TIP PROJECT: B-4191

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4191	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

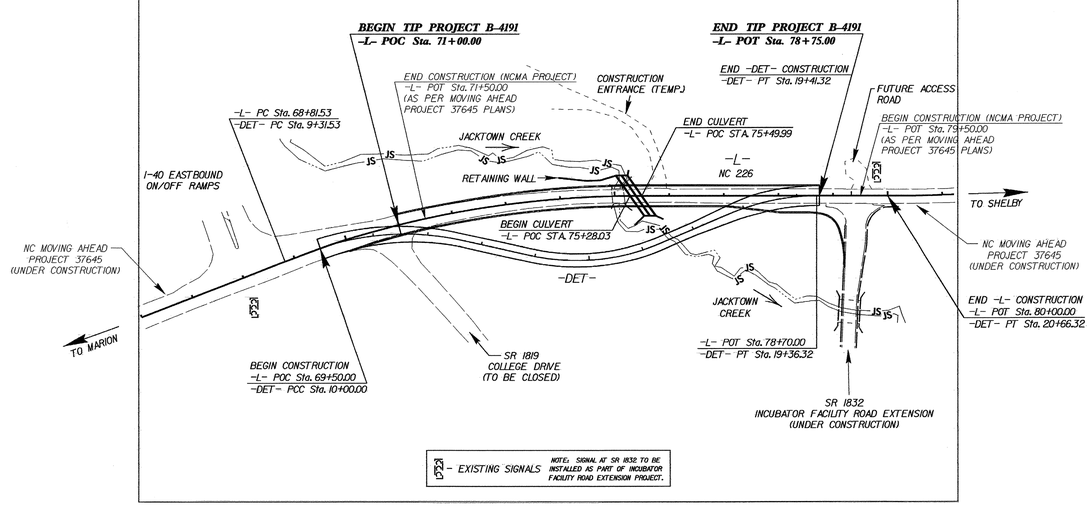
McDOWELL COUNTY

LOCATION: BRIDGE NO. 82 OVER JACKTOWN CREEK ON NC 226

TYPE OF WORK: GRADING, DRAINAGE, PAVING, & CULVERT

NC GRID
NAD 83

4



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	
1630.01	Riser Basin	
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-B	
	Wattle	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2006 STANDARD SPECIFICATIONS

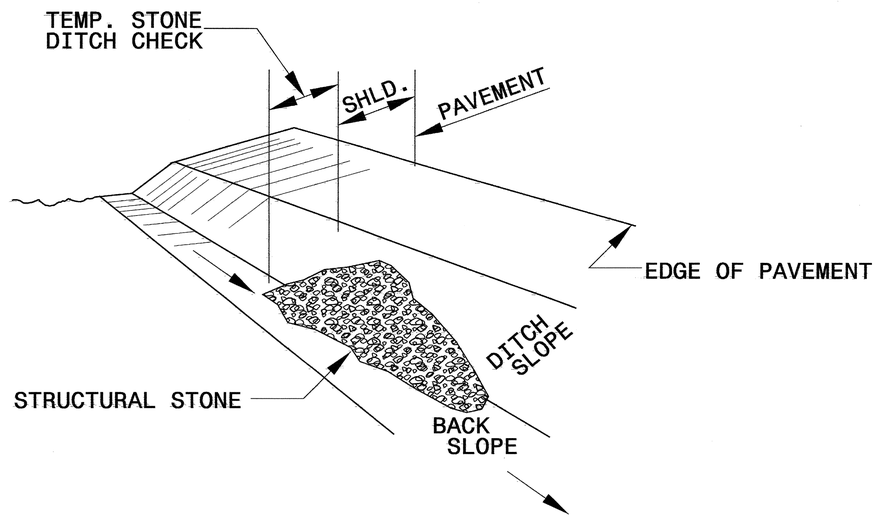
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated July 18, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.03 Temporary Silt Ditch
1630.04 Stilling Basin
1630.05 Temporary Diversion
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check Type A
1635.01 Rock Pipe Inlet Sediment Trap Type A

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

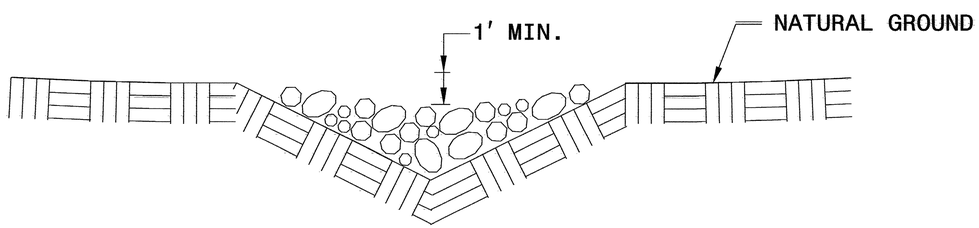


ISOMETRIC VIEW

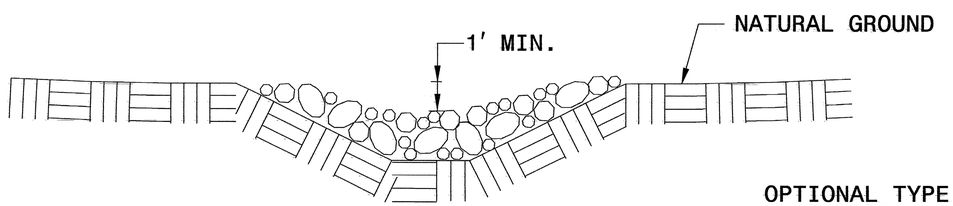
NOTES:

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

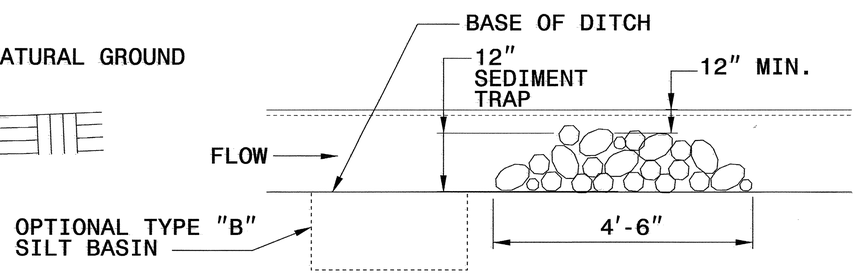
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



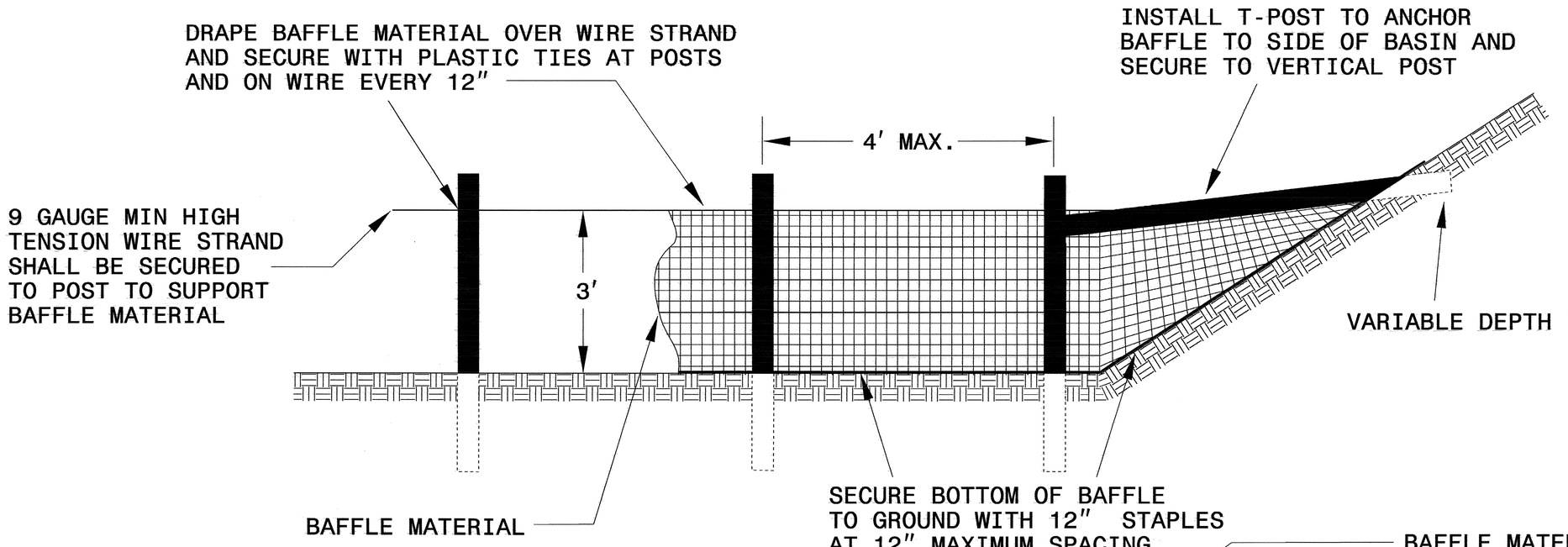
CROSS SECTION TRAPEZOIDAL DITCH

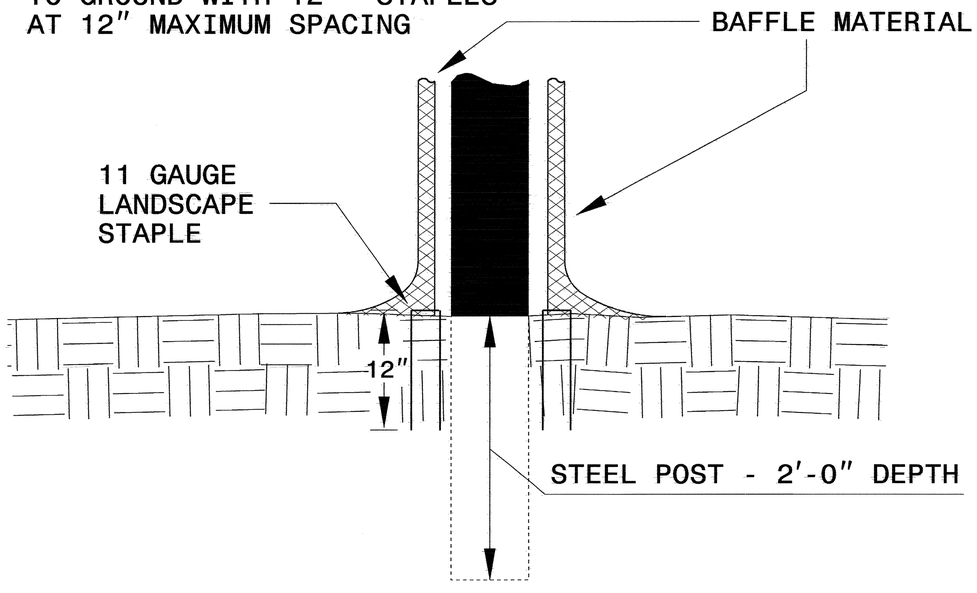


ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL





BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12″ LANDSCAPE STAPLES

NOTES:

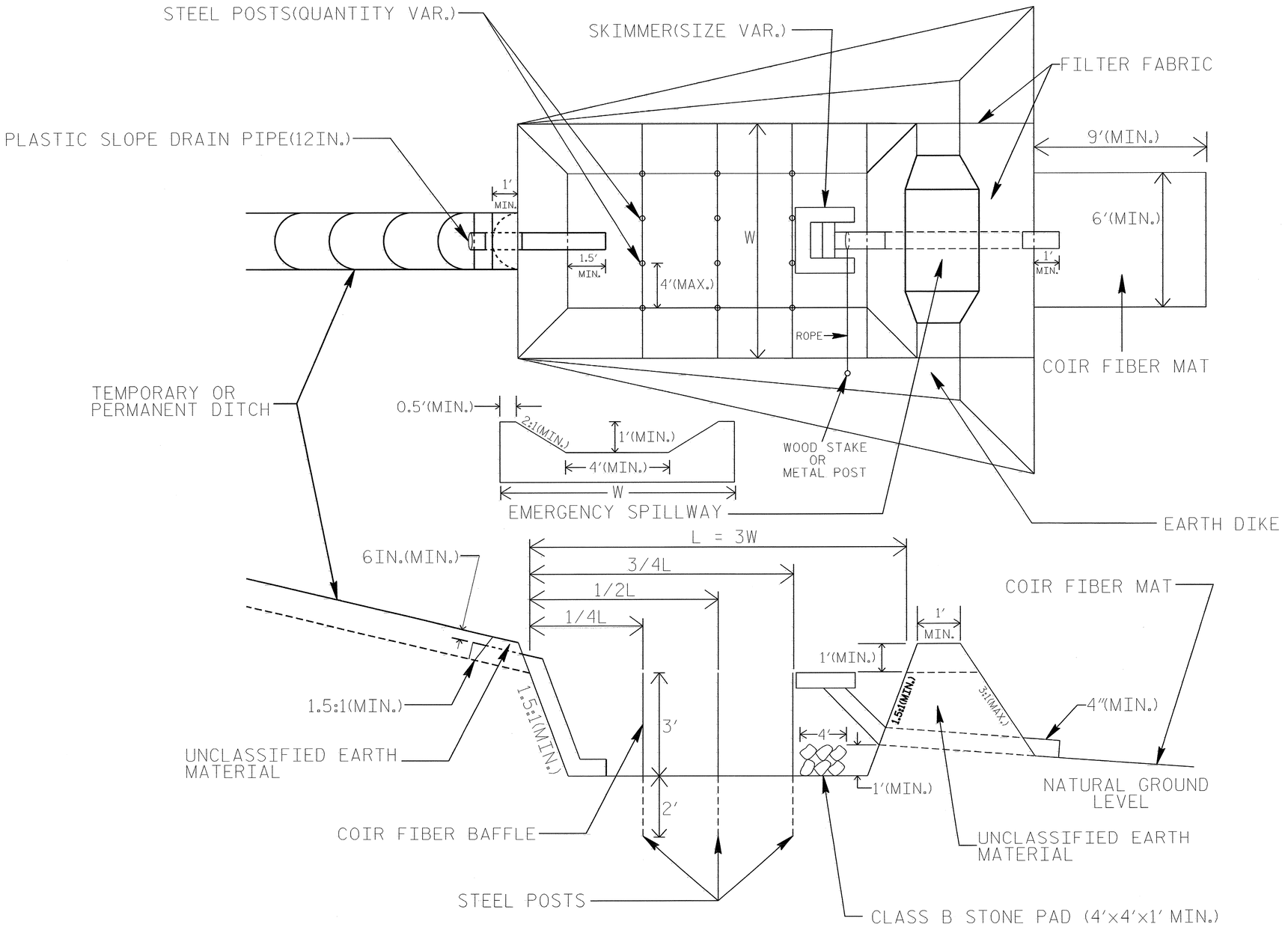
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH.

2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

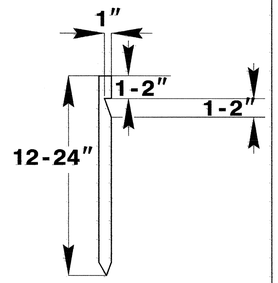
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

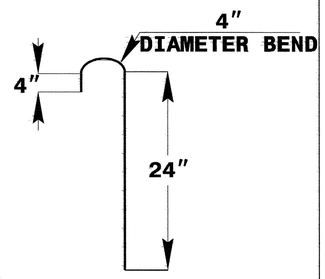
SKIMMER BASIN WITH BAFFLES DETAIL



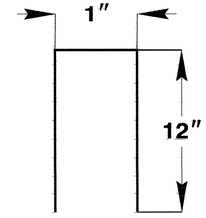
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

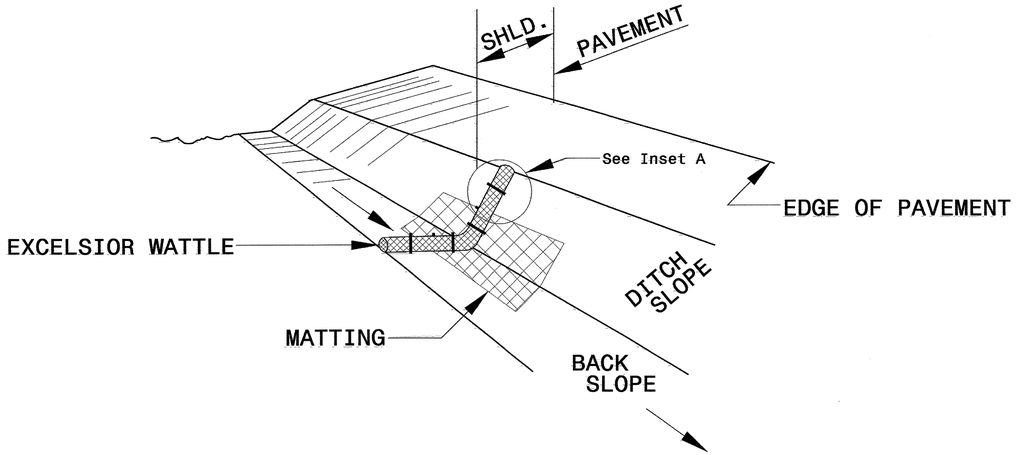
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

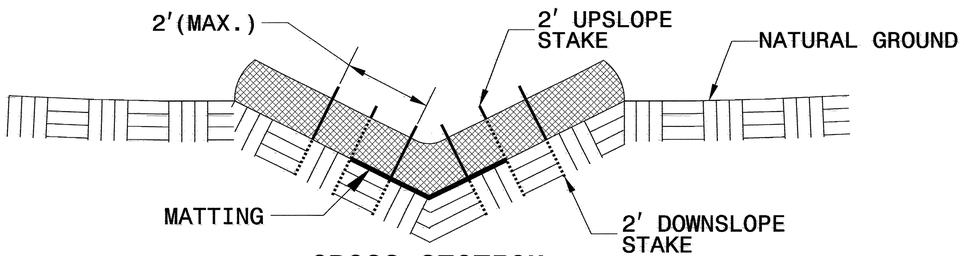
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

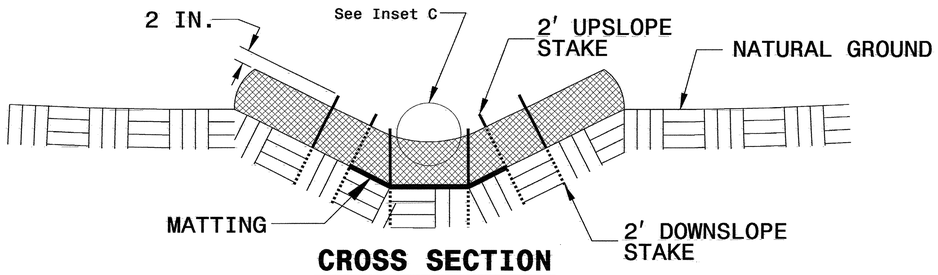
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

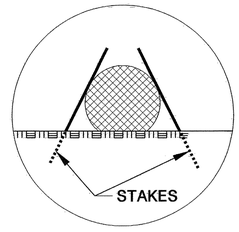
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

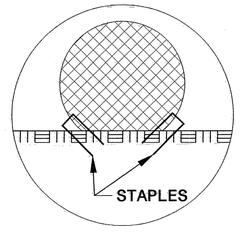
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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 WATTLE.

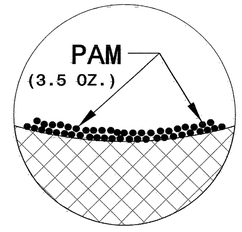
INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



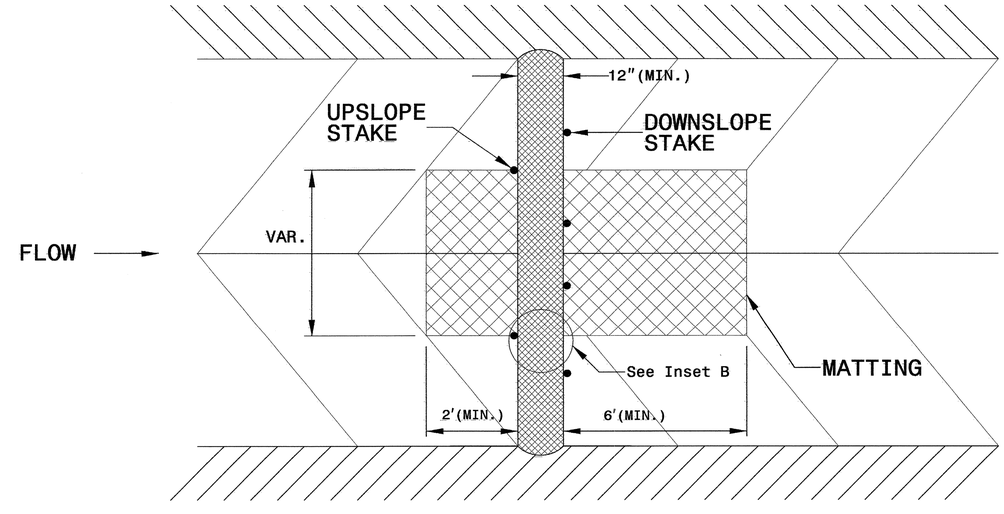
INSET A



INSET B



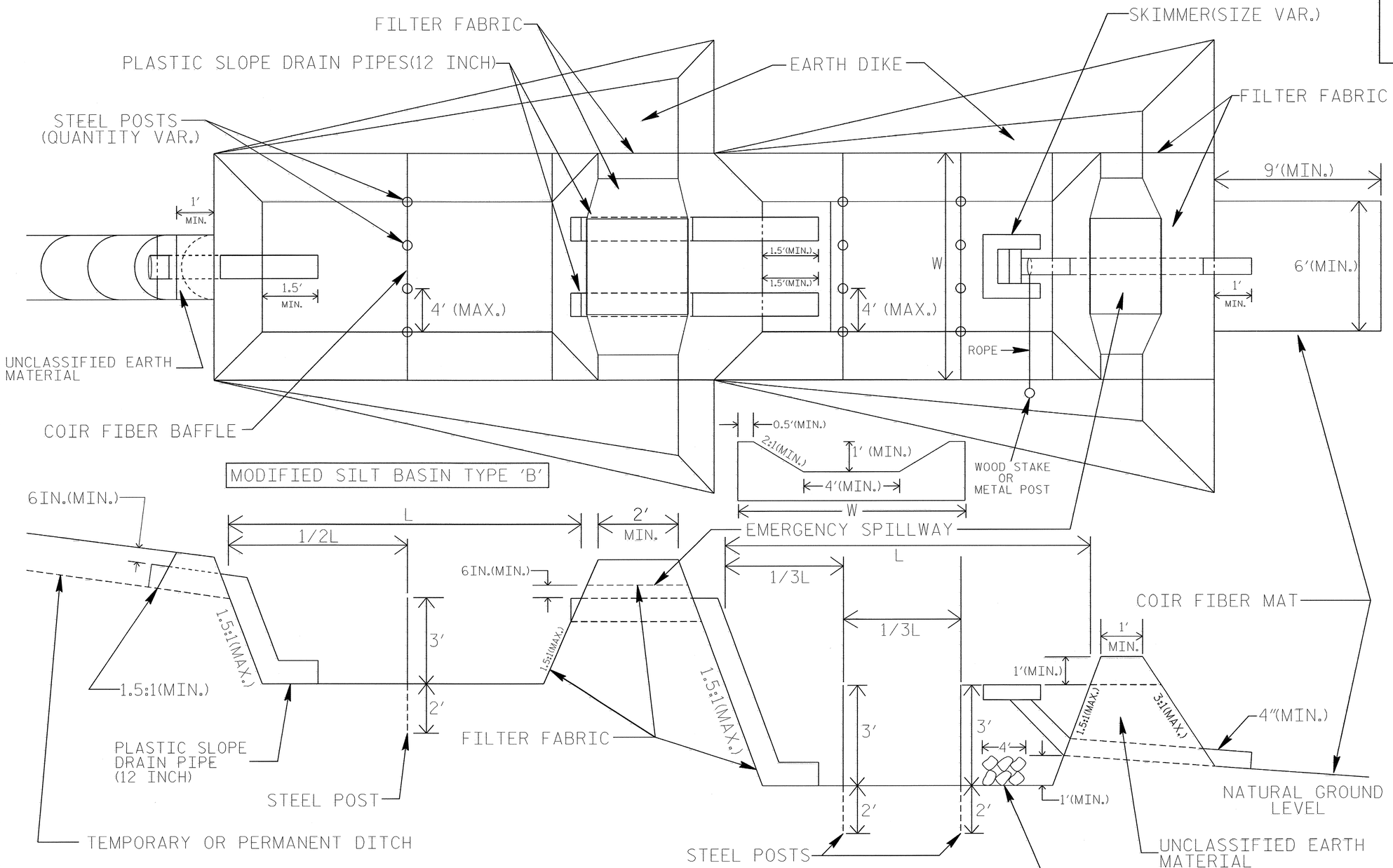
INSET C

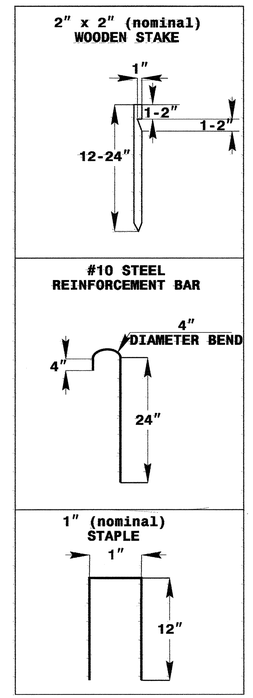


TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TIERED SKIMMER BASIN DETAIL





COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	73+50	75+00	RT	115
2A	-DET-	11+50	15+84	RT	435
2A	-DET-	12+54	14+98	LT	260
			SUBTOTAL		810
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					1540
				TOTAL	2350
				SAY	2400

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	73+74	73+88	LT	10
4	-L-	69+50	70+00	RT	25
			SUBTOTAL		35
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	35
				SAY	40

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-04/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

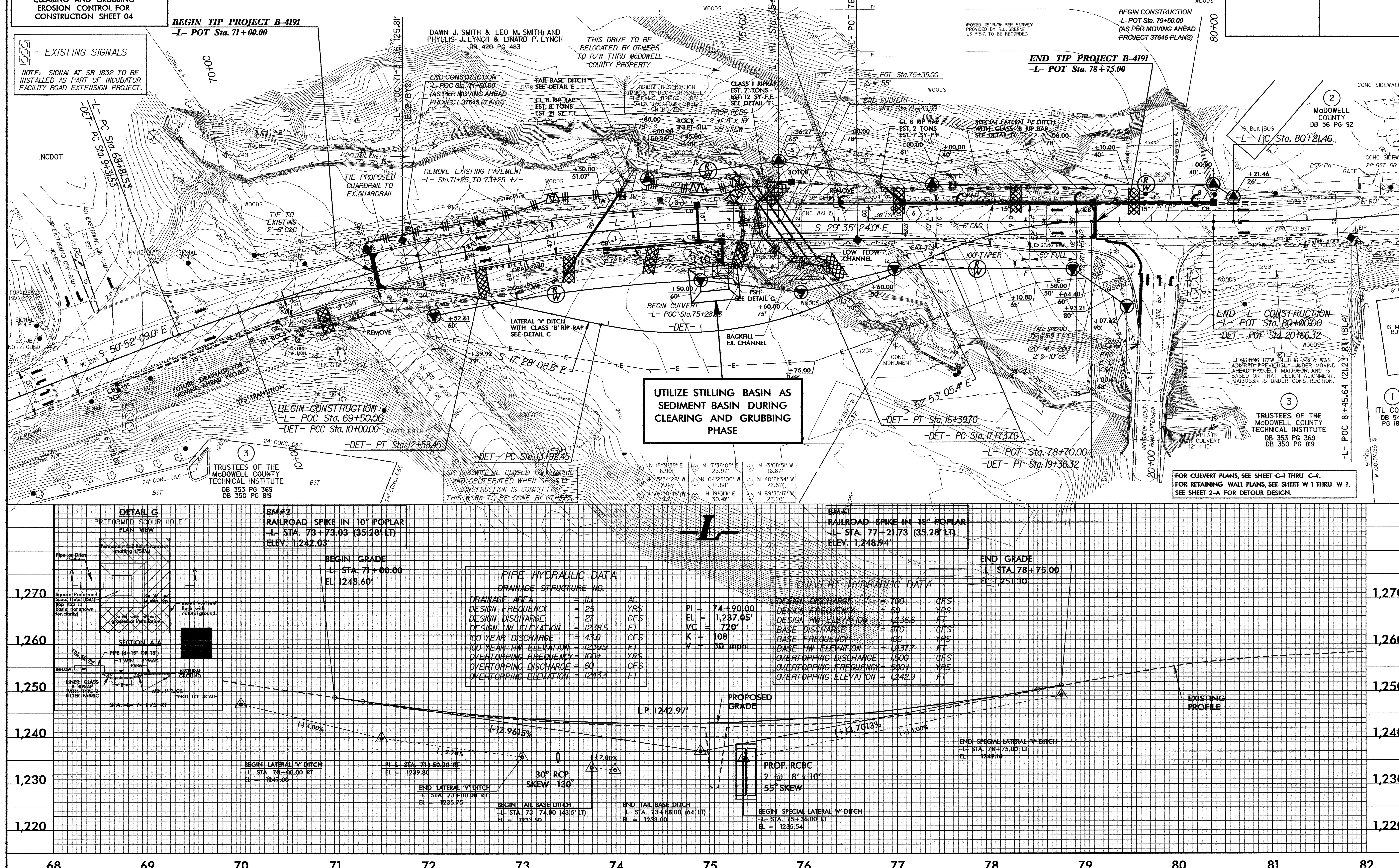
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

-L-

PI Sta 72+12.71	PI Sta 83+05.79
△ = 21° 16′ 45.0″ (RT)	△ = 16° 56′ 08.0″ (LT)
D = 3° 15′ 00.0″	D = 3° 00′ 00.0″
L = 654.74′	L = 564.52′
T = 331.19′	T = 284.33′
R = 1,762.95′	R = 1,909.86′
SE = 0.04 ft/ft	SE = 0.04 ft/ft
RO = 144′	RO = 130′
V = 50 mph	V = 50 mph



NAD 83
BEGIN TIP PROJECT B-4191
-L- POT Sta. 71+00.00
END TIP PROJECT B-4191
-L- POT Sta. 78+75.00
BEGIN CONSTRUCTION
-L- POT Sta. 79+50.00
(AS PER MOVING AHEAD PROJECT 37645 PLANS)
- EXISTING SIGNALS
NOTE: SIGNAL AT SR 1832 TO BE INSTALLED AS PART OF INCUBATOR FACILITY ROAD EXTENSION PROJECT.
DAWN J. SMITH & LEO M. SMITH; AND PHYLLIS J. LYNCH & LINARD P. LYNCH
DB 420 PG 483
THIS DRIVE TO BE RELOCATED BY OTHERS TO R/W THRU McDOWELL COUNTY PROPERTY
END CONSTRUCTION
-L- POC Sta. 71+50.00
(AS PER MOVING AHEAD PROJECT 37645 PLANS)
TAIL BASE DITCH SEE DETAIL E
CL B RIP RAP EST. 8 TONS EST. 21 SY F.F.
ROCK INLET SILL
CLASS 1 RIPRAP EST. 7 TONS EST. 12 SY F.F. SEE DETAIL F
PROP. RCBC 2 @ 8′ x 10′ 55° SKEW
-L- POT Sta.75+39.00
△ = 55°
END CULVERT
-L- POC Sta.75+49.99
CL B RIP RAP EST. 2 TONS EST. 7 SY F.F.
SPECIAL LATERAL 'V' DITCH WITH CLASS 'B' RIP RAP SEE DETAIL D
REMOVE EXISTING PAVEMENT
-L- Sta.71+25 TO 73+25 +/-
TIE PROPOSED GUARDRAIL TO EX.GUARDRAIL
TIE TO EXISTING 2′-6″ C&G
NCDOT
S 29° 35′ 24.0″ E
LOW FLOW CHANNEL
100′ TAPER
50′ FULL
BEGIN CULVERT
-L- POC Sta.75+28.13
PSH SEE DETAIL G
BACKFILL EX. CHANNEL
LATERAL 'V' DITCH WITH CLASS 'B' RIP RAP SEE DETAIL C
S 50° 52′ 09.0″ E
S 17° 28′ 08.8″ E
S 52° 53′ 05.4″ E
FUTURE DRAINAGE FOR MOVING AHEAD PROJECT
375′ TRANSITION
BEGIN CONSTRUCTION
-L- POC Sta. 69+50.00
-DET- PCC Sta. 10+00.00
-DET- PT Sta. 12+58.45
-DET- PC Sta. 13+92.45
-DET- PT Sta. 16+39.70
-DET- PC Sta. 17+73.70
-L- POT Sta. 78+70.00
-DET- PT Sta. 19+36.32
UTILIZE STILLING BASIN AS SEDIMENT BASIN DURING CLEARING AND GRUBBING PHASE
SR 1819 WILL BE CLOSED TO TRAFFIC AND OBLITERATED WHEN SR 1832 CONSTRUCTION IS COMPLETED. THIS WORK TO BE DONE BY OTHERS.
TRUSTEES OF THE McDOWELL COUNTY TECHNICAL INSTITUTE
DB 353 PG 369
DB 350 PG 819
McDOWELL COUNTY
DB 36 PG 92
-L- PC Sta. 80+21.46
END -L- CONSTRUCTION
-L- POT Sta. 80+00.00
-DET- POT Sta. 20+66.32
NOTE: EXISTING R/W IN THIS AREA WAS ADQUIRED PREVIOUSLY UNDER MOVING AHEAD PROJECT MAI3063R, AND IS BASED ON THAT DESIGN ALIGNMENT. MAI3063R IS UNDER CONSTRUCTION.
ITL CORP.
DB 547
PG 184
FOR CULVERT PLANS, SEE SHEET C-1 THRU C-?.
FOR RETAINING WALL PLANS, SEE SHEET W-1 THRU W-?.
SEE SHEET 2-A FOR DETOUR DESIGN.
DETAIL G
PREFORMED SCOUR HOLE
PLAN VIEW
SECTION A-A
STA. -L- 74+75 RT
-L-
BM#2
RAILROAD SPIKE IN 10″ POPLAR
-L- STA. 73+73.03 (35.28′ LT)
ELEV. 1,242.03′
BM#1
RAILROAD SPIKE IN 18″ POPLAR
-L- STA. 77+21.73 (35.28′ LT)
ELEV. 1,248.94′
BEGIN GRADE
-L- STA. 71+00.00
EL 1248.60′
END GRADE
-L- STA. 78+75.00
EL 1,251.30′
PI = 74+90.00
EL = 1,237.05′
VC = 720′
K = 108
V = 50 mph
L.P. 1242.97′
PROPOSED GRADE
EXISTING PROFILE
(-)2.9615%
(+)3.7013%
30″ RCP SKEW 130°
PROP. RCBC
2 @ 8′ x 10′
55° SKEW
BEGIN LATERAL 'V' DITCH
-L- STA. 70+00.00 RT
EL = 1247.00
PI -L- STA. 71+50.00 RT
EL = 1239.80
END LATERAL 'V' DITCH
-L- STA. 73+00.00 RT
EL = 1235.75
BEGIN TAIL BASE DITCH
-L- STA. 73+74.00 (43.5′ LT)
EL = 1233.50
END TAIL BASE DITCH
-L- STA. 73+88.00 (64′ LT)
EL = 1233.00
BEGIN SPECIAL LATERAL 'V' DITCH
-L- STA. 75+36.00 LT
EL = 1235.54
END SPECIAL LATERAL 'V' DITCH
-L- STA. 78+75.00 LT
EL = 1249.10
1,270
1,260
1,250
1,240
1,230
1,220
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.

DRAINAGE AREA	= 11.1	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 27	CFS
DESIGN HW ELEVATION	= 1238.5	FT
100 YEAR DISCHARGE	= 43.0	CFS
100 YEAR HW ELEVATION	= 1239.9	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 60	CFS
OVERTOPPING ELEVATION	= 1243.4	FT

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 700	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 1,236.6	FT
BASE DISCHARGE	= 870	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1,237.7	FT
OVERTOPPING DISCHARGE	= 1,500	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 1,242.9	FT

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-05/CONST.2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

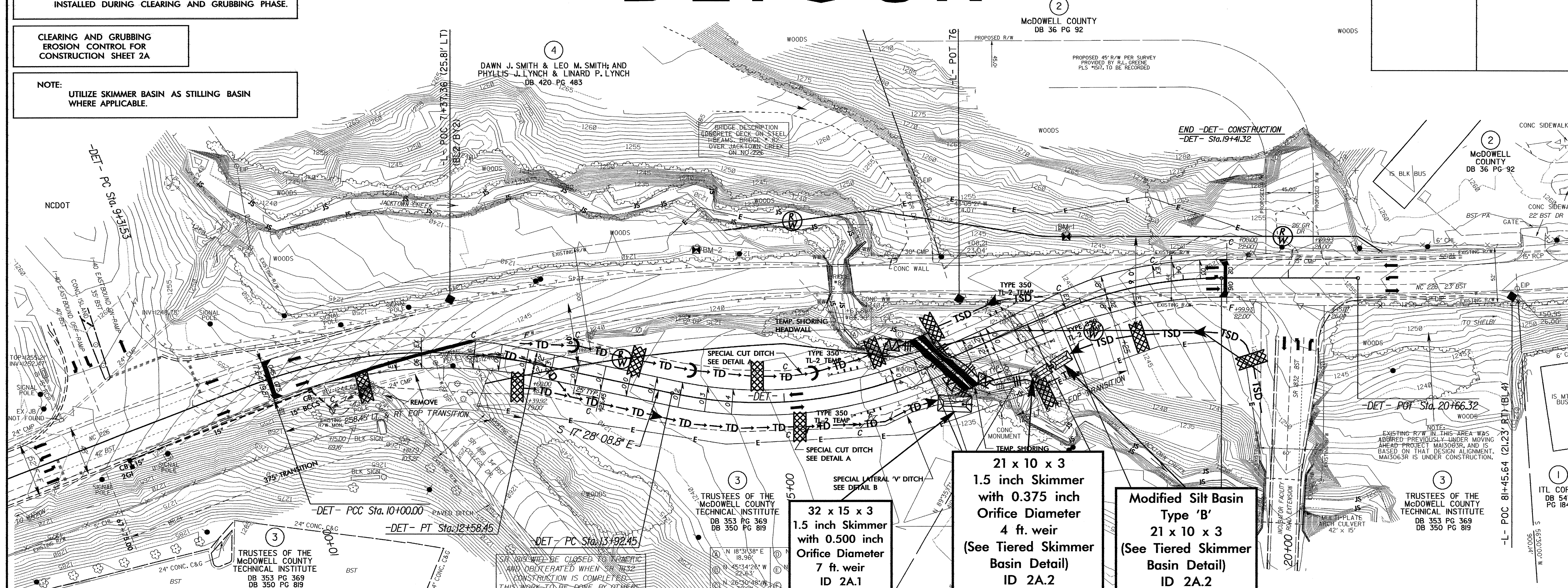
DETOUR

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

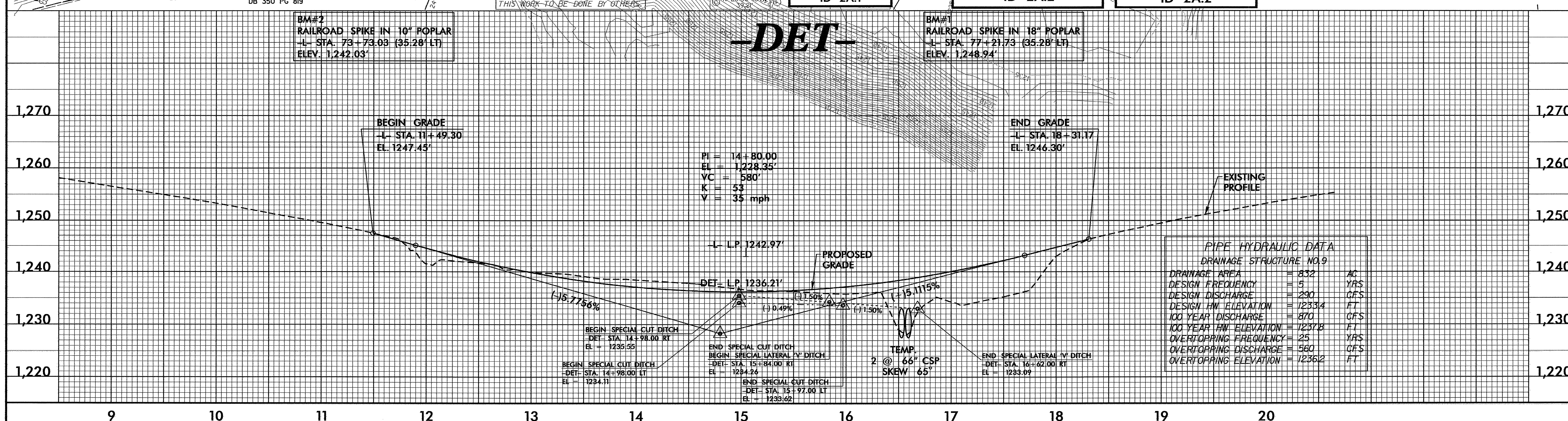
NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 2A

NOTE:
UTILIZE SKIMMER BASIN AS STILLING BASIN WHERE APPLICABLE.



NAD 83
McDOWELL COUNTY DB 36 PG 92
DAWN J. SMITH & LEO M. SMITH; AND PHYLLIS J. LYNCH & LINARD P. LYNCH DB 420 PG 483
PROPOSED 45' R/W PER SURVEY PROVIDED BY R.L. GREENE PLS #5117, TO BE RECORDED
BRIDGE DESCRIPTION CONCRETE DECK ON STEEL I-BEAMS. BRIDGE # 82 OVER JACKTOWN CREEK ON NC 226
END -DET- CONSTRUCTION -DET- Sta.19+41.32
-DET- PC Sta. 9+31.53
NCDOT
JACKTOWN CREEK
WOODS
TYPE 350 TL-2 TEMP
SPECIAL CUT DITCH SEE DETAIL A
SPECIAL LATERAL 'V' DITCH SEE DETAIL B
TEMP. SHORING HEADWALL
REMOVE
375' TRANSITION
-DET- PCC Sta. 10+00.00
-DET- PT Sta.12+58.45
-DET- PC Sta.13+92.45
-DET- POT Sta. 20+66.32
S 17°28'08.8" E
SR 1819 WILL BE CLOSED TO TRAFFIC AND OBLITERATED WHEN SR 1832 CONSTRUCTION IS COMPLETED. THIS WORK TO BE DONE BY OTHERS.
TRUSTEES OF THE McDOWELL COUNTY TECHNICAL INSTITUTE DB 353 PG 369 DB 350 PG 819
ITL CORP. DB 547 PG 184
McDOWELL COUNTY DB 36 PG 92
NOTE: EXISTING R/W IN THIS AREA WAS ACQUIRED PREVIOUSLY UNDER MOVING AHEAD PROJECT MAI3063R, AND IS BASED ON THAT DESIGN ALIGNMENT. MAI3063R IS UNDER CONSTRUCTION.
-L- POC 81+45.64 (21.23' RT) (BL4)
-L- POT 76
-L- POC 71+37.36 (25.81' LT) (BL2/BY2)
MULTI-PLATE ARCH CULVERT 42' x 15'
32 x 15 x 3
1.5 inch Skimmer
with 0.500 inch
Orifice Diameter
7 ft. weir
ID 2A.1
21 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
(See Tiered Skimmer Basin Detail)
ID 2A.2
Modified Silt Basin
Type 'B'
21 x 10 x 3
(See Tiered Skimmer Basin Detail)
ID 2A.2



-DET-
BM#2
RAILROAD SPIKE IN 10" POPLAR
-L- STA. 73+73.03 (35.28' LT)
ELEV. 1,242.03'
BM#1
RAILROAD SPIKE IN 18" POPLAR
-L- STA. 77+21.73 (35.28' LT)
ELEV. 1,248.94'
BEGIN GRADE
-L- STA. 11+49.30
EL. 1247.45'
END GRADE
-L- STA. 18+31.17
EL. 1246.30'
PI = 14+80.00
EL = 1,228.35'
VC = 580'
K = 53
V = 35 mph
-L- L.P. 1242.97'
DET- L.P. 1236.21'
PROPOSED GRADE
EXISTING PROFILE
(-)5.7756%
(+)5.1115%
TEMP. 2 @ 66" CSP SKEW 65°
BEGIN SPECIAL CUT DITCH -DET- STA. 14+98.00 RT EL = 1235.55
BEGIN SPECIAL CUT DITCH -DET- STA. 14+98.00 LT EL = 1234.11
END SPECIAL CUT DITCH BEGIN SPECIAL LATERAL 'V' DITCH -DET- STA. 15+84.00 RT EL = 1234.26
END SPECIAL CUT DITCH -DET- STA. 15+97.00 LT EL = 1233.62
END SPECIAL LATERAL 'V' DITCH -DET- STA. 16+62.00 RT EL = 1233.09
1,270
1,260
1,250
1,240
1,230
1,220
9
10
11
12
13
14
15
16
17
18
19
20

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.9

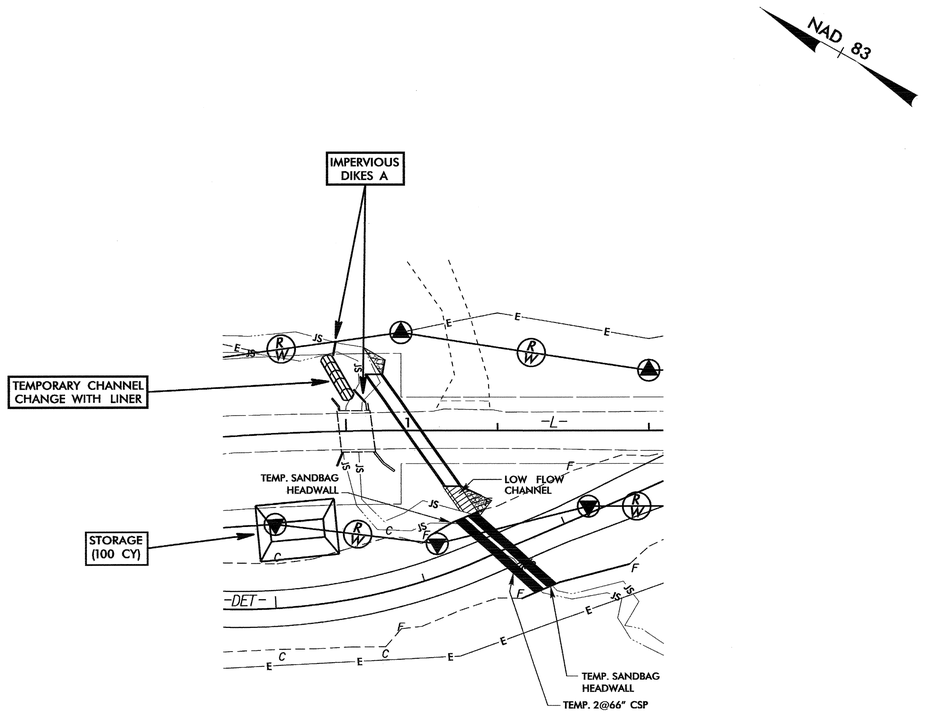
DRAINAGE AREA	= 832	AC
DESIGN FREQUENCY	= 5	YRS
DESIGN DISCHARGE	= 290	CFS
DESIGN HW ELEVATION	= 1233.4	FT
100 YEAR DISCHARGE	= 870	CFS
100 YEAR HW ELEVATION	= 1237.8	FT
OVERTOPPING FREQUENCY	= 25	YRS
OVERTOPPING DISCHARGE	= 560	CFS
OVERTOPPING ELEVATION	= 1236.2	FT

CULVERT CONSTRUCTION SEQUENCE STA. 75+39 –L–

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-06/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

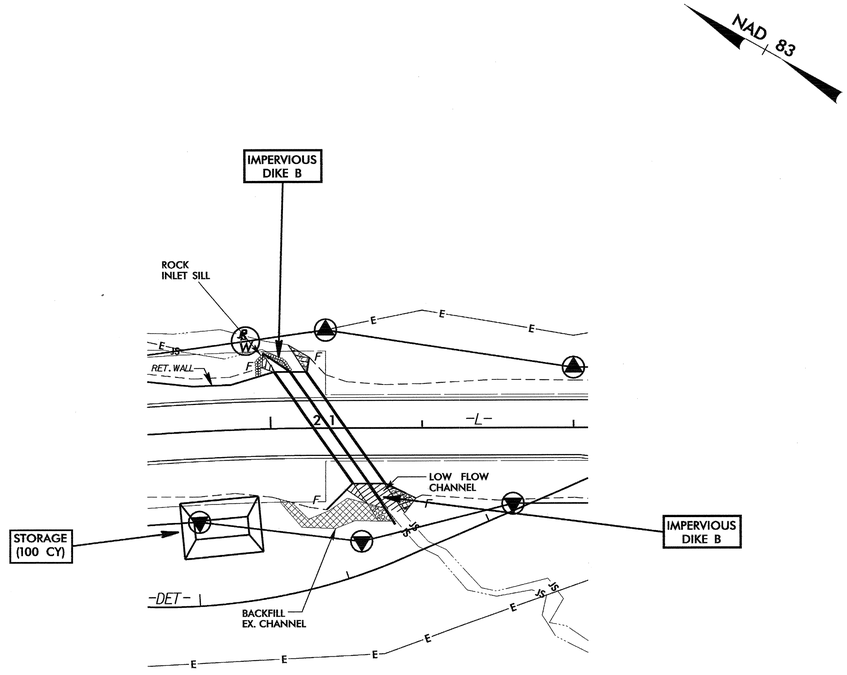
PHASE I

1. CONSTRUCT TEMPORARY ONSITE DETOUR AND INSTALL 2 @ 66" TEMPORARY CSP, UTILIZING "BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES" TO DEWATER THE SITE.
2. CONSTRUCT STILLING BASIN (100 CY) AND UTILIZE STILLING BASIN AS SEDIMENT BASIN DURING CLEARING AND GRUBBING PHASE.
3. CONSTRUCT IMPERVIOUS DIKES A AND TEMPORARY CHANNEL CHANGE WITH LINER (3 FT. BASE, 3FT. DEEP, 2:1 SIDE SLOPES), DIVERTING FLOW.
4. CONSTRUCT BARREL 1 OF PROPOSED CULVERT AND LOW–FLOW CHANNEL FOR BARREL 1.
5. REMOVE IMPERVIOUS DIKES A AND TEMPORARY CHANNEL CHANGE.



PHASE II

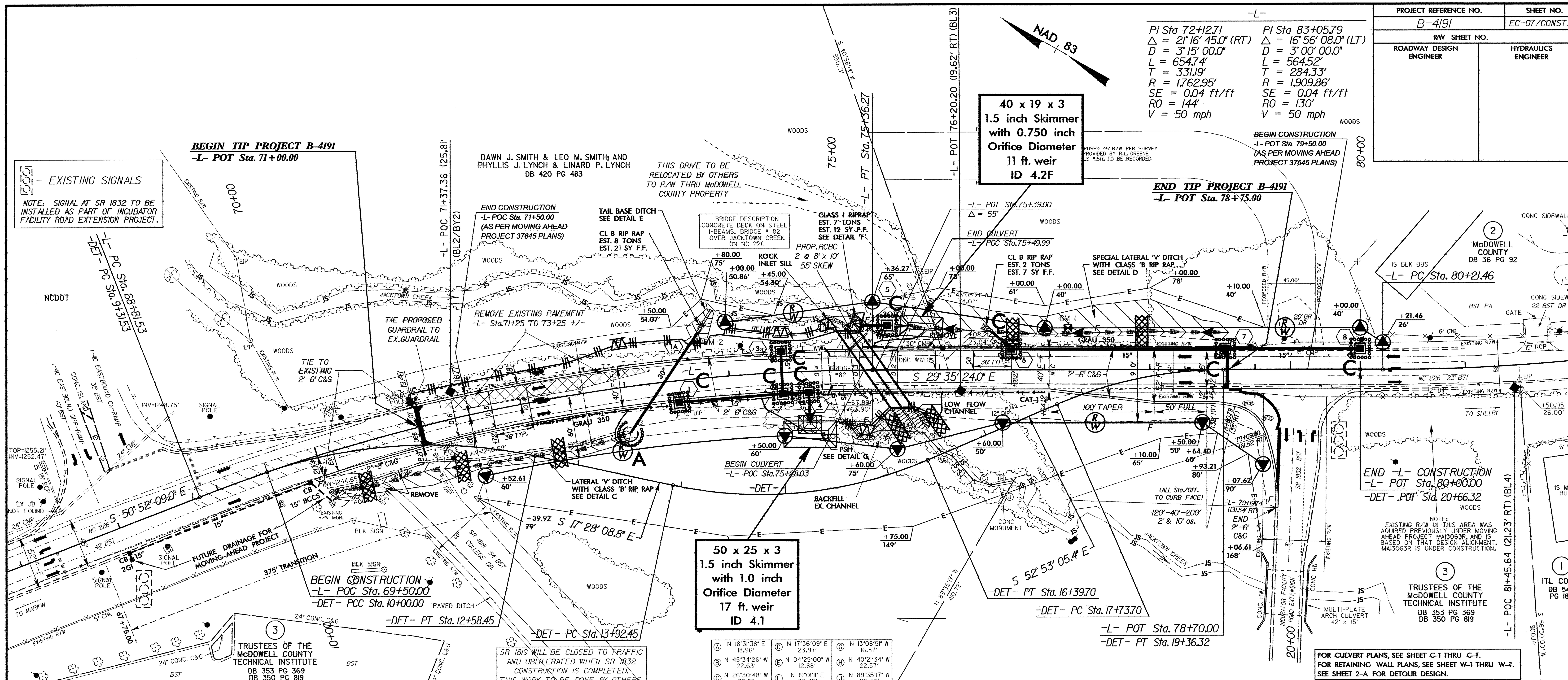
6. CONSTRUCT IMPERVIOUS DIKES B, DIVERTING FLOW THROUGH BARREL 1.
7. REMOVE EXISTING BRIDGE.
8. CONSTRUCT BARREL 2 OF PROPOSED CULVERT AND ROCK INLET SILL AT THE UPSTREAM END OF BARREL 2, AND COMPLETE ANY REMAINING NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
9. REMOVE IMPERVIOUS DIKES B AND STILLING BASIN, AND COMPLETE ROADWAY.

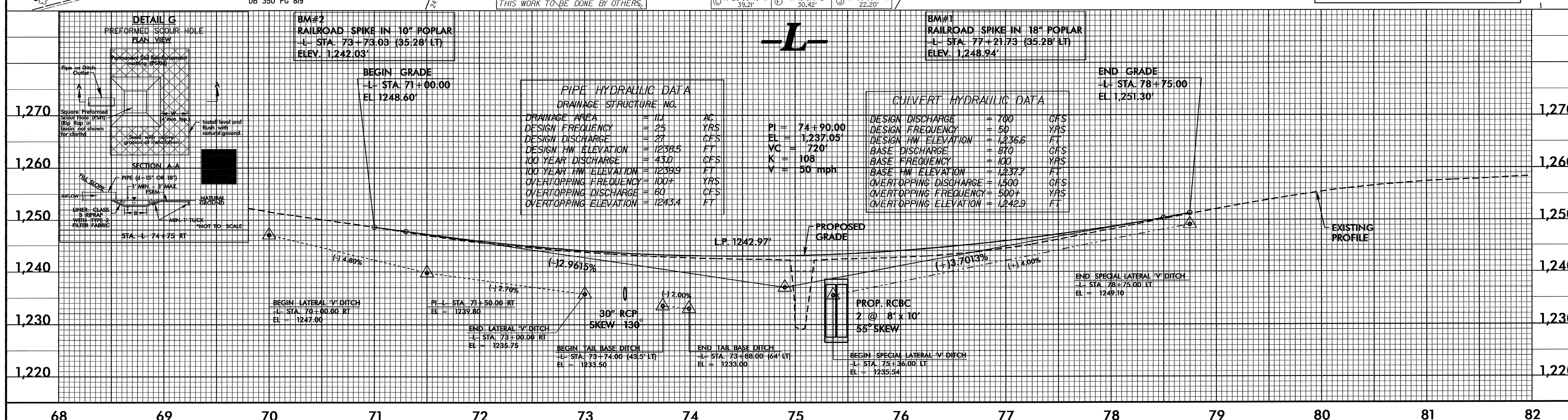


PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-07/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-

PI Sta 72+12.71	PI Sta 83+05.79
Δ = 21° 16' 45.0" (RT)	Δ = 16° 56' 08.0" (LT)
D = 3° 15' 00.0"	D = 3° 00' 00.0"
L = 654.74'	L = 564.52'
T = 331.19'	T = 284.33'
R = 1,762.95'	R = 1,909.86'
SE = 0.04 ft/ft	SE = 0.04 ft/ft
RO = 144'	RO = 130'
V = 50 mph	V = 50 mph





PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.

DRAINAGE AREA	= 11.1	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 27	CFS
DESIGN HW ELEVATION	= 1238.5	FT
100 YEAR DISCHARGE	= 43.0	CFS
100 YEAR HW ELEVATION	= 1239.9	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 60	CFS
OVERTOPPING ELEVATION	= 1243.4	FT

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 700	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 1,236.6	FT
BASE DISCHARGE	= 870	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1,237.7	FT
OVERTOPPING DISCHARGE	= 1,500	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 1,242.9	FT

DETOUR

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
B-4191	EC-08/CONST.2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SKIMMER BASIN AS STILLING BASIN WHERE APPLICABLE.

-DET- PC Sta. 9+31.53

-L- POC 7I+37.36 (25.8' LT) (BL2/BY2)

-L- POT 76

NCDOT

(4) DAWN J. SMITH & LEO M. SMITH; AND PHYLLIS J. LYNCH & LINARD P. LYNCH DB 420 PG 483

(2) McDOWELL COUNTY DB 36 PG 92

BRIDGE DESCRIPTION
CONCRETE DECK ON STEEL I-BEAMS, BRIDGE # 82 OVER JACKTOWN CREEK ON NC 226

PROPOSED 45' R/W PER SURVEY PROVIDED BY R.L. GREENE PLS #547, TO BE RECORDED

END -DET- CONSTRUCTION
-DET- Sta.19+41.32

-DET- POT Sta. 20+66.32

-DET- POC Sta. 10+00.00

-DET- PT Sta. 12+58.45

-DET- PC Sta. 13+92.45

SR 1819 WILL BE CLOSED TO TRAFFIC AND OBLITERATED WHEN SR 1832 CONSTRUCTION IS COMPLETED. THIS WORK TO BE DONE BY OTHERS.

(3) TRUSTEES OF THE McDOWELL COUNTY TECHNICAL INSTITUTE DB 353 PG 369 DB 350 PG 819

(1) ITL CORP. DB 547 PG 184

-L- POC 8I+45.64 (21.23' RT) (BL4)

(A) N 18°31'38" E 18.96'	(D) N
(B) N 45°34'26" W 22.63'	(E) N
(C) N 26°30'48" W 39.21'	(F)

32 x 15 x 3
1.5 inch Skimmer with 0.500 inch Orifice Diameter
7 ft. weir
ID 2A.1

21 x 10 x 3
1.5 inch Skimmer with 0.375 inch Orifice Diameter
4 ft. weir
(See Tiered Skimmer Basin Detail)
ID 2A.2

Modified Silt Basin Type 'B'
21 x 10 x 3
(See Tiered Skimmer Basin Detail)
ID 2A.2

BM#2
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-L- STA. 73+73.03 (35.28' LT)
ELEV. 1,242.03'

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RAILROAD SPIKE IN 18" POPLAR
-L- STA. 77+21.73 (35.28' LT)
ELEV. 1,248.94'

-DET-

BEGIN GRADE
-L- STA. 11+49.30
EL. 1247.45'

PI = 14+80.00
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K = 53
V = 35 mph

END GRADE
-L- STA. 18+31.17
EL. 1246.30'

-L- L.P. 1242.97'

-DET- L.P. 1236.21'

PROPOSED GRADE

EXISTING PROFILE

(-)15.7756%

(-)1.50%

(-)0.49%

(-)1.50%

(-)15.1115%

BEGIN SPECIAL CUT DITCH
-DET- STA. 14+98.00 RT
EL = 1235.55

BEGIN SPECIAL CUT DITCH
-DET- STA. 14+98.00 LT
EL = 1234.11

END SPECIAL CUT DITCH
BEGIN SPECIAL LATERAL 'V' DITCH
-DET- STA. 15+84.00 RT
EL = 1234.26

END SPECIAL CUT DITCH
-DET- STA. 15+97.00 LT
EL = 1233.62

END SPECIAL LATERAL 'V' DITCH
-DET- STA. 16+62.00 RT
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TEMP. 2 @ 66" CSP SKEW 65°

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1,270 1,260 1,250 1,240 1,230 1,220

9 10 11 12 13 14 15 16 17 18 19 20