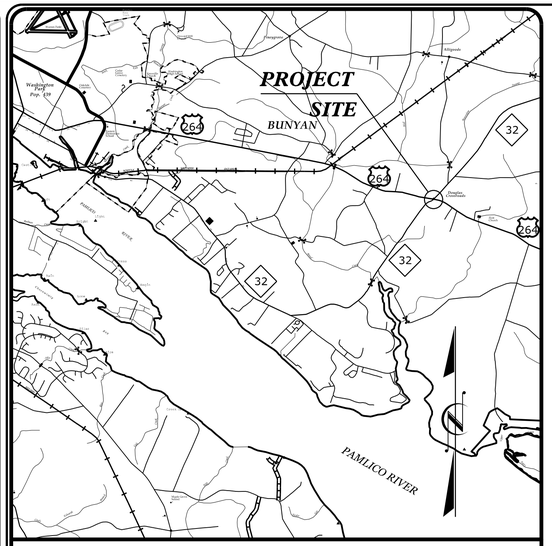
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TIP PROJECT: W-5702I

CONTRACT: DB00541



VICINITY MAP

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BEAUFORT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5702I	1	

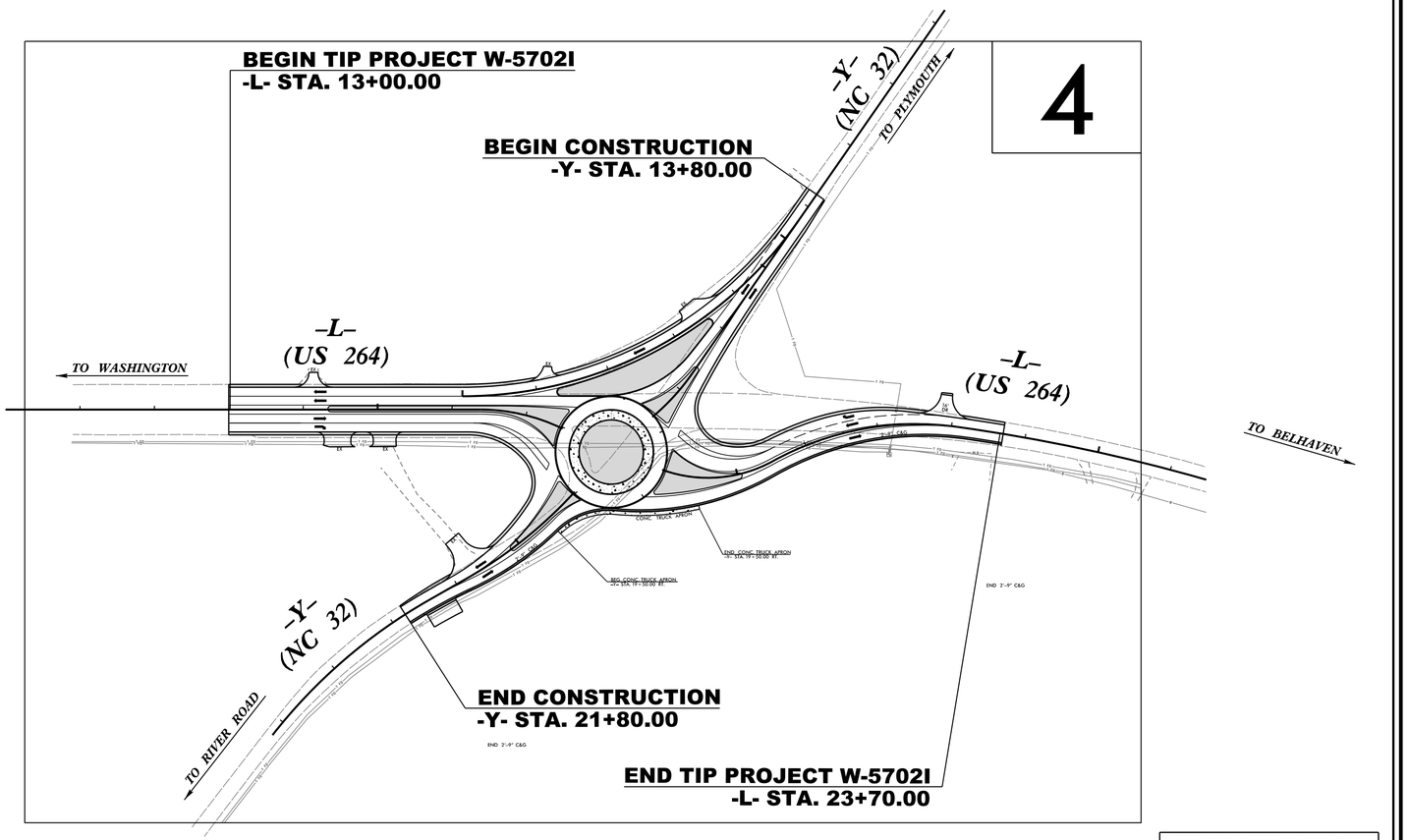
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44848.1.9	HSIP-0264(065)	PE
44848.2.9	HSIP-0264(065)	R/W & UTIL.
44848.3.9	HSIP-0264(065)	CONST.

NAD 83/NSRS 2007



LOCATION: *US 264 AT NC 32 CONSTRUCT ROUNDABOUT*

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2022 = 10,900
ADT 2042 = 16,200
K = 10 %
D = 60 %
T = 9 % *
V = 60 MPH
* TTST = 4% DUAL = 5%
FUNC. CLASS = MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5702I = 0.203 MILES

TOTAL LENGTH TIP PROJECT W-5702I = 0.203 MILES

Prepared in the Office of:
ETHERILL ENGINEERING
1223 Jones Franklin Rd. Raleigh, N.C. 27606
License No. F-0377
Bus: 919.851.8077 Fax: 919.851.8107

Prepared for:
DIVISION OF HIGHWAYS DIVISION 2
1037 W.H. Smith Blvd. Greenville NC, 27835

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 2019

LETTING DATE: JUNE 28, 2023

NCDOT CONTACT: LANG JONES, *DIVISION PROJECT MANAGER*

BOB A. MAY, PE, *PROJECT ENGINEER*

JONATHAN HEFNER, PE, *PROJECT DESIGN ENGINEER*

HYDRAULICS ENGINEER 5/8/2023
NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW L HARVEY
DocuSigned by: Matthew L. Harvey
DB419C2087B94EE...

ROADWAY DESIGN ENGINEER 5/8/2023
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A MAY
DocuSigned by: Bob A. May
513DB4424429493...

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

5/8/2023
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USER:bmay

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-57021	1-A

ROADWAY DESIGN ENGINEER
DocuSigned by:
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROB A. MAY
5/8/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE BEAUFORT COUNTY WATER DEPARTMENT, CENTURYLINK, NC DEPARTMENT OF TRANSPORTATION, TRI-COUNTY TELEPHONE MEMBERSHIP CORP., TIDELAND ELECTRIC MEMBERSHIP CORP., SUDDENLINK COMMUNICATIONS, CITY OF WASHINGTON

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

EFF. 01-16-2018
REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.45	Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
852.01	Concrete Island
852.06	Method For Placement Of Drop Inlet In Concrete Island
876.02	Guide for Rip Rap at Pipe Outlets

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-2	INTERSECTION & ISLAND DETAILS
2C-1	SPECIAL DETAILS
2D-1	DRAINAGE DETAILS
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
4 THRU 5	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-7	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
UC-1 THRU UC-5	UTILITIES CONSTRUCTION PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-8	CROSS-SECTIONS

5/8/2023
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USER:rbmay

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-57021	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
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EFF. 01-16-2018
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2A-1 THRU 2A-	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-	ROADWAY DETAILS
2C-1 THRU 2C-	SPECIAL DETAILS
2D-1 THRU 2D-	DRAINAGE DETAILS
~~2G-1 THRU 2G-~~	~~GEOTECHNICAL DETAILS~~
~~2H-1 THRU 2H-~~	~~GEOENVIRONMENTAL DETAILS~~
~~2N-1 THRU 2N-~~	~~NOISE WALL ENVELOPE DETAILS~~
3B-1 THRU 3B-	ROADWAY SUMMARIES
3D-1 THRU 3D-	DRAINAGE SUMMARIES
~~3G-1 THRU 3G-~~	~~GEOTECHNICAL SUMMARIES~~
~~3P-1~~	~~PARCEL INDEX SHEET~~
4 THRU	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-	PAVEMENT MARKING PLANS
~~E-1 THRU E-~~	~~ELECTRICAL PLANS~~
EC-1 THRU EC-	EROSION CONTROL PLANS
RF-1 THRU RF-	REFORESTATION PLANS
SIGN-1 THRU SIGN-	SIGNING PLANS
~~SIG-1 THRU SIG-~~	~~SIGNAL PLANS~~
~~ITS-1 THRU ITS-~~	~~ITS PLANS~~
UC-1 THRU UC-	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-	UTILITIES BY OTHERS PLANS
X-1A THRU X-1	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-	CROSS-SECTIONS
~~S-1 THRU S-~~	~~STRUCTURE PLANS~~

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USER:RMay

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6/2/99

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.	R5	5″ MONOLITHIC ISLAND, SURFACE MOUNTED.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.	J1	6″ AGGREGATE BASE COURSE	R6	4″ CONCRETE ISLAND COVER
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	2′-9″ CONCRETE CURB AND GUTTER.	T	EARTH MATERIAL.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.	R2	1′-6″ CONCRETE CURB AND GUTTER.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4½″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	R3	12″ CONCRETE TRUCK APRON.	V	MILLING BITUMINOUS PAVEMENT. 3″ DEPTH.
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.		R4	8″ X 18″ CONCRETE CURB.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS).

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	2A-1

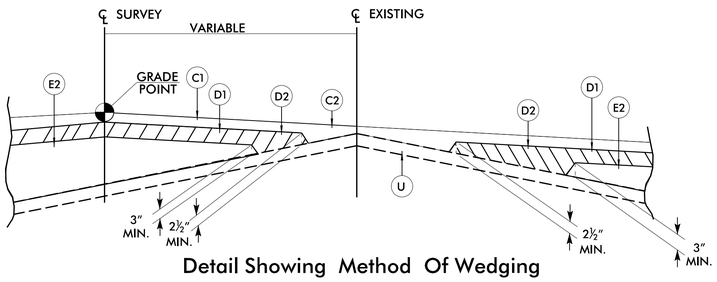
ROADWAY DESIGN ENGINEER

DocuSigned by:
Robert A. May
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROBERT A. MAY
7/12/2022

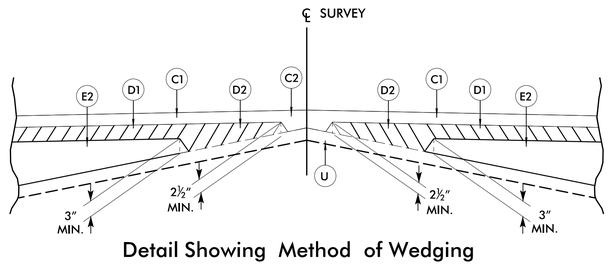
PAVEMENT DESIGN ENGINEER

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

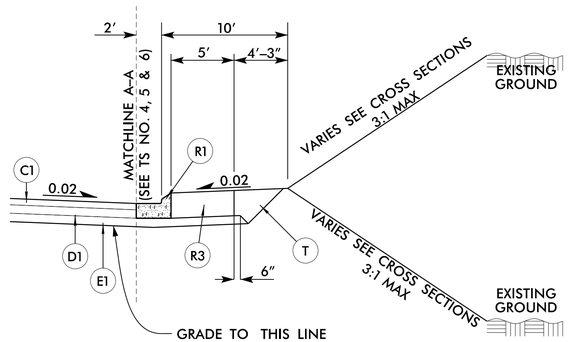
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



Detail Showing Method Of Wedging



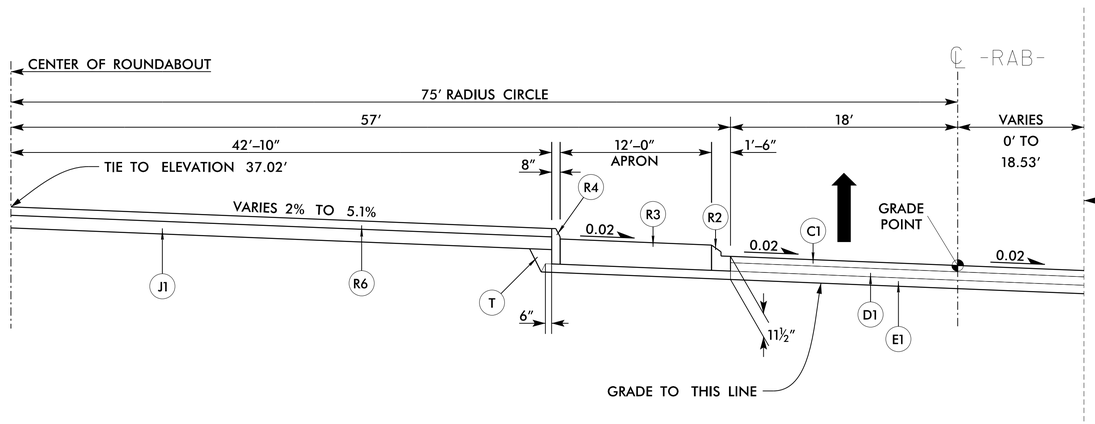
Detail Showing Method of Wedging



PARTIAL TYPICAL SECTION NO. 1

USE PARTIAL TYPICAL SECTION NO. 1

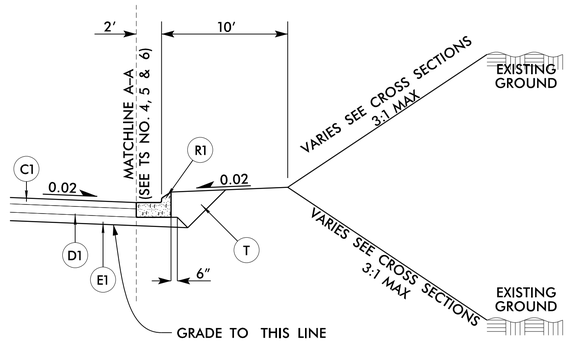
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–Y– STA. 19+00.00 TO –Y– STA. 19+50.00 LT.
–RAB– STA. 12+32.31 TO –RAB– STA. 12+96.21 RT.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

–RAB– STA. 10+00.00 TO –RAB– STA. 14+71.24



PARTIAL TYPICAL SECTION NO. 2

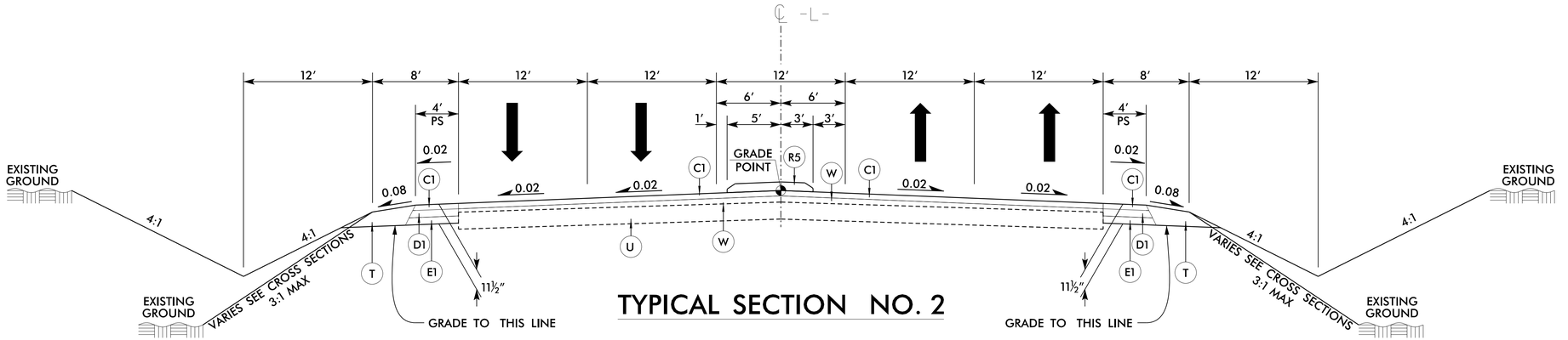
USE PARTIAL TYPICAL SECTION NO. 2

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–Y– STA. 19+50.00 TO –Y– STA. 21+80.00 LT.

6/23/2022
W-5702I
ISERBAW1, rdy, psh, 02A-1, typ.dgn

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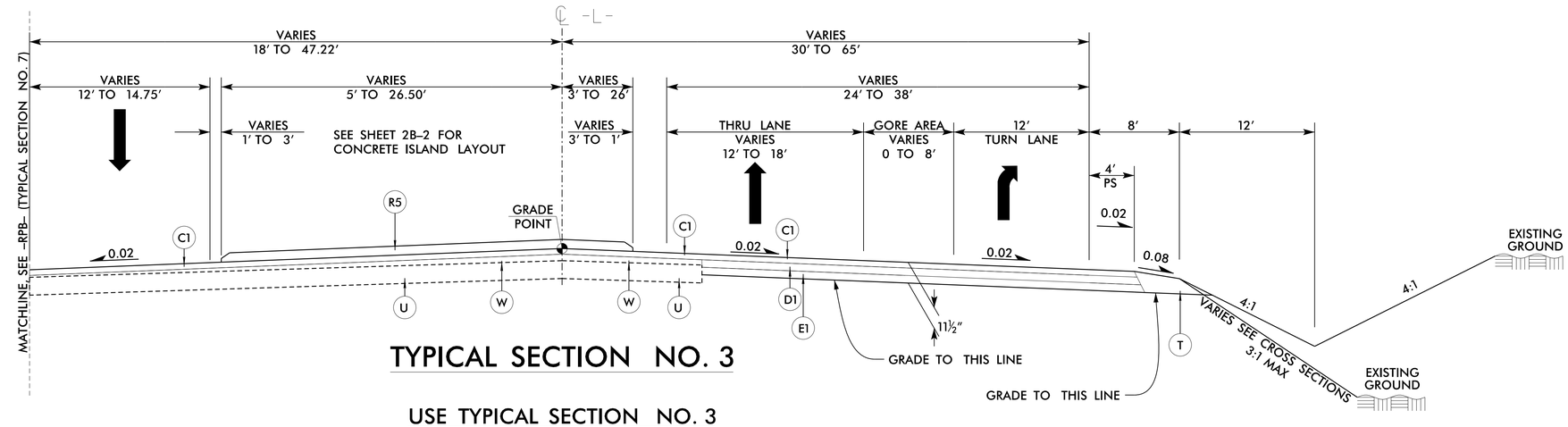
6/2/99



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

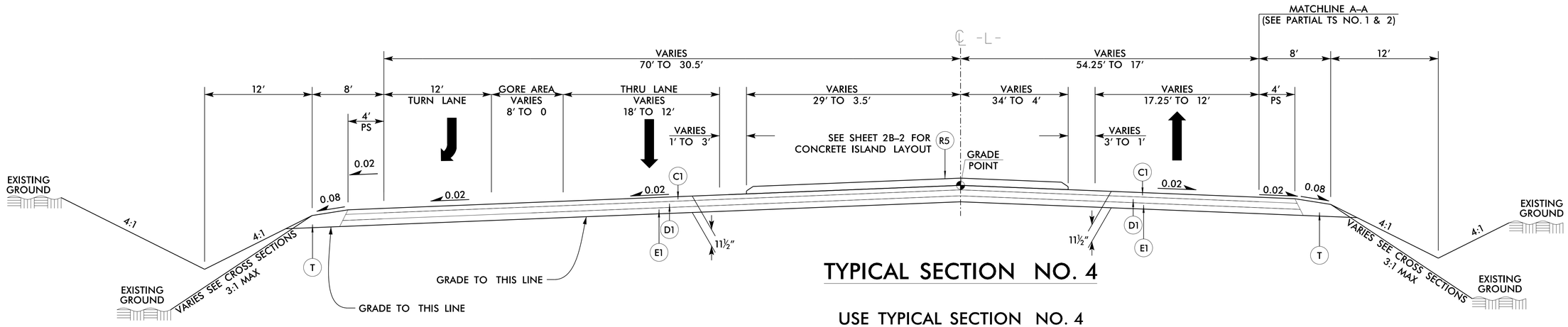
–L– STA. 13+00.00 TO –L– STA. 16+13.97



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

–L– STA. 16+13.97 TO –L– STA. 17+50.00



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

–L– STA. 19+00.00 TO –L– STA. 20+87.57

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	2A-2

ROADWAY DESIGN ENGINEER

DocuSigned by: Rob A. May
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROB A. MAY
7/12/2022

PAVEMENT DESIGN ENGINEER

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
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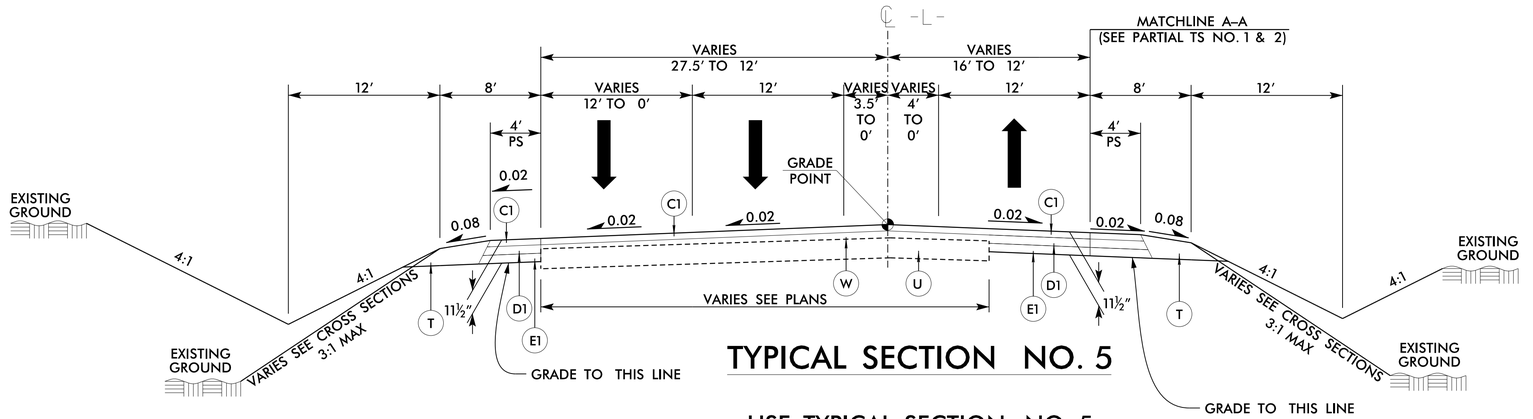
PAVEMENT SCHEDULE
FINAL PAVEMENT DESIGN

C1	3″ S9.5B
D1	4″ I19.0C
E1	4½″ B25.0C
R5	5″ MCI
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

6/23/2022
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USER:RAMay

DocuSign Envelope ID: 7617B138-1E3C-435A-AF11-8942D04DC7ED

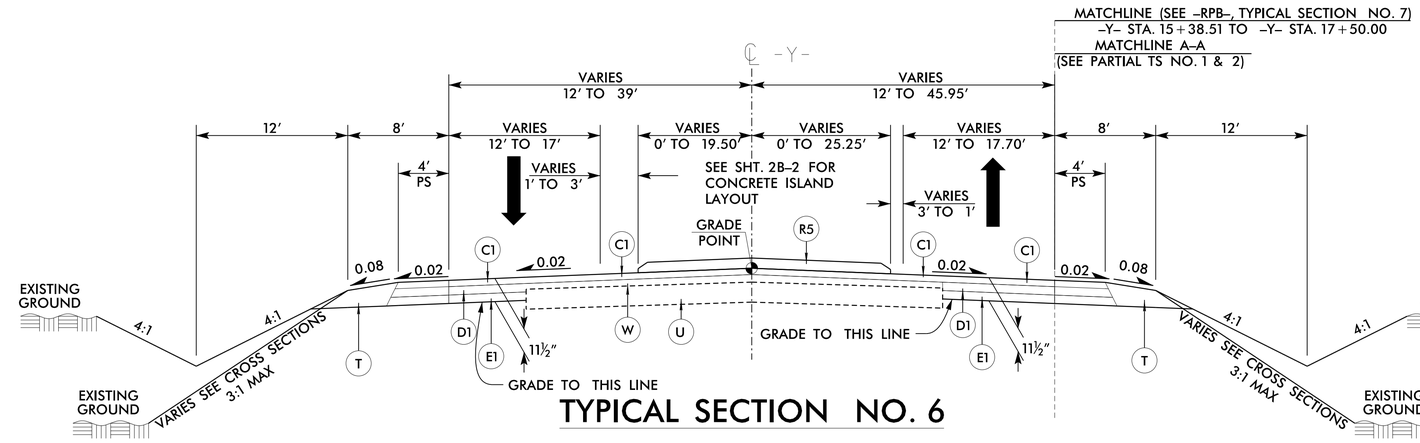
6/2/99



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

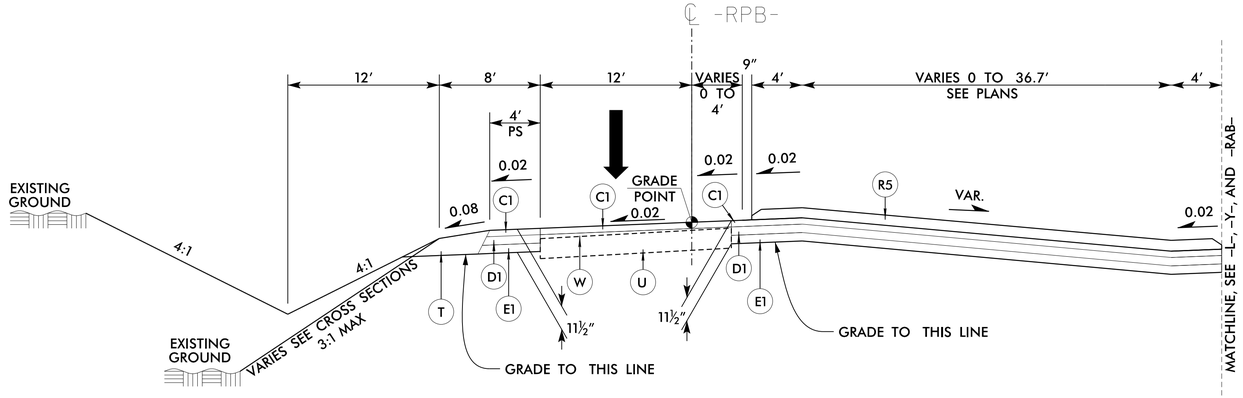
–L– STA. 20+87.57 TO –L– STA. 23+70.00



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

–Y– STA. 13+80.00 TO –Y– STA. 17+50.00
–Y– STA. 19+00.00 TO –Y– STA. 21+80.00



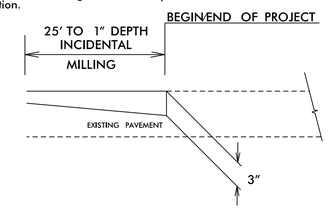
TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7

–RPB– STA. 10+00.00 TO –RPB– STA. 14+13.07

NOTES TO CONTRACTOR

Perform the work in accordance with Section 607 of the January 2018 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



NOTE: UTILIZE INCIDENTAL MILLING TO MAKE PAVEMENT TIE-INS
-L- STA. 13+00.00 TO -L- STA. 13+91.30
-L- STA. 23+40.00 TO -L- STA. 23+70.00
-Y- STA. 13+80.00 TO -Y- STA. 14+20.12
-Y- STA. 21+22.49 TO -Y- STA. 21+80.00

PROJECT REFERENCE NO.	SHEET NO.
W-57021	2A-3

ROADWAY DESIGN ENGINEER
7/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROBB A. NEW
Digitally signed by Robb A. New

PAVEMENT DESIGN ENGINEER

ETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3″ S9.5B
D1	4″ I19.0C
E1	4½″ B25.0C
R5	5″ MCI
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

6/23/2022
W-57021_r-dy_psh_02A-3_typ.dgn
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8/17/99

INTERSECTION DETAIL

POINT INFORMATION			
POINT NO.	CHAIN	STATION	OFFSET
1	L	16+13.97	-30.00
2	Y	14+22.73	12.00
3	Y	15+00.00	-12.00
4	Y	16+04.15	-14.37
5	Y	16+87.30	-22.17
6	L	19+87.59	-41.85
7	L	20+58.86	-27.88
8	L	21+18.77	-27.02
9	L	22+40.47	-16.97
10	L	23+08.38	-12.00
11	L	23+24.43	12.00
12	L	20+43.94	16.20
13	RAB	12+59.00	1.35
14	y	19+49.81	-18.52
15	Y	20+84.91	-14.52
16	Y	21+80.00	-12.00
17	Y	21+00.84	12.00
18	Y	19+52.61	32.87
19	L	17+19.74	56.36
20	L	16+22.95	30.00

ELEMENT INFORMATION				
ELEMENT TYPE	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD BEARING
ARC	518.16	538.00	498.37	N70°28'22.3"E
ARC	104.19	2288.00	104.18	S41°34'35.8"W
ARC	84.57	1000.00	84.54	S37°50'57.9"W
ARC	90.99	50.00	78.94	N16°42'23.4"W
ARC	61.67	88.00	60.41	S88°54'54.4"E
ARC	64.02	424.00	63.96	S75°20' 7.1"W
ARC	129.29	300.00	128.28	S87°59'37.6"E
ARC	70.46	2432.95	70.46	S74°49' 8.5"W
ARC	271.53	408.00	266.55	N87°19'30.3"E
ARC	220.62	360.00	217.19	S85°48'58.01"W
ARC	86.52	100.00	83.85	N78°35'10.1"E
ARC	135.24	412.00	138.58	S63°28'53.8"W
ARC	94.57	704.20	94.50	N69°18'58.7"E
ARC	145.61	300.00	144.18	N54°24'26.4"E
ARC	62.67	50.00	58.64	S4°35'52.8"W
ARC	88.36	100.00	85.52	N56°37'16.4"W

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	2B-I
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
7/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROB A MAY

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FOR PLAN VIEW, SEE SHEET NO. 4
FOR ISLAND DETAIL, SEE SHEET NO. 2B-2

CENTER OF ROUNDABOUT =
N 653,593.1236
E 2,610,111.2062

-RPB- PT Sta. 15+29.72
-Y- PT Sta. 14+22.73

-Y- PC Sta. 16+72.76

-RAB- PC Sta.10+00.00 =
-RAB- PT Sta.14+71.22

-L- PC Sta. 16+38.23

-RPB- PC Sta. 10+00.00
-L- PT Sta. 16+13.97

-L- PRC Sta. 20+51.10

-L- PCC Sta. 23+08.38

-Y- PT Sta. 20+85.13

S 68° 18' 41.9" W
-Y- PC Sta. 21+44.47

NAD 83/NSRS 2007

CONC. TRUCK APRON
75'-0"
42'-10"
4" CONCRETE ISLAND COVER
9"x18" CONC. CURB
1'-6" CONC. CURB
2'-9" CONC. CURB
18'
12'
4' PS
30'

(A) -RAB- PC Sta.10+00.00 =
-RAB- PT Sta.14+71.24

(B) -L- PT Sta.17+50.00 =
-RAB- POC Sta.11+02.07

(C) -Y- PC Sta.19+00.00 =
-RAB- POC Sta.11+97.69

(D) -L- PC Sta.19+00.00 =
-RAB- POC Sta.13+46.09

(E) -Y- PT Sta.17+50.00 =
-RAB- POC Sta.14+24.14

GRAPHIC SCALE PLAN

50' 25' 0' 50' 100'

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ISLAND DETAIL

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	2B-I
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
7/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A WALL

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

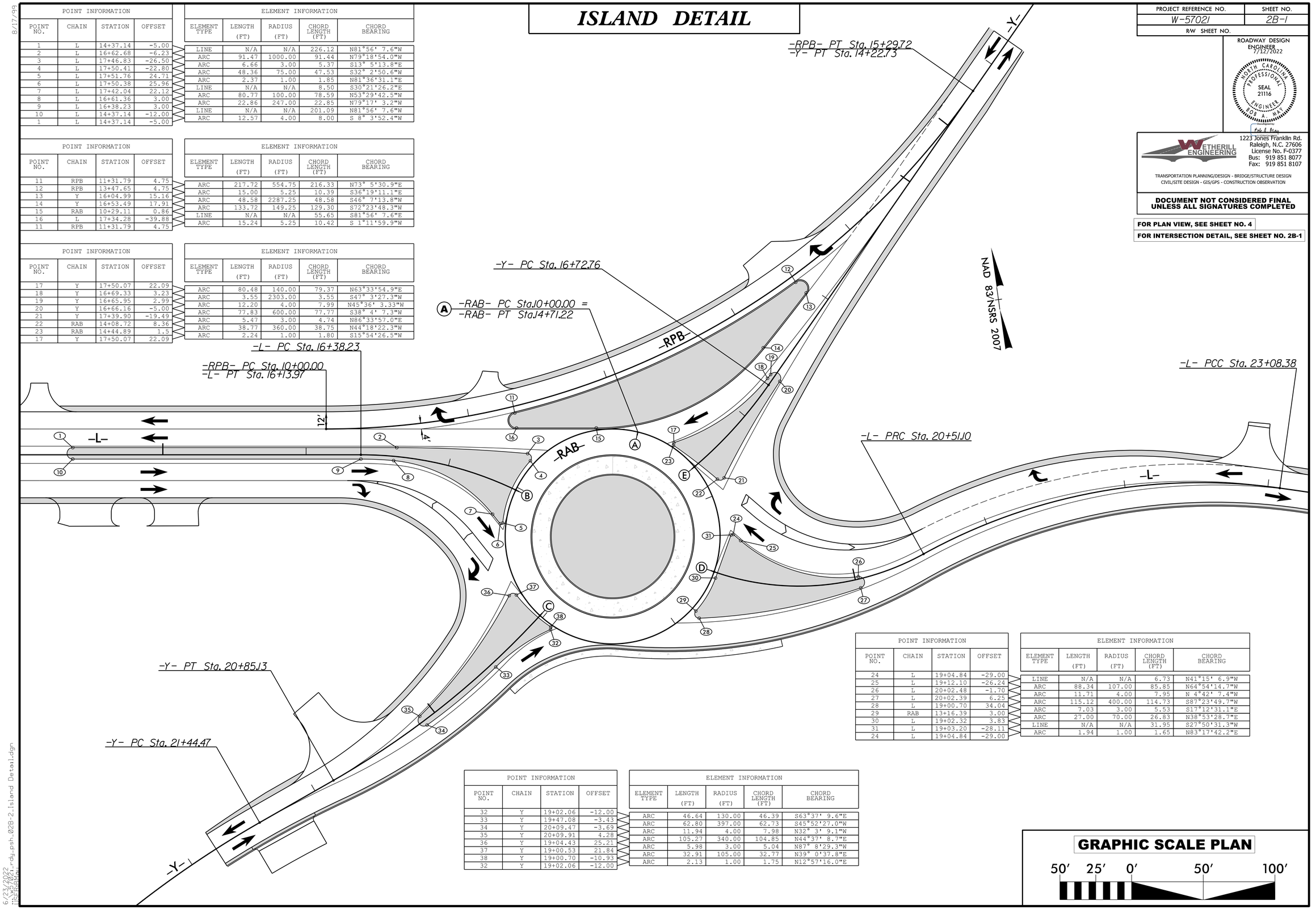
FOR PLAN VIEW, SEE SHEET NO. 4

FOR INTERSECTION DETAIL, SEE SHEET NO. 2B-1

POINT INFORMATION				ELEMENT INFORMATION				
POINT NO.	CHAIN	STATION	OFFSET	ELEMENT TYPE	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD BEARING
1	L	14+37.14	-5.00	LINE	N/A	N/A	226.12	N81°56' 7.6"W
2	L	16+62.68	-6.23	ARC	91.47	1000.00	91.44	N79°18'54.0"W
3	L	17+46.83	-26.50	ARC	6.66	3.00	5.37	S13° 5'13.8"E
4	L	17+50.41	-22.80	ARC	48.36	75.00	47.53	S32° 2'50.6"W
5	L	17+51.76	24.71	ARC	2.37	1.00	1.85	N81°36'31.1"E
6	L	17+50.38	25.96	LINE	N/A	N/A	8.50	S30°21'26.2"E
7	L	17+42.04	22.12	ARC	80.77	100.00	78.59	N53°29'42.5"W
8	L	16+61.36	3.00	ARC	22.86	247.00	22.85	N79°17' 3.2"W
9	L	16+38.23	3.00	LINE	N/A	N/A	201.09	N81°56' 7.6"W
10	L	14+37.14	-12.00	ARC	12.57	4.00	8.00	S 8° 3'52.4"W
1	L	14+37.14	-5.00					

POINT INFORMATION				ELEMENT INFORMATION				
POINT NO.	CHAIN	STATION	OFFSET	ELEMENT TYPE	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD BEARING
11	RPB	11+31.79	4.75	ARC	217.72	554.75	216.33	N73° 5'30.9"E
12	RPB	13+47.65	4.75	ARC	15.00	5.25	10.39	S36°19'11.1"E
13	Y	16+04.99	15.16	ARC	48.58	2287.25	48.58	S46° 7'13.8"W
14	Y	16+53.49	17.91	ARC	133.72	149.25	129.30	S72°23'48.3"W
15	RAB	10+29.11	0.86	LINE	N/A	N/A	55.65	S81°56' 7.6"E
16	L	17+34.28	-39.88	ARC	15.24	5.25	10.42	S 1°11'59.9"W
11	RPB	11+31.79	4.75					

POINT INFORMATION				ELEMENT INFORMATION				
POINT NO.	CHAIN	STATION	OFFSET	ELEMENT TYPE	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD BEARING
17	Y	17+50.07	22.09	ARC	80.48	140.00	79.37	N63°33'54.9"E
18	Y	16+69.33	3.23	ARC	3.55	2303.00	3.55	S47° 3'27.3"W
19	Y	16+65.95	2.99	ARC	12.20	4.00	7.99	N45°36' 3.33"W
20	Y	16+66.16	-5.00	ARC	77.83	600.00	77.77	S38° 4' 7.3"W
21	Y	17+39.90	-19.49	ARC	5.47	3.00	4.74	N86°33'57.0"E
22	RAB	14+08.72	8.36	ARC	38.77	360.00	38.75	N44°18'22.3"W
23	RAB	14+44.89	1.5	ARC	2.24	1.00	1.80	S15°54'26.5"W
17	Y	17+50.07	22.09					



POINT INFORMATION				ELEMENT INFORMATION				
POINT NO.	CHAIN	STATION	OFFSET	ELEMENT TYPE	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD BEARING
24	L	19+04.84	-29.00	LINE	N/A	N/A	6.73	N41°15' 6.9"W
25	L	19+12.10	-26.24	ARC	88.34	107.00	85.85	N64°54'14.7"W
26	L	20+02.48	-1.70	ARC	11.71	4.00	7.95	N 4°42' 7.4"W
27	L	20+02.39	6.25	ARC	115.12	400.00	114.73	S87°23'49.7"W
28	L	19+00.70	34.04	ARC	7.03	3.00	5.53	S17°12'31.1"E
29	RAB	13+16.39	3.00	ARC	27.00	70.00	26.83	N38°53'28.7"E
30	L	19+02.32	3.83	LINE	N/A	N/A	31.95	S27°50'31.3"W
31	L	19+03.20	-28.11	ARC	1.94	1.00	1.65	N83°17'42.2"E
24	L	19+04.84	-29.00					

POINT INFORMATION				ELEMENT INFORMATION				
POINT NO.	CHAIN	STATION	OFFSET	ELEMENT TYPE	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD BEARING
32	Y	19+02.06	-12.00	ARC	46.64	130.00	46.39	S63°37' 9.6"E
33	Y	19+47.08	-3.43	ARC	62.80	397.00	62.73	S45°52'27.0"W
34	Y	20+09.47	-3.69	ARC	11.94	4.00	7.98	N32° 3' 9.1"W
35	Y	20+09.91	4.28	ARC	105.27	340.00	104.85	N44°37' 8.7"E
36	Y	19+04.43	25.21	ARC	5.98	3.00	5.04	N87° 8'29.3"W
37	Y	19+00.53	21.84	ARC	32.91	105.00	32.77	N39° 0'37.8"E
38	Y	19+00.70	-10.93	ARC	2.13	1.00	1.75	N12°57'16.0"E
32	Y	19+02.06	-12.00					

GRAPHIC SCALE PLAN

50′ 25′ 0′ 50′ 100′

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PROJECT REFERENCE NO.	SHEET NO.
W-5702I	2C-1

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

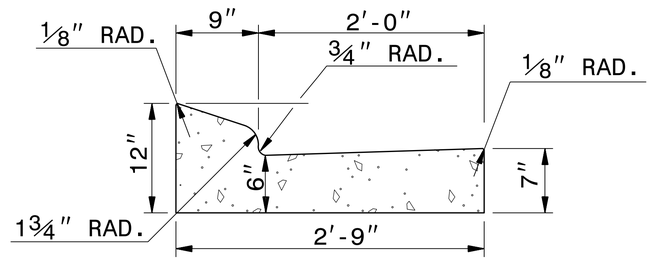
ENGLISH DETAIL DRAWING FOR

2′-9″ CONCRETE CURB & GUTTER

SHEET 1 OF 1

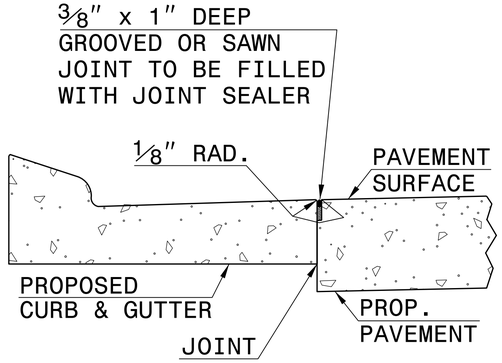
846D01

GENERAL NOTES:
- -PLACE CONTRACTION JOINTS AT 10′ INTERVALS, EXCEPT THAT A 15′ SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10′ INTERVALS.
- -JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- -CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. MAKE NON-TEMPLATE FORMED JOINTS A MIN. OF 1½″ DEEP.
- -FILL ALL CONSTRUCTION JOINTS WITH JOINT FILLER AND SEALER.
- -SPACE EXPANSION JOINTS AT 90′ INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.
- -SEE RDWY. STD. DWG. NO. 846.01, SHEET 2 OF 3 FOR PLACEMENT IN SUPERELEVATIONS. (USE 2′-6″ CURB AND GUTTER RATES)

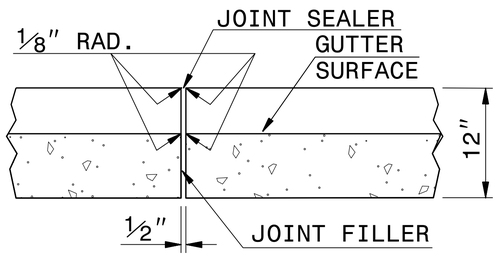


2′-9″ CURB AND GUTTER

SECTION VIEW OF CURB AND GUTTER



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

SECTION VIEW OF JOINTS

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

2′-9″ CONCRETE CURB & GUTTER

SHEET 1 OF 1

846D01

6/30/2022

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. HACKLER

DocuSigned by:
Nicole M. Hackler, P.E.
5884323D34164C5...

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CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: STD. 846.01 DATE:
MODIFIED BY: E.E. WARD DATE: 8-15-00
CHECKED BY: DATE:
FILE SPEC.: /usr/details/stand/c&g2'-9".dgn

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jhowerton AT CSD-292595

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PROJECT REFERENCE NO.	SHEET NO.
W-5702I	2D-1

HYDRAULICS ENGINEER
7/12/2022

NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW L HARVEY

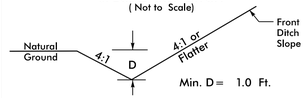
ETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

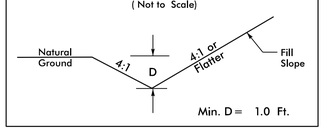
DRAINAGE DETAILS
(NOT TO SCALE)

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



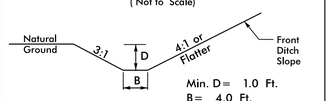
FROM STA. 13+80 TO STA. 14+00 LT –Y–
FROM STA. 13+18 TO STA. 14+20 RT –L–
FROM STA. 12+31 TO STA. 12+91 RT –RAB–

DETAIL B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



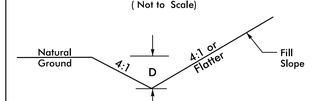
FROM STA. 14+00 TO STA. 15+43 LT –Y–
FROM STA. 21+10 TO STA. 21+30 RT –Y–

DETAIL D
SPECIAL CUT BASE DITCH
(Not to Scale)



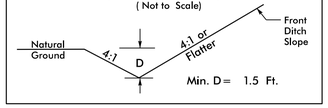
FROM STA. 15+40 TO STA. 17+11.61 RT –L–
FROM STA. 19+30 TO STA. 20+45 RT –Y–

DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



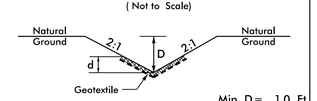
FROM STA. 15+43 TO STA. 16+50 LT –Y–

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 16+50 TO STA. 17+00 LT –Y–
FROM STA. 19+75 TO STA. 21+00 LT –L–

DETAIL G
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner = CLASS B Rip–Rap

STA. 21+00 LT –Y–, 10FT LONG
3 TONS CLASS B RIPRAP
W/5 SY. GEOTECHNICAL FABRIC
DDE = 3 CY

6/23/2022
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12/06/07

COMPUTED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	3B-1

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
–L– 13+00.00	–L– 17+50.00	783	12		771
–L– 19+00.00	–L– 23+70.00	288	1496	1,208	
–Y– 13+00.00	–Y– 17+50.00	327	429	102	
–Y– 19+00.00	–Y– 21+80.00	476	13		463
–RPB– 10+00.00	–RPB– 14+49.64	326	94		232
TOTALS:		2,200	2,044	1,310	1,466
LOSS DUE TO CLEARING & GRUBBING					
WASTE IN LIEU BORROW				–1,310	–1,310
PROJECT TOTAL		2,200	2,044	0	156
5% TO REPLACE TOP SOIL ON BORROW PIT				0	
GRAND TOTAL:		2,200		0	
SAY:		2,300		100	

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD²
L	13+01	16+51	RT	125.03
L	19+34	22+69	CL	1,155.91
Y	13+96	15+87	RT	133.84
RPB	11+40	13+24	LT	78.56
			TOTAL:	1,493.34
			SAY:	1,550.00

Note:
Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

6/23/2022
3B-1_W-5702I_rdy.psh.03B-1.dgn
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R:\AL-WS080

COMPUTED BY: MLH DATE: 6/17/2022

CHECKED BY: DATE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
W-5702I	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12	15	18	24	30	36	42	48	Drainage Pipe THICKNESS OR GAUGE: DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC
Y 19+56	48	RT	0401		30.8																
			0401	0402		28.9	28.7														
Y 20+35	38	RT	0402		30.6																
			0402	0403		28.4	28.3														
Y 21+05	38	RT	0403		31.8																
			0403	0419		28.3	28.1														
RAB 10+20	2	RT	0405		33.5																
			0405	0406		30.4	30.1														
RAB 14+65	11	RT	0406		33.3																
			0406	0407		30.1	29.8														
Y 17+28	35	RT	0407		32.9																
			0407	0408		29.8	29.7														
Y 17+22	34	RT	0408		32.9																
			0408	0409		29.7	29.5														
Y 16+91	25	RT	0409		33.2																
			0409	0410		29.5	28.8														
Y 14+62		CL	0412			30.4	29.4														
L 22+89	38	LT	0413																		
L 23+56		CL	0414			28.0	27.6														
			0415	0423		28.2	28.0														
Y 19+00	36	LT	0416		33.1																
			0416	0417		30.1	29.5														
Y 19+49	21	LT	0417		32.5																
			0417	0418		29.5	29.1														
Y 20+25	20	LT	0418		32.7																
			0418	0419		29.1	28.9														
Y 20+98	16	LT	0419		32.3																
			0419	0404		28.1	28.0														
L 19+50	37	RT	0420		32.7																
			0420	0421		29.7	29.4														
L 20+12	22	RT	0421		32.4																
			0421	0422		29.4	29.2														
L 20+51	18	RT	0422		32.2																
			0422	0423		29.2	28.9														
L 21+30	18	RT	0423		32.6																
			0423	0424		28.0	27.5														
L 23+00	15	RT	0424		32.5																
			0424	0425		27.5	27.4														
SHEET TOTALS													104			24					
PROJECT TOTALS													104			24					

LINE & STATION	OFFSET		C. S. PIPE SIZE 12	15	18	24	30	36	42	48	C. S. PIPE THICKNESS OR GAUGE .064	.064	.064	.064	.079	.079	.109	.109	R. C. PIPE CLASS III SIZE 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV SIZE 12	15	18	24	30	36	42	48	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) A: 0' THRU 5' EACH	B: 5' THRU 10' LIN. FT.	B: 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05
Y 19+56	48	RT																																				1							
																			72																											
Y 20+35	38	RT																																				1							
																											64																			
Y 21+05	38	RT																																				1							
																											52																			
RAB 10+20	2	RT																																				1							
																											28																			
RAB 14+65	11	RT																																				1							
																											20																			
Y 17+28	35	RT																																				1							
																											4																			
Y 17+22	34	RT																																				1							
																											28																			
Y 16+91	25	RT																																				1							
																											76																			
Y 14+62		CL																																							1.300					
L 22+89	38	LT																	32																											
L 23+56		CL																											144																	
																															80															
Y 19+00	36	LT																																				1							
																											52																			
Y 19+49	21	LT																																				1							
																											76																			
Y 20+25	20	LT																																				1							
																											72																			
Y 20+98	16	LT																																				1							
																											24																			
L 19+50	37	RT																																				1							
																											72																			
L 20+12	22	RT																																				1							
																											44																			
L 20+51	18	RT																																				1							
																											76																			
L 21+30	18	RT																																				1							
																															160															
L 23+00	15	RT																																				1							
SHEET TOTALS																						24					548	284	144	240										1.300			17			9	2	3	4		5	
PROJECT TOTALS																						24					548	284	144	240										1.300			17			9	2	3	4		5	

LINE & STATION	OFFSET		D.I. STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	J.B. STD. 840.31 OR STD. 840.32	##" DRAINAGE PIPE ELBOW	##" DRAINAGE PIPE ELBOW	##" DRAINAGE PIPE ELBOW	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
Y 19+56	48	RT					1			1									
																		265	
Y 20+35	38	RT					1			1									
																		66	
Y 21+05	38	RT				1				1									
																		26	
RAB 10+20	2	RT	1	1															
RAB 14+65	11	RT	1	1															
Y 17+28	35	RT	1	1															
Y 17+22	34	RT	1	1															
Y 16+91	25	RT	1	1															
																		137	
Y 14+62		CL																	
L 22+89	38	LT																	
L 23+56		CL																	
Y 19+00	36	LT	1																
Y 19+49	21	LT	1	1															
Y 20+25	20	LT	1																
Y 20+98	16	LT	1																
L 19+50	37	RT	1		1														
L 20+12	22	RT	1		1														
L 20+51	18	RT	1	1															
L 21+30	18	RT	1																
L 23+00	15	RT	1		1														
SHEET TOTALS			5	5		1	2			3								494	
PROJECT TOTALS			5	5		1	2			3								494	

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

8/17/99

REVISIONS

-L- CURVE DATA			
PI STA.16+95.06	PI STA.19+80.33	PI STA.21+84.37	PI STA.26+89.33
Δ = 25° 37' 00.7" (RT)	Δ = 48° 05' 52.5" (LT)	Δ = 36° 51' 05.0" (RT)	Δ = 17° 53' 07.4" (RT)
D = 22° 55' 05.9"	D = 31° 49' 51.6"	D = 14° 19' 26.2"	D = 2° 22' 00.0"
L = 111.77'	L = 151.10'	L = 257.27'	L = 755.72'
T = 56.84'	T = 80.33'	T = 133.26'	T = 378.96'
R = 250.00'	R = 180.00'	R = 400.00'	R = 2,420.95'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

-RAB- CURVE DATA
PI STA.10+00.00
Δ = 360° 00' 00.0" (LT)
D = 76° 23' 39.7"
L = 471.24'
T = 0.00'
R = 75.00'
SE = .02
RO = N/A

-Y- CURVE DATA			
PI STA.17+11.60	PI STA.19+93.31	PI STA.22+85.16	PI Sta 12+87.43
Δ = 14° 45' 05.4" (RT)	Δ = 17° 40' 44.3" (RT)	Δ = 22° 13' 40.0" (LT)	Δ = 55° 11' 00.2" (LT)
D = 19° 05' 54.9"	D = 9° 32' 57.5"	D = 8° 00' 00.0"	D = 10° 25' 02.7"
L = 77.24'	L = 185.13'	L = 277.85'	L = 529.72'
T = 38.83'	T = 93.31'	T = 140.69'	T = 287.43'
R = 300.00'	R = 600.00'	R = 716.20'	R = 550.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

A -RAB- PC Sta.10+00.00 = -RAB- PT Sta.14+71.24

B -L- PT Sta.17+50.00 = -RAB- POC Sta.11+02.07

C -Y- PC Sta.9+00.00 = -RAB- POC Sta.11+97.69

D -L- PC Sta.9+00.00 = -RAB- POC Sta.13+46.09

E -Y- PT Sta.17+50.00 = -RAB- POC Sta.14+24.14

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROB A. MAY

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW I. HARVEY

WETHERILL ENGINEERING
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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FOR PROFILES, SEE SHEET NO. 5

FOR DITCH DETAILS, SEE SHEET NO. 2D-1

PAVEMENT REMOVAL

FOR INTERSECTION DETAIL, SEE SHEET NO. 2B-1

FOR CONC. ISLAND DETAIL, SEE SHEET NO. 2B-2

NAD 83/NSRS 2007

BEGIN TIP PROJECT W-5702I
-L- STA. 13+00.00

NOTE THAT EXISTING DITCHES ON THIS QUADRANT DO NOT MEET CURRENT CAPACITY DESIGN CRITERIA. EXISTING DRAINAGE PATTERNS HAVE BEEN MAINTAINED IN ORDER TO MINIMIZE ANY IMPACTS FROM NEW CONSTRUCTION.

DOUGLAS CROSSROADS LLC
213 59TH ST
VIRGINIA BEACH,VA 23451
DB 1787 PG 116

PIPE CLEANOUT

S 81° 56' 07.6" E

-L- 15+00

-RPB- PC Sta.10+00.00 = -L- POT Sta.16+35.18 LT

-L- PC Sta.16+38.23

-Y- PC Sta.16+12.76

RETAIN

REMOVE 137 LF OF EXISTING 15" RCP

15" RCP-IV

REMOVE

-L- +90.00 @ EX. R/W
-L- +19.30 @ EX. R/W
PIPE AND DITCH CLEANOUT (20 FT)
-L- +23.13 65.00
-L- +10.00 85'
-L- +40.00 75' & 65'
SPECIAL CUT 'V' DITCH (SEE DETAIL A)
SPECIAL CUT 4' BASE DITCH (SEE DETAIL D)
-L- +11.81 65.00 REMOVE SYSTEM

5

ANGULO GUADALUPE YAMIN URIATE & CLAIDER MENDIETA RAMIREZ
DB 2039 PG 127

JAMES JOSEPH ALBERA & WIFE EMILY MARSHA PADGETT ALBERA
DB 2008 PG 084

1

S 68° 18' 41.9" W

2GI 'D'

18" RCP-IV

-Y- PC Sta.21+44.47

-Y- PT Sta.20+85.13

-Y- +92.96 60.00

-Y- +99.70 @ EX. R/W

-Y- +80.00 40.00 & EX. R/W

8 TONS CL B RIP RAP W/21 SY GEOTEXTILE

TAIL V DITCH SEE DETAIL G REMOVE EX. HW AND 16 LF OF EX. 15" HDPE PIPE

END CONSTRUCTION
-Y- STA. 21+80.00
END 2'-9" C&G

2

BUNYON VOLUNTEER FIRE DEPT
8264 BROAD CREEK RD
WASHINGTON,NC 27889
DB 772 PG 359

PAT'SY W. ALLIGOOD
8222 BROAD CREEK RD
WASHINGTON,NC 27889
DB 820 PG 286

STEPHEN L.DOUGLAS
8451 NC HWY 32 N
WASHINGTON,NC 27889
DB 1753 PG 14

BEGIN CONSTRUCTION
-Y- STA. 13+80.00

S 42° 52' 52.2" W

-RPB- PT Sta.15+29.72 = -Y- POT Sta.14+22.73

REMOVE HEADWALL

SPECIAL CUT 'V' DITCH (SEE DETAIL A)

-Y- +80.00 50.00 & EX. R/W

4

TIMOTHY B.DOUGLAS
2442 BRADDY ROAD
WASHINGTON,NC 27889
DB 1753 PG 20

NOTE THAT EXISTING DITCHES ON THIS QUADRANT DO NOT MEET CURRENT CAPACITY DESIGN CRITERIA. EXISTING DRAINAGE PATTERNS HAVE BEEN MAINTAINED IN ORDER TO MINIMIZE ANY IMPACTS FROM NEW CONSTRUCTION.

EMILY P.ALBERA
PO BOX 1162
WASHINGON,NC 27889
DB 1565 PG 141

-Y- 15+00

3 TONS CL B RIP RAP W/14 SY GEOTEXTILE

SPECIAL LATERAL 'V' DITCH (SEE DETAIL B)

-Y- +57.06 60.00 @ EX. R/W

SPECIAL LATERAL 'V' DITCH (SEE DETAIL E)

2 TONS CL B RIP RAP W/7 SY GEOTEXTILE

SPECIAL CUT 'V' DITCH (SEE DETAIL F)

SPECIAL LATERAL 'V' DITCH (SEE DETAIL E)

-Y- PC Sta.16+12.76

-Y- 20+00

-Y- PT Sta.17+50.00

-L- PCC Sta.23+08.38

(2) 24" RCP CLASS IV

GRADE TO DRAIN

-L- 25+00

-L- 20+00

-L- +20.07 @ EX. R/W

8 TONS CL B RIP RAP W/21 SY GEOTEXTILE

HELEN B.MEEKINS
1294 SLATESTONE RD
WASHINGTON,NC 27889
DB 1752 PG 562

END TIP PROJECT W-5702I
-L- STA. 23+70.00
END 2'-9" C&G

CONC. TRUCK APRON

PT -Y- +84.25 7.45

PC -Y- +161.56 41.66

END CONC TRUCK APRON -Y- STA. 19+50.00 RT.

-L- +00.00 60.00

-L- +50.00 75.00

-L- +00.00 55.00

PT -Y- +103.88 55.30

-Y- +18.00 70.00

BEG. CONC. TRUCK APRON -Y- STA. 19+50.00 RT.

PT -Y- +112.56 36.40

REMOVE

BUNYON VOLUNTEER FIRE DEPT
8264 BROAD CREEK RD
WASHINGTON,NC 27889
DB 1798 PG 804

3

-L- PRC Sta.20+51.10

2022 / 2042	-Y- NC 32	
		4,500 / 5,445
	3,100 / 3,750	415 / 515
-L- US 264		-L- US 264
11,725 / 14,225	260 / 310	160 / 210
		8,950 / 10,900
		1,395 / 1,695
	-Y- NC 32	

11/9/2023
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5/28/99

–RAB–

FOR –RAB– PLAN, SEE SHEET: 4

BEGIN GRADE
-RAB- STA. 10+00.00
EL = 33.50'

END GRADE
-RAB- STA. 14+71.24
EL = 33.50'

PI = 11+17.81
EL = 35.00'
VC = 60'
K = 136
DS = 25 MPH

PI = 12+78.43
EL = 33.50'
VC = 86'
K = 43
DS = 30 MPH

PI = 13+53.43
EL = 35.00'
VC = 60'
K = 136
DS = 25 MPH

PI = 10+42.81
EL = 33.50'
VC = 86'
K = 43
DS = 30 MPH

PI = 11+92.81
EL = 33.50'
VC = 86'
K = 43
DS = 30 MPH

PI = 14+28.43
EL = 33.50'
VC = 86'
K = 43
DS = 30 MPH

(+)2.0000% (−)2.0000% (+)2.0000% (−)2.0000%
(+)0.0000% (+)0.0000% (+)0.0000%

–RPB–

FOR –RPB– PLAN, SEE SHEET: 4

BEGIN GRADE
-RPB- STA. 10+00.00 =
-L- STA. 16+13.97, 18' LT
EL = 33.88'

END GRADE
-RPB- STA. 14+13.07 =
-Y- STA. 15+38.51, 12.32' RT
EL = 34.68'

PI = 10+70.00
EL = 33.88'
VC = 70'
K = 117
DS = 55 MPH

PI = 11+50.00
EL = 33.40'
VC = 90'
K = 67
DS = 40 MPH

PI = 12+50.00
EL = 34.15'
VC = 70'
K = 67
DS = 45 MPH

PI = 13+30.00
EL = 33.91'
VC = 90'
K = 69
DS = 40 MPH

PI = 14+00.00
EL = 34.61'
VC = 26'
K = 56
DS = 40 MPH

(+)0.0000% (−)0.6000% (+)0.7500% (−)0.3000% (+)1.0000% (+)0.5355%

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	5

ROADWAY DESIGN ENGINEER
7/12/2022
SEAL 21116
NORTH CAROLINA PROFESSIONAL ENGINEER Nicholas A. May
Nicholas A. May

HYDRAULICS ENGINEER
7/12/2022
SEAL 053425
NORTH CAROLINA PROFESSIONAL ENGINEER Matthew L. Harvey
Matthew L. Harvey

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–L–

FOR –L– PLAN, SEE SHEET: 4

BEGIN GRADE
-L- STA. 13+00.00
EL = 34.64'

END GRADE
-L- STA. 17+50.00=
-RAB- STA. 11+02.07
EL = 34.62'

BEGIN GRADE
-L- STA. 19+00.00 =
-RAB- STA. 13+46.09
EL = 34.68'

END GRADE
-L- STA. 23+70.00
EL = 32.62'

PI = 13+95.00
EL = 34.64'
VC = 100'
K = 500
DS = 80 MPH

PI = 16+30.00
EL = 34.17'
VC = 100'
K = 174
DS = 65 MPH

PI = 20+00.00
EL = 32.68'
VC = 140'
K = 50
DS = 35 MPH

PI = 21+70.00
EL = 34.04'
VC = 200'
K = 132
DS = 55 MPH

ROUNDABOUT

(+)0.0000% (−)0.2000% (−)0.2000% (+)0.3750% (+)2.0000% (−)2.0000% (−)2.0000% (+)0.8000% (+)0.8000% (−)0.7100%

(+)0.30% (−) 0.2535% (−) 0.30% (−) 0.30%

DITCH STA 13+18.00 (RT) ELEV=30.67 FT
DITCH STA 14+20.00 (RT) ELEV=30.98 FT
DITCH STA 15+40.00 (RT) ELEV=31.35 FT
DITCH STA 17+11.61 (RT) ELEV=30.87 FT
DITCH STA 21+00.00 (LT) ELEV=28.32 FT
DITCH STA 21+30.00 (LT) ELEV=28.23 FT

PIPE HYDRAULIC DATA
30" RCP CLASS IV Sta. 21+31 -L-

DRAINAGE AREA	= 6.00	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 29.0	CFS
DESIGN HW ELEVATION	= 31.2	FT
100 YEAR DISCHARGE	= 31.0	CFS
100 YEAR HW ELEVATION	= 31.4	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 44.0	CFS
OVERTOPPING ELEVATION	= 32.7	FT

PIPE HYDRAULIC DATA
2-24" RCP CLASS IV Sta. 23+57 -L-

DRAINAGE AREA	= 8.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 35.0	CFS
DESIGN HW ELEVATION	= 30.5	FT
100 YEAR DISCHARGE	= 37.0	CFS
100 YEAR HW ELEVATION	= 30.6	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 43.5	CFS
OVERTOPPING ELEVATION	= 62.0	FT

–Y–

FOR –Y– PLAN, SEE SHEET: 4

BEGIN GRADE
-Y- STA. 13+80.00
EL = 33.90'

END GRADE
-Y- STA. 17+50.00=
-RAB- STA. 14+24.14
EL = 33.76'

BEGIN GRADE
-Y- STA. 19+00.00 =
-RAB- STA. 11+97.69
EL = 33.67'

END GRADE
-Y- STA. 21+80.00
EL = 32.35'

PI = 14+05.00
EL = 34.06'
VC = 50'
K = 139
DS = 60 MPH

PI = 15+55.00
EL = 35.56'
VC = 210'
K = 84
DS = 50 MPH

PI = 17+05.00
EL = 33.31'
VC = 90'
K = 36
DS = 25 MPH

PI = 19+30.00
EL = 33.07'
VC = 60'
K = 25
DS = 20 MPH

PI = 20+30.00
EL = 33.50'
VC = 90'
K = 63
DS = 45 MPH

PI = 21+30.00
EL = 32.50'
VC = 100'
K = 143
DS = 60 MPH

ROUNDABOUT

(+)0.6400% (+)1.0000% (+)1.0000% (−)1.5000% (−)1.5000% (+)1.0000% (−)2.0000% (+)0.4300% (+)0.4300% (−)1.0000% (−)1.0000% (−)0.3000%

(−)1.60% (−)0.2830% (−) 0.3457% (−) 0.2136%

2 @ 18" RCP OUTLET

DITCH STA 13+80.00 (LT) ELEV=30.71 FT
DITCH STA 14+00.00 (LT) ELEV=30.39 FT
DITCH STA 14+60.00 (LT) ELEV=29.43 FT
DITCH STA 16+19.00 (LT) ELEV=28.98 FT
DITCH STA 17+00.00 (LT) ELEV=28.70 FT
DITCH STA 19+33.85 (RT) ELEV=30.87 FT
DITCH STA 20+45.00 (RT) ELEV=30.58 FT

PIPE HYDRAULIC DATA
2 @ 18" RCP CLASS IV Sta. 14+61 -Y-

DRAINAGE AREA	= 3.44	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 17.0	CFS
DESIGN HW ELEVATION	= 32.3	FT
100 YEAR DISCHARGE	= 18.0	CFS
100 YEAR HW ELEVATION	= 32.4	FT
OVERTOPPING FREQUENCY	= 500+/-	YRS
OVERTOPPING DISCHARGE	= 20.6	CFS
OVERTOPPING ELEVATION	= 32.7	FT

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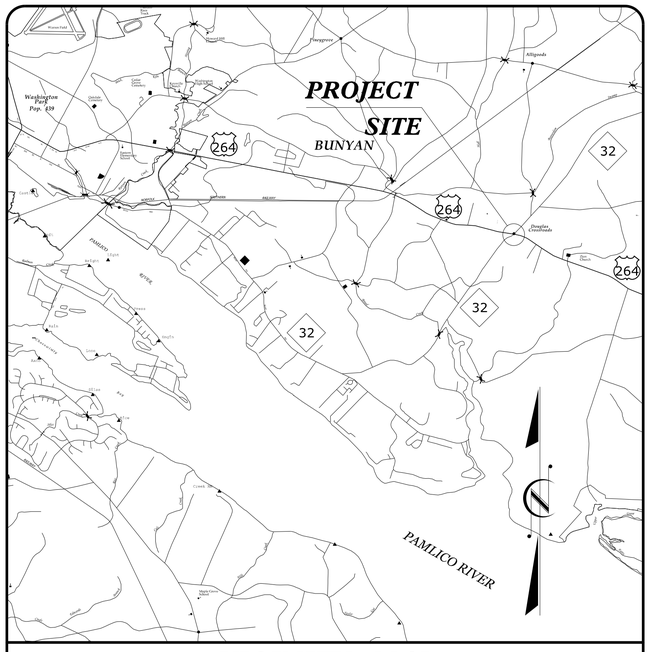
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BEAUFORT COUNTY





VICINITY MAP

LOCATION: DOUGLAS CROSSROADS
INTERSECTION OF US 264 AND NC 32

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

BOB MAY, P.E.

D. ALLEN HAYES, E.I.

NCDOT CONTACTS:

D. A. PARKER, P.E.
PROJECT ENGINEER

SPENCER JENNINGS
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-01	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-01A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-01B	TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES
TMP-02	TEMPORARY SIGNING LAYOUT
TMP-03	TEMPORARY TRAFFIC CONTROL PHASING
TMP-04	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-05	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL
TMP-06 THRU 07	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL

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SEAL

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SHEET NO.
TMP-01

W-5702I

TIP PROJECT:

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W-5702I	TMP-01A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- PAVEMENT WIDENING
- WEDGING

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- DRUM
- TUBULAR MARKER
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	PAY ITEM
P8	2 FT. - 6 FT./SP WHITE MINISKIP	4" PAINT
P9	2 FT. - 6 FT./SP YELLOW MINISKIP	4" PAINT
PA	WHITE SOLID EDGE/LANE LINE	4" PAINT
PB	YELLOW EDGE/SINGLE CENTER	4" PAINT
PD	3 FT. - 9 FT./SP WHITE MINISKIP	4" PAINT
PI	YELLOW DOUBLE CENTER	4" PAINT
PN	WHITE GORELINE	12" PAINT
P2	WHITE STOPBAR	24" PAINT

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APPROVED: DocuSigned by: Bob A. May 513D844244294 93...

DATE: 6/21/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER ROB A. MAY

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DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

6/21/2022
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CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

1. US 264/NC 92 8:00 A.M. - 6:00 P.M.

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 8:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 8:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 8:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 8:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 8:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 8:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 8:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 8:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

B) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
1. US 264/NC 92 NC 32	7:00 A.M. - 11:00 P.M. MONDAY THRU FRIDAY	30 MINUTES FOR PAVING OPERATIONS, MARKING/MARKER INSTALLATION & REMOVAL, AND TRAFFIC SHIFTS

C) DO NOT CONDUCT SINGLE VEHICLE HAULING AS FOLLOWS; INGRESS AND EGRESS FROM RAMPS BE ALLOWED:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. US 264/NC 92	8:00 A.M. - 9:00 A.M. 4:00 P.M. - 6:00 P.M. MONDAY THRU FRIDAY

D) DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS; INGRESS AND EGRESS FROM RAMPS BE ALLOWED:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. US 264/NC 92	8:00 A.M. - 9:00 A.M. 4:00 P.M. - 6:00 P.M. MONDAY THRU FRIDAY

E) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

F) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

I) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

J) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

K) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US 264 AND NC 32.

PAVEMENT EDGE DROP OFF REQUIREMENTS

L) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

M) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

N) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

O) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

Q) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

R) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

TRAFFIC CONTROL DEVICES

S) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

T) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

U) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. US 264 & NC 32	PAINT	TEMPORARY RAISED

V) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

W) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

X) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

Y) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION. PLACE DRUMS TO DELINEATE ANY EXISTING AND PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

MISCELLANEOUS

Z) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

AA) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 350 FT AND 350 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

BB) WHEN DOING ANY WORK WITHIN FIVE FEET OF AN INBOUND LANE TOWARD THE ROUNDABOUT, ALL LANES IN THE DIRECTION TOWARD THE ROUNDABOUT MUST BE CLOSED. ALL LANES IN THE DIRECTION TOWARD THE ROUNDABOUT SHALL BE RE-OPENED TO ALLOW THE DEPLETION OF ANY TRAFFIC QUEUEING CREATED BY THE STOPPING OF TRAFFIC.

WHEN DOING ANY WORK WITHIN FIVE FEET OF AN OUTBOUND LANE FROM THE ROUNDABOUT OR INSIDE THE ROUNDABOUT, ALL LANES IN ALL DIRECTIONS INSIDE THE PROJECT LIMITS MUST BE CLOSED. ALL LANES WITHIN THE PROJECT LIMITS SHALL BE RE-OPENED TO ALLOW THE DEPLETION OF ANY TRAFFIC QUEUEING CREATED BY THE STOPPING OF TRAFFIC.

CC) WHEN CONSTRUCTING DRAINAGE STRUCTURES ADJACENT TO TRAFFIC, INSTALL TEMPORARY STEEL PLATES, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR MAY WORK EACH LOCATION INDEPENDENTLY OR CONCURRENTLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WORK IN A CONTINUOUS MANNER TO PERFORM THE WORK IN THE FOLLOWING SEQUENCE, STEPS '1' THRU '5'.

1: CLOSE THE APPROPRIATE TRAVEL LANE TO TRAFFIC USING ROADWAY STANDARD DRAWING NO. 1101.02.

2: CONSTRUCT PROPOSED STRUCTURE OR INSTALL PRE-CAST DRAINAGE STRUCTURE AS SHOWN IN THE CONSTRUCTION PLANS AND COVER WITH STEEL PLATES TO PROTECT STRUCTURE DURING CURING.

3: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD.

4: WHEN PROPERLY CURED, CLOSE THE APPROPRIATE TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02. BACKFILL & PAVE, IF REQUIRED, UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT (SEE CONSTRUCTION PLANS).

5: OPEN TRAVEL LANE TO EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.

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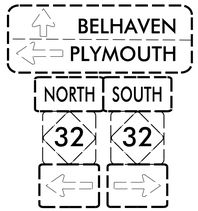
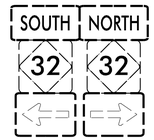
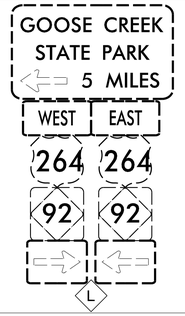
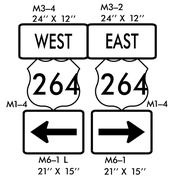
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GENERAL NOTES

5/25/2023
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APPROVED: DocuSigned by: Bob A. May 513084424429493...

DATE: 6/21/2022

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TEMPORARY SIGNING LAYOUT

6/21/2022
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W-5702I	TMP-03

PHASE I

STEP 1) USING ROADWAY STANDARD (RSD) 1101.01 INSTALL ALL ADVANCE WORK ZONE SIGNING ON THE ENTIRE PROJECT.

INSTALL ONE (1) CHANGEABLE MESSAGE SIGNS (CMS) IN EACH DIRECTION OF -L- (US 264/NC 92) AND -Y- (NC 32) AS DIRECTED BY THE ENGINEER. THESE CHANGEABLE MESSAGES SIGNS ARE TO BE UTILIZED TO INFORM & ALERT THE TRAVELING PUBLIC TO TRAFFIC CONDITIONS AND MAY BE UTILIZED FOR TRAFFIC CONTROL OPERATIONS DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

STEP 2) USING RSD 1101.02, PERFORM CLEARING AND GRUBBING OPERATIONS, INSTALL UTILITIES, AND INSTALL DRAINAGE ON THE ENTIRE PROJECT. INSTALL THE TEMPORARY PAVEMENT MARKINGS/MARKERS AND SHIFT TRAFFIC TO THE TEMPORARY PATTERN. REMOVE THE EXISTING MONOLITHIC AND RAISED GRASS ISLANDS AND REPLACE WITH PAVEMENT AS SHOWN. INSTALL WIDENING AS SHOWN UP TO THE EXISTING EDGE AND ELEVATION. IF POSSIBLE, RETAIN THE EXISTING FLASHING WARNING LIGHT SYSTEM. [REFER TO SHEET TMP-04]

PHASE II

STEP 1) USING RSD 1101.02, WEDGE THE ENTIRE PROJECT AND THE EXISTING NORTHEAST CORNER OF US 264/NC 32 UP TO BUT NOT INCLUDING THE FINAL LIFT OF SURFACE COURSE, INSTALL TEMPORARY PAVEMENT MARKINGS/MARKERS, TEMPORARY SIGNING, AND SHIFT TRAFFIC TO THE TEMPORARY PATTERN. [REFER TO SHEET TMP-02 & 05]

STEP 2) USING RSD 1101.02 AS NEEDED, INSTALL THE ROUNDABOUT CIRCLE ISLAND AND THE MONOLITHIC ISLAND ON THE EASTERN LEG OF THE PROPOSED INTERSECTION. [REFER TO SHEET TMP-05]

PHASE III

STEP 1) AWAY FROM TRAFFIC, INSTALL AS MUCH OF THE TEMPORARY PAVEMENT MARKINGS/MARKERS AS IN THE EASTERN LEG OF THE PROPOSED INTERSECTION. NEXT, INSTALL THE LANE CLOSURE, CLOSING THE MEDIAN LANE OF US 264 EB. THEN, STOPPING TRAFFIC AS NEEDED, INSTALL THE REMAINING TEMPORARY PAVEMENT MARKINGS/MARKERS, AND INSTALL DRUMS IN THE PATTERN SHOWN. [REFER TO SHEET TMP-06]

STEP 2) BEHIND DRUMS AND STOPPING TRAFFIC AS NEEDED, INSTALL THE MONOLITHIC ISLANDS ON THE NORTH, SOUTH, AND WEST LEGS OF THE PROPOSED INTERSECTION, AND THE TEMPORARY PAVEMENT MARKINGS/MARKERS. [REFER TO SHEET TMP-06]

USING RSD 1101.02 AS NEEDED, REMOVE THE EXISTING ROADWAY IN THE NORTHEASTERN CORNER OF THE INTERSECTION AND FILL THE TEMPORARY DRAINAGE PIPE, IF INSTALLED PREVIOUSLY. [REFER TO SHEET TMP-06]

STEP 3) STOPPING TRAFFIC AS NEEDED, ADJUST THE DRUMS INTO THE PATTERN SHOWN, INSTALL THE TEMPORARY MARKINGS/MARKERS, AND SHIFT TRAFFIC INTO THE TEMPORARY PATTERN. THEN, BEHIND DRUMS AND STOPPING TRAFFIC AS NEEDED, INSTALL THE MONOLITHIC ISLAND IN THE NORTHWEST CORNER OF THE INTERSECTION. [REFER TO SHEET TMP-07]

USING RSD 1101.02 AS NEEDED, REMOVE THE REMAINING EXISTING ROADWAY ALONG THE NORTHWEST CORNER OF THE INTERSECTION, PER THE DISCRETION OF THE ENGINEER. [REFER TO SHEET TMP-07]

PHASE IV

STEP 1) STOPPING TRAFFIC, INSTALL THE FINAL LIFT OF SURFACE COURSE, INSTALL THE FINAL PAVEMENT MARKINGS/MARKERS, AND PLACE TRAFFIC ONTO THE FINAL TRAFFIC PATTERN. [REFER TO THE FINAL PAVEMENT MARKING PLAN]

STEP 2) REMOVE ALL TEMPORARY TRAFFIC MANAGEMENT DEVICES AND SIGNING.

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Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: DocuSigned by: Bob A. May 513D844424429493...

DATE: 6/21/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

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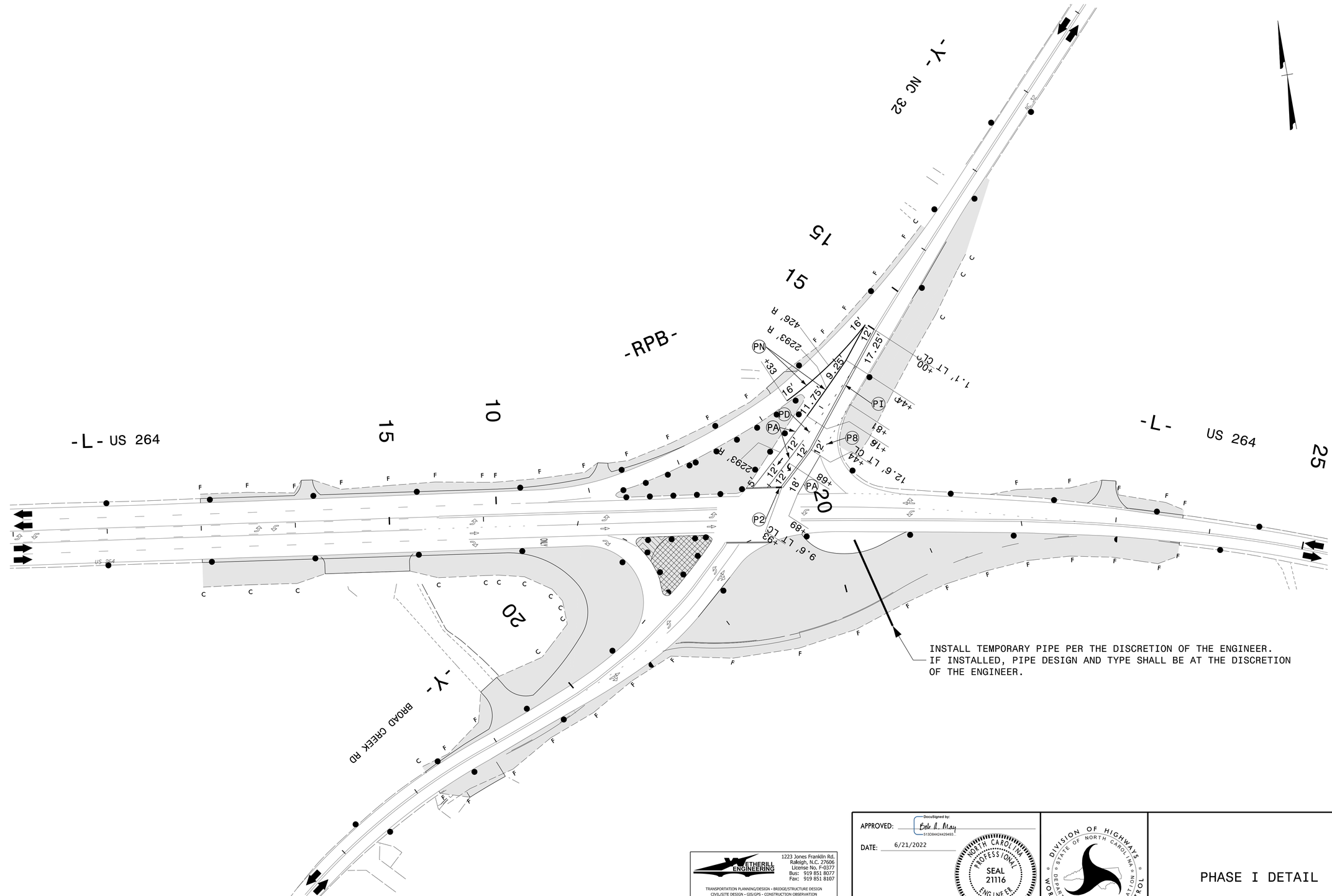
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PHASING

6/21/2022
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PROJ. REFERENCE NO.	SHEET NO.
W-5702I	TMP-04



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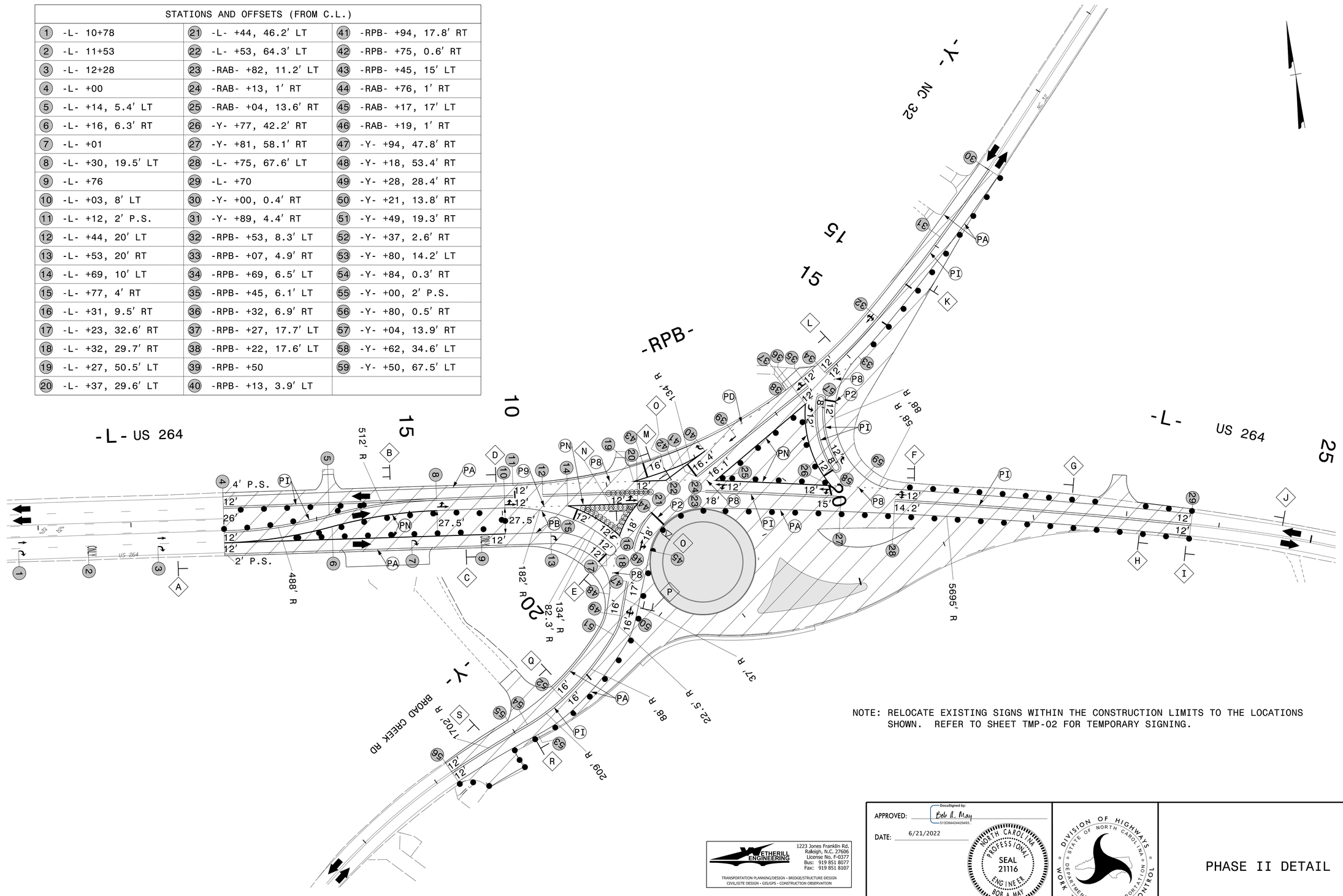
PHASE I DETAIL

6/21/2022
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PROJ. REFERENCE NO.	SHEET NO.
W-5702I	TMP-05

STATIONS AND OFFSETS (FROM C.L.)		
1 -L- 10+78	21 -L- +44, 46.2′ LT	41 -RPB- +94, 17.8′ RT
2 -L- 11+53	22 -L- +53, 64.3′ LT	42 -RPB- +75, 0.6′ RT
3 -L- 12+28	23 -RAB- +82, 11.2′ LT	43 -RPB- +45, 15′ LT
4 -L- +00	24 -RAB- +13, 1′ RT	44 -RAB- +76, 1′ RT
5 -L- +14, 5.4′ LT	25 -RAB- +04, 13.6′ RT	45 -RAB- +17, 17′ LT
6 -L- +16, 6.3′ RT	26 -Y- +77, 42.2′ RT	46 -RAB- +19, 1′ RT
7 -L- +01	27 -Y- +81, 58.1′ RT	47 -Y- +94, 47.8′ RT
8 -L- +30, 19.5′ LT	28 -L- +75, 67.6′ LT	48 -Y- +18, 53.4′ RT
9 -L- +76	29 -L- +70	49 -Y- +28, 28.4′ RT
10 -L- +03, 8′ LT	30 -Y- +00, 0.4′ RT	50 -Y- +21, 13.8′ RT
11 -L- +12, 2′ P.S.	31 -Y- +89, 4.4′ RT	51 -Y- +49, 19.3′ RT
12 -L- +44, 20′ LT	32 -RPB- +53, 8.3′ LT	52 -Y- +37, 2.6′ RT
13 -L- +53, 20′ RT	33 -RPB- +07, 4.9′ RT	53 -Y- +80, 14.2′ LT
14 -L- +69, 10′ LT	34 -RPB- +69, 6.5′ LT	54 -Y- +84, 0.3′ RT
15 -L- +77, 4′ RT	35 -RPB- +45, 6.1′ LT	55 -Y- +00, 2′ P.S.
16 -L- +31, 9.5′ RT	36 -RPB- +32, 6.9′ RT	56 -Y- +80, 0.5′ RT
17 -L- +23, 32.6′ RT	37 -RPB- +27, 17.7′ LT	57 -Y- +04, 13.9′ RT
18 -L- +32, 29.7′ RT	38 -RPB- +22, 17.6′ LT	58 -Y- +62, 34.6′ LT
19 -L- +27, 50.5′ LT	39 -RPB- +50	59 -Y- +50, 67.5′ LT
20 -L- +37, 29.6′ LT	40 -RPB- +13, 3.9′ LT	



NOTE: RELOCATE EXISTING SIGNS WITHIN THE CONSTRUCTION LIMITS TO THE LOCATIONS SHOWN. REFER TO SHEET TMP-02 FOR TEMPORARY SIGNING.

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DATE: 6/21/2022

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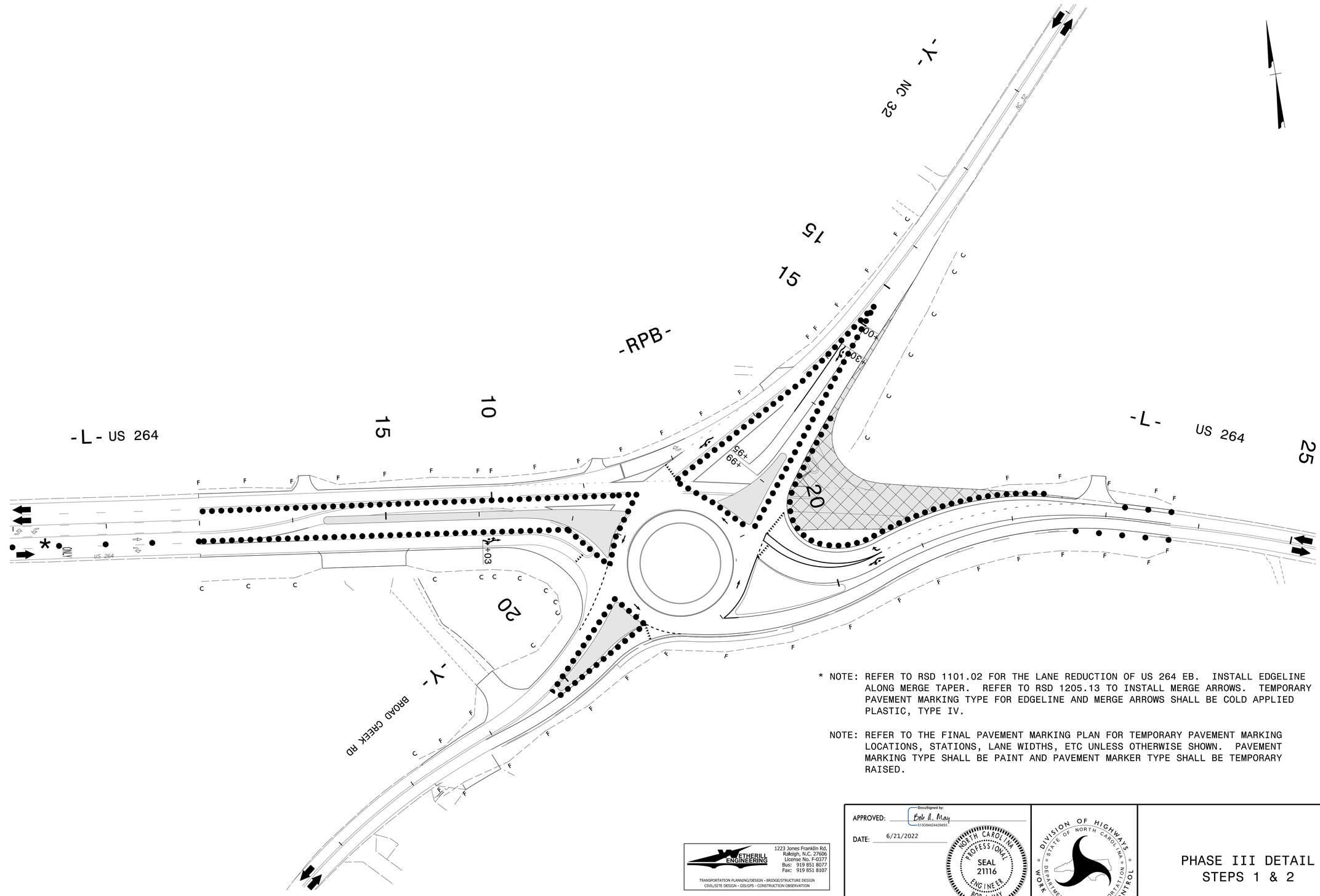
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PHASE II DETAIL

6/21/2022
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PROJ. REFERENCE NO.	SHEET NO.
W-5702I	TMP-06



* NOTE: REFER TO RSD 1101.02 FOR THE LANE REDUCTION OF US 264 EB. INSTALL EDGELINE ALONG MERGE TAPER. REFER TO RSD 1205.13 TO INSTALL MERGE ARROWS. TEMPORARY PAVEMENT MARKING TYPE FOR EDGELINE AND MERGE ARROWS SHALL BE COLD APPLIED PLASTIC, TYPE IV.

NOTE: REFER TO THE FINAL PAVEMENT MARKING PLAN FOR TEMPORARY PAVEMENT MARKING LOCATIONS, STATIONS, LANE WIDTHS, ETC UNLESS OTHERWISE SHOWN. PAVEMENT MARKING TYPE SHALL BE PAINT AND PAVEMENT MARKER TYPE SHALL BE TEMPORARY RAISED.

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APPROVED: DocuSigned by: Bob A. May 513D8442442B493...

DATE: 6/21/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A MAY

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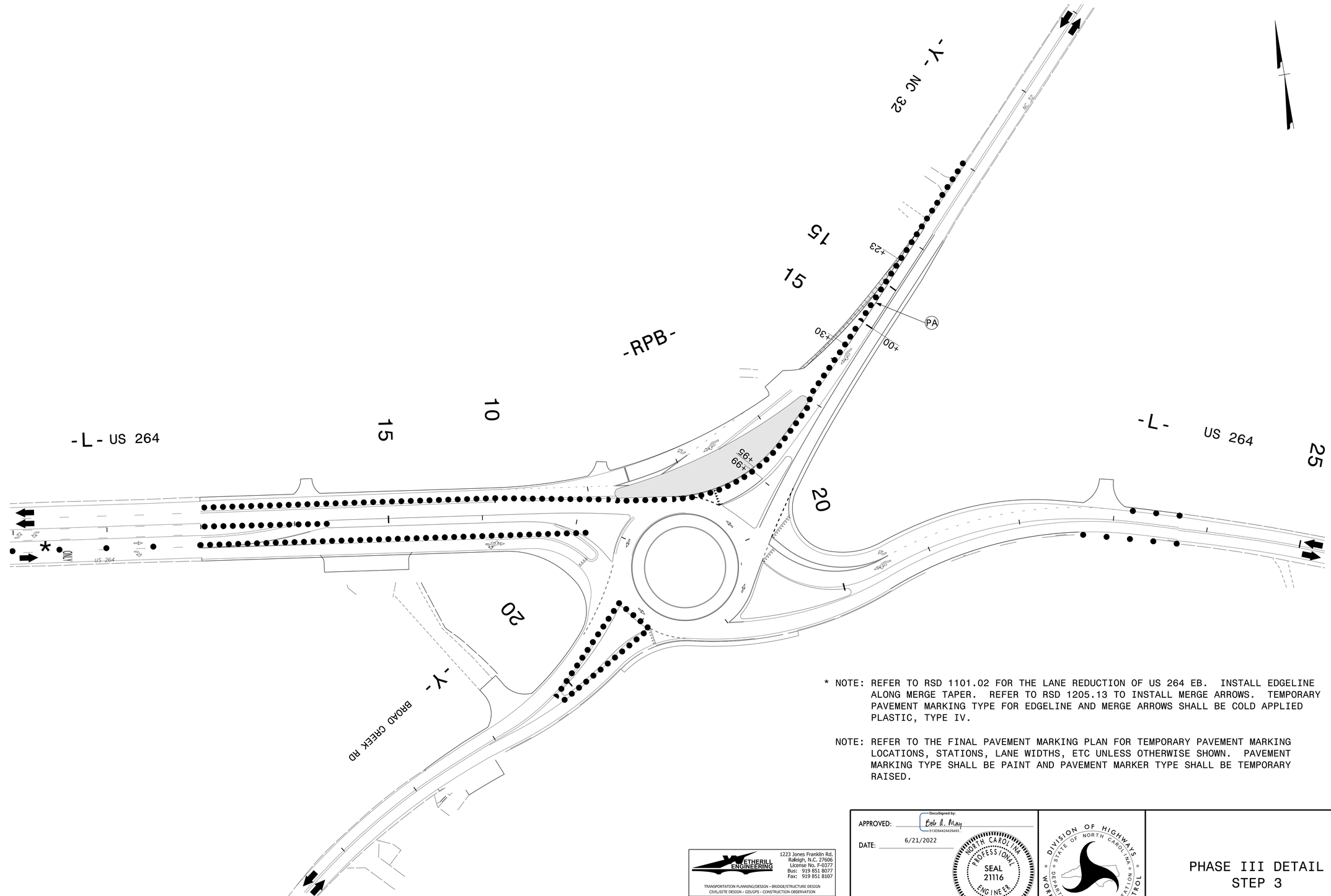
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PHASE III DETAIL STEPS 1 & 2

6/21/2022
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PROJ. REFERENCE NO.	SHEET NO.
W-5702I	TMP-07



* NOTE: REFER TO RSD 1101.02 FOR THE LANE REDUCTION OF US 264 EB. INSTALL EDGELINE ALONG MERGE TAPER. REFER TO RSD 1205.13 TO INSTALL MERGE ARROWS. TEMPORARY PAVEMENT MARKING TYPE FOR EDGELINE AND MERGE ARROWS SHALL BE COLD APPLIED PLASTIC, TYPE IV.

NOTE: REFER TO THE FINAL PAVEMENT MARKING PLAN FOR TEMPORARY PAVEMENT MARKING LOCATIONS, STATIONS, LANE WIDTHS, ETC UNLESS OTHERWISE SHOWN. PAVEMENT MARKING TYPE SHALL BE PAINT AND PAVEMENT MARKER TYPE SHALL BE TEMPORARY RAISED.

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DATE: 6/21/2022

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

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PHASE III DETAIL STEP 3

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T.I.P.: W-5702I

CONTRACT: N/A

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
BEAUFORT COUNTY

TIP NO.	SHEET NO.
W-5702I	PMP-01

APPROVED: DocuSigned by: Bob A. May 913D8442429493... 6/21/2022

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY

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INDEX

SHEET NO.	DESCRIPTION
PMP-01	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-02	PAVEMENT MARKING DETAIL

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. US 264 & NC 32	THERMOPLASTIC	SNOWPLOWABLE

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM	
T10	3 FT. - 3 FT./SP WHITE MINISKIP	(12", 90 MILS)	THERMOPLASTIC
T13	3 FT. - 9 FT./SP WHITE MINISKIP	(8", 90 MILS)	THERMOPLASTIC
TA	WHITE SOLID LINE	(4", 90 MILS)	THERMOPLASTIC
TB	YELLOW SOLID LINE	(4", 90 MILS)	THERMOPLASTIC
TC	10 FT. WHITE SKIP LINE	(4", 90 MILS)	THERMOPLASTIC
TD	3 FT. - 9 FT./SP WHITE MINISKIP	(4", 90 MILS)	THERMOPLASTIC
TF	10 FT. YELLOW SKIP	(4", 90 MILS)	THERMOPLASTIC
TI	YELLOW DOUBLE CENTER	(4", 90 MILS)	THERMOPLASTIC
TN	WHITE GORELINE	(8", 90 MILS)	THERMOPLASTIC
UB	RIGHT TURN ARROW	(90 MILS)	THERMOPLASTIC
UC	STRAIGHT ARROW	(90 MILS)	THERMOPLASTIC
UI	ALPHANUMERIC CHARACTER	(90 MILS)	THERMOPLASTIC
UN	24" YIELD LINE TRIANGLE	(90 MILS)	THERMOPLASTIC
YB	FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW	(90 MILS)	THERMOPLASTIC
ME	YELLOW & YELLOW	SNOWPLOWABLE RAISED PAVEMENT MARKERS	
MF	CRYSTAL & RED	SNOWPLOWABLE RAISED PAVEMENT MARKERS	

PLAN SUBMITTED TO:

AYMAN I. ALQUDWAH, P.E., SIGNING AND DELINEATION REGIONAL ENGINEER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

PLAN PREPARED BY: Wetherill Engineering, Inc.

BOB MAY, P.E. PROJECT MANAGER

D. ALLEN HAYES, E.I. TRANSPORTATION MANAGEMENT ENGINEER

WETHERILL ENGINEERING

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TIP NO.	SHEET NO.
W-5702I	PMP-02

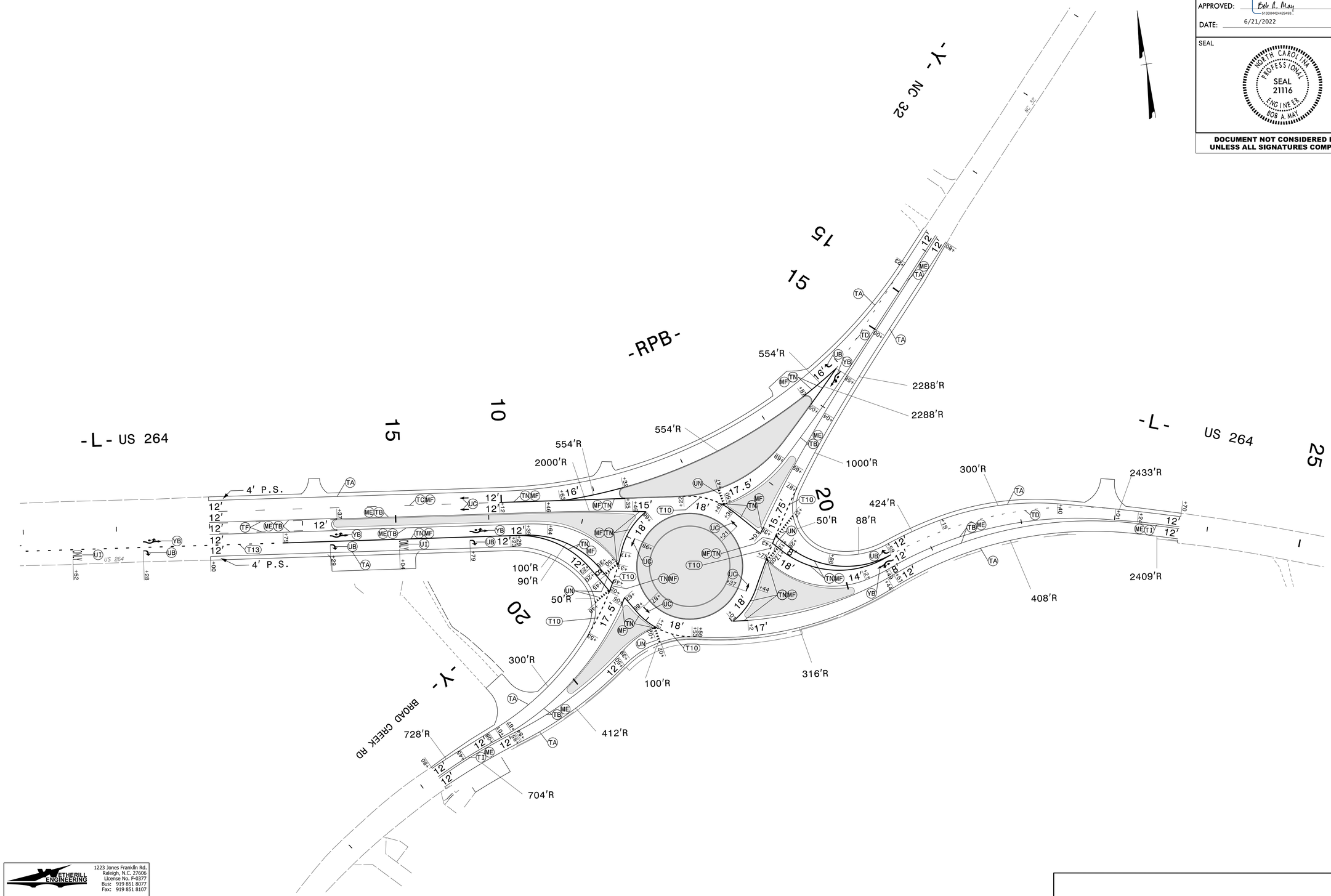
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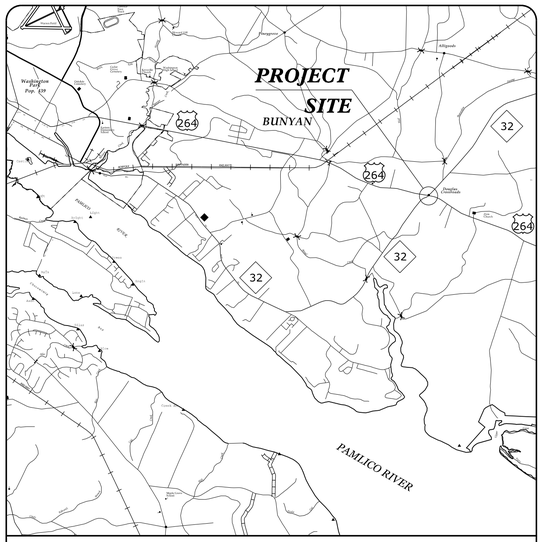
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PAVEMENT MARKING DETAIL

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PROJECT: W-5702I

TIP



VICINITY MAP

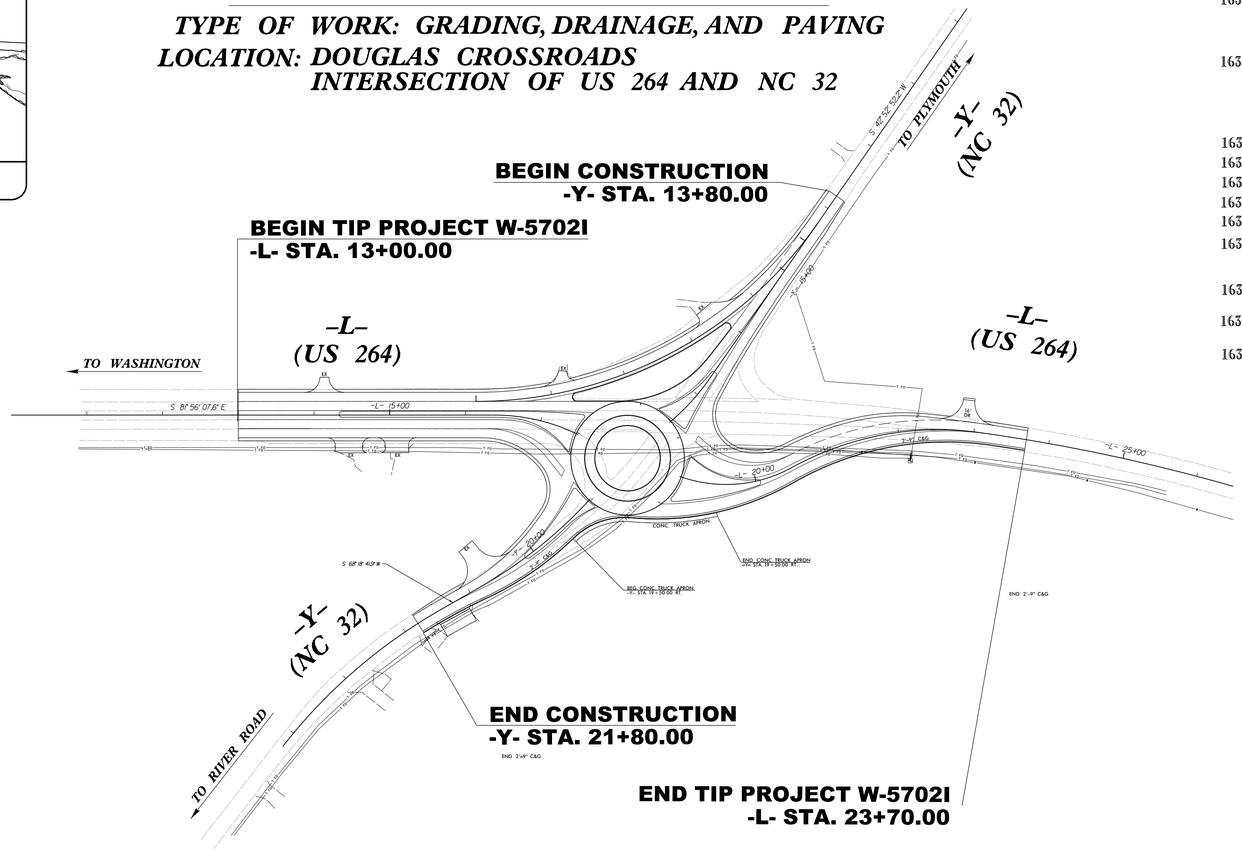
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

BEAUFORT COUNTY

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING
LOCATION: DOUGLAS CROSSROADS
INTERSECTION OF US 264 AND NC 32



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5702i	EC-1	

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

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	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
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	SK
	Tiered Skimmer Basin	SK
	Infiltration Basin	

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.

GRAPHIC SCALE

50 25 0 50 100
PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Prepared in the Office of:

WETHERILL ENGINEERING
1223 Jones Franklin Rd. Raleigh, N.C. 27606
License No. F-0377
Bus: 919.851.8077 Fax: 919.851.8107

Designed by:

MATTHEW HARVEY, PE *3487*
NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

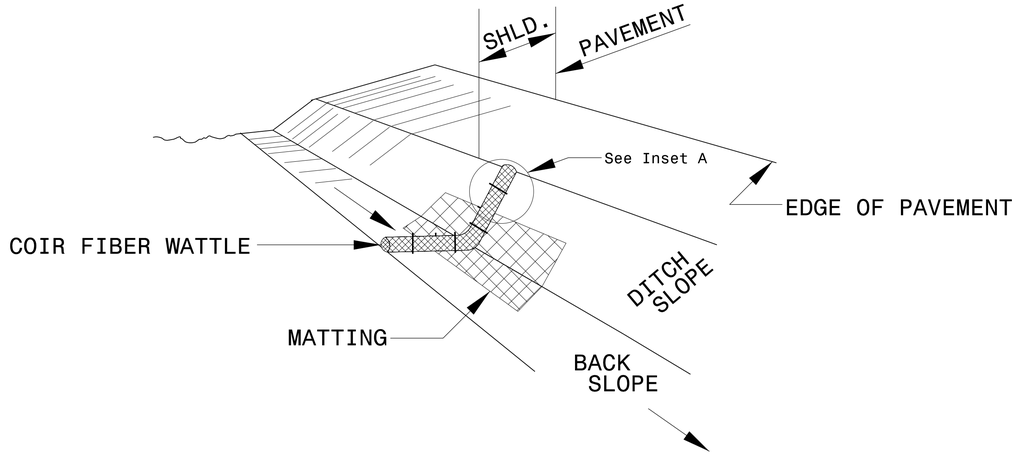
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

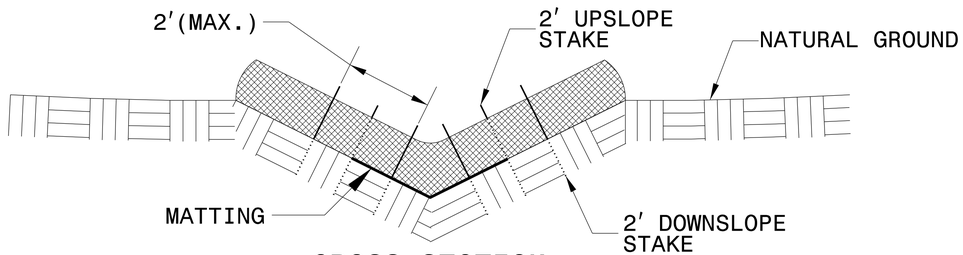
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PROJECT REFERENCE NO.	SHEET NO.
W-57021	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

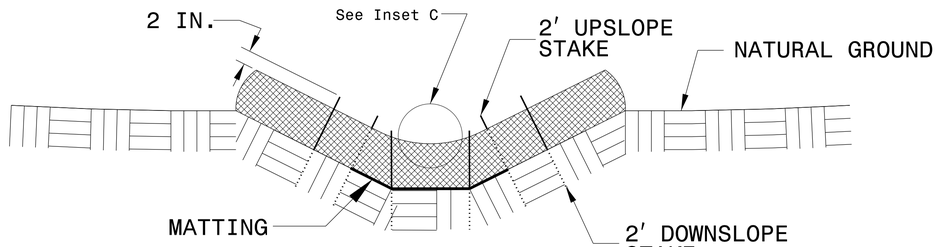
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

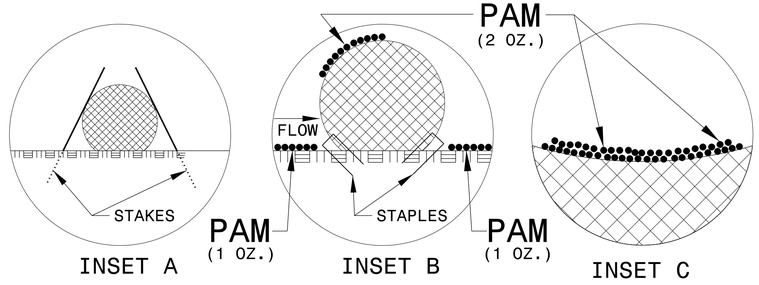
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

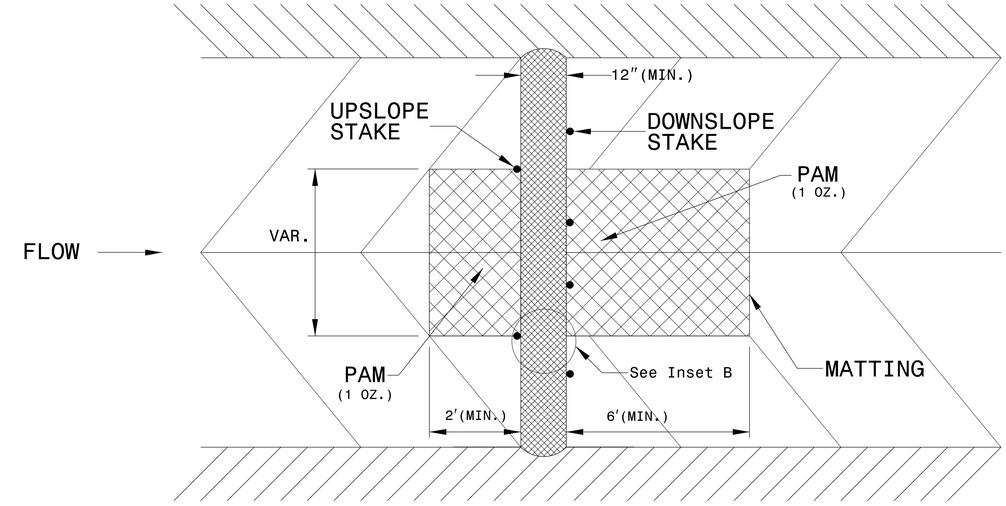
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

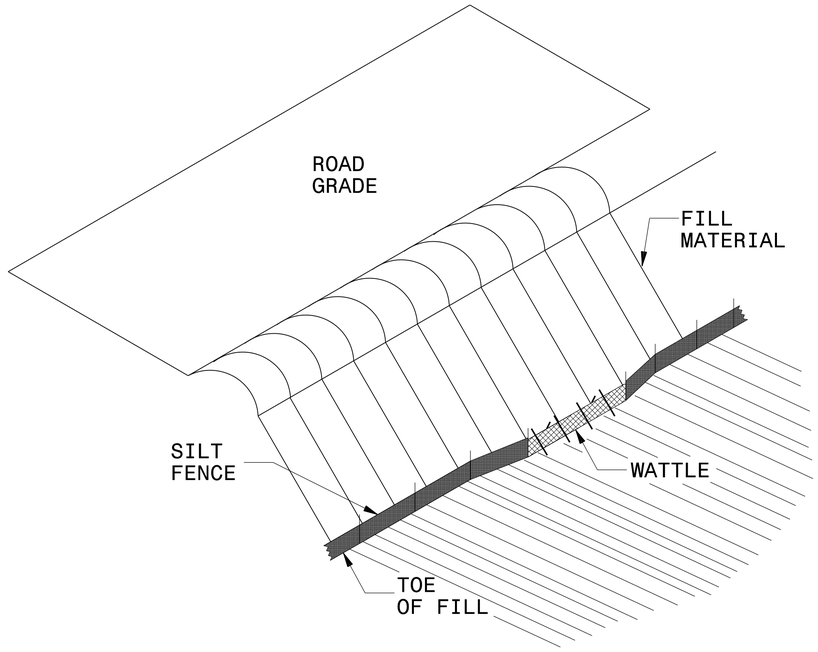




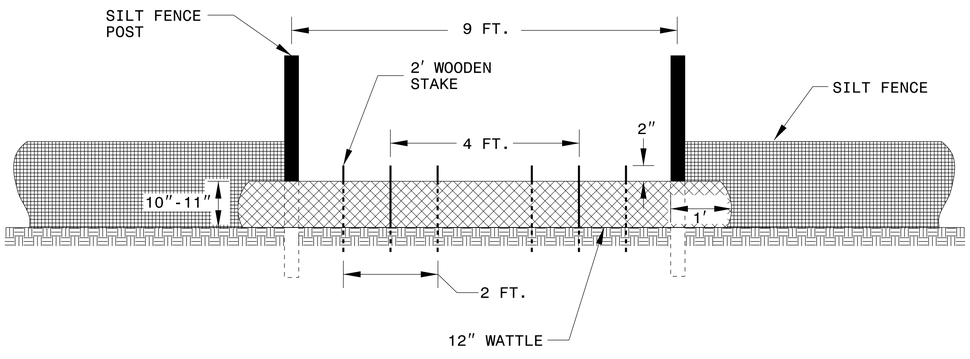
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
W-57021	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR 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.

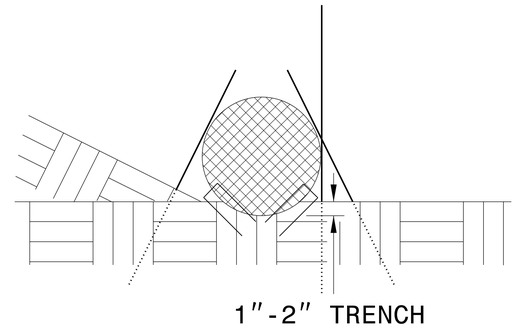
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

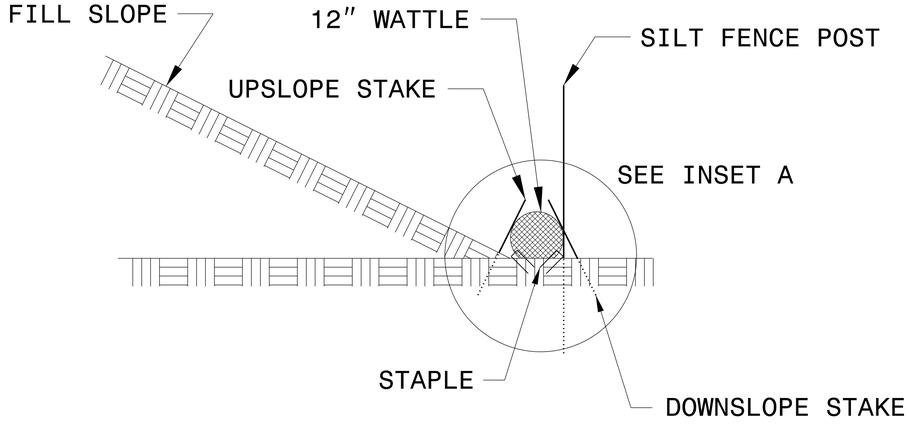
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

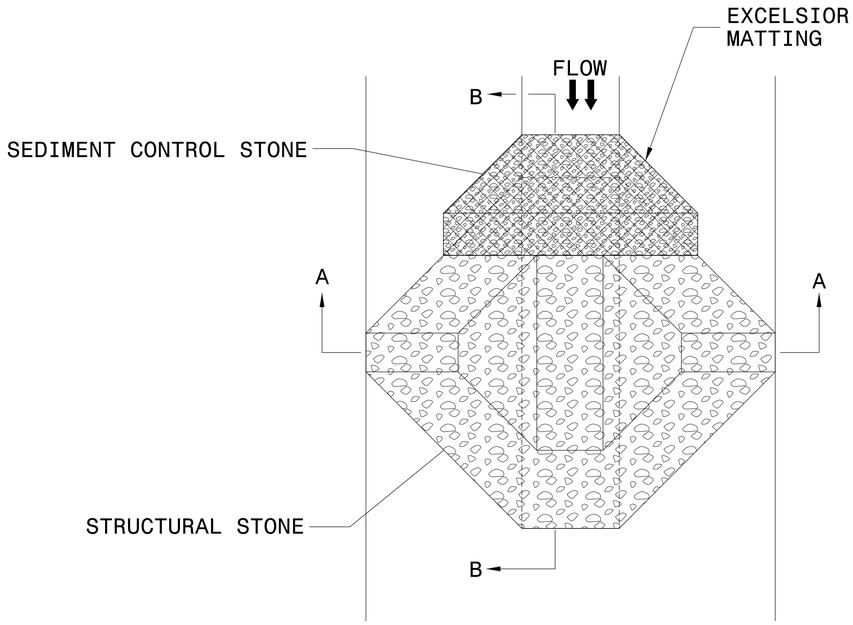




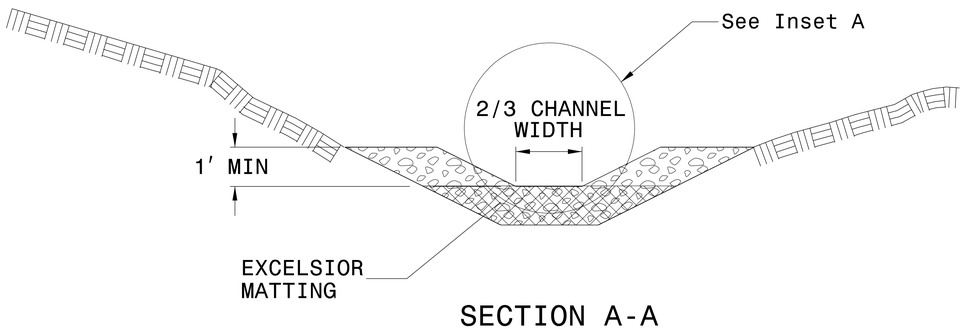
SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

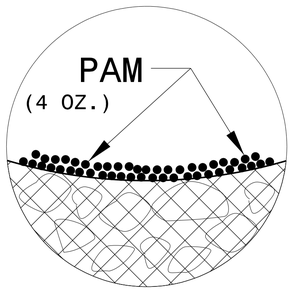
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

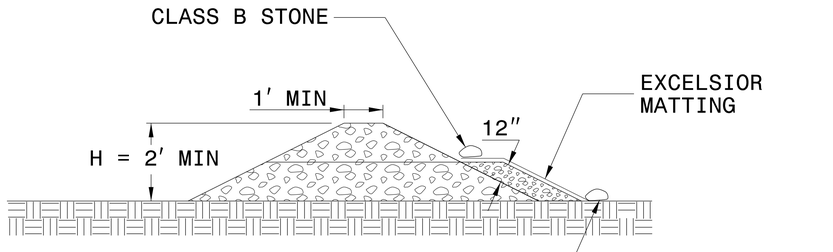
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-57021	EC-3
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 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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.

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	EC-04/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

NAD 83/NA 2011

BEGIN TIP PROJECT W-5702I
-L- STA. 13+00.00

BEGIN CONSTRUCTION
-Y- STA. 13+80.00

-RPB- PC Sta.04+00.00 = -L- POT Sta.16+39.18 LT

-RPB- PT Sta.15+29.72 = -Y- POT Sta.14+22.73

S 42° 52' 52" W

S 81° 56' 07.6" E

S 68° 18' 41.9" W

-L- 15+00

-L- 20+00

-L- 25+00

NOTE THAT EXISTING DITCHES ON THIS QUADRANT DO NOT MEET CURRENT CAPACITY DESIGN CRITERIA. EXISTING DRAINAGE PATTERNS HAVE BEEN MAINTAINED IN ORDER TO MINIMIZE ANY IMPACTS FROM NEW CONSTRUCTION.

CULVERT WORK TO STAY WITHIN EXISTING ROW LIMITS

PIPE CLEANOUT

RETAIN

REMOVE

REMOVE HEADWALL

REMOVE 137 LF OF EXISTING 15" RCP

REMOVE SYSTEM

-L- +90.00 @ EX. R/W

-L- +40.00 75' & 65'

-L- +10.00 85'

-Y- +80.00 40.00 & EX. R/W

PIPE AND DITCH CLEANOUT (20 FT)

SPECIAL CUT 'V' DITCH (SEE DETAIL A)

SPECIAL CUT 4' BASE DITCH (SEE DETAIL D)

SPECIAL LATERAL 'V' DITCH (SEE DETAIL B)

SPECIAL LATERAL 'V' DITCH (SEE DETAIL E)

SPECIAL CUT 'V' DITCH (SEE DETAIL F)

3 TONS CL B RIP RAP W/14 SY GEOTEXTILE

2 TONS CL B RIP RAP W/7 SY GEOTEXTILE

8 TONS CL B RIP RAP W/21 SY GEOTEXTILE

TAIL V DITCH SEE DETAIL G REMOVE EX. HW AND 16 LF OF EX. 15" HDPE PIPE

(2) 24" RCP CLASS IV

GRADE TO DRAIN

CONC. TRUCK APRON

BEG. CONC. TRUCK APRON -Y- STA. 19+50.00 RT.

END CONC. TRUCK APRON -Y- STA. 19+50.00 RT.

2GI 'D'

2'-9" C&G

15" RCP-IV

18" RCP-IV

30" RCP-III

30" RCP-IV

15" RCP

15" RCP CL IV DR

END CONSTRUCTION
-Y- STA. 21+80.00
END 2'-9" C&G

END TIP PROJECT W-5702I
-L- STA. 23+70.00
END 2'-9" C&G

STEPHEN L.DOUGLAS
845 NC HWY 32 N
WASHINGTON,NC 27889
DB 1753 PG 14

TIMOTHY B.DOUGLAS
2442 BRADDY ROAD
WASHINGTON,NC 27889
DB 1753 PG 20

EMILY P.ALBERA
PO BOX 1162
WASHINGON,NC 27889
DB 1565 PG 141

DOUGLAS CROSSROADS LLC
213 59TH ST E
VIRGINIA BEACH,VA 23451
DB 1787 PG 116

JAMES JOSEPH ALBERA & WIFE
EMILY MARSHA PAGGETT ALBERA
DB 2008 PG 084

ANGULO GUADALUPE/YAMIN URIATE &
CLAIDER MENDIETA RAMIREZ
DB 2039 PG 127

BUNYON VOLUNTEER FIRE DEPT
8264 BROAD CREEK RD
WASHINGTON,NC 27889
DB 1798 PG 804

BUNYON VOLUNTEER FIRE DEPT
8264 BROAD CREEK RD
WASHINGTON,NC 27889
DB 772 PG 359

PATSY W.ALLIGOOD
8222 BROAD CREEK RD
WASHINGTON,NC 27889
DB 820 PG 286

HELEN B.MEEKINS
1294 SLATESTONE RD
WASHINGTON,NC 27889
DB 1752 PG 562

2022 / 2042		
	-Y- NC 32	4,500 / 5,445
3,100 / 3,750		415 / 515
-L- US 264		-L- US 264
11,725 / 14,225	260 / 310	160 / 210 — 8,950 / 10,900
		1,395 / 1,695
	-Y- NC 32	

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	EC-05/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ETHERILL ENGINEERING
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BEGIN TIP PROJECT W-5702I
-L- STA. 13+00.00

BEGIN CONSTRUCTION
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END 2'-9" C&G

END CONSTRUCTION
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END 2'-9" C&G

-RPB- PC Sta.0+00.00 = -L- POT Sta.16+33.91, LT

-RPB- PT Sta.15+29.72 = -Y- POT Sta.14+22.73

-L- 15+00 | -L- 20+00 | -L- 25+00

S 81° 56' 07.6" E

S 42° 52' 52.2" W

NOTE THAT EXISTING DITCHES ON THIS QUADRANT DO NOT MEET CURRENT CAPACITY DESIGN CRITERIA. EXISTING DRAINAGE PATTERNS HAVE BEEN MAINTAINED IN ORDER TO MINIMIZE ANY IMPACTS FROM NEW CONSTRUCTION.

CULVERT WORK TO STAY WITHIN EXISTING ROW LIMITS

PIPE CLEANOUT

PIPE AND DITCH CLEANOUT (20 FT)

SPECIAL CUT 'V' DITCH (SEE DETAIL A)

SPECIAL CUT 4' BASE DITCH (SEE DETAIL D)

REMOVE HEADWALL

REMOVE 137 LF OF EXISTING 15" RCP

REMOVE SYSTEM

2GI 'D'

3 TONS CL B RIP RAP W/14 SY GEOTEXTILE

SPECIAL LATERAL 'V' DITCH (SEE DETAIL B)

SPECIAL LATERAL 'V' DITCH (SEE DETAIL E)

2 TONS CL B RIP RAP W/7 SY GEOTEXTILE

SPECIAL CUT 'V' DITCH (SEE DETAIL F)

(2) 24" RCP CLASS IV

GRADE TO DRAIN

CONC. TRUCK APRON

BEG. CONC. TRUCK APRON -Y- STA. 19+50.00 RT.

END CONC. TRUCK APRON -Y- STA. 19+50.00 RT.

8 TONS CL B RIP RAP W/21 SY GEOTEXTILE

TAIL V DITCH SEE DETAIL G REMOVE EX. HW AND 16 LF OF EX. 15" HDPE PIPE

RETAIN

REMOVE

15" RCP-IV | 18" RCP-IV | 30" RCP-IV | 30" RCP-III | 15" RCP | 12" RCP | 24" RCP

2'-9" C&G

DOUGLAS CROSSROADS LLC
213 59TH ST
VIRGINIA BEACH,VA 23451
DB 1787 PG 116

STEPHEN L.DOUGLAS
8451 NC HWY 32 N
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HELEN B.MEEKINS
1294 SLATESTONE RD
WASHINGTON,NC 27889
DB 1752 PG 562

2022 / 2042		
	-Y- NC 32	4,500 / 5,445
3,100 / 3,750		415 / 515
-L- US 264		-L- US 264
11,725 / 14,225		8,950 / 10,900
260 / 310	160 / 210	
	1,395 / 1,695	
	-Y- NC 32	

1/31/2023
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T.I.P.: W-5702I

CONTRACT: DB00542

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
W-5702I	SIGN-1

APPROVED: Docusigned by: Regina M. Muncey C7FE51B522454FA...

DATE: 7/8/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 43239 ENGINEER REGINA M. MUNCEY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIGNING PLAN
BEAUFORT COUNTY

LOCATION: DOUGLAS CROSSROADS INTERSECTION OF US 264 AND NC 32

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
903.20	WOOD SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

. SIGNS FURNISHED BY STATE
. CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
. ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
. IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
. WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
. DO NOT BEGIN FABRICATION FOR TYPES A & B SIGNS MOUNTED ON OVERHEAD STRUCTURES OR STEEL SUPPORTS UNTIL "S" DIMENSIONS HAVE BEEN FIELD VERIFIED.
. SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	969	L.F.
4082000000	903	SUPPORTS, WOOD	789	L.F.
4080200000	903	SUPPORTS, SQUARE TUBE	201	L.F.
4096000000	904	SIGN ERECTION, TYPE D	7	EA.
4102000000	904	SIGN ERECTION, TYPE E	38	EA.
4108000000	904	SIGN ERECTION, TYPE F	19	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE D (GROUND MOUNTED)	9	EA.
4141000000	907	DISPOSAL OF SUPPORT, WOOD	9	EA.
4158000000	907	DISPOSAL OF SIGN SYSTEM, WOOD	37	EA.
4360000000	SP	GENERIC SIGNING ITEM, 2"X 2" SQUARE POST SURFACE MOUNT BREAKAWAY SYSTEM	18	EA.

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE E & F SIGN SHEETS
SIGN-3-3A	SIGN DESIGN SHEETS
SIGN-4-6	SIGNING PLAN SHEETS

PLAN SUBMITTED TO:

Ayman I. Alqudwah, P.E. Signing & Delineation Regional Engineer

Mitch Eaton, P.E. Signing & Delineation Project Design Engineer

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PLAN PREPARED BY: Stantec Consulting Services, Inc.

Regina Muncey, PE Transportation Engineer

Jay Woolard, PE Senior Transportation Engineer

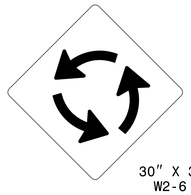
James Hambright Senior Transportation Technician

Stantec

$$$$USERNAME$$$$ $$$$DATE$$$$ $$$$TIME$$$$

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(401) QUANTITY REQ'D _4_



30" X 30"
W2-6

ONE WOOD POST PER SIGN

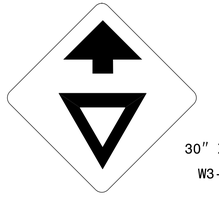
(402) QUANTITY REQ'D _2_



36" X 36"
R3-7R

ONE WOOD POST PER SIGN

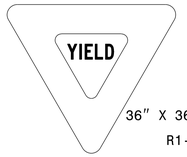
(403) QUANTITY REQ'D _4_



30" X 30"
W3-2

ONE WOOD POST PER SIGN

(404) QUANTITY REQ'D _8_



36" X 36" X 36"
R1-2

ONE "U" POST PER SIGN

(405) QUANTITY REQ'D _4_



30" X 24"
R6-4

ONE SQUARE TUBE POST PER SIGN

(406) QUANTITY REQ'D _1_



30" X 36"
R2-1

ONE WOOD POST PER SIGN

TIP NO.	SHEET NO.
W-5702I	SIGN-2

Designed by:
APPROVED: Regina M. Muncey
CTFE51B022454FA...
DATE: 7/8/2022

SEAL



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec

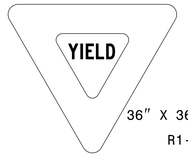
(407) QUANTITY REQ'D _3_



24" X 30"
R2-1

ONE WOOD POST PER SIGN

(408) QUANTITY REQ'D _8_



36" X 36" X 36"
R1-2

ONE SQUARE TUBE POST PER SIGN

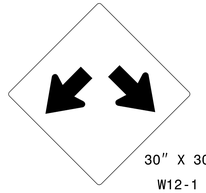
(409) QUANTITY REQ'D _4_



24" X 30"
R4-7

ONE SQUARE TUBE POST PER SIGN

(410) QUANTITY REQ'D _1_



30" X 30"
W12-1

ONE SQUARE TUBE POST PER SIGN

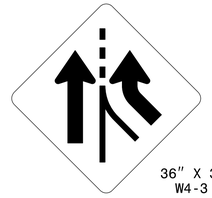
(411) QUANTITY REQ'D _1_



24" X 36"
R3-9b

ONE WOOD POST PER SIGN

(412) QUANTITY REQ'D _1_



36" X 36"
W4-3

ONE WOOD POST PER SIGN

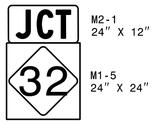
(413) QUANTITY REQ'D _1_



36" X 12"
R6-1

ONE SQUARE TUBE POST PER SIGN

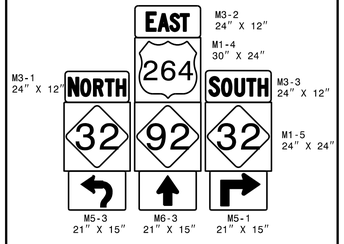
(501) (505) QUANTITY REQ'D _2_



M2-1
24" X 12"
M1-5
24" X 24"

ONE WOOD POST PER SIGN

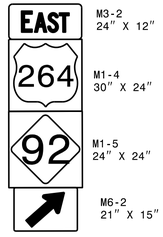
(502) QUANTITY REQ'D _1_



M3-2
24" X 12"
M1-4
30" X 24"
M3-1
24" X 12"
M3-3
24" X 12"
M1-5
24" X 24"
M5-3
21" X 15"
M6-3
21" X 15"
M5-1
21" X 15"

TWO WOOD POST PER SIGN

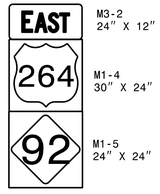
(503) QUANTITY REQ'D _1_



M3-2
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"
M6-2
21" X 15"

ONE SQUARE TUBE POST PER SIGN

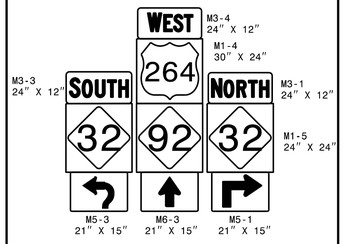
(504) QUANTITY REQ'D _1_



M3-2
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"

ONE WOOD POST PER SIGN

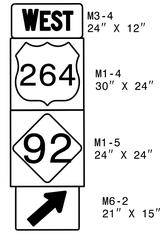
(506) QUANTITY REQ'D _1_



M3-4
24" X 12"
M1-4
30" X 24"
M3-3
24" X 12"
M3-1
24" X 12"
M1-5
24" X 24"
M5-3
21" X 15"
M6-3
21" X 15"
M5-1
21" X 15"

TWO WOOD POST PER SIGN

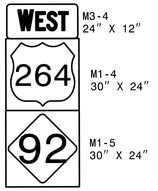
(507) QUANTITY REQ'D _1_



M3-4
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"
M6-2
21" X 15"

ONE SQUARE TUBE POST PER SIGN

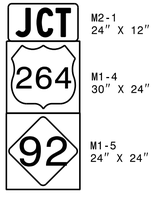
(508) QUANTITY REQ'D _1_



M3-4
24" X 12"
M1-4
30" X 24"
M1-5
30" X 24"

ONE WOOD POST PER SIGN

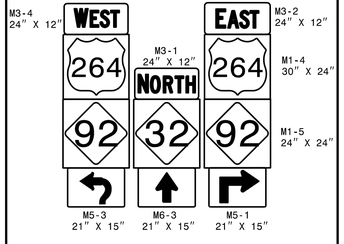
(509) (513) QUANTITY REQ'D _2_



M2-1
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"

ONE WOOD POST PER SIGN

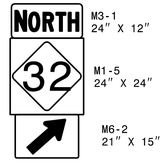
(510) QUANTITY REQ'D _1_



M3-4
24" X 12"
M3-2
24" X 12"
M3-1
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"
M5-3
21" X 15"
M6-3
21" X 15"
M5-1
21" X 15"

TWO WOOD POST PER SIGN

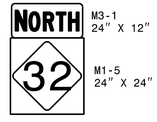
(511) QUANTITY REQ'D _1_



M3-1
24" X 12"
M1-5
24" X 24"
M6-2
21" X 15"

ONE SQUARE TUBE POST PER SIGN

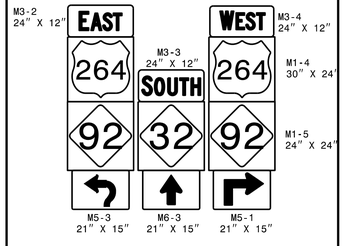
(512) QUANTITY REQ'D _1_



M3-1
24" X 12"
M1-5
24" X 24"

ONE WOOD POST PER SIGN

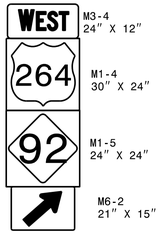
(514) QUANTITY REQ'D _1_



M3-2
24" X 12"
M3-4
24" X 12"
M3-3
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"
M5-3
21" X 15"
M6-3
21" X 15"
M5-1
21" X 15"

TWO WOOD POST PER SIGN

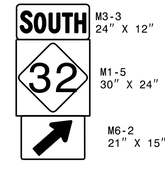
(515) QUANTITY REQ'D _1_



M3-4
24" X 12"
M1-4
30" X 24"
M1-5
24" X 24"
M6-2
21" X 15"

ONE WOOD POST PER SIGN

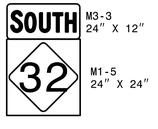
(516) QUANTITY REQ'D _1_



M3-3
24" X 12"
M1-5
30" X 24"
M6-2
21" X 15"

ONE SQUARE
TUBE POST PER SIGN

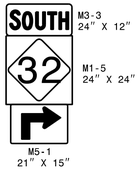
(517) QUANTITY REQ'D _1_



M3-3
24" X 12"
M1-5
24" X 24"

ONE WOOD POST PER SIGN

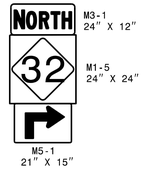
(518) QUANTITY REQ'D _1_



M3-3
24" X 12"
M1-5
24" X 24"
M5-1
21" X 15"

ONE WOOD POST PER SIGN

(519) QUANTITY REQ'D _1_



M3-1
24" X 12"
M1-5
24" X 24"
M5-1
21" X 15"

ONE WOOD POST PER SIGN

TYPE E & F SIGNS

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$

DocuSign Envelope ID: 5E9DA1BF-7A87-48A2-93C9-9FDF311E3342

TIP NO.	SHEET NO.
W-5702I	SIGN-3

APPROVED: Regina M. Muncey (Docusigned by: C7FE51B522454FA...)

DATE: 7/8/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 43239 ENGINEER REGINA M. MUNCEY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec

SIGN NUMBER: 301

TYPE: D
QUANTITY: 1

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT
AR_FISHOOK	8.1	16.9	9.9	10.8
AR_Type D	10.8	3.2	6	9

SIGN WIDTH: 5'-6"
HEIGHT: 2'-6"
TOTAL AREA: 13.8 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"

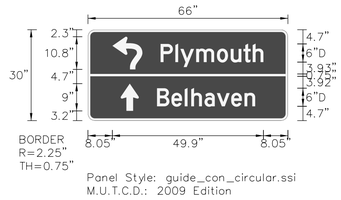
MAT'L: 0.125" (3.2 mm) ALUMINUM

No. Z BARS:
LENGTH:

NOTES:

1. Legend and border shall be direct applied, Grade "C" sheeting (except those that are colored black).
2. Background shall be Grade "C" reflective sheeting.

PROJECT ID: W-5702I CHECKED BY: Name DIVISION: 2
DESIGN BY: James Hambright
LOCATION: US 264/NC 92 EB @ -L- Sta. 10+84+/- (RT) DATE: Feb 11, 2022



Panel Style: guide_con_circular.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

| | | |

DocuSign Envelope ID: 5E9DA1BF-7A87-48A2-93C9-9FDF311E3342

TIP NO.	SHEET NO.
W-5702I	SIGN-3A

APPROVED: DocuSigned by: Regina M. Muncey C7FE51B522454FA...

DATE: 7/8/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 43239 ENGINEER REGINA M. MUNCEY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec

SIGN NUMBER: 305

TYPE: D
QUANTITY: 1

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

SIGN WIDTH: 5'-6"
HEIGHT: 2'-6"
TOTAL AREA: 13.8 Sq.Ft.

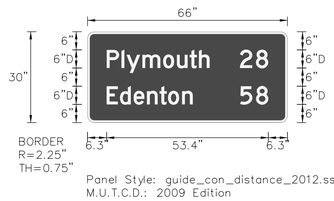
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"

No. Z BARS:
LENGTH:

NOTES:

1. Legend and border shall be direct applied, Grade "C" sheeting (except those that are colored black).
2. Background shall be Grade "C" reflective sheeting.

PROJECT ID: W-5702I CHECKED BY: Name DIVISION: 2
DESIGN BY: James Hambright
LOCATION: NC 32 NB DATE: Feb 11, 2022



Panel Style: guide_con_distance_2012.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																																	Series/Size Text Length
		P	l	y	m	o	u	t	h		2	8																						D 2000
	6.3	4.9	1.7	5.2	6.8	4.6	4.2	3.1	3.5	10	5.3	4.1	6.3																					53.3
		E	d	e	n	t	o	n		5	8																							D 2000
	6.3	4.4	4.6	4.4	4.1	2.8	4.6	3.5	15.6	5.3	4.1	6.3																						53.4

FILENAME: W-5702I - Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 306

TYPE: D
QUANTITY: 1

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT
AR_FISHOOK	5.4	16.9	9.9	10.8
AR_Type D	51.6	4.7	6	9

MAT'L: 0.125" (3.2 mm) ALUMINUM

SIGN WIDTH: 5'-6"
HEIGHT: 2'-6"
TOTAL AREA: 13.8 Sq.Ft.

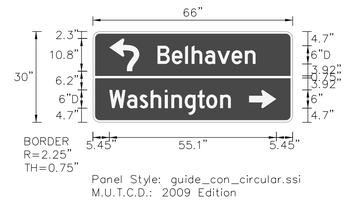
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"

No. Z BARS:
LENGTH:

NOTES:

1. Legend and border shall be direct applied, Grade "C" sheeting (except those that are colored black).
2. Background shall be Grade "C" reflective sheeting.

PROJECT ID: W-5702I CHECKED BY: Name DIVISION: 2
DESIGN BY: James Hambright
LOCATION: NC 32 SB DATE: Feb 11, 2022



Panel Style: guide_con_circular.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																																		Series/Size Text Length
		B	e	l	h	a	v	e	n																										D 2000
	21.3	4.7	4.4	2.2	4.4	4.1	4.7	4.4	3.5	12.3																									32.4
		W	a	s	h	i	n	g	t	o	n																								D 2000
	5.4	5.8	4.2	3.6	4.7	2.2	4.4	4.3	2.8	4.6	3.5	20.4																							40.1

FILENAME: W-5702I - Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 307

TYPE: D
QUANTITY: 1

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

SIGN WIDTH: 5'-6"
HEIGHT: 1'-6"
TOTAL AREA: 8.3 Sq.Ft.

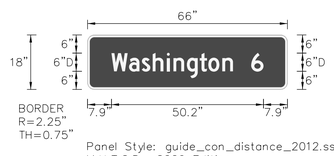
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"

No. Z BARS:
LENGTH:

NOTES:

1. Legend and border shall be direct applied, Grade "C" sheeting (except those that are colored black).
2. Background shall be Grade "C" reflective sheeting.

PROJECT ID: W-5702I CHECKED BY: Name DIVISION: 2
DESIGN BY: James Hambright
LOCATION: NC 32 SB DATE: Feb 11, 2022



Panel Style: guide_con_distance_2012.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																																		Series/Size Text Length
		W	a	s	h	i	n	g	t	o	n		6																						D 2000
	7.9	5.8	4.2	3.6	4.7	2.2	4.4	4.3	2.8	4.6	3.5	6	4.1	7.9																					50.2

FILENAME: W-5702I - Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

TYPE "D" SIGNS

(GROUND MOUNTED)

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$$

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TIP NO.	SHEET NO.
W-5702I	SIGN-4

APPROVED: DocuSigned by: Regina M. Muncey C7FE51B522454FA...

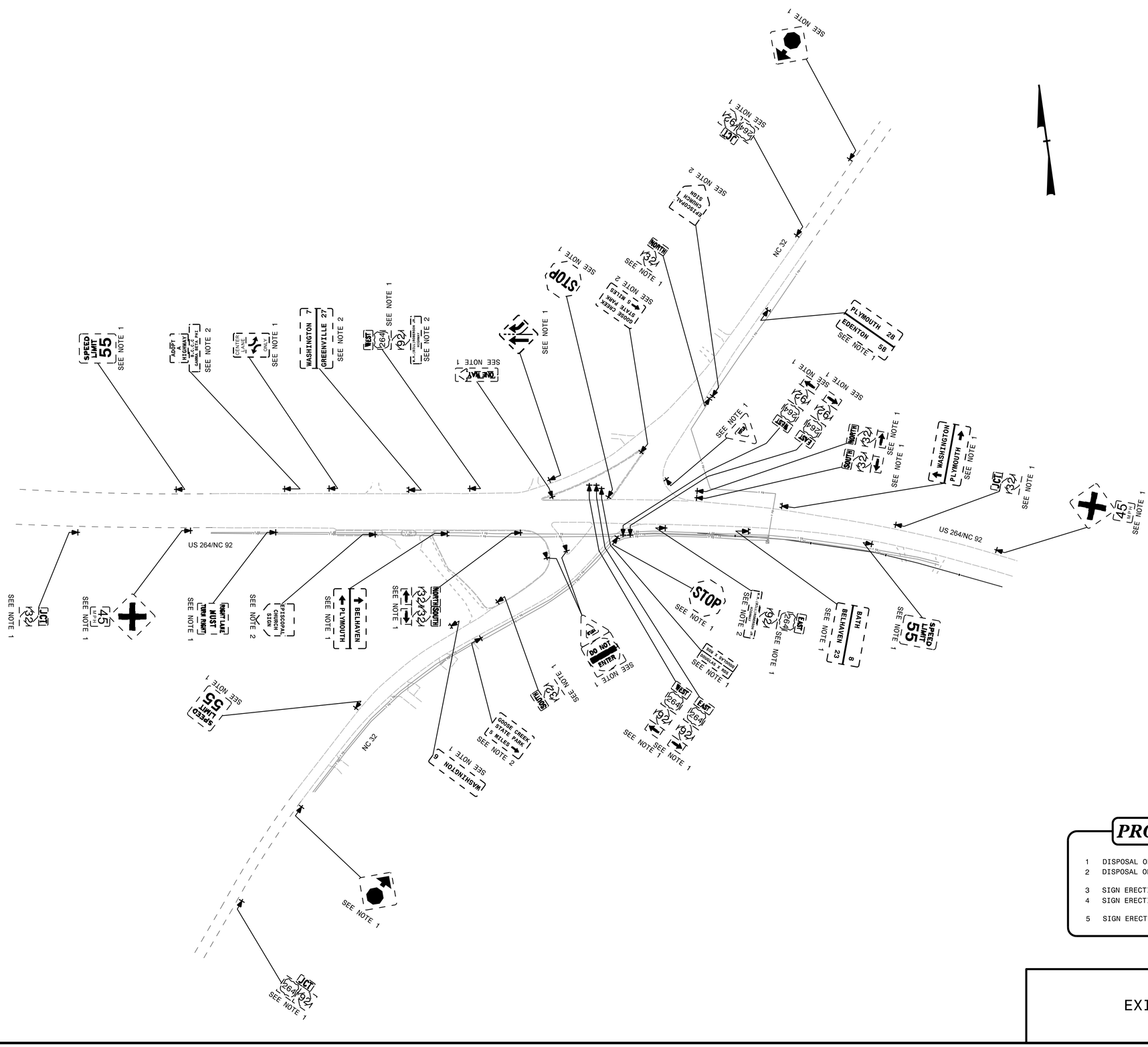
DATE: 7/8/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 43239 ENGINEER REGINA M. MUNCEY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec


SPEED LIMIT 55
SEE NOTE 1
ADDT WASHINGTON AIRPORT 7 MILES
SEE NOTE 2
CENTER LANE ONLY
SEE NOTE 1
WASHINGTON 7
GREENVILLE 27
SEE NOTE 2
WEST 264 92
SEE NOTE 1
EAST 264 92
SEE NOTE 2
SEE NOTE 1
SEE NOTE 1
STOP
SEE NOTE 1
GOOSE CREEK STATE PARK 5 MILES
SEE NOTE 2
NORTH 32
SEE NOTE 1
EPISCOPAL CHURCH STAN
SEE NOTE 2
NC 32
PLYMOUTH 28
EDENTON 58
SEE NOTE 1
SEE NOTE 1
SEE NOTE 1

DocuSign Envelope ID: 5E9DA1BF-7A87-48A2-93C9-9FDF311E3342

TIP NO.	SHEET NO.
W-5702I	SIGN-5

APPROVED: DocuSigned by: Regina M. Muncey C7FE51B522454FA...

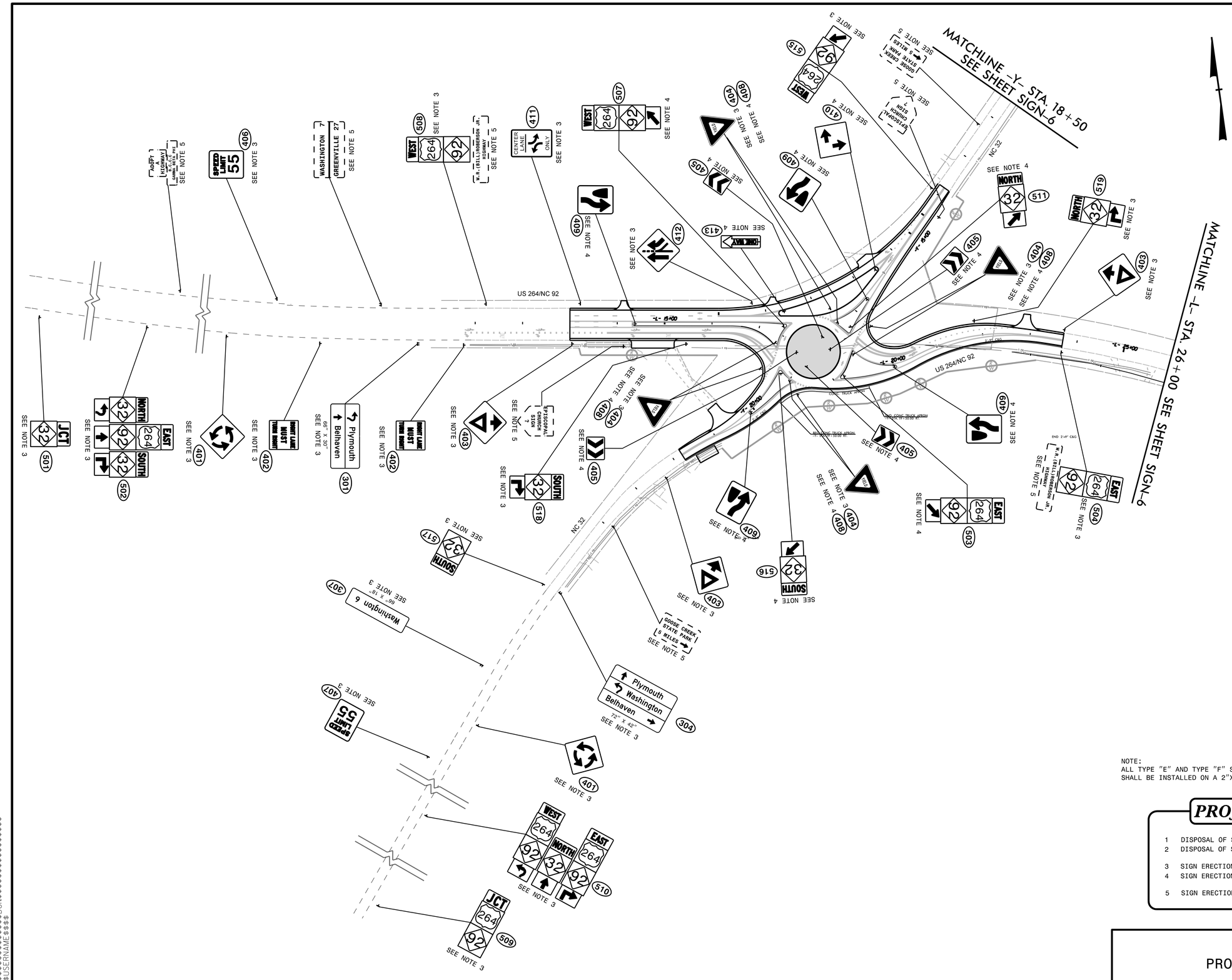
DATE: 7/8/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 43239 ENGINEER REGINA M. MUNCEY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec



NOTE:
ALL TYPE "E" AND TYPE "F" SIGNS MOUNTED ON CONCRETE MONOLITHIC ISLANDS SHALL BE INSTALLED ON A 2"X 2" SQUARE POST SURFACE MOUNT BREAKAWAY SYSTEM.

PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, WOOD
2 DISPOSAL OF SUPPORT, WOOD

3 SIGN ERECTION, TYPE D, E, AND F, (WOOD)
4 SIGN ERECTION, TYPE D, E, AND F, (SQUARE TUBE)

5 SIGN ERECTION, RELOCATE TYPE D, (WOOD)

PROPOSED SIGNING

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

DocuSign Envelope ID: 5E9DA1BF-7A87-48A2-93C9-9FDF311E3342

TIP NO.	SHEET NO.
W-5702I	SIGN-6

APPROVED: DocuSigned by: Regina M. Muncey C7FE51B522454FA...

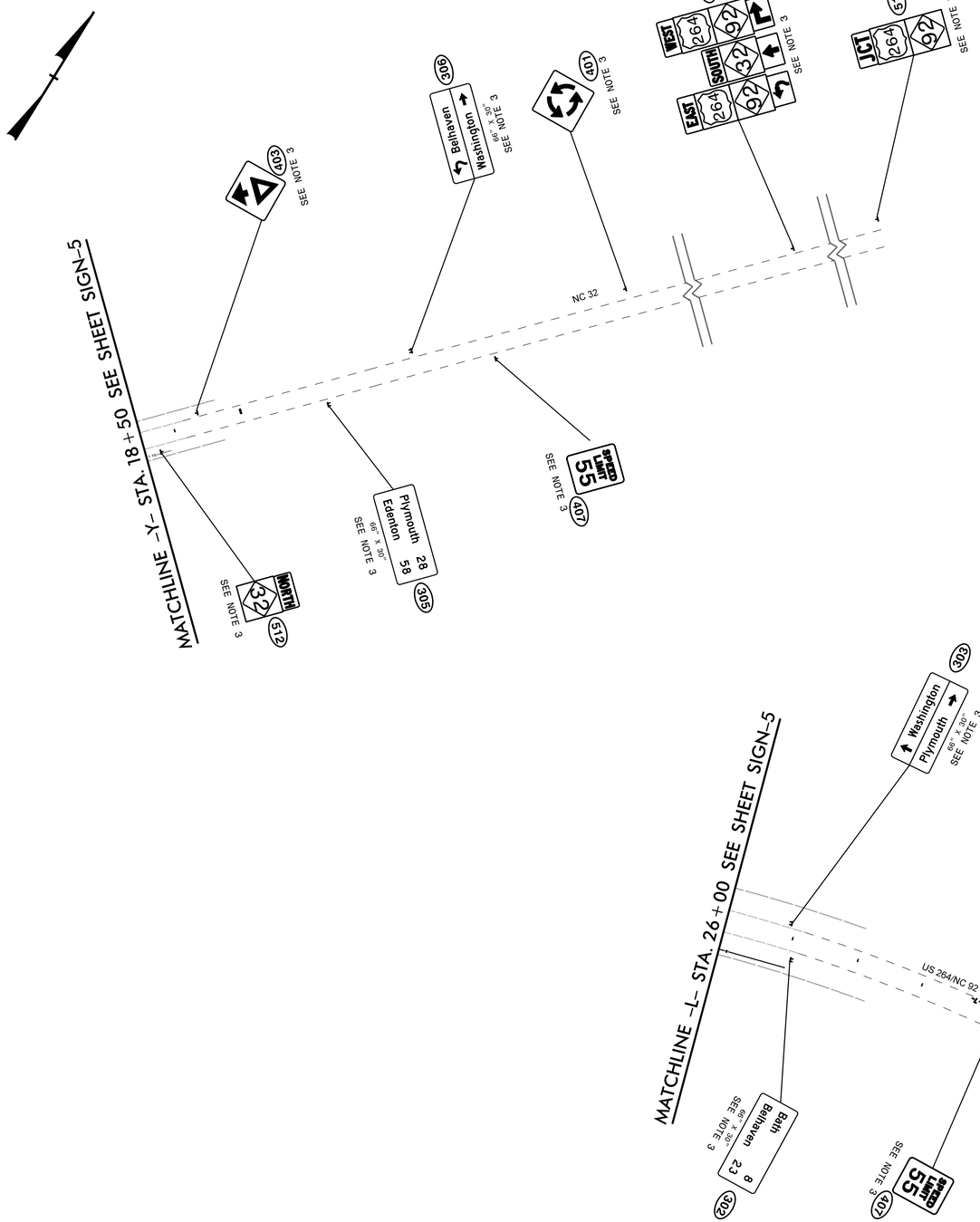
DATE: 7/8/2022

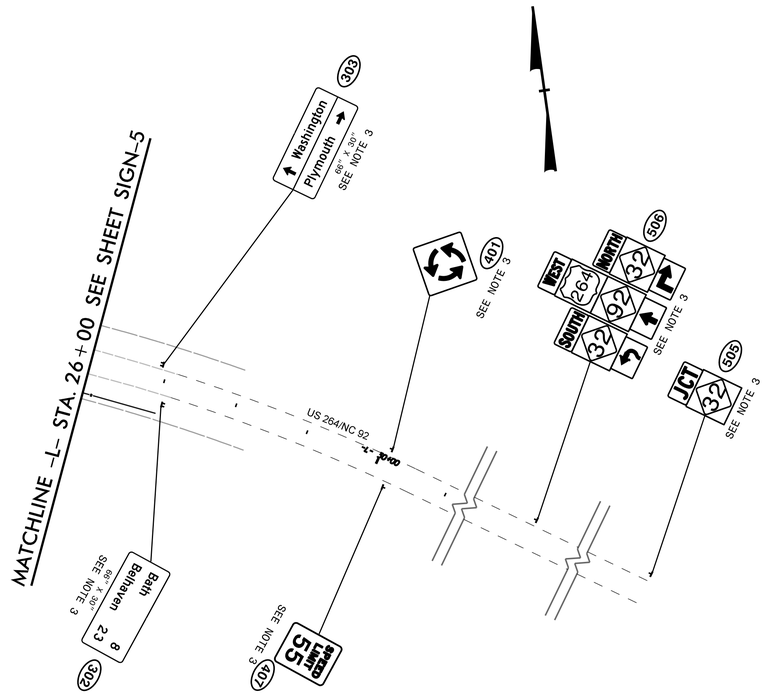
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 43239 ENGINEER REGINA M. MUNCEY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec





NOTE:
ALL TYPE "E" AND TYPE "F" SIGNS MOUNTED ON CONCRETE MONOLITHIC ISLANDS SHALL BE INSTALLED ON A 2"X 2" SQUARE POST SURFACE MOUNT BREAKAWAY SYSTEM.

PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, WOOD
2 DISPOSAL OF SUPPORT, WOOD

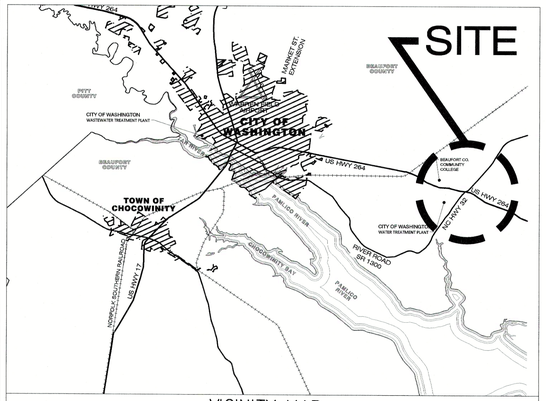
3 SIGN ERECTION, TYPE D, E, AND F, (WOOD)
4 SIGN ERECTION, TYPE D, E, AND F, (SQUARE TUBE)

5 SIGN ERECTION, RELOCATE TYPE D, (WOOD)

PROPOSED SIGNING

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

TIP PROJECT: W-5702i



VICINITY MAP

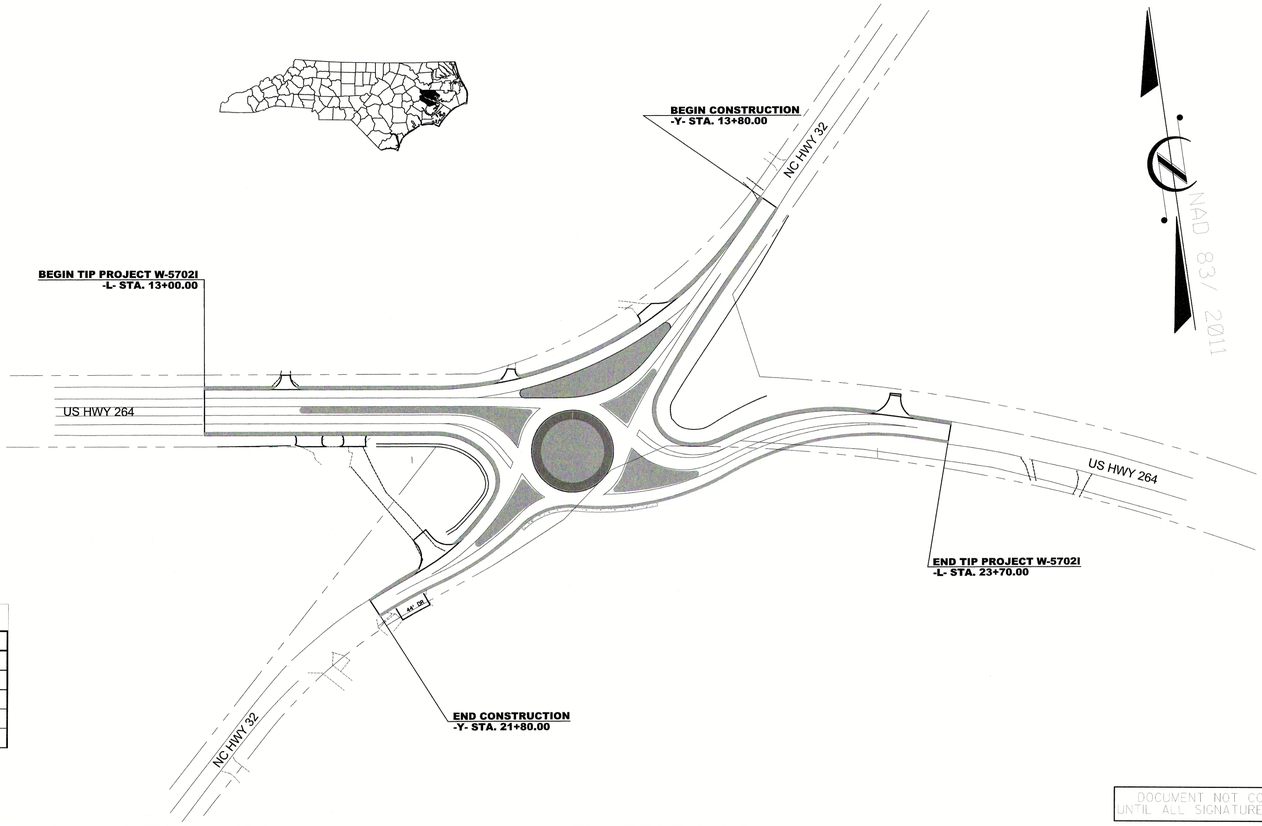
●●●●●● OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
CITY OF WASHINGTON

LOCATION: NC HWY 32/ US HWY 264 INTERSECTION
TYPE OF WORK: RAW WATER MAIN RELOCATION

T.I.P. NO.	SHEET NO.
W-5702i	UC-1

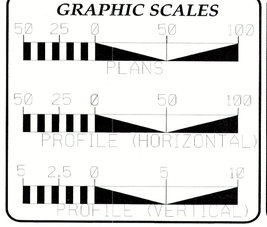


LIST OF MATERIALS

ITEM	TYPE	SECTION NO.	DESCRIPTION	QUANTITY	UNITS
5327000000-E	U	1510	20" DIA RESTRAINED JOINT DUCTILE IRON WATER LINE	840	LF
5329000000-E	U	1510	20" DUCTILE IRON WATER PIPE FITTINGS	8,500	LB
5559000000-E	U	1515	20" BUTTERFLY VALVE	1	EA
5606000000-E	U	1515	2" TEMPORARY BLOW OFF	1	EA
5812000000-E	U	1530	ABANDON 20" UTILITY PIPE	950	LF

DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	*DESCRIPTION:*
UC-1	*TITLE SHEET*
UC-2	*UTILITY SYMBOLOGY*
UC-3	*UTILITY CONSTRUCTION SHEET*
UC-3a	*DETAILS*
UC-4	*SITE PLAN*

RAW WATER MAIN OWNERS ON PROJECT

(A) WATER - CITY OF WASHINGTON

PREPARED IN THE OFFICE OF

Rivers & ASSOCIATES, INC.
riversandassociates.com Since 1918
NC License: F-0334
Engineers
Planners
Surveyors
Landscape Architects
107 East Second Street
Greenville, NC 27858
(252) 752-4135

SETH ANDERSON,PE CONSULTANT CONTACT #1
N/A CONSULTANT CONTACT #2
N/A CONSULTANT CONTACT #3

SEAL



12/12/22

DIVISION OF HIGHWAYS
UTILITIES UNIT
1555 MAIL SERVICE CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-2950
FAX (919) 250-4151

X _____ UTILITIES REGIONAL ENGINEER
X _____ UTILITIES ENGINEER
X _____ UTILITIES AREA COORDINATOR
X _____ UTILITIES COORDINATOR

FINAL DRAWING - FOR REVIEW PURPOSES ONLY - NOT RELEASED FOR CONSTRUCTION

10/13/2022

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown)
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PBH
- Relocate Fire Hydrant — REH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — RPZ
- DCV Backflow Preventer — DCVP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RDCVP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown)
- Force Main Sewer Line (Sized as Shown)
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TPED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINE
- Trenchless Installation — 18" TL DIRECTIONAL BORE
- Encasement by Open Cut — PVC ENCASEMENT PIPE
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — ARV
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line
- *Underground Telephone Cable
- *Underground Telephone Conduit
- *Underground Fiber Optics Telephone Cable
- *Underground TV Cable
- *Underground Fiber Optics TV Cable
- *Underground Gas Pipeline
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line
- Underground Unknown Utility Line
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown)
- Designated Utility Line (Type as Shown)

FINAL DRAWING - FOR REVIEW PURPOSES ONLY - NOT RELEASED FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-3
DESIGNED BY: STA	
DRAWN BY: PEW	
CHECKED BY: FLS	
APPROVED BY: FLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL 046865 ENGINEER SETH T. ANDERSON

3/12/24

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018.

2. THE EXISTING WATER UTILITIES BELONG TO THE CITY OF WASHINGTON.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. WATER MAINS SHALL BE CONSTRUCTED OF THE MATERIALS INDICATED ON THE PLAN AND PROFILES.

RELATION OF WATER MAINS TO SEWERS:

LATERAL SEPARATION OF SEWERS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION- IN WHICH CASE:

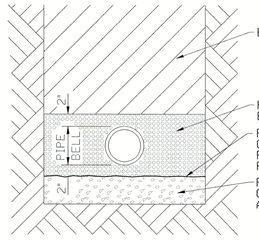
THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER; OR THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION- IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT POINT OF CROSSING.

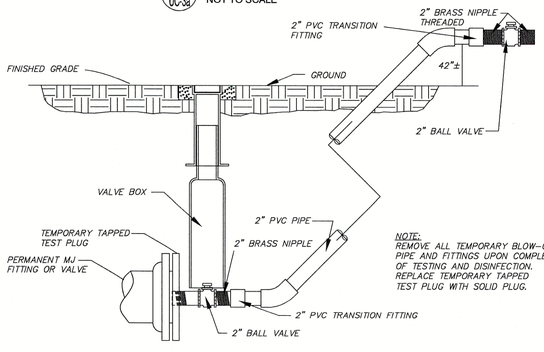
FINAL DRAWING - FOR REVIEW PURPOSES ONLY - NOT RELEASED FOR CONSTRUCTION

PROJECT TYPICAL DETAILS



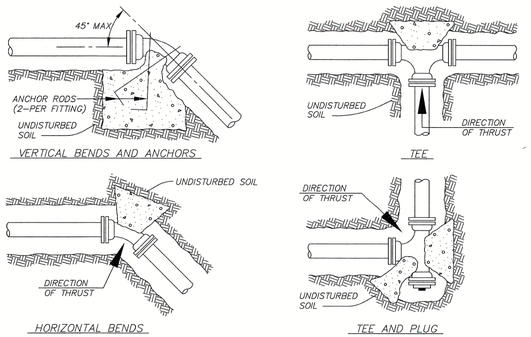
PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

1 UC-3a TRENCH DETAIL
NOT TO SCALE



NOTE:
REMOVE ALL TEMPORARY BLOW-OFF PIPE AND FITTINGS UPON COMPLETION OF TESTING AND DISINFECTION. REPLACE TEMPORARY TAPPED TEST PLUG WITH SOLID PLUG.

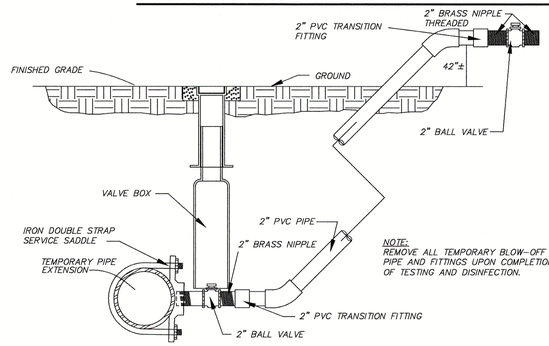
2 UC-3a TEMPORARY 2" BLOW OFF VALVE CONNECTED TO TEMPORARY TAPPED TEST PLUG
NOT TO SCALE



CONCRETE THRUST BLOCKING SCHEDULE						CONCRETE SCHEDULE VERTICAL BENDS				ANCHOR ROD SIZE
FITTING SIZE	BEARING AREA IN SQUARE FEET					MIN. CU. YARDS CONCRETE				FOR VERTICAL BEND AND ANCHORS
	TEE/PLUG	90°	45°	22-1/2°	11-1/4°	90°	45°	22-1/2°	11-1/4°	
4"	1	2	1	1	1	1	1	1	1	1/2"
6"	3	3	2	1	1	1	1	1	1	
8"	4	6	3	2	1	2	2	1	1	3/4"
10"	7	9	5	3	2	3	3	2	1	
12"	9	12	7	4	2	5	3	2	1	7/8"
14"	12	17	9	5	3	6	4	3	2	
16"	16	22	12	6	3	8	6	3	2	
18"	20	27	15	8	4	10	7	4	2	
20"	24	34	18	10	5	12	9	5	3	1-1/8"
24"	34	48	26	14	7	17	12	7	4	
30"	53	75	41	21	11	27	19	10	5	
36"	77	108	59	30	15	38	27	15	8	1-3/8"

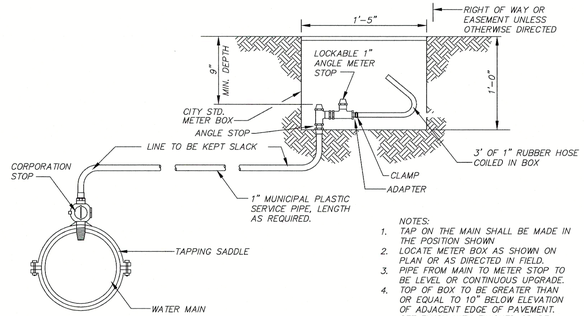
NOTES:
1. MINIMUM BEARING AREA (IN SQUARE FEET) AGAINST UNDISTURBED TRENCH WALL OF SAND.
2. AREAS SHOWN ARE FOR 150 PSI TEST PRESSURE. IF TEST PRESSURE IS OTHER THAN 150 PSI, ADJUST AREA OF REACTION BACKING IN DIRECT PROPORTION.
3. OTHER SOIL CONDITIONS CEMENTED SAND OR HARDPAN – MULTIPLY ABOVE BY 0.5
   GRAVEL OR HARD DRY CLAY – MULTIPLY ABOVE BY 0.7
   SOFT CLAY – MULTIPLY ABOVE BY 2.0
   MUCK: SECURE ALL FITTINGS WITH APPROVED HARNESS OR TIE ROD CLAMPS, WITH CONCRETE REACTION BACKING THE SAME AS LISTED FOR SAND CONDITIONS.

3 UC-3a THRUST BLOCKING AND ANCHORING SCHEDULE
NOT TO SCALE



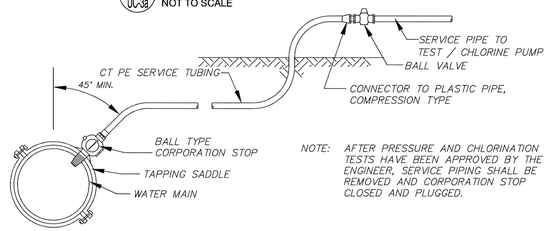
NOTE:
REMOVE ALL TEMPORARY BLOW-OFF PIPE AND FITTINGS UPON COMPLETION OF TESTING AND DISINFECTION.

4 UC-3a TEMPORARY 2" BLOW OFF VALVE CONNECTED TO TEMPORARY PIPE EXTENSION
NOT TO SCALE



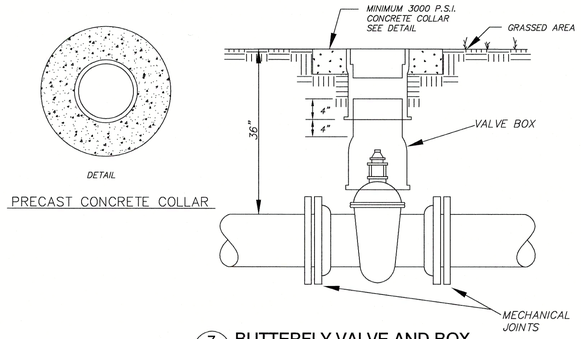
NOTES:
1. TAP ON THE MAIN SHALL BE MADE IN THE POSITION SHOWN.
2. LOCATE METER BOX AS SHOWN ON PLAN OR AS DIRECTED IN FIELD.
3. PIPE FROM MAIN TO METER STOP TO BE LEVEL OR CONTINUOUS UPGRADE.
4. TOP OF BOX TO BE GREATER THAN OR EQUAL TO 10" BELOW ELEVATION OF ADJACENT EDGE OF PAVEMENT. SET FLUSH WITH FINISHED GRADE WHERE NO PAVEMENT EXIST.

5 UC-3a TYP. 1" AIR RELEASE VALVE
NOT TO SCALE

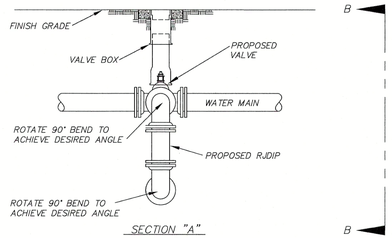


NOTE: AFTER PRESSURE AND CHLORINATION TESTS HAVE BEEN APPROVED BY THE ENGINEER, SERVICE PIPING SHALL BE REMOVED AND CORPORATION STOP CLOSED AND PLUGGED.

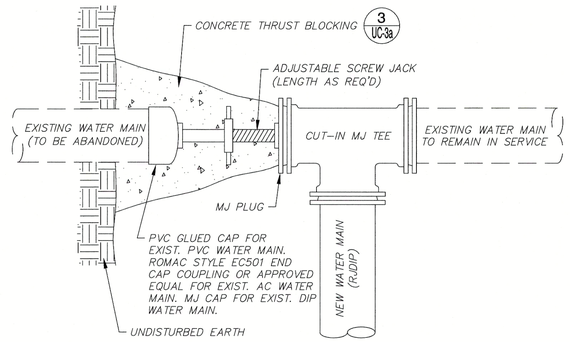
6 UC-3a TEMPORARY PRESSURE TEST/ CHLORINATION/ BLOW OFF CONNECTION
NOT TO SCALE



7 UC-3a BUTTERFLY VALVE AND BOX
NOT TO SCALE



8 UC-3a WATER MAIN TIE-IN
NOT TO SCALE



9 UC-3a CUT-IN TEE (WHERE EXIST. WATER MAIN WILL BE ABANDONED)
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-3a
DESIGNED BY: STA	
DRAWN BY: PEW	
CHECKED BY: FLS	
APPROVED BY: FLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 046865 ENGINEER SETH T. ANDERSON
12/12/22

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL DRAWING - FOR REVIEW PURPOSES ONLY - NOT RELEASED FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-4
DESIGNED BY: STA	
DRAWN BY: PEW	
CHECKED BY: FLS	
APPROVED BY: FLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	

NORTH CAROLINA PROFESSIONAL SEAL 046865 ENGINEER SETH T. MADDISON

12/12/2024

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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BEGIN TIP PROJECT W-5702I
-L- STA. 13+00.00

NOTE THAT EXISTING DITCHES ON THIS QUADRANT DO NOT MEET CURRENT CAPACITY DESIGN CRITERIA. EXISTING DRAINAGE PATTERNS HAVE BEEN MAINTAINED IN ORDER TO MINIMIZE ANY IMPACTS FROM NEW CONSTRUCTION.

DOUGLAS CROSSROADS LLC
213 59TH ST
VIRGINIA BEACH, VA 23451
DB 1787 PG 116

0.83 ACR

1.20 ACR

TIMOTHY B. DOUGLAS
2442 BRADDY ROAD
WASHINGTON, NC 27889
DB 1753 PG 20

NOTE THAT EXISTING DITCHES ON THIS QUADRANT DO NOT MEET CURRENT CAPACITY DESIGN CRITERIA. EXISTING DRAINAGE PATTERNS HAVE BEEN MAINTAINED IN ORDER TO MINIMIZE ANY IMPACTS FROM NEW CONSTRUCTION.

4

EMILY P. ALBERA
PO BOX 1652
WASHINGTON, NC 27889
DB 1565 PG 141

-Y- +80.00
50.00 & EX. R/W
1.03 ACR

-Y- +37.06
60.00
@ EX. R/W

1.09 ACR

CAP AND ABANDON EXISTING 20" RAW WATER MAIN WITH FLOWABLE FILL AFTER PRESSURE TESTING AND DISINFECTION

8 TONS CL B RIP RAP W/7 SY GEOTEXTILE

SPECIAL CUT 'V' DITCH (SEE DETAIL F)

SPECIAL LATERAL 'V' DITCH (SEE DETAIL E)

TIE INTO EXISTING 20" RAW WATER MAIN WITH 20" CUT-IN TEE

9 UC-3a

(2) 24" RCP CLASS IV

GRADE F TO DRAIN

STA. 8+39
20"x20" TEE

STA. 8+36
20" - 11.25° BEND

20" BUTTERFLY VALVE

STA. 8+28
20" - 90° BEND

STA. 8+05
20" - 22.5° BEND

7 UC-3a

-L- +20.07
@ EX. R/W

-L- +00.00
55.00

STA. 6+30
20" - 11.25° BEND

APPROXIMATELY 7'-0" OFF EDGE OF ROW
END CONC. TRUCK APRON
-Y- STA. 19+50.00 RT.

STA. 5+48
20" - 11.25° BEND

STA. 4+34
20" - 22.5° BEND

PROPOSED 20" RJDIP RAW WATER MAIN

BEG. CONC. TRUCK APRON
-Y- STA. 19+50.00 RT.

STA. 3+85
20" - 11.25° BEND

8 TONS CL B RIP RAP W/21 SY GEOTEXTILE

HELEN B. MEEKINS
1294 SLATESTONE RD
WASHINGTON, NC 27889
DB 1752 PG 562

END TIP PROJECT W-5702I
-L- STA. 23+70.00
END 2'-9" C&G

INV=30.37
3.44 ACR

INV=24.43

INV=28.75

INV=28.23

INV=28.0

INV=27.6

TOP=32.93
INV=29.75

TOP=33.18
INV=29.50

TOP=33.64
INV=30.37

TOP=30.14

TOP=30.83
INV=28.90

TOP=30.61
INV=28.43

TOP=31.80
INV=28.25

INV=28.00

15" RCP-IV

18" RCP-III

24" RCP

RETAIN

REMOVE

SPECIAL CUT 4' BASE DITCH (SEE DETAIL D)

SPECIAL CUT 'V' DITCH (SEE DETAIL A)

-L- +90.00
@ EX. R/W
-L- +19.30
@ EX. R/W

-L- +23.13
65.00

-L- +10.00
85

-L- +40.00
75' & 65'

-L- +11.81
65.00

REMOVE SYSTEM

US 264

5

BELVUE FARM LLC
PO BOX 40
WASHINGTON, NC 27889
DB 1929 PG 325

ALBERA LLC
552 REST HAVEN ROAD
BATH, NC 27808
DB 1772 PG 477

1

4 UC-3a 2" TEMPORARY BLOW-OFF

CAP AND ABANDON EXISTING 20" RAW WATER MAIN WITH FLOWABLE FILL AFTER PRESSURE TESTING AND DISINFECTION

RETAIN

REMOVE

8 TONS CL B RIP RAP W/21 SY GEOTEXTILE

TAIL V DITCH SEE DETAIL G
REMOVE EX. HW AND 16 LF OF EX. 15" HDPE PIPE

STA. 2+11
20" - 45° BEND

STA. 2+67
20" - 45° BEND

-Y- +80.00
40.00 &
EX. R/W

-Y- +92.96
60.00

-Y- +99.70
@ EX. R/W

STA. 0+00
TIE INTO EXISTING 20" RAW WATER MAIN

8 UC-3a

BUNYON VOLUNTEER FIRE DEPT
8264 BROAD CREEK RD
WASHINGTON, NC 27889
DB 1798 PG 804

3

END CONSTRUCTION
-Y- STA. 21+80.00
END 2'-9" C&G

2

BUNYON VOLUNTEER FIRE DEPT
8264 BROAD CREEK RD
WASHINGTON, NC 27889
DB 772 PG 359

PATSY W. ALLIGOOD
8222 BROAD CREEK RD
WASHINGTON, NC 27889
DB 820 PG 286

BROAD CREEK RD

RESTRAINED JOINT 40 LF MIN. EACH SIDE OF HORIZONTAL OR VERTICAL FITTINGS OR VALVES

NOTES:

1. RESTRAINED JOINT DUCTILE IRON PIPE SHALL BE MINIMUM PRESSURE CLASS 250 UTILIZING DUCTILE IRON LOCKING SEGMENTS, INSERTED THROUGH A SLOT (OR SLOTS) IN THE BELL FACE TO PROVIDE A POSITIVE AXIAL LOCK BETWEEN THE BELL INTERIOR SURFACE AND A RETAINER WELDMENT ON THE SPIGOT END OF THE PIPE.
2. RESTRAINT DEVICES FOR USE ON DUCTILE IRON MECHANICAL JOINT FITTINGS SHALL BE CONSTRUCTED OF HIGH STRENGTH DUCTILE IRON, CONFORMING TO THE REQUIREMENTS OF ASTM A536, GRADE 65-45-12, AND SHALL CONSIST OF MULTIPLE GRIPPING WEDGES INCORPORATED INTO A FOLLOWER GLAND MEETING APPLICABLE REQUIREMENTS OF ANSI/AWWA C110/A21.10. BOLTS AND CONNECTING HARDWARE SHALL BE OF HIGH STRENGTH LOW ALLOY MATERIAL IN ACCORDANCE WITH ANSI/AWWA C111/A21.11, LATEST REVISION THEREOF. ALL DEVICES SHALL HAVE SAFETY FACTOR OF NO LESS THAN 2:1 AT THE FULL RATED PRESSURE OF THE PIPE ON WHICH IT IS INSTALLED. THEY SHALL BE UL LISTED.

NC GRID
NAD 83 NA 2011

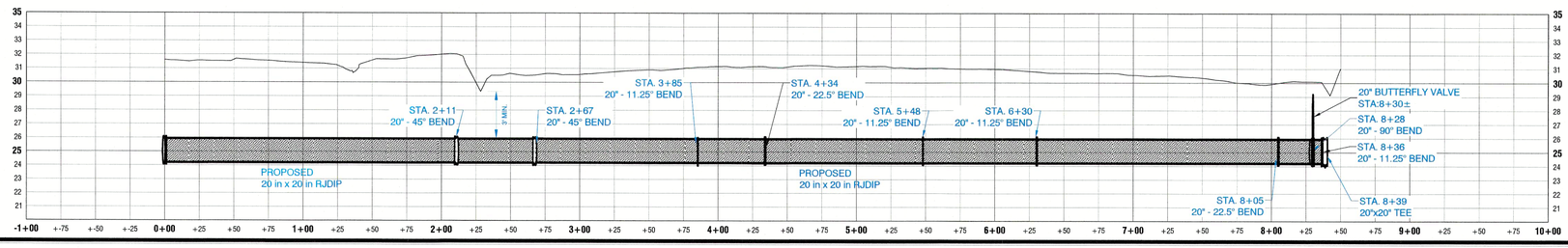
2022 / 2042	-Y- NC 32	4,500 / 5,445
	3,100 / 3,750	415 / 515
-L- US 264		-L- US 264
11,725 / 14,225	260 / 310	160 / 210	8,950 / 10,900
		1,395 / 1,695
	-Y- NC 32	

PROPOSED PIPE LEGEND

PVC RJPVC DIP RJDIP CASING

DOUGLAS CROSS ROADS ROUNDABOUT AND WATER MAIN RELOCATION

PROPOSED UTILITIES TO BE RELOCATED SHOWN IN COLOR, RELOCATION BY OTHERS SPECIFIED PER NOTE



10' 5' 2.5' 0

50' 0 25' 50'

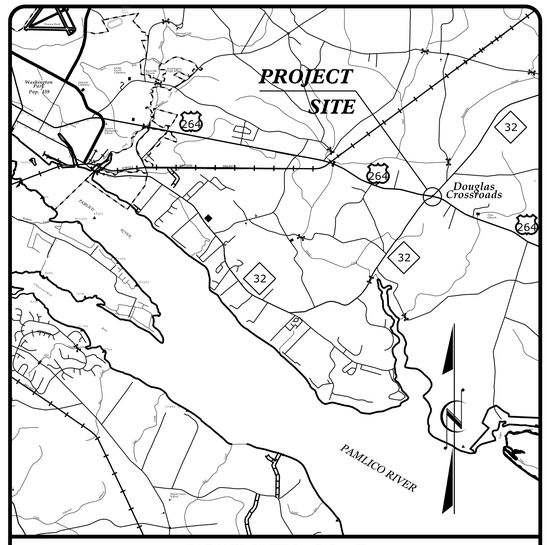
HORZ. SCALE 1 inch = 50 ft
VERT. SCALE 1 inch = 5 ft

FINAL DRAWING - FOR REVIEW PURPOSES ONLY - NOT RELEASED FOR CONSTRUCTION

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09/08/99

TIP PROJECT: W-5702i



VICINITY MAP

T.I.P. NO.	SHEET NO.
W–5702i	UC–5

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

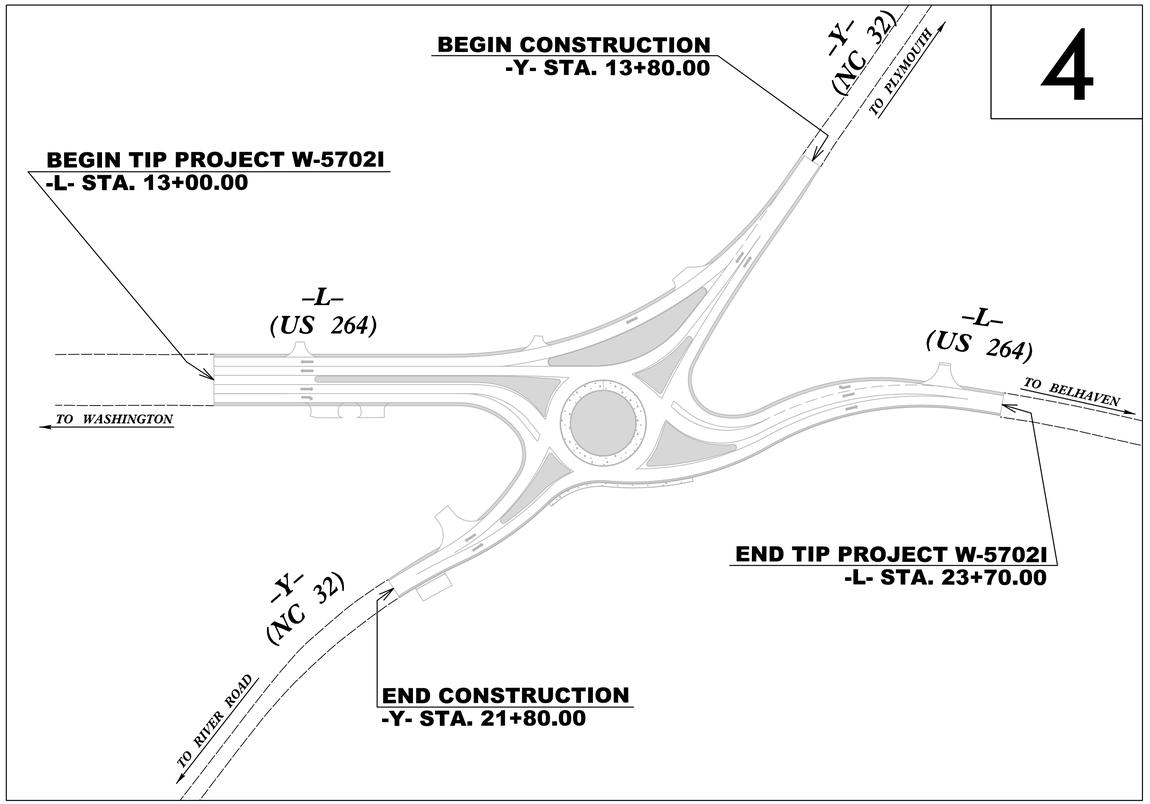
UTILITY CONSTRUCTION PLANS
BEAUFORT COUNTY

RELEASE FOR CONSTRUCTION
DATE: 11/17/2022



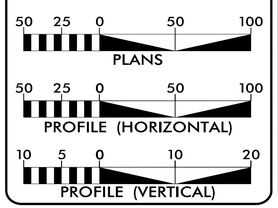
LOCATION: DOUGLAS CROSSROADS
INTERSECTION OF US 264 AND NC 32

TYPE OF WORK: WATER RELOCATION



DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	*DESCRIPTION:*
UC–1 THRU UC–4	*CITY OF WASHINGTON UC PLANS*
UC–5	*TITLE SHEET*
UC–6	*UTILITY SYMBOLOGY*
UC–7	*NOTES*
UC–7A THRU UC–7C	*DETAILS*
UC–8	*UTILITY CONSTRUCTION SHEET*
UC–9	*PROFILE SHEET*

WATER AND SEWER OWNERS ON PROJECT

(A) WATER – BEAUFORT COUNTY

PREPARED IN THE OFFICE OF
WETHERILL ENGINEERING
1223 Jones Franklin Rd. Raleigh, N.C. 27606
License No. F-0377
Bus: 919.851.8077 Fax: 919.851.8107

PANKIL K. PATEL — *UTILITY PROJECT MANAGER*
TREVER REEVES — *PROJECT UTILITY COORDINATOR*

SEAL
11/29/2022
NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER EDWARD G. WETHERILL
DocuSigned by: Edward G. Wetherill 6B0753EEBC0147D...

DIVISION OF HIGHWAYS
DIVISION 2
1037 W.H. Smith Blvd.
Greenville NC, 27835

LARRY L. JONES — *DIVISION 2 PROJECT MANAGER*
DAVID KRAMER — *DIVISION 2 UTILITY ENGINEER*

11/18/2022
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USER:TReeves

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-6

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown)
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole — W
- Power Manhole — P
- Telephone Manhole — T
- Sanitary Sewer Manhole — SS
- Hand Hole for Cable — HH
- Power Transformer
- Telephone Pedestal — T
- CATV Pedestal — C
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line — FSS
- Underground Unknown Utility Line
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown) — P
- Designated Utility Line (Type as Shown) — P

REV: 2/1/2012

11/8/2022
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5/14/99

UTILITY CONSTRUCTION

RELEASE FOR CONSTRUCTION
DATE: 11/17/2022

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-7
DESIGNED BY: TWR	11/29/2022
DRAWN BY: TWR	
CHECKED BY: PKP	
APPROVED BY: PKP	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER TIMOTHY G. WETHERILL

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING WATER FACILITIES ARE OWNED AND MAINTAINED BY BEAUFORT COUNTY. CONTACT ERICK JENNINGS, WATER SYSTEMS MANAGER AT 252-402-6547.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. PROPOSED WATER LINE FROM -WL1- LINE STATION 10+00 TO -WL1- LINE STATION 12+97 +/- SHALL BE SDR 21 PVC, INSTALLED BY OPEN CUT METHOD. PROPOSED WATER LINE FROM -WL2- STATION 10+00 TO -WL2- STATION 20+00 +/- SHALL BE CLASS 350 R.J. DIP, INSTALLED BY OPEN CUT METHOD. PROPOSED WATER LINE FROM -WL3- STATION 10+00 TO -WL3- STATION 12+14 +/- SHALL BE SDR 21 PVC, INSTALLED BY OPEN CUT METHOD. PROPOSED WATER LINE FROM -WL4- STATION 10+00 TO -WL4- STATION 10+70 +/- SHALL BE SDR 21 PVC, INSTALLED BY OPEN CUT METHOD.

2. PROPOSED WATER LINE ENCASEMENT FROM -WL2- STATION 10+95 +/- TO -WL2- STATION 11+35 +/- SHALL BE 30" STEEL ENCASEMENT (0.375" THICKNESS), INSTALLED BY OPEN CUT METHOD. PROPOSED WATER LINE ENCASEMENT FROM -WL2- STATION 16+23 +/- TO -WL2- STATION 16+83 +/- SHALL BE 30" STEEL ENCASEMENT (0.375" THICKNESS), INSTALLED BY OPEN CUT METHOD.

3. CONTRACTOR SHALL ADHERE TO SECTION 1530 "ABANDON OR REMOVE UTILITIES" FOR ABANDONMENT OF PIPE, UNLESS OTHERWISE SPECIFIED.

4. BEAUFORT COUNTY SHALL BE PROVIDED WITH TWO COPIES OF SURVEYED AS-BUILTS OF THE INSTALLED UTILITY. THE AS-BUILTS SHALL INCLUDE NOTATIONS OF THE SIZE AND TYPE OF MATERIAL INSTALLED; GPS COORDINATES OF ALL: FITTINGS, UTILITY CONTROLS, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE PIPING. PROVIDE BORING LOGS FROM TRENCHLESS INTALLATIONS.

WATER INSTALLATION NOTES:

1) CONTRACTOR SHALL COORDINATE ALL PROPOSED WORK WITH BEAUFORT COUNTY MR. ERICK JENNINGS AT 252-402-6547, 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
2) CONTRACTOR SHALL FULLY INSTALL, PRESSURE & LEAKAGE TEST, AND CHLORINATE NEW WATER MAIN PRIOR TO CONNECTION TO EXISTING SYSTEM.
3) CONTRACTOR SHALL PERFORM THE CONNECTION DURING OFF PEAK HOURS WITH A MAXIMUM SHUT DOWN TIME OF FIVE HOURS. (12 PM MIDNIGHT TO 5 AM)
4) ANY WORK OR TEST PERFORMED WITHOUT NOTIFICATION AND CONTACT WITH BEAUFORT COUNTY FIELD INSPECTORS SHALL BE PERFORMED AT THE CONTRACTOR'S RISK. CONTACT MR. ERICK JENNINGS AT 252-402-6547.
5) BEAUFORT COUNTY WILL COLLECT ALL BACTERIOLOGICAL SAMPLES FOR RELOCATION PROJECTS. A BEAUFORT COUNTY REPRESENTATIVE SHALL BE PRESENT FOR ALL PRESSURE TEST, CHLORINATION, AND FLUSHING OF ALL NEW WATER LINES.
6) OPERATION OF EXISTING GATE VALVES SHALL BE DONE BY BEAUFORT COUNTY OPERATIONS STAFF. CONTACT MR. ERICK JENNINGS AT 252-402-6547.
7) TIE NEW WATER MAIN INTO EXISTING. INSTALL THRUST BLOCKS AND RODDING AS REQUIRED. USE GRIPPING OR APPROVED EQUAL FOR RESTRAINING ALL DI WATER PIPE, FITTINGS, AND VALVES
8) NEW WATER MAIN SHALL NOT BE CONNECTED TO EXISTING MAIN WITHOUT PRIOR APPROVAL AND COORDINATION WITH BEAUFORT COUNTY.
9) TRACER WIRE MUST BE ATTACHED TO ALL NEWLY INSTALLED PIPE AS REQUIRED BY NC GENERAL STATUTES CHAPTER 87-121G. USE #12 AWG SOLID-COPPER WIRE WITH BLUE INSULATION. BEAUFORT COUNTY WILL CONDUCT A CONTINUITY TEST ON ALL TRACER WIRE AFTER INSTALLATION.

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5/14/99

PROJECT TYPICAL DETAILS

RELEASE FOR CONSTRUCTION
DATE: 11/17/2022

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-7A
DESIGNED BY: TWR	11/29/2022
DRAWN BY: TWR	
CHECKED BY: PKP	
APPROVED BY: PKP	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

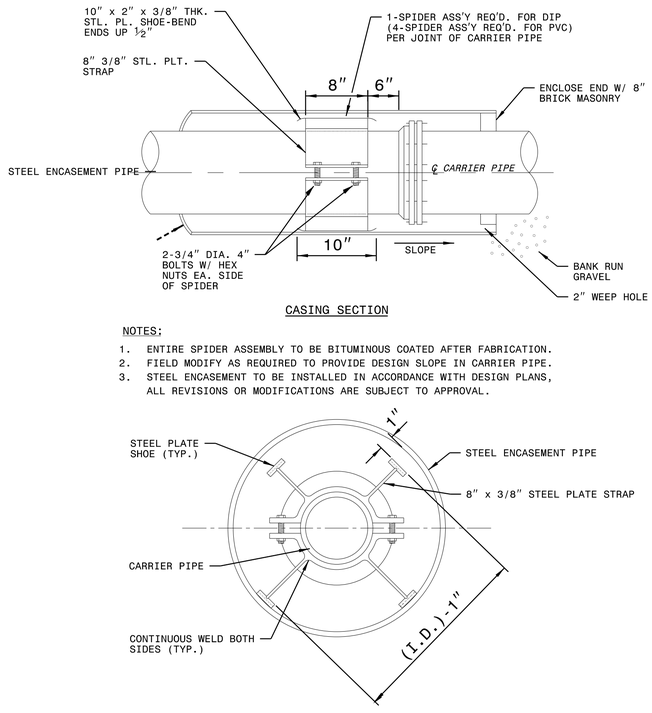
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER EDWARD G. WETHERILL

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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CASING SECTION

NOTES:

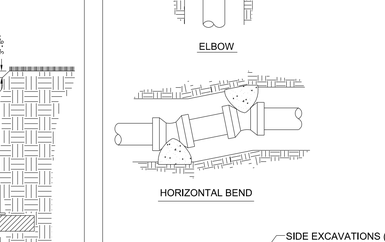
1. ENTIRE SPIDER ASSEMBLY TO BE BITUMINOUS COATED AFTER FABRICATION.
2. FIELD MODIFY AS REQUIRED TO PROVIDE DESIGN SLOPE IN CARRIER PIPE.
3. STEEL ENCASEMENT TO BE INSTALLED IN ACCORDANCE WITH DESIGN PLANS, ALL REVISIONS OR MODIFICATIONS ARE SUBJECT TO APPROVAL.

END ELEVATION

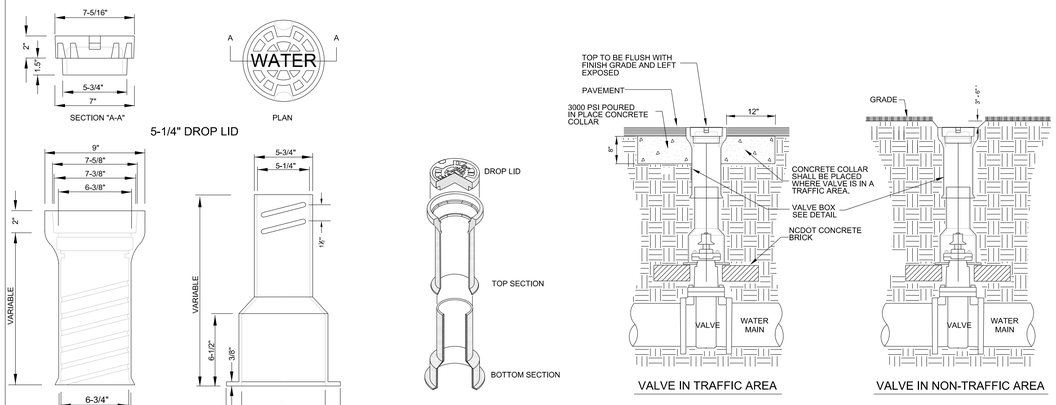
PIPE ENCASEMENT DETAIL

NOT TO SCALE

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

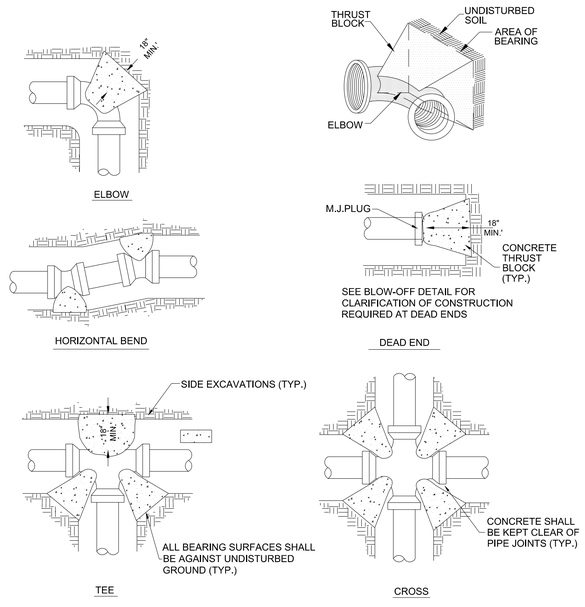


Valve Box Detail

NTS

NOTES:

1.) THRUST BLOCKS SHALL BE INSTALLED ON ALL WATER DISTRIBUTION LINES 8" THRU 16" DIA. IN THE MANNER SHOWN.
2.) PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE PROPER LENGTH.
3.) SAC-CRETE SHALL NOT BE ALLOWED.
4.) NO CONCRETE SHALL BE PLACED ON BOLTS. WRAP JOINT FITTINGS WITH PLASTIC.
5.) CONCRETE SHALL BE A MINIMUM 3,000 psi.
6.) ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED SOIL.



CONCRETE THRUST BLOCK DETAIL

NTS

FITTING SIZE (IN.)	THRUST BLOCKING SCHEDULE: MINIMUM BLOCKING AREA AND VOLUME IN S.F. AND (C.Y.)					
	11 1/4°	22 1/2°	45°	90°	TEE	PLUG
2			0.23 (0.11)	0.38 (0.11)	0.30 (0.11)	0.30 (0.11)
4			0.83 (0.18)	1.35 (0.18)	0.98 (0.18)	0.98 (0.18)
6	0.40 (0.01)	0.80 (0.02)	1.73 (0.20)	3.00 (0.33)	2.17 (0.25)	2.17 (0.25)
8	0.80 (0.02)	1.50 (0.04)	3.08 (0.34)	5.40 (0.60)	3.83 (0.42)	3.83 (0.42)
10	1.20 (0.03)	2.30 (0.07)	4.72 (0.52)	8.40 (0.94)	5.92 (0.66)	5.92 (0.66)
12	1.70 (0.05)	3.30 (0.12)	6.82 (0.75)	12.00 (1.33)	8.48 (0.94)	8.48 (0.94)
16	3.00 (0.33)	5.90 (0.65)	11.60 (0.86)	21.30 (1.57)	15.00 (0.97)	15.00 (0.97)
20	4.60 (0.52)	9.20 (0.76)	18.00 (1.32)	33.30 (3.60)	23.30 (1.87)	23.30 (1.87)
24	6.70 (0.75)	13.20 (0.97)	26.00 (2.28)	48.00 (5.29)	33.60 (3.24)	33.60 (3.24)
30	10.40 (0.77)	20.70 (1.80)	40.60 (4.45)	75.00 (10.30)	52.50 (6.32)	52.50 (6.32)
36	15.00 (1.28)	29.80 (3.11)	58.40 (7.67)	108.0 (17.90)	75.60 (10.90)	75.60 (10.90)

NOTE: Values given are based on 200 psi water pressure and 2000 lb/sf soil bearing capacity. Soils with less bearing capacity such as muck, peat or soft clay will require greater blocking areas and volumes.

The thrust blocking shown above is based on the use of mechanical joint as shown on plans.

11/18/2022
11/17/2022
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PW:\\Projects\W-5702i_UC3_NOTES-DET.dgn

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5/14/99

PROJECT TYPICAL DETAILS

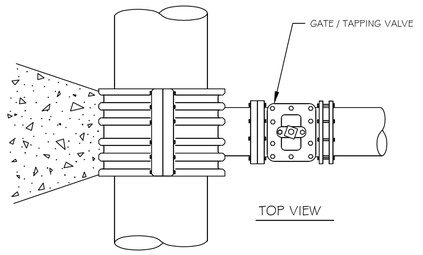
RELEASE FOR CONSTRUCTION
DATE: 11/17/2022

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-7B
DESIGNED BY: TWR	11/29/2022
DRAWN BY: TWR	
CHECKED BY: PKP	
APPROVED BY: PKP	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER EDWARD G. WETHERILL

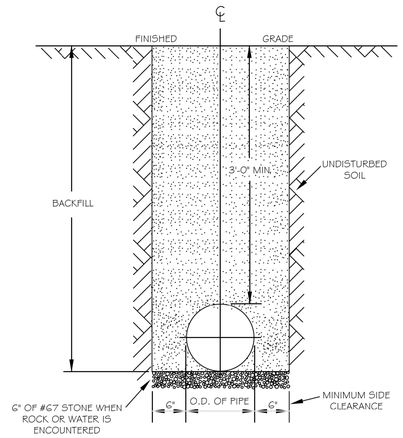
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

DWG. NO.	
W-14	4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

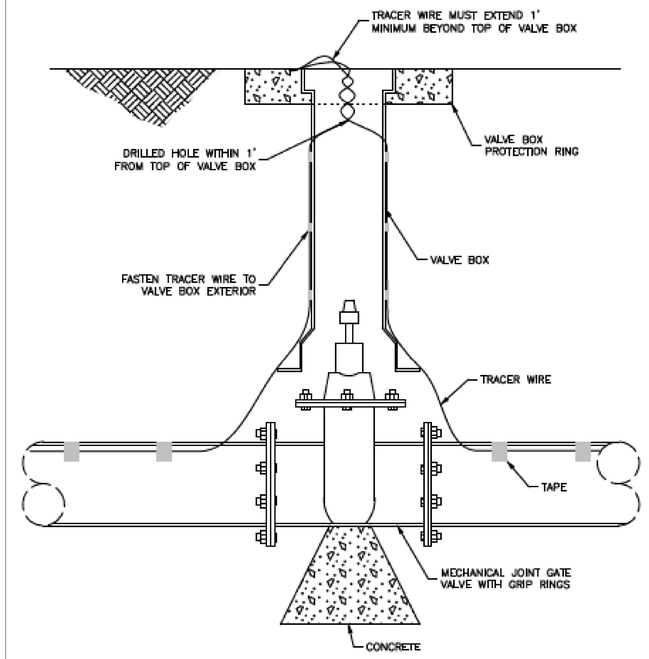


NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

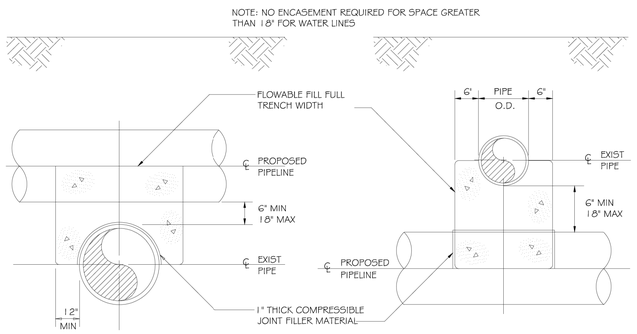
DWG. NO.	
W-3	TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

TRACER WIRE DETAIL

PROFILE VIEW



NOTE: NO ENCASEMENT REQUIRED FOR SPACE GREATER THAN 18" FOR WATER LINES



PROPOSED PIPELINE OVER EXISTING PIPE

PROPOSED PIPELINE UNDER EXISTING PIPE

DWG. NO.	
W-41	CONCRETE CRADLE PROTECTION FOR WATER LINE CROSSINGS

11/18/2022
11/18/2022
USER: Reed
C:\Projects\...\UC3_NOTES-DET.dgn

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5/14/99

PROJECT TYPICAL DETAILS

RELEASE FOR CONSTRUCTION
DATE: 11/17/2022

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-7C
DESIGNED BY: TWR	11/29/2022
DRAWN BY: TWR	
CHECKED BY: PKP	
APPROVED BY: PKP	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

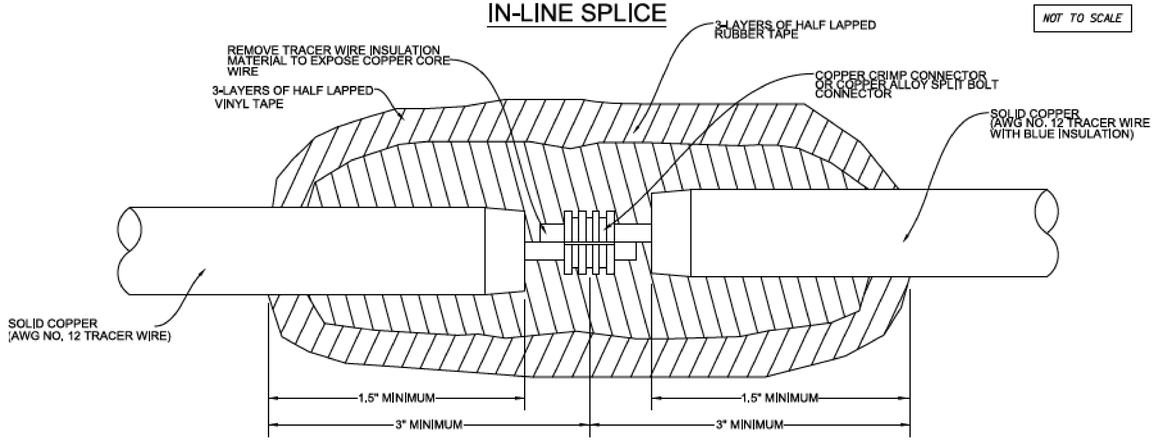
NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER EDWARD G. WETHERILL
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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IN-LINE SPLICE

NOT TO SCALE

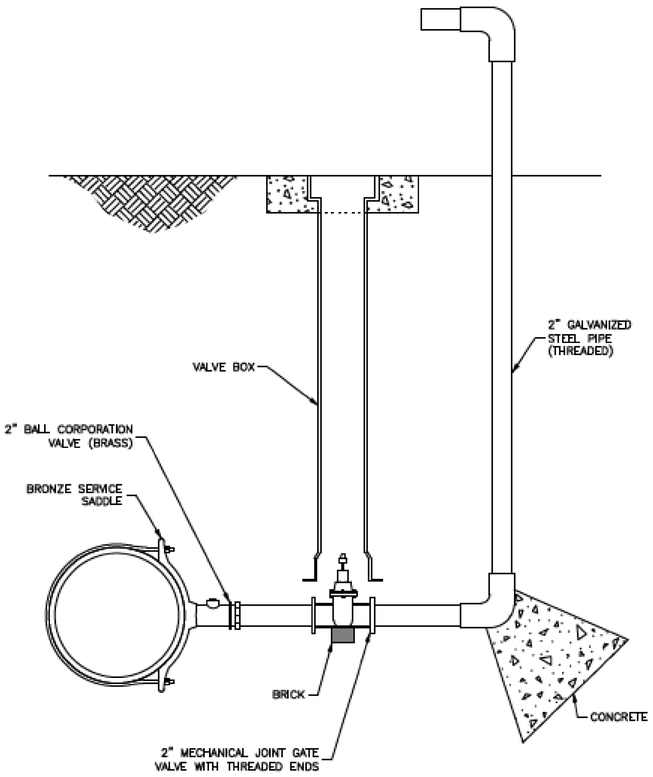


NOTES:

1. IN LINE SPLICES SHALL BE LIMITED TO THE GREATEST EXTENT POSSIBLE, TRACER WIRE SHALL BE AS CONTINUOUS AS POSSIBLE WITHOUT SPLICES.
2. INLINE SPLICES SHALL INCLUDE 3 FEET OF SLACK WIRE ON EACH SIDE OF EACH SPLICE.

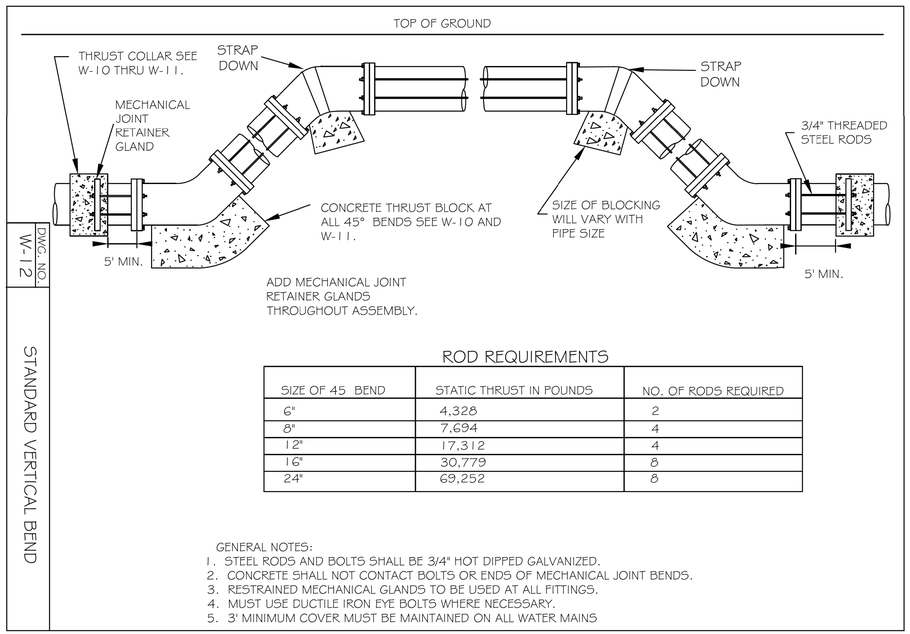
2" TEMPORARY BLOW OFF DETAIL

PROFILE VIEW



NOTES:

1. CONTRACTOR SHALL REMOVE TEMPORARY BLOW-OFF FOLLOWING FLUSHING AND CHLORINATION OF NEW WATER LINE.
2. BALL CORPORATION VALVE IS TO BE PLUGGED OR CAPPED FOLLOWING REMOVAL OF TEMPORARY BLOW-OFF.



ROD REQUIREMENTS

SIZE OF 45 BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	8
24"	69,252	8

GENERAL NOTES:
1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. MUST USE DUCTILE IRON EYE BOLTS WHERE NECESSARY.
5. 3' MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS

11/28/2022
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5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-8
DESIGNED BY: TWR	11/29/2022
DRAWN BY: TWR	
CHECKED BY: PKP	
APPROVED BY: PKP	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER PAUL C. WETHERILL

NAD 83/NA 2011

UTILITY CONSTRUCTION

TIE INTO EXISTING 12″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 12″ INSERT VALVE

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

70 LF 12″ WATER LINE
WL-4; SDR 21 PVC

ABANDON 63 LF 12″ UTILITY PIPE

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

TIE INTO EXISTING 12″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 12″ INSERT VALVE

BEGIN CONSTRUCTION
-Y- STA. 13+80.00

BEGIN TIP PROJECT W-5702I
-L- STA. 13+00.00

TIE INTO EXISTING 8″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 8″ INSERT VALVE

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

TIE INTO EXISTING 16″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 16″ INSERT VALVE

PROVIDE HORIZONTAL BENDS AS REQUIRED (TYP)

215 LF 8″ WATER LINE
WL-3; SDR 21 PVC

ABANDON 212 LF 8″ UTILITY PIPE

PROVIDE HORIZONTAL BENDS AS REQUIRED (TYP)

TIE INTO EXISTING 8″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 8″ INSERT VALVE

TIE INTO EXISTING 12″ WATER MAIN AT EXISTING VALVE

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

ABANDON 307 LF 12″ UTILITY PIPE

298 LF 12″ WATER LINE
WL-1; SDR 21 PVC

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

TIE INTO EXISTING 12″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 12″ INSERT VALVE

TIE INTO EXISTING 20″ WATER LINE (CITY OF WASHINGTON)

60 LF 30″ ENCASEMENT PIPE
BY OPEN CUT METHOD

PROPOSED 20″ WATER LINE (CITY OF WASHINGTON)

END TIP PROJECT W-5702I
-L- STA. 23+70.00

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

1001 LF 16″ WATER LINE
WL-2; 16″ DIP CL 350

ABANDON 914 LF 16″ UTILITY PIPE

PROVIDE HORIZONTAL BEND AS REQUIRED (TYP)

40 LF 30″ ENCASEMENT PIPE
BY OPEN CUT METHOD

TIE INTO EXISTING 16″ WATER MAIN WITH LONG PATTERN SLEEVE AND CONCRETE THRUST COLLAR 16″ INSERT VALVE

TIE INTO EXISTING 20″ WATER LINE (CITY OF WASHINGTON)

END CONSTRUCTION
-Y- STA. 21+80.00

RELEASE FOR CONSTRUCTION
DATE: 11/17/2022

THRUST BLOCKING IS REQUIRED (SEE DETAIL WL-M-4)

SEE SHEET UC-9 FOR -WL1-, -WL2-, -WL3-, -WL4- PROFILE

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 5225 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

12/5/2022
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5/14/99

RELEASE FOR CONSTRUCTION
DATE: 11/17/2022

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
W-5702i	UC-9
DESIGNED BY: TWR	
DRAWN BY: TWR	
CHECKED BY: PKP	
APPROVED BY: PKP	
REVISED:	

11/29/2022

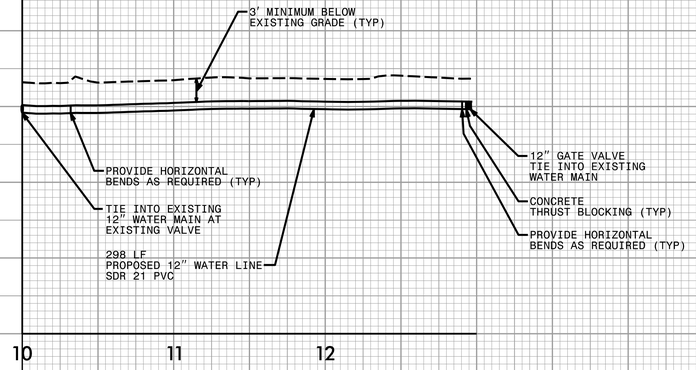
NORTH CAROLINA PROFESSIONAL SEAL 10773 ENGINEER EDWARD G. WETHERILL

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

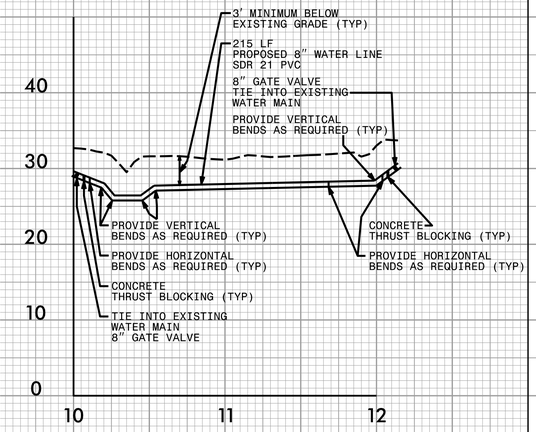
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

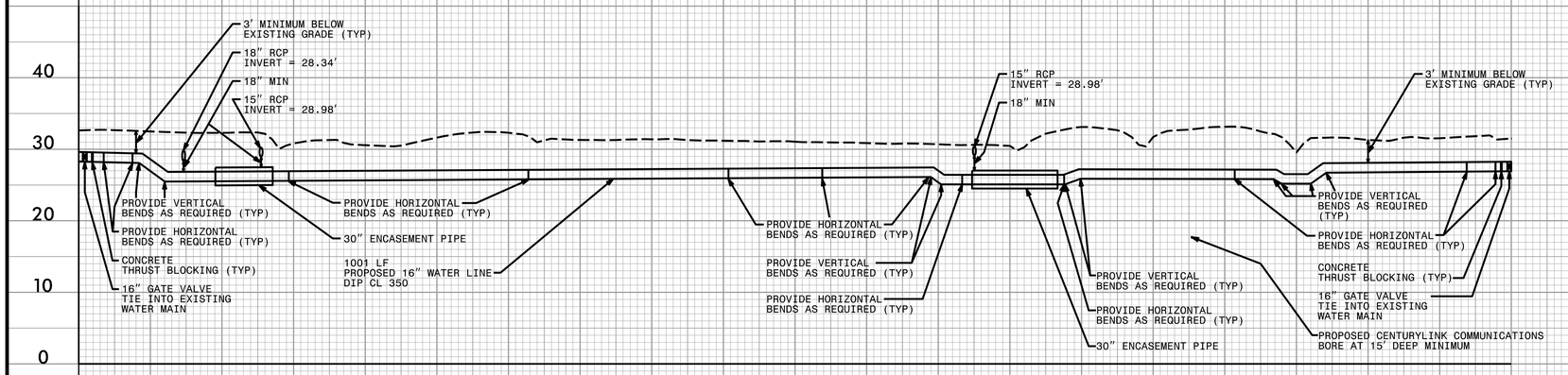
WL-1



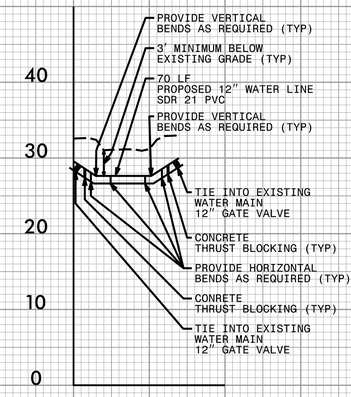
WL-3



WL-2



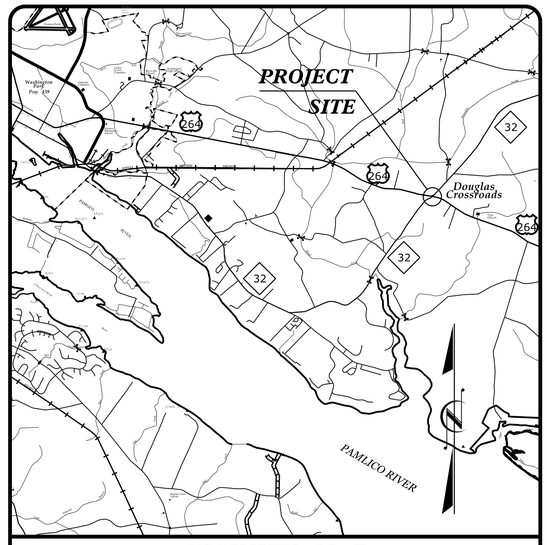
WL-4



11/18/2022
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USER:Reeves

09/08/99

TIP PROJECT: W-5702i



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
BEAUFORT COUNTY

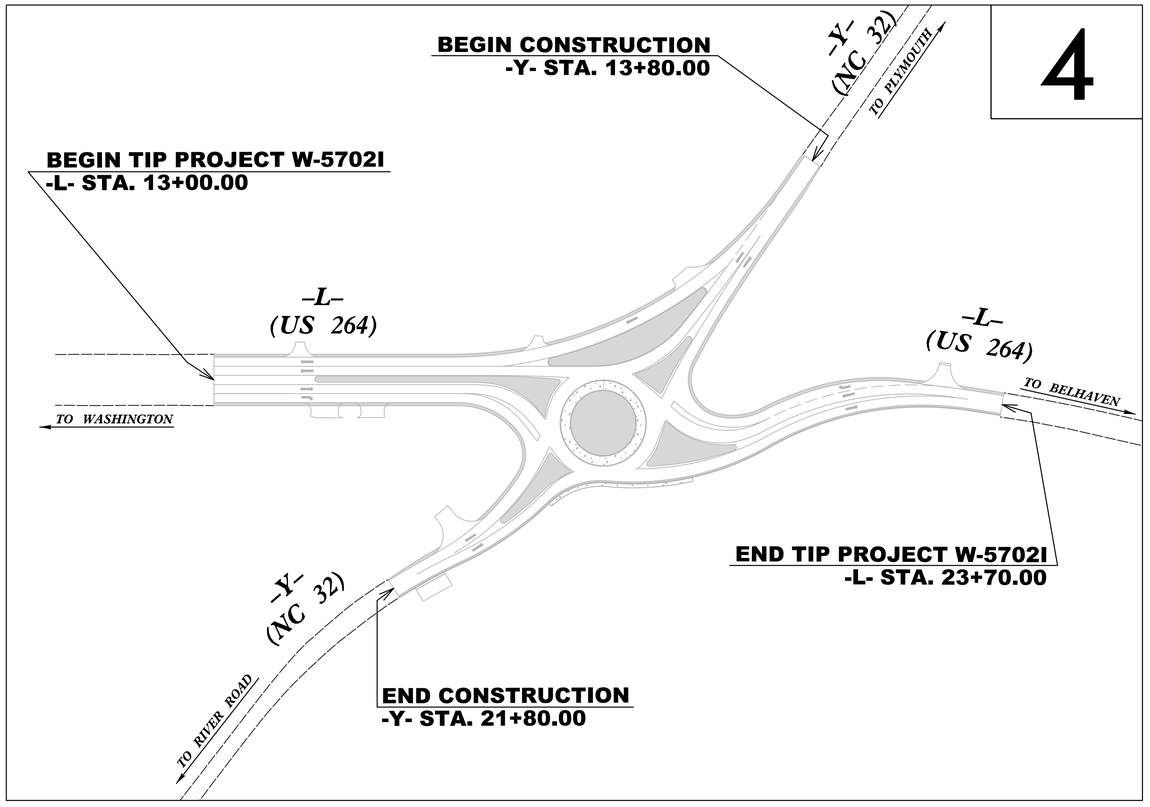
T.I.P. NO.	SHEET NO.
W–5702i	UO–1

FINAL PLANS – 02/02/2023



LOCATION: DOUGLAS CROSSROADS
INTERSECTION OF US 264 AND NC 32

TYPE OF WORK: UTILITY RELOCATION BY OTHERS



GRAPHIC SCALES

50 25 0 50 100
PLANS

INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO–1	TITLE SHEET
UO–2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

(A) COMMUNICATIONS – CENTURYLINK
(B) COMMUNICATIONS – TRI-COUNTY TELEPHONE
(C) POWER – CITY OF WASHINGTON

PREPARED IN THE OFFICE OF:
ETHERILL ENGINEERING
1223 Jones Franklin Rd. Raleigh, N.C. 27606
License No. F-0377
Bus: 919.851.8077 Fax: 919.851.8107

PANKIL K. PATEL — UTILITY PROJECT MANAGER
TREVER REEVES — PROJECT UTILITY COORDINATOR

DIVISION OF HIGHWAYS
DIVISION 2
1037 W.H. Smith Blvd.
Greenville NC, 27835

LARRY L. JONES — DIVISION 2 PROJECT MANAGER
DAVID KRAMER — DIVISION 2 UTILITY ENGINEER

2/2/2023
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USER:TReeves

PROJECT REFERENCE NO.	SHEET NO.
W-5702I	U0-2
THIS SHEET CORRESPONDS TO RDY- 4	

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

FINAL PLANS – 02/02/2023

NOTES:
1. ALL TV LINES HAVE BEEN DECOMMISSIONED BY TRI-COUNTY BROADBAND
2. TRI-COUNTY BROADBAND WILL BORE ALL COMMUNICATIONS LINES A MINIMUM OF 10′ UNDER PROPOSED ROADWAY AND PROPOSED CITY OF WASHINGTON WATER LINES

NAD 83/NA 2011

BEGIN TIP PROJECT W-5702I
-L- STA. 13+00.00

BEGIN CONSTRUCTION
-Y- STA. 13+80.00

END CONSTRUCTION
-Y- STA. 21+80.00
END 2'-9" C&G

END TIP PROJECT W-5702I
-L- STA. 23+70.00
END 2'-9" C&G

OVERHEAD POWER (CITY OF WASHINGTON)

UNDERGROUND COMMUNICATIONS TO BE BORED UNDER PROPOSED WATER (CENTURYLINK)

12″ WATER LINE SEE UTILITY CONSTRUCTION FOR PLAN AND PROFILE (BEAUFORT COUNTY)

TV LINE HAS BEEN DECOMMISSIONED (TRI-COUNTY TELEPHONE)

OVERHEAD POWER TO REMAIN (CITY OF WASHINGTON)

OVERHEAD POWER (CITY OF WASHINGTON)

UNDERGROUND COMMUNICATIONS BORED AT 15′ MINIMUM DEPTH (CENTURYLINK)

POWER POLES AND TRAFFIC TO BE REMOVED (NCDOT)

COMMUNICATIONS VAULT (TRI-COUNTY TELEPHONE)

12″ WATER LINE SEE UTILITY CONSTRUCTION FOR PLAN AND PROFILE (BEAUFORT COUNTY)

UNDERGROUND (FO) COMMUNICATIONS (TRI-COUNTY TELEPHONE)

UNDERGROUND COMMUNICATIONS HAVE BEEN INSTALLED AT THIS LOCATION AGAINST ORIGINAL UBO PLANS (CENTURYLINK)

COMMUNICATIONS VAULT (TRI-COUNTY TELEPHONE)

REMOVE POWER POLE (CITY OF WASHINGTON)

POWER POLE (CITY OF WASHINGTON)

ABANDON ALL EXISTING UNDERGROUND COMMUNICATIONS CABLES (FO & TEL) (CENTURYLINK)

OVERHEAD POWER TIE INTO EXISTING POLE (CITY OF WASHINGTON)

POWER POLE (CITY OF WASHINGTON)

REMOVE POWER POLE (CITY OF WASHINGTON)

8″ & 16″ WATER LINE SEE UTILITY CONSTRUCTION FOR PLANS AND PROFILES (BEAUFORT COUNTY)

TRI-COUNTY WILL LEAVE THIS (FO) IN PLACE DURING THE CONSTRUCTION OF BEAUFORT COUNTY WATER LINES. ANY DAMAGES AND RELOCATIONS THAT OCCUR WILL BE PAID FOR BY TRI-COUNTY TELEPHONE.

UNDERGROUND COMMUNICATIONS (CENTURYLINK)

REMOVE EXISTING POLES AND OVERHEAD TELEPHONE CABLES (CENTURYLINK)

20″ RAW WATER LINE SEE UTILITY CONSTRUCTION FOR PLAN AND PROFILE (CITY OF WASHINGTON)

UNDERGROUND (FO) COMMUNICATIONS (X2) TO BE BORED AT A MINIMUM OF 10′ DEPTH (TRI-COUNTY TELEPHONE)

COMMUNICATIONS VAULT (TRI-COUNTY TELEPHONE)

REMOVE AERIAL TELEPHONE (CENTURYLINK)

UNDERGROUND (FO) COMMUNICATIONS (CENTURYLINK)

UNDERGROUND COMMUNICATIONS (CENTURYLINK)

REMOVE EXISTING OVERHEAD TELEPHONE CABLES AND POLES (CENTURYLINK)

TIE EXISTING COMMUNICATIONS INTO RELOCATED CABINET (TRI-COUNTY TELEPHONE)

TIE EXISTING COMMUNICATIONS INTO RELOCATED VAULT (TRI-COUNTY TELEPHONE)

UNDERGROUND (FO) COMMUNICATIONS (X2) (TRI-COUNTY TELEPHONE)

16″ WATER LINE SEE UTILITY CONSTRUCTION FOR PLAN AND PROFILE (BEAUFORT COUNTY)

STEPHEN L.DOUGLAS 845 NC HWY 32 N WASHINGTON,NC 27889 DB 1753 PG 14
DOUGLAS CROSSROADS LLC 213 59TH ST VIRGINIA BEACH,VA 23451 DB 1787 PG 116
TIMOTHY B.DOUGLAS 2442 BRADDY ROAD WASHINGTON,NC 27889 DB 1753 PG 20
EMILY P.ALBERA PO BOX 1162 WASHINGON,NC 27889 DB 1565 PG 141
JAMES JOSEPH ALBERA & WIFE EMILY MARSHA PADGETT ALBERA DB 2008 PG 084
DB 2039 PG 127
HELEN B.MEEKINS 1294 SLATESTONE RD WASHINGTON,NC 27889 DB 1752 PG 562
PATSY W.ALLIGOOD 8222 BROAD CREEK RD WASHINGTON,NC 27889 DB 820 PG 286
BUNYON VOLUNTEER FIRE DEPT 8264 BROAD CREEK RD WASHINGTON,NC 27889 DB 772 PG 359

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
W–57021	X–1

CROSS SECTION SUMMARY

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

STATION L	UNCL. EXC. (CU. YD.)	EMBT. (CU. YD.)
13+00.00	–	–
13+50.00	57	0
14+00.00	92	0
14+50.00	93	0
15+00.00	89	0
15+50.00	97	1
16+00.00	101	1
16+13.97	26	0
16+50.00	65	0
17+00.00	95	0
17+25.00	46	0
17+50.00	22	7

STATION L	UNCL. EXC. (CU. YD.)	EMBT. (CU. YD.)
19+00.00	–	–
19+50.00	47	302
20+00.00	74	190
20+50.00	66	148
21+00.00	53	160
21+50.00	20	150
22+00.00	0	104
22+50.00	1	63
23+00.00	5	29
23+50.00	13	5
23+70.00	9	0

STATION Y	UNCL. EXC. (CU. YD.)	EMBT. (CU. YD.)
13+00.00	–	–
13+50.00	50	4
14+00.00	68	15
14+50.00	24	48
15+00.00	0	86
15+50.00	0	62
16+00.00	0	19
16+50.00	27	13
17+00.00	36	39
17+50.00	16	48

STATION Y	UNCL. EXC. (CU. YD.)	EMBT. (CU. YD.)
19+00.00	–	–
19+50.00	24	13
20+00.00	45	16
20+50.00	37	8
21+00.00	25	5
21+50.00	50	5
21+80.00	26	0

STATION RPB	UNCL. EXC. (CU. YD.)	EMBT. (CU. YD.)
10+00.00	–	–
10+50.00	51	0
11+00.00	55	0
11+50.00	62	0
12+00.00	58	1
12+50.00	46	3
13+00.00	32	6
13+50.00	17	7
14+00.00	5	17
14+49.64	0	38

CROSS SECTION INDEX

SHEET	ALIGNMENT	BEGIN STATION	END STATION
X–2	–L–	13+00.00	16+50.00
X–3	–L–	17+00.0	20+50.00
X–4	–L–	21+00.00	23+70.00
X–5	–Y–	13+00.00	16+50.00
X–6	–Y–	17+00.00	21+80.00
X–7	–RPB–	10+00.00	12+50.00
X–8	–RPB–	13+00.00	14+49.64

Note:
Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

6/20/2022
USERNAME
MicroStation V8 2004 Edition
dgn\xsdepth-fly-xs-1.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-57021	X-2

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

40 30

BREAKLINE
SEE RPP-CROSS SECTIONS

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33.95
16+50.00

4:1 0.020 0.020 4:1 3:1 31.16

34.00
16+13.97

4:1 0.020 0.020 4:1 3:1 31.20

34.03
16+00.00

4:1 0.020 0.020 4:1 3:1 31.32

34.07
15+50.00

4:1 0.020 0.020 DRIVEWAY

34.17
15+00.00

4:1 0.020 0.020 DRIVEWAY

34.25
14+50.00

0.020 0.020 4:1 4:1 30.92

34.35
14+00.00

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34.51
13+50.00

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34.64
13+00.00

—L—

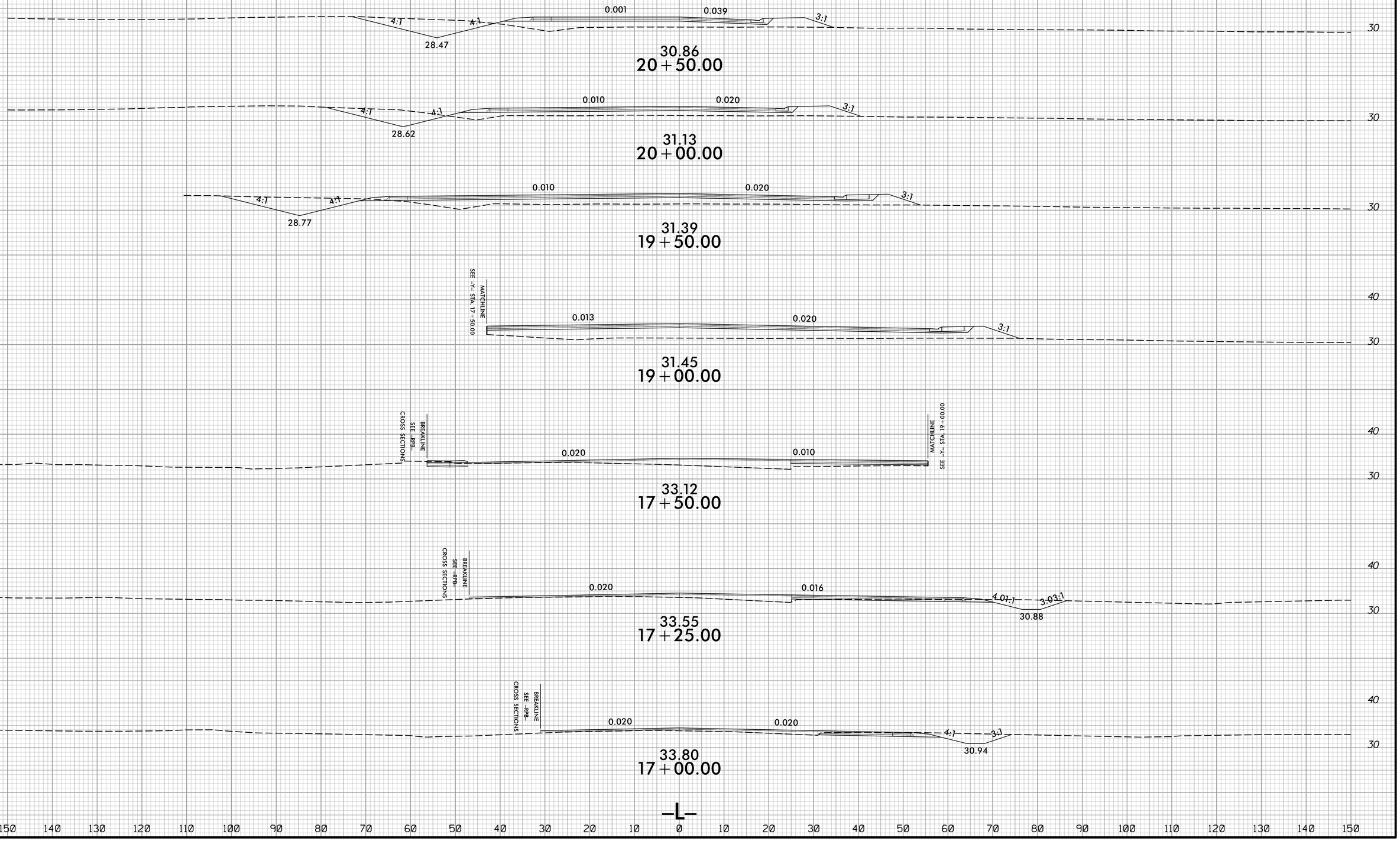
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USERNAME

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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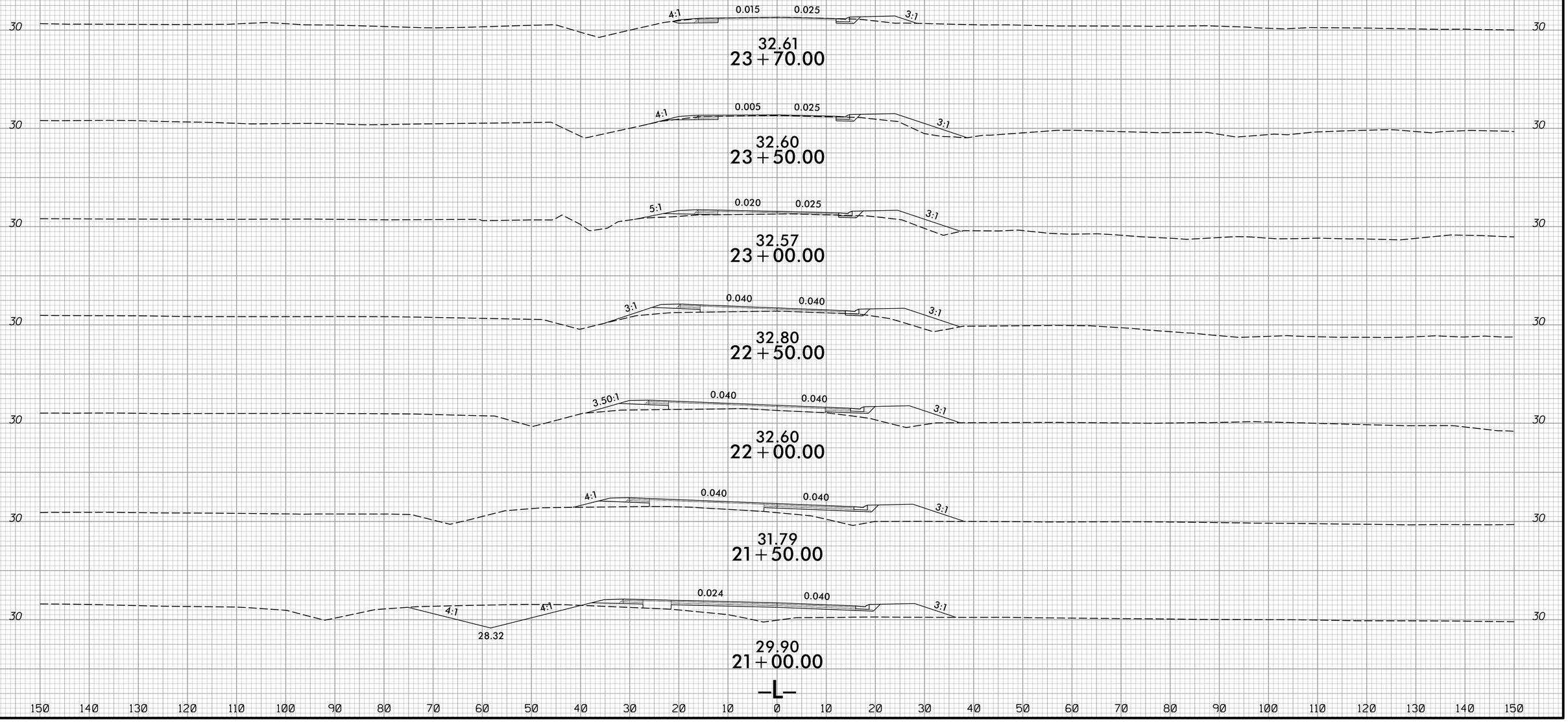


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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-57021	X-4

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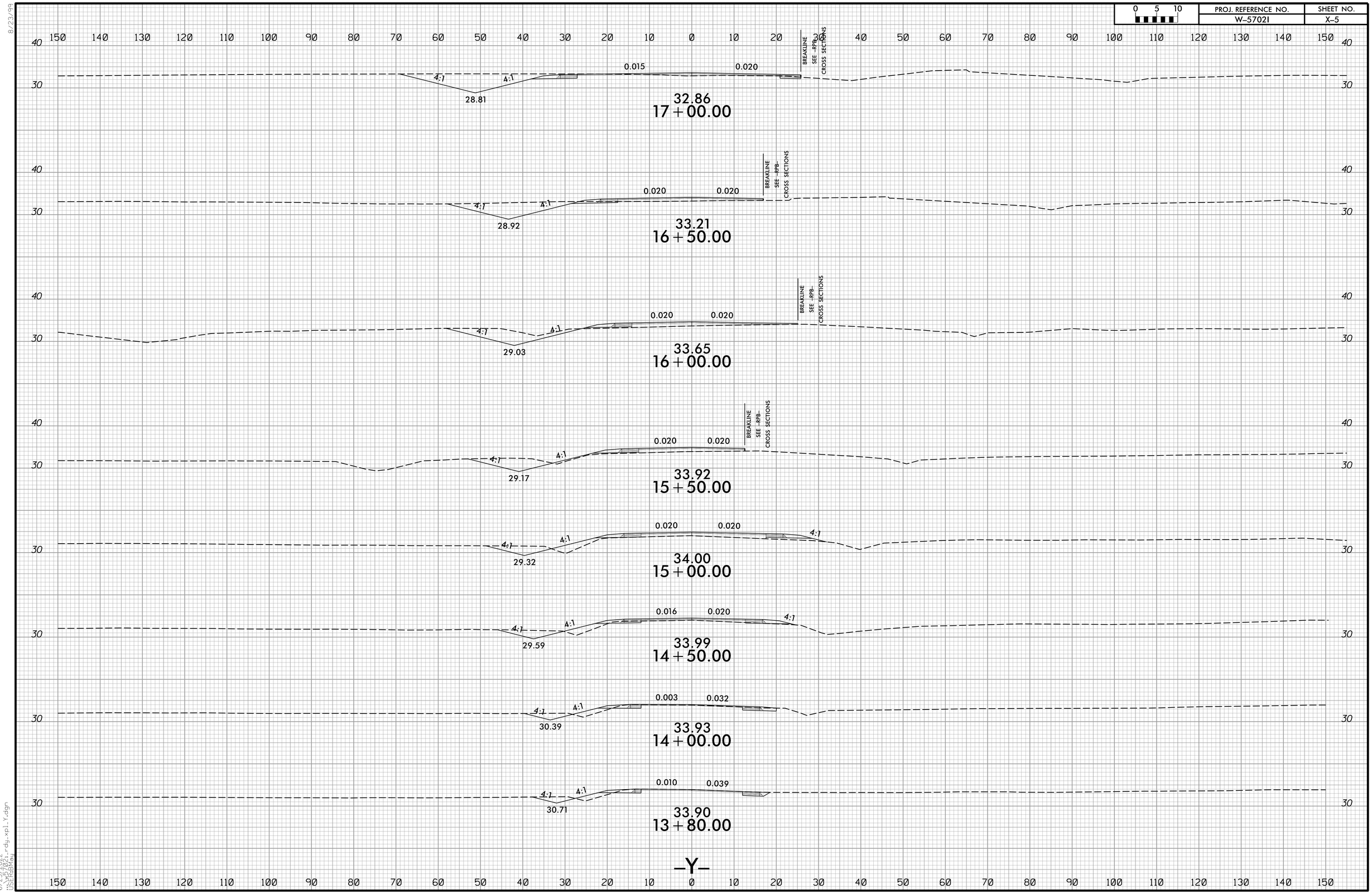


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/2022
57021_rdy_xpl_L.dgn
USERNAME

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-57021	X-5

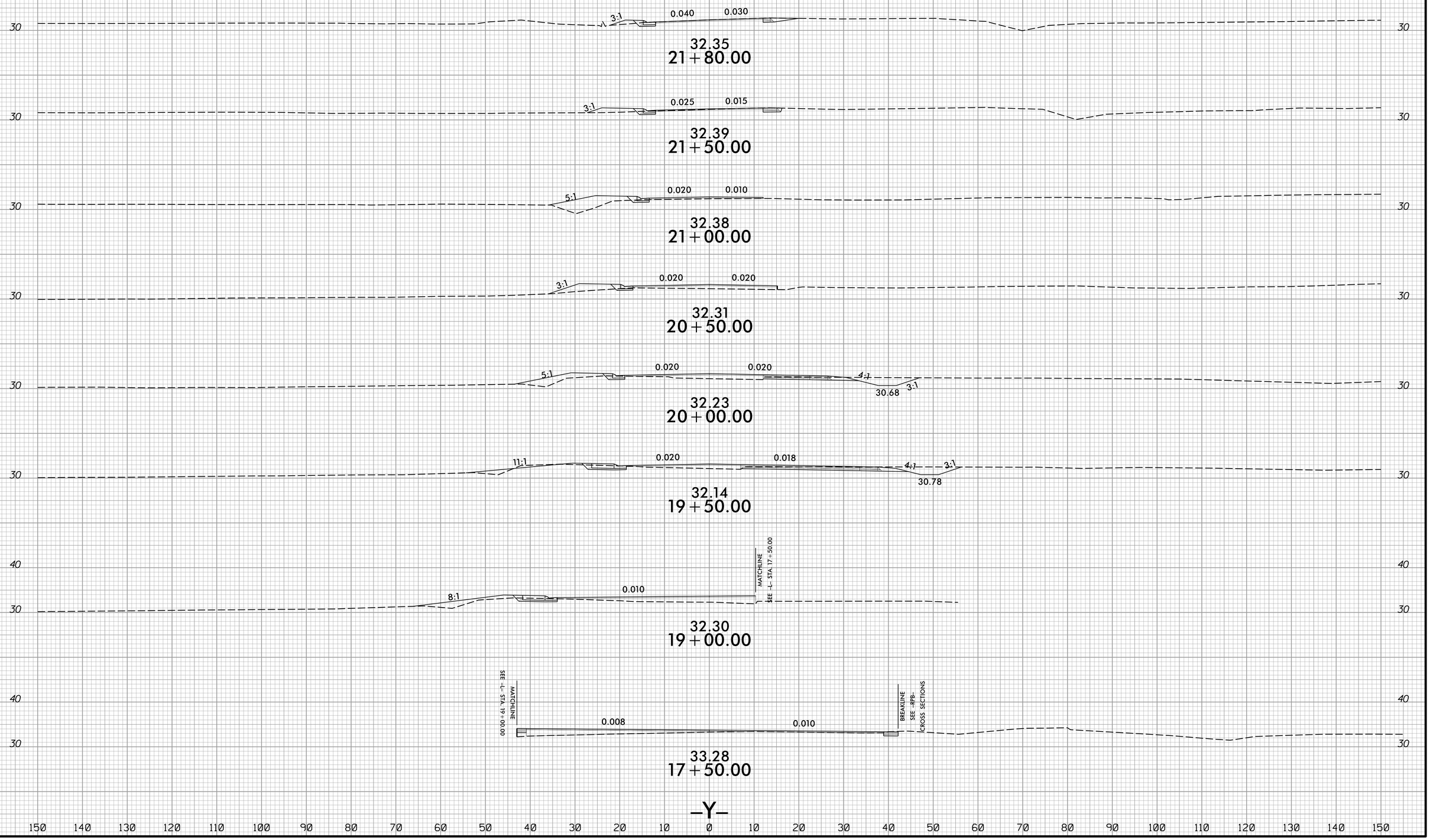


6/23/2022
W-57021_rdy_xpl_Y.dgn
USERNAME

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-57021	X-6

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



-Y-

7/12/2022
W-57021
USERNAME
cross_sheet_y.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-57021	X-7

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

40 30

4:1 0.020 BREAKLINE SEE -Y- CROSS SECTIONS

33.75
12+50.00

40 30

4:1 0.020 BREAKLINE SEE -RAB- CROSS SECTIONS

33.53
12+00.00

40 30

4:1 0.020 BREAKLINE SEE -L- CROSS SECTIONS

33.24
11+50.00

40 30

4:1 0.020 BREAKLINE SEE -L- CROSS SECTIONS

33.11
11+00.00

40 30

4:1 0.020 BREAKLINE SEE -L- CROSS SECTIONS

33.38
10+50.00

40 30

4:1 0.020 BREAKLINE SEE -L- CROSS SECTIONS

33.46
10+00.00

-RPB-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/2022
12:57:02
USER:RMay
X-57021_du_xpl_RPB.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-57021	X-8

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

40
30

4:1 0.020 BREAKLINE SEE -Y- CROSS SECTION

34.06
14+49.64

40
30

4:1 0.020 BREAKLINE SEE -Y- CROSS SECTIONS

34.06
14+00.00

40
30

4:1 0.020 BREAKLINE SEE -Y- CROSS SECTIONS

33.96
13+50.00

40
30

4:1 0.020 BREAKLINE SEE -Y- CROSS SECTIONS

33.86
13+00.00

-RPB-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/2022
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USERRBMay
S:\2021\57021\du\xpl_RPB.dgn