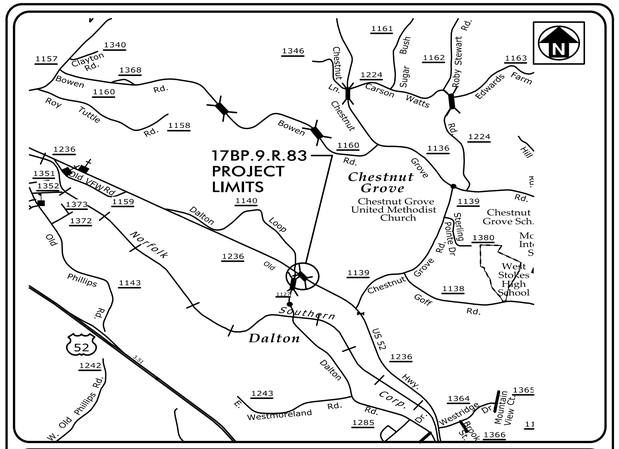
PROJECT: 17BP.9.R.83



VICINITY MAP
NOT TO SCALE

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

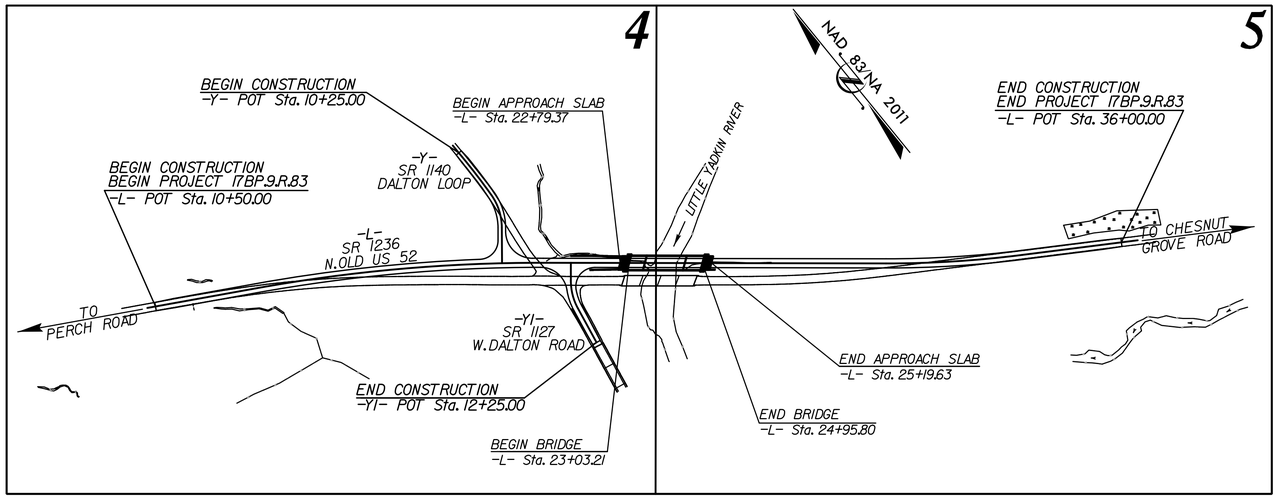
STOKES COUNTY

LOCATION: BRIDGE NO. 286 OVER LITTLE YADKIN RIVER ON SR 1236 (NORTH OLD 52)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.R.83	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.9.PE.83		PE
17BP.9.ROW.83		R/W, UTL
17BP.9.R.83		CONST



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

GRAPHIC SCALE

50 25 0 50 100
PLANS

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
940 MAIN CAMPUS DRIVE, SUIT 500
RALEIGH, NC 27606

Designed by:

BRANDON BARHAM, PE ***3368***
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.

CONTRACT:

1/6/2025
17BP_9_R_83_286_REU_EC_TSH.dgn
User:default

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.R.83	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

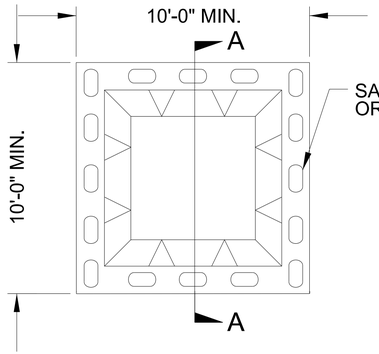
EROSION & SEDIMENT CONTROL LEGEND

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	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
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	A
1632.02	Type B	B
1632.03	Type C	C

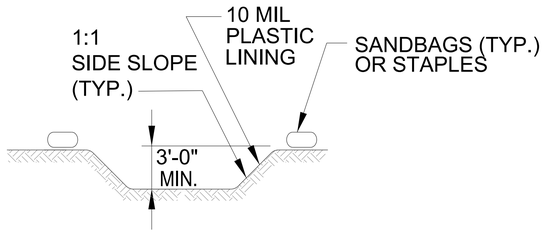
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet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

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.R.83	EC-3A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A

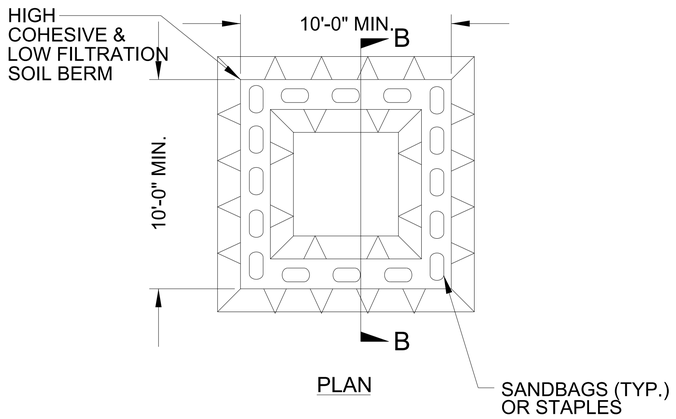
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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.

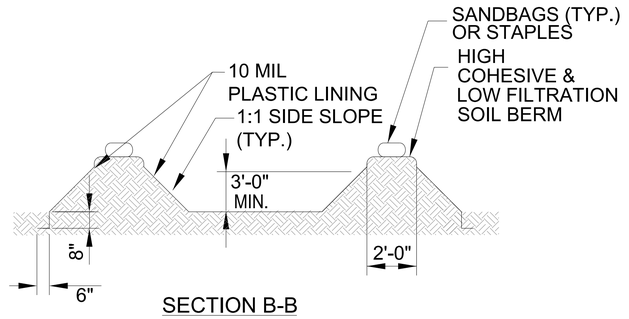
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE



PLAN



SECTION B-B

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.

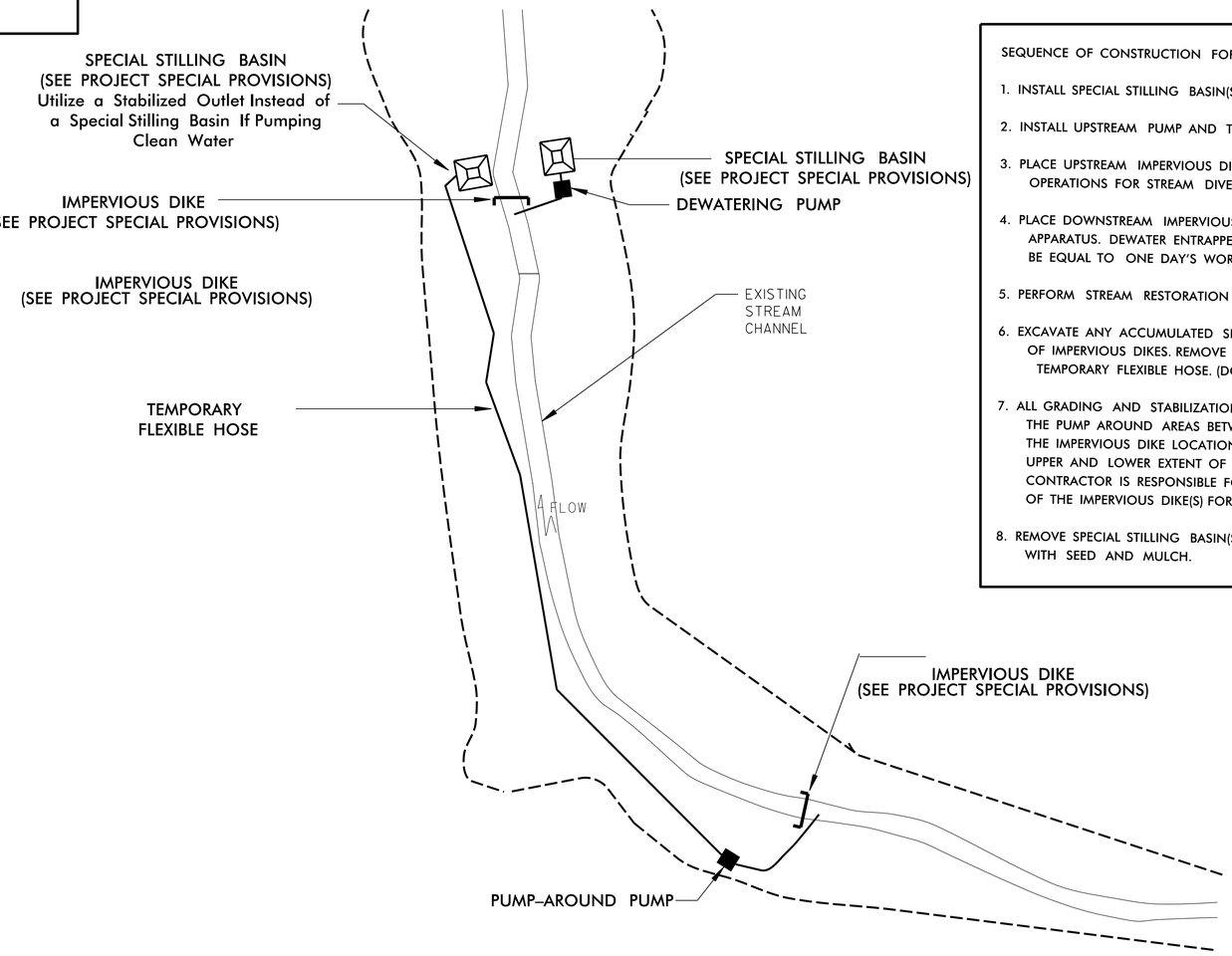
ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.R.83	EC-3B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXAMPLE OF PUMP–AROUND OPERATION

NOTES:
1) All excavation shall be performed in only dry or isolated sections of channel.
2) Impervious dikes are to be used to isolate work from stream flow when necessary.
3) All graded areas shall be stabilized within 24 hours.
4) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
5) Pumps and hoses shall be of sufficicient 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. PERFORM STREAM RESTORATION WORK 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. ALL GRADING AND STABILIZATION MUST BE COMPLETED IN ONE DAY WITHIN THE PUMP AROUND AREAS BETWEEN THE IMPERVIOUS DIKES. THE IMPERVIOUS DIKE LOCATIONS AS SHOWN ON THIS SHEET ONLY SHOW THE UPPER AND LOWER EXTENT OF WORK FOR EACH STREAM SEGMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE IMPERVIOUS DIKE(S) FOR EACH DAY'S WORK.
8. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.R.83	EC-3C

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-	20+70	24+00	LT	700
5	-L-	24+66	27+00	LT	250
				SUBTOTAL	950
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					19108
				TOTAL	20058
				SAY	20100

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

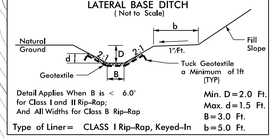
PROJECT REFERENCE NO.	SHEET NO.
17BP.9.R.83	EC-3D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

DETAIL 1
LATERAL BASE DITCH
(Not to Scale)



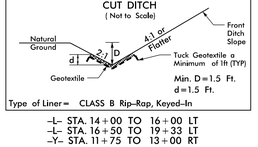
Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap

Min. D=2.0 Ft.
Max. d=1.5 Ft.
B=3.0 Ft.
b=5.0 Ft.

Type of Liner= CLASS I Rip-Rap, Keyed-In

–L– STA. 11+72.55 TO 13+22 LT
–L– STA. 12+00 TO 13+70 RT

DETAIL 2
CUT DITCH
(Not to Scale)

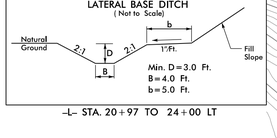


Min. D=1.5 Ft.
d=1.5 Ft.

Type of Liner= CLASS B Rip-Rap, Keyed-In

–L– STA. 14+00 TO 16+00 LT
–L– STA. 16+50 TO 19+33 LT
–Y– STA. 11+75 TO 13+00 RT

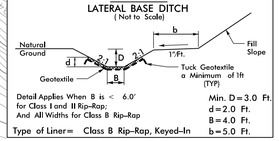
DETAIL 3
LATERAL BASE DITCH
(Not to Scale)



Min. D=3.0 Ft.
B=4.0 Ft.
b=5.0 Ft.

–L– STA. 20+97 TO 24+00 LT

DETAIL 8
LATERAL BASE DITCH
(Not to Scale)



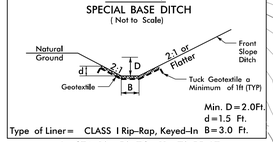
Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap

Min. D=3.0 Ft.
d=2.0 Ft.
B=4.0 Ft.
b=5.0 Ft.

Type of Liner= Class B Rip-Rap, Keyed-In

–L– STA. 20+68 TO 20+97 LT

DETAIL 9
SPECIAL BASE DITCH
(Not to Scale)



Min. D=2.0Ft.
d=1.5 Ft.
B=3.0 Ft.

Type of Liner= CLASS I Rip-Rap, Keyed-In

–L– STA. 10+50 TO 11+72.55 LT

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 04

PROJECT REFERENCE	SHEET NO.
17BP.9.R.83 – STOKES 286	EC-04/CONST.04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	VHB ENGINEERING LICENSE NO. C-3705

Prepared in the Office of:
MOTT MACDONALD
7621 Parfay Road, Suite 115
Fuquay-Varina, NC 27526
www.mottmac.com/americas

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

NAD 83/NA 2011

BEGIN PROJECT 17BP.9.R.83
–L– POT Sta. 10+50.00

–Y– POT Sta. 10+00.00

BEGIN CONSTRUCTION
–Y– POT Sta. 10+25.00

–Y– PC Sta. 10+38.75

–Y– PCC Sta. 11+64.65

–Y– PT Sta. 12+56.47

–L– PT Sta. 20+77.48

–L– POT Sta. 10+00.00

–L– PC Sta. 13+17.90

–L– POC Sta. 19+69.00
–Y– POT Sta. 13+50.00

–L– PT Sta. 21+50.00
–Y1– POT Sta. 10+00.00

–Y1– PC Sta. 10+46.88

–Y1– PT Sta. 11+22.05

END CONSTRUCTION
–Y1– POT Sta. 12+25.00

S 0° 24' 01.9" E

S 61° 04' 04.5" E

S 39° 17' 39.0" W

S 50° 42' 21.0" E

S 10° 34' 56.6" W

1 RAY ALTON BOWEN

2 REEPCO, INC.

3 KATHY B. DUTTON

4 NEWBERRY LAND COMPANY, LLC

5 STOKES COUNTY

6 J. C. CAMPBELL AND KATHERINE M. CAMPBELL

7 RAY ALTON BOWEN
DEBRA B. BOWEN
AMY B. GORDON
JEFFERY TODD GORDON

8 JOHN D. PHILLIPS

9 CHARLES DEAN BREWSTER

SITE 1
TRENCHLESS INSTALLATION 24" WELDED STEEL
0403
50' TAPER
26'
SPECIAL BASE DITCH SEE DETAIL 9 EST. 130 TONS RIP RAP EST. 265 SY GEOTEXTILE
LATERAL BASE DITCH SEE DETAIL 1 EST. 160 TONS RIP RAP EST. 320 SY GEOTEXTILE EST. 425 CY DDE
SPECIAL CUT DITCH SEE DETAIL 2 EST. 95 TONS RIP RAP EST. 305 SY GEOTEXTILE
CLASS I RIP RAP EST. 4 TONS EST. 10 SY GEOTEXTILE
SPECIAL CUT DITCH SEE DETAIL 2 EST. 195 TONS RIP RAP EST. 620 SY GEOTEXTILE
0401
0402
0404
0405
0406
0407
0410
0411
REMOVE
15" RCP
SITE 2
BEGIN JS
LATERAL BASE DITCH SEE DETAIL 1 EST. 180 TONS RIP RAP EST. 365 SY GEOTEXTILE EST. 510 CY DDE
SITE 2 / 2A BREAK IS AT 15" RCP
SITE 2A cont.
TO PERCH ROAD
TO SAND RIDGE ROAD
CLASS B RIP RAP EST. 3 TONS EST. 11 SY GEOTEXTILE
JS EXTENDS BEYOND STUDY AREA
CLASS II RIP RAP ALONG RIVER BANKS & FILL IN EXISTING STREAM CHANNEL EST. 1250 TONS EST. 800 SY GEOTEXTILE
CLASS II RIP RAP UP TO ELEV. 843.2' (TYP.) (STRUCTURE PAY ITEM)
SITE 3
LATERAL BASE DITCH SEE DETAIL 8 EST. 35 TONS RIP RAP EST. 65 SY GEOTEXTILE EST. 55 CY DDE
CLASS B RIP RAP EST. 3 TONS EST. 10 SY GEOTEXTILE
CLASS B RIP RAP EST. 2 TONS EST. 7 SY GEOTEXTILE
LATERAL BASE DITCH SEE DETAIL 3 EST. 865 CY DDE
BEGIN SBG +50 LT
BEGIN SBG +00 RT
15" W/ELBOWS
GREU TL-1
GREU TL-2
GREU TL-3
TEMPORARY SHORING WALL 1 (SEE TMP. PLANS)
TIE TO EXIST GR
SITE 4
FLOATING TURBIDITY CURTAIN
GRADE TO DRAIN (SEE X-SECTIONS)
REMOVE
TO BEAR CREEK CHURCH ROAD
MATCHLINE SEE SHEET 5 -L- STA 23+70.00

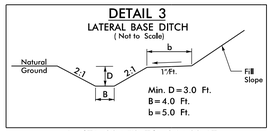
ALL DRIVE RADII ARE 10' UNLESS NOTED OTHERWISE

NOTE:
TYPE–III ANCHOR UNITS ON ALL FOUR BRIDGE CORNERS

USER:default
...\Stokes286_REU_psh04_CG.dgn
$$DATE$$ 7/31/2024

*DESIGN EXCEPTION:
SAG VERTICAL CURVE K
VERTICAL SSD

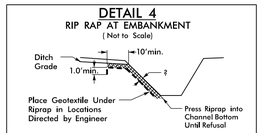
DETAIL 3
LATERAL BASE DITCH
(Not to Scale)



Min. D=3.0 Ft.
B=4.0 Ft.
b=5.0 Ft.

–L– STA. 20+70 TO 24+00 LT

DETAIL 4
RIP RAP AT EMBANKMENT
(Not to Scale)

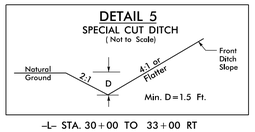


Type of Liner= CLASS II Rip-Rap, Keyed-In

–L– STA. 23+88 TO 24+08 LT
–L– STA. 24+55 TO 24+82 LT

NAD 83/NA 2011

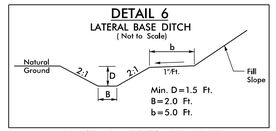
DETAIL 5
SPECIAL CUT DITCH
(Not to Scale)



Min. D=1.5 Ft.

–L– STA. 30+00 TO 33+00 RT

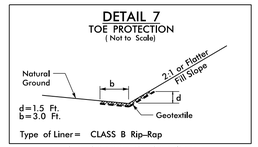
DETAIL 6
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

–L– STA. 24+66 TO 27+00 LT

DETAIL 7
TOE PROTECTION
(Not to Scale)



Type of Liner= CLASS B Rip-Rap

–L– STA. 34+00 TO 34+60 LT

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 05

PROJECT REFERENCE	SHEET NO.
17BP.9.R.83 – STOKES 286	EC-05/CONST.05

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	VHB ENGINEERING LICENSE NO. C-3705

Prepared in the Office of:
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7621 Purfoy Road, Suite 115
Fuquay-Varina, NC 27526
www.mottmac.com/americas

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

4
NEWBERRY LAND COMPANY, LLC

49 x 23 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 5.1

10
CHRISTOPHER L. HARRISON AND
JACLYN M. AVERY-HARRISON

25+00
30+00
35+00

RIP RAP EMBANKMENT
SEE DETAIL 4
EST. 90 TONS RIP RAP
EST. 150 SY GEOTEXTILE

FLOATING TURBIDITY CURTAIN

SITE 4

CLASS B RIP RAP
EST. 2 TONS
EST. 7 SY GEOTEXTILE

END SBG
L+03 LT

15 INCH TEMPORARY PIPE

-L- PC Sta. 29+78.24

BEGIN EWG
+76 LT

-L- PT Sta. 33+37.35

CLASS B RIP RAP
EST. 2 TONS
EST. 7 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL 7
EST. 60 TONS RIP RAP
EST. 95 SY GEOTEXTILE

SITE 5

AREA HAS BEEN LOGGED

LATERAL BASE DITCH
SEE DETAIL 6
EST. 620 CY DDE

END EWG
+34 LT

S 58° 01' 40.9" E

TO CHESNUT GROVE ROAD

-L- POT Sta. 36+85.00

END SBG
+30

S 50° 42' 21.0" E

GRADE TO DRAIN
(SEE X-SECTIONS)

SR 1236 N.OLD US 52
22' BST

SPECIAL CUT DITCH
SEE DETAIL 5

50' TAPER

END PROJECT 17BP.9.R.83
-L- POT Sta. 36+00.00

MATCHLINE SEE SHEET 4
-L- STA 23+70.00

CLASS II RIP RAP
UP TO ELEV. 843.2' (TYP.)
(STRUCTURE PAY ITEM)

CLASS B RIP RAP
EST. 15 TONS
EST. 25 SY GEOTEXTILE

TEMPORARY SHORING
WALL #2
(SEE TMP PLANS)

CLASS II RIP RAP
ALONG RIVER BANKS & FILL
IN EXISTING ROADWAY DITCH
EST. 950 TONS
EST. 580 SY GEOTEXTILE

LITTLE FISHING RIVER

CULTIVATED FIELD

TEMPORARY ACCESS
SEE DETAIL 8

SITE 4A

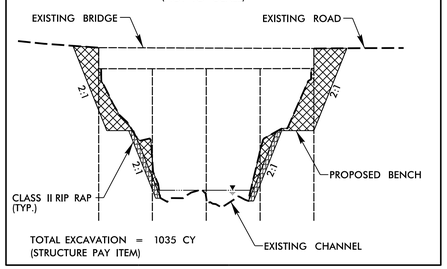
12
CHARLES O. DALTON FAMILY, LLC

11
J. C. CAMPBELL AND
KATHERINE M. CAMPBELL

9
CHARLES
DEAN
BREWSTER

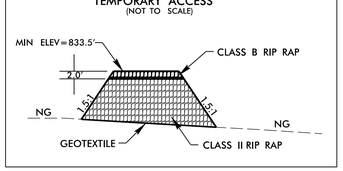
NAIL SET TO PIERS
OLD BRIDGE

EMBANKMENT EXCAVATION DETAIL
(NOT TO SCALE)



TOTAL EXCAVATION = 1035 CY
(STRUCTURE PAY ITEM)

DETAIL 8
TEMPORARY ACCESS
(NOT TO SCALE)



NOTE:
TYPE-III ANCHOR UNITS ON
ALL FOUR BRIDGE CORNERS

ALL DRIVE RADII ARE 10'
UNLESS NOTED OTHERWISE

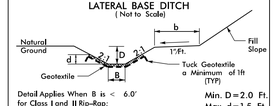
USER:default
...\Stokes286_REU_psh05_CG.dgn
$$DATE$$
7/31/2024

PROJECT REFERENCE	SHEET NO.
17BP.9.R.83 – STOKES 286	EC-06/CONST.04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	VHB ENGINEERING LICENSE NO. C-3705

Prepared in the Office of:
MOTT MACDONALD
7621 Purfoy Road, Suite 115
Fuquay-Varina, NC 27526
www.mottmac.com/americas

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

DETAIL 1
LATERAL BASE DITCH
(Not to Scale)

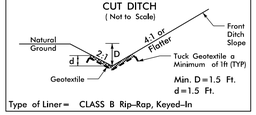


Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap
Min. D = 2.0 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

Type of Liner = CLASS I Rip-Rap, Keyed-In

–L– STA. 11+72.55 TO 13+22 LT
–L– STA. 12+00 TO 13+70 RT

DETAIL 2
CUT DITCH
(Not to Scale)

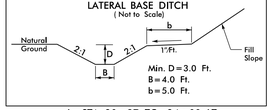


Min. D = 1.5 Ft.
d = 1.5 Ft.

Type of Liner = CLASS B Rip-Rap, Keyed-In

–L– STA. 14+00 TO 16+00 LT
–L– STA. 16+50 TO 19+33 LT
–Y– STA. 11+75 TO 13+00 RT

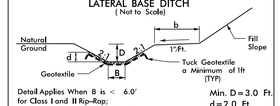
DETAIL 3
LATERAL BASE DITCH
(Not to Scale)



Min. D = 3.0 Ft.
B = 4.0 Ft.
b = 5.0 Ft.

–L– STA. 20+97 TO 24+00 LT

DETAIL 8
LATERAL BASE DITCH
(Not to Scale)

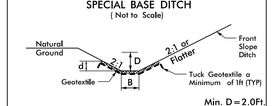


Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap
Min. D = 3.0 Ft.
d = 2.0 Ft.
B = 4.0 Ft.
b = 5.0 Ft.

Type of Liner = Class B Rip-Rap, Keyed-In

–L– STA. 20+68 TO 20+97 LT

DETAIL 9
SPECIAL BASE DITCH
(Not to Scale)



Min. D = 2.0Ft.
d = 1.5 Ft.
B = 3.0 Ft.

Type of Liner = CLASS I Rip-Rap, Keyed-In

–L– STA. 10+50 TO 11+72.55 LT

NAD 83/NA 2011

BEGIN PROJECT 17BP.9.R.83
–L– POT Sta. 10+50.00

–L– POT Sta. 10+00.00

–Y– POT Sta. 10+00.00

BEGIN CONSTRUCTION
–Y– POT Sta. 10+25.00

–Y– PC Sta. 10+38.75

–Y– PCC Sta. 11+64.65

–Y– PT Sta. 12+56.47

–L– PT Sta. 20+77.48

JS EXTENDS BEYOND STUDY AREA

–L– PC Sta. 13+17.90

–L– POC Sta. 19+69.00
–Y– POT Sta. 13+50.00

–L– PT Sta. 21+50.00
–Y1– POT Sta. 10+00.00

–Y1– PC Sta. 10+46.88

–Y1– PT Sta. 11+22.05

END CONSTRUCTION
–Y1– POT Sta. 12+25.00

1 RAY ALTON BOWEN

2 REEPCO, INC.

3 KATHY DUTTON

4 NEWBERRY LAND COMPANY, LLC

5 STOKES COUNTY

6 J. C. CAMPBELL AND KATHERINE M. CAMPBELL

7 RAY ALTON BOWEN
DEBRA B. BOWEN
AMY B. GORDON
JEFFERY TODD GORDON

8 JOHN D. PHILLIPS

9 CHARLES DEAN BREWSTER

SITE 1
TRENCHLESS INSTALLATION
24" WELDED STEEL

SITE 2
SITE 2A cont.
SITE 2 /2A BREAK IS AT 15" RCP
SITE 3
SITE 4

LATERAL BASE DITCH
SEE DETAIL 1
EST. 160 TONS RIP RAP
EST. 320 SY GEOTEXTILE
EST. 425 CY DDE

LATERAL BASE DITCH
SEE DETAIL 1
EST. 180 TONS RIP RAP
EST. 365 SY GEOTEXTILE
EST. 510 CY DDE

SPECIAL CUT DITCH
SEE DETAIL 2
EST. 95 TONS RIP RAP
EST. 305 SY GEOTEXTILE

CLASS I RIP RAP
EST. 4 TONS
EST. 10 SY GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL 2
EST. 195 TONS RIP RAP
EST. 620 SY GEOTEXTILE

SPECIAL BASE DITCH
SEE DETAIL 9
EST. 130 TONS RIP RAP
EST. 265 SY GEOTEXTILE

CLASS B RIP RAP
EST. 3 TONS
EST. 11 SY GEOTEXTILE

CLASS B RIP RAP
EST. 3 TONS
EST. 10 SY GEOTEXTILE

CLASS B RIP RAP
EST. 2 TONS
EST. 7 SY GEOTEXTILE

LATERAL BASE DITCH
SEE DETAIL 8
EST. 35 TONS RIP RAP
EST. 65 SY GEOTEXTILE
EST. 55 CY DDE

LATERAL BASE DITCH
SEE DETAIL 3
EST. 865 CY DDE

CLASS II RIP RAP
ALONG RIVER BANKS & FILL
IN EXISTING STREAM CHANNEL
EST. 1250 TONS
EST. 800 SY GEOTEXTILE

CLASS II RIP RAP
UP TO ELEV. 843.2' (TYP.)
(STRUCTURE PAY ITEM)

FILL WITH FLOWABLE FILL

TEMPORARY SHORING WALL #1 (SEE TMP PLANS)

BEGIN SBG +50 LT W/ELBOW

BEGIN JS

REMOVE

GRADE TO DRAIN (SEE X-SECTIONS)

GREU TL-3

GREU TL-2

PROPOSED TOP OF BANK

TIE TO EXIST GR

MATCHLINE SEE SHEET 5
-L- STA 23+70.00

ALL DRIVE RADII ARE 10' UNLESS NOTED OTHERWISE

NOTE:
TYPE-III ANCHOR UNITS ON ALL FOUR BRIDGE CORNERS

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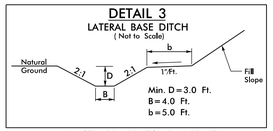
$$DATE$$ 7/31/2024

*DESIGN EXCEPTION:
SAG VERTICAL CURVE K
VERTICAL SSD

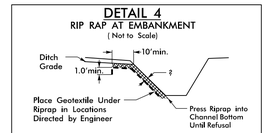
DETAIL 3
LATERAL BASE DITCH
(Not to Scale)



Min. D=3.0 Ft.
B=4.0 Ft.
b=5.0 Ft.

–L– STA. 20+70 TO 24+00 LT

DETAIL 4
RIP RAP AT EMBANKMENT
(Not to Scale)

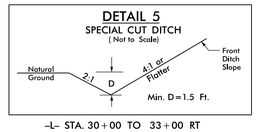


Type of Liner= CLASS II Rip-Rap, Keyed-In

–L– STA. 23+88 TO 24+08 LT
–L– STA. 24+55 TO 24+82 LT

NAD 83/NA 2011

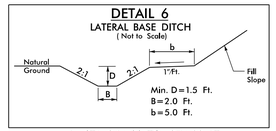
DETAIL 5
SPECIAL CUT DITCH
(Not to Scale)



Min. D=1.5 Ft.

–L– STA. 30+00 TO 33+00 RT

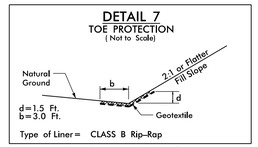
DETAIL 6
LATERAL BASE DITCH
(Not to Scale)



Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.

–L– STA. 24+66 TO 27+00 LT

DETAIL 7
TOE PROTECTION
(Not to Scale)



d=1.5 Ft.
b=3.0 Ft.

Type of Liner= CLASS B Rip-Rap

–L– STA. 34+00 TO 34+60 LT

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 27+75 to Sta. 33+25 LT

Contractor to Stage Seed Slope From
Sta. 27+75 to Sta. 33+25 LT

PROJECT REFERENCE	SHEET NO.
17BP.9.R.83 – STOKES 286	EC-07/CONST.05

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	VHB ENGINEERING LICENSE NO. C-3705

Prepared in the Office of:
MOTT MACDONALD
7621 Purfoy Road, Suite 115
Fuquay-Varina, NC 27526
www.mottmac.com/americas

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

4
NEWBERRY LAND COMPANY, LLC

49 x 23 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 5.1

10
CHRISTOPHER L. HARRISON AND
JACLYN M. AVERY-HARRISON

25+00
30+00
35+00

RIP RAP EMBANKMENT
SEE DETAIL 4
EST. 90 TONS RIP RAP
EST. 150 SY GEOTEXTILE

SITE 4

CLASS B RIP RAP
EST. 2 TONS
EST. 7 SY GEOTEXTILE

END SBG
+03 LT

-L- PC Sta. 29+78.24

BEGIN EWG
+76 LT

-L- PT Sta. 33+37.35

CLASS B RIP RAP
EST. 2 TONS
EST. 7 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL 7
EST. 60 TONS RIP RAP
EST. 95 SY GEOTEXTILE

SITE 5

END EWG
+34 LT

S 58° 01' 40.9" E

TO CHESNUT GROVE ROAD

-L- POT Sta. 36+85.00

END SBG
+30

S 50° 42' 21.0" E

LATERAL BASE DITCH
SEE DETAIL 6
EST. 620 CY DDE

GRADE TO DRAIN
(SEE X-SECTIONS)

REMOVE

GRADE TO DRAIN
(SEE X-SECTIONS)

SPECIAL CUT DITCH
SEE DETAIL 5

50' TAPER

END PROJECT 17BP.9.R.83
-L- POT Sta. 36+00.00

MATCHLINE SEE SHEET 4
-L- STA 23+70.00

CLASS II RIP RAP
UP TO ELEV. 843.2' (TYP.)
(STRUCTURE PAY ITEM)

CLASS B RIP RAP
EST. 15 TONS
EST. 25 SY GEOTEXTILE

TEMPORARY SHORING
WALL #2
(SEE TMP PLANS)

CLASS II RIP RAP
ALONG RIVER BANKS & FILL
IN EXISTING ROADWAY DITCH
EST. 950 TONS
EST. 580 SY GEOTEXTILE

LITTLE YADKIN RIVER

CULTIVATED FIELD

WOODS

ROCK OUTCROPPING

SR 1236 N.OLD US 52
22' BST

EXISTING R/W

AREA HAS BEEN LOGGED

MTL GATE

GREU TL-3

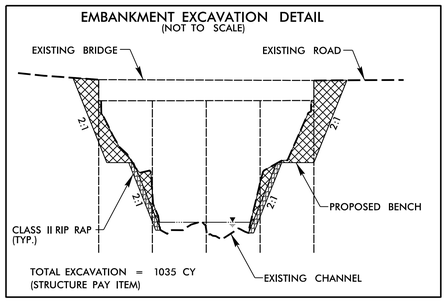
11
J. C. CAMPBELL AND
KATHERINE M. CAMPBELL

9
CHARLES DEAN BREWSTER

OLD BRIDGE PIERS

12
CHARLES O. DALTON FAMILY, LLC

EMBANKMENT EXCAVATION DETAIL
(NOT TO SCALE)



TOTAL EXCAVATION = 1035 CY
(STRUCTURE PAY ITEM)

NOTE:
TYPE-III ANCHOR UNITS ON
ALL FOUR BRIDGE CORNERS

ALL DRIVE RADII ARE 10'
UNLESS NOTED OTHERWISE

USER:default
..\Stokes286_REU_psh05_Final.dgn
$$DATE$$ 7/31/2024