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TIP PROJECT: U-3422B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

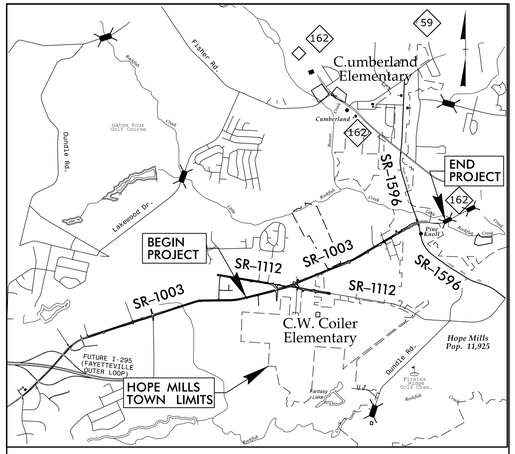
CUMBERLAND COUNTY

LOCATION: SR 1003 (Camden Road) from just West of Rockfish Rd (SR 1112) To Hope Mills Road (SR 1596)

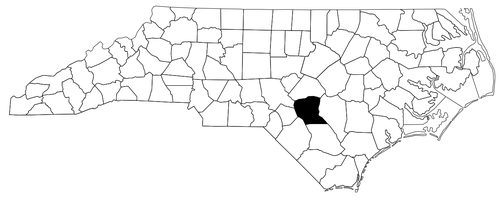
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS

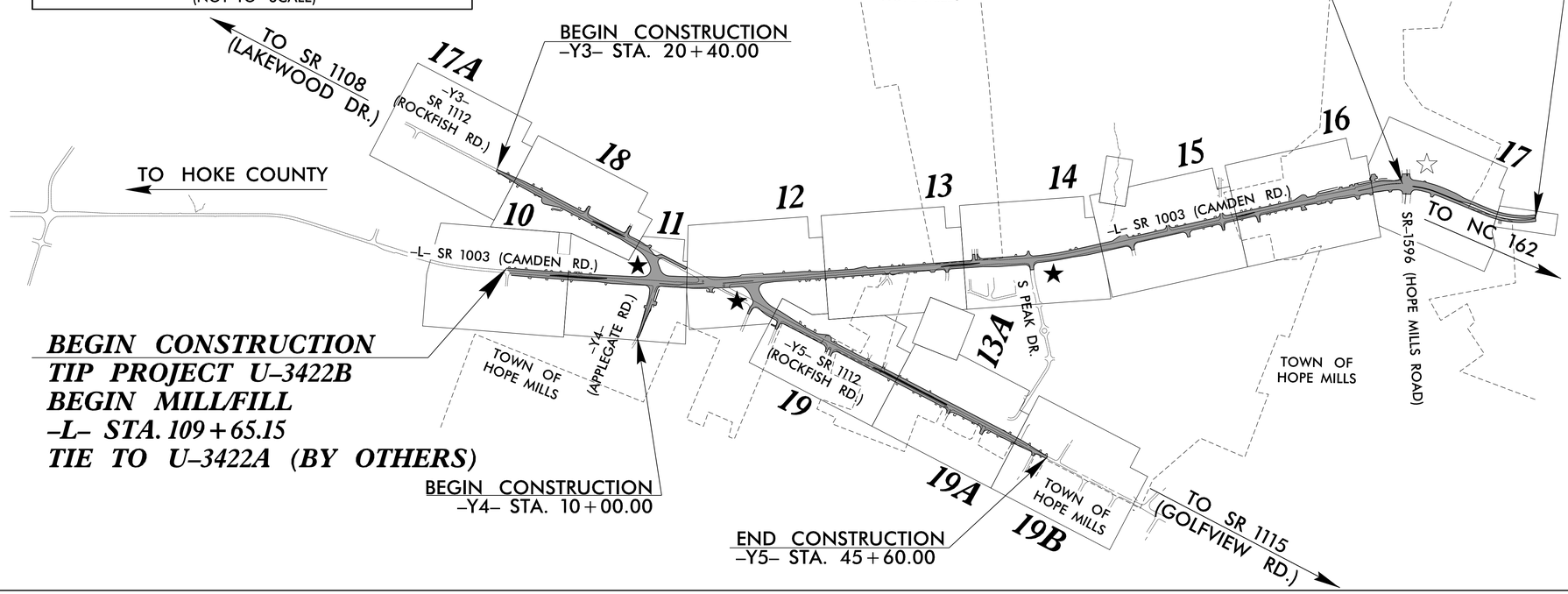
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422B	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39001.1.2		P.E.
39001.2.5	STP-1003 (179)	ROW
39001.2.2	STP-1003 (179)	UTILITIES
39001.3.3		CONSTRUCTION



VICINITY MAP
(NOT TO SCALE)





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

GRAPHIC SCALE

50 25 0 50 100
PLANS

THE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-01000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARMENT OF ENVIROMENTAL QUALITY OF ENERGY, MINERAL AND LAND RESOURCES

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

Prepared in the Office of:
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

2024 STANDARD SPECIFICATIONS

Designed by:

David R. Wagner II, PE *4286*
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 revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

10/1/2026
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

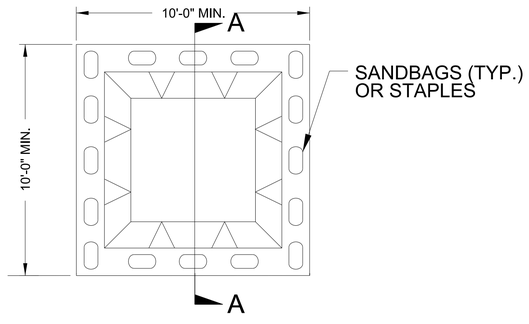
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer 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—

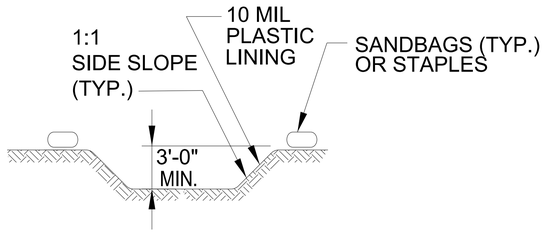
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A



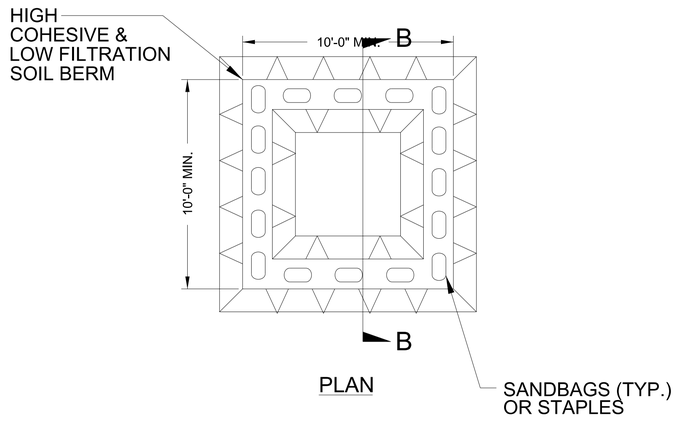
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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.

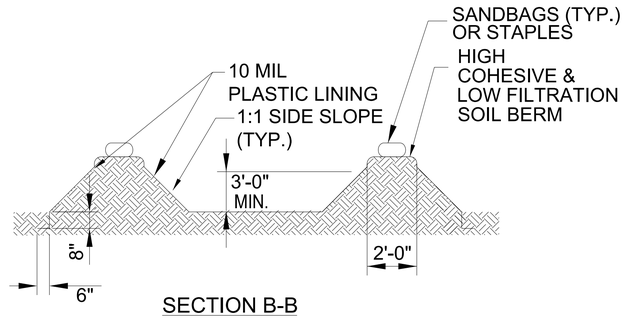
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

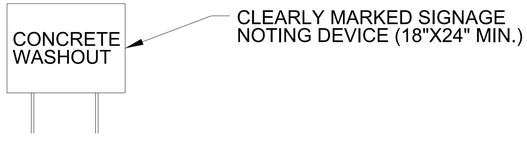
NOT TO SCALE



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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

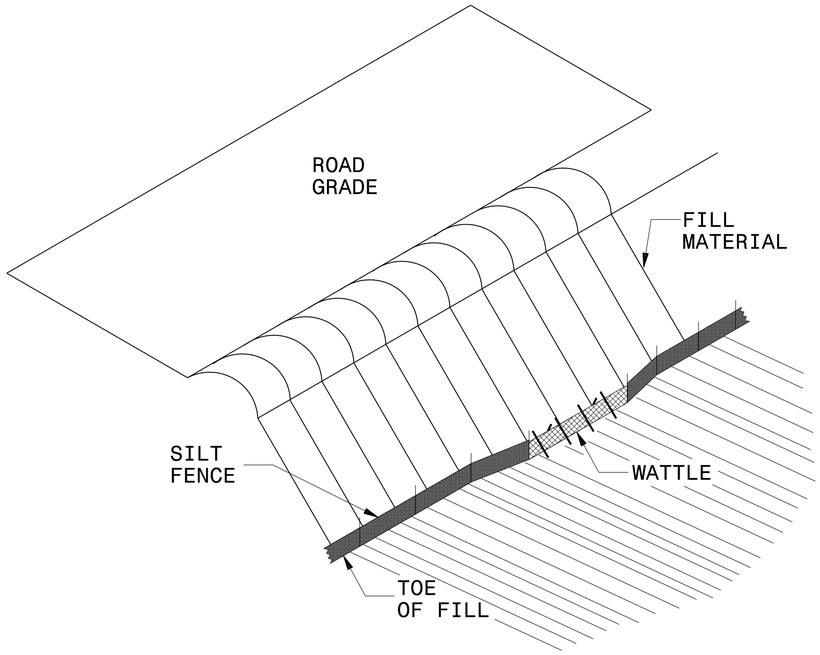
ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

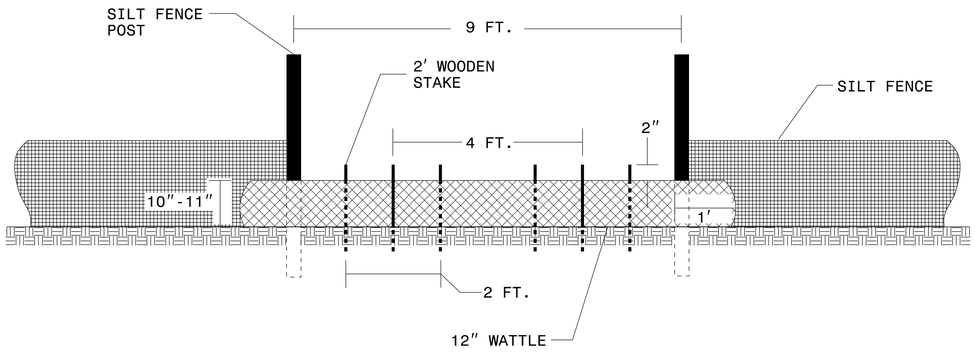
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

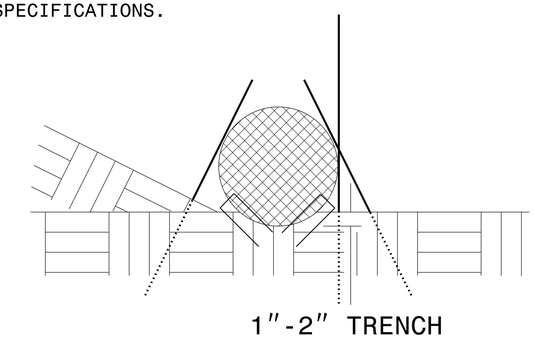
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

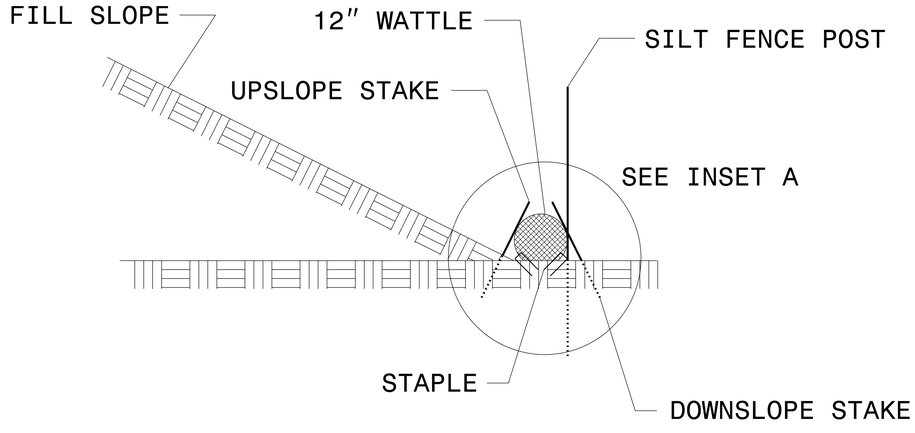
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





SIDE VIEW

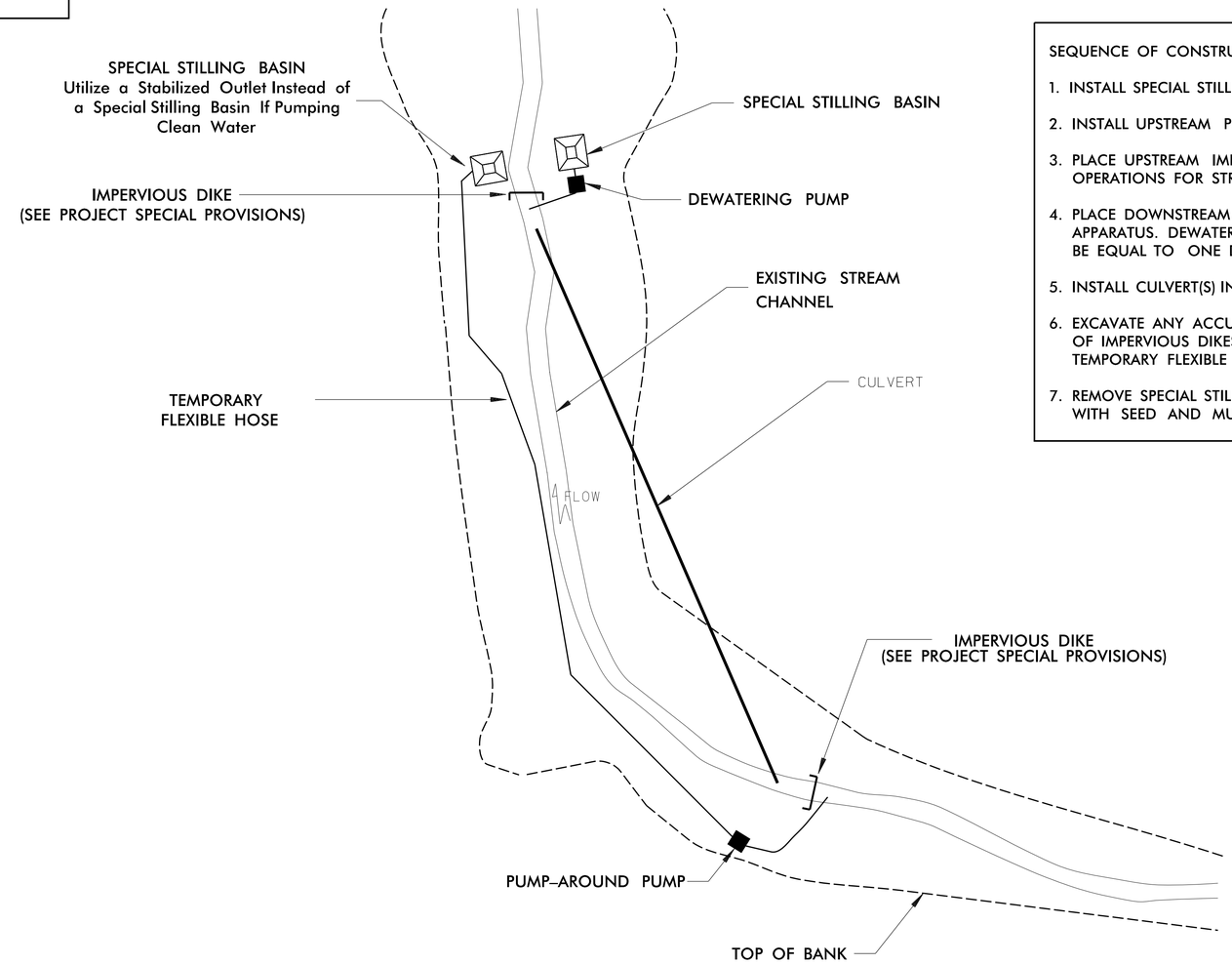
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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 and quantity to dewater the work area and maintain stream bypass flow.



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.

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BORROW PIT DEWATERING DETAIL

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING V = 8.0203 * Q * T, WHERE V IS VOLUME (FT^3), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1640-14.

PROVIDE 5′ STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3′ OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12″ STAPLES.

INSTALL TYPE 2 GEOTEXTILE ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

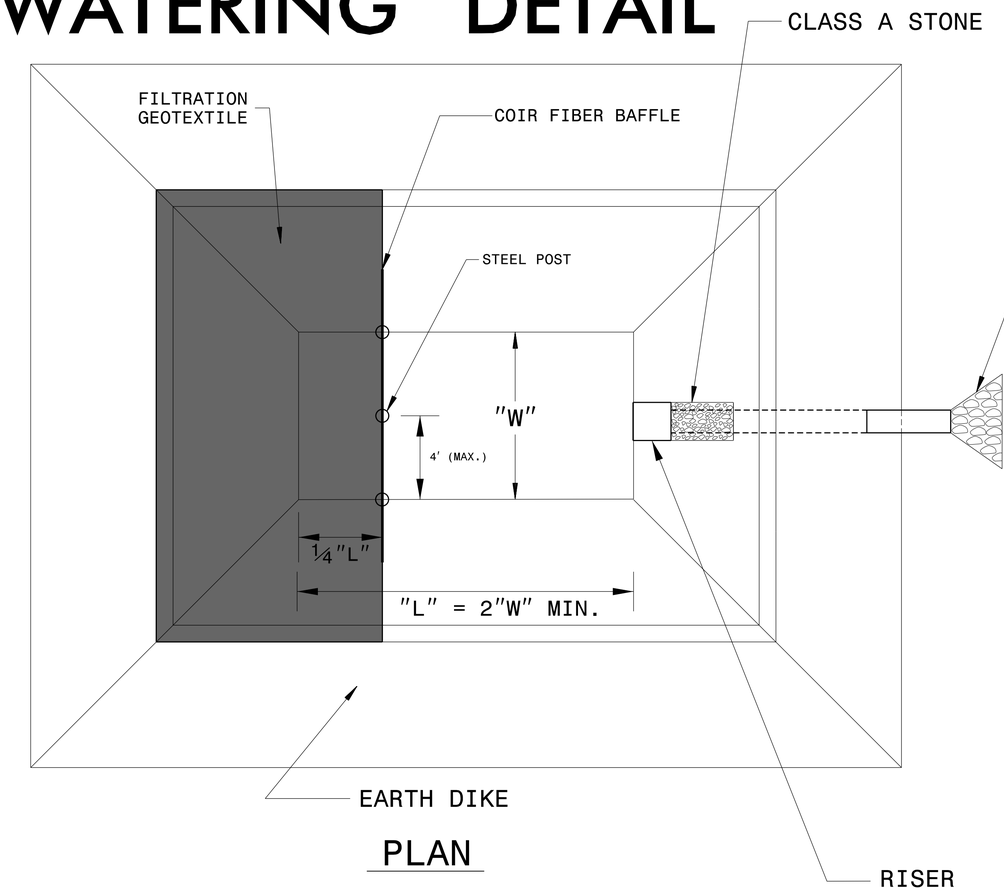
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

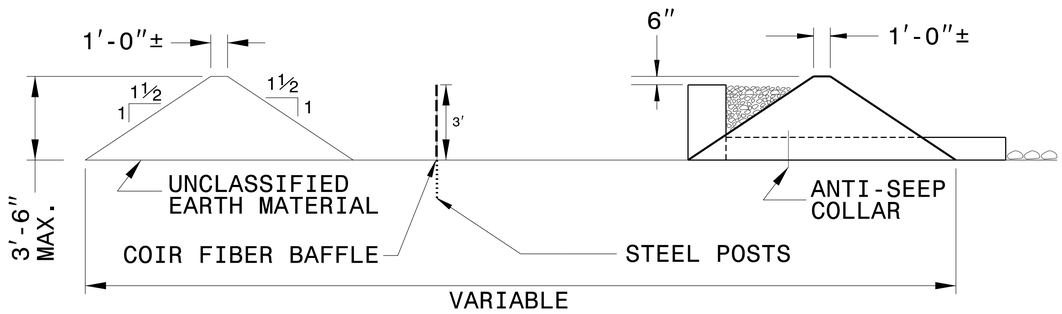
SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



PLAN



TYPICAL SECTION VIEW

NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING ON DITCHES – STRAW

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
12	-Y5-	10+75	12+25	RT	115
12	-Y5-	12+80	13+67	RT	70
12	-Y5-	13+67	15+00	RT	105
15	-L-	170+95	171+73	LT	1200
15	-L-	182+31	182+75	LT	320
	TOTAL MATTING FOR DITCHES - STRAW				1810 SY

MATTING FOR SLOPES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
12	-Y5-	11+50	14+50	LT	550
12	-Y5-	11+50	14+50	RT	750
15	-L-	170+00	172+00	LT	500
19	-Y5-	14+50	20+00	LT	775
19	-Y5-	14+50	20+00	RT	975
		TOTAL FOR SLOPES			3550 SY
		TOTAL FOR DITCHES			1810 SY
		TOTAL FOR SLOPES			3550 SY
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				10,000 SY
			OVERALL TOTAL		15,360
				SAY	16,000

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-3A
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

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC04/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

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

NAD 83/2011

MATCHLINE SHEET 11 –L– STA. 116+00.00

NOTE: PLAN SHEETS 4 THRU 9 HAVE BEEN REMOVED.
SEE U-3422A FOR PLANS.

SEE SHEET 20 FOR –L– PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC05/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NAD 83/2011

2017 ADT
2040 ADT
(ADT IN 100's)

187 / 223 — SR 1003 CAMDEN RD — 6 / 7
201 / 238 — SR 1003 CAMDEN RD — 20 / 22 / 26 / 29
APPLEGATE RD

MATCHLINE SHEET 10 –L– STA. 116+00.00

MATCHLINE SHEET 12 –L– STA. 128+00.00

MATCHLINE SHEET 18 –Y3– STA. 36+50.00

–L– PT Sta. 120+78.18

–Y3– PC Sta. 40+61.90

–DI– PC Sta. 10+70.98

–DI– PT Sta. 11+12.27

–DI– POT Sta. 13+85.00

40+00 (–Y3–)

–L– PC Sta. 126+63.17

15+00 (–Y4–)

–Y4– POT Sta. 15+99.97 = –L– POT Sta. 124+93.10

–Y3– POT Sta. 40+90.80 = –L– POT Sta. 124+93.14

–Y4– PT Sta. 11+15.00

–Y4– PC Sta. 10+00.00

N 74°42'02.5" E

S 80°51'34.2" E

S 15°17'57.5" E

N 0°13'28.2" W

S 45°22'29.6" E

120+00

125+00

100 STUART HITE, ET UX DB 2590 PG 325

110 ARMERLINE KING DB 9270 PG 704

111 MICHAEL MANGUM, ET AL DB 4564 PG 59 PB 92 PG 187

112 NEW LIFE BAPTIST CHURCH OF FAYETTEVILLE TRUSTEES DB 7211 PG 398 DB 9523 PG 11 PB 92 PG 187

113 CAM ROCKS, LLC DB 8348 PG 101 DB 9513 PG 790 PB 123 PG 29

114 STARLETH WOODLE DB 2628 PG 441

115 AGNES K. LOWDER TRUSTEE DB 5593 PG 492

116 THOMAS L. WILLIAMS DB 8749 PG 543

117 CROSSROAD PROPRIETARY INVESTMENTS, LLC. DB 11524 PG 103

118 LAJOS GOCZAN DB 6515 PG 18

119 FADHL ALHOBISHI DB 9890 PG 899

120 STONEY POINT BAPTIST CHURCH, INC. DB 8983 PG 476

232 MARION R. STARNES, ET UX DB 9225 PG 649 PB 139 PG 12

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

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

PAVEMENT REMOVAL

★ PROPOSED SIGNAL
SEE SHEET 2B–1 FOR DETAIL VIEW
SEE SHEET 20 FOR –L– PROFILE
SEE SHEET 25 FOR –Y3– PROFILE
SEE SHEET 25 FOR –Y4– PROFILE
SEE SHEET 27 FOR –D1– PROFILE

REVISIONS

9/30/2021: ROW AND TCE REVISED; PARCEL 113
3/25/2022: PARCELS 100, 111, 119 PUE REMOVED; PARCELS 112, 116, 117 PUE REVISED; PARCELS 116, 120 TCE REVISED; PARCELS 100, 111–112, 117 TCE ADDED; PARCELS 111, 117 TUE ADDED; PARCELS 100, 111 DUE REMOVED; PARCELS 100, 111 PDE ADDED
8/1/2022: PARCELS 112, 113, & 117 PUE REVISED; PARCELS 112, 113, & 232 TCE REVISED; PARCEL 113 DUE REVISED; PARCEL 232 PUE REMOVED
1/31/2023: PARCEL 113 ROW REVISED, DUE REVISED, TCE REVISED
4/19/2023: PARCEL 117 TCE REVISED

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt PENTABLE: NCDOT_EC_C&G BW.tbl
USER: DWAGNER DATE: 8/21/2026 TIME: 10:51:30 AM
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC06/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

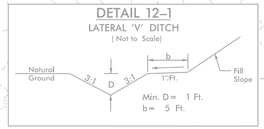
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 12

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

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED BY THE ENGINEER TO AVOID IMPOUNDING RUNOFF IN ROADWAYS OPEN TO TRAFFIC.

DETAIL 12–1
LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 10+75 TO STA. 12+25 –Y5– RT
FROM STA. 12+80 TO STA. 15+00 –Y5– RT

DETAIL 12–2
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+40 TO STA. 11+09 –D2– LT

NAD 83/2011

MATCHLINE SHEET 11 –L– STA. 128+00.00

MATCHLINE SHEET 13 –L– STA. 142+00.00

SHEET 19 –Y5– MATCHLINE STA. 14+50.00

–Y5– POT Sta. 10+00.00 = –L– POT Sta. 134+13.79

–L– PT Sta. 132+67.97

–Y5– PC Sta. 11+65.60

–Y5– POT Sta. 12+39.47 = –D2– POT Sta. 12+00.00

–Y5– PT Sta. 14+32.78

–D2– POT Sta. 12+00.00
N 37° 04' 17.0" E

–D2– PT Sta. 11+95.67

–D2– POT Sta. 10+00.00

–D2– PC Sta. 10+53.74

★ PROPOSED SIGNAL
SEE SHEET 2B–2 FOR DETAIL VIEW
SEE SHEETS 20 AND 21 FOR –L– PROFILE
SEE SHEET 26 FOR –Y5– PROFILE
SEE SHEET 27 FOR –D2– PROFILE

REVISIONS	
3/5/2022:	PARCELS 122, 124–125, 127–130 PUE REMOVED; PARCELS 123, 126, 131, 134 PUE REVISED; PARCEL 123, 127–128, 130 TCE REVISED; PARCEL 129 DUE REMOVED; PARCEL 134 TCE ADDED; PARCEL 123 TUE ADDED; PARCELS 123, 128–129 DUE REMOVED; PARCEL 122 DUE REVISED
8/1/2022:	PARCEL 128 ADDED
8/10/2022:	PARCEL 13 & 130 TCE REVISED; PARCELS 113 & 131 PUE REVISED; PARCEL 130 PUE ADDED
3/14/2023:	PARCEL 134 ADDED; PARCEL 133 REMOVED
3/15/2023:	PARCELS 128–130 CHANGED TO PARCEL 127
3/21/2023:	PARCELS 124 & 125 PUE ADDED AND TCE REVISED

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC07/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

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

NAD 83/2011

MATCHLINE SHEET 12 –L– STA. 142+00.00

MATCHLINE SHEET 14 –L– STA. 156+00.00

MATCHLINE BB SHEET 13A

SEE SHEET 2B–3 FOR BULB–OUT DETAIL VIEW
SEE SHEET 21 FOR –L– PROFILE

REVISIONS

3/25/2022: PARCELS 146–152,155 DUE REMOVED; PARCELS 152,155,159 PUE REMOVED; PARCELS 150,153,154,156,158 PUE REVISED; PARCEL 151,153,154,155 TCE REVISED; PARCEL 150,152 TCE ADDED; PARCELS 146–151,155 PDE ADDED
8/1/2022: PARCEL 146 PDE REVISED; PARCELS 147, 149, 151, 152, 154, & 156 OWNER CHANGE; PARCELS 148 & 155 REMOVED
3/21/2023: PARCEL 140 PUE REVISED

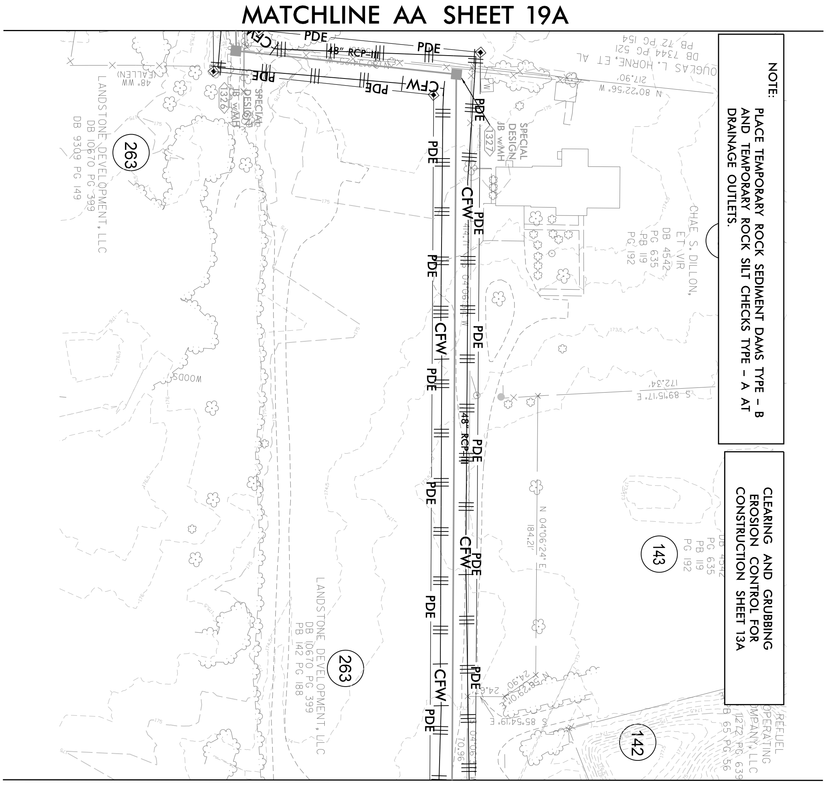
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REVISIONS	
9/30/2021:	PARCEL BOUNDARY REVISED; PARCEL 143
7/31/2023:	SEPARATE PARCEL 143A ASSIGNED FROM PARCEL 143

MATCHLINE AA SHEET 19A



MATCHLINE BB SHEET 13

NAD 83/2011

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N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-7ACONST.13A

RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC08/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 14

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

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NAD 83/2011

MATCHLINE SHEET 13 –L– STA. 156+00.00

MATCHLINE SHEET 15 –L– STA. 170+00.00

KENSINGTON VILLAGE HOMEOWNERS ASSOCIATION OF FAYETTEVILLE, INC. PB 97 PG 69

JAE KUN CHOE DB 6426 PG 830 PB 97 PG 69

JOHN S. CARRO DB 7605 PG 757 PB 97 PG 69

WICHAI LEECHAROEN, ET UX DB 9669 PG 524 PB 97 PG 69

AUTRIE L. PERRY, ET UX DB 5758 PG 500 PB 97 PG 69

ANGELA TYNDALL DB 9105 PG 292 PB 7 PG 78

DANIEL N. NORTON, ET UX DB 2594 PG 169 PB 7 PG 78

GARDNER HOLDINGS, LLC. DB 1139 PG 378 PB 7 PG 78

LANDSTONE, LLC DB 11235 PG 753 PB 125 PG 194

LANDSTONE, LLC DB 8064 PG 809 PB 124 PG 175

CYNDI LEE MCKINNEY DB 10566 PG 386 PB 125 PG 194

MDC NC3, LP DB 11314 PG 405 DB 10261 PG 493 PB 125 PG 194

VERTEX PROPERTIES, LLC. DB 8838 PG 747 PB 142 PG 138

EL TIO INVESTMENTS, LLC DB 8689 PG 571 PB 129 PG 161

-L- PC Sta. 162+65.19

-L- POC Sta. 162+83.50 = -D4- POT Sta. 12+12.01

-L- PT Sta. 167+09.54

-D4- PT Sta. 11+08.85

-D4- PC Sta. 10+00.00

N 67° 46' 12.5" E -L-

N 22° 34' 46.5" W

N 59° 17' 01" E

★ PROPOSED SIGNAL
SEE SHEET 2B-3 FOR INTERSECTION DETAIL VIEW
SEE SHEETS 21 AND 22 FOR –L– PROFILE
SEE SHEET 28 FOR –D4– PROFILE

REVISIONS	
3/5/2022:	PARCELS 159,160,161,169 PUE REMOVED; PARCELS 162,163,168 PUE AND TCE REVISED
8/1/2022:	PARCELS 167 & 168 TCE AND ROW REVISED

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PROJECT REFERENCE NO.	SHEET NO.
U–3422B	EC09/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NAD 83/2011

MATCHLINE SEE INSET C

MATCHLINE SHEET 14 –L– STA. 170 + 00.00

MATCHLINE SHEET 16 –L– STA. 184 + 00.00

DETAIL 15–1
STANDARD 6' BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, Natural Ground, B
Min. D = 3 Ft.
B = 6 Ft.
FROM STA. 171+73 TO STA. 176+64 –L– LT

DETAIL 15–2
CLASS II RIP–RAPPED ENERGY DISSIPATOR BASIN
EST 60 TONS CLASS II RIP RAP
120 SY GEOTEXTILE
PLAN
SECTION
STA. 170+95 –L– LT

DETAIL 15–3
STANDARD 2' BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, Natural Ground, B
Min. D = 2 Ft.
B = 2 Ft.
FROM STA. 182+31 TO STA. 182+75 –L– LT

STANDARD 6' BASE DITCH
SEE DETAIL 15–1
SLOPE = 0.15%
LENGTH = 315'
DDE = 800 CY

Energy Dissipator Basin
SEE DETAIL 15–2

STANDARD 2' BASE DITCH
SEE DETAIL 15–3
SLOPE = 0.61%
DDE = 220 CY

CLASS 'I' RIP RAP
EST. 15 TONS
30 SY GEO–TEXTILE

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED BY THE ENGINEER TO AVOID IMPOUNDING RUNOFF IN ROADWAYS OPEN TO TRAFFIC.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 15

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

INSET C
MATCHLINE
-L- +23.02
483.36' LT
-L- +97.00
451.00' LT
STANDARD 6' BASE DITCH
SEE DETAIL 15–1
SLOPE = 0.76%
LENGTH = 315'

SEE SHEET 2B–3 FOR BULB–OUT DETAIL VIEW
SEE SHEET 22 FOR –L– PROFILE

REVISIONS	DATE: 8/21/2026	TIME: 10:52:49 AM	PENTABLE: NCDOT_EC_C&G BW.tbl
9/30/2021:	PARCEL OWNERS ADDED; PARCELS 186 AND 189–194; TCE REVISED ON PARCEL 186		
11/8/2021:	PUE REVISED ON PARCEL 185		
3/25/2022:	PARCELS 169,172–174,178,179,188 PUE REMOVED; PARCELS 169,173,174 DUE REMOVED; PARCEL 175 TCE REMOVED, AND TCE REVISED ON PARCEL 185		
	PARCELS 163,171,172,177–179,185,188 TCE REVISED; PARCELS 173,174 PDE AND TCE ADDED; PARCELS 170,180,181,184,185,187,188 PUE REVISED; PARCELS 171, 174, 175, 177, 180, 181, & 187 ROW REVISED; PARCEL 177 PDE REVISED, AND TCE REVISED		
8/1/2022:	PARCEL 190 OWNER CHANGE; PARCEL 191 REMOVED		
8/12/2022:	PDE REVISED ON PARCELS 169 & 177; PARCELS 189, 190, 192, 193, & 194		
11/21/2022:	PARCEL 184 CHANGED TO PARCEL 183; OWNER 183 NAME CHANGED		
3/21/2023:			

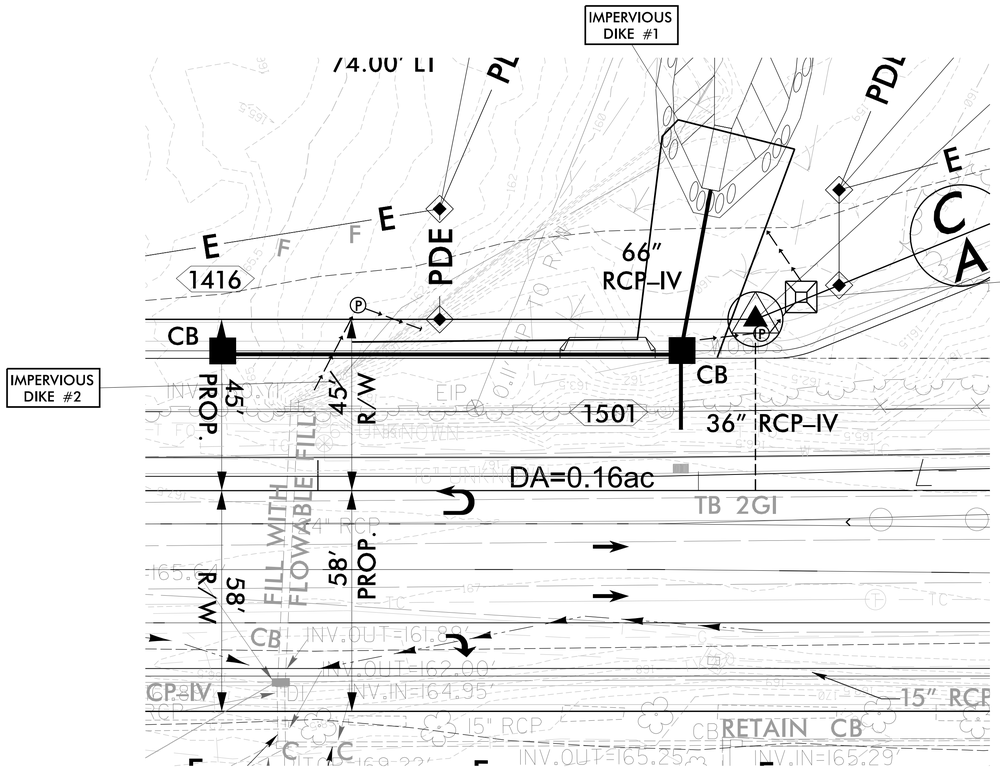
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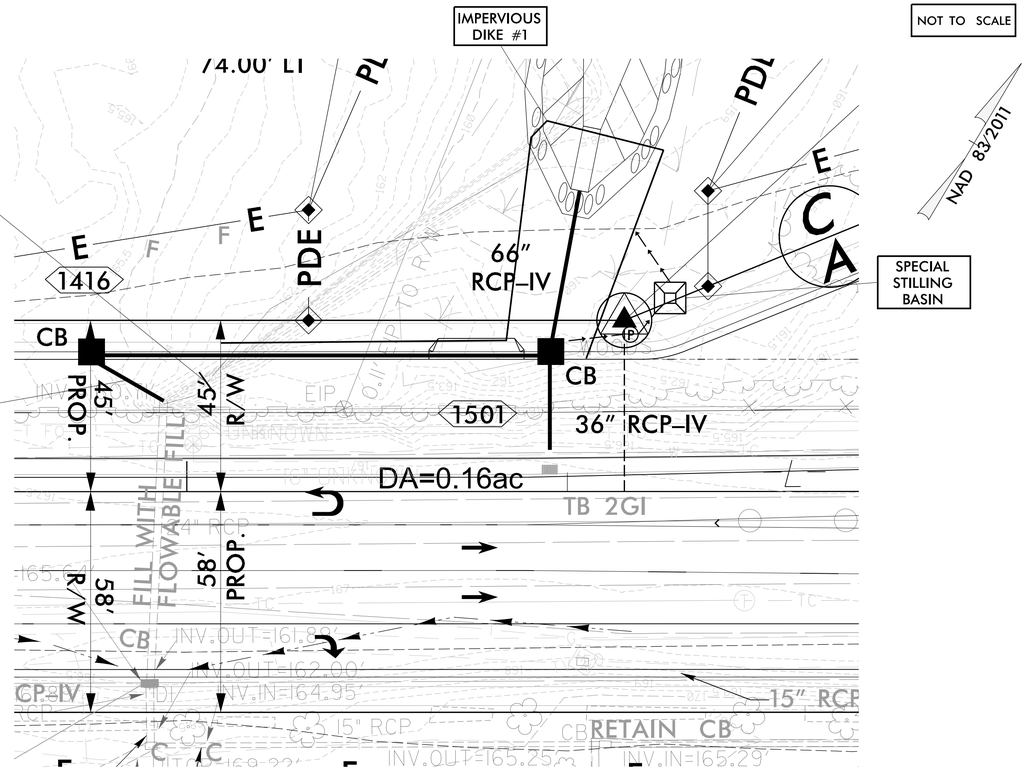
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-9A/CONSTJ5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

66″ RCP CONSTRUCTION SEQUENCE STA. 171+00 –L–

NOT TO SCALE





PHASE I

1. COMPLETE CONSTRUCTION OF 6′ BASE DITCH USING PUMP–AROUND OPERATION.
2. INSTALL IMPERVIOUS DIKES #1 AND #2 AND PROVIDE PUMP AND SPECIAL STILLING BASIN(S) FOR DEWATERING OF THE WORK ZONE.
3. USE PUMP–AROUND OPERATION TO DIVERT FLOW FROM OUTLET OF EXISTING 24″ RCP AROUND WORK AREA.
4. INSTALL STRUCTURES 1416 AND 1501 AND PORTIONS OF 66″ RCP, 60″ RCP, AND 36″ RCP AS SHOWN.

PHASE II

1. USE TEMPORARY IMPERVIOUS DIKES AND PUMP–AROUND AS NECESSARY TO INSTALL TEMPORARY 24″ PIPE FROM OUTLET OF EXISTING 24″ RCP TO STRUCTURE 1416.
2. REMOVE IMPERVIOUS DIKES #1 AND #2 AND ALLOW FLOW THROUGH TEMPORARY 24″ PIPE, 60″ RCP AND 66″ RCP.
3. INSTALL PORTION OF 36″ RCP AS SHOWN.

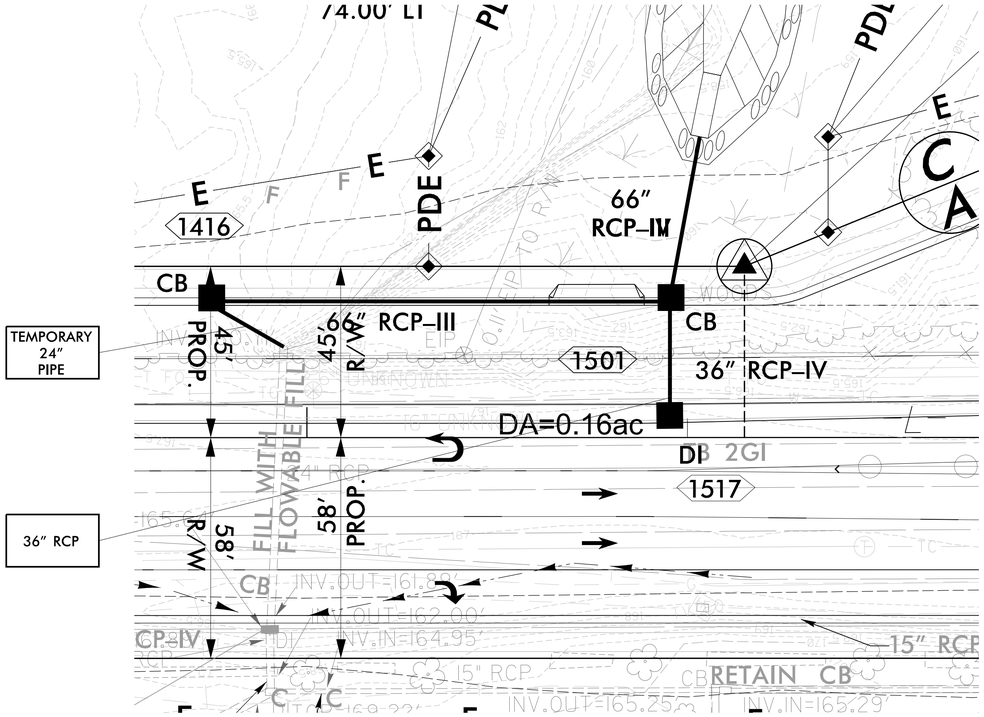
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66″ RCP CONSTRUCTION SEQUENCE STA. 171+00 –L–

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-9B/CONST15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

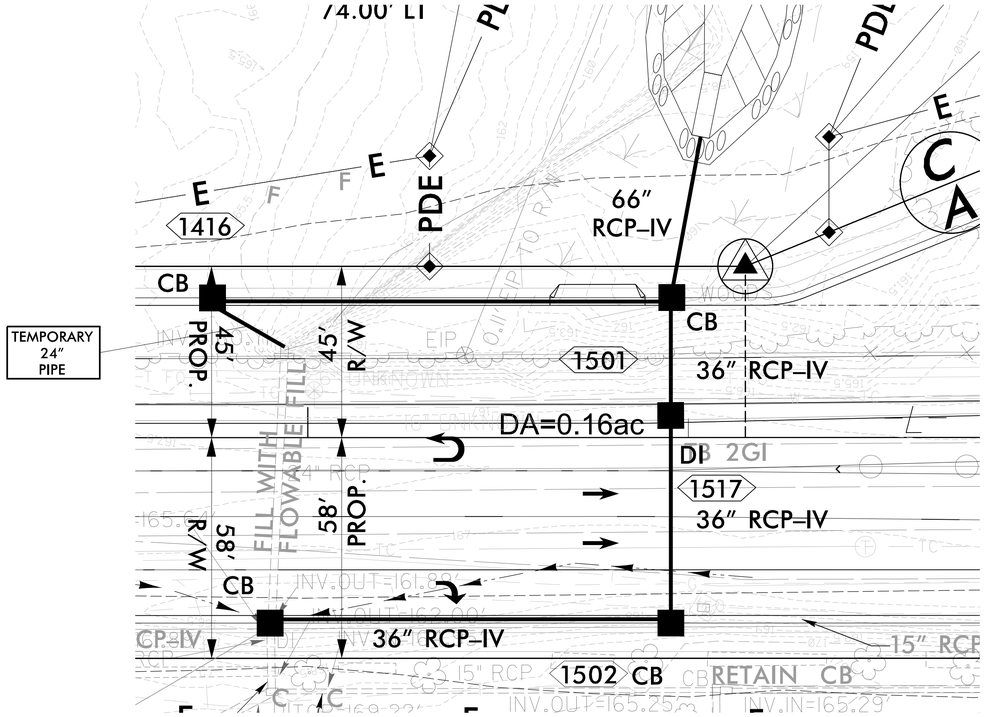
NOT TO SCALE

NAD 83/2011



PHASE III

1. MAINTAIN FLOW THROUGH TEMPORARY 24″ PIPE, 60″ RCP AND 66″ RCP.
2. INSTALL PORTION OF 36″ RCP AND STRUCTURE 1517 AS SHOWN.



PHASE IV

1. MAINTAIN FLOW THROUGH TEMPORARY 24″ PIPE, 60″ RCP AND 66″ RCP.
2. INSTALL REMAINING PORTION OF 36″ RCP FROM 1501 TO 1502.
3. INSTALL 36″ RCP FROM 1502 TO 1423.
4. USING PUMP AND SPECIAL STILLING BASIN(S) AS NECESSARY, REMOVE EXISTING DI AND INSTALL STRUCTURE 1423. DIVERT FLOW THROUGH NEWLY INSTALLED 36″ RCP FROM 1423 TO 1519.
5. FILL WITH FLOWABLE FILL THE TEMPORARY 24″ PIPE AND EXISTING 24″ RCP.
6. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
7. INSTALL REMAINING PORTIONS OF PROPOSED STORM DRAIN SYSTEM AND COMPLETE ROADWAY WORK.

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC10/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 16

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

NAD 83/2011

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N.C.B.E.L.S. License Number: F-0116

MATCHLINE SHEET 15 –L– STA. 184+00.00

MATCHLINE SHEET 17 –L– STA. 198+00.00

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED BY THE ENGINEER TO AVOID IMPOUNDING RUNOFF IN ROADWAYS OPEN TO TRAFFIC.

SEE SHEET 2B–4 FOR BULB–OUT DETAIL VIEW
SEE SHEETS 22 AND 23 FOR –L– PROFILE

REVISIONS

3/25/2022: PARCELS 203,210–213 PUE REMOVED; PARCELS 188,209 PUE REVISED; PARCELS 188,203,212,213,283 TCE REVISED
8/1/2022: PARCELS 201, 202, 206, & 215–217 ROW REVISED; PARCELS 203–206, 208, & 214–219 TCE REVISED; PARCELS 208 & 214 PUE REVISED; PARCELS 215 & 216 DUE REMOVED; PARCELS 215–217 PUE ADDED; PARCEL 206 PUE REMOVED
8/11/2022: PARCELS 213 & 283 ROW/CA AND TCE REVISED; PARCEL 197 OWNER CHANGE; PARCELS 198 & 207 REMOVED
8/24/2023: PARCEL 209 PUE REMOVED AND TCE REVISED

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC11/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 17

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

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAPS, TYPE–C AS DIRECTED BY THE ENGINEER TO AVOID IMPOUNDING RUNOFF IN ROADWAYS OPEN TO TRAFFIC.

NAD 83/2011

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

MATCHLINE SHEET 16 -L- STA. 198+00.00

MATCHLINE SEE INSET D

INSET D

MATCHLINE

-D3- POT Sta. 10+00.00

-L- POC Sta. 198+25.00 = -D3- POT Sta.12+00.00

-L- PCC Sta. 201+10.56

-L- PT Sta. 205+21.41

-L- POT Sta. 209+19.99

200+00

205+00

SR-1596 (HOPE MILLS ROAD)

S 87°42'38" E 179.90'

S 70°05'16" E 359.52'

S 14°01'22" E 141.00'

S 80°03'21" E 150.00'

S 03°26'39" W 74.98'

S 27°15'39" E

N 85°45'40" W 93.97'

N 78°47'16" E 47.89'

N 73°16'09" E 66.10'

N 60°30'34" E 106.00'

S 84°37'26.8" E

S 84°30'24" E 209.00'

S 02°29'36" W 285.00'

S 02°29'36" W 198.67'

S 02°29'36" W 210.20'

N 02°29'36" E 373.83'

APPROX. RUN OF CREEK

Permanent Drainage Easement Per U-2308

217 FIVE RIDDLES III, INC. DB 7472 PG 212 PB 106 PG 117

219 W HOPE MILLS REALTY LIMITED PARTNERSHIP DB 6020 PG 214 PB 71 PG 7

218 McDONALDS REAL ESTATE CO. DB 2791 PG 210 DB 8219 PG 114 DB 9879 PG 89

208 CAROLINA BLUE SKY, LLC. DB 10973 PG 581 PB 60 PG 91

H & G PROPERTIES DB 6833 PG 733 PB 114 PG 121

SMITH FAMILY CONSERVANCY LLC DB 8330 PG 779 (DB 647 PG 243)

SMITH FAMILY CONSERVANCY LLC DB 8330 PG 779 (DB 3609 PG 479)

RAYMOND LLOYD MYRICK DB 2632 PG 811

LUMINA3001 LLC DB 10141 PG 135 PB 97 PG 84

DB 5535 PG 21

ISBK BUS

REMOVE CB

RETAIN

RET. WALL

48" IRON FENCE

☆ UPGRADE SIGNAL
SEE SHEET 23 FOR –L– PROFILE

REVISIONS	
9/30/2021:	TCE REVISED; PARCELS 218 AND 219
3/25/2022:	PARCELS 218, 219 PUE REVISED AND TCE REVISED
8/1/2022:	PARCELS 218 & 219 TCE REVISED; PARCEL 217 PUE ADDED; PARCEL 218 PUE REMOVED; PARCEL 219 PUE REVISED

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	EC-11A/CONST. 17A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 17A

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

NAD 83/2011

MATCHLINE SHEET 18 –Y3– STA. 22 + 50.00

SEE SHEET 24 FOR –Y3– PROFILE

REVISIONS
3/25/2022: PARCEL 228 & 235 PUE REMOVED AND TCE ADDED; PARCEL 223 TUE ADDED
8/1/2022: PARCEL 220 PUE REVISED AND TCE REVISED; PARCEL 233 TUE REVISED PUE REMOVED AND TCE REVISED; PARCEL 234 PUE REMOVED
2/3/2023: PARCEL 220 PUE REVISED, TCE REMOVED; PARCEL 233 TUE REMOVED, TCE REVISED; PARCEL 234 TCE REVISED

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt PENTABLE: NCDOT_EC_C&G BW.tbl
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