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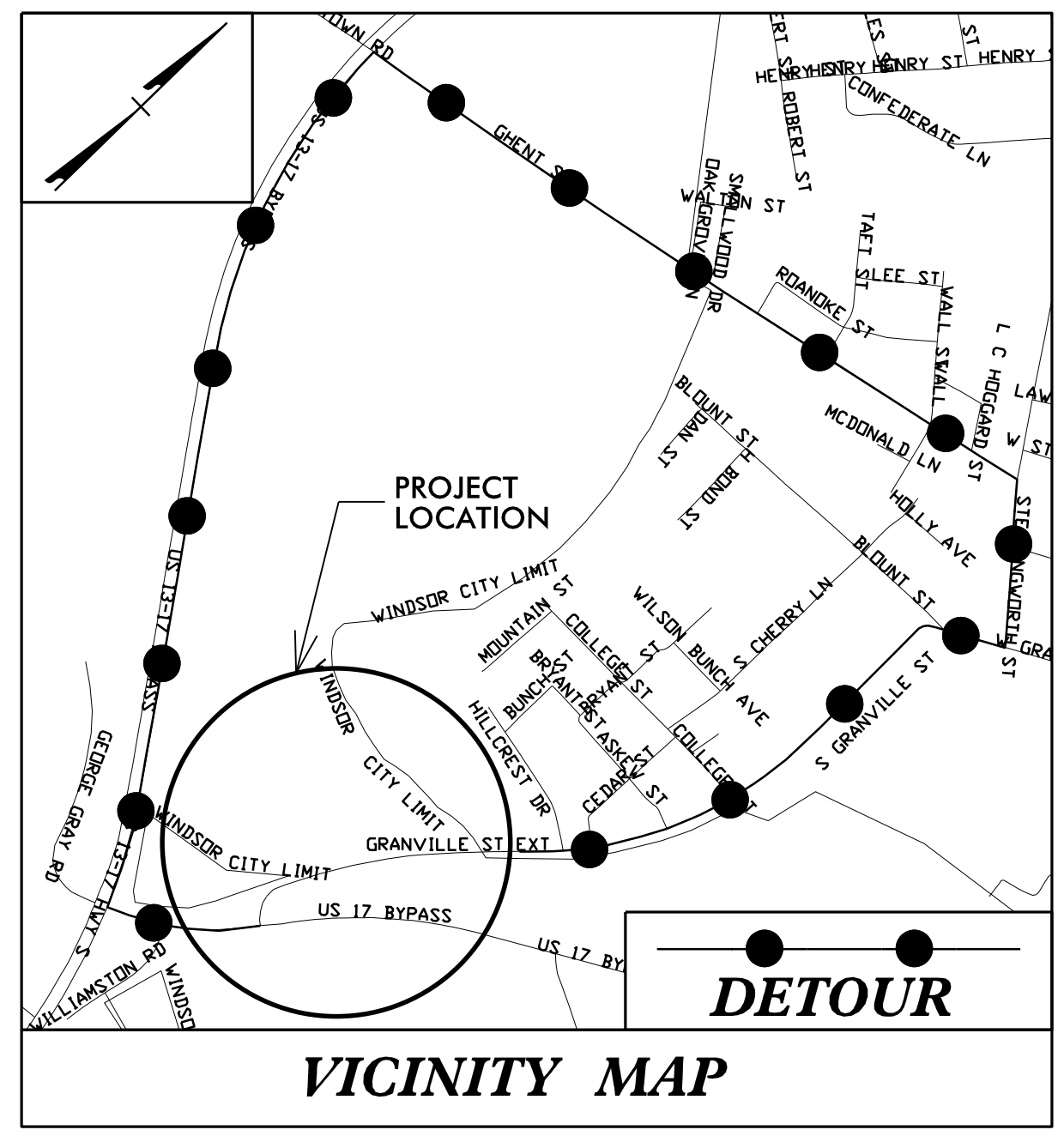
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09.08/2019

WBS ELEMENT: 80079

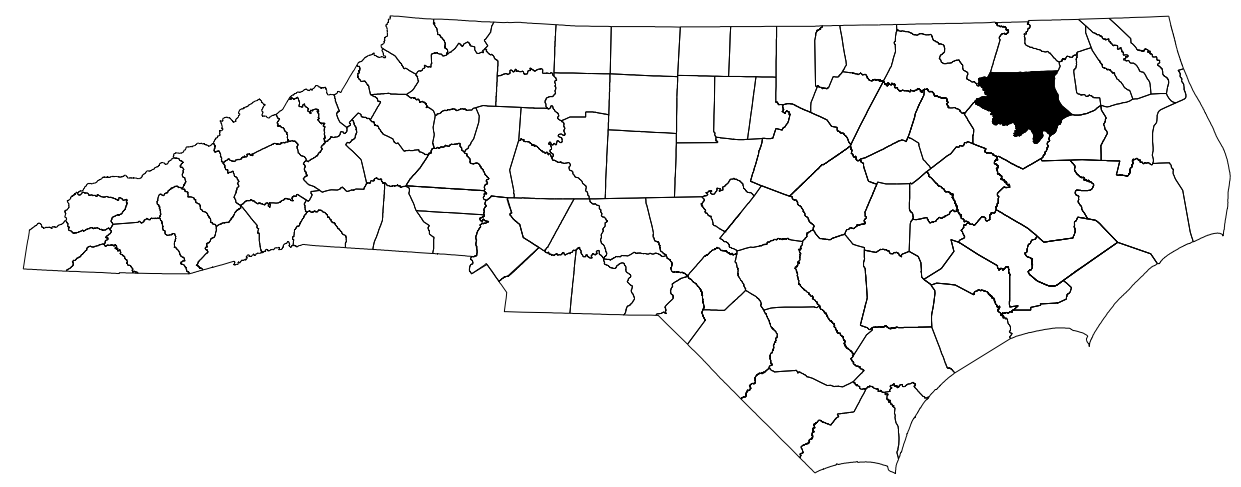
CONTRACT: DA00410

See Sheet 1A For Index of Sheets

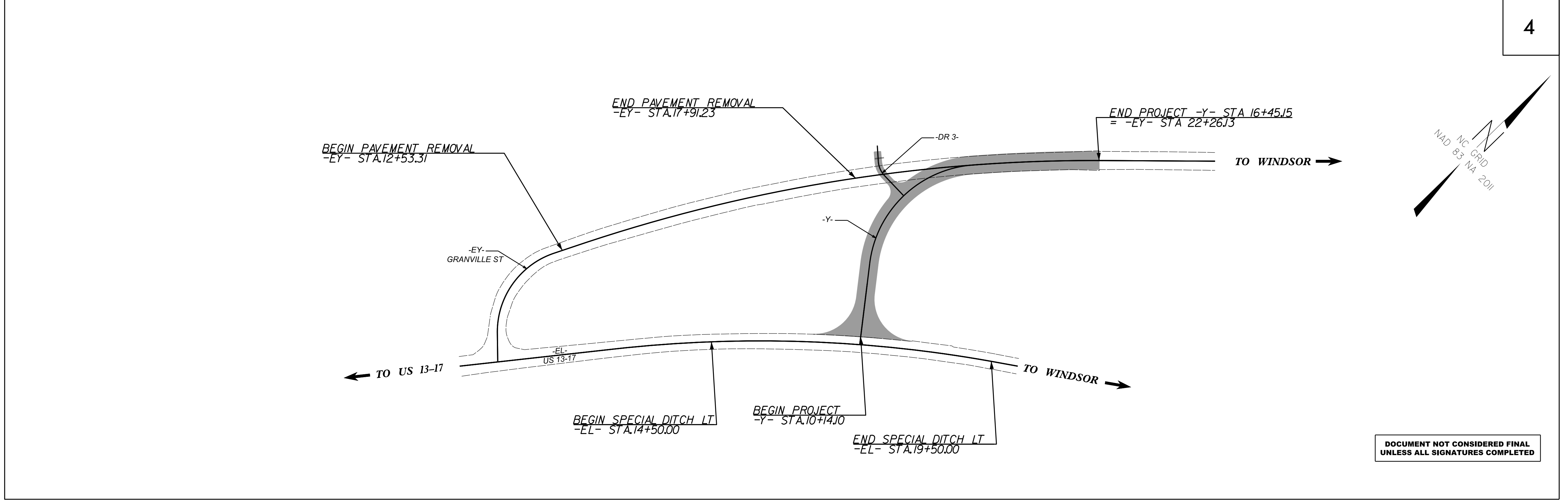


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
BERTIE COUNTY

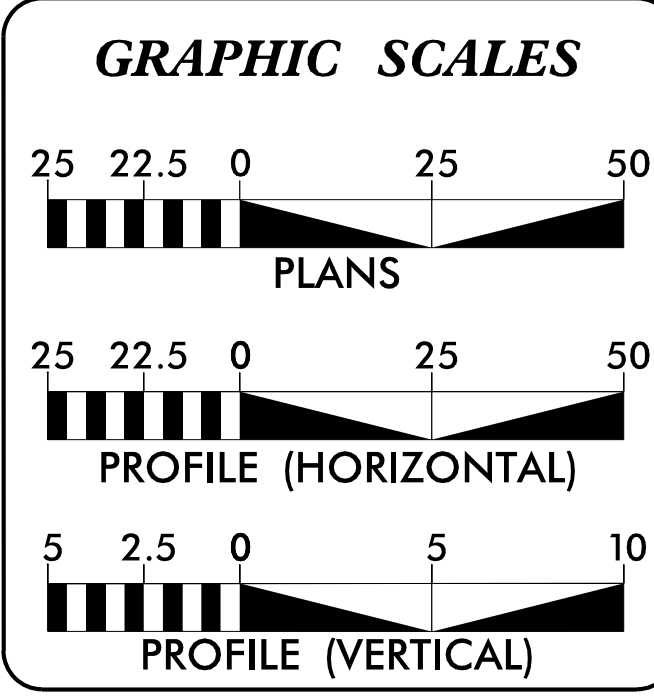
**LOCATION: RELOCATION OF US 17/US 13 BUSINESS (GRANVILLE ST) INTERSECTION
IN TOWN OF WINDSOR
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80079	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
80079		PE	
80079		RW	
80079		CONST	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2016 = 2800
V = 40 MPH
T = 2%

*TTST = 1% DUAL 1%

FUNC CLASS =
MINOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY PROJECT 80079	=	0.120 MILES
TOTAL LENGTH PROJECT 80079	=	0.120 MILES

NCDOT CONTACT: BARRY HOBBS P.E.
DIVISION PROJECT MANAGER

Prepared In the Office of:

KCA
KISINGER CAMPO & ASSOCIATES
NC FIRM LICENSE No: C-1506
301 Fayetteville St.,
Suite 1500
Raleigh, NC 27601
(919) 882-7839

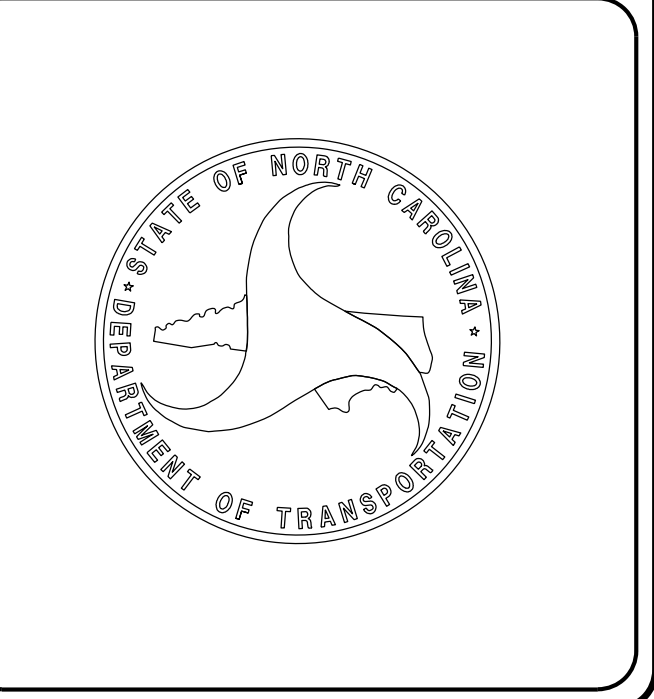
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: 6/13/2018	JOHN P. MAZERES PROJECT ENGINEER
LETTING DATE: 06/19/2019	ALLEN MCSWAIN PROJECT DESIGN ENGINEER

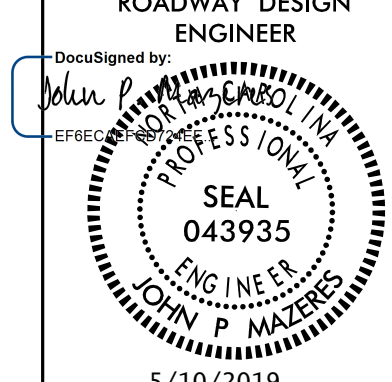
HYDRAULICS ENGINEER

DocuSigned by:
Ali Taymehad
5/10/2019 P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by:
John P. Mazer
5/10/2019 P.E.



PROJECT REFERENCE NO. 80079	SHEET NO. 1A
ROADWAY DESIGN ENGINEER  SEAL 043935 ENGINEER JOHN P. MAZERS 5/10/2019	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SHEET NUMBER	INDEX OF SHEETS
	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL PLAN SHEET SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEETS
1D-1	ALIGNMENT CONTROL SHEET
1E-1	RIGHT OF WAY CONTROL SHEET
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARY SHEET
3D-1	DRAINAGE SUMMARY SHEET
4	PLAN SHEET
5-6	PROFILE SHEETS
TMP-1 THRU TMP-4	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-20	CROSS-SECTIONS

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018

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 11.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 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.

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADIUS OR RADIUS AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE:
TOWN OF WINDSOR (POWER, WATER, AND SEWER)
CENTURYLINK
PIEDMONT GAS
MEDIACOM
MCNC

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

01-16-2018
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, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method 11
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method 1
DIVISION 8 - INCIDENTALS	
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
876.01	Rip Rap in Channels

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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- WLB ---
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	--- EAB ---
Existing Endangered Plant Boundary	--- EPB ---
Existing Historic Property Boundary	--- HPB ---
Known Contamination Area: Soil	☠ S ☠
Potential Contamination Area: Soil	☠ S ☠
Known Contamination Area: Water	☠ W ☠
Potential Contamination Area: Water	☠ W ☠
Contaminated Site: Known or Potential	---

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	---

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	--- JS ---
Buffer Zone 1	--- BZ 1 ---
Buffer Zone 2	--- BZ 2 ---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	---
Proposed Lateral, Tail, Head Ditch	---
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	▲
Existing Right of Way Marker	△
Existing Right of Way Line	---
New Right of Way Line	--- R/W ---
New Right of Way Line with Pin and Cap	--- R/W --- ◆
New Right of Way Line with Concrete or Granite R/W Marker	--- R/W --- ▲
New Control of Access Line with Concrete C/A Marker	--- C/A --- ▲
Existing Control of Access	--- C/A ---
New Control of Access	--- C/A ---
Existing Easement Line	--- E ---
New Temporary Construction Easement	--- E ---
New Temporary Drainage Easement	--- TDE ---
New Permanent Drainage Easement	--- PDE ---
New Permanent Drainage / Utility Easement	--- DUE ---
New Permanent Utility Easement	--- PUE ---
New Temporary Utility Easement	--- TUE ---
New Aerial Utility Easement	--- AUE ---

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	---
Proposed Slope Stakes Cut	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	--- CR ---
Existing Metal Guardrail	--- T ---
Proposed Guardrail	--- T ---
Existing Cable Guiderail	--- □ ---
Proposed Cable Guiderail	--- □ ---
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	☼
Single Shrub	☼

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

Hedge	-----
Woods Line	-----
Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	--- CONC ---
Bridge Wing Wall, Head Wall and End Wall	--- CONC WW ---
MINOR:	
Head and End Wall	--- CONC HW ---
Pipe Culvert	---
Footbridge	---
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	---
Storm Sewer Manhole	⊕
Storm Sewer	---

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	---
H-Frame Pole	--- ● ---
U/G Power Line LOS B (S.U.E.*)	--- P ---
U/G Power Line LOS C (S.U.E.*)	--- P ---
U/G Power Line LOS D (S.U.E.*)	--- P ---
O/H Power Cable	--- EI ---

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	---
U/G Telephone Cable LOS B (S.U.E.*)	--- T ---
U/G Telephone Cable LOS C (S.U.E.*)	--- T ---
U/G Telephone Cable LOS D (S.U.E.*)	--- T ---
U/G Telephone Conduit LOS B (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS C (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS D (S.U.E.*)	--- TC ---
O/H Telephone Cable	--- T ---
U/G Fiber Optics Cable LOS B (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS C (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS D (S.U.E.*)	--- T FO ---

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	---
U/G Water Line LOS C (S.U.E.*)	---
U/G Water Line LOS D (S.U.E.*)	---
Above Ground Water Line	--- A/G Water ---

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	---
U/G TV Cable LOS B (S.U.E.*)	--- TV ---
U/G TV Cable LOS C (S.U.E.*)	--- TV ---
U/G TV Cable LOS D (S.U.E.*)	--- TV ---
U/G Fiber Optic Cable LOS B (S.U.E.*)	--- TV FO ---
U/G Fiber Optic Cable LOS C (S.U.E.*)	--- TV FO ---
U/G Fiber Optic Cable LOS D (S.U.E.*)	--- TV FO ---

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	---
U/G Gas Line LOS C (S.U.E.*)	---
U/G Gas Line LOS D (S.U.E.*)	---
Above Ground Gas Line	--- A/G Gas ---

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	--- SS ---
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer ---
SS Forced Main Line LOS B (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS C (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS D (S.U.E.*)	--- FSS ---

MISCELLANEOUS:

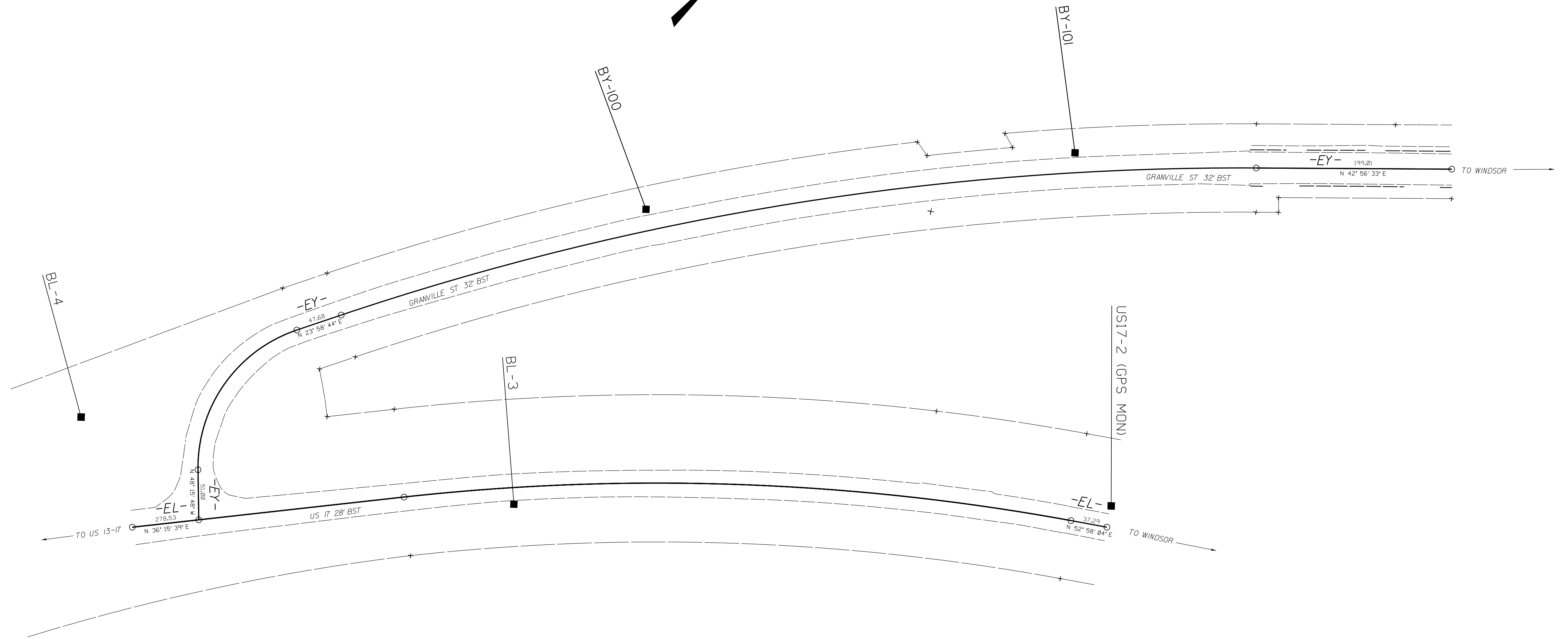
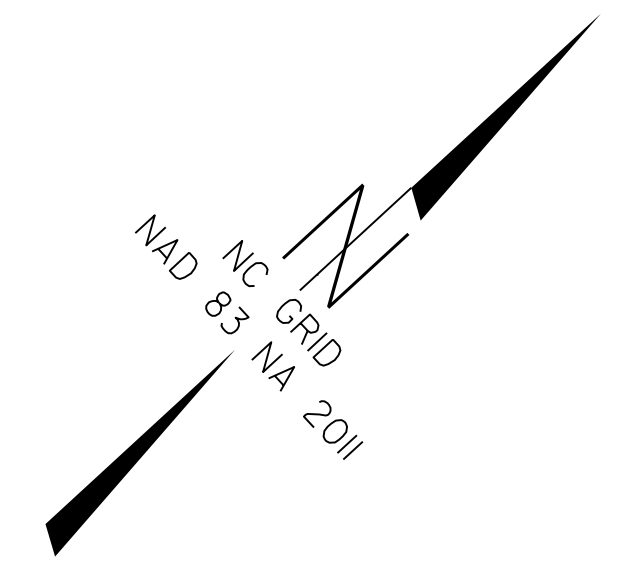
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	●
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
US-13-BUS	1C-1
Location and Surveys	
PROJECT SURVEYOR	

SURVEY CONTROL SHEET US-13-BUS

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



REVISIONS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "US17-2"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 820947.72(±) EASTING: 2605306.88(±)
 ELEVATION: 32.66(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999959214
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "US17-2" TO -L- STATION IS
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

10 MAY 2018 12:40
US13-BUS-LS-16-1.dgn

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
US-13-BUS	1C-2
Location and Surveys	

PROJECT
SURVEYOR

SURVEY CONTROL SHEET US-13-BUS

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

CONTROL DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION
BL4		BL -4	820236.6490	2604530.2450	23.03
BL3		BL -3	820501.0611	2604893.8760	22.65
US172		GPS MON	820947.7186	2605306.8833	32.66
US171		GPS MON	821405.8800	2606021.8700	32.74

BY	POINT	DESC.	NORTH	EAST	ELEVATION
BL4		BL -4	820236.6490	2604530.2450	23.03
BY100		BY -100	820803.3980	2604763.8410	22.36
BY101		BY -101	821163.9980	2605017.1530	32.86

BENCHMARK DATA

 BM10 ELEVATION = 21.04
 N 820243 E 2604485
 RR SPIKE 12" GUM

EXISTING ALIGNMENT

EL	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT		820199.134	2604648.142							
LINE				N 36°15'38.8" E	278.53					
PC		820423.723	2604812.882							
CURVE				N 44°36'51.3" E	679.50	16°42'24.9"(RT)	02°27'00.0"	681.92	343.39	2338.60
PT		820907.428	2605290.117							
LINE				N 52°58'03.7" E	37.29					
POT		820929.885	2605319.884							

EY	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT		820254.044	2604688.419							
LINE				N 48°15'47.8" W	51.00					
PC		820287.994	2604650.364							
CURVE				N 12°08'31.8" W	174.33	72°14'32.2"(RT)	38°45'00.0"	186.43	107.90	147.86
PT		820458.419	2604613.697							
LINE				N 23°58'44.3" E	47.68					
PC		820501.982	2604633.073							
CURVE				N 33°27'38.8" E	943.86	18°57'49.0"(RT)	02°00'00.0"	948.18	478.47	2864.79
PT		821289.409	2605153.485							
LINE				N 42°56'33.3" E	199.01					
POT		821435.095	2605289.066							

NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

10 MAY 2018 12:40
US-13-BUS-1C-2.dgn
dls

PROPOSED ALIGNMENT CONTROL SHEET

Y

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	820748.918	2605101.555							
LINE			N 40°24'05.6" W	145.64					
PC	820859.824	2605007.161							
CURVE			N 01°02'55.7" W	253.64	78°42'19.8"(RT)	28°38'52.4"	274.73	164.01	200.00
PCC	821113.419	2605002.519							
CURVE			N 40°37'23.7" E	231.87	04°38'19.2"(RT)	02°00'00.0"	231.93	116.03	2864.79
PT	821289.409	2605153.485							

DR3

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	820985.791	2604959.499							
LINE			S 88°57'05.5" W	48.85					
PC	820984.897	2604910.653							
CURVE			N 71°03'36.6" W	28.71	39°58'35.7"(RT)	136°25'06.7"	29.30	15.28	42.00
PT	820994.217	2604883.494							
LINE			N 51°04'18.8" W	27.73					
POT	821011.639	2604861.924							

REVISIONS

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/99

10-MAY-2019 12:40
US-13-BUS_LS-1e-1.dgn

REVISIONS

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
US-13-BUS	1E-1
Location and Surveys	
PROJECT SURVEYOR	

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
EL	16+55.34	-90.00	820772.5101	2604996.1197
EL	17+85.48	-90.00	820864.5187	2605095.0867

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y	11+45.64	-65.00	820817.6948	2604957.6624
Y	11+45.64	70.00	820905.1938	2605060.4677
* Y	12+23.21	-65.00	820906.7765	2604907.6921
Y	14+20.37	70.00	821070.0303	2605057.4500
Y	15+72.14	45.00	821200.2460	2605133.4859

* ASTERISKS INDICATE MONUMENTS NOT SET DUE TO BEING LOCATED IN A TREE.

NOTES:

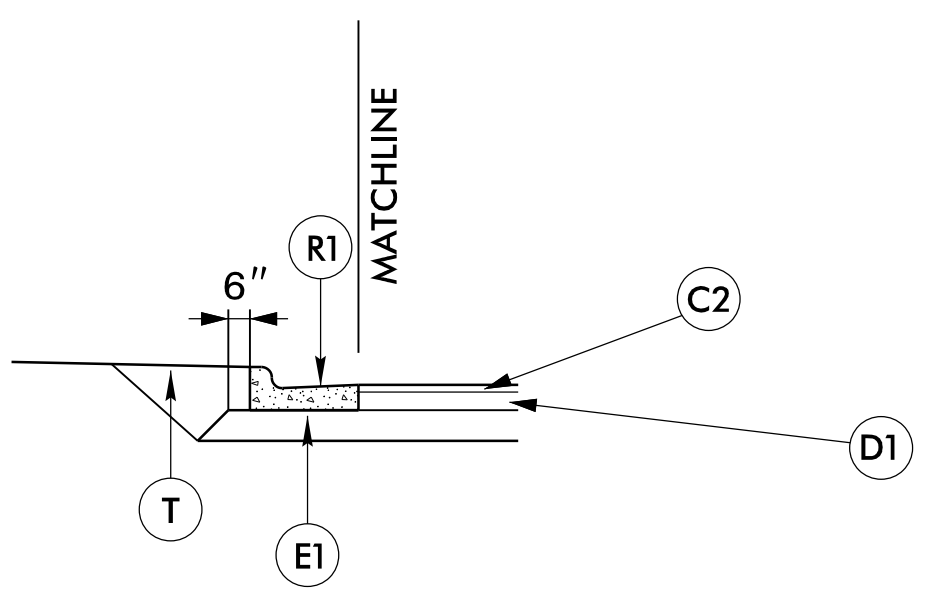
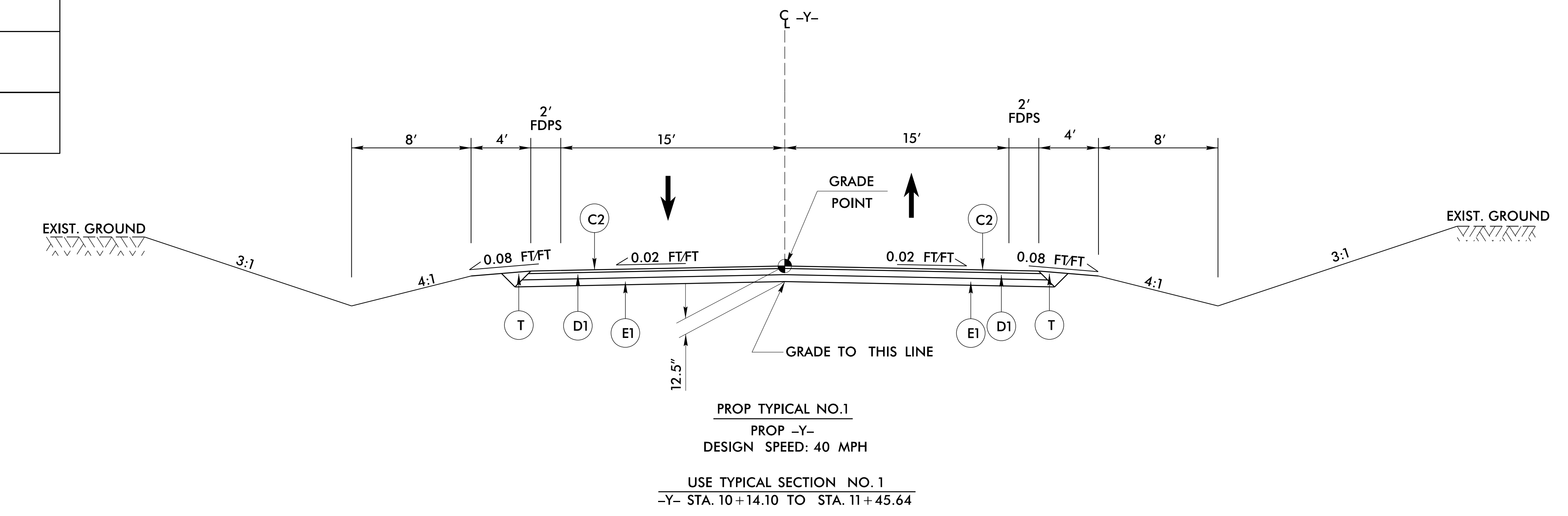
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8/17/99

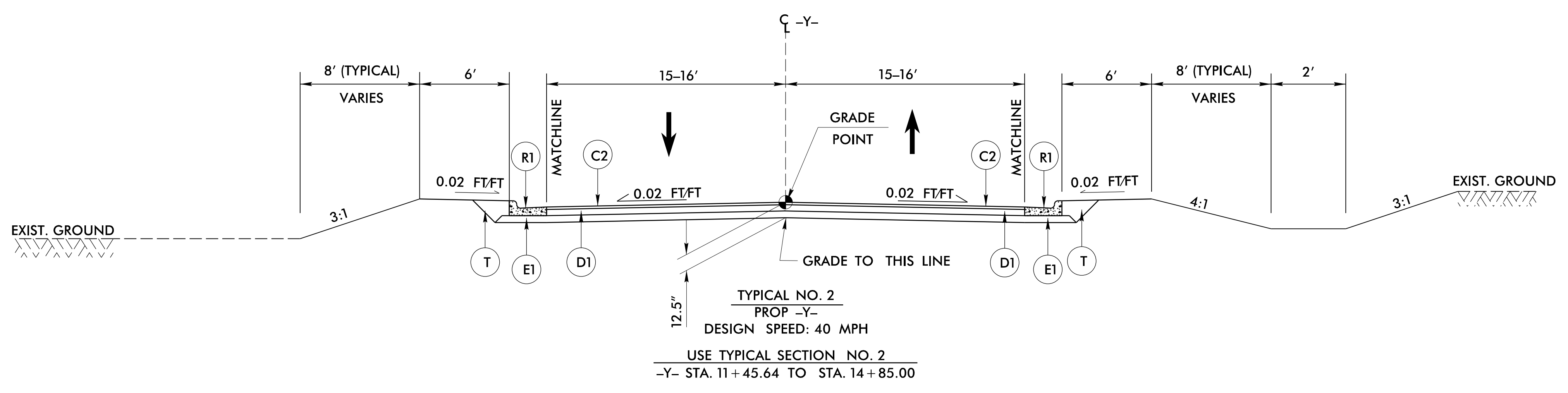
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B (PG 64-22), AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B (PG 64-22), AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD., IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C (PG-76-22), AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS PER SQ. YD.
J1	PROP. 8.0" AGGREGATE BASE COURSE
R1	2'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

PROJECT REFERENCE NO. 80079	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER <i>John P. Mazers</i>	ROADWAY DESIGN ENGINEER <i>Ali T. ...</i>
SEAL 043935 5/10/2019	SEAL 043950 5/10/2019
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PREPARED IN THE OFFICE OF: KCA KISINGER CAMPO & ASSOCIATES	NC FIRM LICENSE No: C-1506 301 Fayetteville St., Suite 1500 Raleigh, NC 27601 (919)882-7839



CURB AND GUTTER PAVING DETAIL
TO BE USED WITH TYPICAL NO. 2

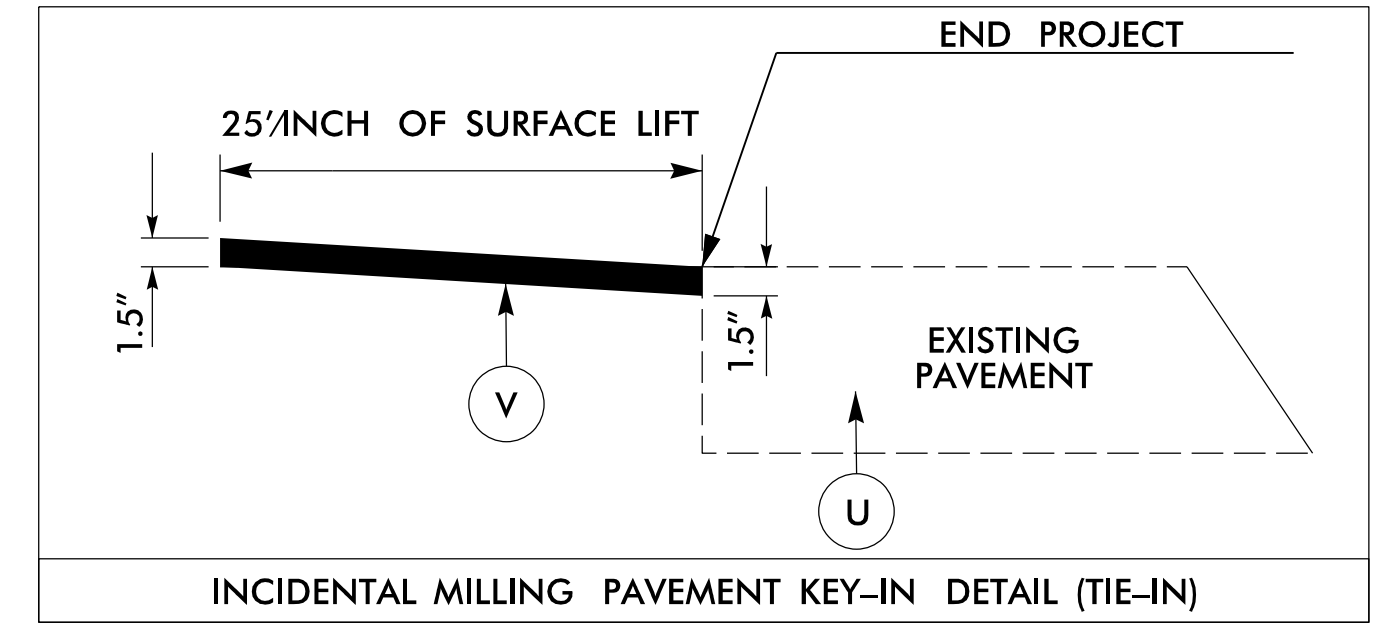


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iduke

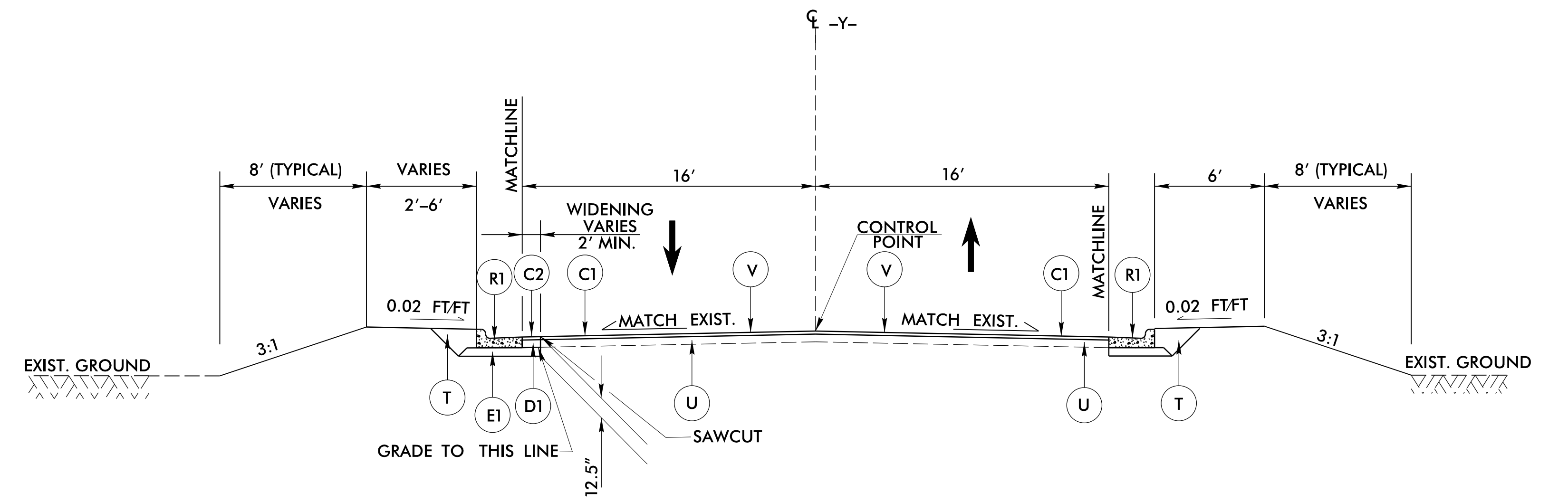
8/17/99

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B (PG 64-22), AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD.
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B (PG 64-22), AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD., IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C (PG-76-22), AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS PER SQ. YD.
J1	PROP. 8.0" AGGREGATE BASE COURSE
R1	2'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH.

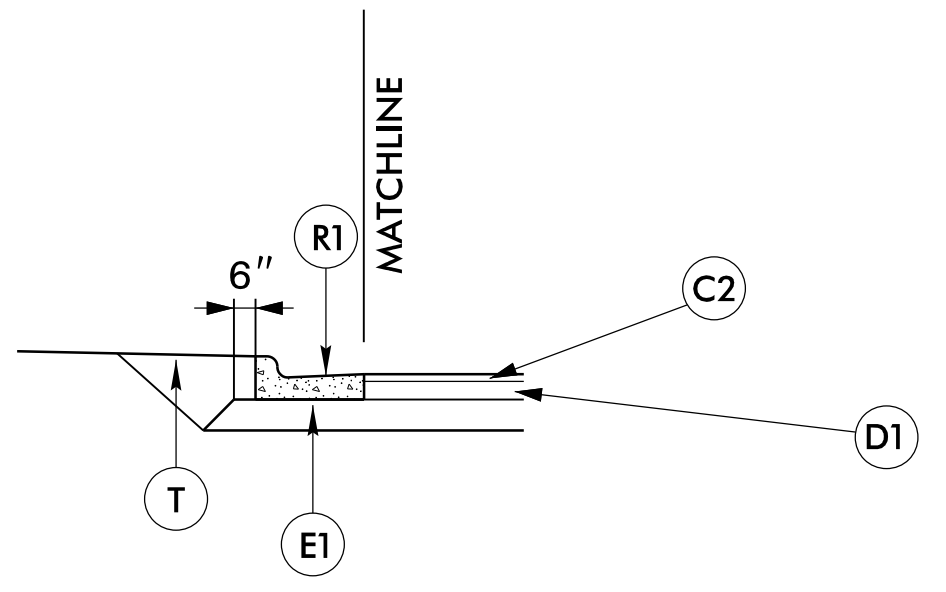
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



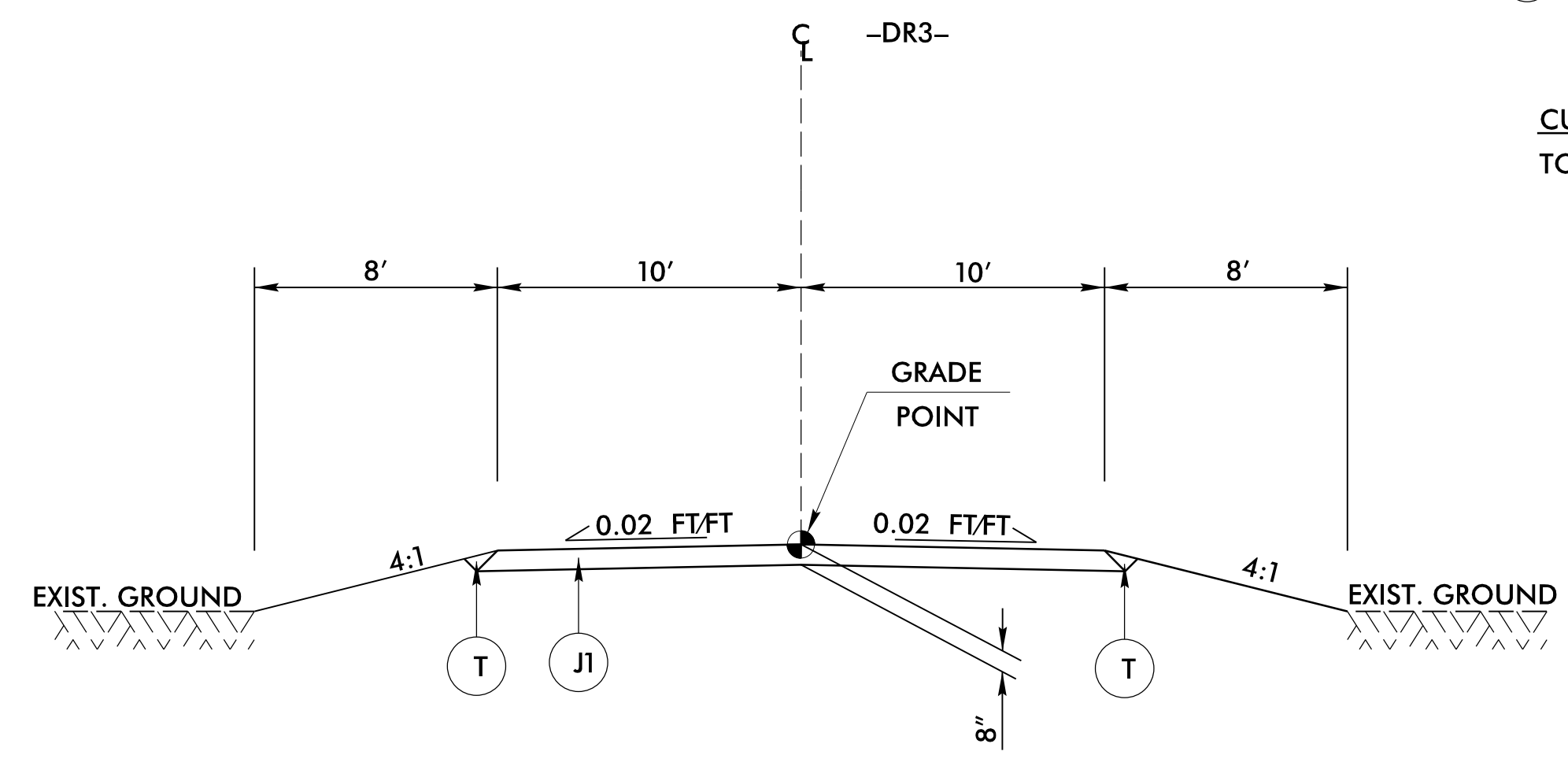
-Y- STA. 16+07.65 TO STA. 16+45.15
STATION RANGES ARE APPROXIMATE ONLY.
GRADE MAY BE ADJUSTED BY ENGINEER
TO ENSURE A PROPER TIE-IN.



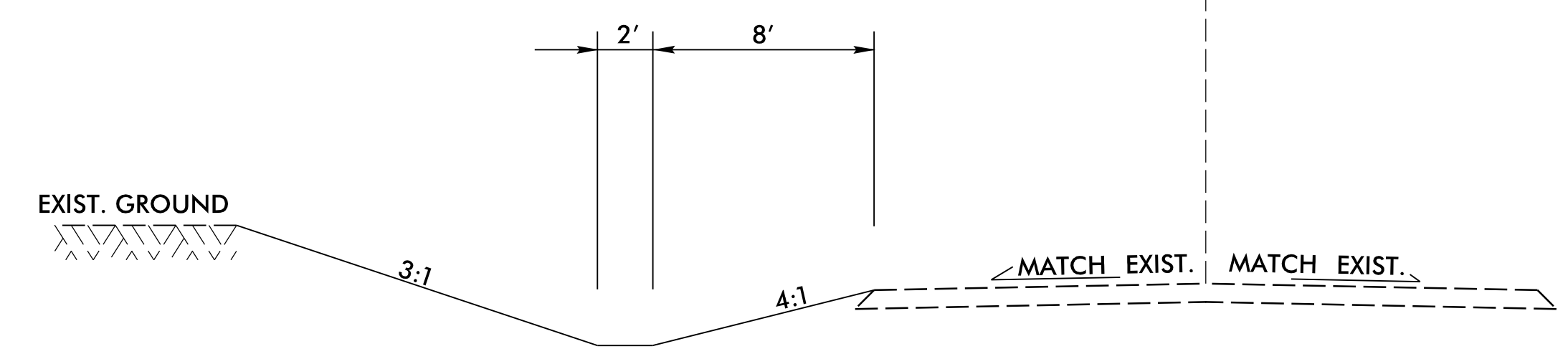
TYPICAL NO. 3
PROP -Y-
DESIGN SPEED: 40 MPH
USE TYPICAL SECTION NO. 3
-Y- STA. 14+85.00 TO STA. 16+45.15



CURB AND GUTTER PAVING DETAIL
TO BE USED WITH TYPICAL NO. 2



PROP DRIVEWAY TYPICAL
PROP -DR3-
USE DRIVEWAY TYPICAL SECTION
-DR3- STA. 10+15.28 TO STA. 10+95.00



PROP DITCH TYPICAL
USE DITCH TYPICAL SECTION
-EL- STA 14+50.00 TO 19+50.00, LT

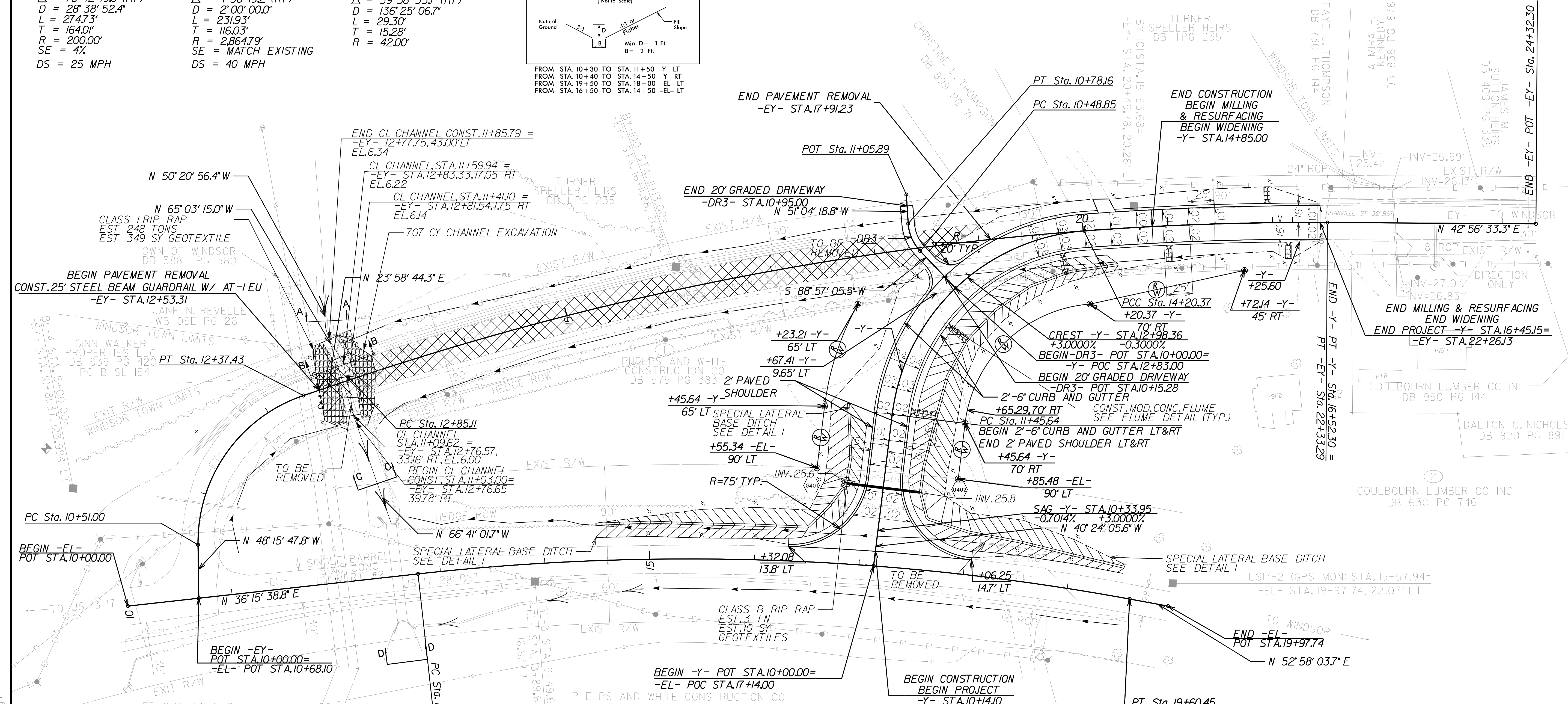
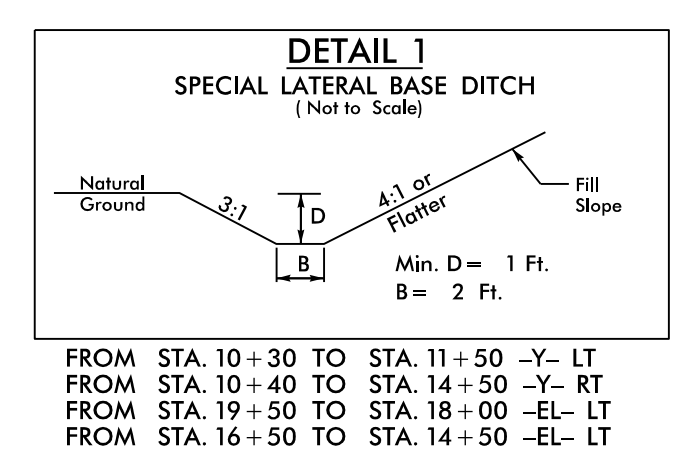
PROJECT REFERENCE NO. 80079	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER John P. Mazers	ROADWAY DESIGN ENGINEER Ali Taylor
Professional Engineer Seal SEAL 043935 JOHN P. MAZERS 5/10/2019	Professional Engineer Seal SEAL 043950 ALI TAYLOR 5/10/2019
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PREPARED IN THE OFFICE OF: KCA KISINGER CAMPO & ASSOCIATES NC FIRM LICENSE No: C-1508 301 Fayetteville St., Suite 1500 Raleigh, NC 27601 (919)882-7839	

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5/14/2019

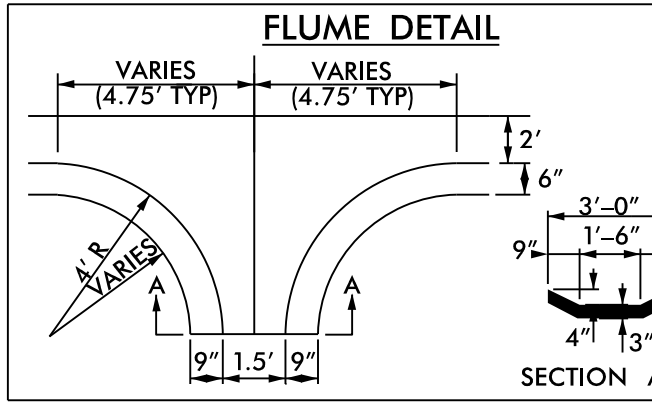
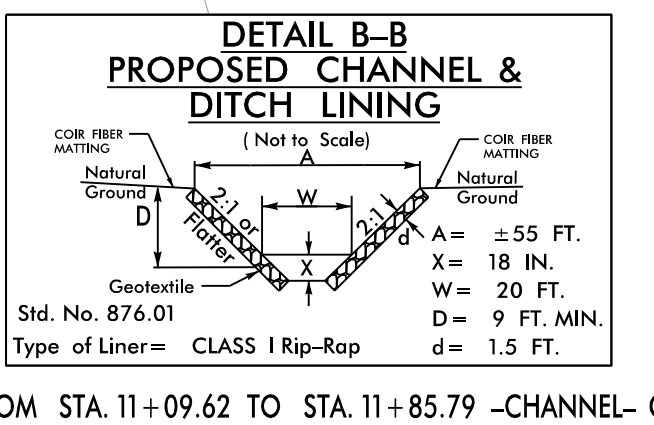
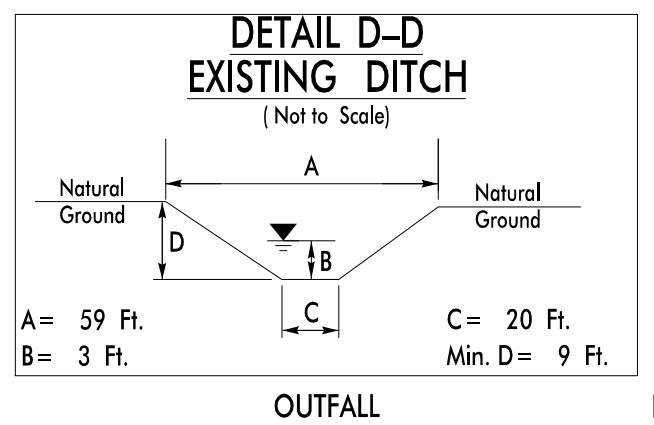
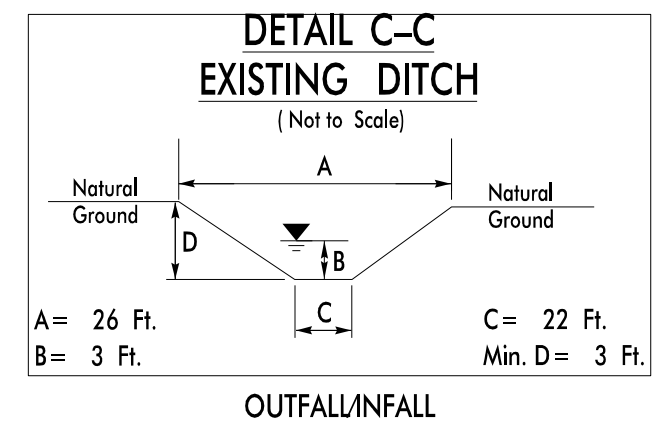
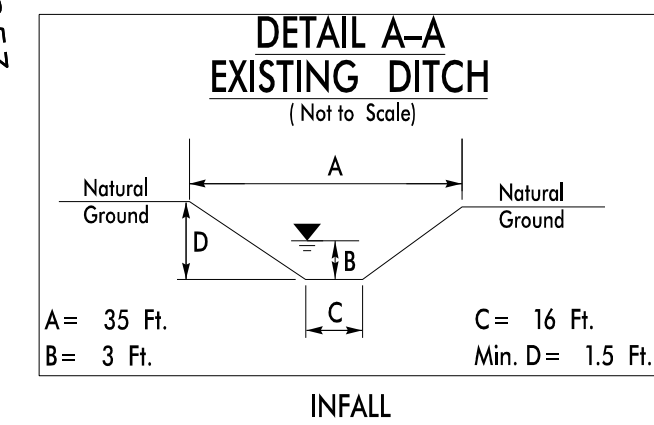
FOR -Y- PROFILE, SEE SHEET 5
 FOR DR3 PROFILE, SEE SHEET 5
 FOR -EL- PROFILE, SEE SHEET 6
 FOR -EY- PROFILE, SEE SHEET 6

CI	C2	C3
PI Sta 16+21.93 Δ = 16° 42' 24.9" (RT) D = 2' 27' 00.0" L = 681.92' T = 343.39' R = 2,338.60' SE = MATCH EXISTING TRANS = MATCH EXISTING	PI Sta 11+58.90 Δ = 72° 14' 32.2" (RT) D = 38' 45' 00.0" L = 186.43' T = 107.90' R = 147.86' SE = MATCH EXISTING TRANS = MATCH EXISTING	PI Sta 17+63.57 Δ = 18° 57' 49.0" (RT) D = 2' 00' 00.0" L = 948.18' T = 478.47' R = 2,864.79' SE = MATCH EXISTING TRANS = MATCH EXISTING
Y-1	Y-2	DR-3
PI Sta 13+09.64 Δ = 78° 42' 19.8" (RT) D = 28' 38' 52.4" L = 274.73' T = 164.01' R = 200.00' SE = 4% DS = 25 MPH	PI Sta 15+36.40 Δ = 4° 38' 19.2" (RT) D = 2' 00' 00.0" L = 231.93' T = 116.03' R = 2,864.79' SE = MATCH EXISTING DS = 40 MPH	PI Sta 10+64.13 Δ = 39° 58' 35.7" (RT) D = 136' 25' 06.7" L = 29.30' T = 15.28' R = 42.00'



PROJECT REFERENCE NO. 80079	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER John P. McJannet Professional Seal 043935 5/10/2019	HYDRAULICS ENGINEER Ali T. ... Professional Seal 043950 5/10/2019
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PREPARED IN THE OFFICE OF: KCA KISINGER CAMPO & ASSOCIATES NC FIRM LICENSE NO: C-1506 301 Fayetteville St., Suite 1500 Raleigh, NC 27601 (919) 882-7839	

NOTE: DRAINAGE AREA BOUNDARY FOR CHANNEL PROVIDED IN SUPPORTING HYDRAULIC DOCUMENTS



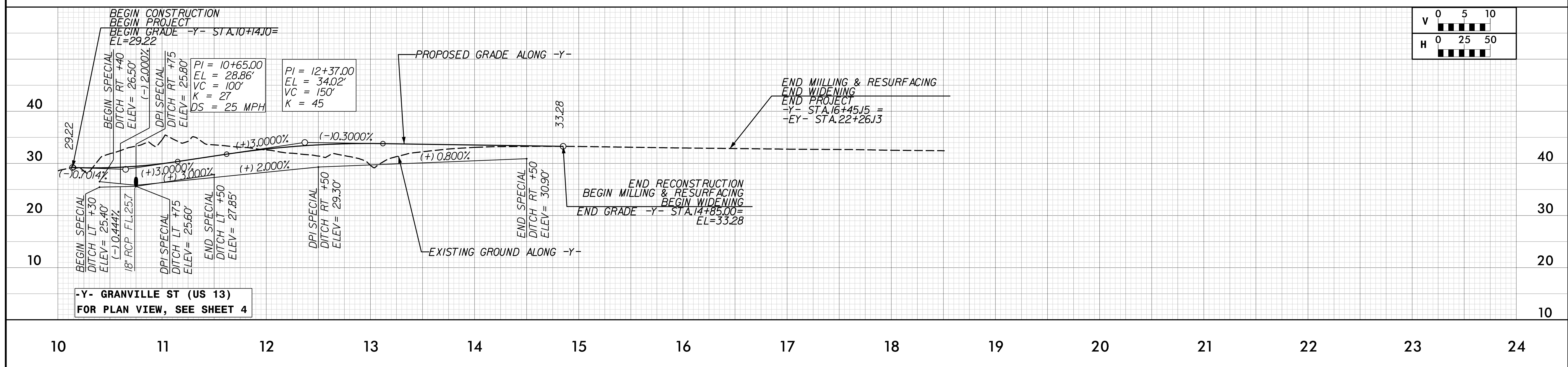
STATION	CLASS B RIP RAP EST. TN.	MOD. CONC. FLUMES	
		STATION	GEOTEXTILE EST. SY.
11+50 -Y- RT.	7		17
12+50 -Y- RT.	6		16
13+95 -Y- RT.	5		13
15+00 -Y- RT.	4		10
16+15 -Y- RT.	4		10
15+95 -Y- LT.	4		10

10-MAY-2019 14:37
 80079-Rdy-pah-50_Plan_Sheet.dgn

NOTE: ALL EXISTING STRUCTURES TO BE RETAINED UNLESS OTHERWISE STATED. BASED ON FIELD REVIEW, ALL STRUCTURES TO REMAIN APPEAR TO BE IN SUFFICIENT, WORKING CONDITION.

5/28/19

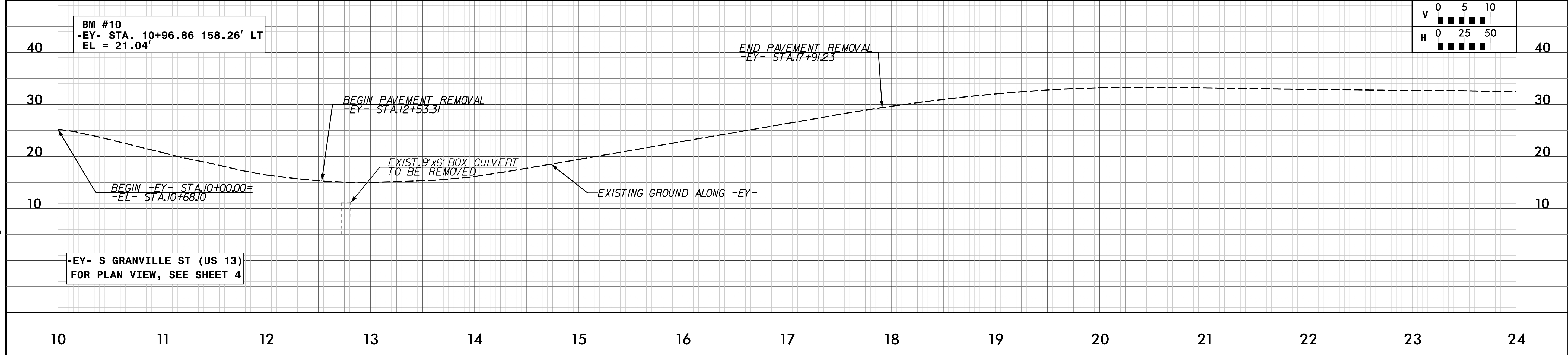
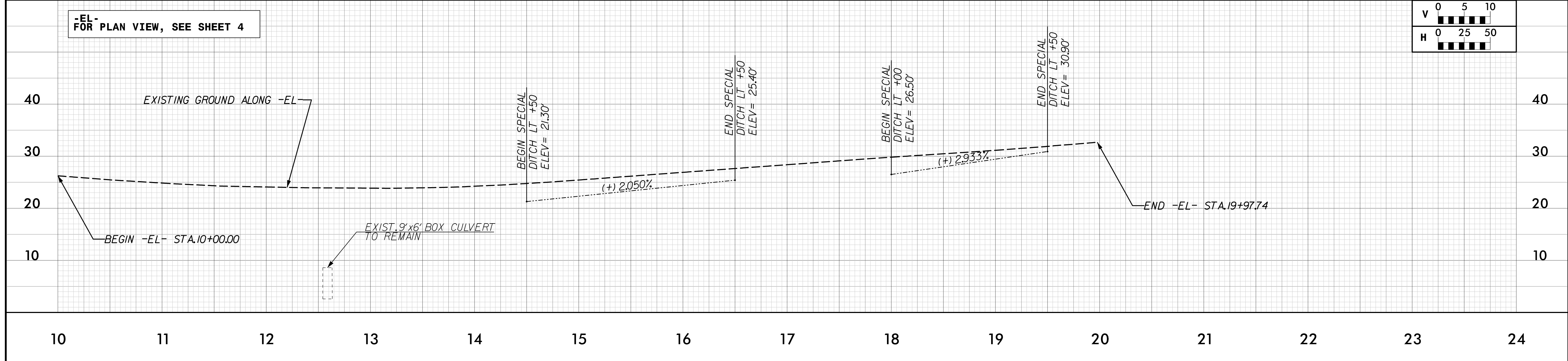
PROJECT REFERENCE NO. 80079	SHEET NO. 5
ROADWAY DESIGN ENGINEER <i>John P. Mazzeo</i> PROFESSIONAL SEAL 043935 JOHN P. MAZZEO ENGINEER 5/10/2019	HYDRAULICS ENGINEER <i>Ali Tayebnejad</i> PROFESSIONAL SEAL 043950 ALI TAYEBNEJAD ENGINEER 5/10/2019
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PREPARED IN THE OFFICE OF: KCA KESINGER CAMPO & ASSOCIATES	NC FIRM LICENSE No: C-1506 301 Fayetteville St., Suite 1500 Raleigh, NC 27601 (919)882-7839



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5/28/19

PROJECT REFERENCE NO. 80079	SHEET NO. 6
ROADWAY DESIGN ENGINEER John P. Mazzer Professional Seal SEAL 043935 5/10/2019	HYDRAULICS ENGINEER Ali Tayebnejad Professional Seal SEAL 043950 5/10/2019
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
PREPARED IN THE OFFICE OF: KCA <small>KISINGER CAMPO & ASSOCIATES</small>	
<small>NC FIRM LICENSE No: C-1506 301 Fayetteville St., Suite 1500 Raleigh, NC 27601 (919)882-7839</small>	

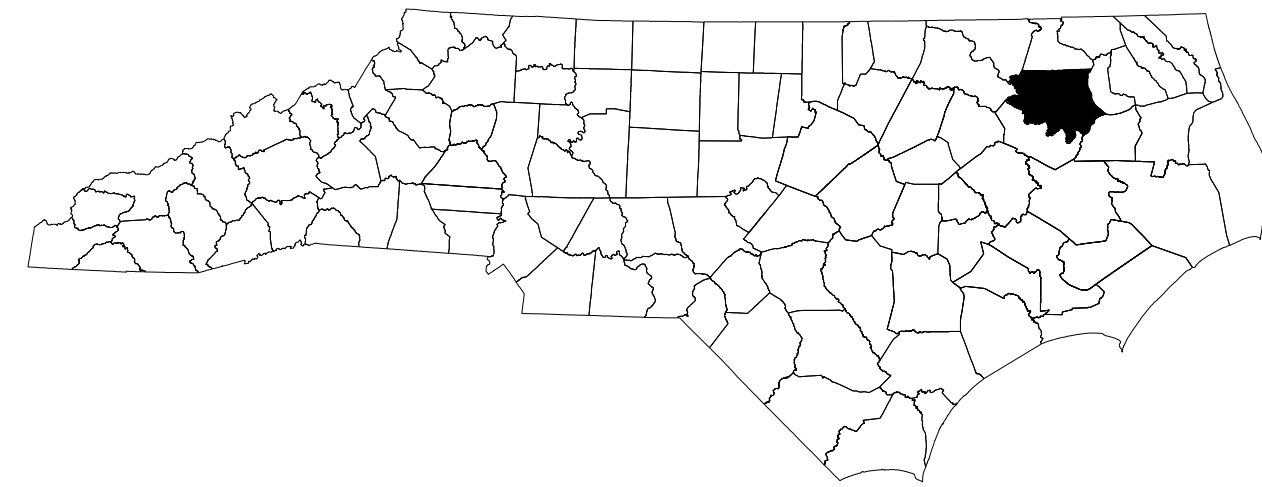


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C:\uke

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BERTIE COUNTY, DIVISION 1



PROJECT
LOCATION

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	GENERAL NOTES AND PHASING NOTES
TMP-2	OFFSITE DETOUR

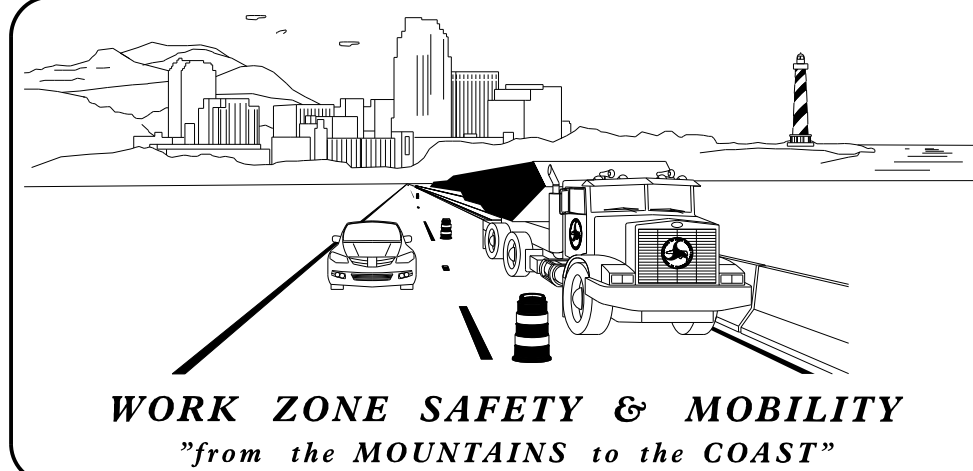
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TMP-1

CONTRACT: DA00410

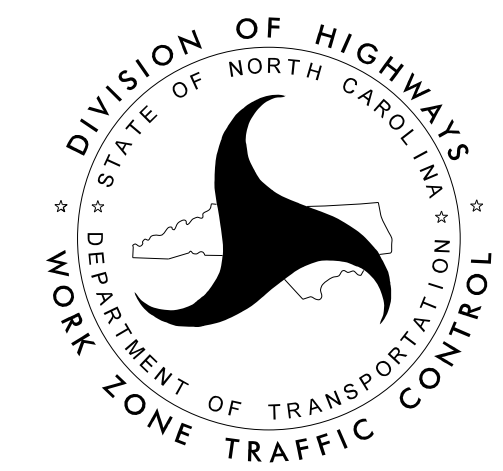
WBS ELEMENT: 80079

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PLANS PREPARED BY:
Jacob H. Duke, P.E.
Work Zone Traffic Control Engineer

NCDOT CONTACTS:
J.S. (STEVE) KITE, P.E.
PROJECT ENGINEER
MATT SPRINGER, P.E.
PROJECT DESIGN ENGINEER



KCA 301 Fayetteville St.,
Suite 1500
Raleigh, NC 27601
(919) 882-7839
& ASSOCIATES NC Firm License: C-1506

APPROVED: *Jacob H. Duke*
DATE: 5/10/2019



SEAL






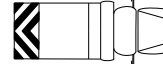





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ROADWAY STANDARD DRAWINGS

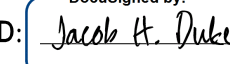
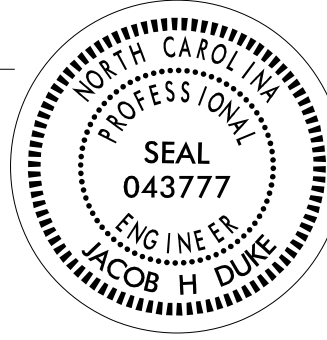
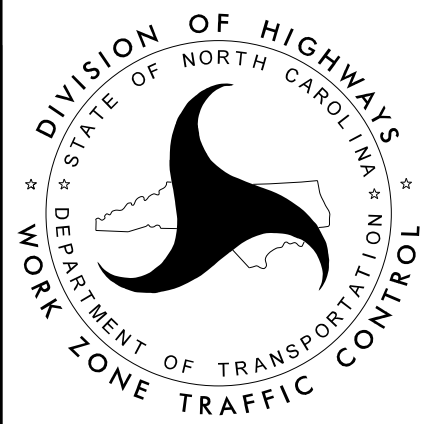
THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:


<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
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	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

LEGEND

-  DIRECTION OF TRAFFIC FLOW
-  BARRICADE (TYPE III)
-  TEMPORARY CRASH CUSHION
-  DRUM
-  FLAGGER
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN
-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN
-  PORTABLE CONCRETE BARRIER

5/9/2019 8:00:19 AM 80079_TMP-1A_ROADWAY STANDARD DRAWINGS & LEGEND.dgn
 User: jduke

APPROVED:  DATE: 5/10/2019	SEAL 		ROADWAY STANDARD DRAWINGS & LEGEND
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

PROJ. REFERENCE NO.	SHEET NO.
80079	TMP-1B
 Kisinger Campo & Associates Corp. 301 Fayetteville St., Suite 1500 Raleigh, NC 27601 (919) 882-7839 NC Firm License: C-1506	

GENERAL NOTES

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) ONLY CLOSE OR NARROW TRAVEL LANES DURING ALLOWABLE LANE CLOSURE TIMES.
- B) 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

- C) 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.
- D) 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.
- E) 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.
- F) 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.
- G) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- H) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- J) 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.
- K) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- L) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- M) COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) STATE FORCES SHALL BE RESPONSIBLE FOR PROVIDING OFF-SITE DETOUR SIGNS.
- P) PROVIDE ADVANCE WARNING SIGNS, BARRICADES AND CHANGEABLE MESSAGE SIGNS.

TRAFFIC CONTROL DEVICES

- Q) 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.
- R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- U) 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) 500 FT AND 500 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.
- V) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).
- W) CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY DRIVEWAYS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE DRIVEWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

PHASING NOTES

PHASING NOTES

USING NCDOT RSD 1101.01 SHEETS 1 THRU 3 OF 3 TO INSTALL WORK ZONE ADVANCE WARNING SIGNS. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION. CONTRACTOR MAY WORK ON MULTIPLE LOCATIONS SIMULTANEOUSLY IF APPROVED BY THE ENGINEER.

PHASE 1:

STEP 1: USING TMP-2 FOR THE OFFSITE DETOUR, COORDINATE WITH STATE FORCES TO PLACE DETOUR SIGNS AND DEVICES FOR CLOSURES ALONG US 17/ WATER ST, US 17 BYPASS, GHENT ST, NC 308/STERLINGWORTH ST, AND US 13 BUSINESS/S. GRANVILLE ST. THIS OPERATION WILL CLOSE US 13 BUSINESS/S. GRANVILLE ST. AT THE INTERSECTION OF US 17/WATER ST. COVER SIGNS UNTIL DETOUR IS READY FOR OPERATION.

STEP 2: PERFORM WORK PER ROADWAY PLANS.

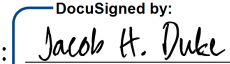

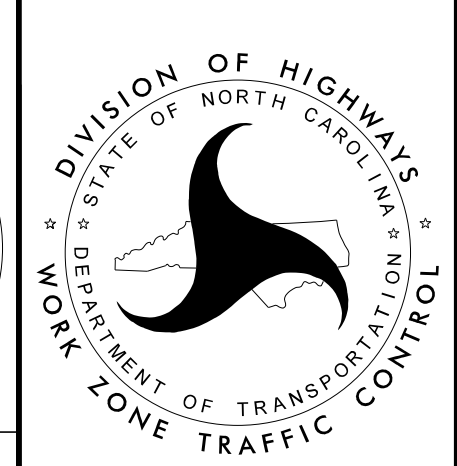
STEP 3: USING RSD 1101.02 SHEET 1 OF 14 TO SET UP A FLAGGING OPERATION, CLOSE THE SOUTHBOUND LANE OF US 17/WATER ST. PERFORM THE CONNECTION OF NEW ROADWAY PER ROADWAY PLANS. AT THE END OF EACH NIGHT COVER SIGNS AND REOPEN THE SOUTHBOUND LANE TO TRAFFIC.

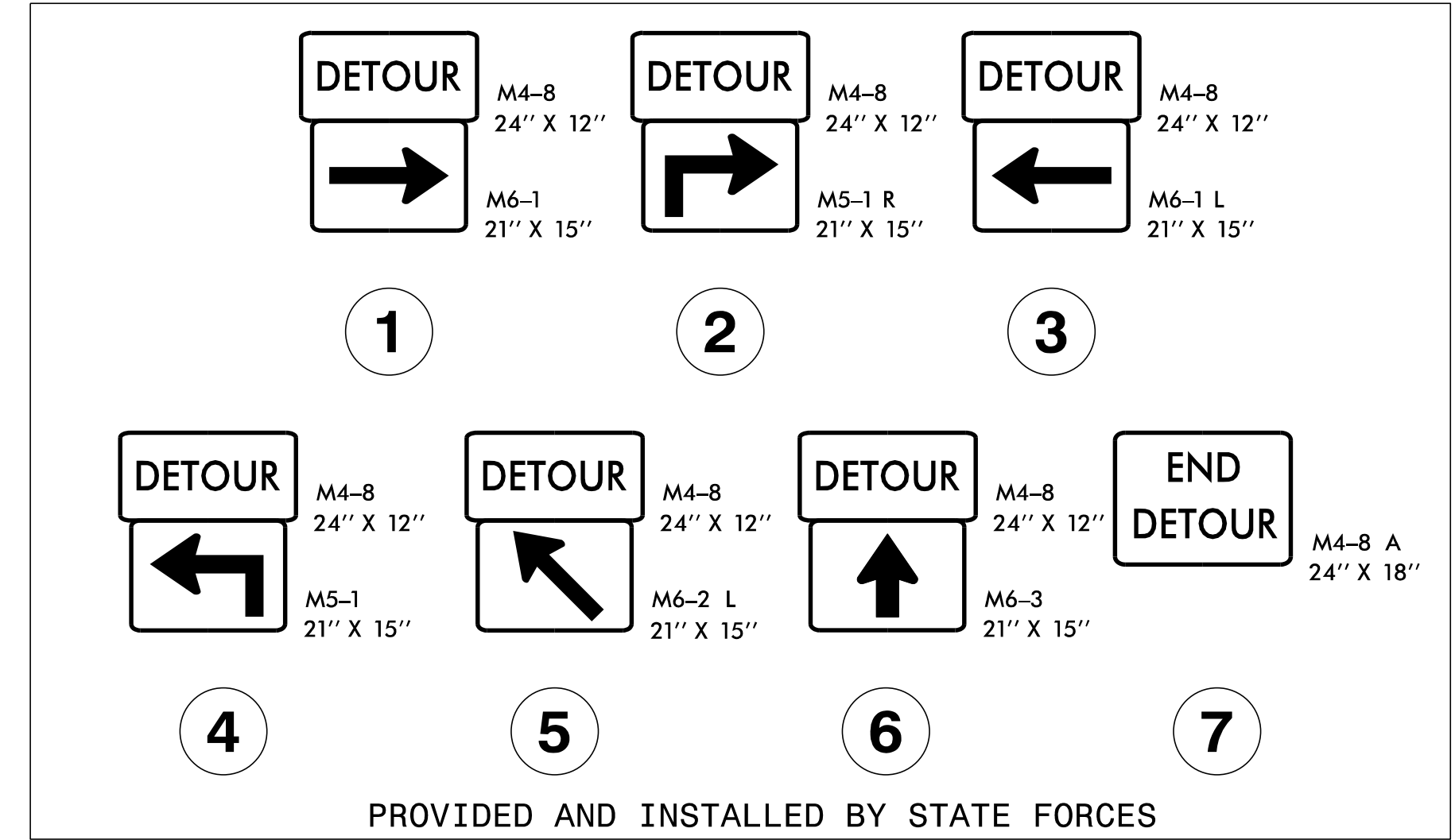
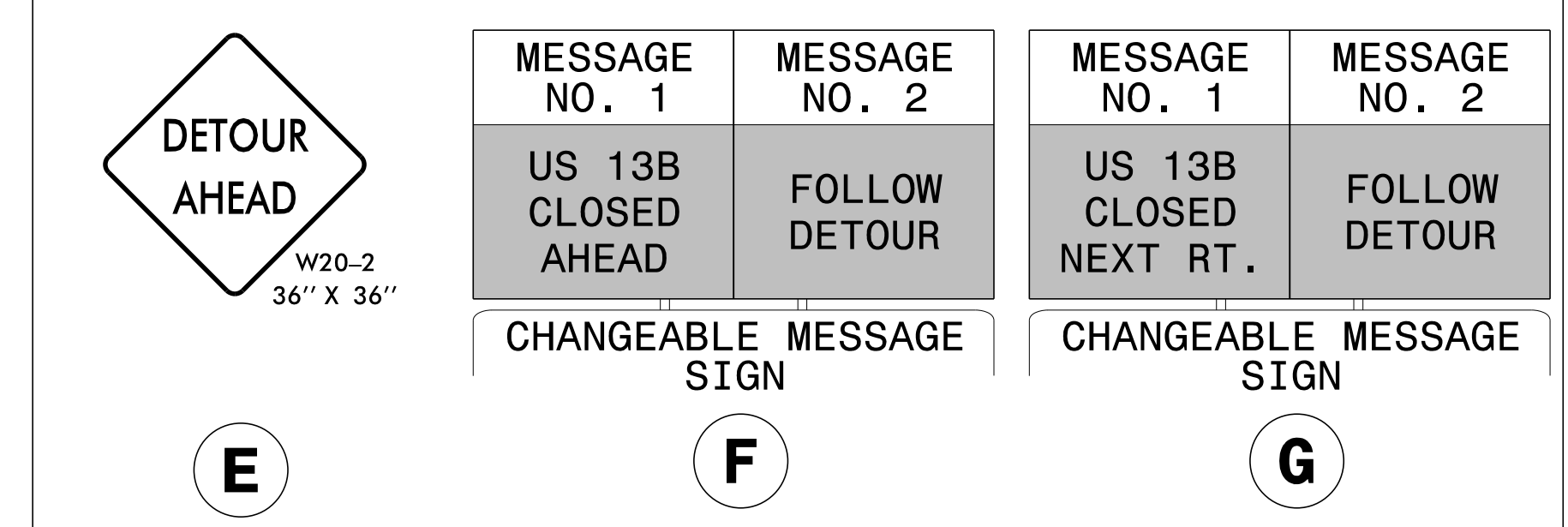
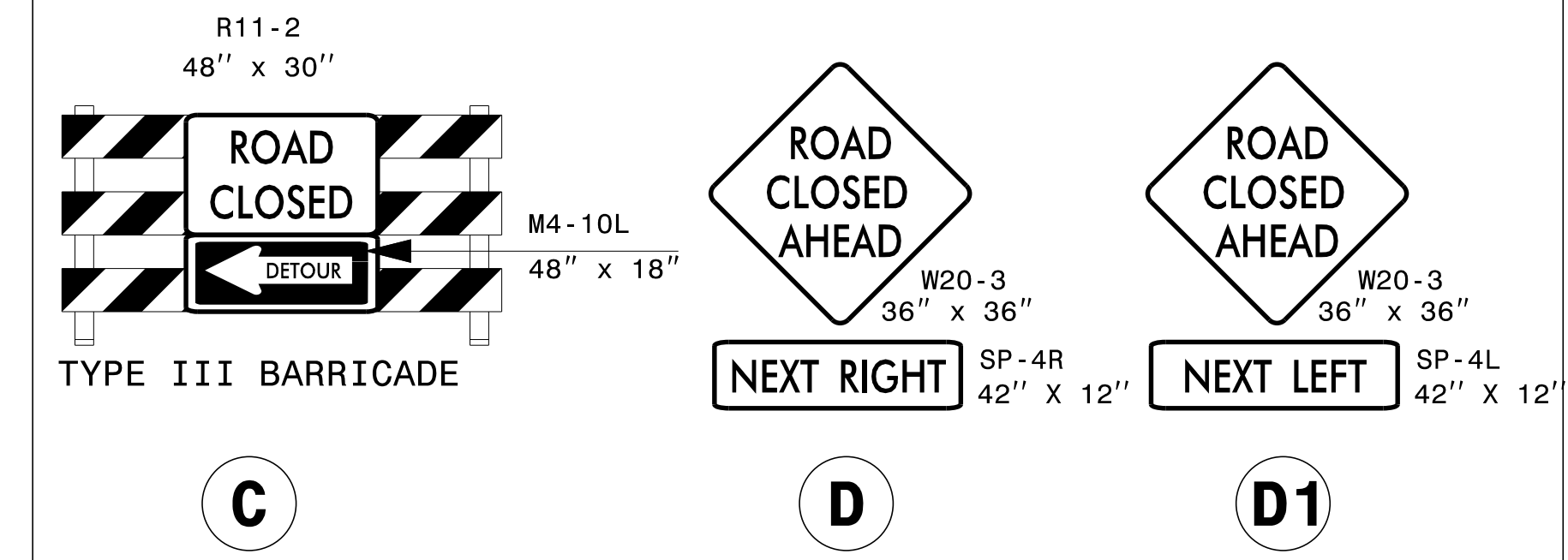
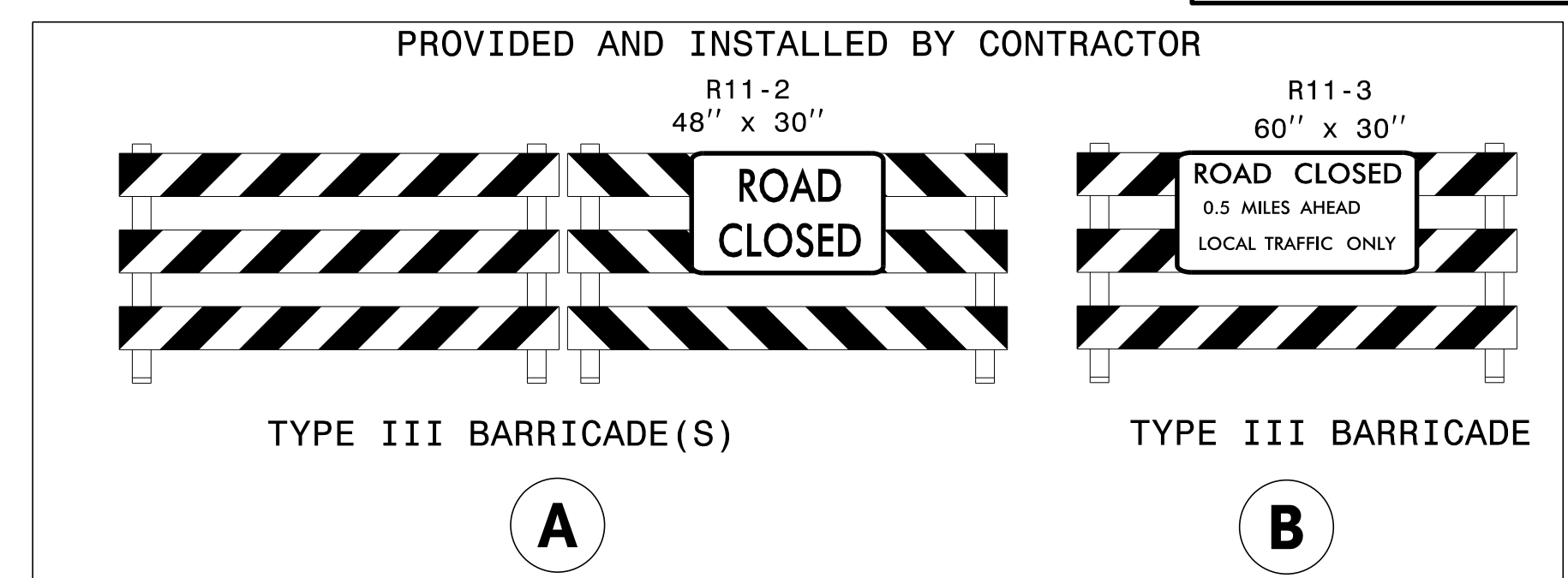
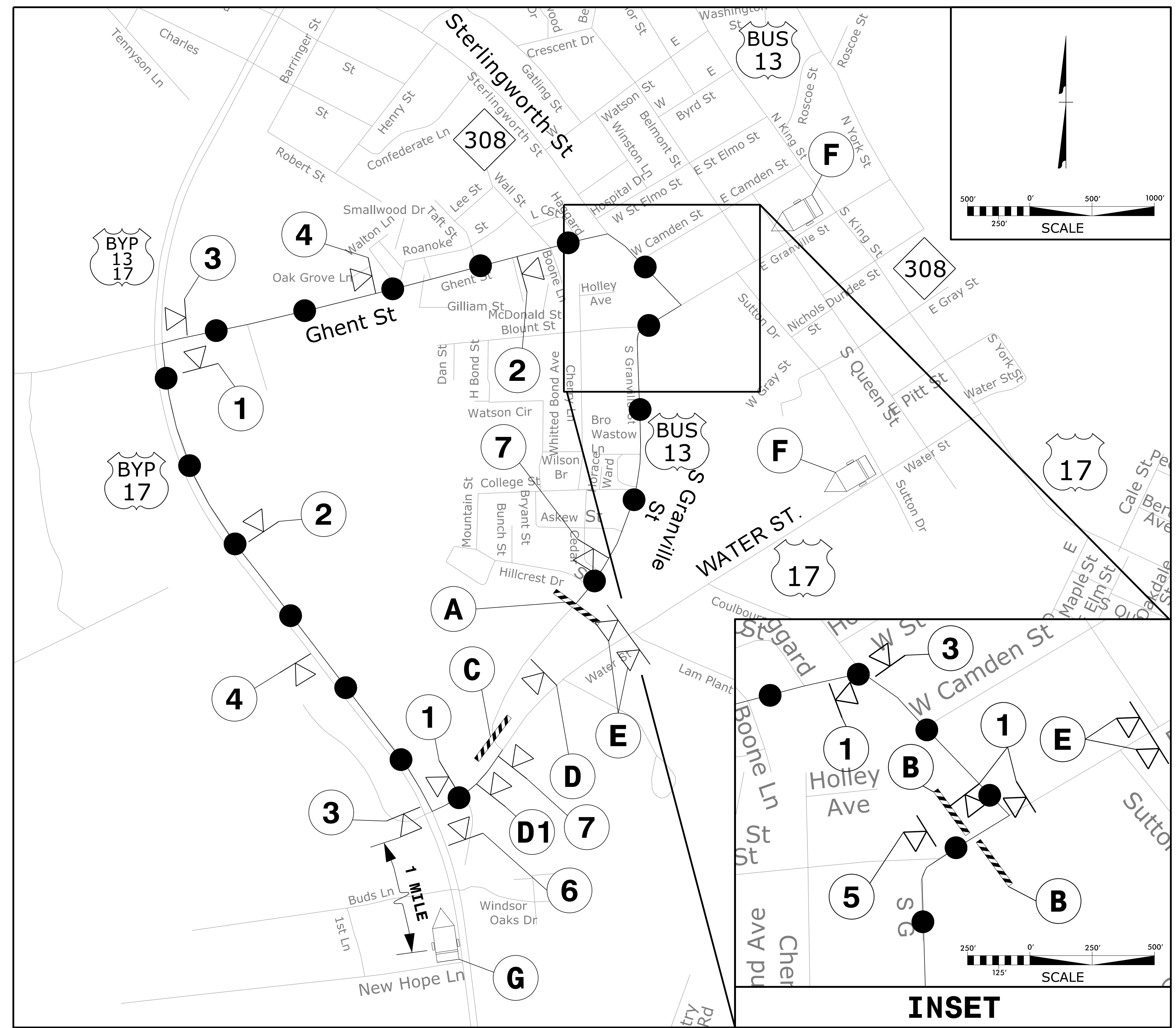
STEP 4: REPEAT STEP 3 UNTIL ALL WORK IS COMPLETE.

STEP 5: PLACE ALL FINAL PAVEMENT MARKINGS PER PAVEMENT MARKING PLANS




STEP 6: REMOVE ALL SIGNS AND DEVICES AND OPEN THE ROADWAY TO TRAFFIC.

5/15/2019 8:00:19 AM TMP-1B_GENERAL NOTES.dgn User: tamcswain

APPROVED:  DATE: 5/15/2019 SEAL			<h2 style="margin: 0;">GENERAL NOTES AND PHASING NOTES</h2>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



LEGEND

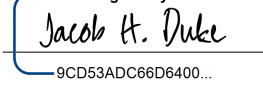
	TYPE III BARRICADES
	PORTABLE SIGN
	CHANGEABLE MESSAGE SIGN (CMS)

DETOUR DESCRIPTION:

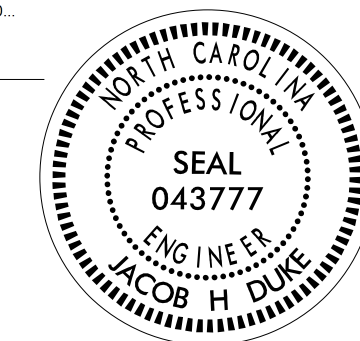
US 17/WATER ST. TO US 17 BYP. TO GHENT ST. TO NC 308/STERLINGWORTH ST. TO US 13 BUS./S. GRANVILLE ST

NOTES:

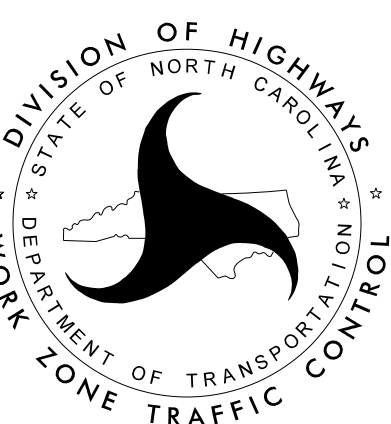
- TRAFFIC CONTROL DEVICES **A** THRU **G** AND **1** THRU **7** SHALL BE INSTALLED PER ENGINEER'S INSTRUCTIONS.
- FOR ADDITIONAL NOTES, SEE RSD 1101.02 (SHEET 1 OF 14)

APPROVED: 
 DATE: 5/15/2019

SEAL



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



OFFSITE DETOUR

5/9/2019 2:41:00 PM Z:\Raleigh\Production\201710-GESC-Div1\Task7 - US 17 Business Intersection\Traffic\Signing\80079_PMP_TSH.dgn User:jduke

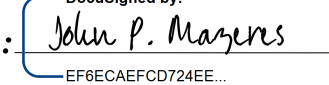

WBS ELEMENT: 80079

CONTRACT: DA00410

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BERTIE COUNTY

**LOCATION: RELOCATION OF US 17/US 13 BUSINESS (GRANVILLE ST) INTERSECTION
IN TOWN OF WINDSOR**
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

<small>PROJECT REFERENCE NO.</small> 80079	<small>SHEET NO.</small> PMP-1
<small>APPROVED:</small>  <small>EF8EAC6FC0724EE</small>	
<small>DATE:</small> 5/10/2019	
SEAL 	
<small>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</small>	

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN 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:

<u>STD. NO.</u>	<u>TITLE</u>
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) TIE PROPOSED PAVEMENT MARKINGS LINES TO EXISTING PAVMENT MARKING LINES.
- B) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

PAVEMENT MARKING SCHEDULE

<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
T2	WHITE STOPBAR (24", 120 MIL)	44 LF
TA	WHITE EDGELINE (4", 90 MIL)	1360 LF
TI	YELLOW DOUBLE CENTER (4", 120 MIL)	639 LF
MA	PERMANENT RAISED MARKER (YELLOW & YELLOW)	16 MARKERS

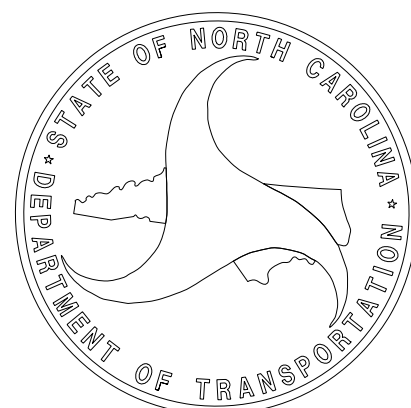
INDEX OF SHEETS

<u>SHEET NO.</u>	<u>TITLE</u>
PMP-1	PAVEMENT MARKING PLAN TITLE SHEET, SCHEDULE AND QUANTITIES
PMP-2	PAVEMENT MARKING DETAIL SHEET

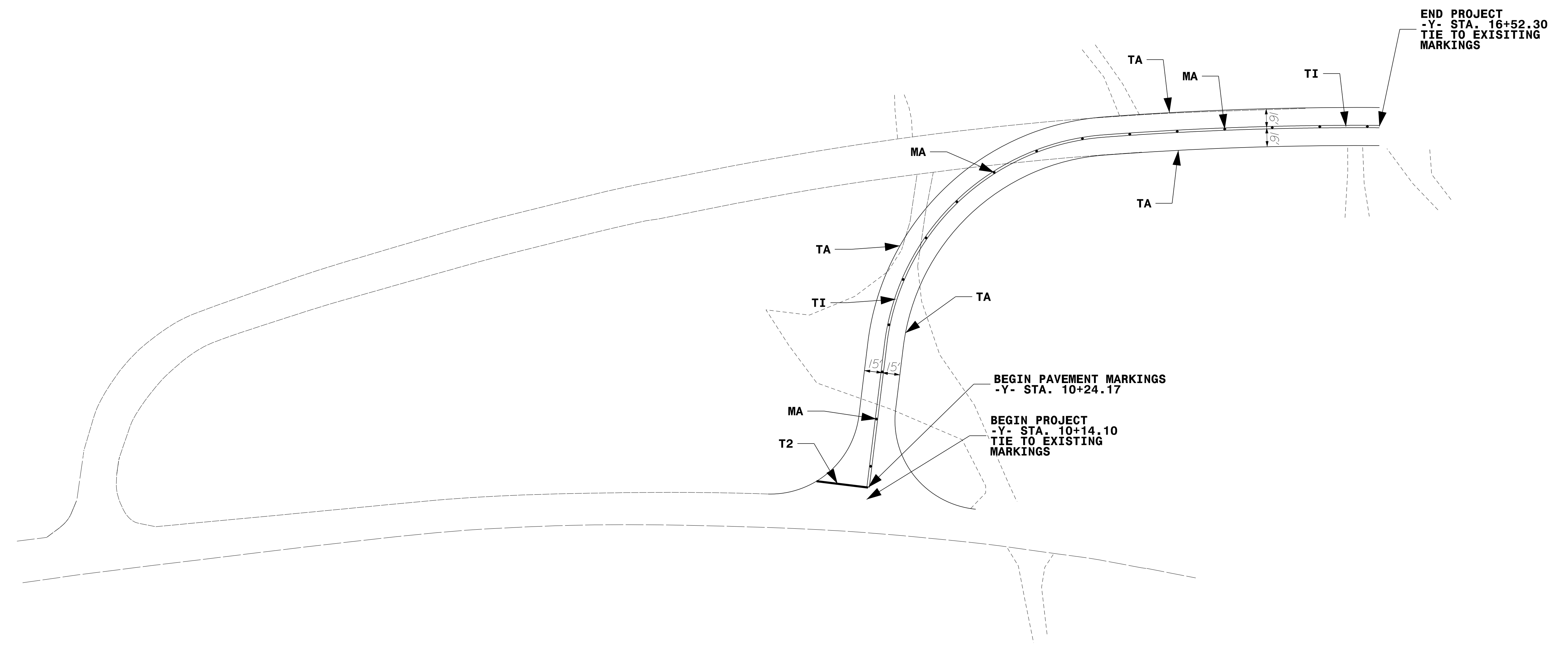
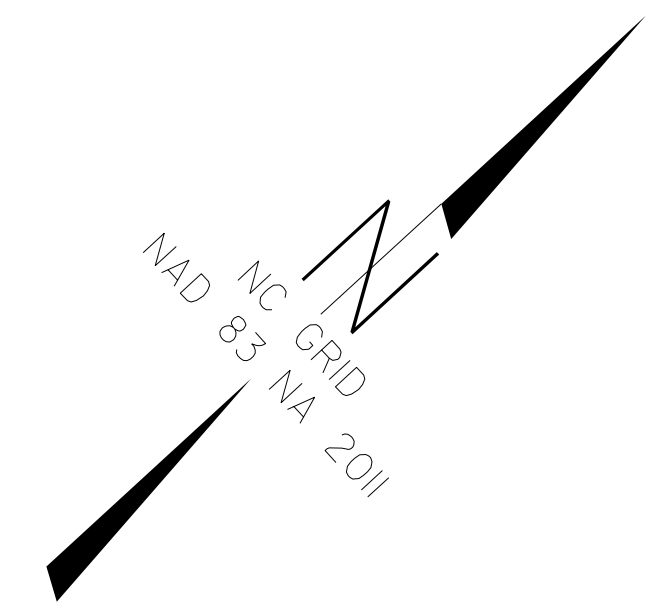
KCA
KISINGER CAMPO & ASSOCIATES

NC FIRM LICENSE No: C-1506
4800 Six Forks Rd.,
Suite 120
Raleigh, NC 27609
(919) 882-7839

JOHN P. MAZERES, PE — PROJECT ENGINEER
ALLEN J. McSWAIN — PROJECT DESIGNER



PROJ. REFERENCE NO.	SHEET NO.
80079	PMP-2
KCA Kisinger Campo & Associates Corp. 4800 Six Forks Rd., Suite 120 Raleigh, NC 27609 John P. Mazeres, PE No. 043935	

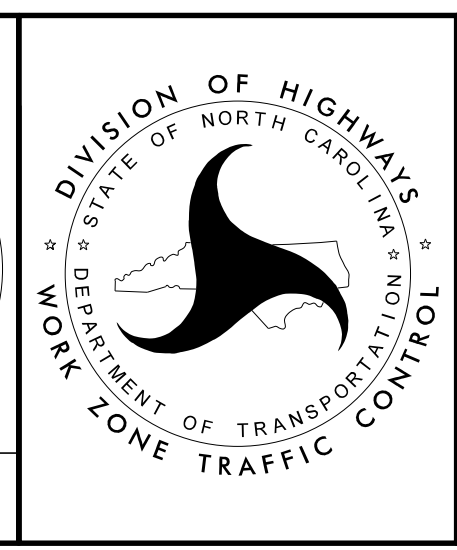


5/9/2019
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 User: jduke

APPROVED: *John P. Mazeres*
EPRECAEFGD724EE...

DATE: 5/10/2019

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

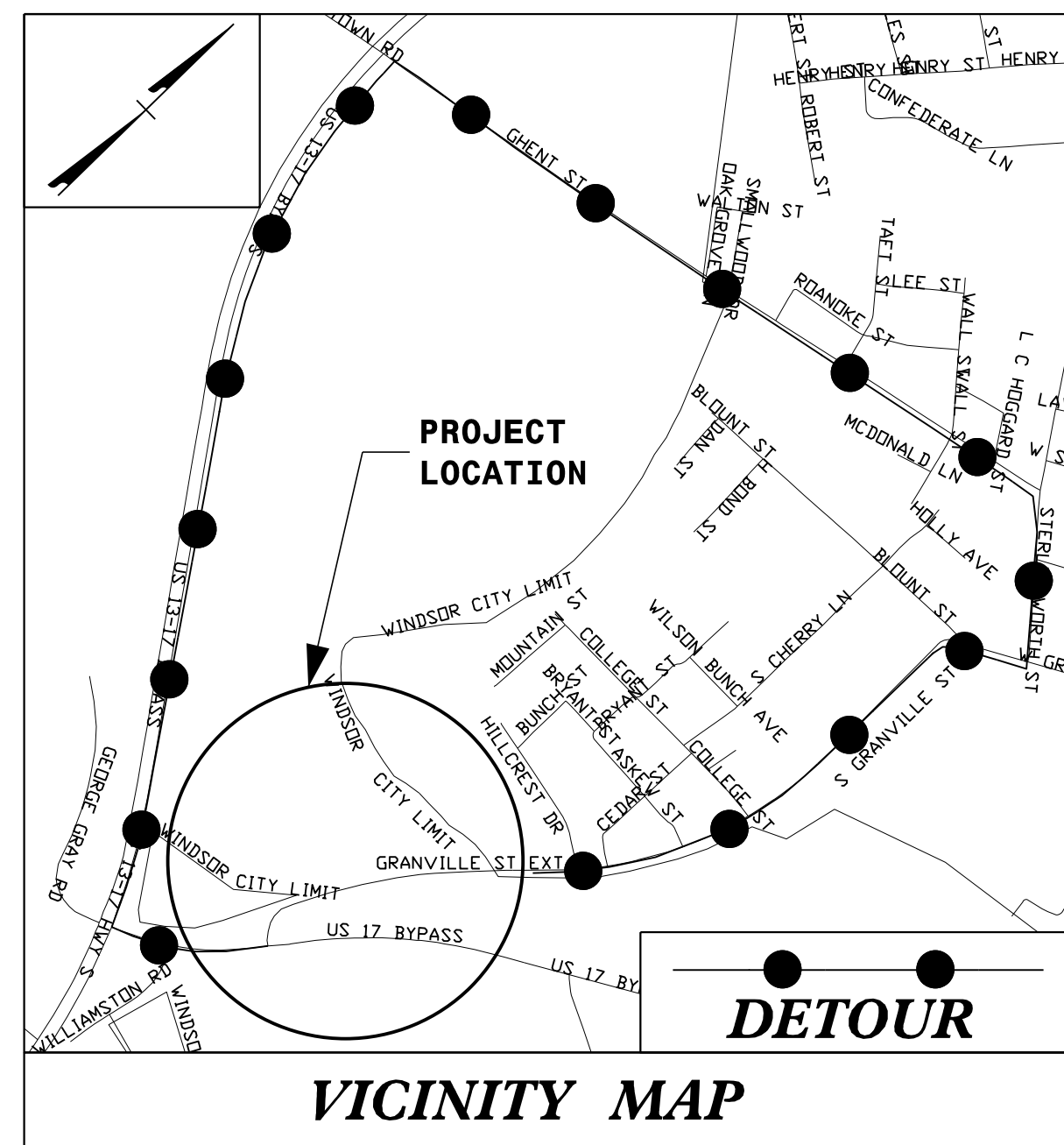


**PAVEMENT MARKING
DETAIL SHEET**

03/04/2019

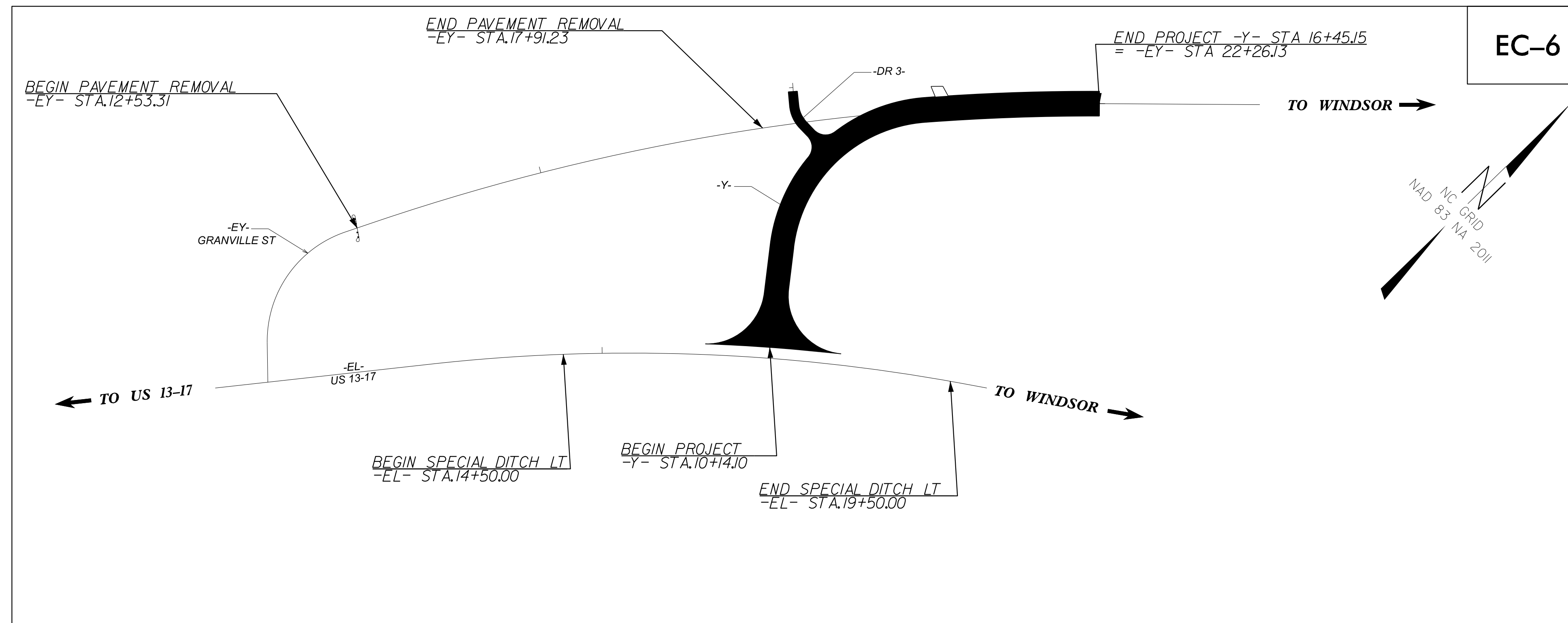
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80079	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
80079		PE	
80079		RW	
80079		CONST	

WBS ELEMENT: 80079



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

**LOCATION: RELOCATION OF US 17/US 13 BUSINESS (GRANVILLE ST) INTERSECTION
IN TOWN OF WINDSOR
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING**

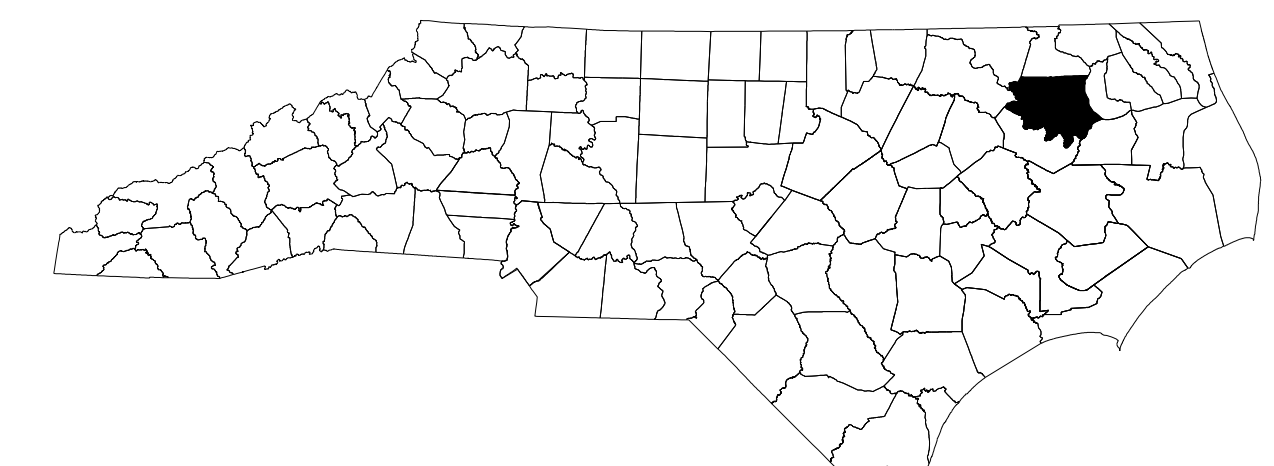


EC-6

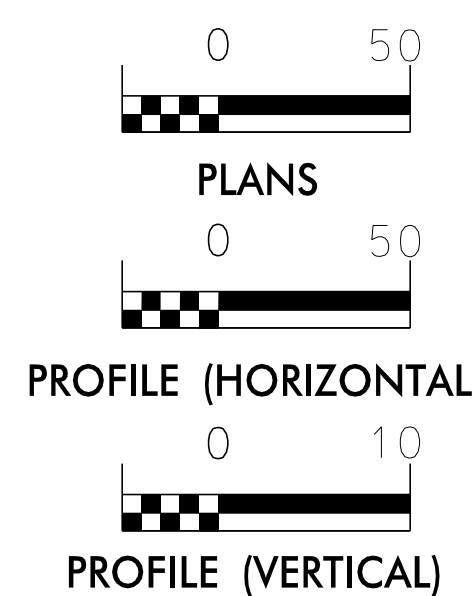
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/Coir Fiber Wattle	WCFW
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	WCFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDA-B
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTRA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTRA-B
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SB
	Tiered Skimmer Basin	TSSB
	Infiltration Basin	IB

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



GRAPHIC SCALE



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

Prepared in the Office of:

KCA
KISINGER CAMPO & ASSOCIATES
NC FIRM LICENSE No: C-1506
301 FAYETTEVILLE ST.,
Suite 1500
Raleigh, NC 27601
(919) 882-7839

Designed by:

SAMUEL CULLUM 4109
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
170 Courthouse Rd
Currituck, NC 27929

2018 STANDARD SPECIFICATIONS

Reviewed by:

ANDREW BLANKENSHIP, PE, CPESC

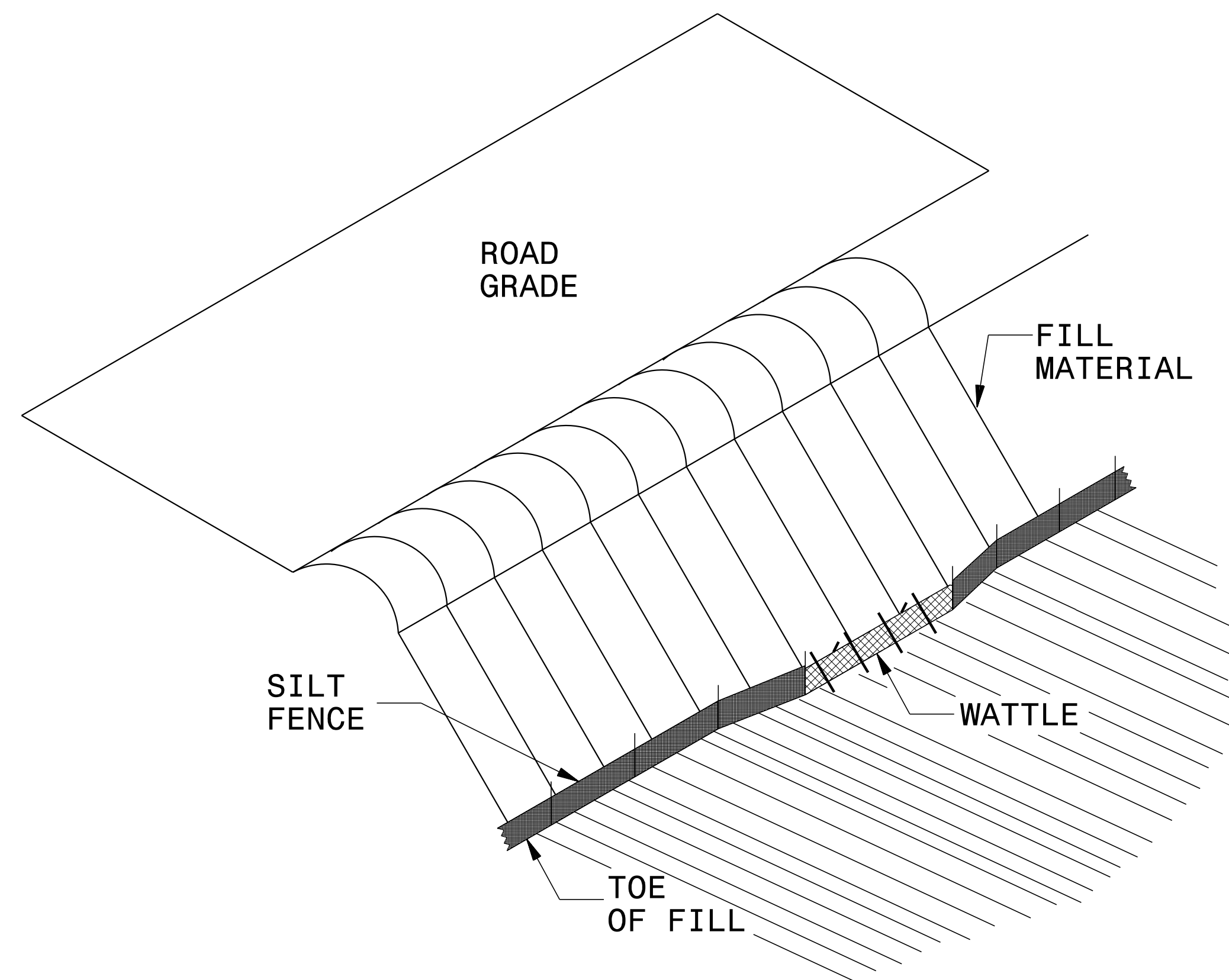
Roadway Standard Drawings

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 revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

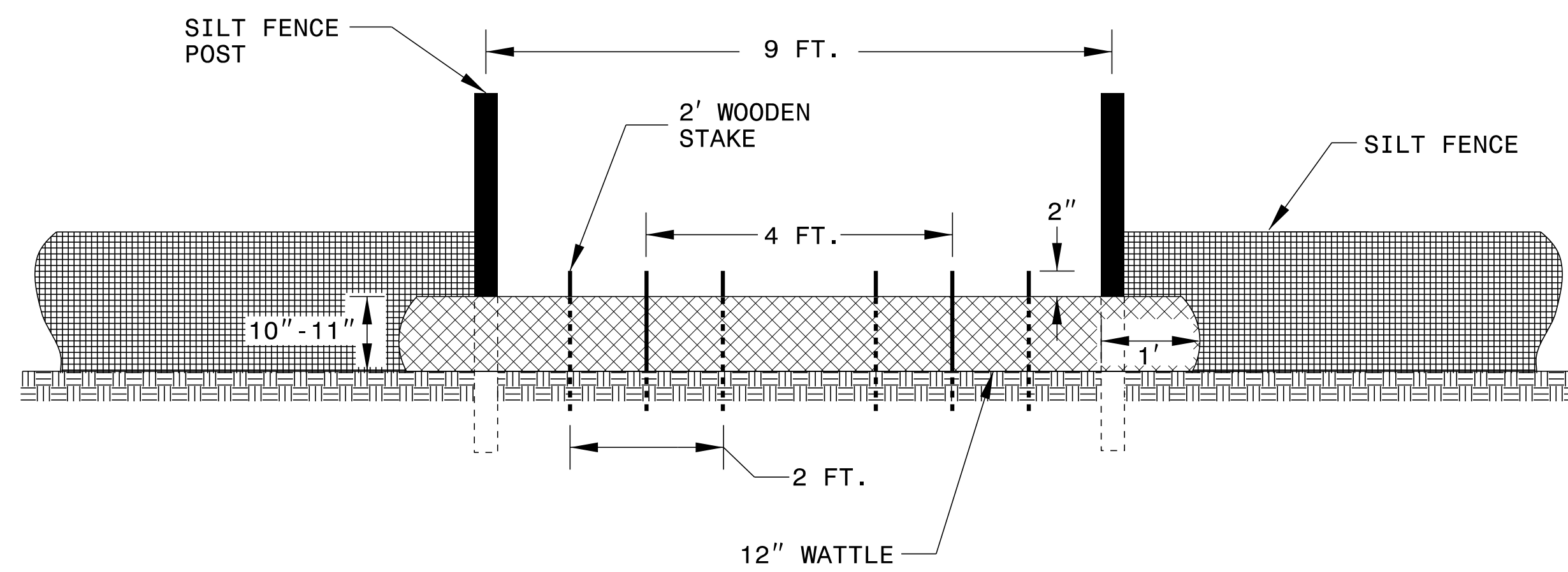
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type 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	

PROJECT REFERENCE NO. 80079	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

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

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

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

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

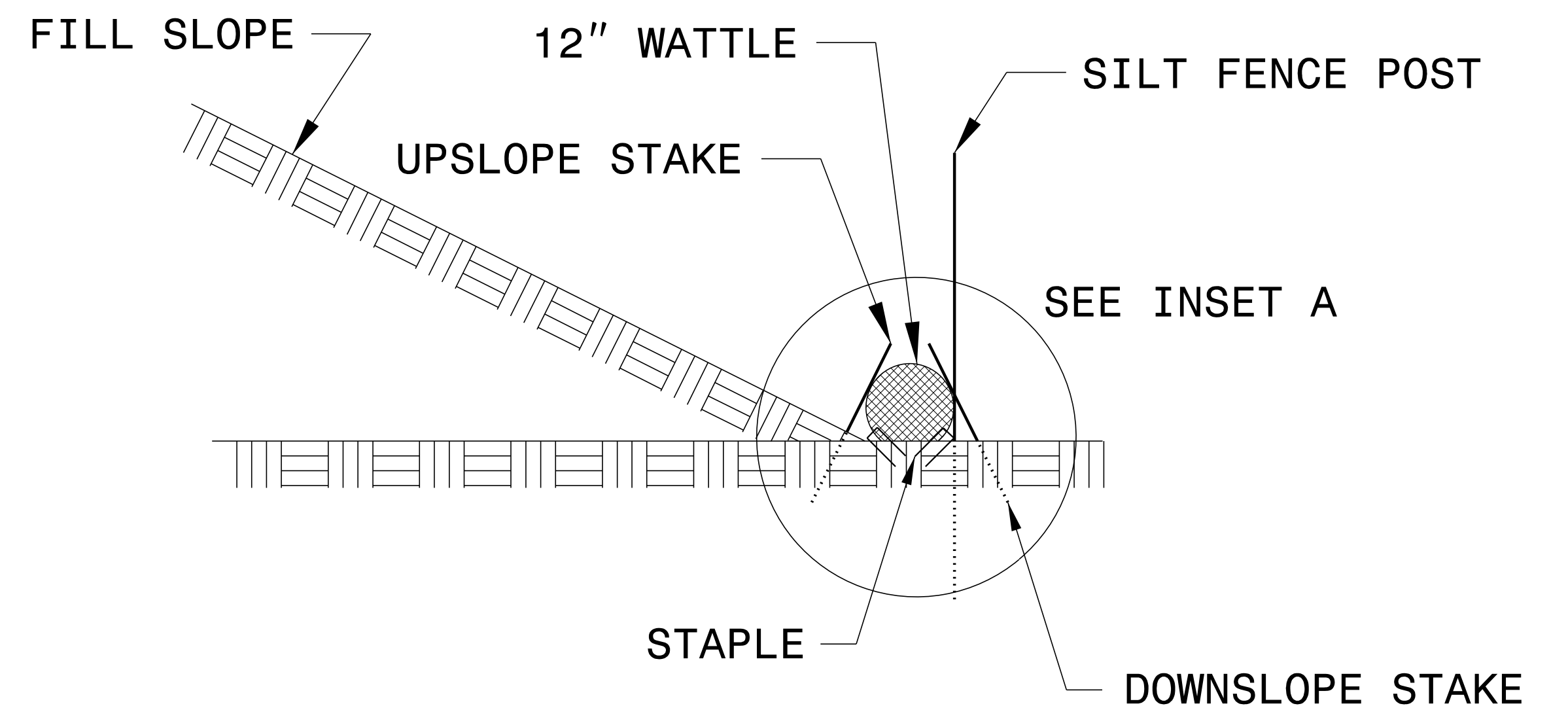
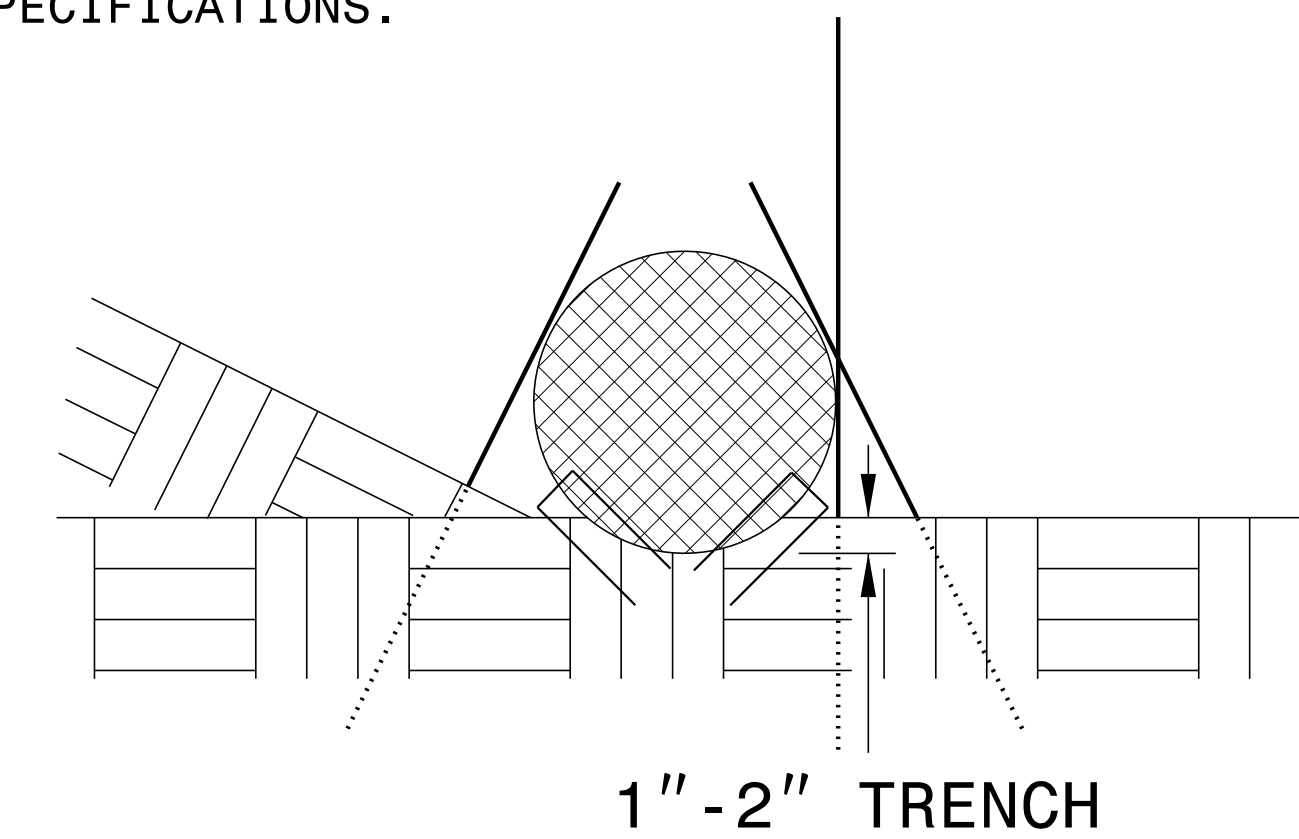
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

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

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

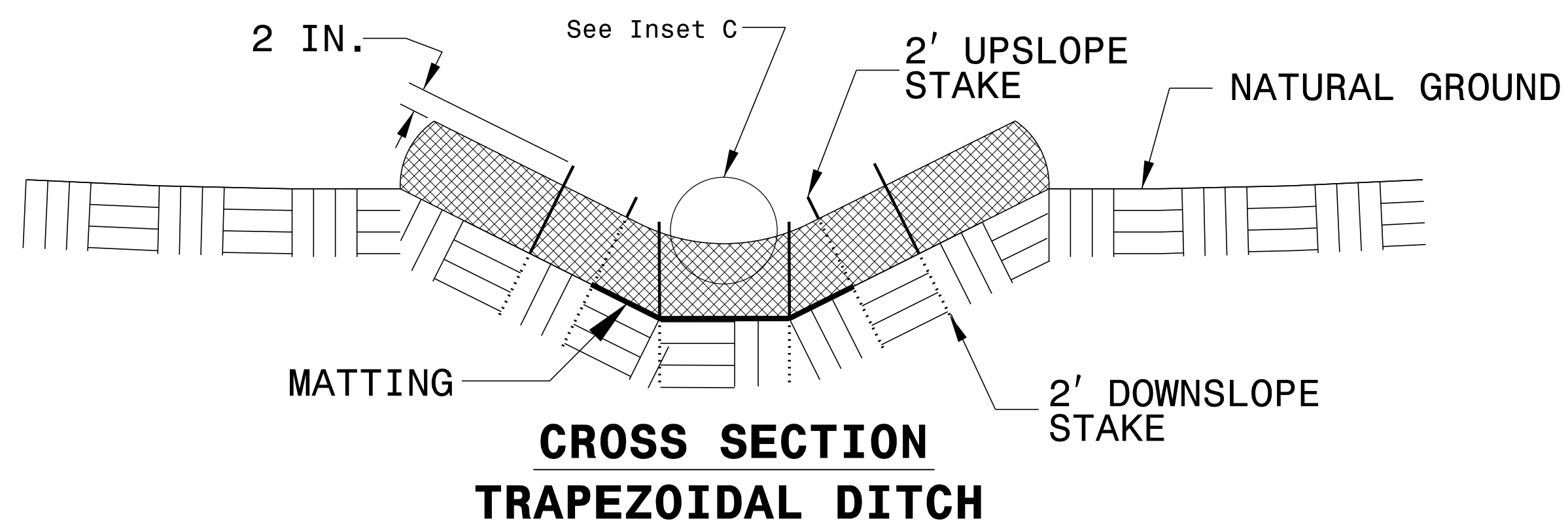
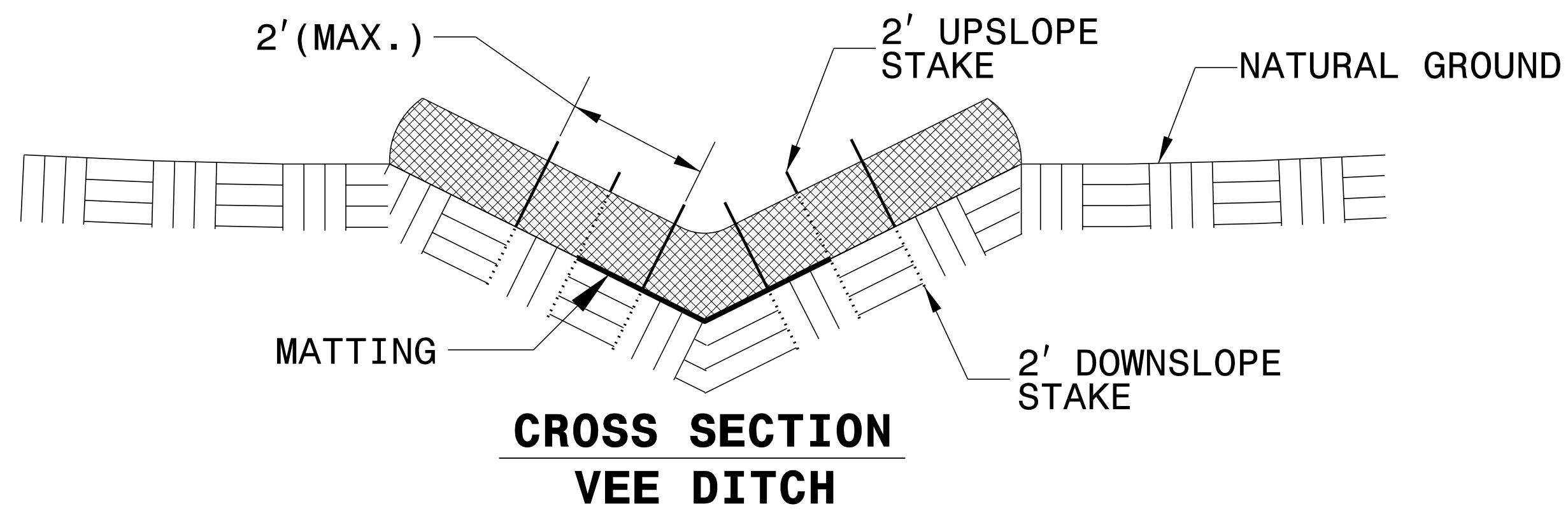
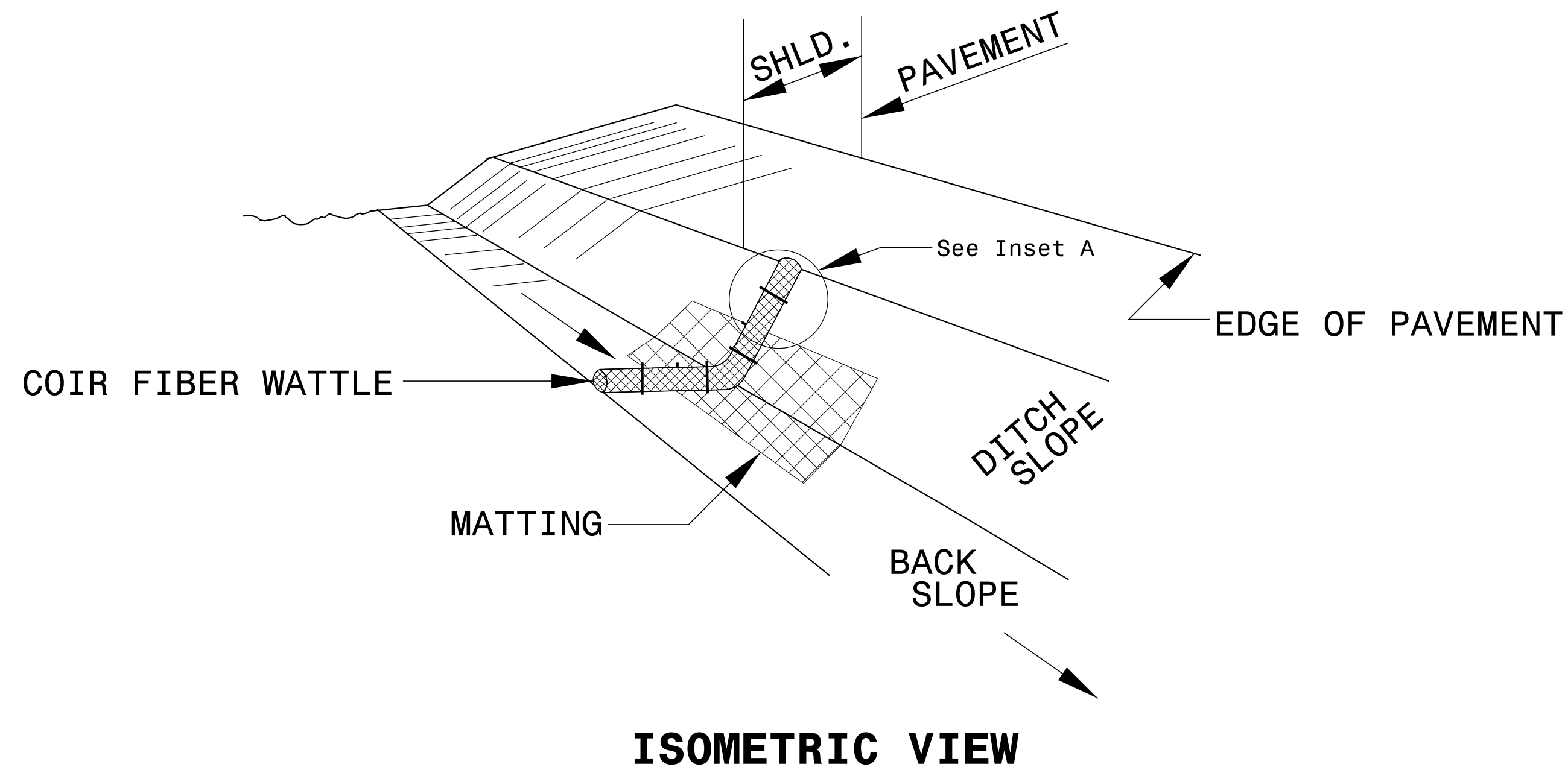
INSET A



SIDE VIEW

PROJECT REFERENCE NO. 80079	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

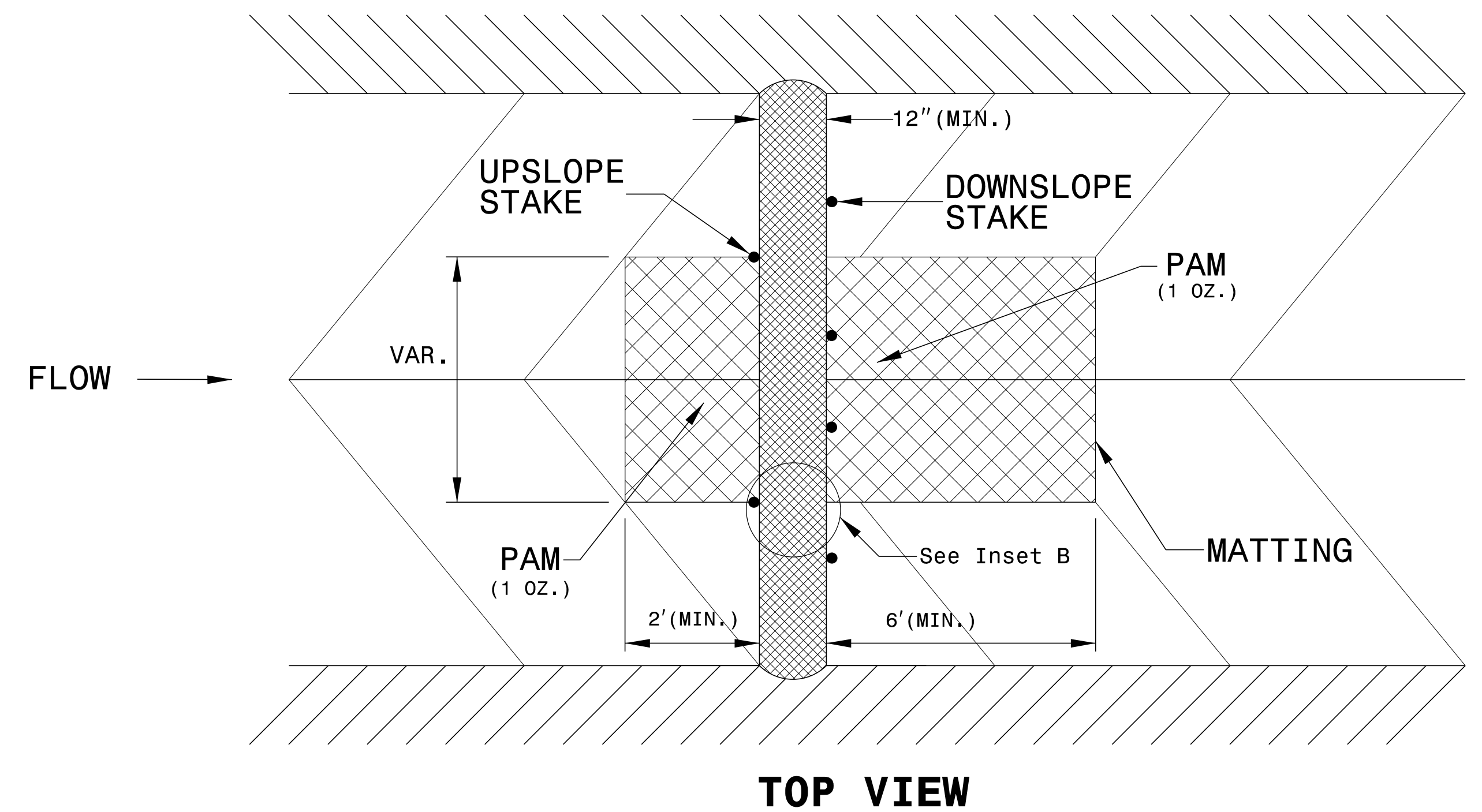
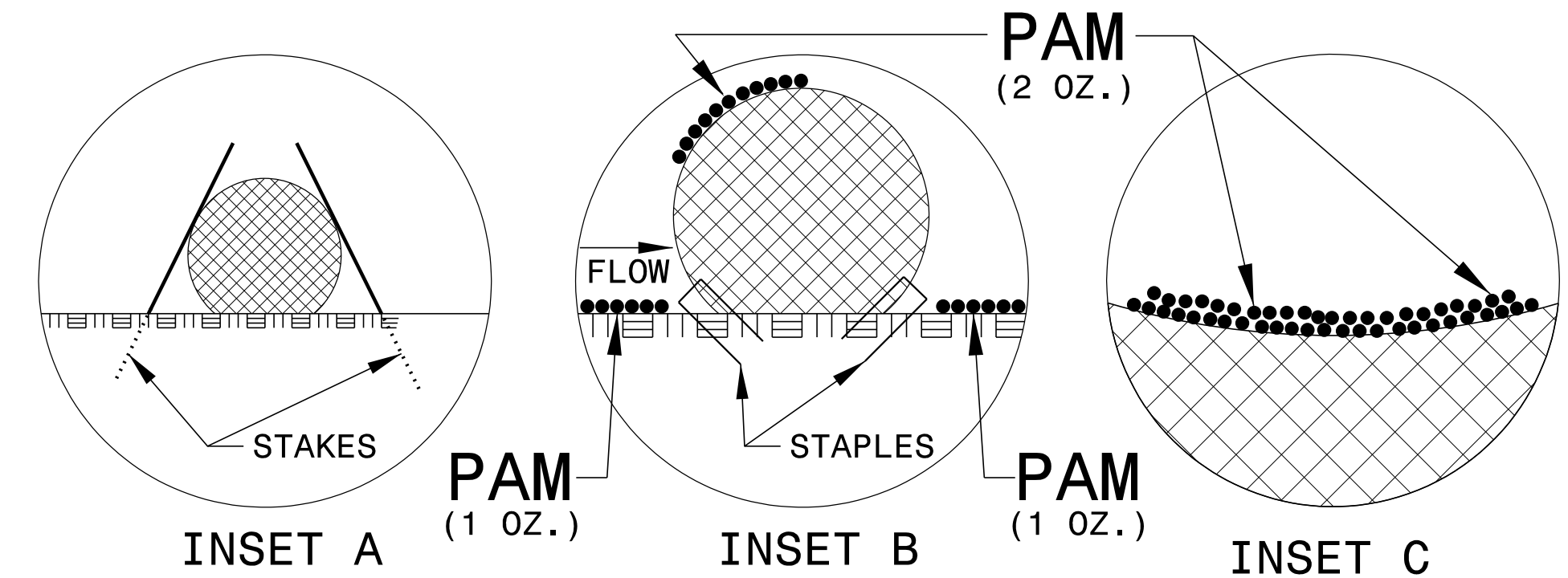
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

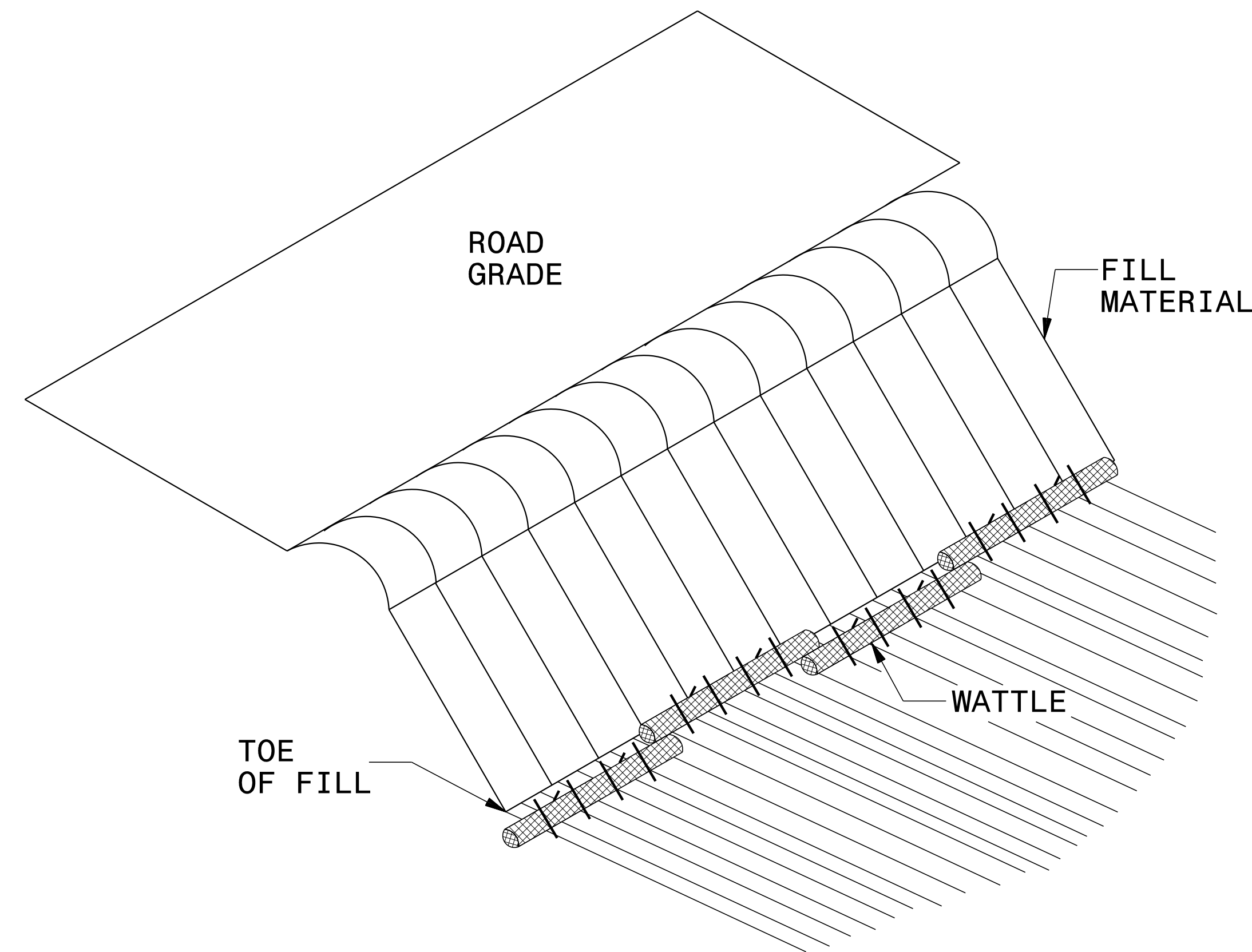
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

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

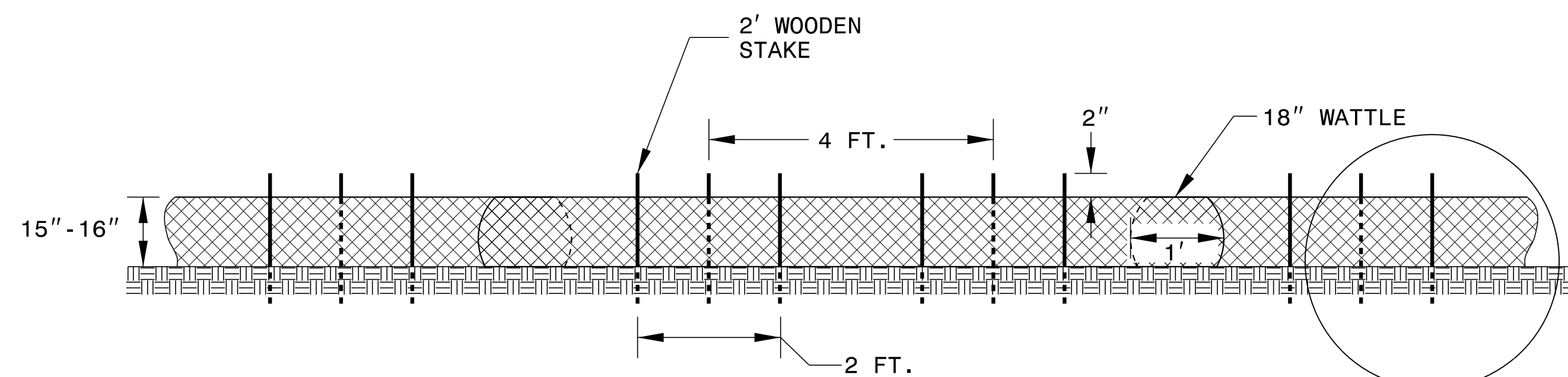


PROJECT REFERENCE NO. 80079	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE BARRIER DETAIL



ISOMETRIC VIEW

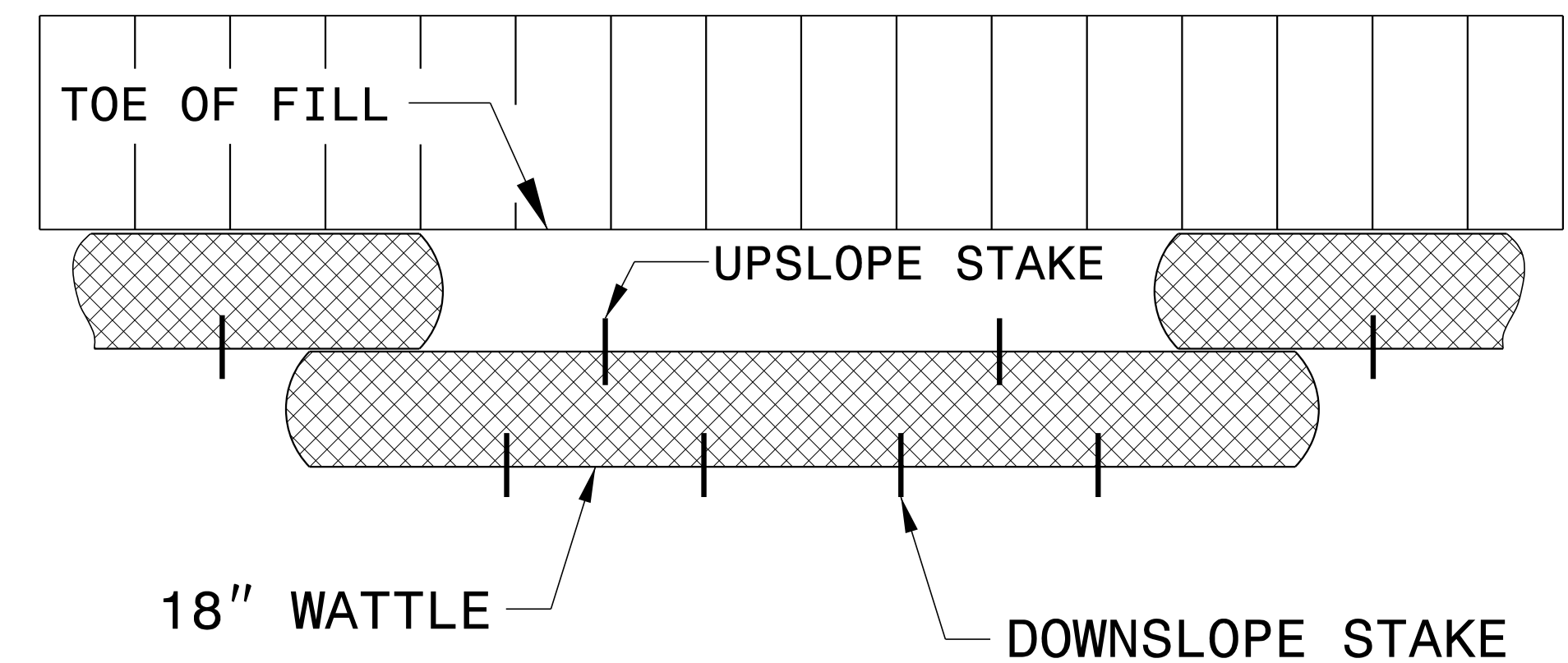
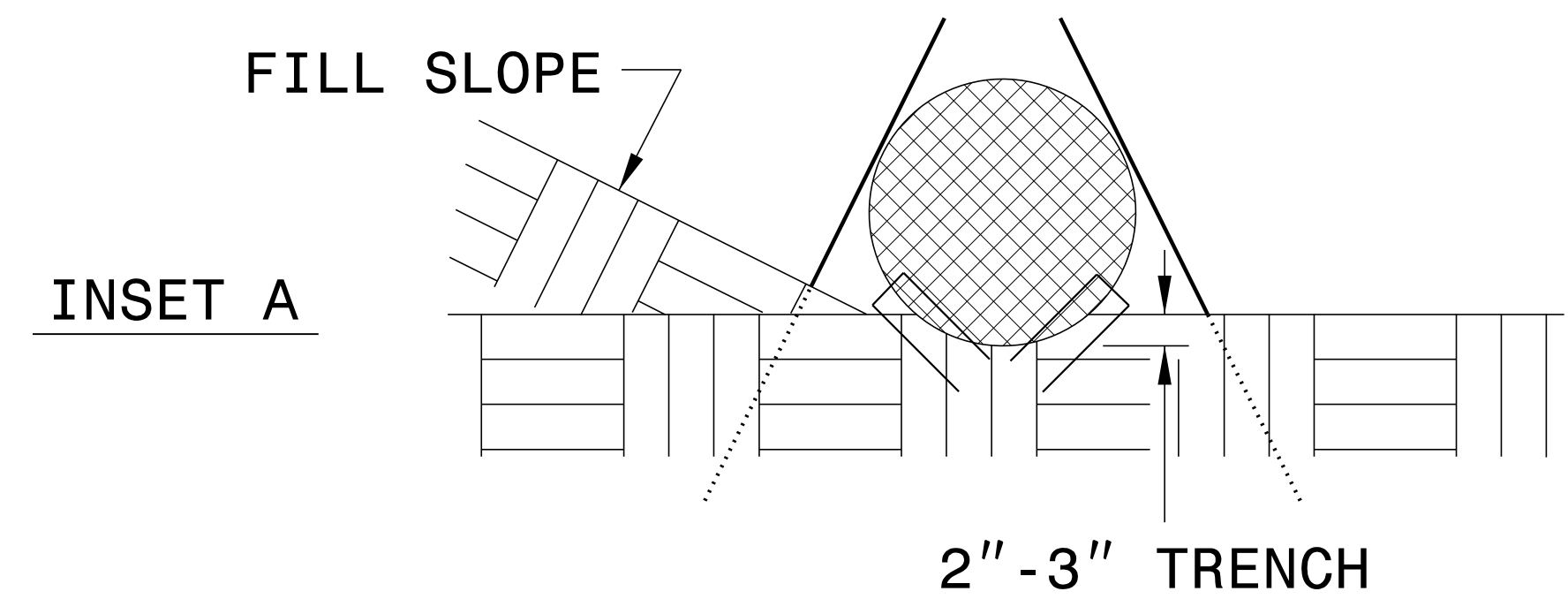


FRONT VIEW

SEE INSET A

NOTES:

- USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLES 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.
- FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.



TOP VIEW

7/2/99

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>80079</i>	SHEET NO. <i>EC-3B</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.

NOTES:

- 1) ALL EXCAVATION SHALL BE PERFORMED IN ONLY DRY OR ISOLATED AREAS OF THE WORK ZONE.
- 2) IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE THE WORK FROM STREAM FLOW WHEN NECESSARY.
- 3) MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES DIVERSION PIPES, PUMPS AND HOSES.
- 4) PUMPS AND HOSES SHALL BE OF SUFFICIENT SIZE TO DEWATER THE WORK AREA.

**CULVERT REMOVAL SEQUENCE
APPROX. -EY- STA. 12+77**

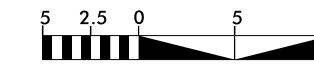
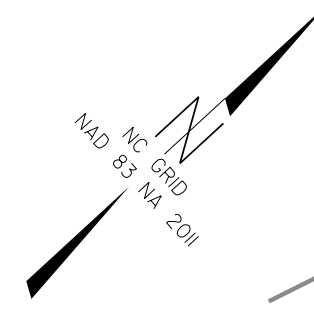
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80079 EC-4

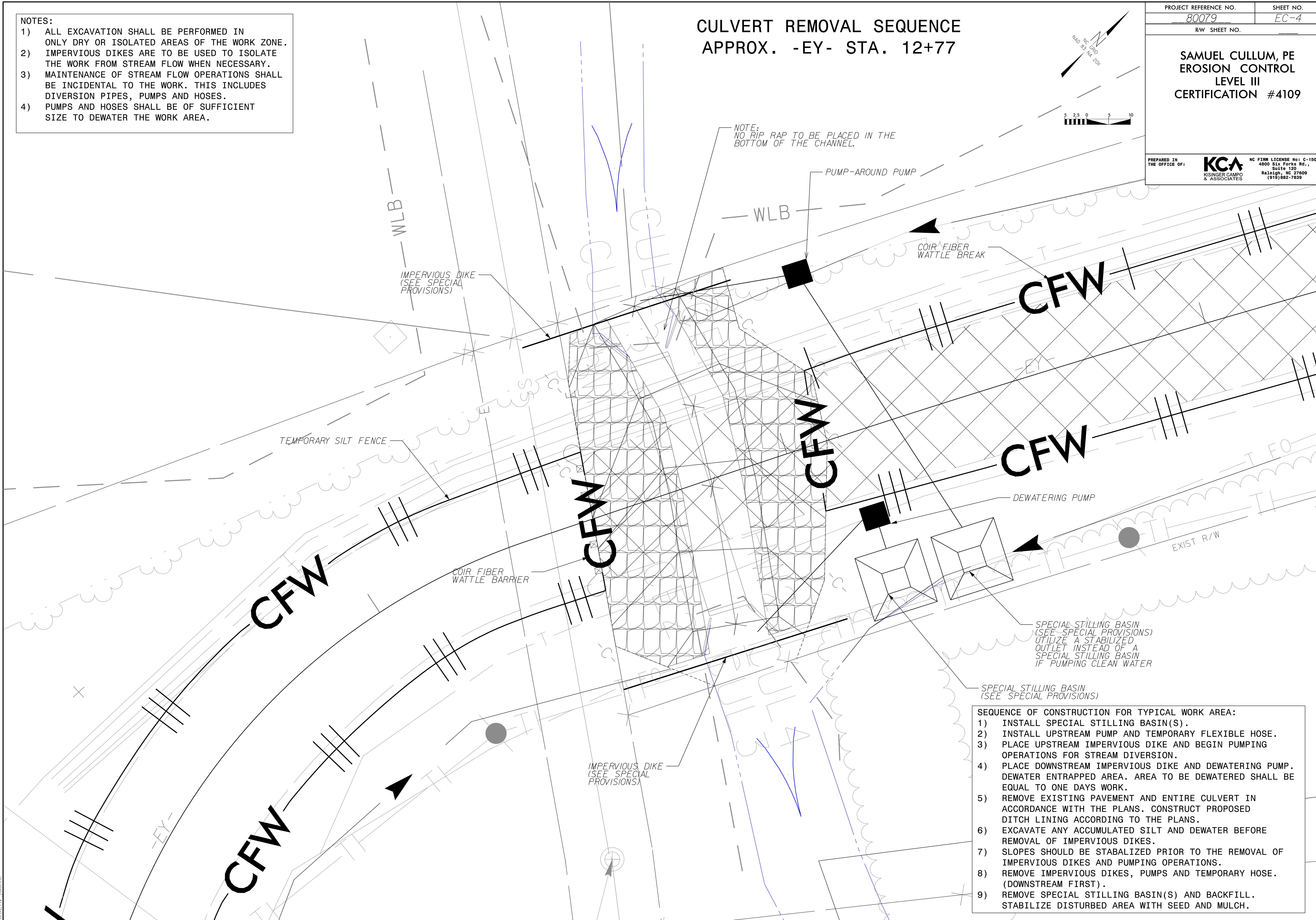
R/W SHEET NO.

**SAMUEL CULLUM, PE
EROSION CONTROL
LEVEL III
CERTIFICATION #4109**

PREPARED IN THE OFFICE OF: **KCA** NC FIRM LICENSE No: C-1506
KISINGER CAMPO & ASSOCIATES 4800 Six Forks Rd., Suite 120 Raleigh, NC 27609 (919) 882-7839



NOTE:
NO RIP RAP TO BE PLACED IN THE BOTTOM OF THE CHANNEL.



- SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA:**
- 1) INSTALL SPECIAL STILLING BASIN(S).
 - 2) INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 - 3) PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 - 4) PLACE DOWNSTREAM IMPERVIOUS DIKE AND DEWATERING PUMP. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAYS WORK.
 - 5) REMOVE EXISTING PAVEMENT AND ENTIRE CULVERT IN ACCORDANCE WITH THE PLANS. CONSTRUCT PROPOSED DITCH LINING ACCORDING TO THE PLANS.
 - 6) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
 - 7) SLOPES SHOULD BE STABILIZED PRIOR TO THE REMOVAL OF IMPERVIOUS DIKES AND PUMPING OPERATIONS.
 - 8) REMOVE IMPERVIOUS DIKES, PUMPS AND TEMPORARY HOSE. (DOWNSTREAM FIRST).
 - 9) REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

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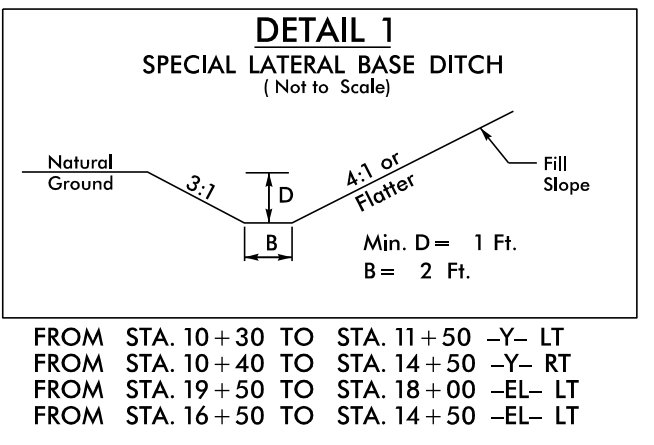
FOR -Y- PROFILE, SEE SHEET 5
 FOR DR3 PROFILE, SEE SHEET 5
 FOR -EL- PROFILE, SEE SHEET 6
 FOR -EY- PROFILE, SEE SHEET 6

C1 PI Sta 16+21.93 Δ = 16° 42' 24.9" (RT) D = 2' 27' 00.0" L = 681.92' T = 343.39' R = 2,338.60' SE = MATCH EXISTING TRANS = MATCH EXISTING	C2 PI Sta 11+58.90 Δ = 72° 14' 32.2" (RT) D = 38' 45' 00.0" L = 186.43' T = 107.90' R = 147.86' SE = MATCH EXISTING TRANS = MATCH EXISTING	C3 PI Sta 17+63.57 Δ = 18° 57' 49.0" (RT) D = 2' 00' 00.0" L = 948.18' T = 478.47' R = 2,864.79' SE = MATCH EXISTING TRANS = MATCH EXISTING
Y-1 PI Sta 13+09.64 Δ = 78° 42' 19.8" (RT) D = 28' 38' 52.4" L = 274.73' T = 164.01' R = 200.00' SE = 4% DS = 25 MPH	Y-2 PI Sta 15+36.40 Δ = 4° 38' 19.2" (RT) D = 2' 00' 00.0" L = 231.93' T = 116.03' R = 2,864.79' SE = MATCH EXISTING DS = 40 MPH	DR-3 PI Sta 10+64.13 Δ = 39° 58' 35.7" (RT) D = 136' 25' 06.7" L = 29.30' T = 15.28' R = 42.00'

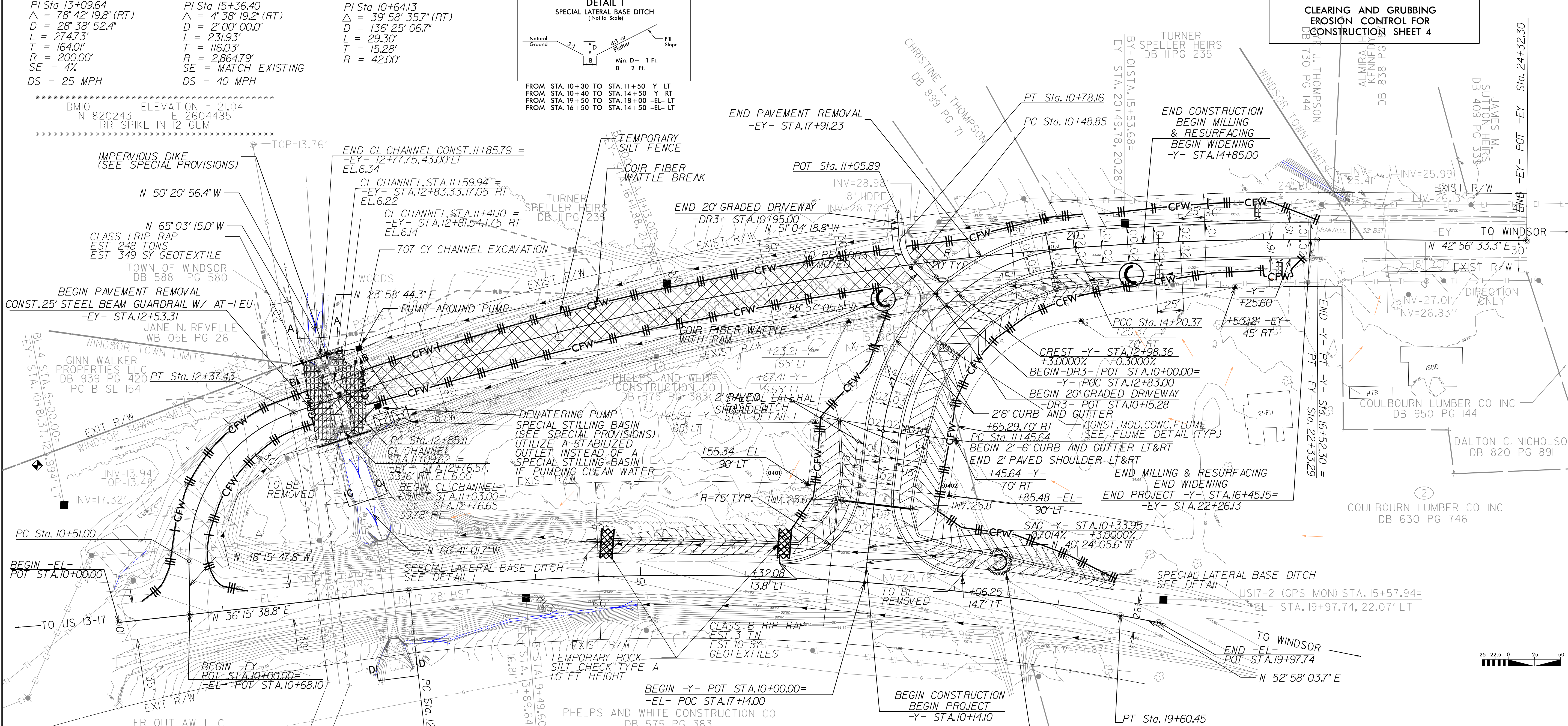
 BM10 ELEVATION = 21.04
 N 820243 E 2604485
 RR SPIKE IN 12 GUM

	CULVERT #1 ONE BARREL		
	NORTH	EAST	ELEV.
CUL1	820504.19	2604599.79	4.58
CUL2	820510.90	2604602.83	4.94
CE1	820507.72	2604601.20	10.75
HW1	820507.08	2604601.49	12.39
CUL3	820478.22	2604655.54	5.73
CUL4	820484.14	2604658.64	5.22
CE2	820481.14	2604657.46	10.76
HW2	820481.79	2604656.77	12.47

	CULVERT #2 ONE BARREL		
	NORTH	EAST	ELEV.
CUL1	820434.34	2604757.76	2.67
CUL2	820440.51	2604762.13	2.57
CE1	820437.29	2604759.37	9.53
HW1	820436.81	2604759.89	11.48
CUL3	820378.82	2604834.94	2.59
CUL4	820385.00	2604839.14	2.56
CE2	820380.23	2604836.90	9.59
HW2	820381.84	2604836.69	11.44

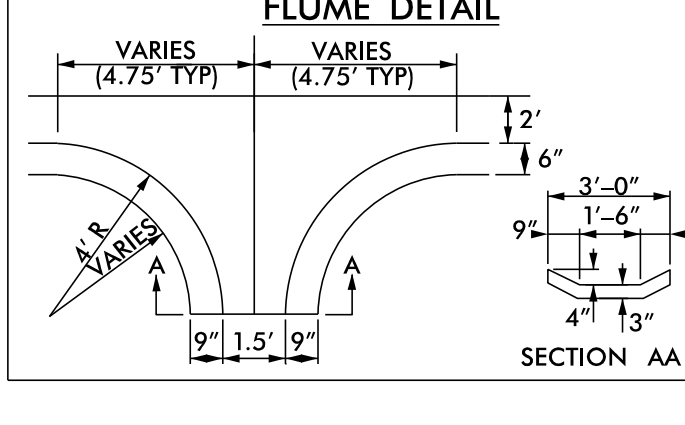
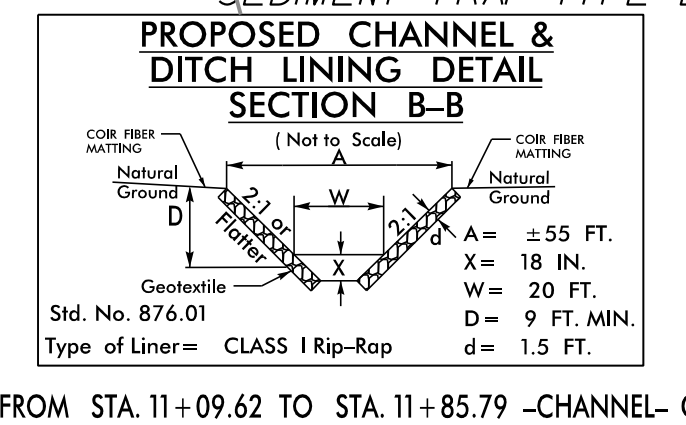
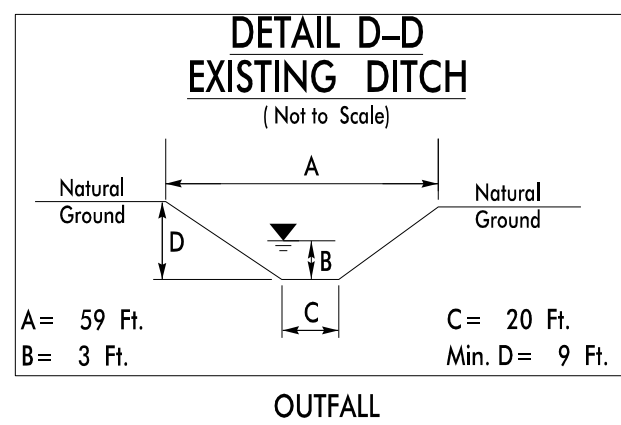
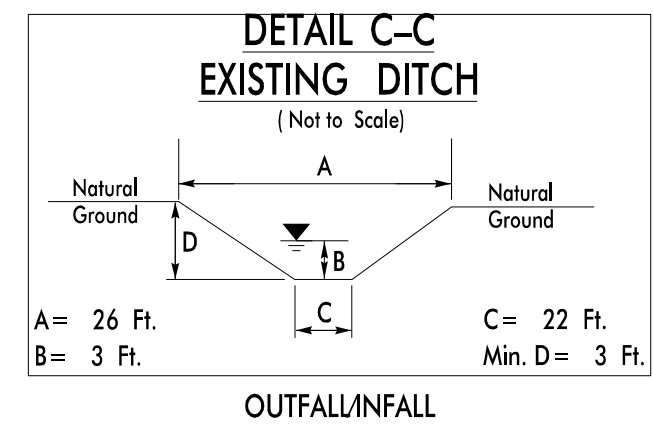
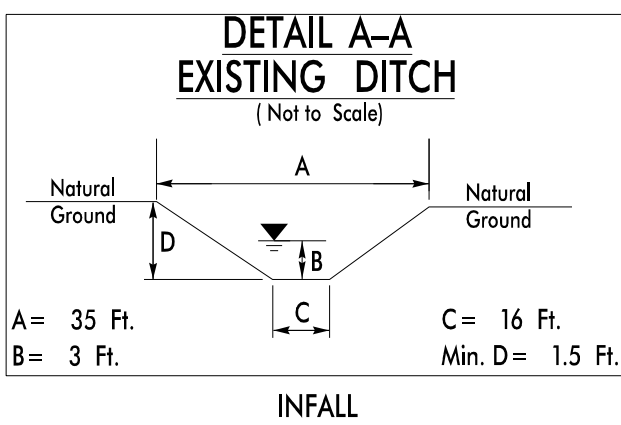


FROM STA. 10+30 TO STA. 11+50 -Y- LT
 FROM STA. 10+40 TO STA. 14+50 -Y- RT
 FROM STA. 19+50 TO STA. 18+00 -EL- LT
 FROM STA. 16+50 TO STA. 14+50 -EL- LT



CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4

NOTE: DRAINAGE AREA BOUNDARY FOR CHANNEL PROVIDED IN SUPPORTING HYDRAULIC DOCUMENTS



STATION	CLASS B RIP RAP EST. TN.	MOD. CONC. FLUMES	
		STATION	GEOTEXTILE EST. SY.
11+50 -Y- RT.	7		17
12+50 -Y- RT.	6		16
13+95 -Y- RT.	5		13
15+00 -Y- RT.	4		10
16+15 -Y- RT.	4		10
15+95 -Y- LT.	4		10

NOTE: ALL EXISTING STRUCTURES TO BE RETAINED UNLESS OTHERWISE STATED. BASED ON FIELD REVIEW, ALL STRUCTURES TO REMAIN APPEAR TO BE IN SUFFICIENT, WORKING CONDITION.

PROJECT REFERENCE NO. 80079
 SHEET NO. EC-5
 RW SHEET NO.
SAMUEL CULLUM, PE
 EROSION CONTROL
 LEVEL III
 CERTIFICATION #4109
 PREPARED IN THE OFFICE OF: **KCA**
 KISINGER CAMPO & ASSOCIATES
 NC FIRM LICENSE NO: C-1506
 301 Fayetteville St., Suite 1500
 Raleigh, NC 27601
 (919) 882-7839

FOR -Y- PROFILE, SEE SHEET 5
 FOR DR3 PROFILE, SEE SHEET 5
 FOR -EL- PROFILE, SEE SHEET 6
 FOR -EY- PROFILE, SEE SHEET 6

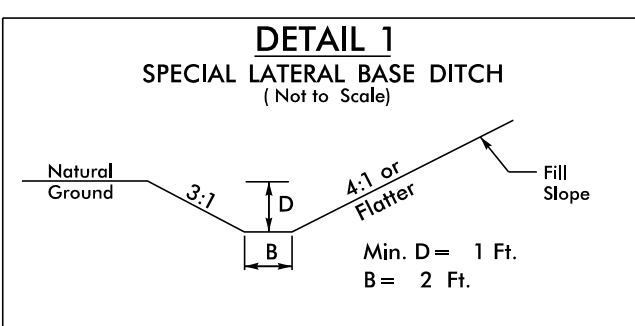
CI	C2	C3
PI Sta 16+21.93 Δ = 16° 42' 24.9" (RT) D = 2' 27' 00.0" L = 681.92' T = 343.39' R = 2,338.60' SE = MATCH EXISTING TRANS = MATCH EXISTING	PI Sta 11+58.90 Δ = 72° 14' 32.2" (RT) D = 38' 45' 00.0" L = 186.43' T = 107.90' R = 147.86' SE = MATCH EXISTING TRANS = MATCH EXISTING	PI Sta 17+63.57 Δ = 18° 57' 49.0" (RT) D = 2' 00' 00.0" L = 948.18' T = 478.47' R = 2,864.79' SE = MATCH EXISTING TRANS = MATCH EXISTING
Y-1 PI Sta 13+09.64 Δ = 78° 42' 19.8" (RT) D = 28' 38' 52.4" L = 274.73' T = 164.01' R = 200.00' SE = 4% DS = 25 MPH	Y-2 PI Sta 15+36.40 Δ = 4° 38' 19.2" (RT) D = 2' 00' 00.0" L = 231.93' T = 116.03' R = 2,864.79' SE = MATCH EXISTING DS = 40 MPH	DR-3 PI Sta 10+64.13 Δ = 39° 58' 35.7" (RT) D = 136' 25' 06.7" L = 29.30' T = 15.28' R = 42.00'

	CULVERT #1 ONE BARREL		
	NORTH	EAST	ELEV.
CUL1	820504.19	2604599.79	4.58
CUL2	820510.90	2604602.83	4.94
CE1	820507.72	2604601.20	10.75
HW1	820507.08	2604601.49	12.39
CUL3	820478.22	2604655.54	5.73
CUL4	820484.14	2604658.64	5.22
CE2	820481.14	2604657.46	10.76
HW2	820481.79	2604656.77	12.47

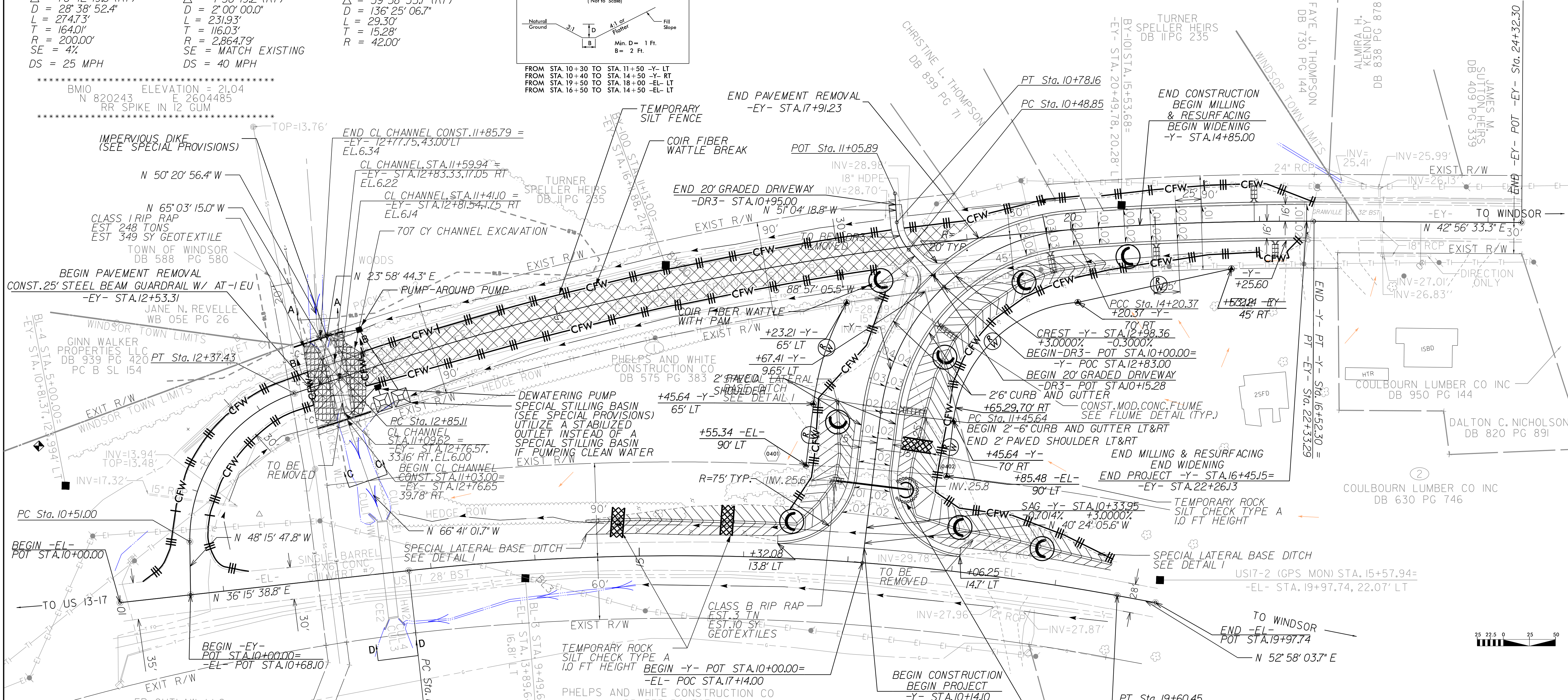
	CULVERT #2 ONE BARREL		
	NORTH	EAST	ELEV.
CUL1	820434.34	2604757.76	2.67
CUL2	820440.51	2604762.13	2.57
CE1	820437.29	2604759.37	9.53
HW1	820436.81	2604759.89	11.48
CUL3	820378.82	2604834.94	2.59
CUL4	820385.00	2604839.14	2.56
CE2	820380.23	2604836.90	9.59
HW2	820381.84	2604836.69	11.44

PROJECT REFERENCE NO. 80079 SHEET NO. EC-6
 RW SHEET NO.
SAMUEL CULLUM, PE
EROSION CONTROL
LEVEL III
CERTIFICATION #4109

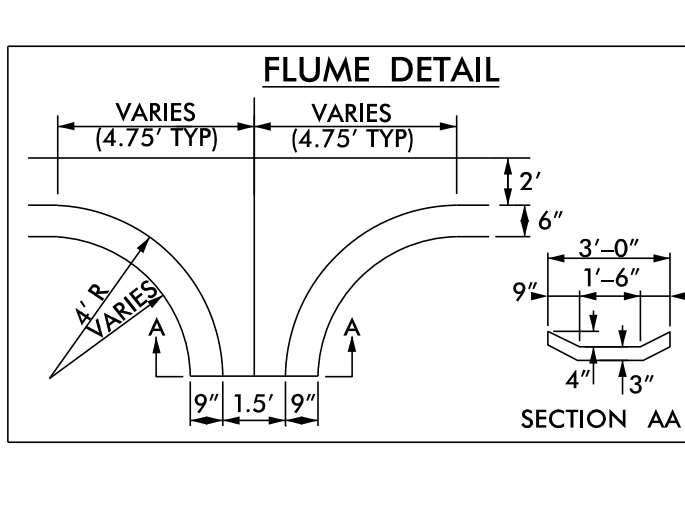
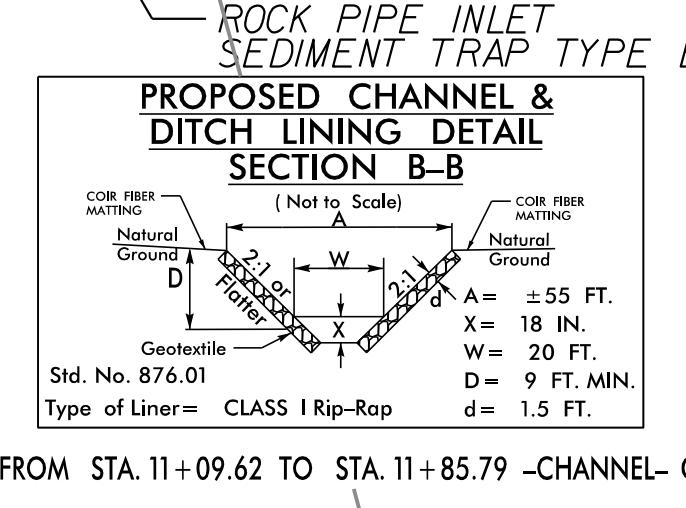
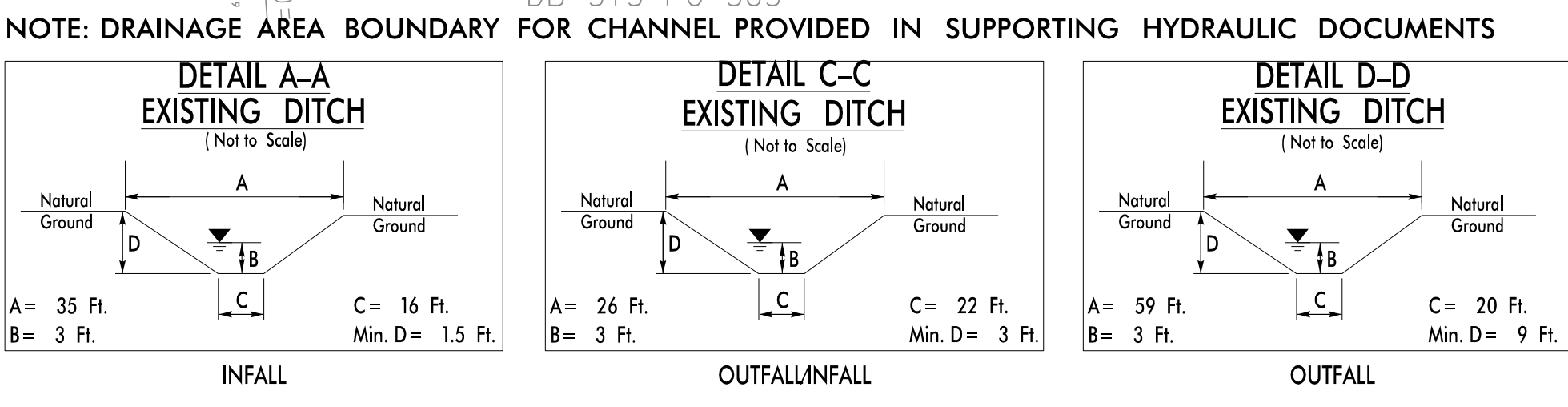
PREPARED IN THE OFFICE OF: **KCA** KISINGER CAMPO & ASSOCIATES
 NC FIRM LICENSE NO: C-1506
 301 FAYETTEVILLE ST., SUITE 1500
 RALEIGH, NC 27601
 (919) 882-7839



FROM STA. 10+30 TO STA. 11+50 -Y- LT
 FROM STA. 10+40 TO STA. 14+50 -Y- RT
 FROM STA. 19+50 TO STA. 18+00 -EL- LT
 FROM STA. 16+50 TO STA. 14+50 -EL- LT



NOTE: ALL EXISTING STRUCTURES TO BE RETAINED UNLESS OTHERWISE STATED. BASED ON FIELD REVIEW, ALL STRUCTURES TO REMAIN APPEAR TO BE IN SUFFICIENT, WORKING CONDITION.



STATION	CLASS B RIP RAP EST. TN.	GEOTEXTILE EST. SY.
11+50 -Y- RT.	7	17
12+50 -Y- RT.	6	16
13+95 -Y- RT.	5	13
15+00 -Y- RT.	4	10
16+15 -Y- RT.	4	10
15+95 -Y- LT.	4	10

12/06/07

COMPUTED BY: AJM DATE: 3/27/19
 CHECKED BY: JPM DATE: 3/27/19

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. 80079 SHEET NO. X-1A

CROSS-SECTION SUMMARY

Station	Uncl. Exc.	Undercut	Embt
-L-	(cu. yd.)	(cu. yd.)	(cu. yd.)
Y 10+14.10	0	0	0
Y 10+50.00	287	0	0
Y 11+00.00	863	0	0
Y 11+50.00	789	0	0
Y 12+00.00	413	0	11
Y 12+50.00	151	0	87
Y 13+00.00	116	0	199
Y 13+50.00	83	0	200
Y 14+00.00	39	0	107
Y 14+50.00	13	0	46
Y 15+00.00	3	0	34
Y 15+50.00	0	0	37
Y 16+00.00	5	0	30
Y 16+45.15	0	0	0
EL 14+50.00	0	0	0
EL 15+00.00	13	0	0
EL 15+50.00	42	0	0
EL 16+00.00	70	0	0
EL 16+50.00	82	0	0
EL 17+00.00	41	0	0
EL 17+50.00	0	0	0
EL 18+00.00	80	0	0
EL 18+50.00	154	0	0
EL 19+00.00	0	0	0
EL 19+50.00	29	0	0

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

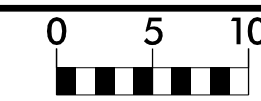
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 (Auto)

6/23/16

PREPARED IN THE OFFICE OF:



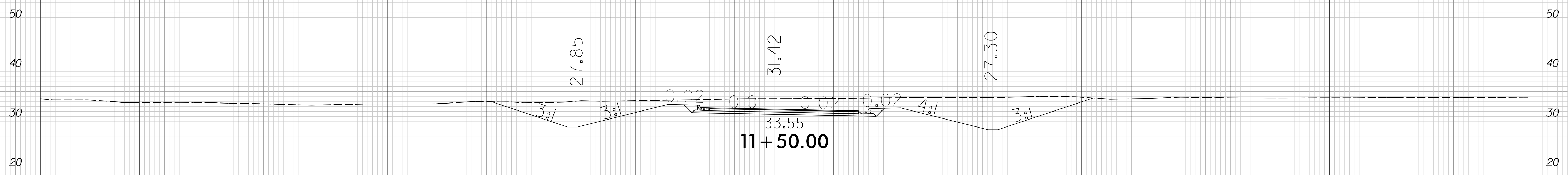
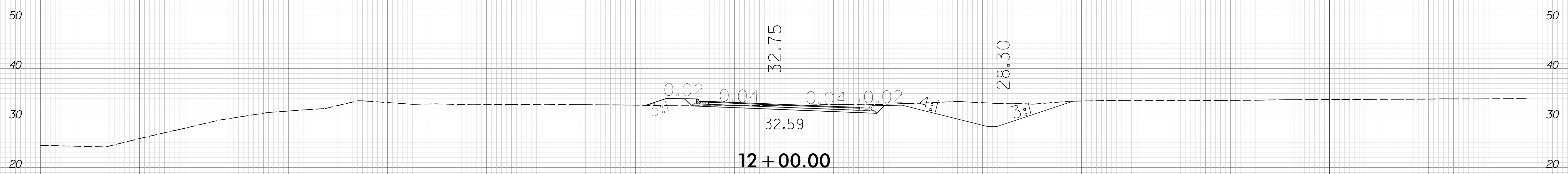
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-2

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-Y-

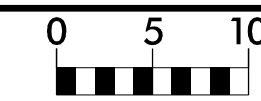
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dwg

6/23/16

PREPARED IN THE OFFICE OF:



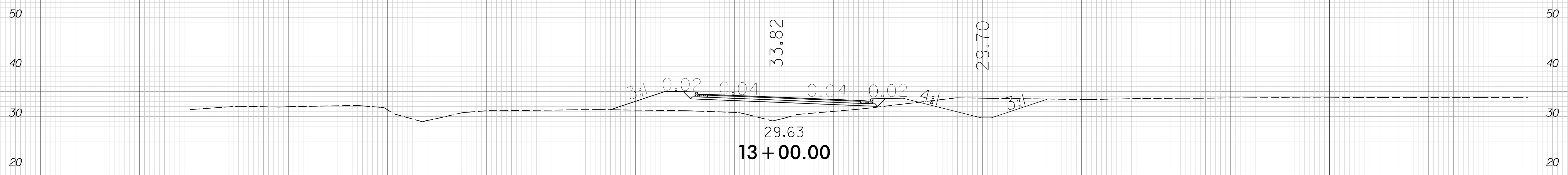
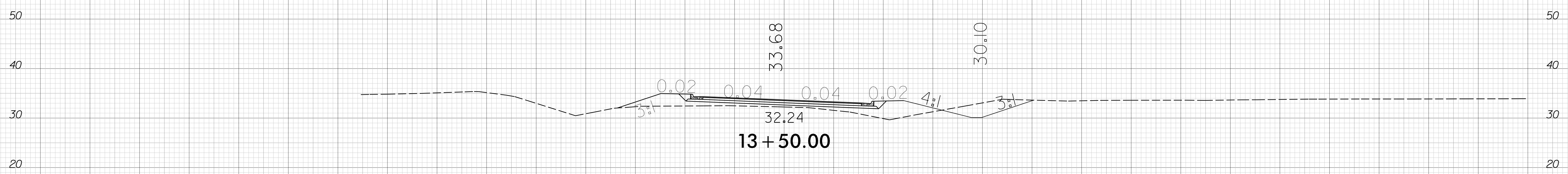
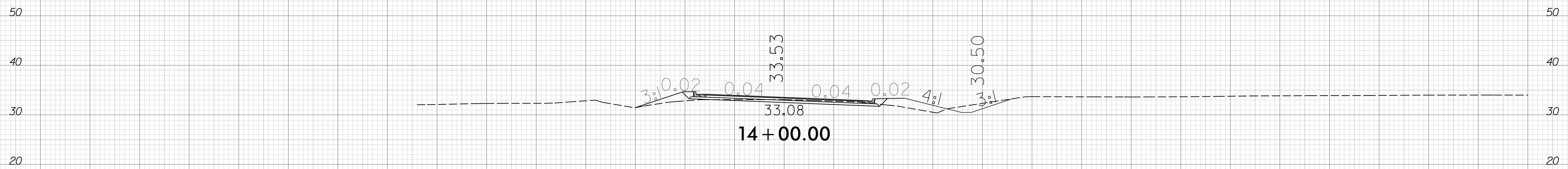
NO. FIRM LICENSE NO. C-1505
201 PARKVIEW BLVD
RALEIGH, NC 27601
(919)882-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-3

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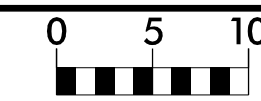
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jduke

6/23/16

PREPARED IN THE OFFICE OF:



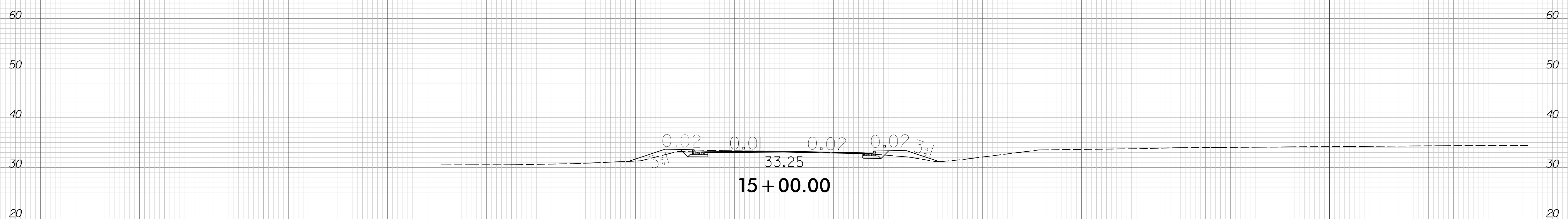
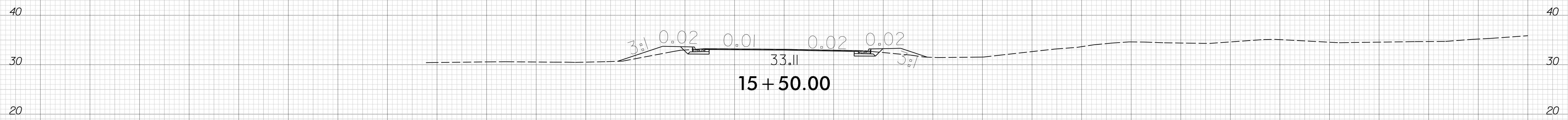
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



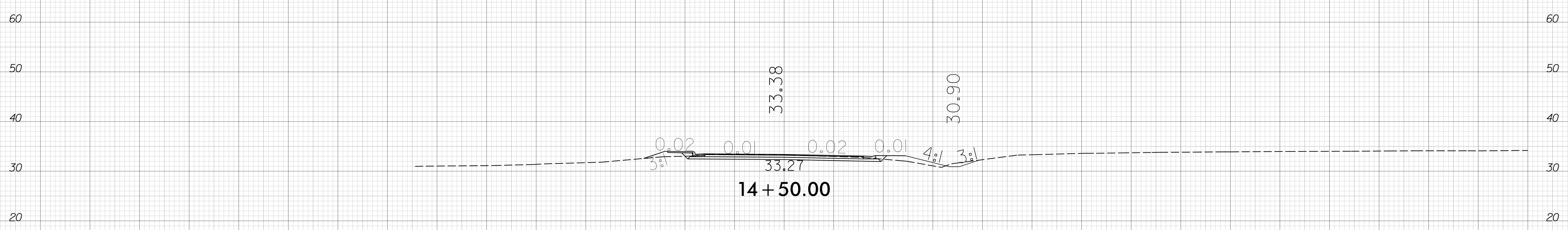
PROJ. REFERENCE NO.
80079

SHEET NO.
X-4

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END CONSTRUCTION
 BEGIN MILLING & RESURFACING
 BEGIN WIDENING
 STA. 14+85.00



-Y-

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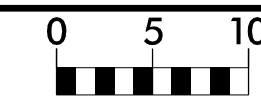
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duke

6/23/16

PREPARED IN THE OFFICE OF:



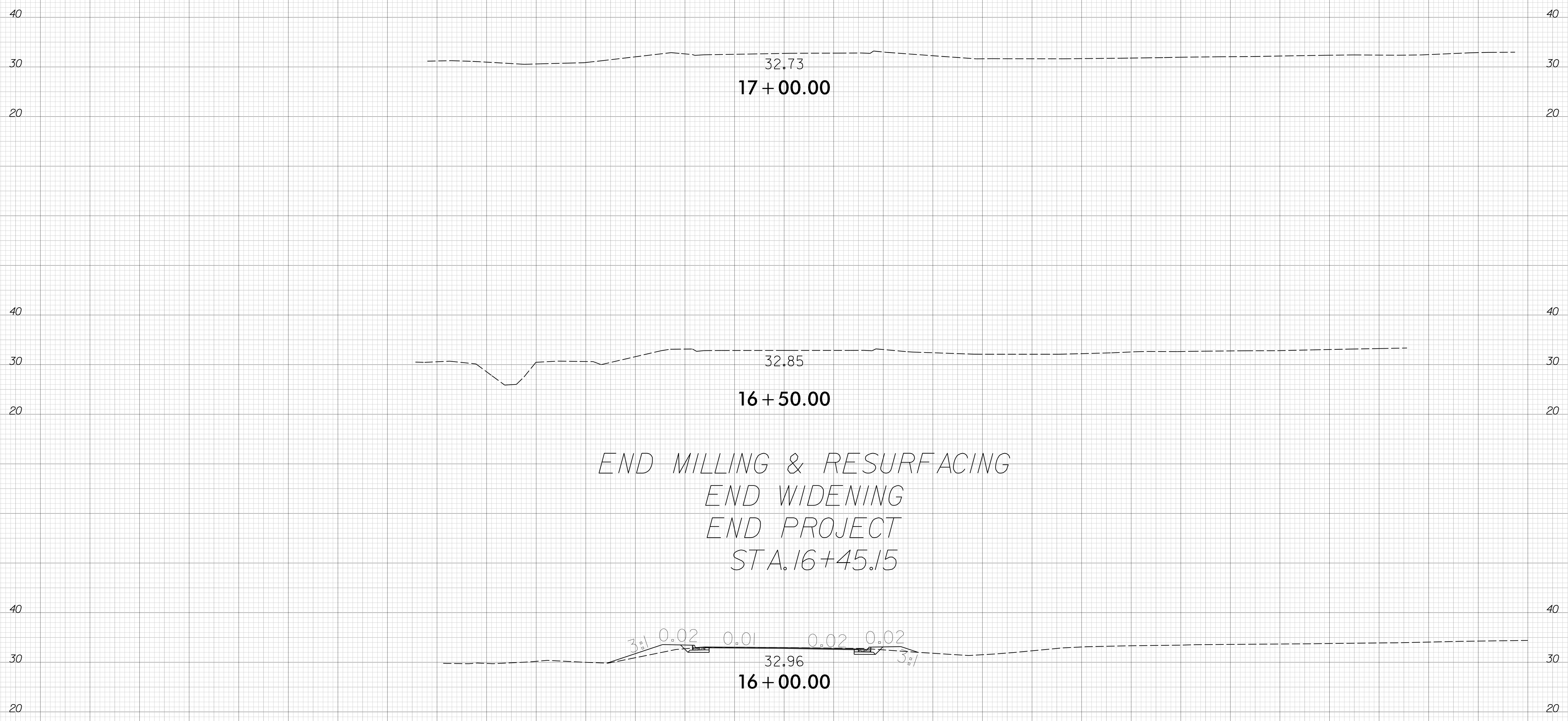
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-5

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



END MILLING & RESURFACING
END WIDENING
END PROJECT
STA. 16+45.15

-Y-

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80079_Rdy_xpl.y-Sheets.dgn
duke

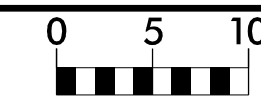
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6/23/16

PREPARED IN THE OFFICE OF:



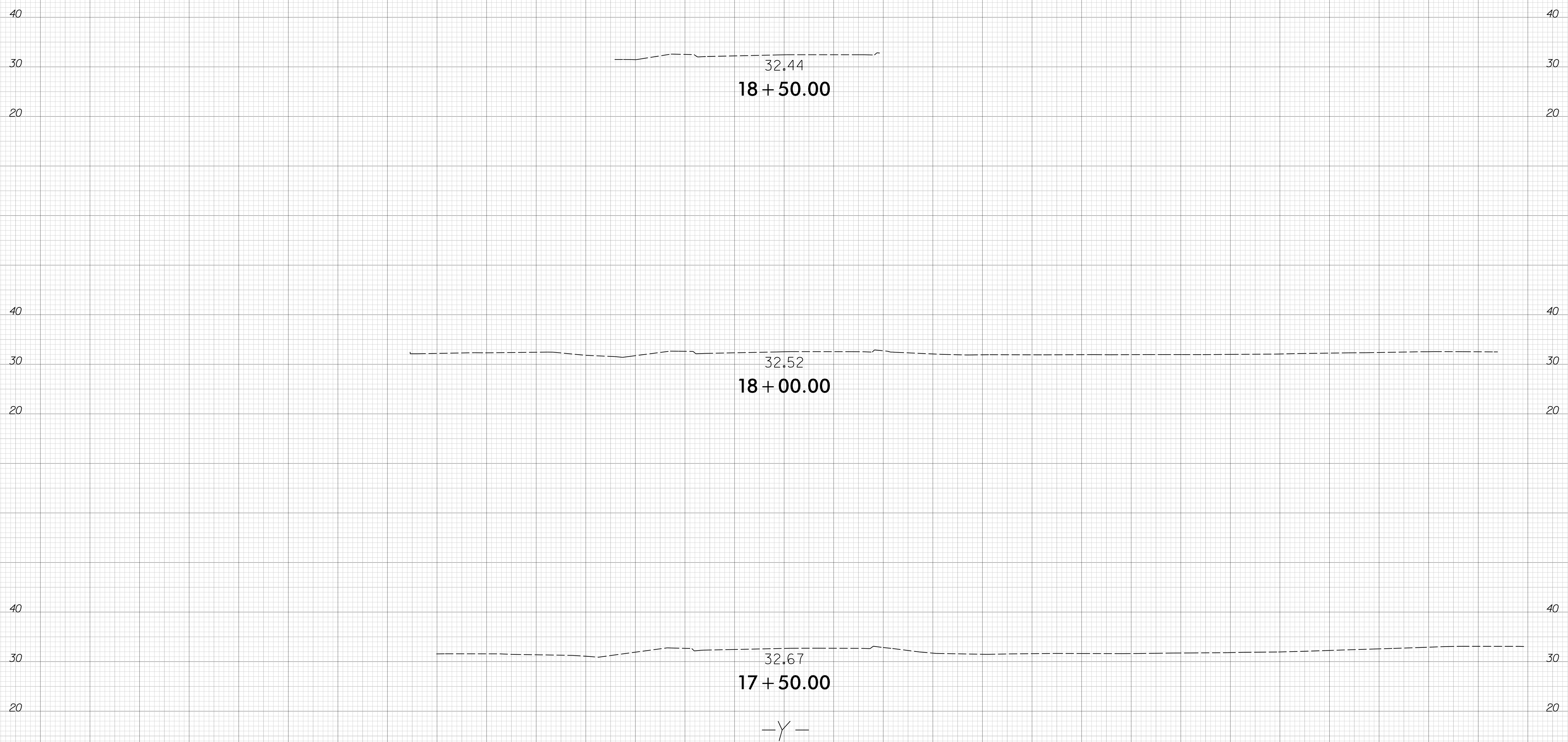
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-6

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jduke

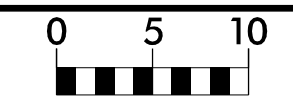
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6/23/16

PREPARED IN THE OFFICE OF:

KCA
KIMBERLY CAMP
& ASSOCIATES

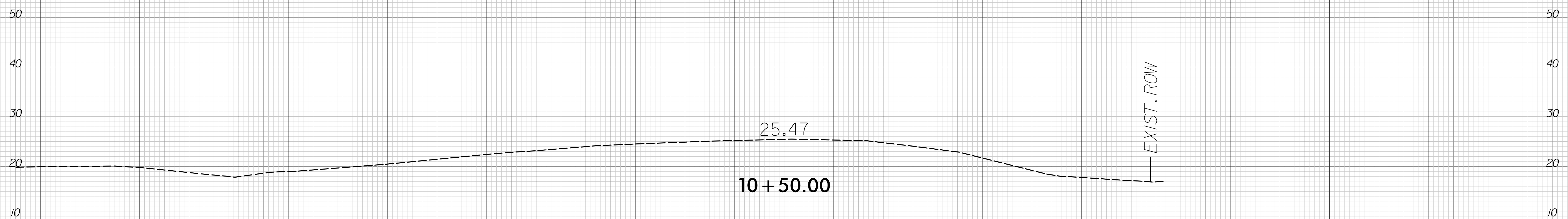
NC FIRM LICENSE NO.: C-1505
201 PARKVIEW DRIVE
RALEIGH, NC 27601
(919)882-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
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



EXIST. ROW

10 + 50.00

10 + 00.00

—EL—

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

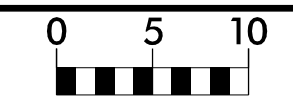
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jduke

6/23/16

PREPARED IN THE OFFICE OF:

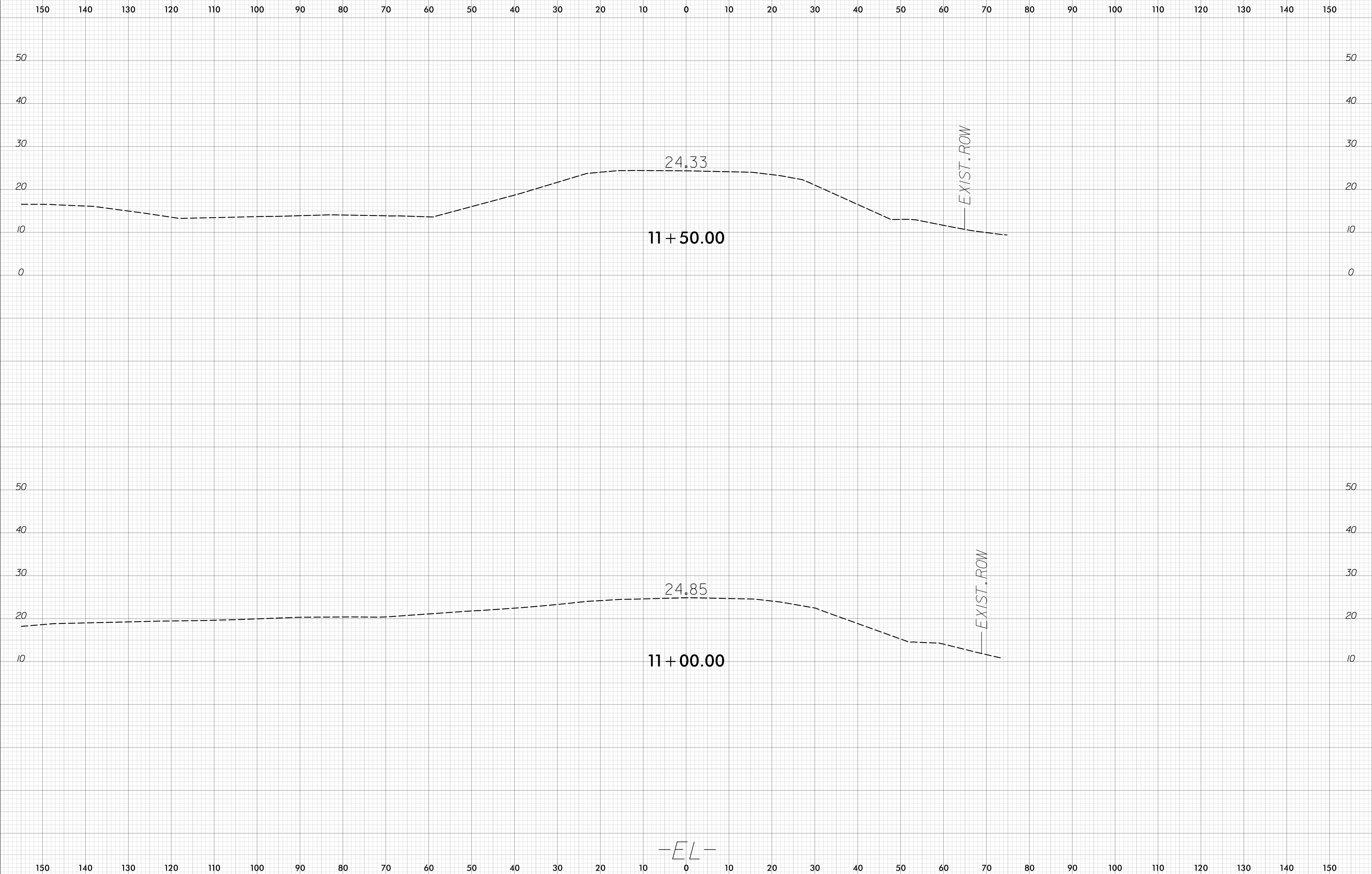


NO. FIRM LICENSE NO. C-1008
201 FAIRVIEW STREET
SUITE 1000
RALEIGH, NC 27601
(919)882-7839



PROJ. REFERENCE NO.
80079

SHEET NO.
X-8



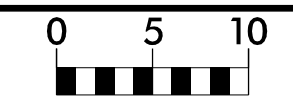
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jduke

6/23/16

PREPARED IN THE OFFICE OF:

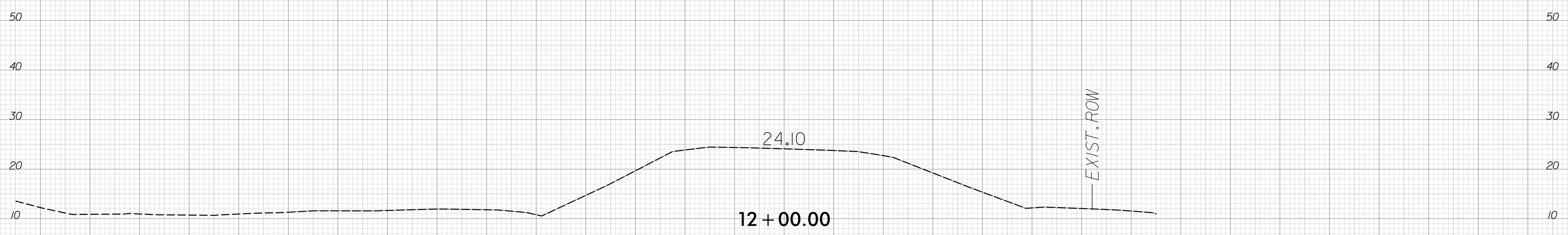
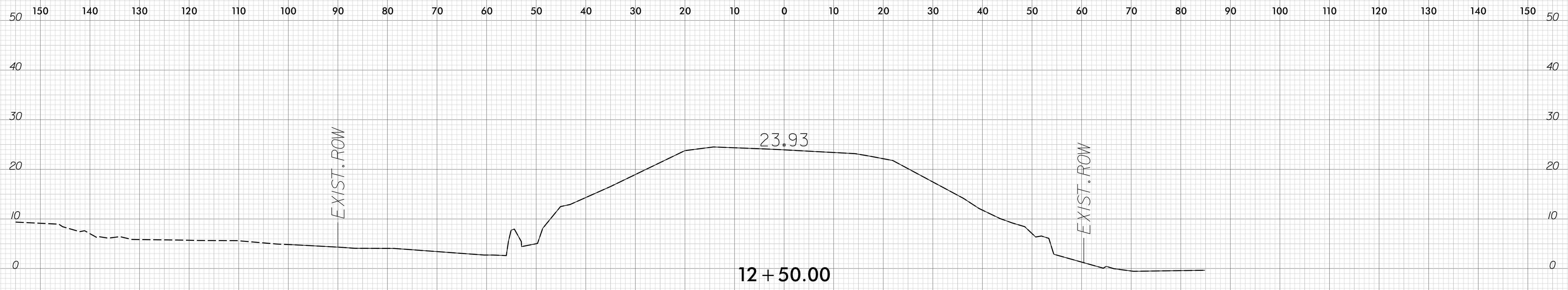


NO. FIRM LICENSE NO. C-1008
201 FAIRVIEW STREET
SUITE 1000
RALEIGH, NC 27601
(919)882-7839



PROJ. REFERENCE NO.
80079

SHEET NO.
X-9



-E L-

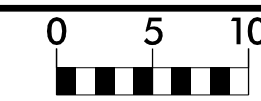
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jduke

6/23/16

PREPARED IN THE OFFICE OF:

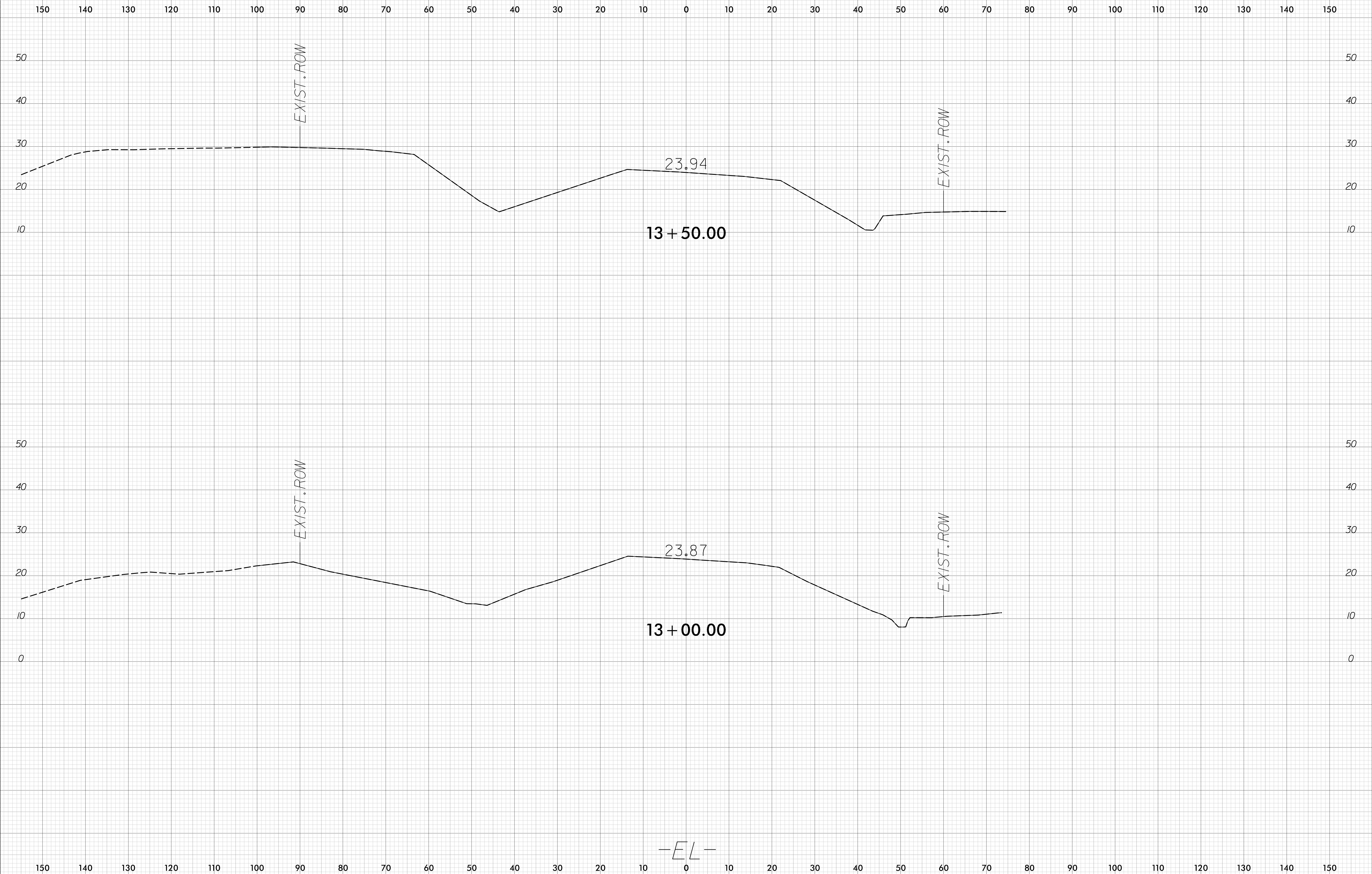


NO. FIRM LICENSE NO. C-1505
201 PAULSTON STREET
BOSTON, MA 02101
(617) 882-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-10



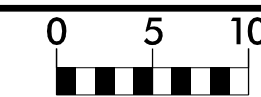
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dwg

6/23/16

PREPARED IN THE OFFICE OF:



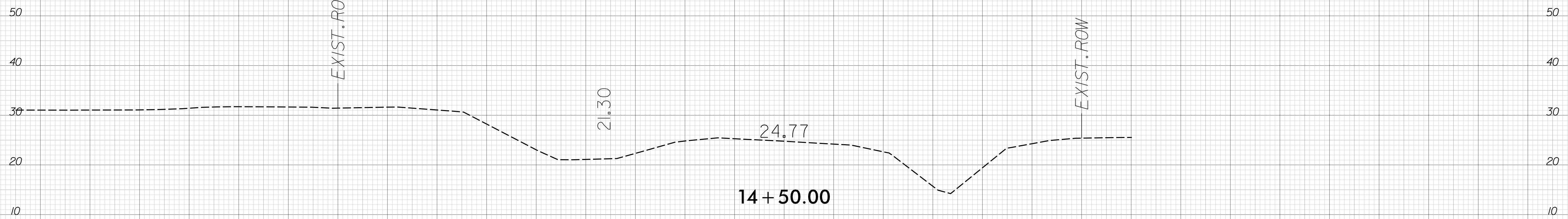
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



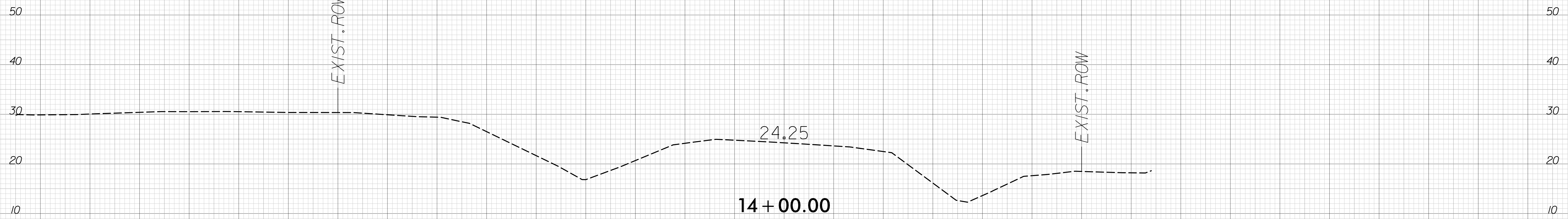
PROJ. REFERENCE NO.
80079

SHEET NO.
X-11

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



BEGIN LATERAL BASE DITCH -EL- STA. 14+50.00



-EL-

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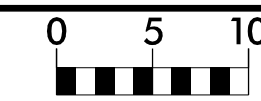
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6/23/16

PREPARED IN THE OFFICE OF:



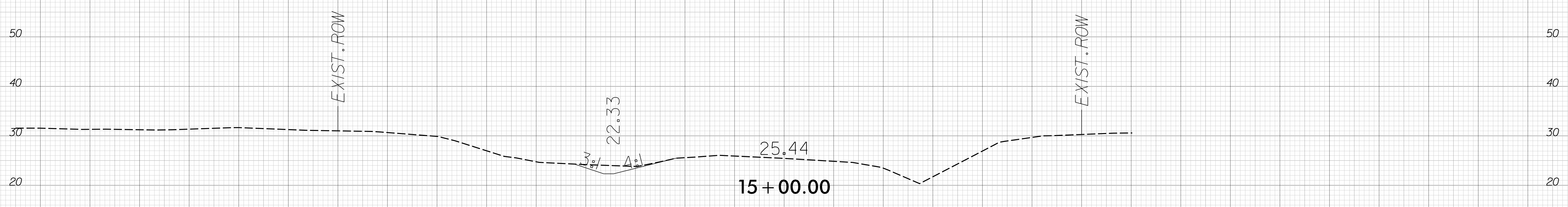
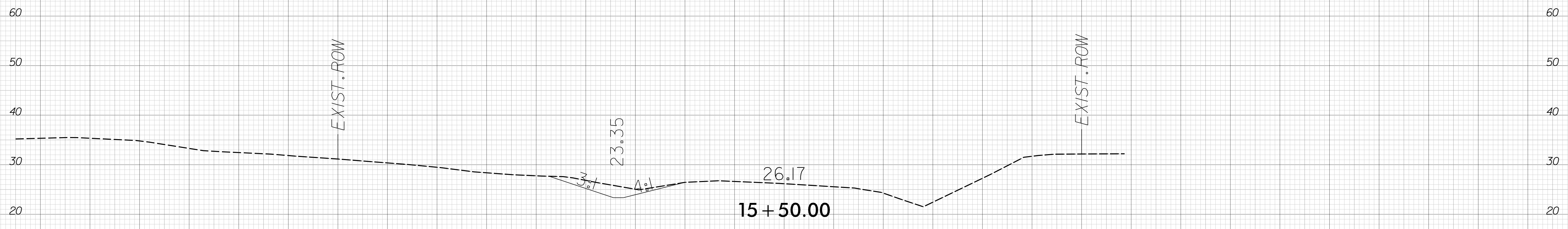
NO. FIRM LICENSE NO. C-1505
201 FAULKNER STREET
SUITE 1000
RALEIGH, NC 27601
(919)882-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-12

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



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jduke

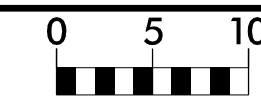
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6/23/16

PREPARED IN THE OFFICE OF:



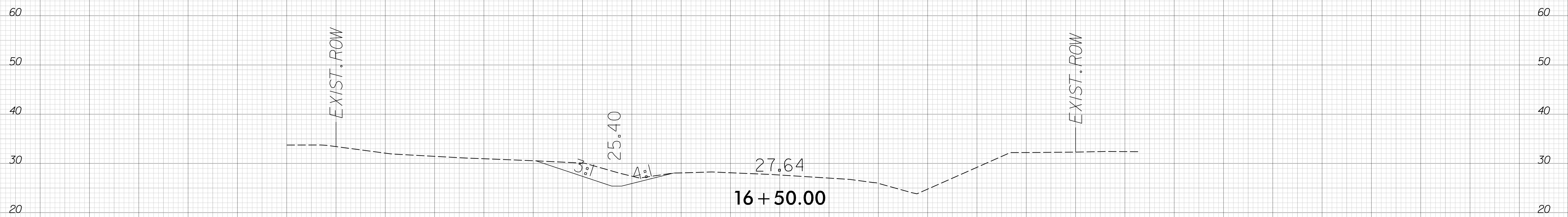
NO. FIRM LICENSE NO. C-1505
201 PARKVIEW DRIVE
SUITE 1000
RALEIGH, NC 27601
(919)882-7830



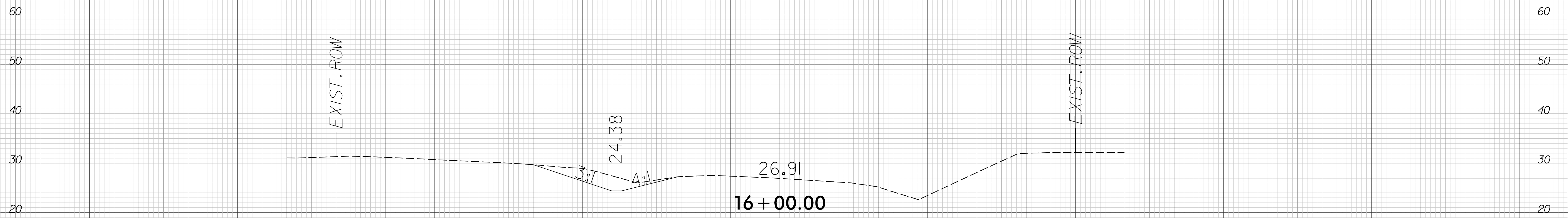
PROJ. REFERENCE NO.
80079

SHEET NO.
X-13

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



END LATERAL BASE DITCH -EL- STA. 16+50.00



-EL-

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

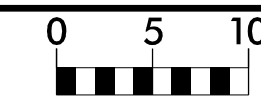
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jduke

6/23/16

PREPARED IN THE OFFICE OF:



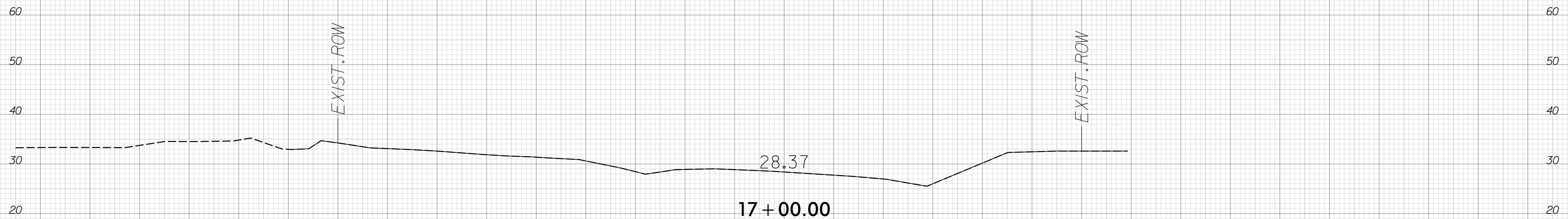
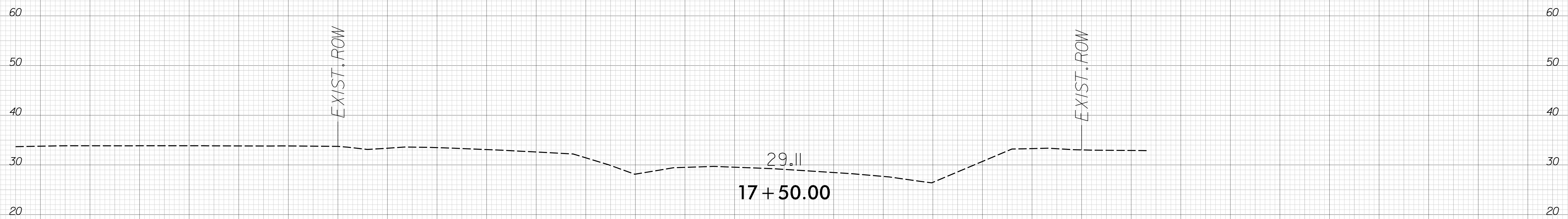
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-14

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



-EL-

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jduke

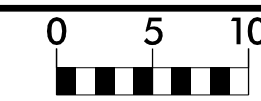
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6/23/16

PREPARED IN THE OFFICE OF:



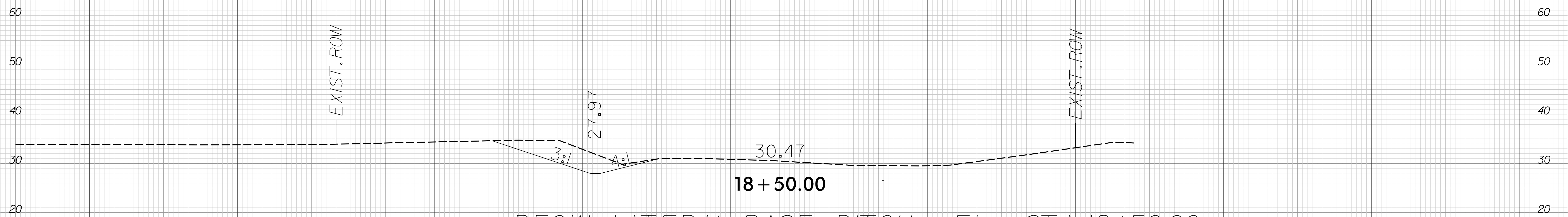
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



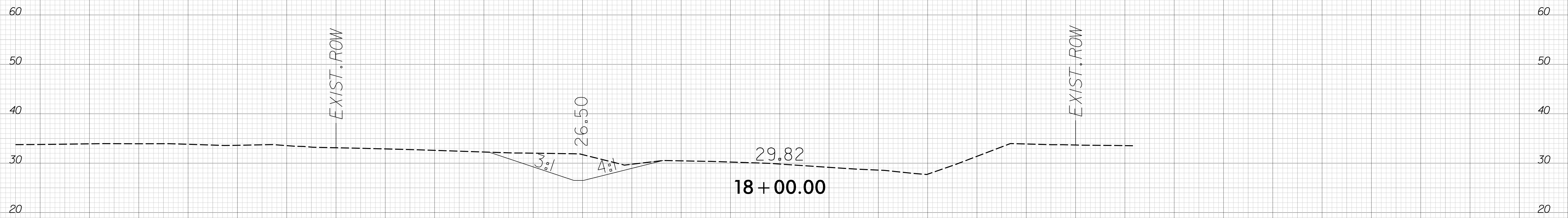
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80079

SHEET NO.
X-15

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BEGIN LATERAL BASE DITCH -EL- STA. 18+50.00



-EL-

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

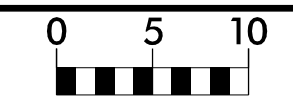
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jduke

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PREPARED IN THE OFFICE OF:



NO. FIRM LICENSE NO. C-1505
201 PARKVIEW BLVD
RALEIGH, NC 27601
(919)882-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-16

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

END LATERAL BASE DITCH -EL- STA. 19+50.00

EXIST. ROW

EXIST. ROW

30.90

4:1

31.89

19 + 50.00

60
50
40
30
20

60
50
40
30
20

EXIST. ROW

EXIST. ROW

29.43

3:1

4:1

31.14

19 + 00.00

60
50
40
30
20

60
50
40
30
20

-EL-

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

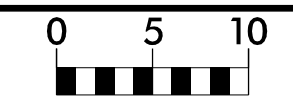
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jduke

6/23/16

PREPARED IN THE OFFICE OF:



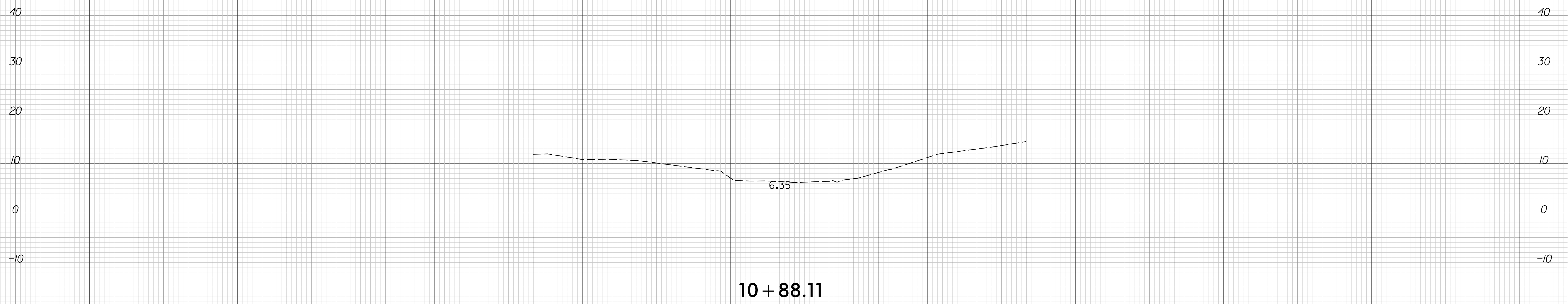
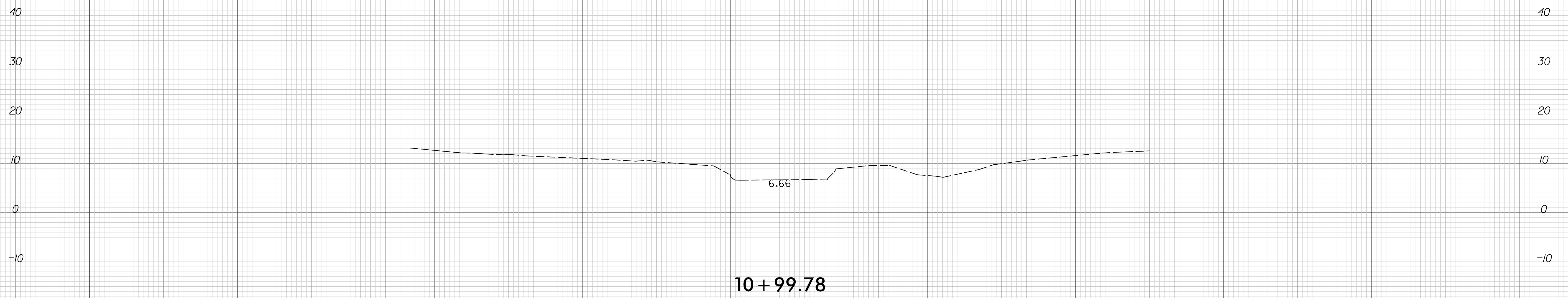
NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-17

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



-CL CHANNEL-

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

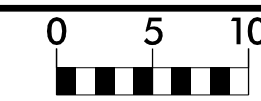
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jduke

6/23/16

PREPARED IN THE OFFICE OF:



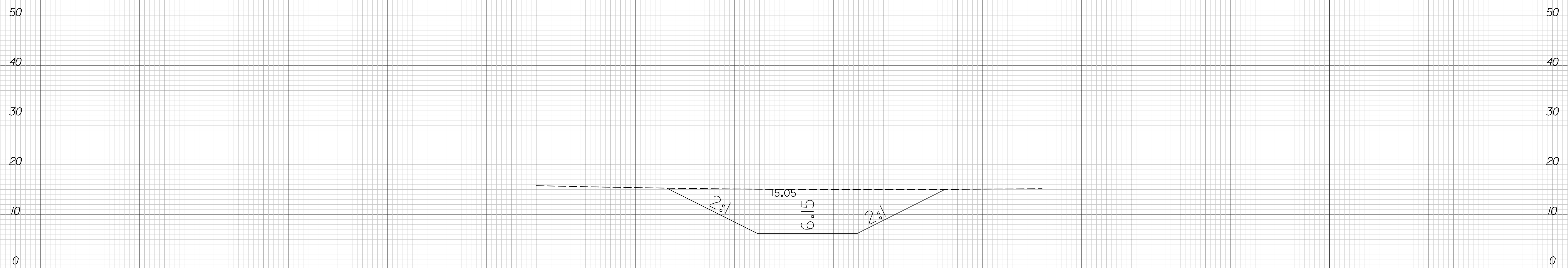
NO. FIRM LICENSE No. C-1505
201 PAULSTONVILLE STREET
RALEIGH, NC 27601
(919)882-7830



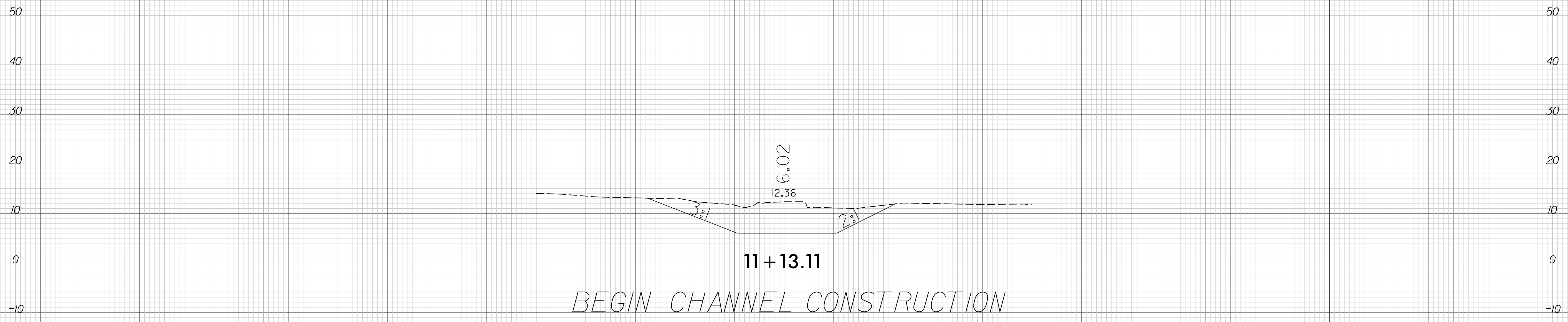
PROJ. REFERENCE NO.
80079

SHEET NO.
X-18

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



11+42.78



11+13.11

BEGIN CHANNEL CONSTRUCTION

*STA. 11+03.00
-CL CHANNEL-*

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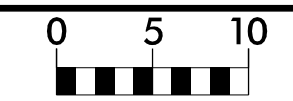
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80079_Rdy_xpl_Cross Section Sheets-Channel.dgn
jduke

6/23/16

PREPARED IN THE OFFICE OF:



NC FIRM LICENSE NO. C-1505
201 PARKVIEW DRIVE
RALEIGH, NC 27601
(919)887-7830



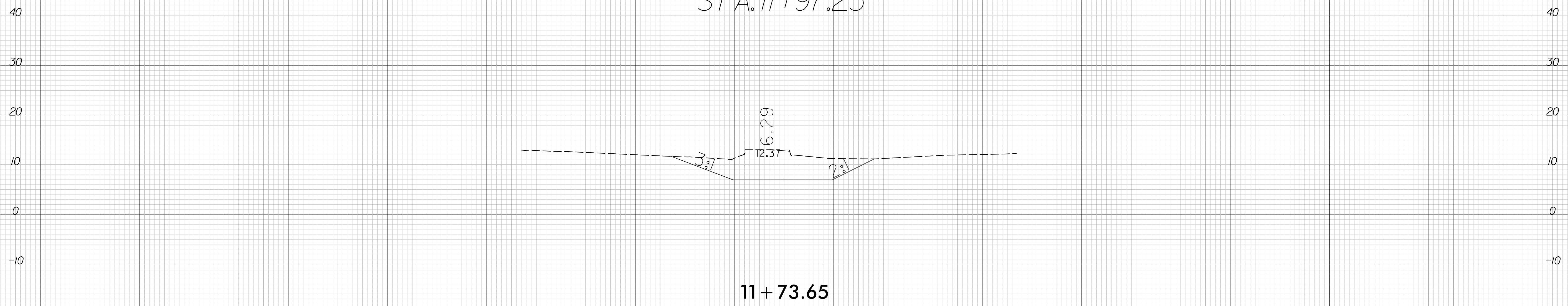
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80079

SHEET NO.
X-19

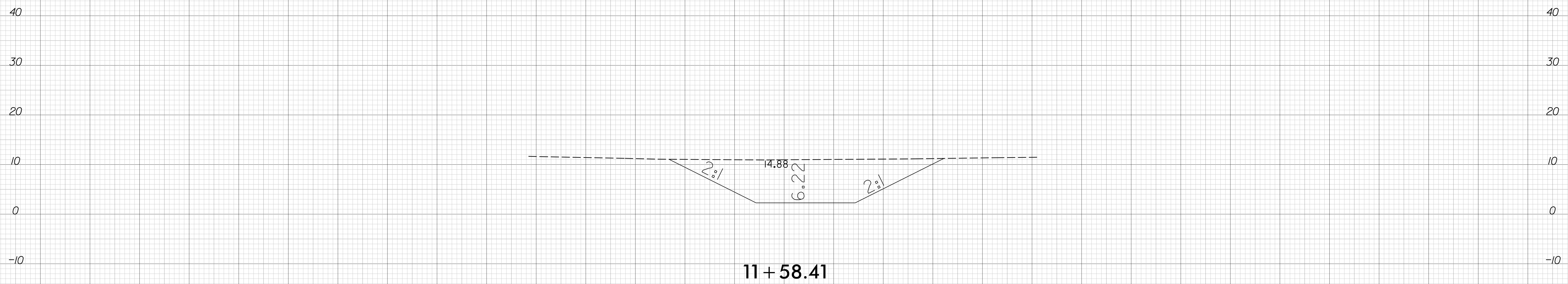
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END CHANNEL CONSTRUCTION

STA. 11+97.23



11+73.65



11+58.41

-CL CHANNEL-

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

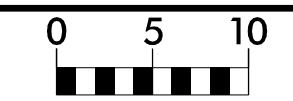
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80079_Rdy_xpl_Cross Section Sheets-Channel.dgn
jduke

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PREPARED IN THE OFFICE OF:



NC FIRM LICENSE NO. C-1005
201 FAYETTEVILLE STREET
RALEIGH, NC 27601
(919)887-7830



PROJ. REFERENCE NO.
80079

SHEET NO.
X-20

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



11 + 85.79

-CL CHANNEL-

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

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80079_Rdy_xpl_Cross Section Sheets-Channel.dgn
jduke