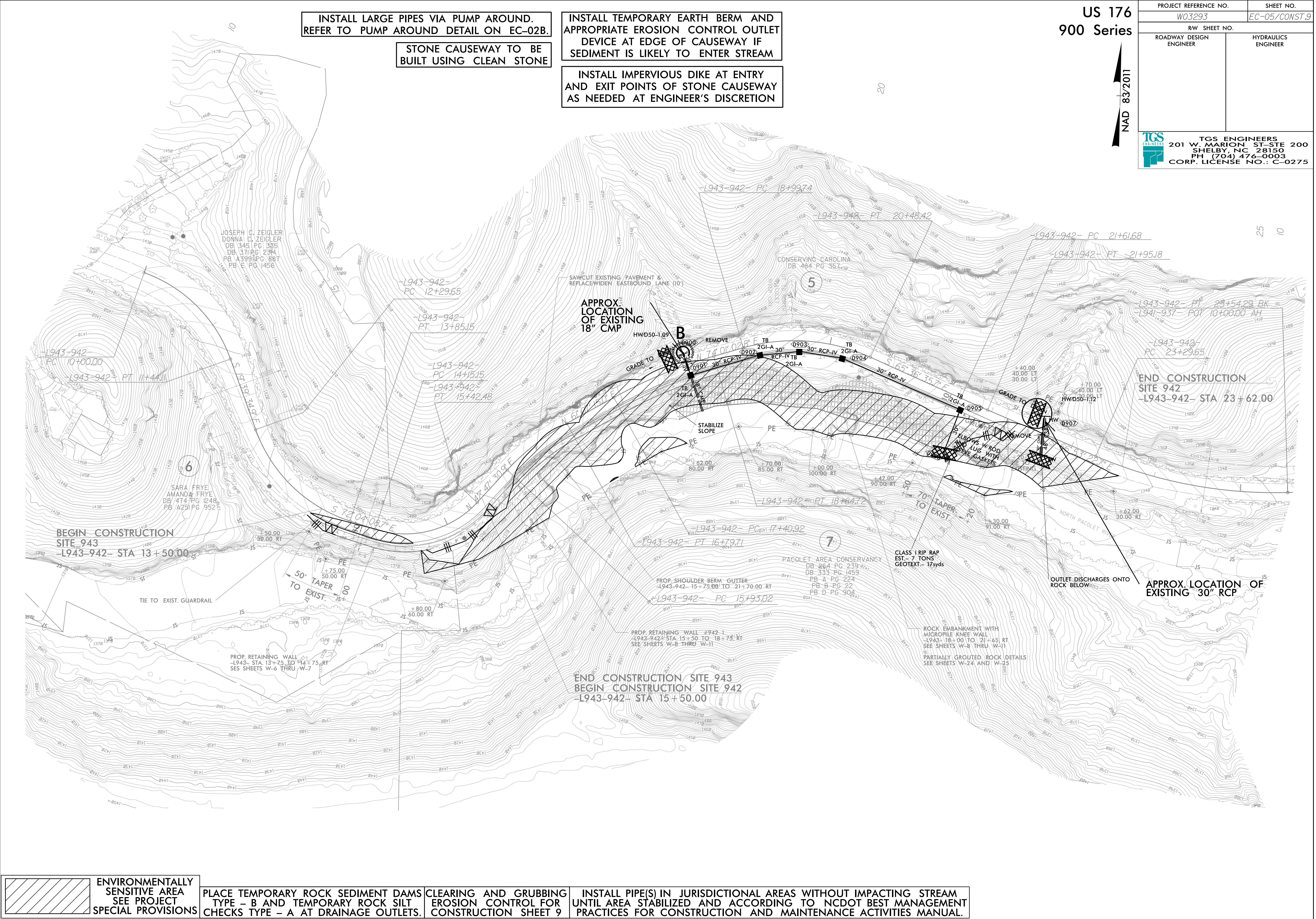
1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE 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.

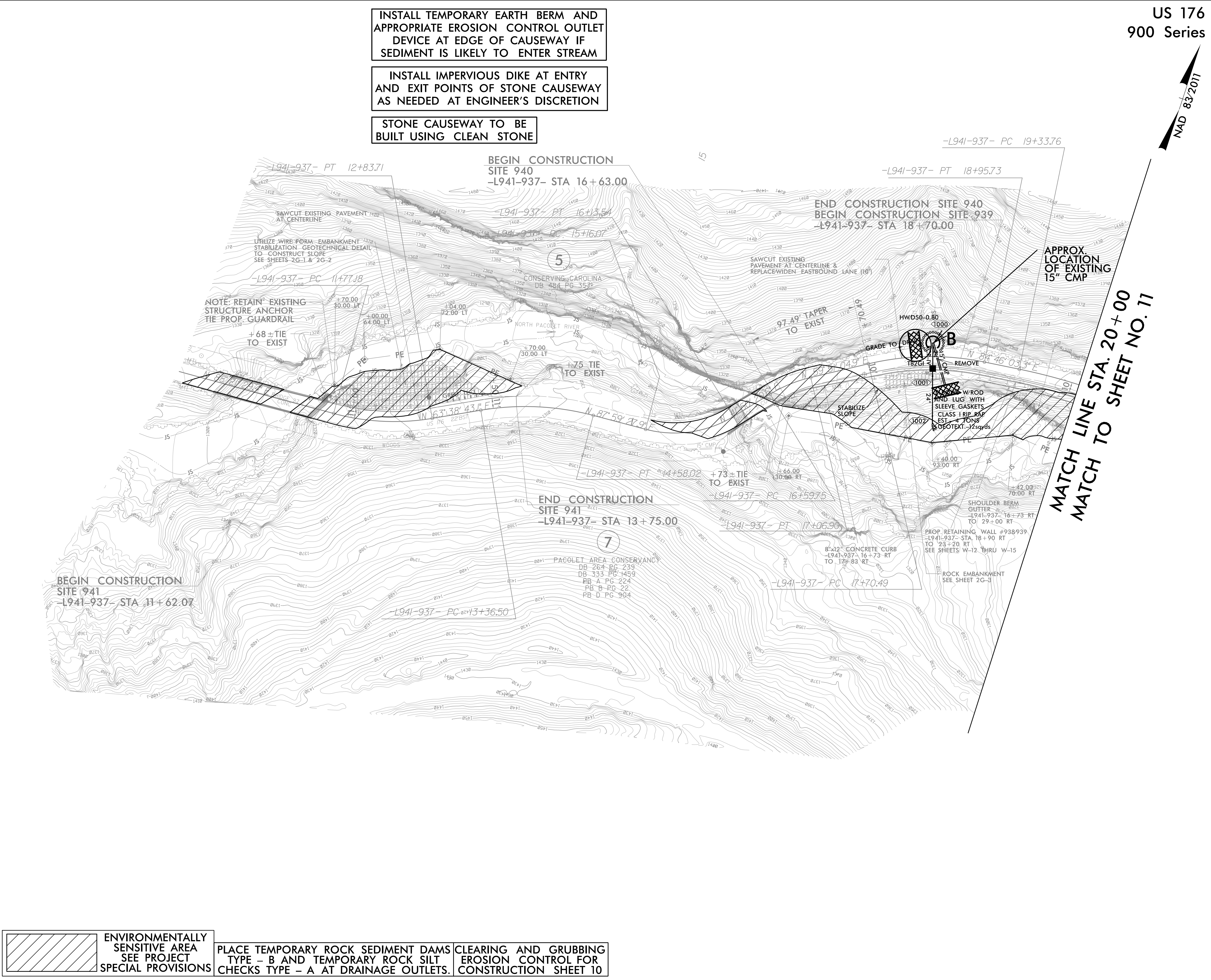
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50’ IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES





PROJECT REFERENCE NO.		SHEET NO.	
W03293		EC-06/CONST.10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

TGS

ENGINEERS

201 W. MARION ST.-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

US 176
900 Series

NAD 83/2011

MATCH LINE STA. 20+00
MATCH TO SHEET NO. 11

	ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS	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 10

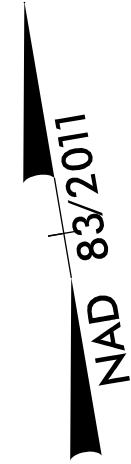
INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

INSTALL LARGE PIPES VIA PUMP AROUND. REFER TO PUMP AROUND DETAIL ON EC-02B.

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

US 176
900 Series



PROJECT REFERENCE NO.		SHEET NO.	
W03293		EC-07/CONST.II	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

TGS

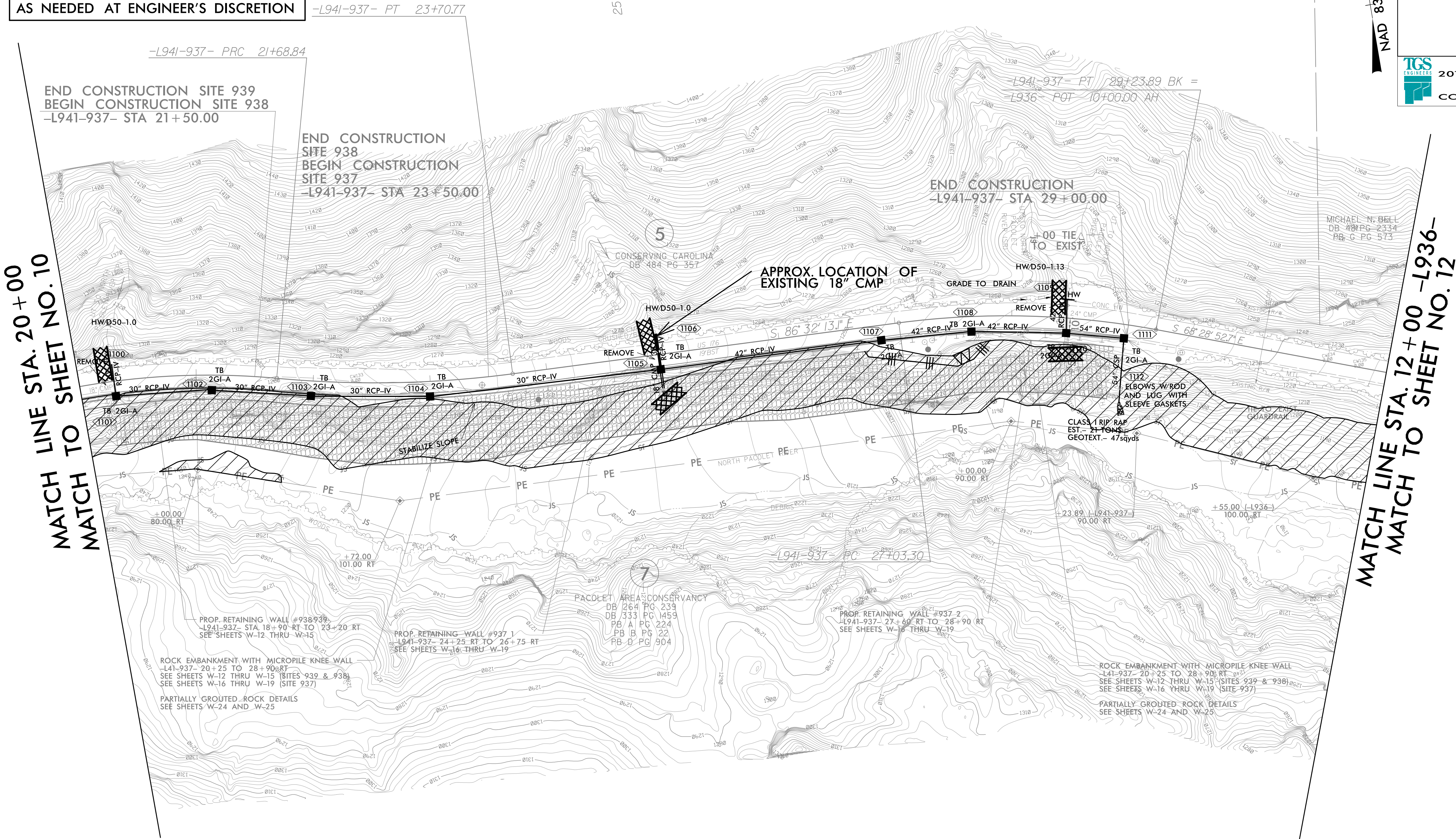
ENGINEERS

201 W. MARION ST-STE 200

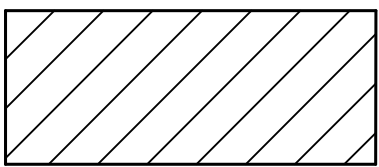
SHELBY, NC 28150

PH (704) 476-0003

CORP. LICENSE NO.: C-0275



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11



ENVIRONMENTALLY
SENSITIVE AREA
SEE PROJECT
SPECIAL PROVISIONS

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

US 176
900 Series

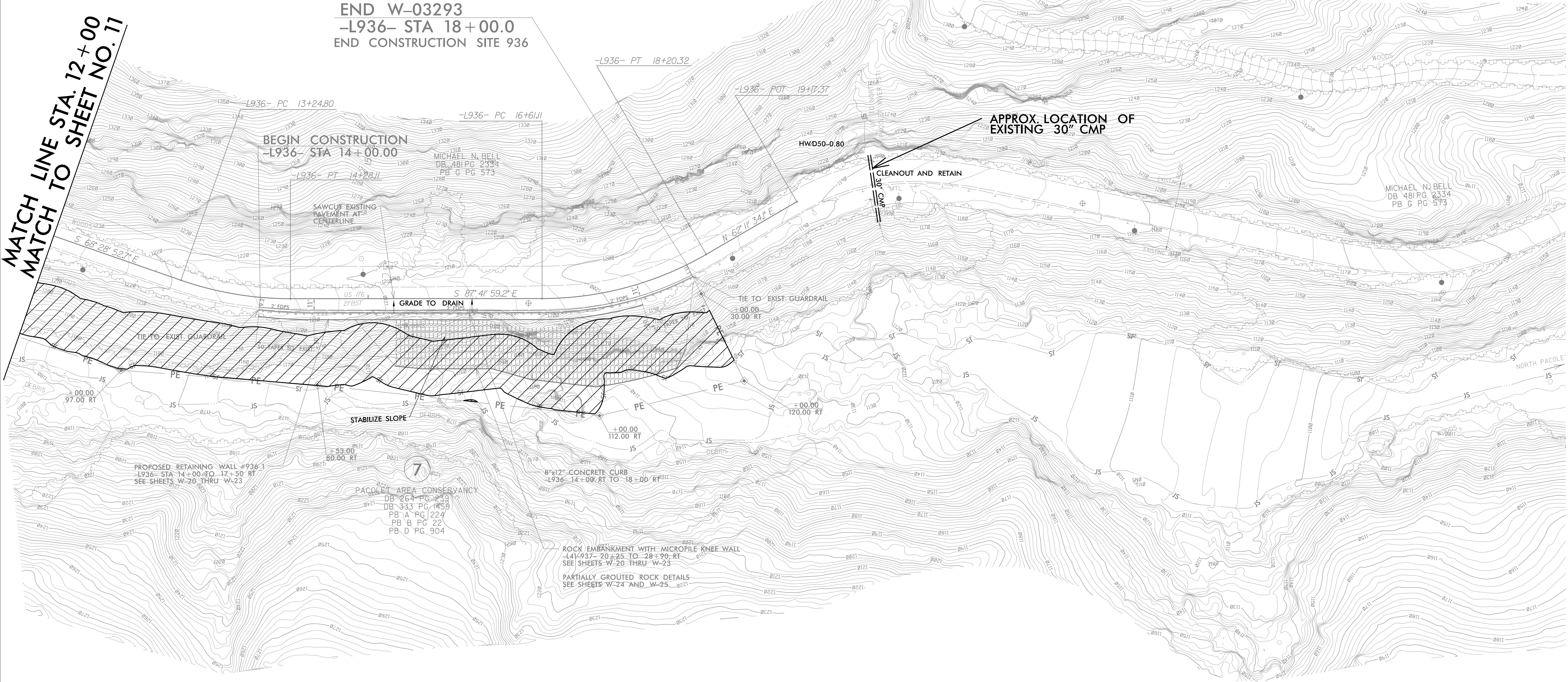
NAD 83/2011

INSTALL TEMPORARY EARTH BERM AND
APPROPRIATE EROSION CONTROL OUTLET
DEVICE AT EDGE OF CAUSEWAY IF
SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY
AND EXIT POINTS OF STONE CAUSEWAY
AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE
BUILT USING CLEAN STONE

PROJECT REFERENCE NO.		SHEET NO.
W03293		EC-08/CONST.12
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
TGS ENGINEERS TGS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275		



	ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS	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 12
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US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.		SHEET NO.
W03293		EC-09/CONST.8
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	



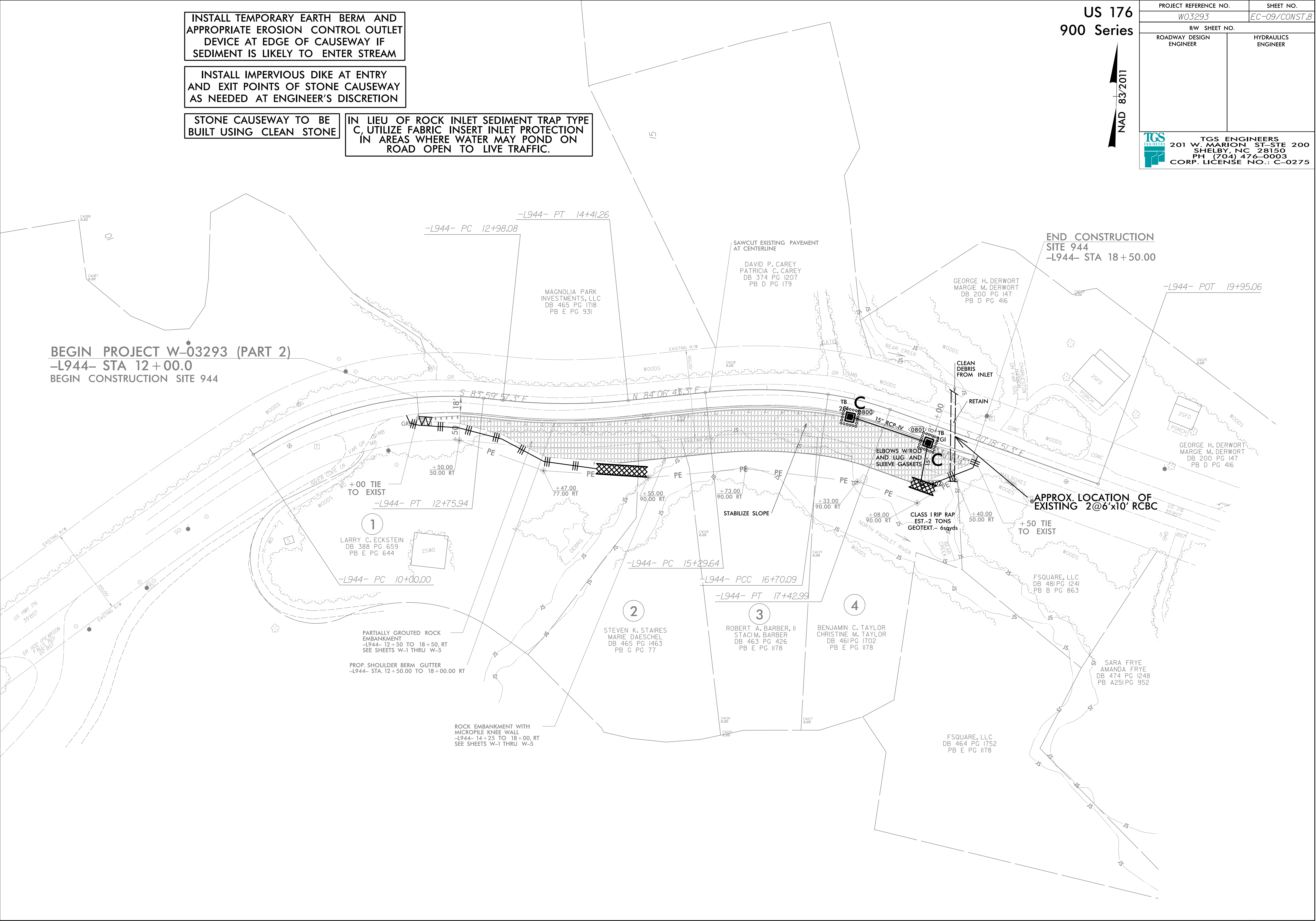
TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

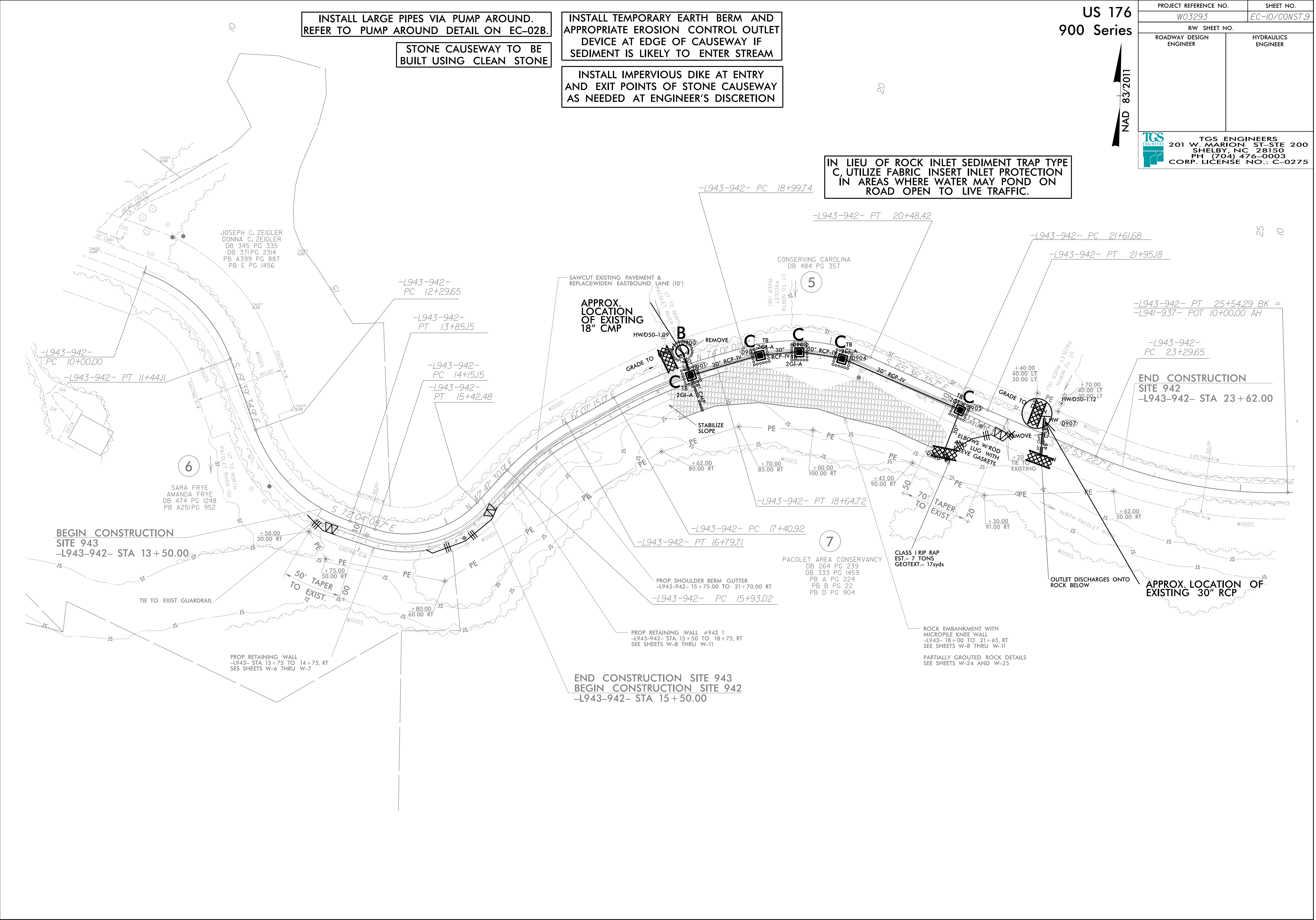
INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

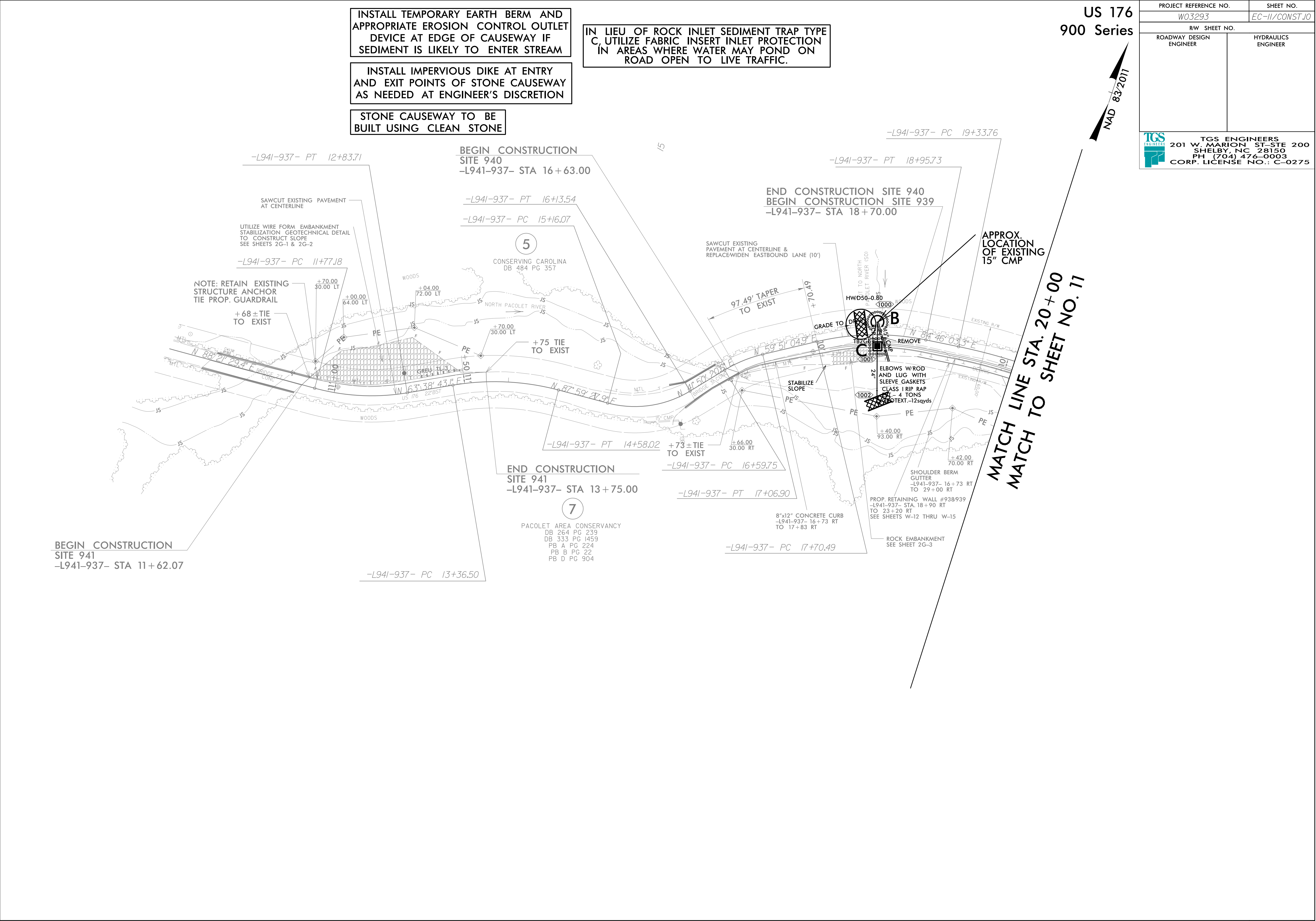




US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.		SHEET NO.	
W03293		EC-10/CONST.9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

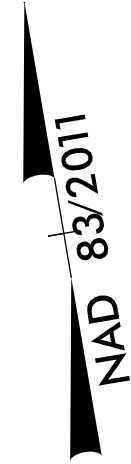
INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

INSTALL LARGE PIPES VIA PUMP AROUND. REFER TO PUMP AROUND DETAIL ON EC-02B.

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IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

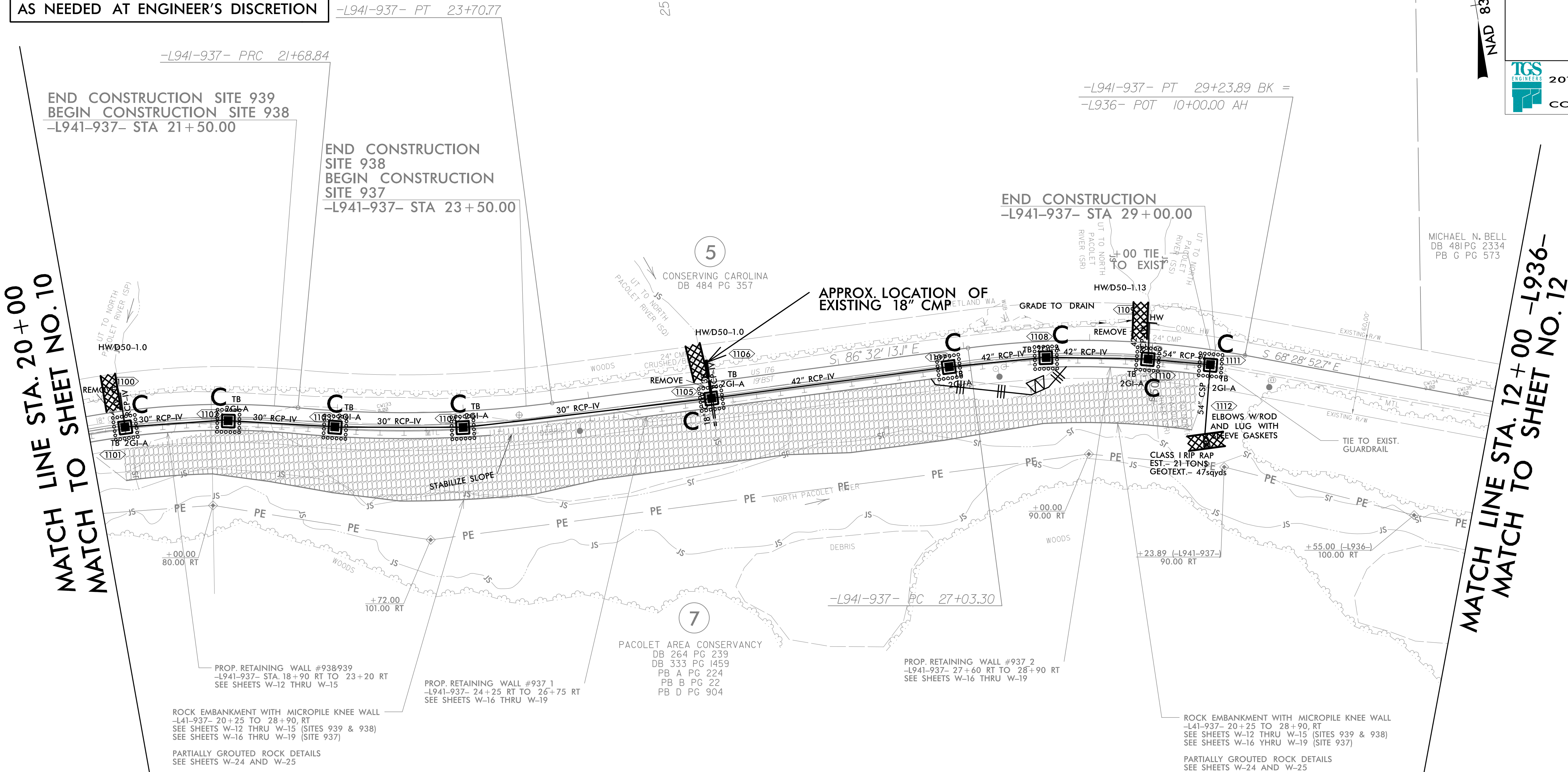
US 176
900 Series



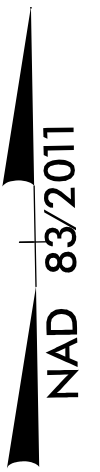
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W03293		EC-12/CONST.II	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



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US 176
900 Series



PROJECT REFERENCE NO.		SHEET NO.
W03293		EC-13/CONST.12
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	



TGS ENGINEERS
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SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

MATCH LINE STA. 12+00
MATCH TO SHEET NO. 11

INSTALL TEMPORARY EARTH BERM AND
APPROPRIATE EROSION CONTROL OUTLET
DEVICE AT EDGE OF CAUSEWAY IF
SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY
AND EXIT POINTS OF STONE CAUSEWAY
AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE
BUILT USING CLEAN STONE

END W-03293
-L936- STA 18+00.0
END CONSTRUCTION SITE 936

