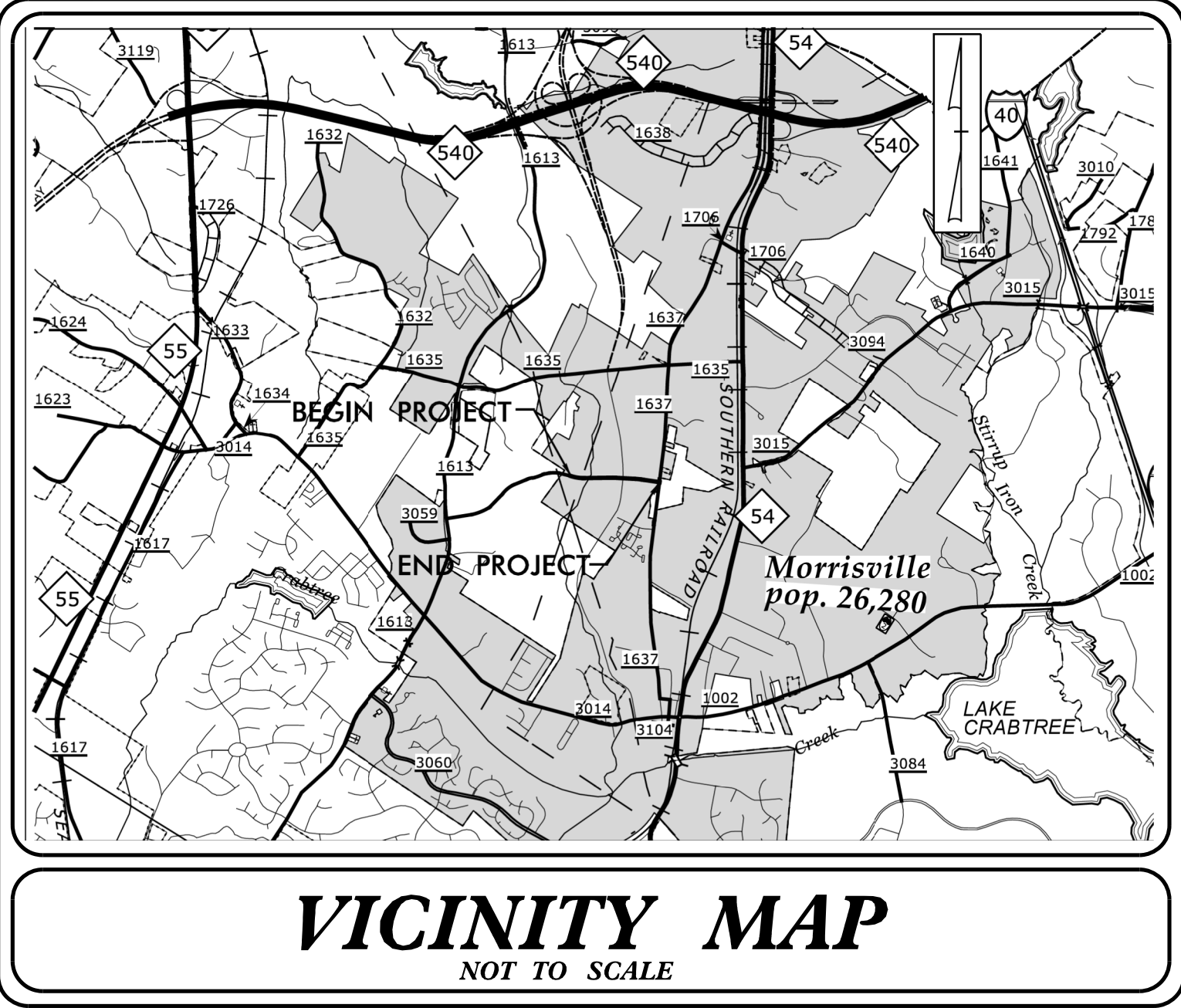


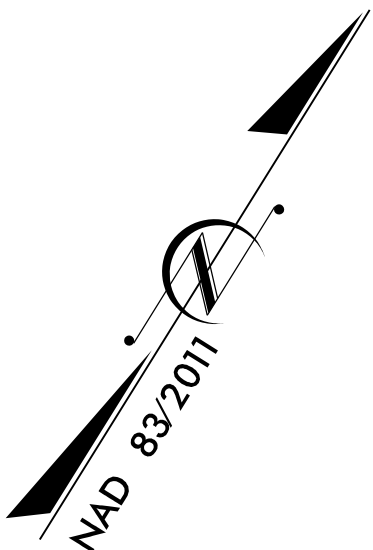
TIP PROJECT: HL-0033



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

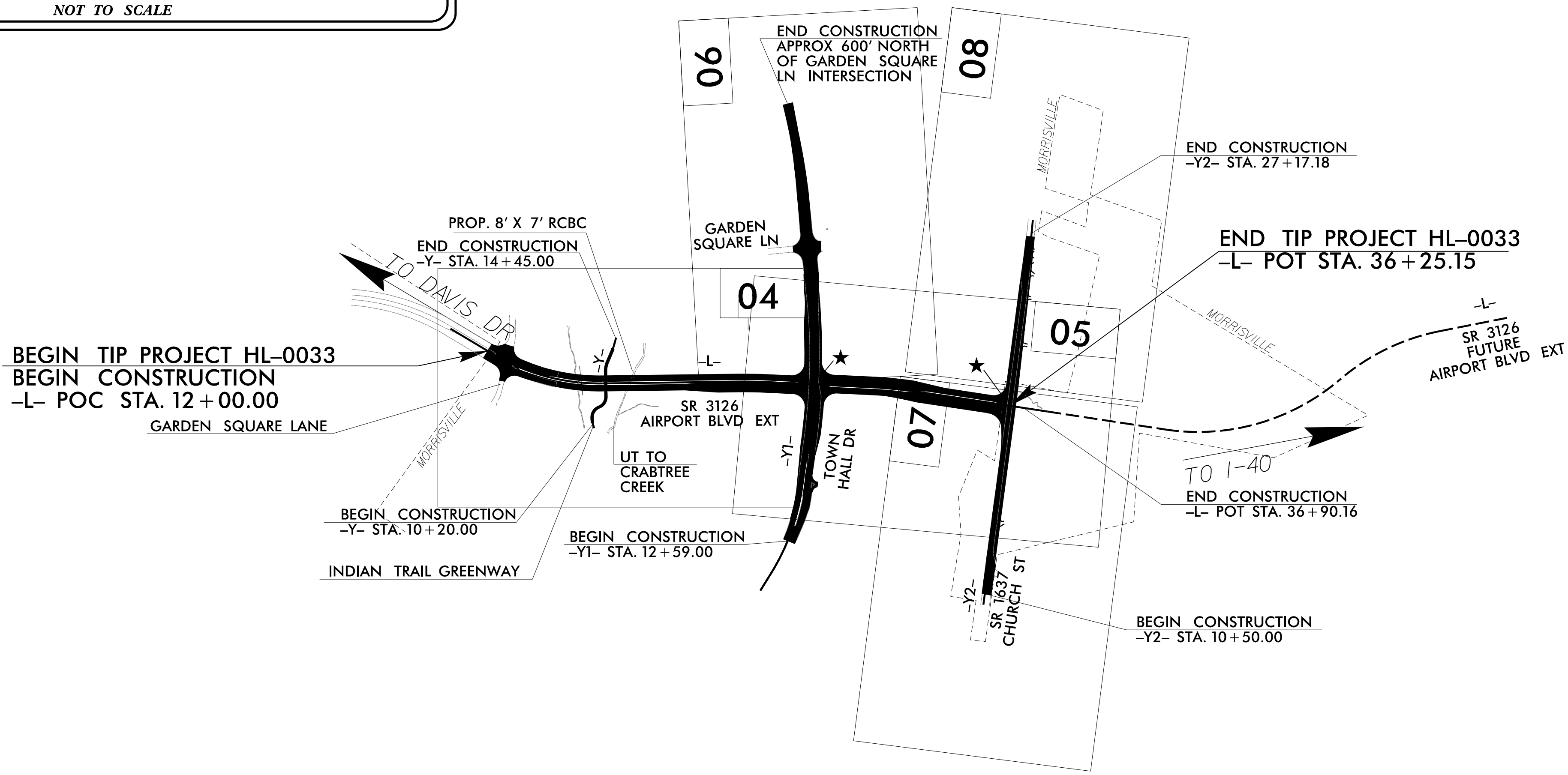
WAKE COUNTY



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HL-0033	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

LOCATION: EXTENSION OF AIRPORT BOULEVARD (SR 3126)
FROM GARDEN SQUARE LANE TO CHURCH ST (SR 1637)
IN MORRISVILLE

TYPE OF WORK: GRADING, DRAINAGE, CULVERT, SIGNALS, AND PAVING

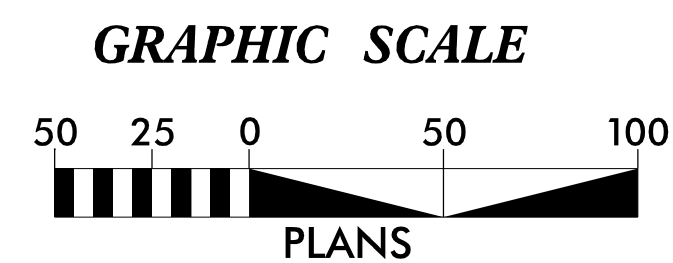


THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

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.



VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606



Prepared In the Office of:
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

ERIC BERGER, PE
NAME

Designed by:
4036
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.
HL-0033	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PUMP-AROUND OPERATION

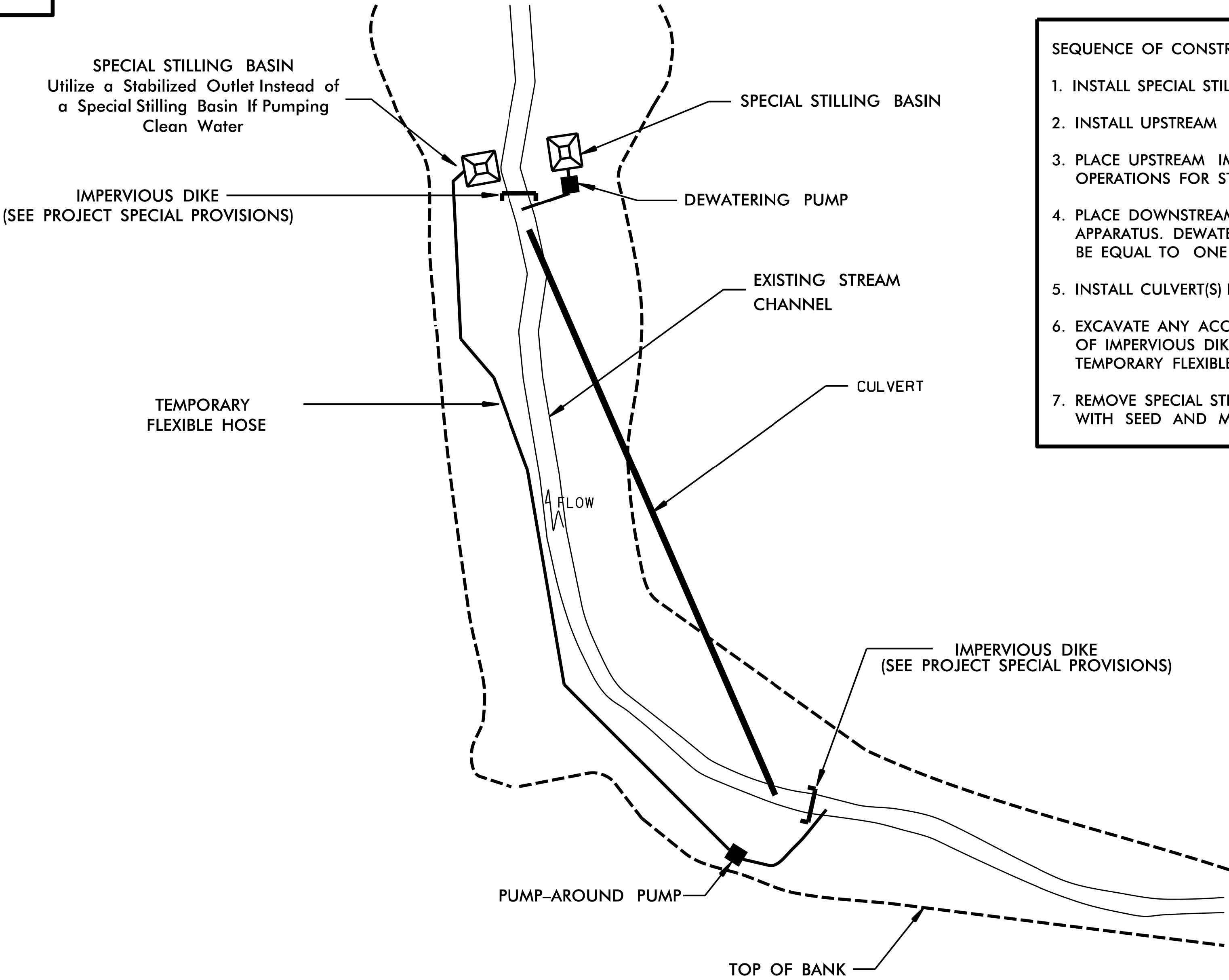
NOTES:

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.

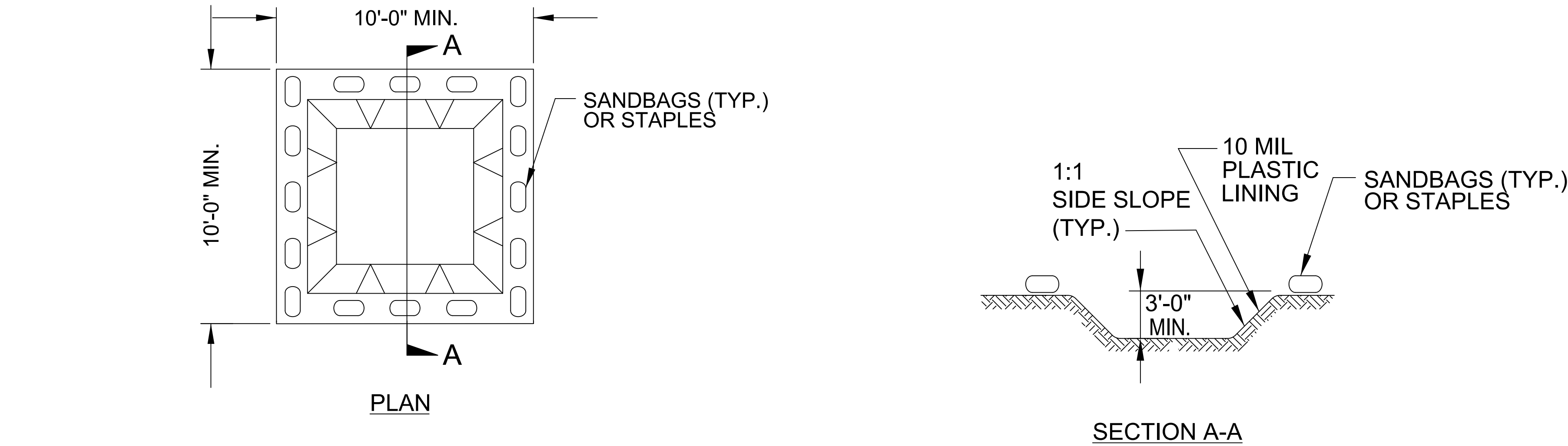
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.

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.

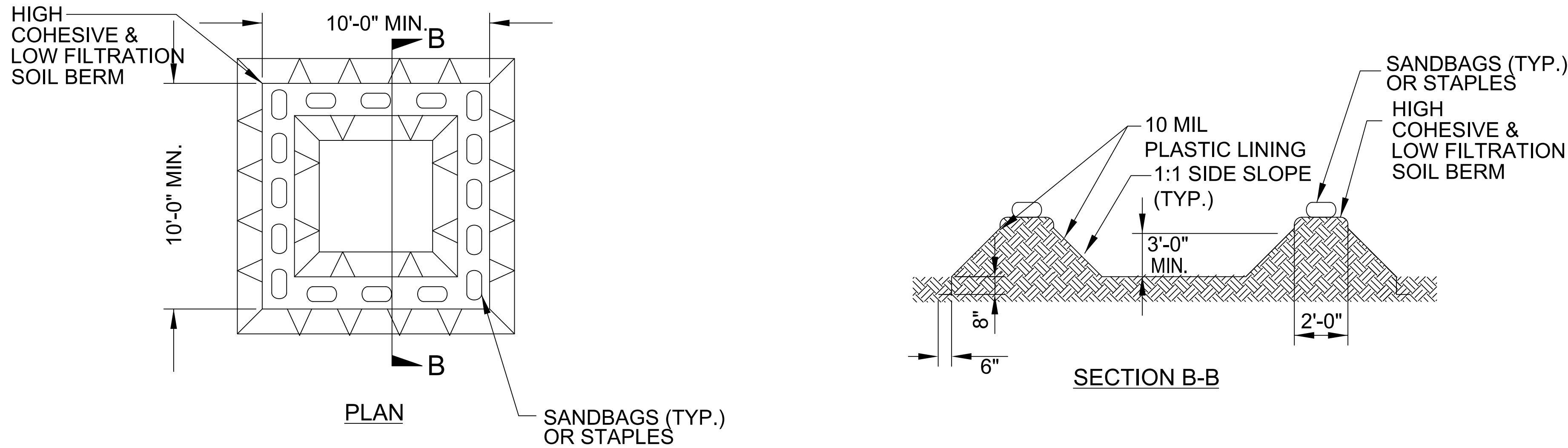
ONSITE CONCRETE WASHOUT
STRUCTURE WITH LINER

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



- 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.

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.

ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

SHEET NO.

EC-3A

HYDRAULICS
ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

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MATTING FOR EROSION CONTROL

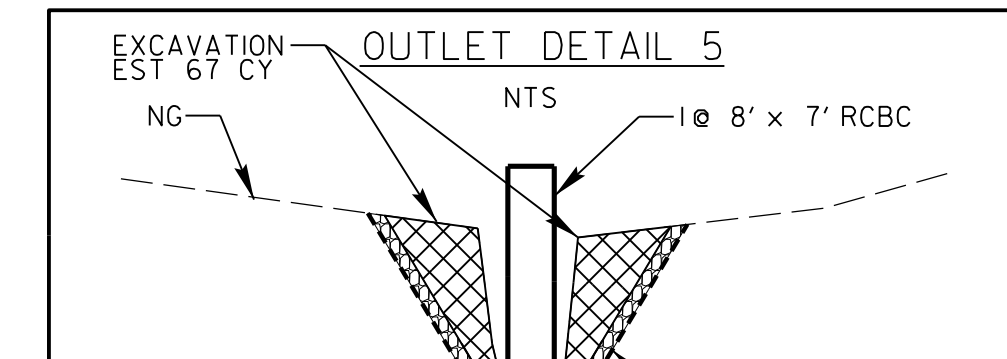
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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-3B
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



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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

HYDRAULICS
ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4



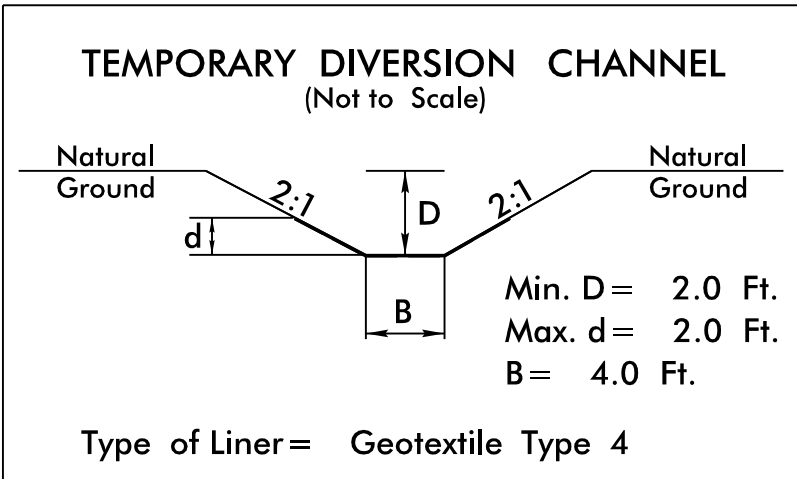
INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

CULVERT CONSTRUCTION SEQUENCE STA. 16+37 -L-

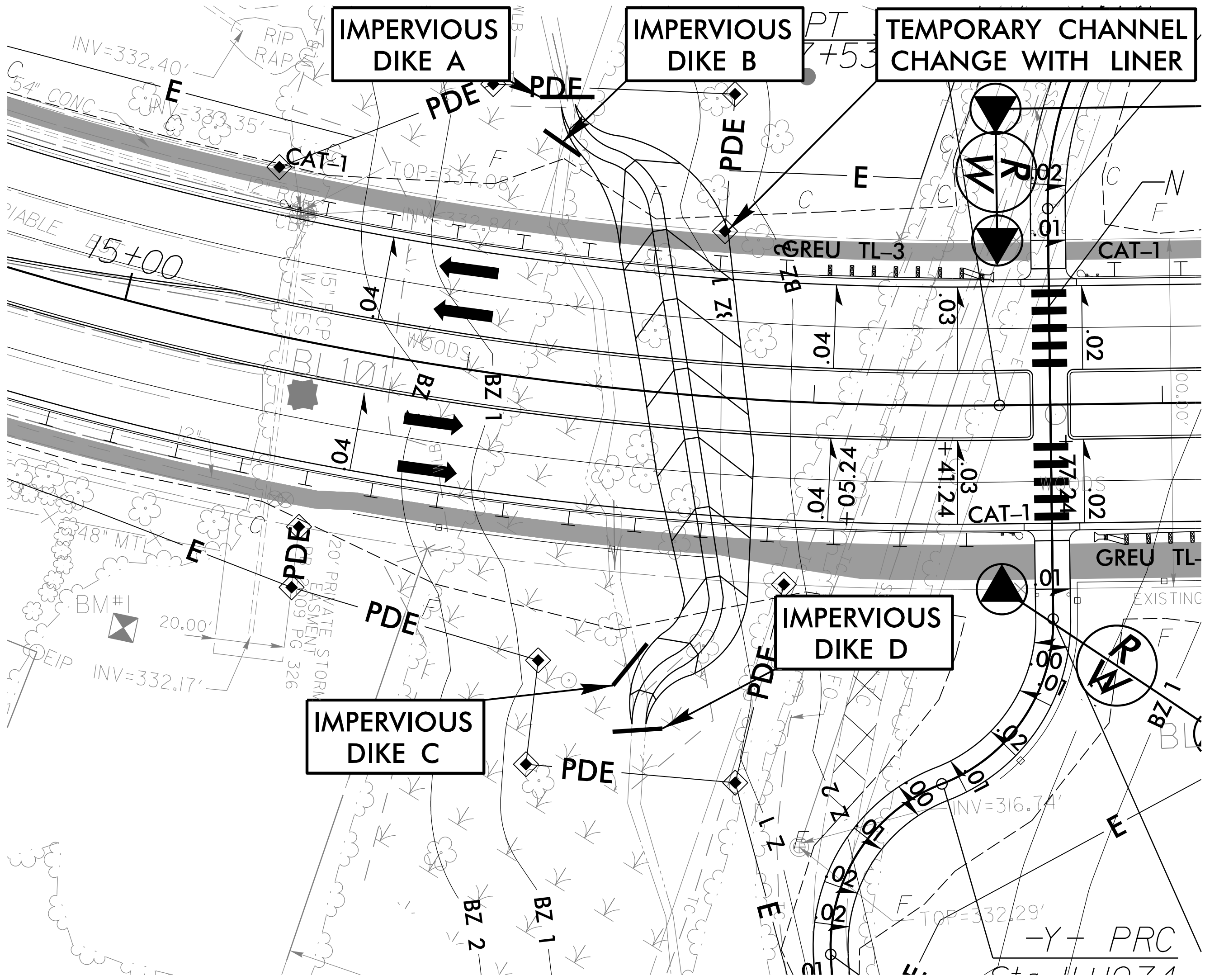
PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-4A/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

1. CONSTRUCT SPECIAL STILLING BASIN(S).
2. INSTALL IMPERVIOUS DIKES A AND D AND CONSTRUCT TEMPORARY CHANNEL IN THE DRY UTILIZING PUMP AROUND OPERATIONS AS NEEDED.
3. INSTALL IMPERVIOUS DIKES B AND C AND REMOVE IMPERVIOUS DIKES A AND D TO DIRECT WATER INTO THE TEMPORARY CHANNEL.
4. BEGIN PHASE II.

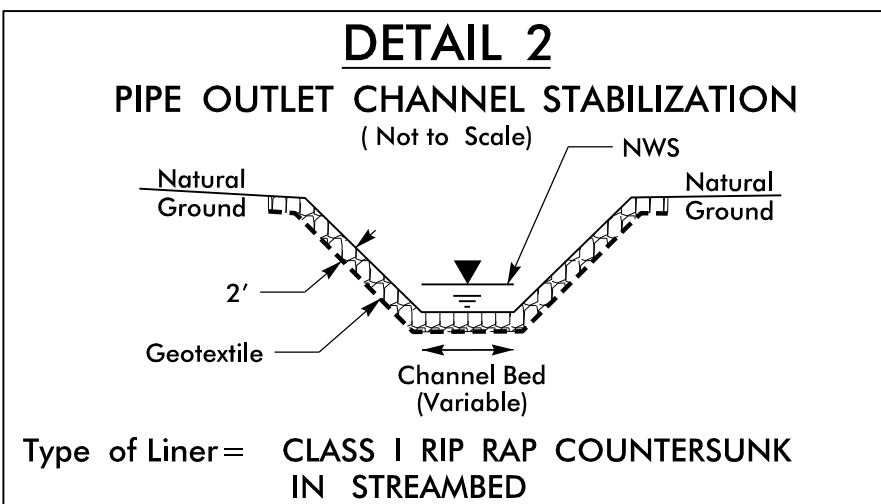


NAD 83/2011

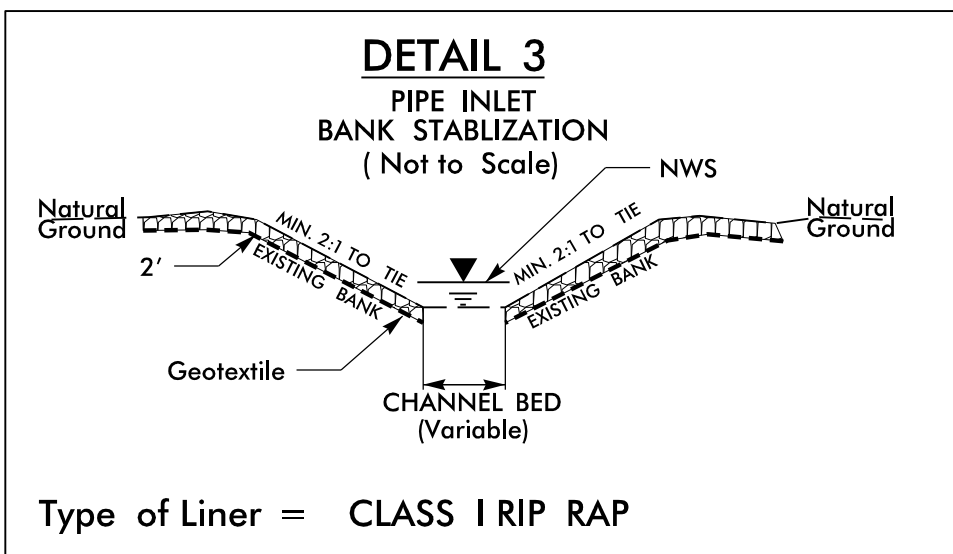


PHASE II

1. INSTALL PROPOSED 78" RCP W/HW AND PIPE INLET/OUTLET CHANNEL WORK IN THE DRY UTILIZING PUMP AROUND OPERATIONS AS NEEDED.
2. REMOVE REMAINING IMPERVIOUS DIKES AND TEMPORARY CHANNEL TO ALLOW WATER TO FLOW THROUGH 78" RCP.
3. COMPLETE ROADWAY.

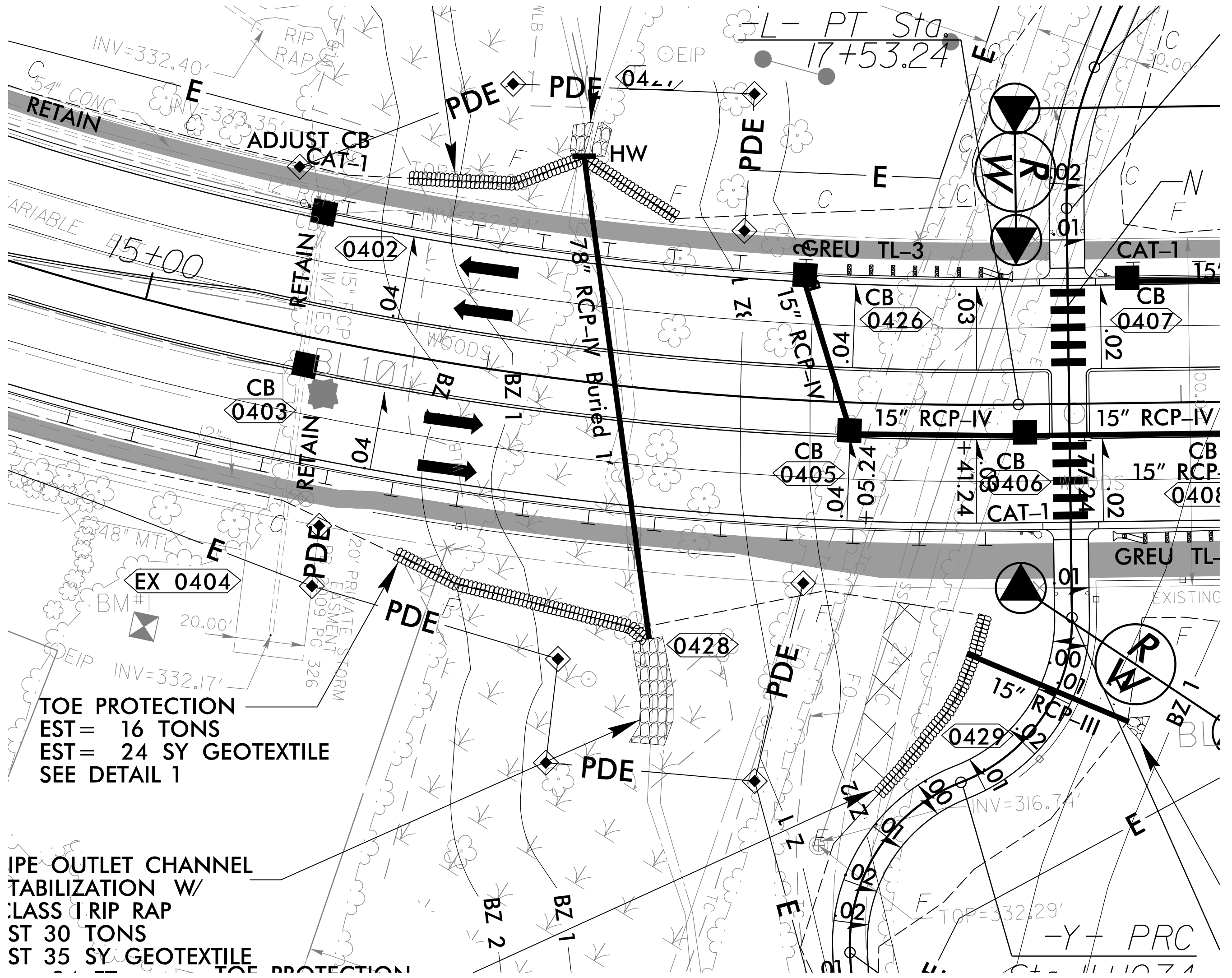


AT STA. 16+54 -L- RT



AT STA. 16+20 -L- LT

NAD 83/2011

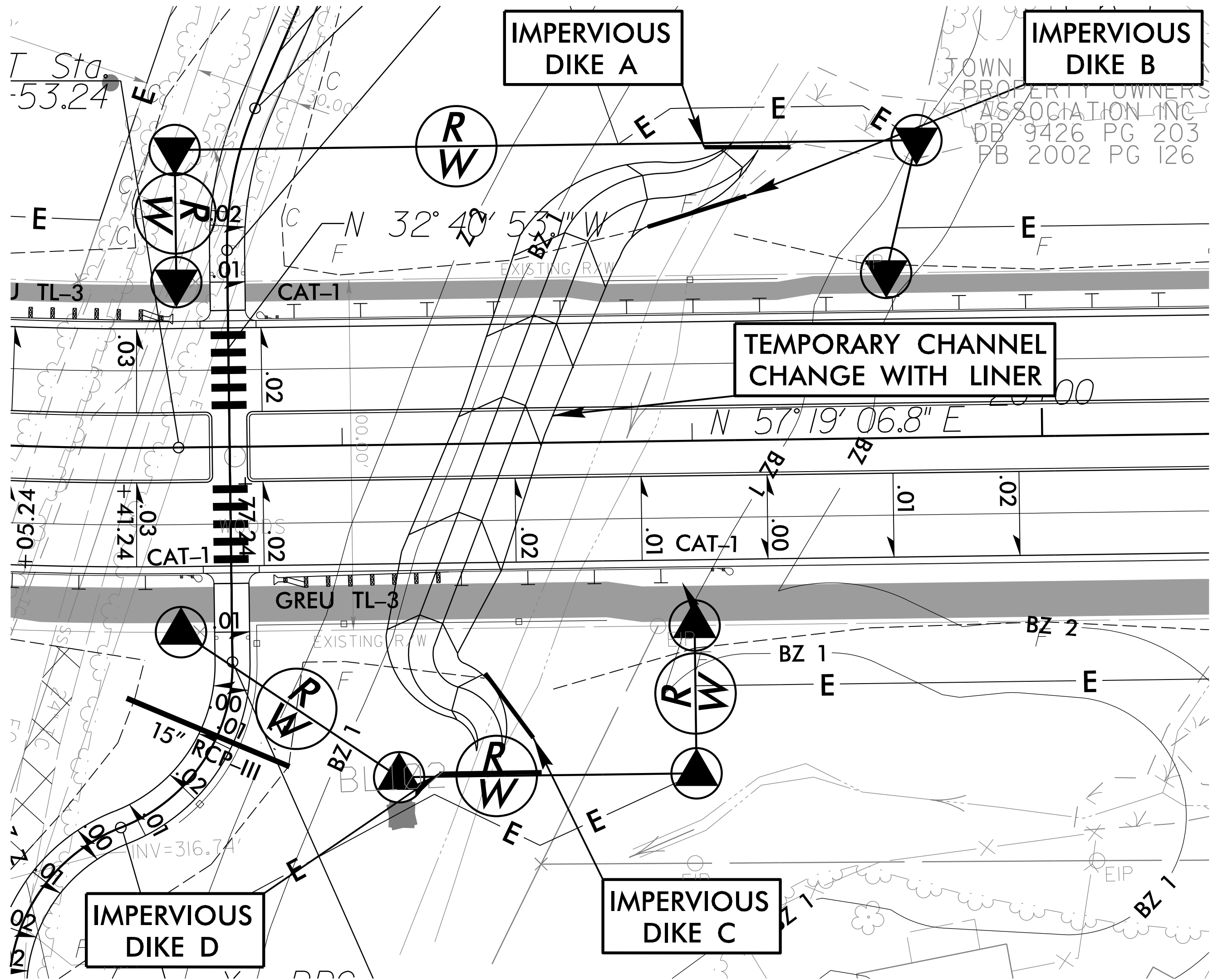
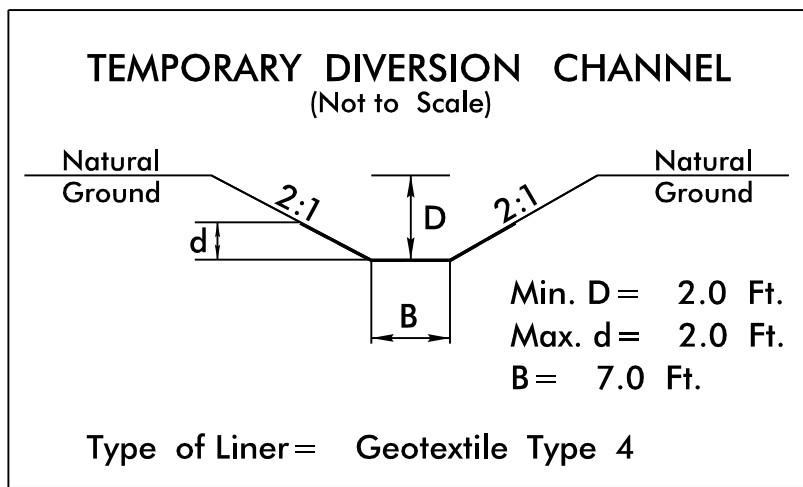


CULVERT CONSTRUCTION SEQUENCE STA. 18+78 -L-

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-4B/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

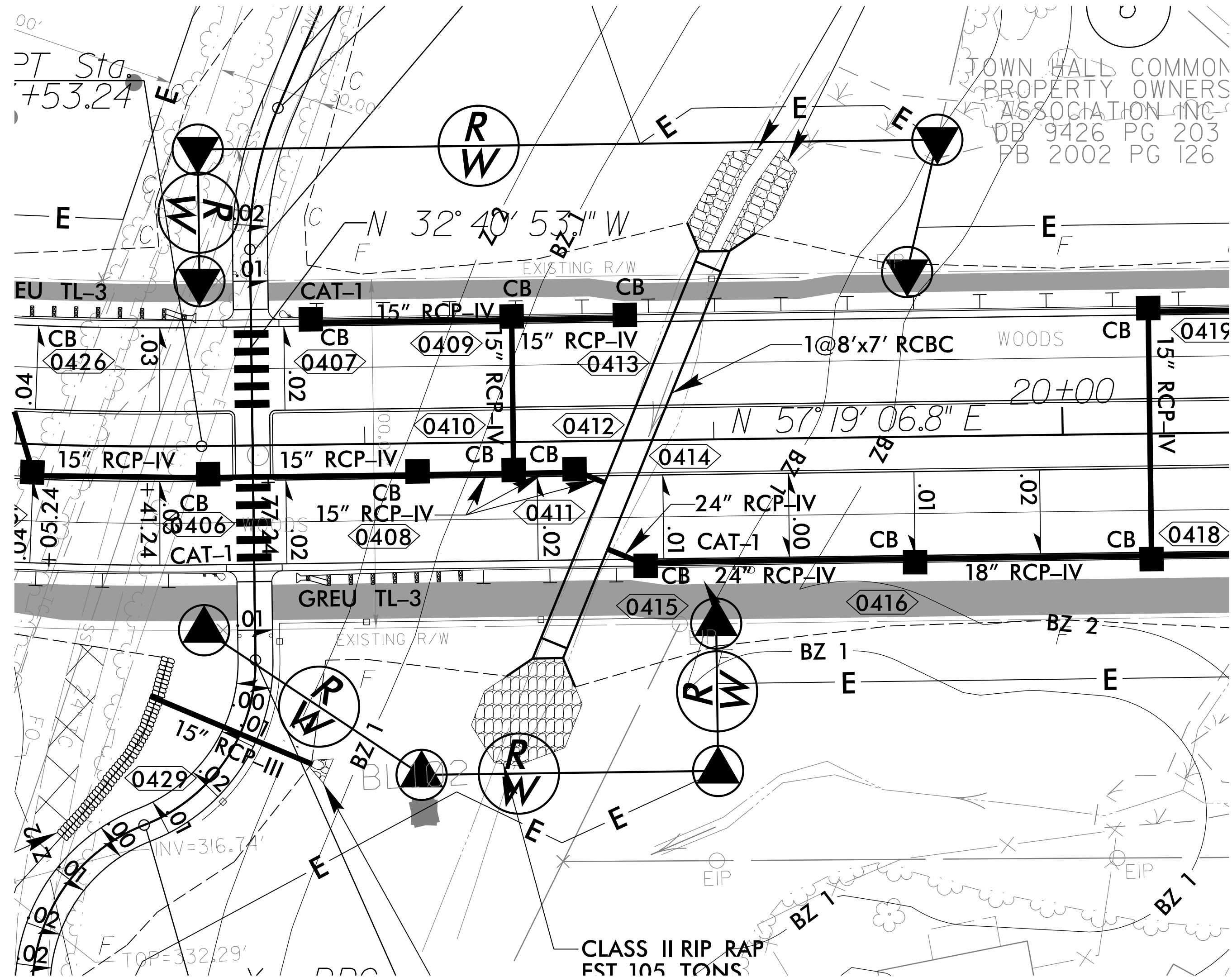
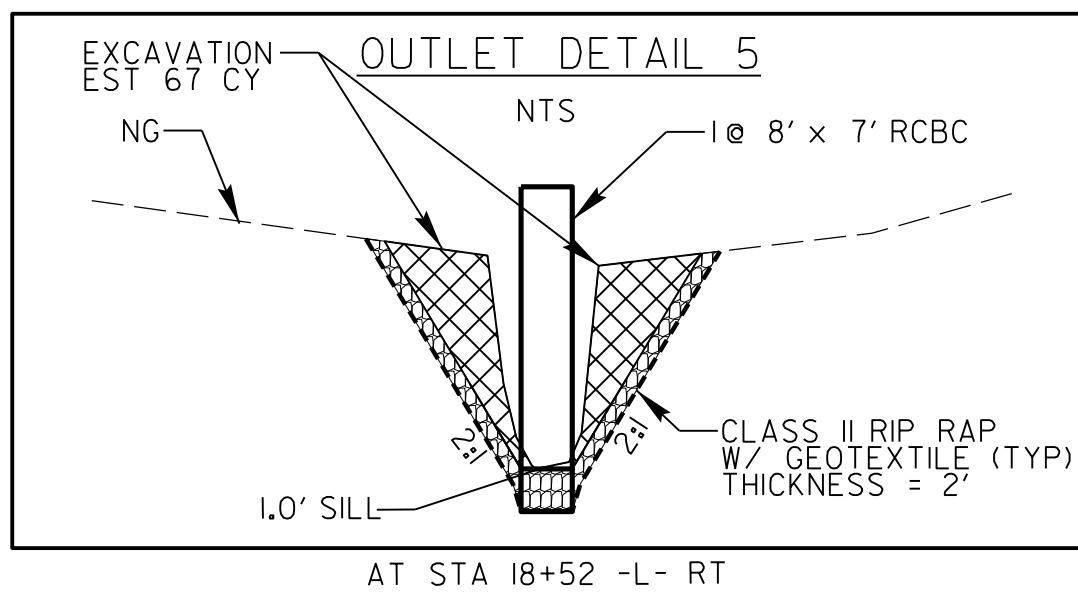
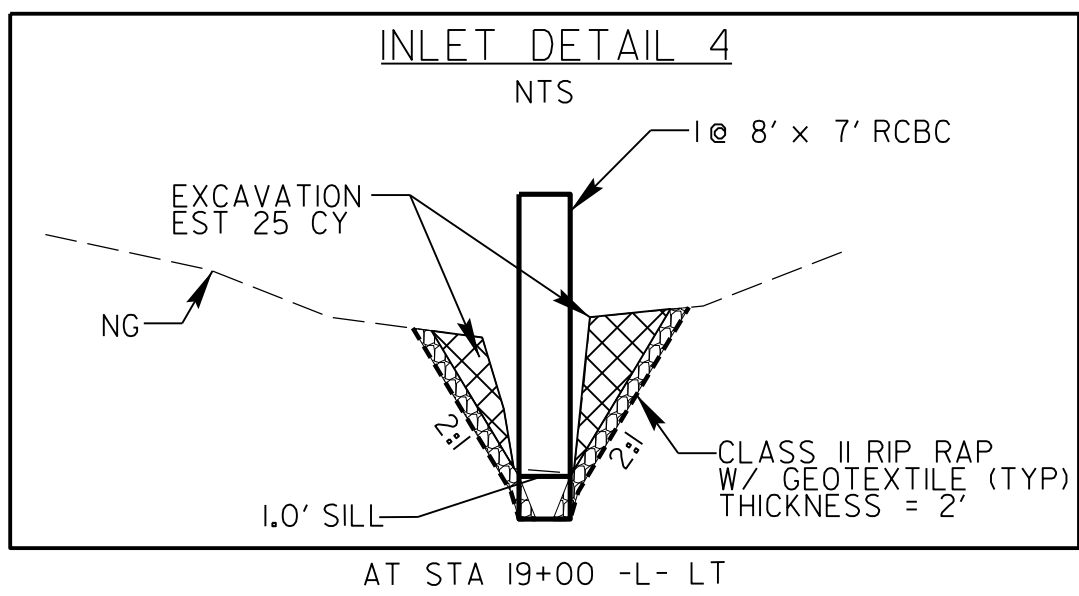
PHASE I

1. CONSTRUCT SPECIAL STILLING BASIN(S).
2. INSTALL IMPERVIOUS DIKES A AND D AND CONSTRUCT TEMPORARY CHANNEL IN THE DRY UTILIZING PUMP AROUND OPERATIONS AS NEEDED.
3. INSTALL IMPERVIOUS DIKES B AND C AND REMOVE IMPERVIOUS DIKES A AND D TO DIRECT WATER INTO THE TEMPORARY CHANNEL.
4. BEGIN PHASE II.

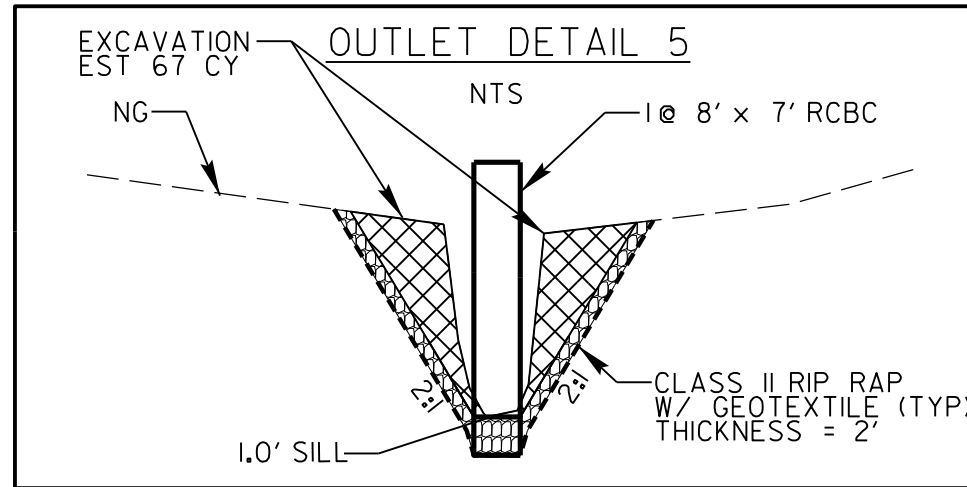
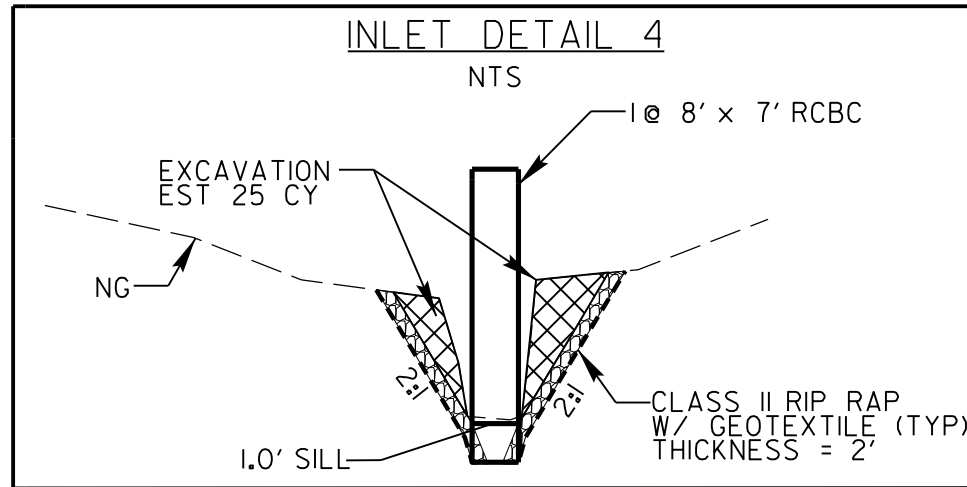
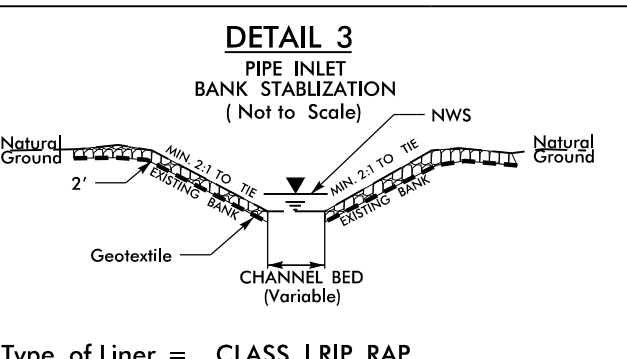
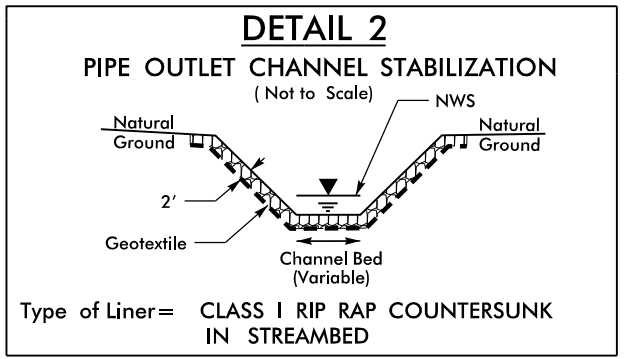
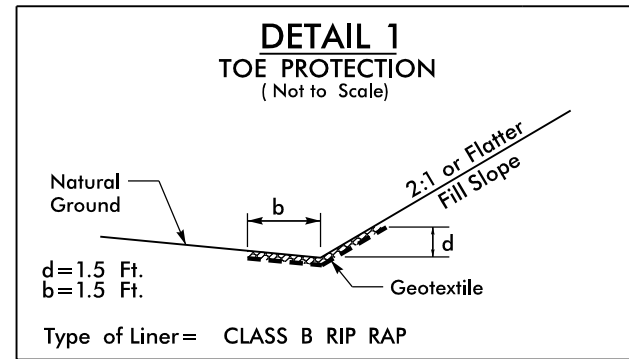


PHASE II

1. INSTALL PROPOSED 1@8'x7' RCBC AND INLET/OUTLET BANK STABILIZATION IN THE DRY UTILIZING PUMP AROUND OPERATIONS AS NECESSARY.
2. REMOVE REMAINING IMPERVIOUS DIKES AND TEMPORARY CHANNEL TO ALLOW WATER TO FLOW THROUGH RCBC.
3. COMPLETE ROADWAY.



8/17/99



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H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number F-0159



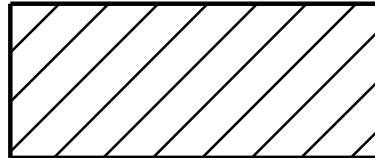
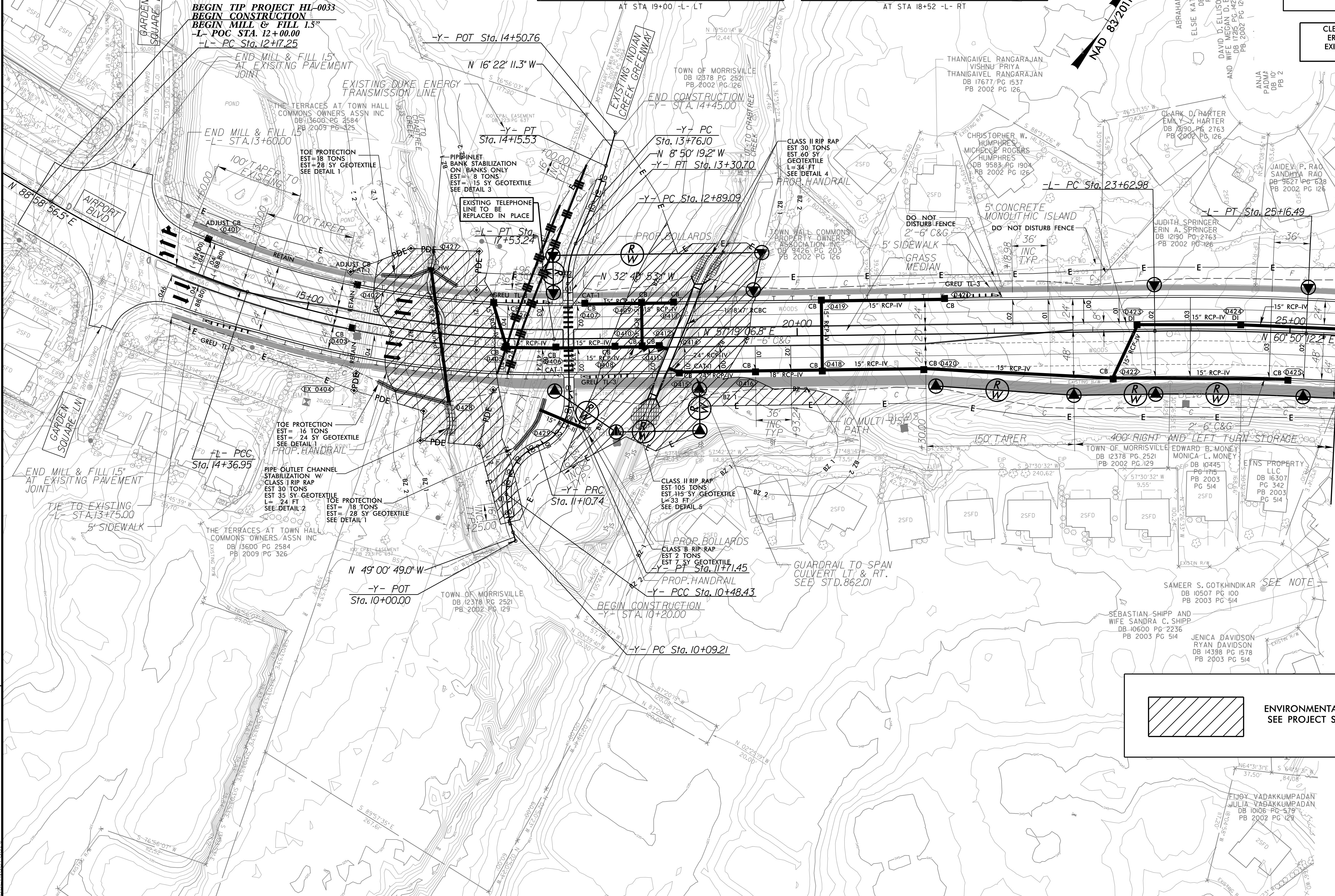
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.		SHEET NO.	
HL-0033		EC-04C/CONST.04	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

CLEARING AND GRUBBING
EROSION CONTROL FOR
EXISTING TELEPHONE LINE
REPLACEMENT

REVISIONS

11/6/2025
HL-0033-REV.EC.PSH.04.U111ty.dgn
USER:deloitte



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

MATCHLINE -L- STA. 25+50
SEE SHEET 5

8/17/99

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

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2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

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vhb

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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

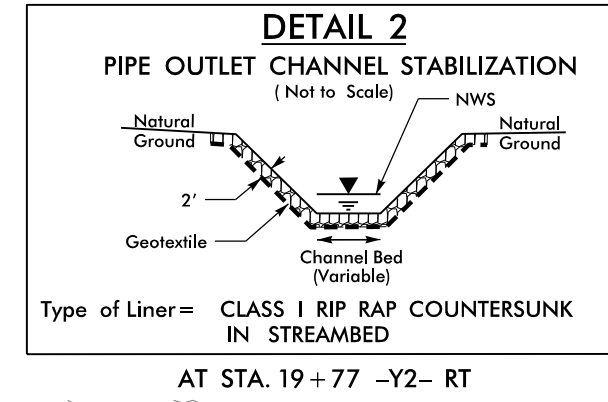
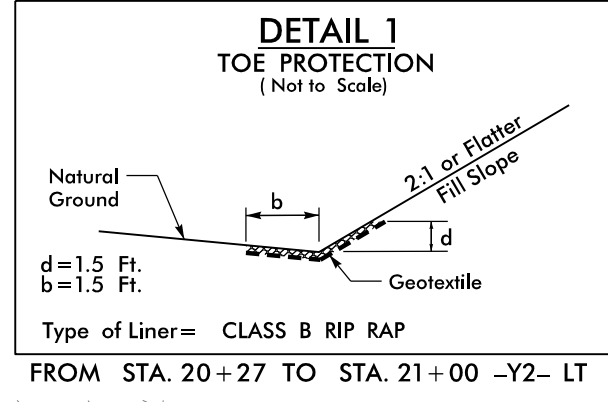
PROJECT REFERENCE NO.
HL-0033

SHEET NO.
EC-05/CONST.05

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER



NAD 83 2011

MATCHLINE -Y1- STA. 22+50
SEE SHEET 6

MATCHLINE -Y2- STA. 22+50
SEE SHEET 8

MATCHLINE -L- STA. 25+50
SEE SHEET 4

END TIP PROJECT HL-0033
-L- POT STA. 36+25.15
-Y2- POT STA. 19+19.56

END CONSTRUCTION
-L- POT STA. 36+90.16

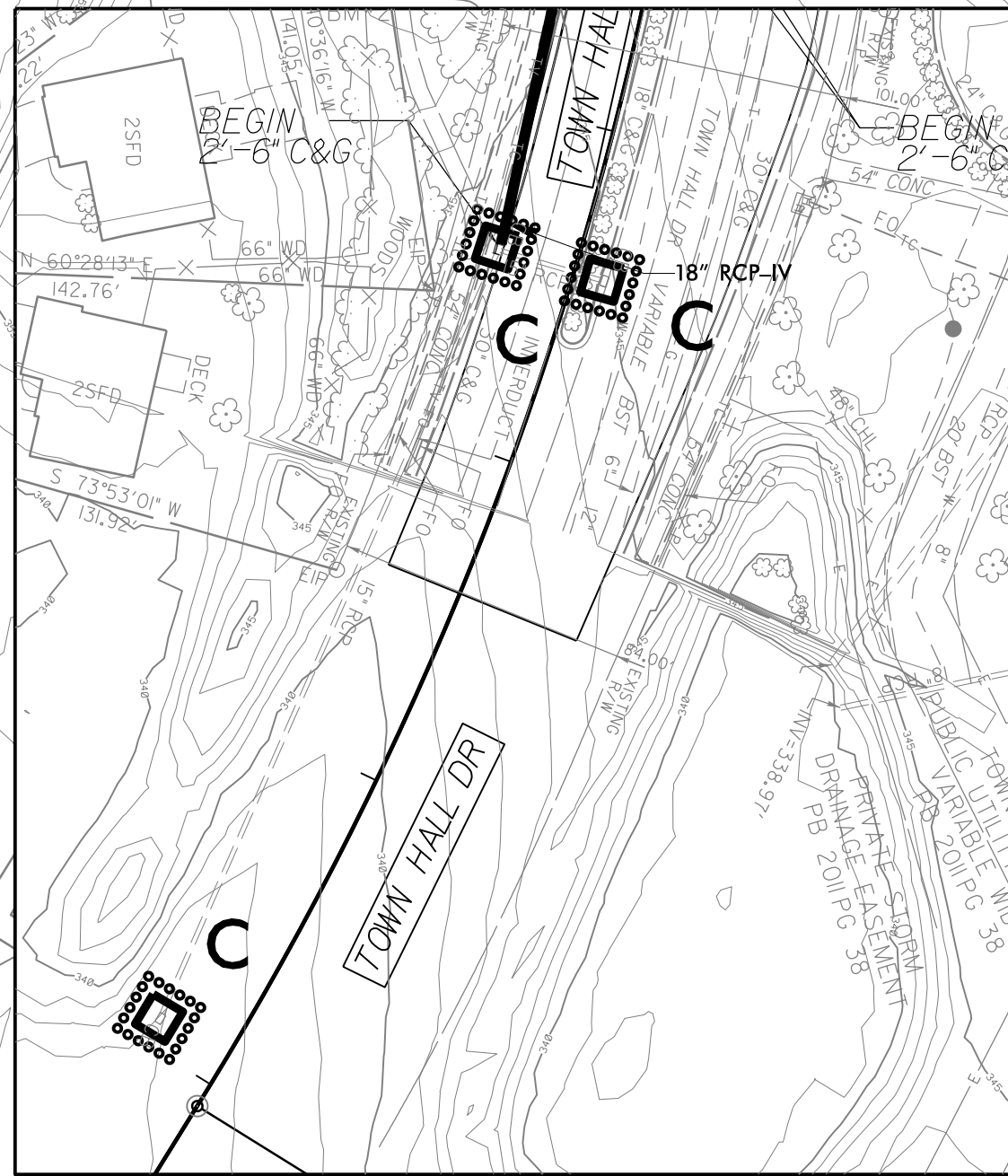
100 x 50 x 3
2 inch Skimmer
with 2.000 inch
Orifice Diameter
19 ft. weir
ID 5.1

INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

★ PROPOSED TRAFFIC SIGNAL

-Y1- INSET



REVISIONS

- 14 SAMEER S. GOKHINDKAR
DB 10507 PG 100
PB 2003 PG 514
- 21 SEBASTIAN SHIPP AND
WIFE SANDRA C. SHIPP
DB 10600 PG 2236
PB 2003 PG 514
- 20 JENICA DAVIDSON
RYAN DAVIDSON
DB 14398 PG 1578
PB 2003 PG 514
- 19 TOWN HALL COMMONS PROPERTY
OWNERS ASSOCIATION INC
DB 9426 PG 203
PB 2002 PG 129

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REVISIONS

11/6/2025
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CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

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

Lochner

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number E-0159



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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.

HL-0033

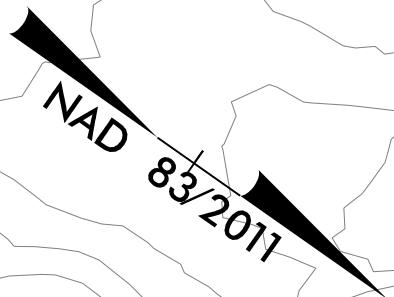
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EC-06/CONST.06

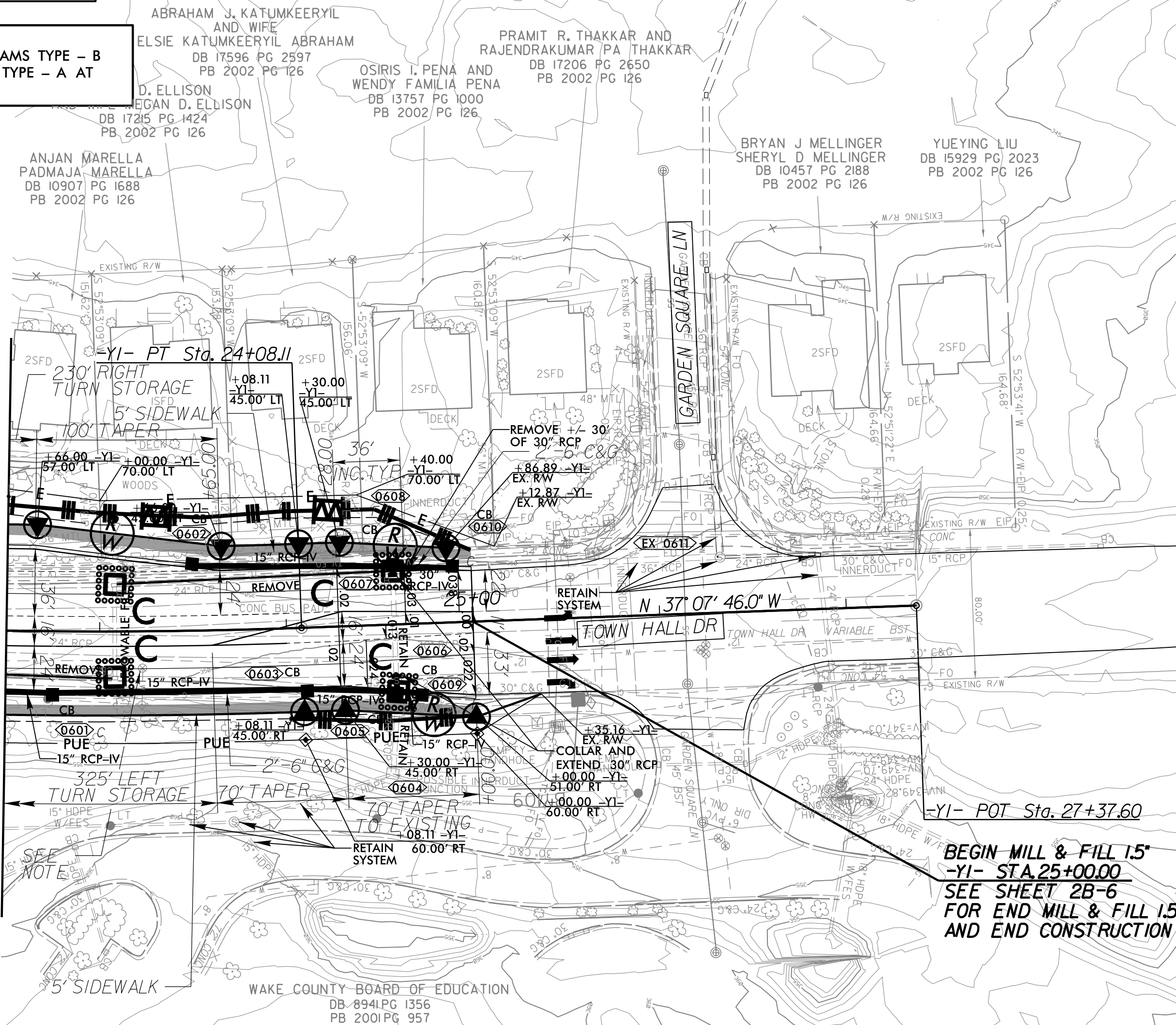
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER



MATCHLINE -YI- STA. 22+50
SEE SHEET 5



BEGIN MILL & FILL 15'
-YI- STA. 25+00.00
SEE SHEET 2B-6
FOR END MILL & FILL 15'
AND END CONSTRUCTION

8/17/99

REVISIONS

11/6/2025
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USER:adamb

Lochner

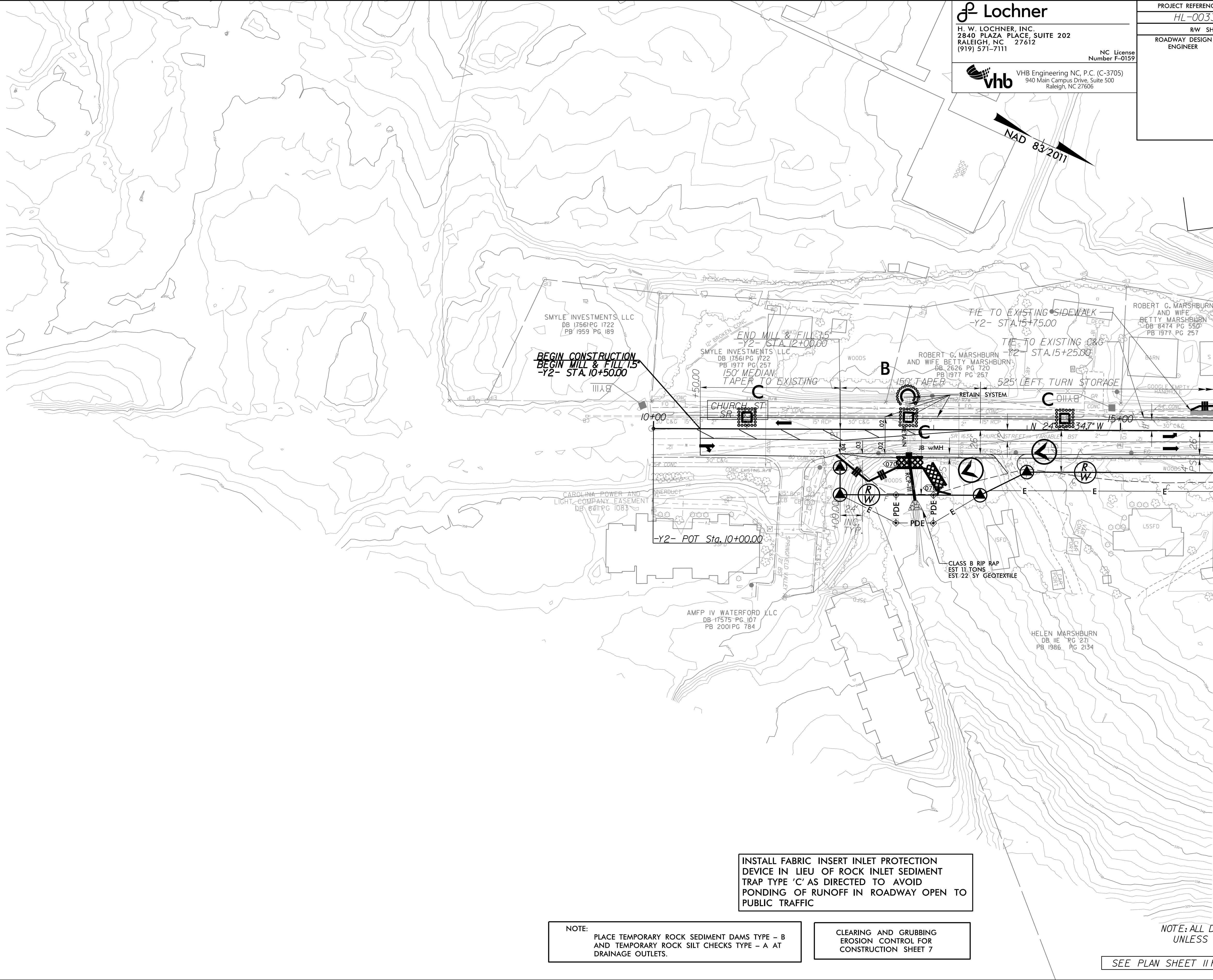
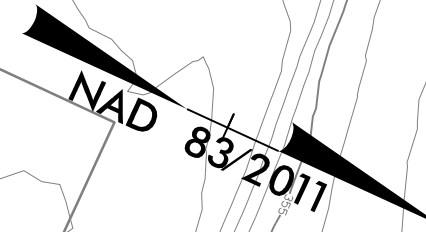
H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
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NC License
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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.		SHEET NO.
HL-0033		EC-07/CONST.07
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER



MATCHLINE -Y2- STA. 16+00
SEE SHEET 5

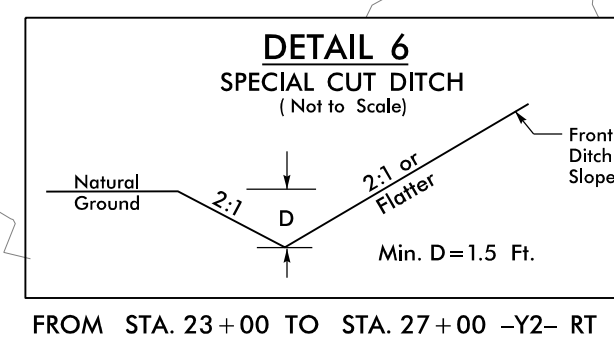
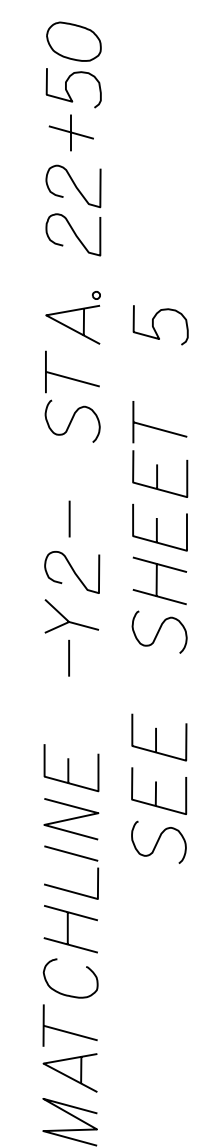
INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

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 7

NOTE: ALL DRIVE RADII ARE 10'
UNLESS OTHERWISE NOTED

SEE PLAN SHEET 11 FOR -Y2- PROFILE



NAD 83/2011

 **Lochner**

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number F-0159

 **vhb**

VHB Engineering Inc, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-08/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

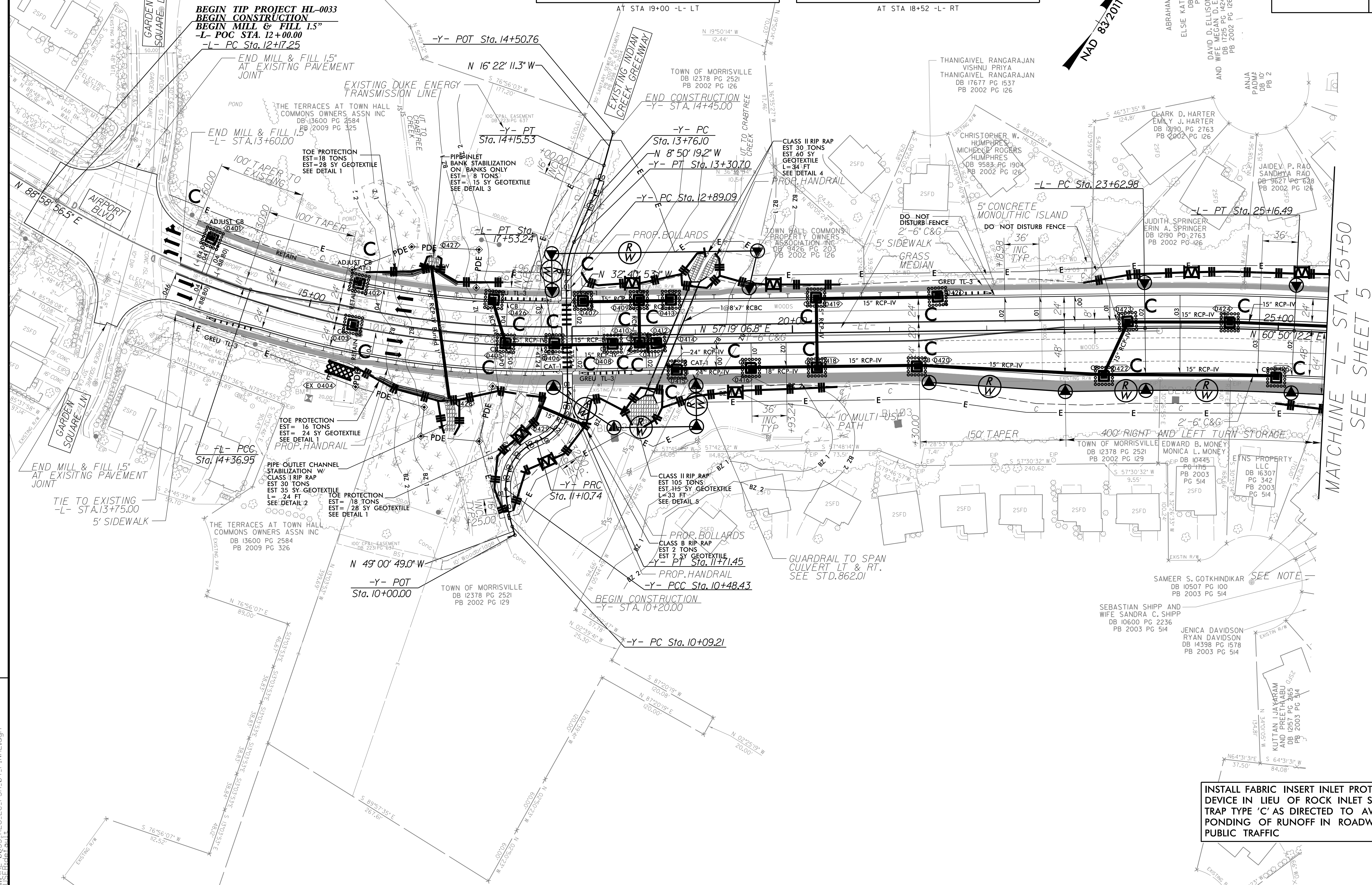
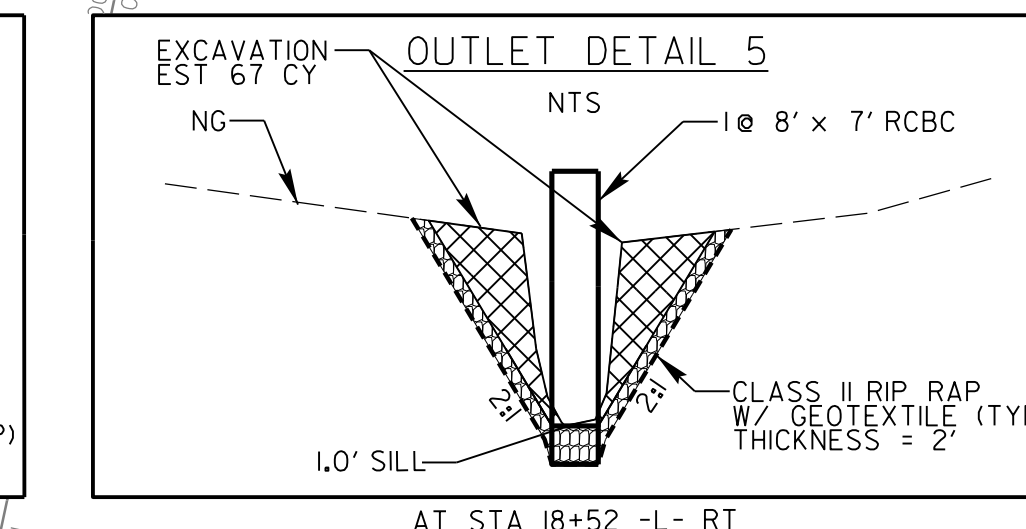
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

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

NOTE: ALL DRIVE RADII ARE 10'
UNLESS OTHERWISE NOTED

SEE PLAN SHEET II FOR -Y2- PROFILE



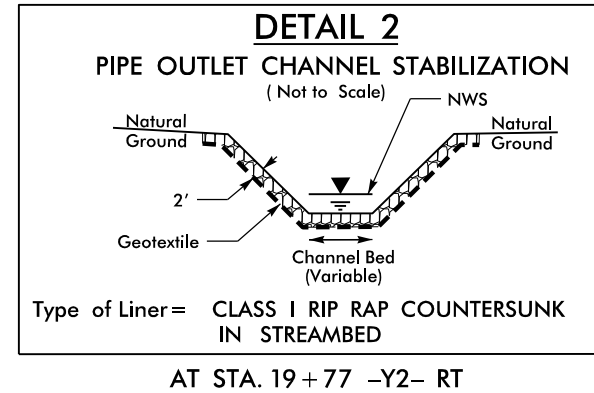
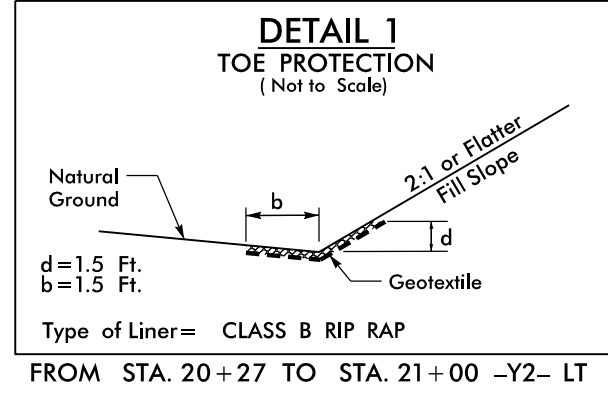
INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

NOTE: ADJUST MANHOLE OR VALVE. SEE UC PLANS FOR MORE DETAIL.

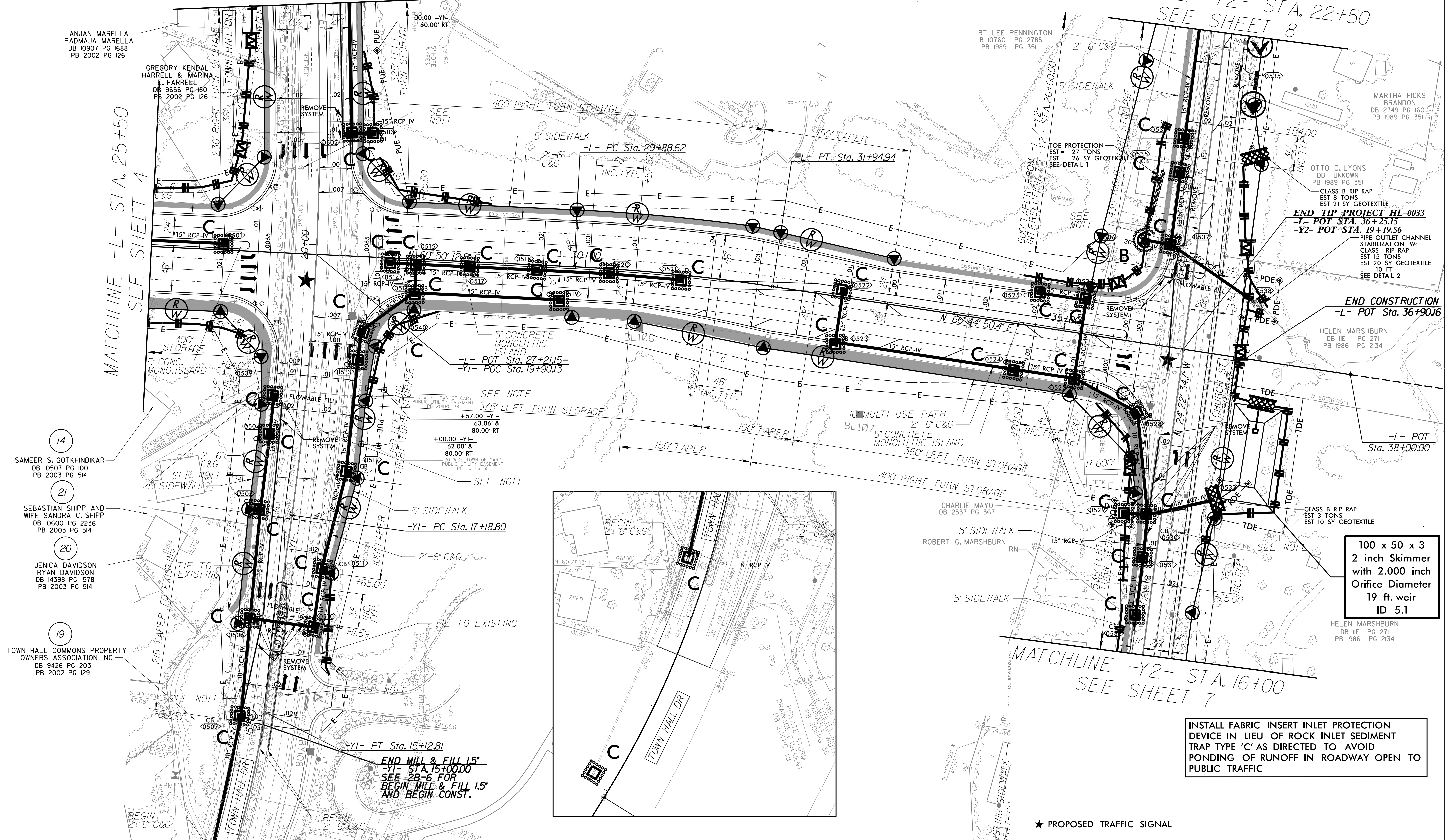
Lochner

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111NC License
Number F-0159VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.		SHEET NO.	
HL-0033		EC-10/CONST.05	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			



NAD 83 2011

MATCHLINE -Y1- STA. 22+50
SEE SHEET 6MATCHLINE -Y2- STA. 22+50
SEE SHEET 8

REVISIONS

HL-003

MATCHLINE -Y/- STA. 22+50
SEE SHEET 5



SEE PLAN SHEET 10 FOR -YI- PROFILE

Lochner

H. W. LOCHNER, INC.
2840 PLAZA PLACE, SUITE 202
RALEIGH, NC 27612
(919) 571-7111

NC License
Number F-0159

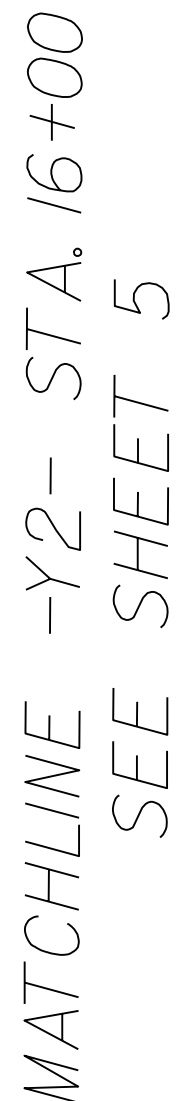
 **VHB Engineering NC, P.C. (C-3705)**
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-II/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



 VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-12/CONST.07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

NOTE: ALL DRIVE RADII ARE 10'
UNLESS OTHERWISE NOTED

SEE PLAN SHEET II FOR -Y2- PROFILE



PROJECT REFERENCE NO.	SHEET NO.
HL-0033	EC-13/CONST.08
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL FABRIC INSERT INLET PROTECTION
DEVICE IN LIEU OF ROCK INLET SEDIMENT
TRAP TYPE 'C' AS DIRECTED TO AVOID
PONDING OF RUNOFF IN ROADWAY OPEN TO
PUBLIC TRAFFIC

SEE PLAN SHEET II FOR -Y2- PROFILE