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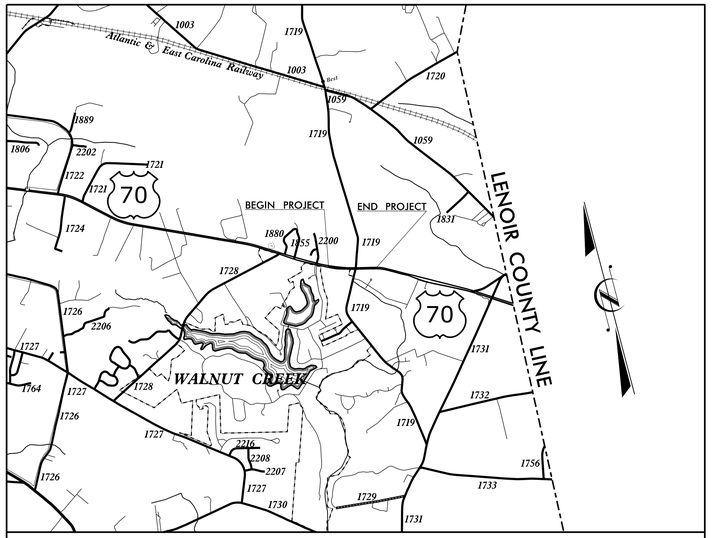
09/08/99

TIP PROJECT: U-5958

CONTRACT: DD00266

See Sheet 1A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAYNE COUNTY

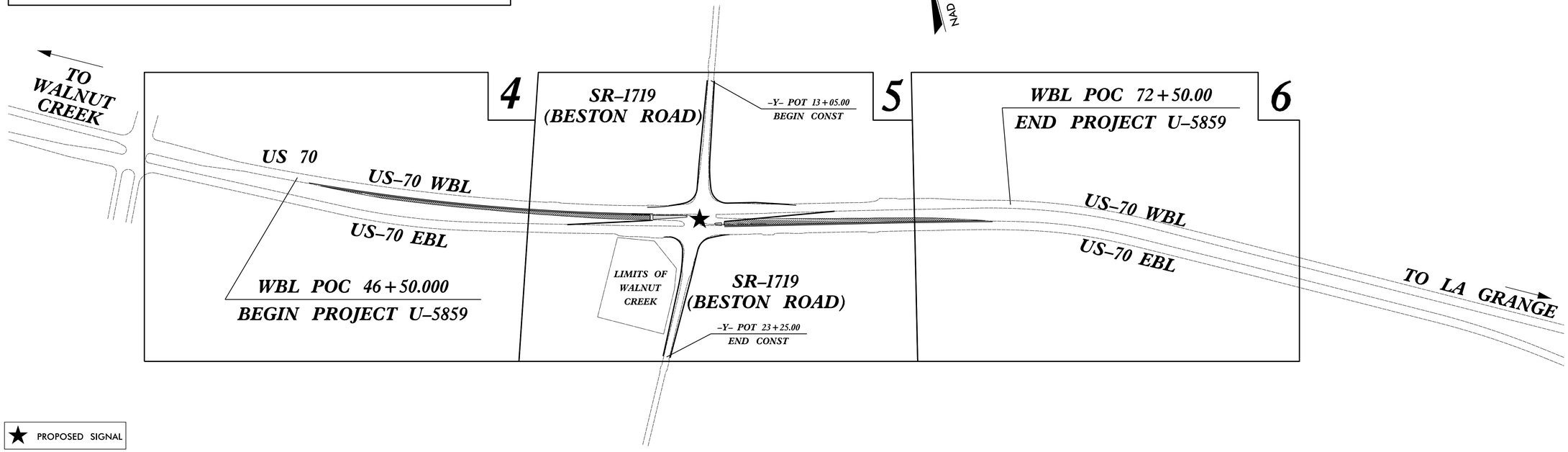
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5958	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
45871.1.1	NHP-0070(206)	PE
45871.2.1	NHP-0070(206)	R/W & UTIL
45871.3.1	NHP-0070(206)	CONST.

LOCATION: INTERSECTION OF US-70 AND SR-1719 (BESTON ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND SIGNAL.

NAD 83/2001



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GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2017 = 12,500
ADT 2040 = 16,800
K = 9 %
D = 55 %
T = 6 % *
V = 60 MPH
* TTST = 3 DUAL 3
FUNC CLASS = PRINCIPAL ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5958 = 0.492

TOTAL LENGTH TIP PROJECT U-5958 = 0.492

Prepared in the Office of:
DIVISION OF HIGHWAYS
Division 4 DDC
509 Ward Blvd., Wilson NC, 27895

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 24, 2018

LETTING DATE:
SEPTEMBER 25, 2018

RONNIE KEETER, PE
PROJECT ENGINEER

D.R. ETHRIDGE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
7/5/2018
DocuSigned by: 56F5070904114D5...
SIGNATURE: P.E.
NORTH CAROLINA PROFESSIONAL SEAL 022000 ENGINEER WILLIAM G. CHIL

ROADWAY DESIGN ENGINEER
7/2/2018
DocuSigned by: Norwood A. Gainey III ECD89850A45044B...
SIGNATURE: P.E.
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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PROJ. REFERENCE NO.	SHEET NO.
U-5958	1-A

ROADWAY DESIGN ENGINEER
7/5/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III
DocuSigned by: Norwood A. Gainey, III

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-2	SURVEY CONTROL SHEET
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARIES - DRAINAGE, EARTHWORK, PARCEL INDEX, PAVEMENT REMOVAL AND MILLING.
4 THRU 6	PLAN SHEET
7	PROFILE SHEET
TMP-1 THRU TMP-7	TRANSPORTATION MANAGEMENT PLANS
PM-1 THRU PM-4	PAVEMENT MARKING PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
SIG-1 THRU SIG-2.4	SIGNAL PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-16	CROSS-SECTIONS

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
225.01	GUIDE FOR GRADING SUBGRADE - INTERSTATE AND FREEWAY
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	
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
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
840.20	FRAMES AND WIDE SLOT FLAT GRATES
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
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
840.66	DRAINAGE STRUCTURE STEPS
840.71	CONCRETE AND BRICK PIPE PLUG
840.72	PIPE COLLAR
852.01	CONCRETE ISLANDS
852.06	METHOD FOR PLACEMENT OF DROP INLETS IN CONCRETE ISLANDS
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS

GENERAL NOTES: 2018 SPECIFICATIONS

GRADE LINE:
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.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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:
DUKE ENERGY PROGRESS, EASTERN WAYNE SANITARY DISTRICT AND SUDDENLINK.

12/2/2016

PROJECT REFERENCE NO.	SHEET NO.
U-5958	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

**S.U.E. = Subsurface Utility Engineering*

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
- 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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — 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 Easment 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 — RW
- New Right of Way Line with Pin and Cap — RW
- New Right of Way Line with Concrete or Granite R/W Marker — RW
- New Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- New Control of Access — CA
- 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
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- 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 — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- 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

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- 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
- 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 — W
- 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 — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- 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.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- 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

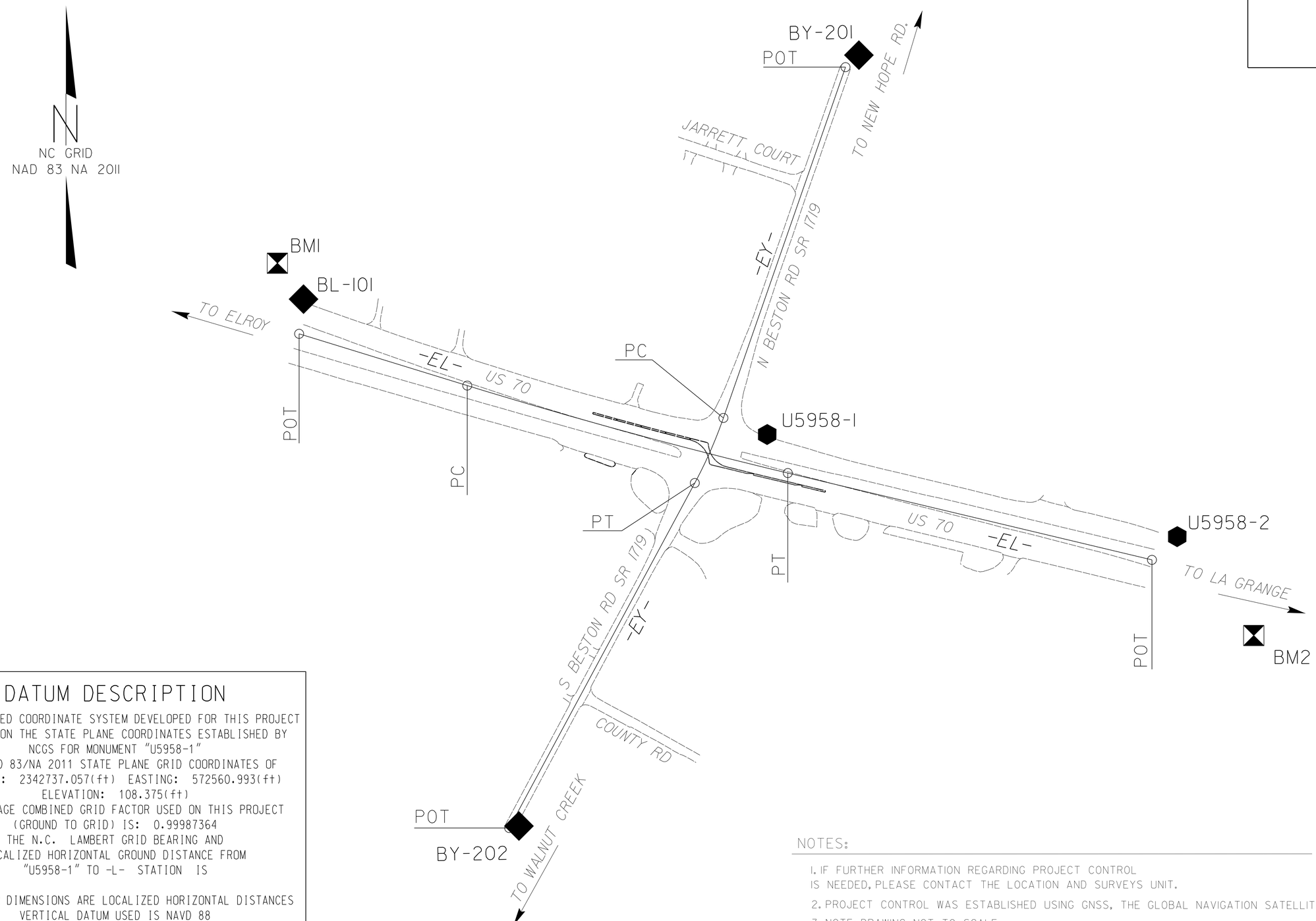
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- 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.

PROJECT REFERENCE NO.	SHEET NO.
U-5958	1C-1
Location and Surveys	
PROJECT SURVEYOR	

SURVEY CONTROL SHEET U-5958

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "U5958-1"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 2342737.057(ft) EASTING: 572560.993(ft)
ELEVATION: 108.375(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987364
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U5958-1" TO -L- STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
U-5958	1C-2
Location and Surveys	

SURVEY CONTROL SHEET U-5938

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BASELINE DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION
101	BL101	572829.4272	2341817.1876	109.95
1	U5958-1	572560.9930	2342737.0570	108.38
2	U5958-2	572358.3890	2343550.3790	107.60

BY

POINT	DESC.	NORTH	EAST	ELEVATION
201	BY201	573313.5762	2342918.8055	109.37
1	U5958-1	572560.9930	2342737.0570	108.38
202	BY202	571784.0921	2342244.4450	102.08

BENCHMARK DATA

```
*****************************************
BM1       ELEVATION = 112.23
N 572901      E 2341766
SET BENCH TIE NAIL 16  OAK
*****************************************
*****************************************
BM2       ELEVATION = 105.50
N 572162      E 2343702
SET BENCHTIE NAIL IN 18  PINE
*****************************************
```

ALIGNMENT DATA

EL

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	571780.218	2342225.268							
LINE			N 28°16′31.2" E	777.25					
PC	572464.724	2342593.457							
CURVE			N 23°43′55.5" E	141.00	09°05′11.4"(LT)	06°26′15.8"	141.14	70.72	890.00
PT	572593.798	2342650.202							
LINE			N 19°11′19.8" E	736.91					
POT	573289.761	2342892.410							

EY

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	572760.717	2341808.605							
LINE			S 72°52′58.3" E	348.95					
PC	572658.012	2342142.099							
CURVE			S 74°44′03.3" E	659.07	03°42′10.1"(LT)	00°33′42.2"	659.19	329.71	10200.00
PT	572484.480	2342777.917							
LINE			S 76°35′08.4" E	742.57					
POT	572312.211	2343500.224							

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. NOTE: DRAWING NOT TO SCALE

REVISIONS

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PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD.	E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	T	EARTH MATERIAL.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD. 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. YARD PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ OR GREATER THAN 5.5″ IN DEPTH.	U	EXISTING PAVEMENT.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YARD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2″ DEPTH.	E3	PROP. APPROX. 5.5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YARD.	V1	MILLING BITUMINOUS PAVEMENT. 0′ TO 1.5″ DEPTH.
D1	PROP. APPROX. 2.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YARD.	R1	5″ MONOLITHIC CONCRETE ISLAND (KEYED IN)	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5″ OR GREATER THAN 4″ IN DEPTH.	R2	EXISTING CONCRETE ISLAND TO BE REMOVED	NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	

PROJECT REFERENCE NO.	SHEET NO.
U-5958	2A-1

ROADWAY DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III
DocuSigned by: Norwood A. Gainey, III
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PAVEMENT DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III
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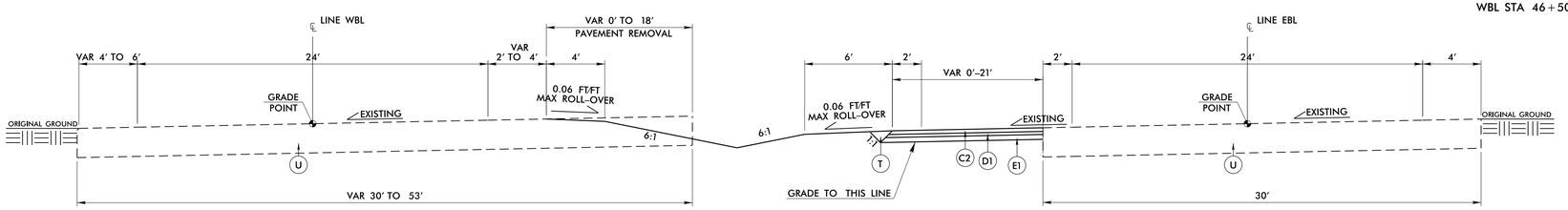
USE TYPICAL SECTION NO. 1

WBL STA 46+50 TO WBL STA 59+50



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 2

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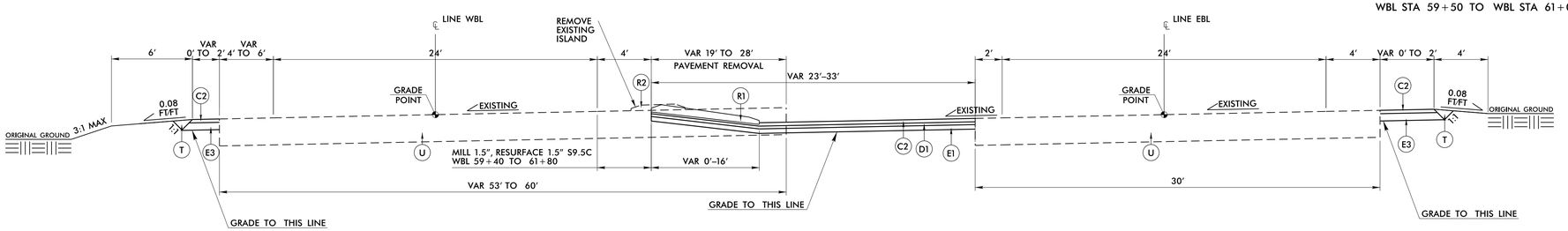
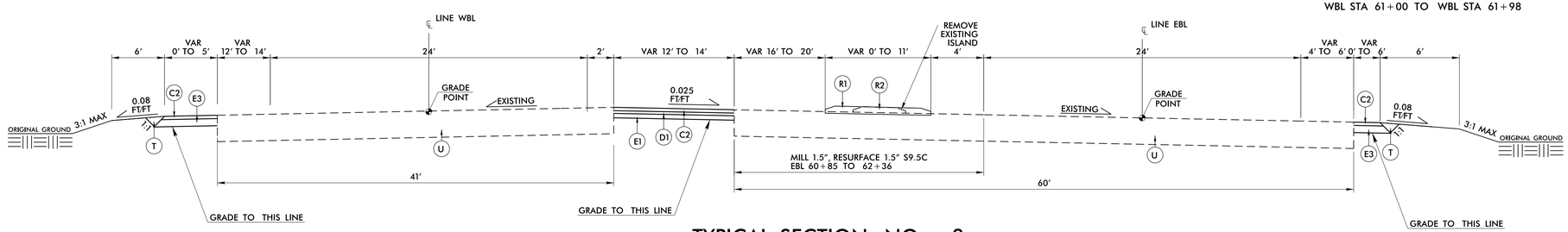


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 3

WBL STA 61+00 TO WBL STA 61+98



TYPICAL SECTION NO. 3

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PROJECT REFERENCE NO.	SHEET NO.
U-5958	2A-2

ROADWAY DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY, III
DocuSigned by: Norwood A. Gainey, III
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PAVEMENT DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY, III
DocuSigned by: Norwood A. Gainey, III
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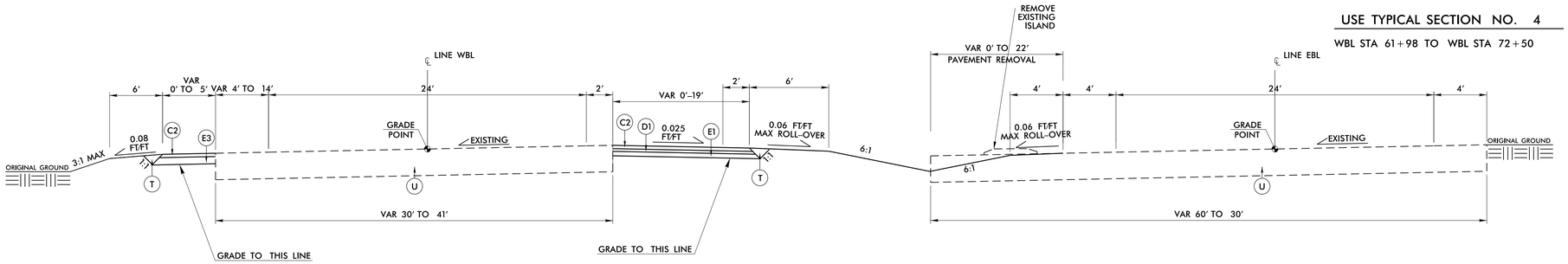
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

USE TYPICAL SECTION NO. 4

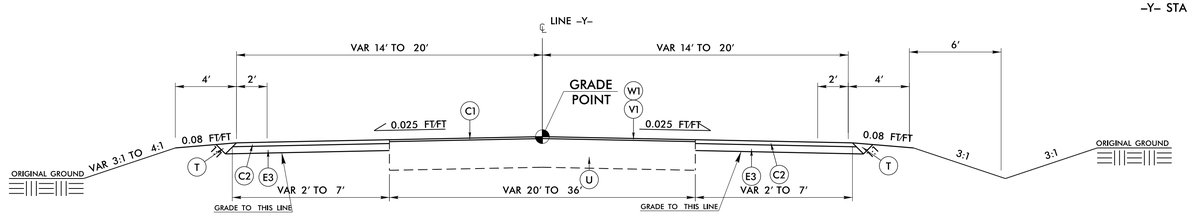
WBL STA 61+98 TO WBL STA 72+50



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 5

-Y- STA 13+05 TO -Y- STA 17+53
-Y- STA 18+74 TO -Y- STA 23+25



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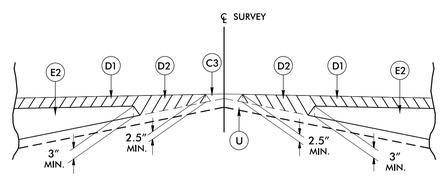

Detail Showing Method of Wedging

PAVEMENT SCHEDULE

C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR S9.5C
D1	2.5" I19.0C
D2	VAR I19.0C
E1	4" B25.0C
E2	VAR B25.0C
E3	5.5" B25.0C
R1	CONC ISLAND
R2	EXIST ISL.(REM.)
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	0'-1.5" MILLING
W1	WEDGING

6/2/99
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COMPUTED BY:	DRE	DATE:	7/5/2018
CHECKED BY:		DATE:	

PROJECT NO.	SHEET NO.
U-5958	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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)

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
-EBL- 58+56.27	LT	0520			104.43														
		0520	0504		104.43	104.40													
-WBL- 58+33.00	RT	0504		109.16	104.40														
		0504	0501		105.60	106.23													
-WBL- 60+23.72	RT	0501		109.40	106.23														
-EBL- 63+78.61	LT	0506		106.83	104.08														
		0506	0507		104.08	101.51													
-EBL- 65+78.61	LT	0507		104.26	101.51														
		0507	0508		101.51	100.82													
-EBL- 67+28.61	LT	0508		103.57	100.82														
		0508	0509		100.82	100.55													
-EBL- 68+80.49	LT	0509		103.79	100.55														
		0509	0510		100.55														
-WBL- 68+52.02	RT	0510																	
		0509	0518		100.55	100.55													
-EBL- 68+88.46	LT	0518		103.92	100.55														
		0518	0511		100.55	100.40													
-EBL- 68+82.09	RT	0511			100.40														
-EBL- 68+82.87	RT	0519									20'								
-Y- 15+75.40	RT	0512								40'									
-Y- 16+52.93	LT	0513							40'										
-Y- 19+82.63	RT	0515								52'									
-Y- 19+94.56	LT	0517							36'										
-Y- 22+64.32	RT	0516							36'										
TOTAL									112'	92'	20'								
SAY																			

STATION / SIZE / THICKNESS OR GAUGE	C.S. PIPE 12"	15"	18"	24"	30"	36"	42"	48"	0.064	0.064	0.064	0.064	0.079	0.079	0.109	0.109
-EBL- 58+56.27																
-WBL- 58+33.00																
-WBL- 60+23.72																
-EBL- 63+78.61																
-EBL- 65+78.61																
-EBL- 67+28.61																
-EBL- 68+80.49																
-WBL- 68+52.02																
-EBL- 68+88.46																
-EBL- 68+82.09																
-EBL- 68+82.87																
-Y- 15+75.40																
-Y- 16+52.93																
-Y- 19+82.63																
-Y- 19+94.56																
-Y- 22+64.32																
TOTAL																
SAY																

STATION / SIZE / THICKNESS OR GAUGE	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
-EBL- 58+56.27																
													12'			
-WBL- 58+33.00																
										192'						
-WBL- 60+23.72																
-EBL- 63+78.61																
										200'						
-EBL- 65+78.61																
										152'						
-EBL- 67+28.61																
											152'					
-EBL- 68+80.49																
											8'					
-WBL- 68+52.02																
												8'				
-EBL- 68+88.46																
-EBL- 68+82.09																
-EBL- 68+82.87																
-Y- 15+75.40																
-Y- 16+52.93																
-Y- 19+82.63																
-Y- 19+94.56																
-Y- 22+64.32																
TOTAL										544'	160'	8'	12'			
SAY																

STATION / SIZE / THICKNESS OR GAUGE	24" WSP WALL THICKNESS 0.375" TRENCHLESS INSTALLATION	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	GRATED D.I. TYPE "B" STD. 840.18 OR 840.27	GRATED D.I. TYPE "D" STD. 840.19 OR 840.28	FRAME WITH TWO WIDE SLOT FLAT GRATES STD. 840.20									FLOWABLE FILL (CY)	SIDE DRAIN PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
-EBL- 58+56.27																														0.656	83'	REMOVE DI'S
-WBL- 58+33.00				1										1		1															94'	
-WBL- 60+23.72				1							1	1	1																			
-EBL- 63+78.61				1										1		1															252'	REMOVE DI'S
																																REMOVE DI
-EBL- 65+78.61				1										1		1															211'	
																																REMOVE DI
-EBL- 67+28.61				1										1	1																194'	
-EBL- 68+80.49				1										1	1											3						
-WBL- 68+52.02																														0.4465		REMOVE DI
-EBL- 68+88.46																														0.5526		
	52'																															
-EBL- 68+82.09																														0.5526		REMOVE HW
-EBL- 68+82.87																																
-Y- 15+75.40																															41'	
-Y- 16+52.93																																
-Y- 19+82.63																																
-Y- 19+94.56																															37'	
-Y- 22+64.32																															29'	
TOTAL	52'			6							1	1	1	3	2	5										3				2.2077	941'	
SAY																													1	3		

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

SUMMARY OF EARTHWORK
Volumes in Cubic Yards

STATION TO STATION	Uncl. Excav.	Undercut	Embank +%	Borrow	Waste
WBL 46+50.00 TO 53+00.00	311		147		164
WBL 53+00.00 TO 61+22.14	680		250		430
WBL 61+22.14 TO 70+00.00	201		780	680	101
WBL 70+00.00 TO 72+50.00	15		87	80	8
Y 13+05.00 TO 17+78.76	176		129	41	88
Y 18+05.89 TO 23+25.00	289		132		157
SUBTOTAL	1672		1525	801	948
TOTAL	1672		1525	801	948
WASTE TO REPLACE BORROW				-110	-110
PROJECT TOTAL	1672		1525	691	838
ESTIMATE TO REPLACE TOPSOIL ON BORROW PIT				35	
GRAND TOTAL	1672		1525	726	838
SAY	1700			800	
ESTIMATE UNDERCUT		100			

PARCEL INDEX

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAMES
1	5	THOMAS & TAMMY VAIL
2	5	EMCO PROPERTIES LLC
3	5	LEVON & MARY KENNEDY
4	5	WAYNE COUNTY ALCOHOLIC BEVERAGE
5	5	WILBERT RAY HALL
6	5	WALNUT CREEK CHURCH
7	5	TERRI D. MOODY
8	5	WILBERT RAY HALL
9	5	MARVIN COKER

REMOVAL OF EXISTING ASPHALT PAVEMENT

STATION TO STATION	LOC	SY
WBL 47+38.00 TO 59+40.00	RT	1490
WBL 62+08.00 TO 71+57.00	RT	1600
TOTAL		3090
SAY		3100

MILLING ASPHALT PAVEMENT, 0" TO 1.5"

STATION TO STATION	LOC	SY
WBL 59+40.00 TO 61+80.00	RT	1040
EBL 60+85.00 TO 62+36.00	LT	
Y 13+05.00 TO 17+53.00	CL	1500
Y 18+74.00 TO 23+25.00	CL	1560
TOTAL		4100
SAY		4100

PROJECT REFERENCE NO.	SHEET NO.
U-5958	04
R/W SHEET NO.	04

ROADWAY DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III
DocuSigned by: Norwood A. Gainey III
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HYDRAULICS ENGINEER
7/5/2018
NORTH CAROLINA PROFESSIONAL SEAL 022000 ENGINEER WILLIAM G. CAIN
DocuSigned by: William Gray Cain
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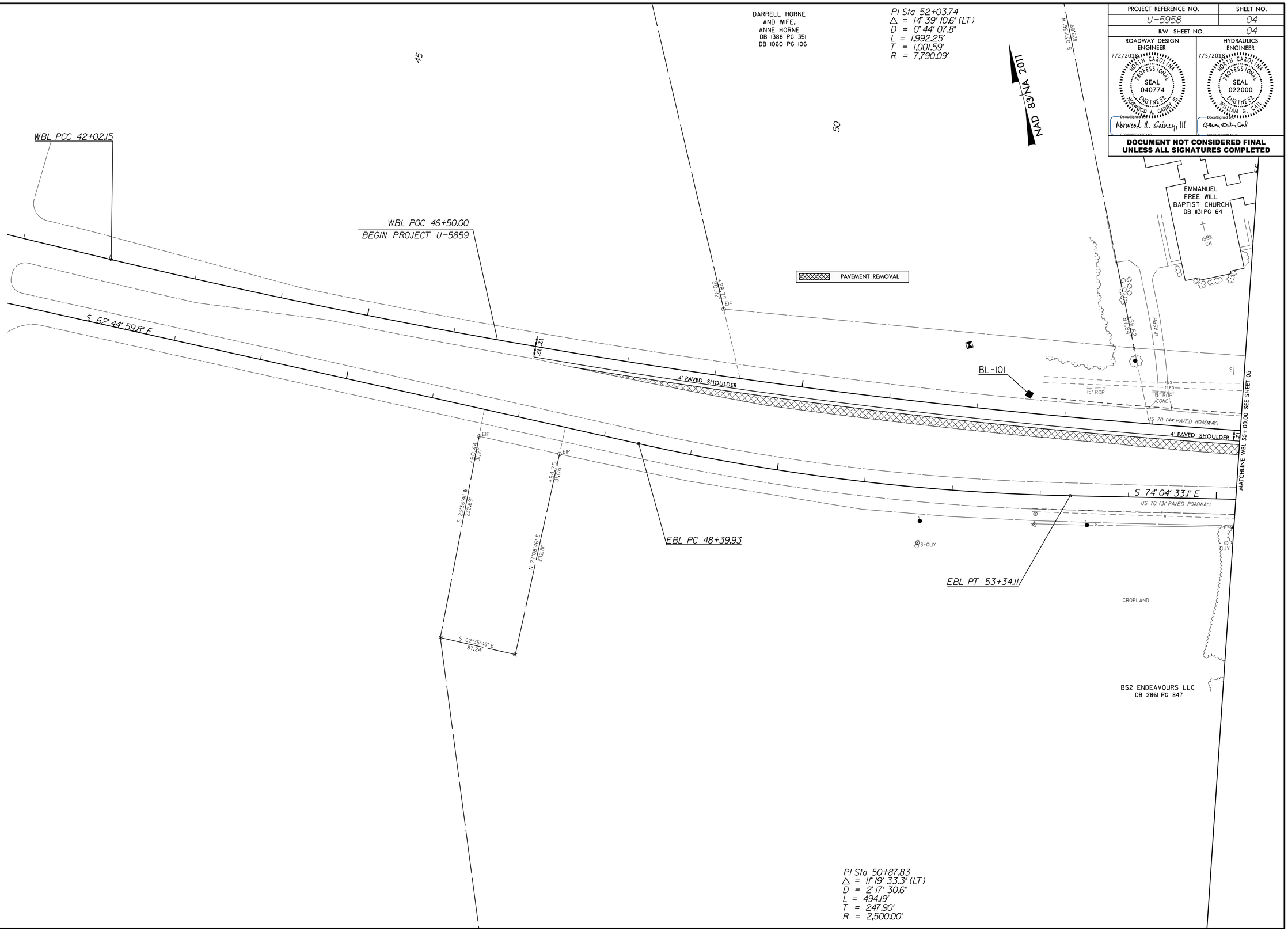
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

8/17/99

02-JUL-2018 10:08
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PROJECT REFERENCE NO.	SHEET NO.
U-5958	05
R/W SHEET NO.	05

ROADWAY DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD GAINEY III
DocuSigned by: Norwood R. Gainey III
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HYDRAULICS ENGINEER
7/5/2018
NORTH CAROLINA PROFESSIONAL SEAL 022000 ENGINEER WILLIAM G. CALL
DocuSigned by: William G. Call
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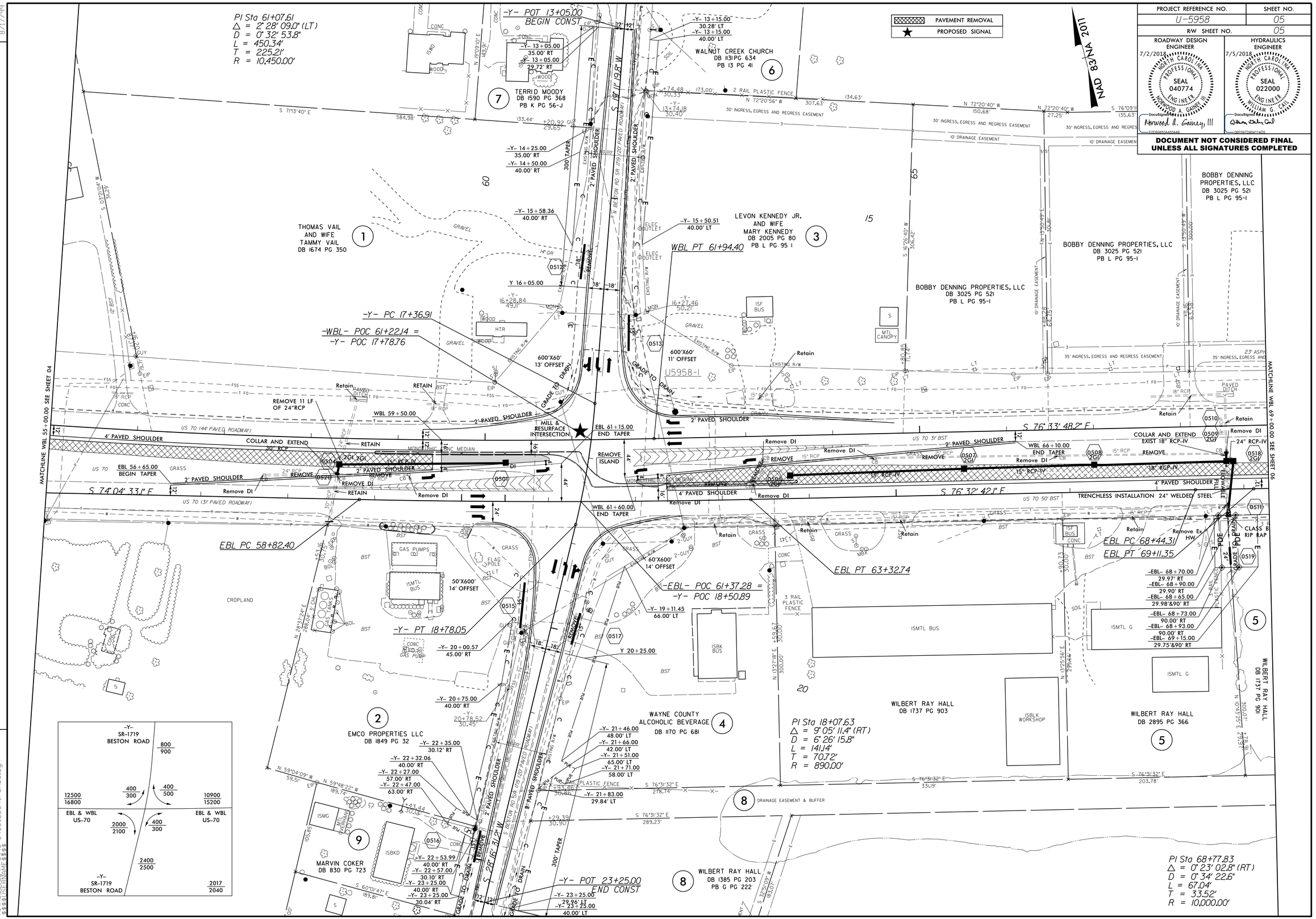
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-5958	06
R/W SHEET NO.	06

ROADWAY DESIGN ENGINEER
7/2/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III
DocuSigned by: Norwood A. Gainey, III
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HYDRAULICS ENGINEER
7/5/2018
NORTH CAROLINA PROFESSIONAL SEAL 022000 ENGINEER WILLIAM G. CAIN
DocuSigned by: William G. Cain
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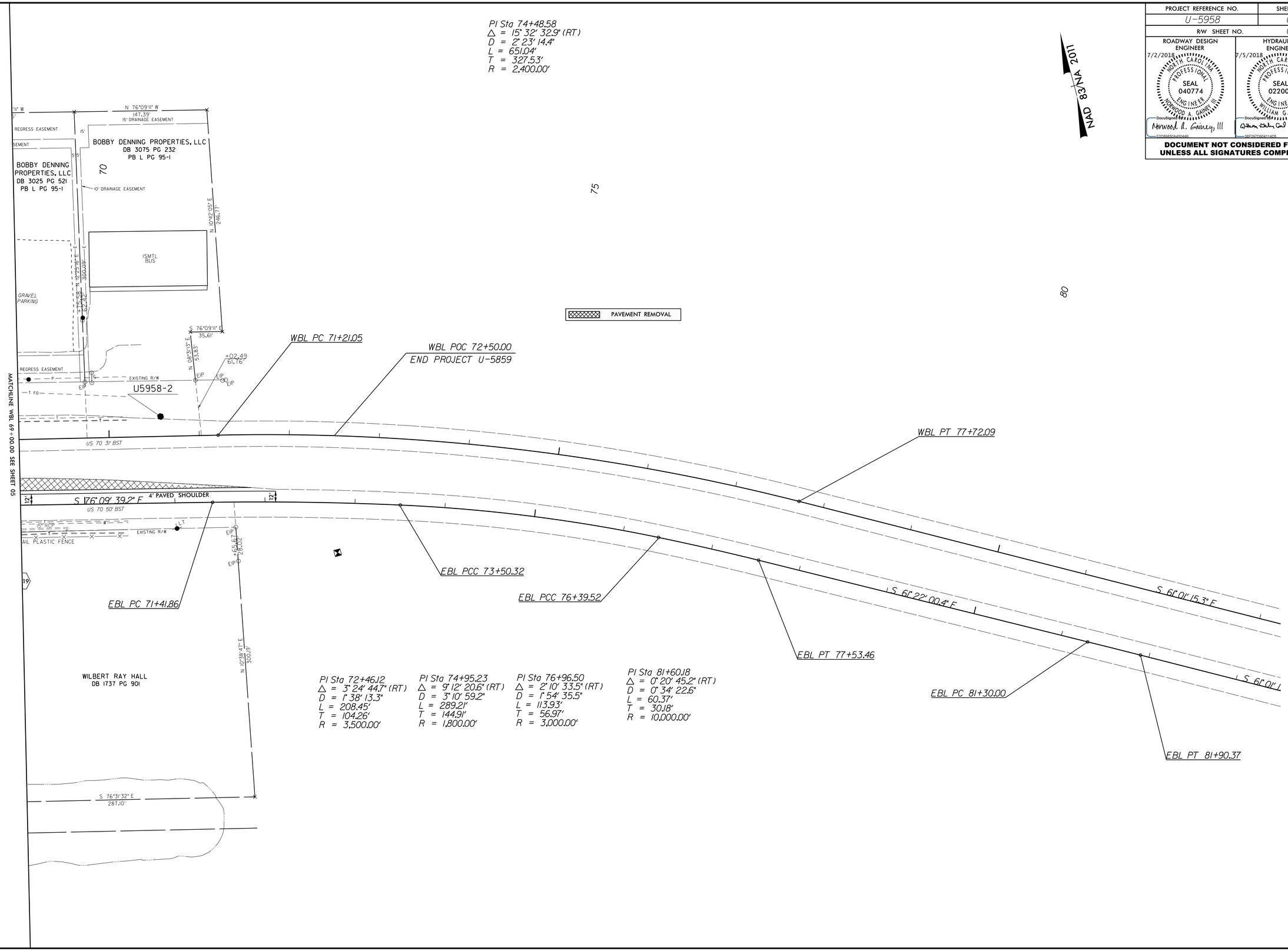
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

PI Sta 74+48.58
△ = 15° 32' 32.9" (RT)
D = 2° 23' 14.4"
L = 651.04'
T = 327.53'
R = 2,400.00'



REVISIONS

8/17/99

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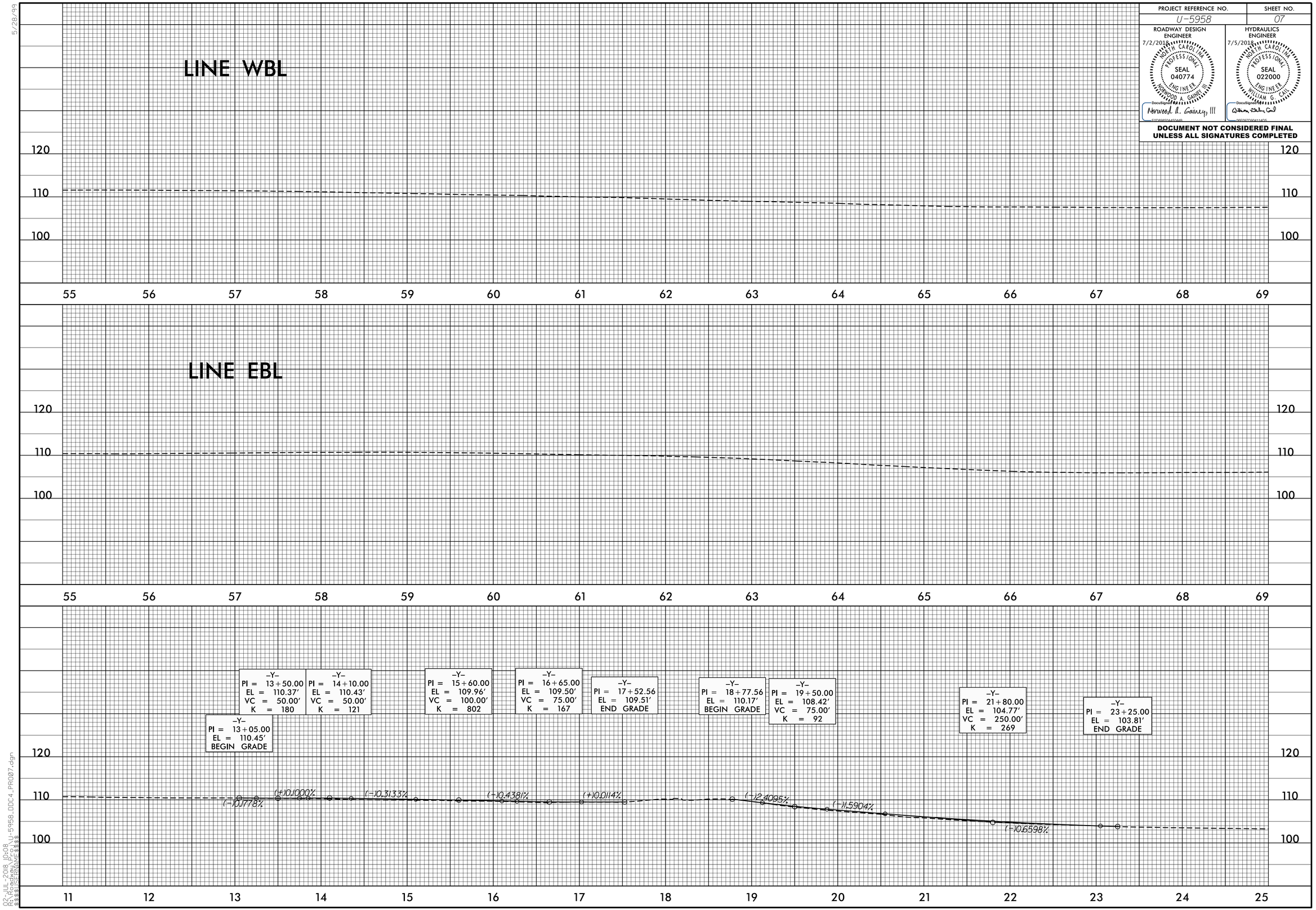
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5958	07

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
7/2/2018	7/5/2018
NORTH CAROLINA PROFESSIONAL SEAL 040774 ENGINEER NORWOOD A. GAINEY III	NORTH CAROLINA PROFESSIONAL SEAL 022000 ENGINEER WILLIAM G. CAIL
DocuSigned by: Norwood A. Gainey III	DocuSigned by: William Bailey Cail

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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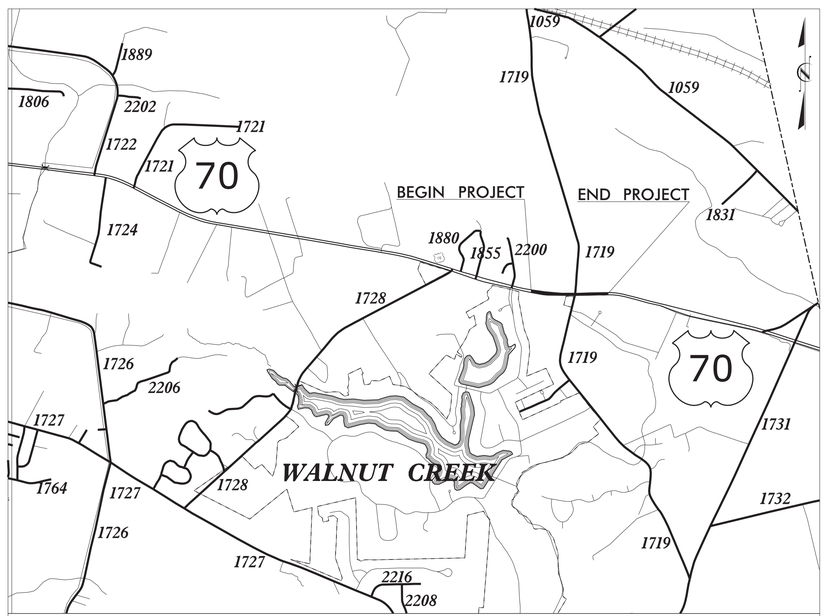
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WAYNE COUNTY



VICINITY MAP

INDEX OF SHEETS

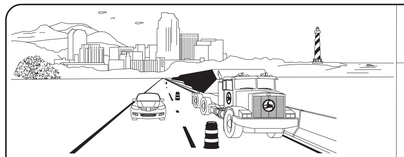
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-2-2A	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES AND LOCAL NOTES)
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-5-7	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

SHEET NO.
TMP-1

U-5958

TIP PROJECT:

940 Main Campus Drive, Suite 500 Raleigh, NC 27606
NC License No. C-3705



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

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

JOSEPH HUMMER, P.E. — STATE TRAFFIC MANAGEMENT ENGINEER
STEVE KITE, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
MATT SPRINGER, P.E. — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
_____ — TRAFFIC CONTROL DESIGN ENGINEER

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

A. MATTHEW THIGPEN, PE
TRAFFIC CONTROL
PROJECT ENGINEER

APPROVED: _____ DATE: 2018.02.06 11:08:34 -05'00'

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

2/5/2018
\\vhb\proj\Raleigh\38753.00 NCDOT Div 4 GESC\NCDOT\TASK00_U5958\Traffic\TrafficControl\TCP\U-5958_TC_TMP01.dgn
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PROJ. REFERENCE NO.	SHEET NO.
U-5958	TMP-1A

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:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER 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	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY-DRUM
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
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

2018.02.06
11:09:28 -05'00'

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

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

ROADWAY STANDARD DRAWINGS & LEGEND

2/5/2018
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PROJ. REFERENCE NO.	SHEET NO.
U-5958	TMP-2

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) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ALL ROADS	MONDAY THRU FRIDAY 6:00 A.M. TO 9:00 A.M. AND 4:00 P.M. TO 6:00 P.M.

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

ROAD NAME
ALL ROADS

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 6:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 3RD. 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 6:00 A.M. THURSDAY AND 6:00 P.M. TUESDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. WEDNESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 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 6:00 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 6:00 A.M. FRIDAY TO 6:00 P.M. WEDNESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY AND 6:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

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.

   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.

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 TRANSPORTATION MANAGEMENT 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.

H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US 70.

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

2018.02.06
11:10:06 -05'00'

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER MATTHEW THIGPEN

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

TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)

2/5/2018
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User:MThigpen

GENERAL NOTES CONTINUED

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) 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.

K) 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

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

SIGNING

M) 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.

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

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

P) 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.

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

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

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

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

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

2018.02.06
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APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

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

TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES)

2/6/2018
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User:mthigpen

PROJ. REFERENCE NO.	SHEET NO.
U-5958	TMP-3

PHASING

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

PHASE I

STEP 1
INSTALL WORK ZONE ADVANCE WARNING SIGNS. SEE RSD 1101.01.

STEP 2
USING RSD 1101.02, SHEETS 1 AND 3 OF 14 WHEN NECESSARY, COMPLETE CONSTRUCTION OF THE FOLLOWING (SEE TMP-4).

*-Y- FROM STA 13+05 +/- TO -WBL- STA 59+28 +/-
*-Y- FROM STA 13+05 +/- TO -WBL- STA 64+71 +/-
*-Y- FROM -EBL- STA 60+16 +/- TO -Y- STA 23+25 +/-
*-Y- FROM -EBL- STA 67+55 +/- TO -Y- STA 23+25 +/-

USING RSD 1101.02, SHEETS 1 AND 3 OF 14 WHEN NECESSARY, BEGIN CONSTRUCTION OF PROPOSED SIGNAL

PHASE II

CONTRACTOR SHALL COMPLETE THE WORK OF PHASE II STEPS 1 AND 2 IN 28 CONSECUTIVE DAYS. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES. AFTER COMPLETION OF STEP 2 THE LEFT THROUGH LANES OF US-70 SHOULD BE OPENED, BUT THE MEDIAN SHOULD STAY CLOSED UNTIL FINAL SIGNAL IS ACTIVATED (MAINTAIN RIGHT IN, RIGHT OUT FROM -Y- LINE).

INSTALLATION OF 24″ DRAINAGE PIPE CROSSING HIGHWAY 70 (INSTALLED BY BORE) MAY BE INSTALLED PRIOR TO THE 28 DAY ICT FOR THE MEDIAN WORK.

STEP 1
CLOSE MEDIAN AT -Y- LINE AND INSTALL SIGNING AS SHOWN FOR RIGHT ONLY MOVEMENTS FROM -Y- LINES (SEE TMP-5). CLOSE LEFT THROUGH LANES OF US 70 USING RSD 1101.02 SHEET 3 OF 14 (SEE TMP-5 THROUGH TMP-7).

STEP 2

A. REMOVE EXISTING CONCRETE MEDIANS (IF APPLICABLE).

B. COMPLETE CONSTRUCTION OF PROPOSED WIDENING AT THE FOLLOWING LOCATIONS:
*-WBL- FROM STA 61+85 +/- TO STA 66+10 +/-
*-EBL- FROM STA 56+65 +/- TO STA 61+00 +/-

C. COMPLETE DRAINAGE CONSTRUCTION IN MEDIANS
COMPLETE CONSTRUCTION OF 24″ CROSS PIPE ACROSS -EBL- BY JACK AND BORE.

D. REMOVE EXISTING PAVEMENT IN AREAS OF PROPOSED GRASSED MEDIANS AND CONSTRUCT PROPOSED MEDIAN CURB & GUTTER AND MONOLITHIC MEDIANS.

E. REPLACE ANY PAVEMENT MARKINGS CONCEALED DURING CONSTRUCTION AND INSTALL REMAINING PAVEMENT MARKINGS IN AREAS OF EXISTING CONCRETE ISLAND REMOVAL.

STEP 3

AWAY FROM TRAFFIC, AS MUCH AS POSSIBLE, AND USING LANE CLOSURES (RSD 1101.02, SHEETS 1 AND 3 OF 14), WHEN NECESSARY, COMPLETE INSTALLATION OF NEW TRAFFIC SIGNAL ON US 70 AT THE INTERSECTION OF BESTON ROAD. PLACE IN FLASH MODE 1 WEEK PRIOR TO SHIFTING TRAFFIC TO PROPOSED FINAL PATTERN.

PHASE II (CONT.)

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE ALL WORK IN PHASE II, STEP 4.

STEP 4
AWAY FROM TRAFFIC AND USING RSD 1101.02, SHEET 1 AND 3 OF 14, AS NECESSARY, PERFORM THE FOLLOWING:

A - PLACE PAVEMENT MARKINGS ON ALL LANES IN THE FINAL TRAFFIC PATTERN (SEE PAVEMENT MARKING PLANS).
B - ACTIVATE FINAL SIGNAL
C - OPEN ALL LANES TO TRAFFIC.

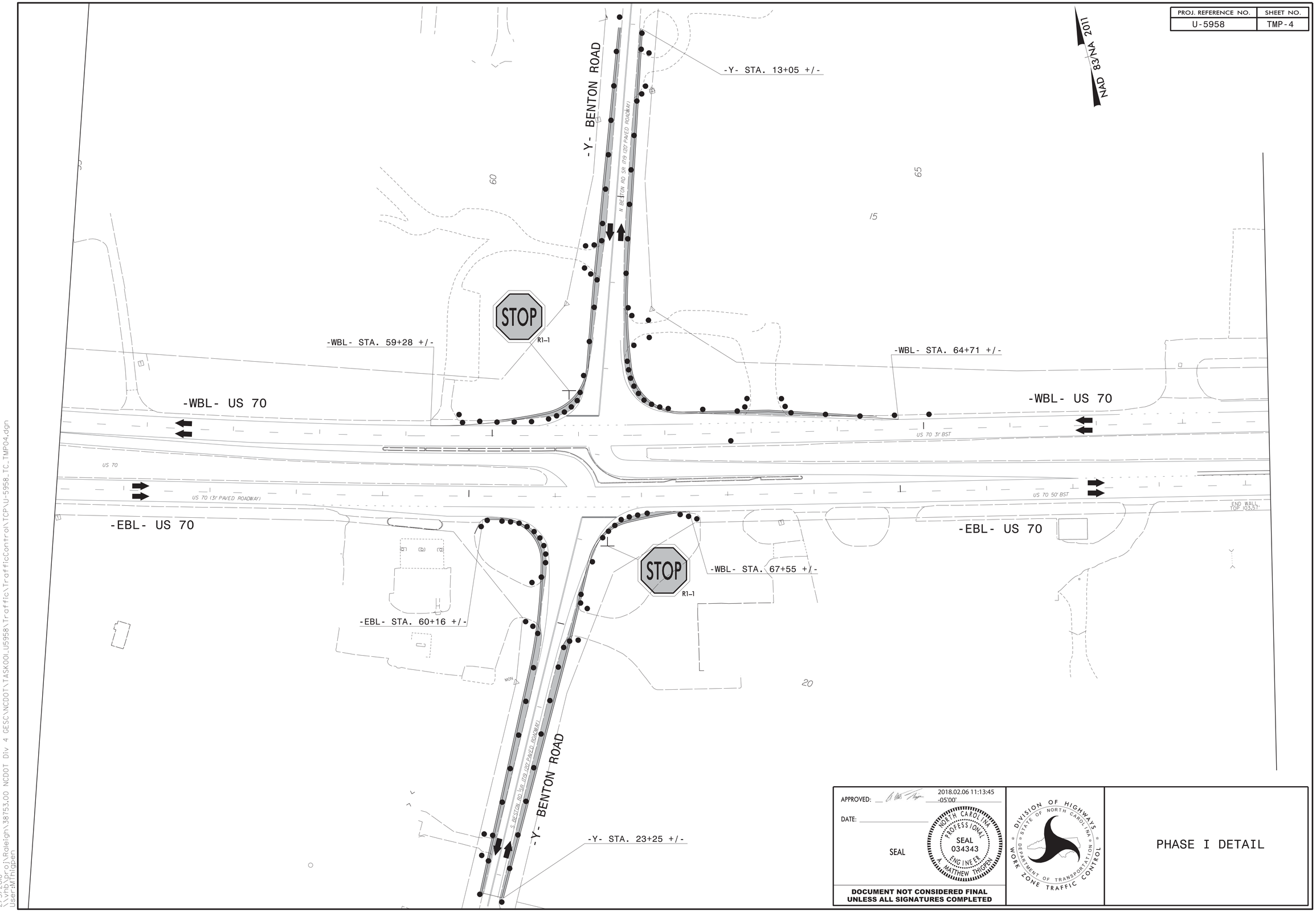
STEP 5

REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.

APPROVED: DocuSigned by: Matthew Thigpen DATE:
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER MATTHEW THIGPEN
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL
PHASING

8/14/2018
\\vhb\proj\Raleigh\38753.00 NCDOT Div 4 GESC\NCDOT\TASK001\U5958\Traffic\TrafficControl\TCP\U-5958_TC_TMP03.dgn
User:MThigpen

PROJ. REFERENCE NO.	SHEET NO.
U-5958	TMP-4



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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER MATTHEW THIGPEN

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

PHASE I DETAIL

2/5/2018
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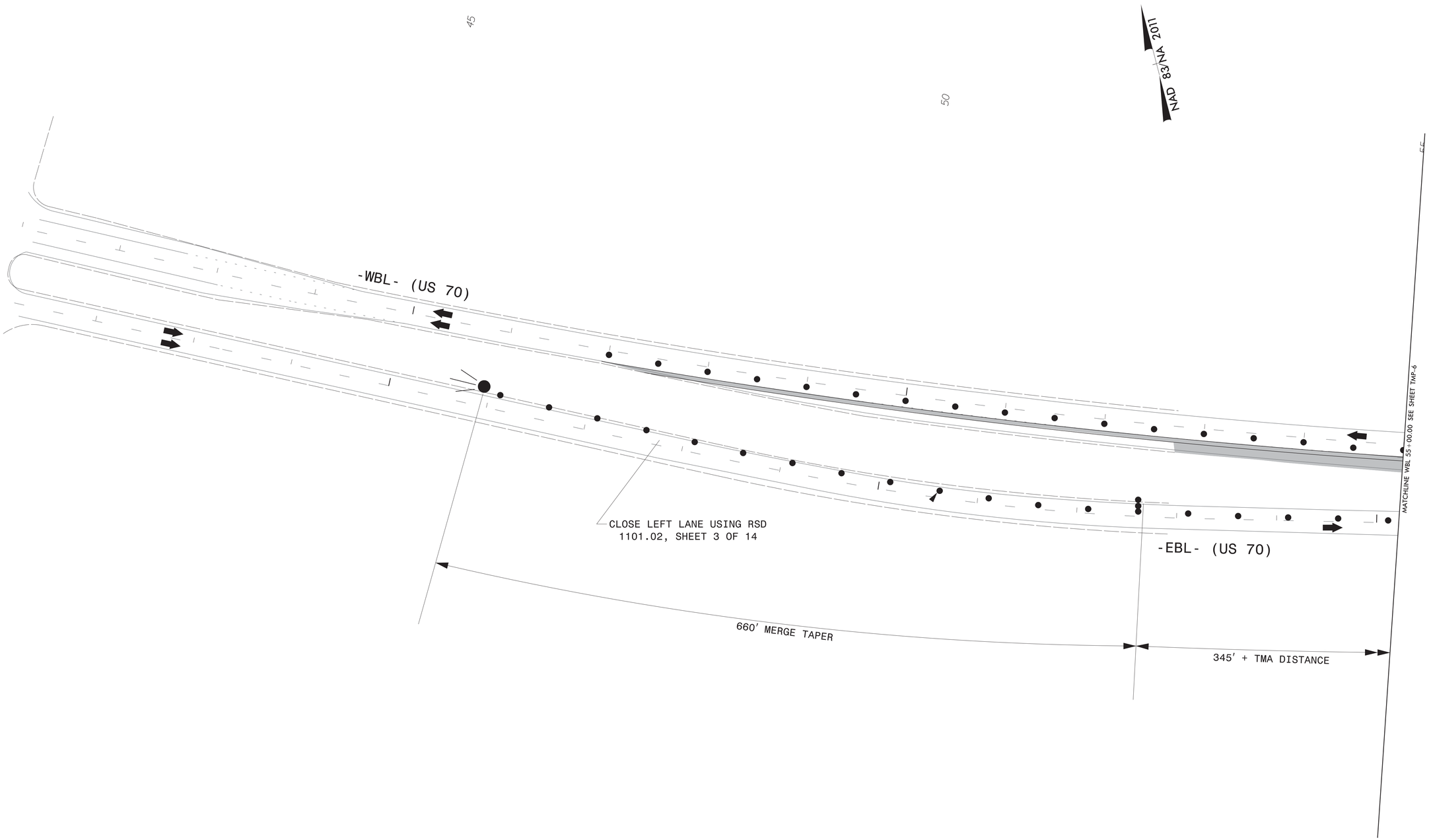

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NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER MATTHEW THIGPEN

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

PHASE II DETAIL

2/5/2018
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PROJ. REFERENCE NO.	SHEET NO.
U-5958	TMP-6

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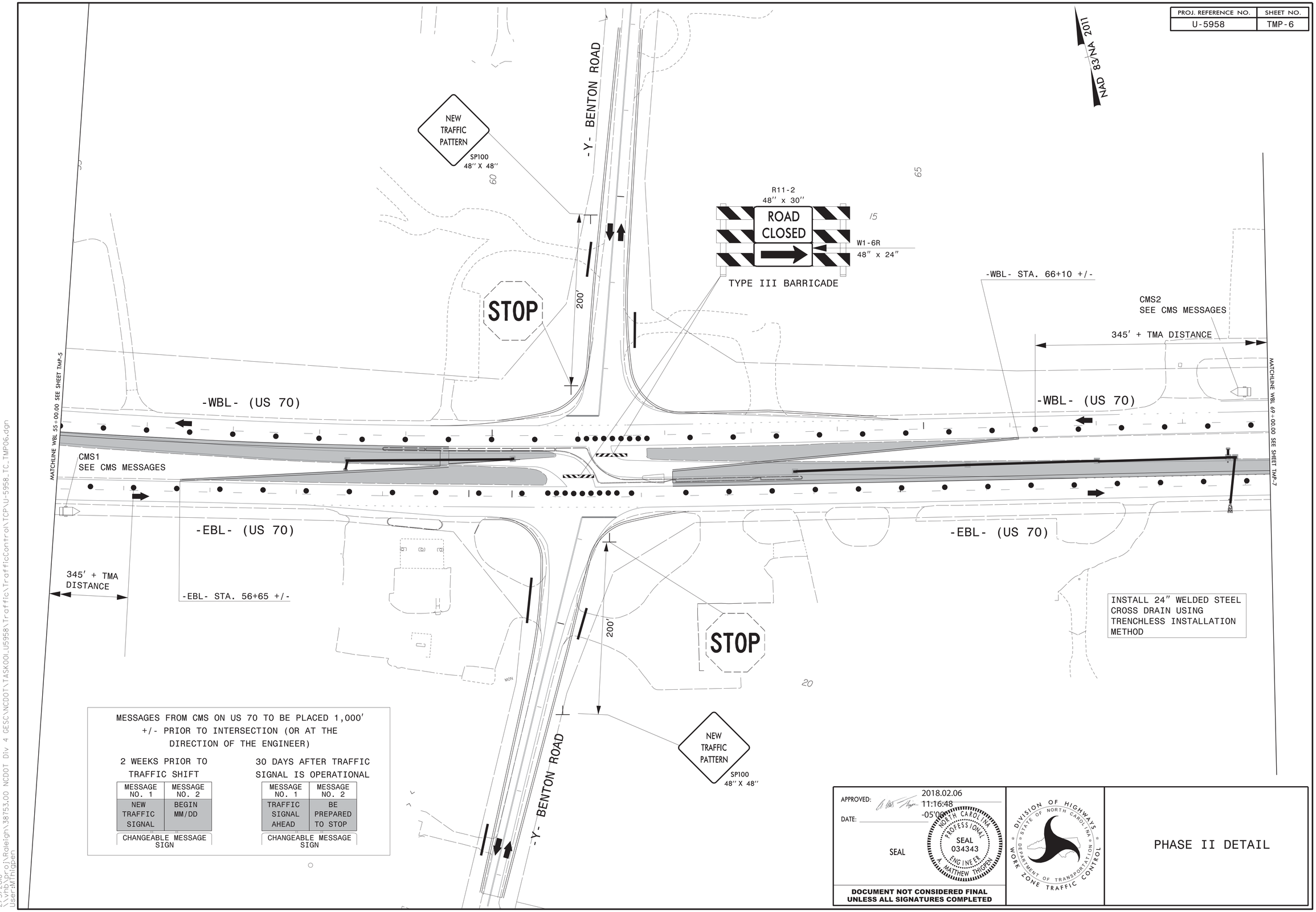

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DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

PHASE II DETAIL

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User:MThigpen

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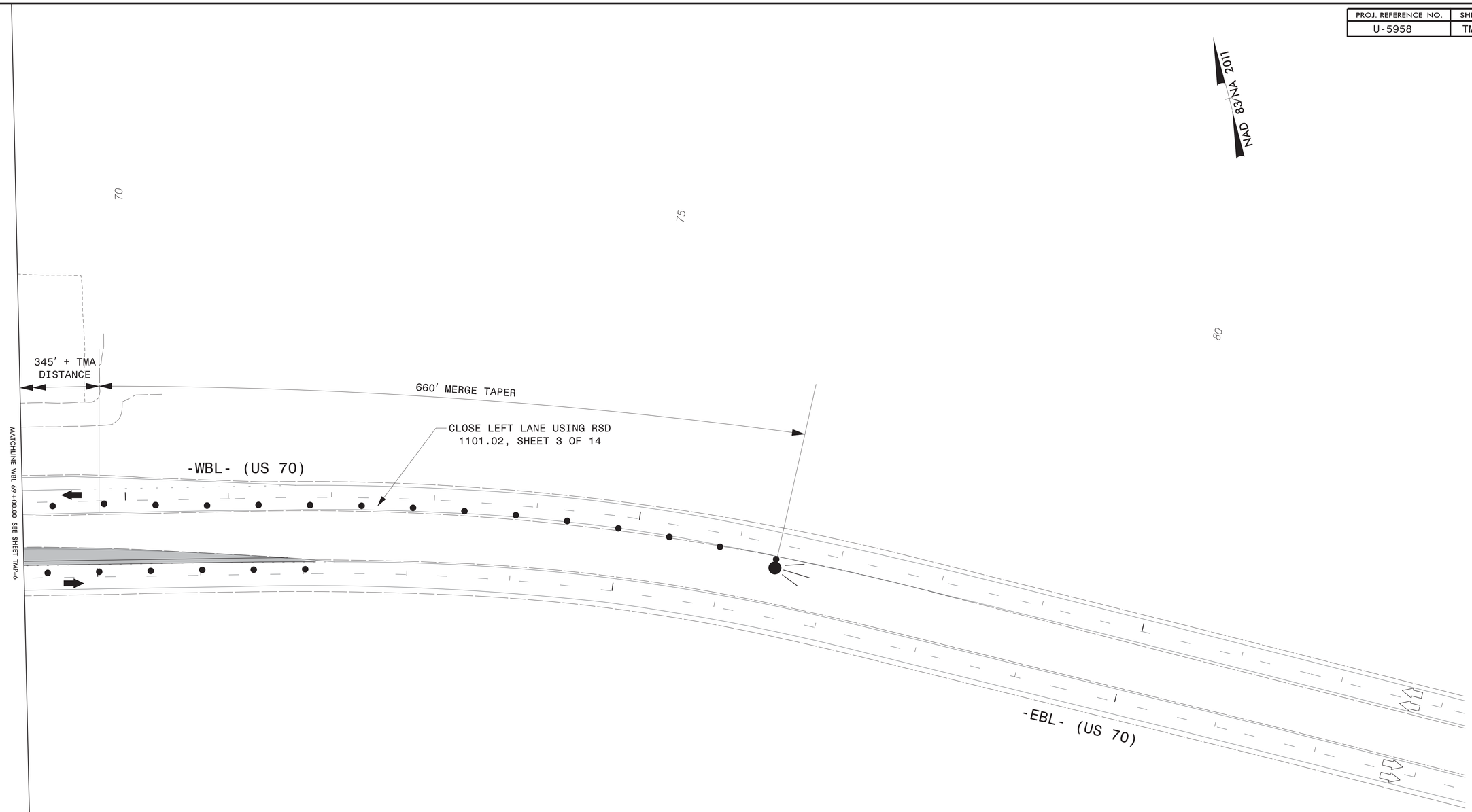

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER MATTHEW THIGPEN

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

PHASE II DETAIL

2/5/2018
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User:MThigpen

T.I.P.: U-5958

CONTRACT:

TIP NO.	SHEET NO.
U-5958	PMP-1

APPROVED: 2018.02.06 11:02:59 -05'00'

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN

WAYNE COUNTY

LOCATION: US 70 @ SR 1719 (BETSON RD.)

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2-4	PAVEMENT MARKING DETAIL

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	TOTAL QUANTITY
	THERMOPLASTIC (4", 90 MILS)	TOTAL 10,171 LF
TA	WHITE EDGELINE	
TB	YELLOW EDGELINE	
	THERMOPLASTIC (4", 120 MILS)	TOTAL 4,942 LF
T8	2 FT. - 6 FT./SP WHITE MINISKIP	
TC	10 FT. WHITE SKIP	
TD	3 FT. - 9 FT./SP WHITE MINISKIP	
TE	WHITE SOLID LANE LINE	
TI	YELLOW DOUBLE CENTER	
	THERMOPLASTIC (8", 90 MILS)	TOTAL 1,305 LF
TN	WHITE GORELINE	
TO	WHITE DIAGONAL	
TP	YELLOW DIAGONAL	
	THERMOPLASTIC (24", 120 MILS)	TOTAL 266 LF
T2	WHITE STOPLINE	
	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)	TOTAL 26 EA
UA	LEFT TURN ARROW	
UB	RIGHT TURN ARROW	
UC	STRAIGHT ARROW	
UE	COMBO. RIGHT/STRAIGHT ARROW	
	SNOWPLOWABLE PAVEMENT MARKERS	TOTAL 149 EA
ME	YELLOW & YELLOW	
MF	CRYSTAL & RED	

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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
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
-L-	THERMOPLASTIC	SNOWPLOWABLE

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

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

D) 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.

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

_____ SIGNING & DELINEATION REGIONAL ENGINEER

_____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLAN PREPARED BY: VHB Engineering NC, P.C.

Matthew A. Thigpen, PE — PROJECT ENGINEER

Matthew L. Stygles, EI — PROJECT DESIGN ENGINEER

vhb

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705
919.829.0328

TIP NO.	SHEET NO.
U-5958	PMP-2

APPROVED: 2018.02.06 11:03:59 -05'00'

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

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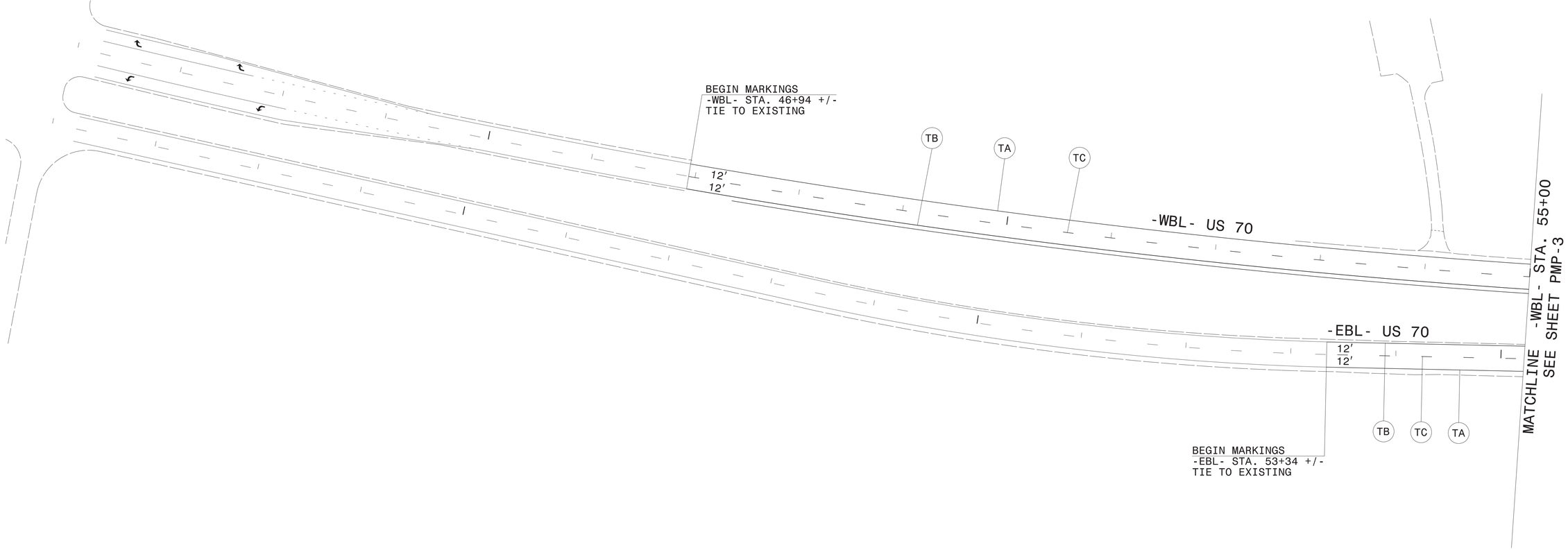


PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
TA	WHITE EDGELINE (4″, 90 MIL)
TB	YELLOW EDGELINE (4″, 90 MIL)
TC	10 FT. WHITE SKIP (4″, 120 MIL)

PAVEMENT MARKING DETAIL

TIP NO.	SHEET NO.
U-5958	PMP-3

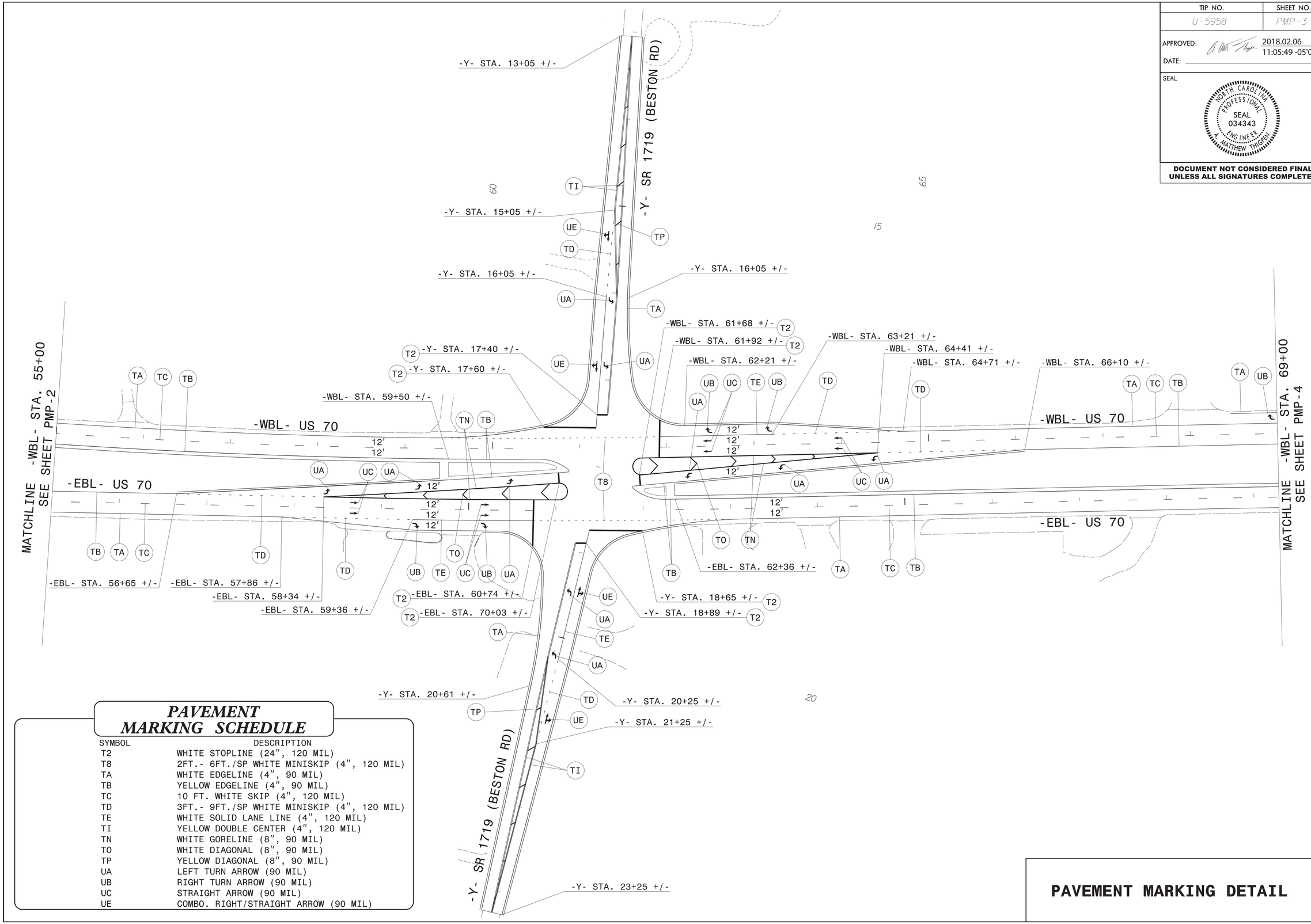
APPROVED: 2018.02.06 11:05:49 -05'00'

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
T2	WHITE STOPLINE (24", 120 MIL)
T8	2FT.- 6FT./SP WHITE MINISKIP (4", 120 MIL)
TA	WHITE EDGELINE (4", 90 MIL)
TB	YELLOW EDGELINE (4", 90 MIL)
TC	10 FT. WHITE SKIP (4", 120 MIL)
TD	3FT.- 9FT./SP WHITE MINISKIP (4", 120 MIL)
TE	WHITE SOLID LANE LINE (4", 120 MIL)
TI	YELLOW DOUBLE CENTER (4", 120 MIL)
TN	WHITE GORELINE (8", 90 MIL)
TO	WHITE DIAGONAL (8", 90 MIL)
TP	YELLOW DIAGONAL (8", 90 MIL)
UA	LEFT TURN ARROW (90 MIL)
UB	RIGHT TURN ARROW (90 MIL)
UC	STRAIGHT ARROW (90 MIL)
UE	COMBO. RIGHT/STRAIGHT ARROW (90 MIL)

PAVEMENT MARKING DETAIL

TIP NO.	SHEET NO.
U-5958	PMP-4

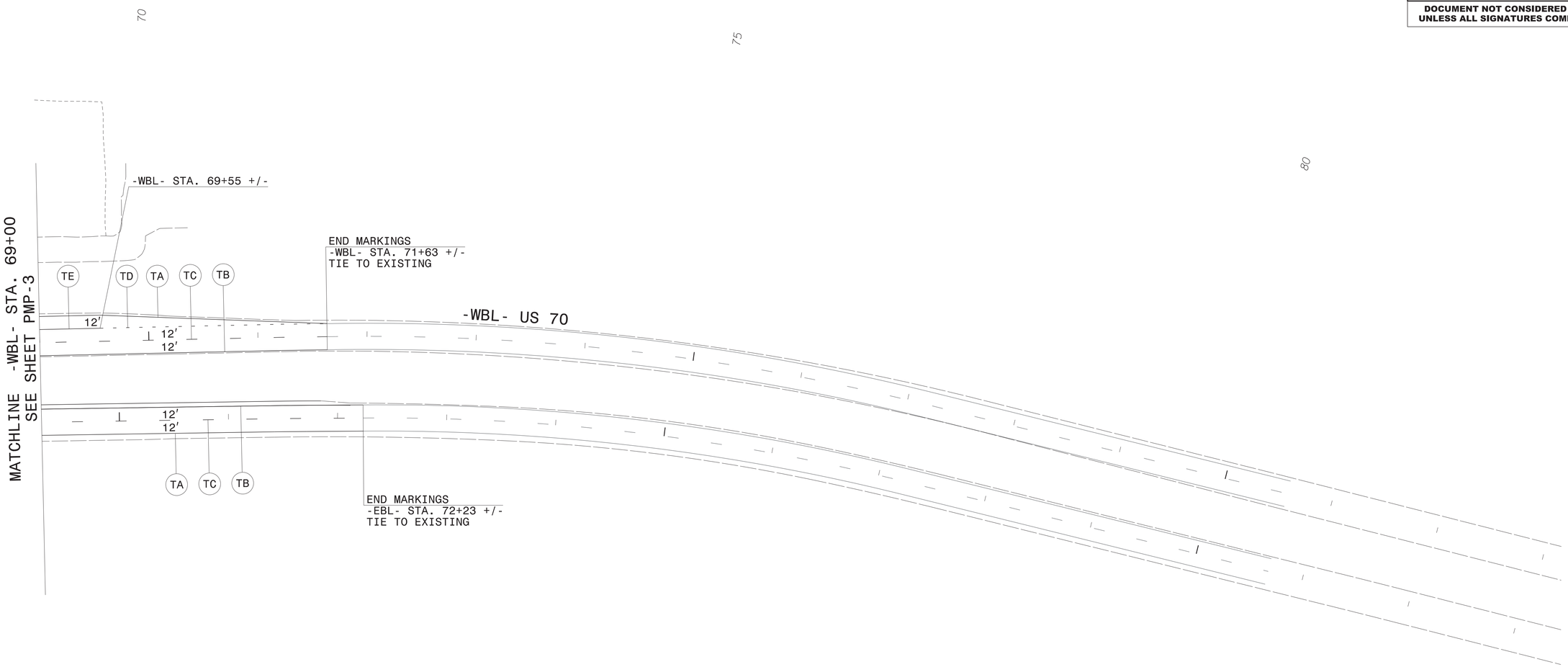
APPROVED: 2018.02.06 11:06:54 -05'00'

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
TA	WHITE EDGELINE (4″, 90 MIL)
TB	YELLOW EDGELINE (4″, 90 MIL)
TC	10 FT. WHITE SKIP (4″, 120 MIL)
TD	3 FT. - 9 FT./SP WHITE MINISKIP (4, 120 MIL)
TE	WHITE SOLID LANE LINE (4″, 120 MIL)

PAVEMENT MARKING DETAIL

TIP PROJECT: U-5958

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5958	EC-1	

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

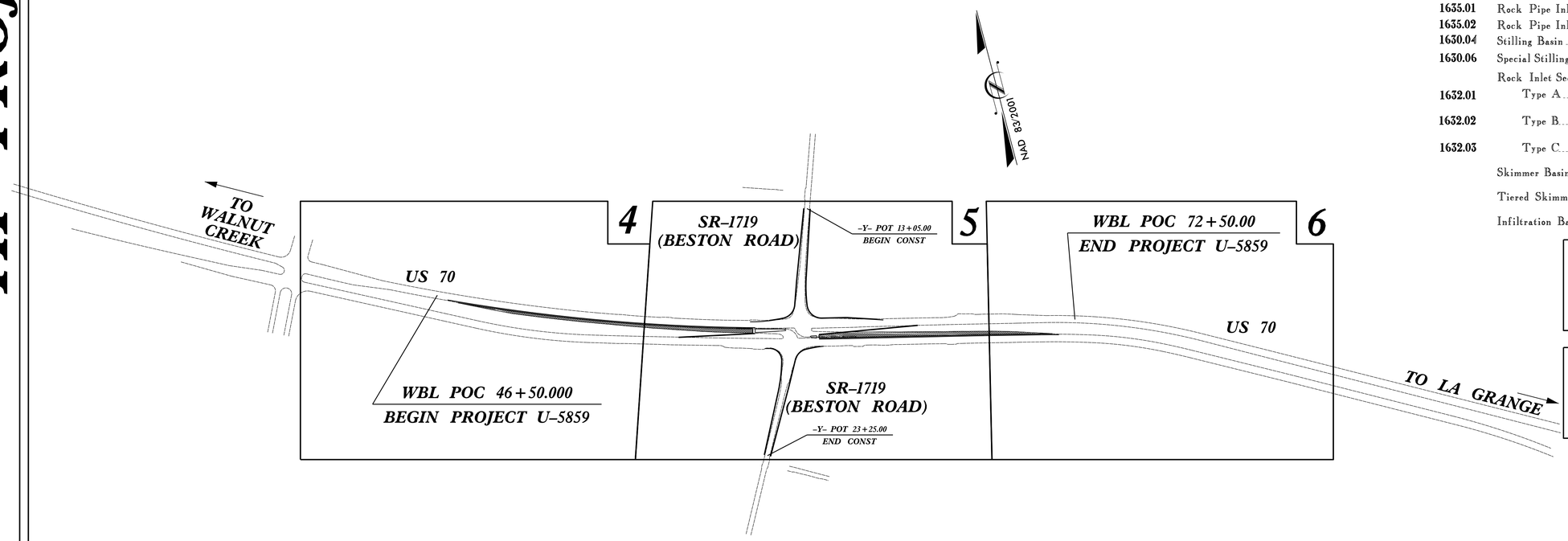
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WAYNE COUNTY

LOCATION: INTERSECTION OF US–70 AND SR–1719 (BESTON ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND SIGNAL.



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	SW 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	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG–010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

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

2018 STANDARD SPECIFICATIONS

Designed by:

Wes Chandler — *NAME*
3374 — *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**		

18-OCT-2017 09:25
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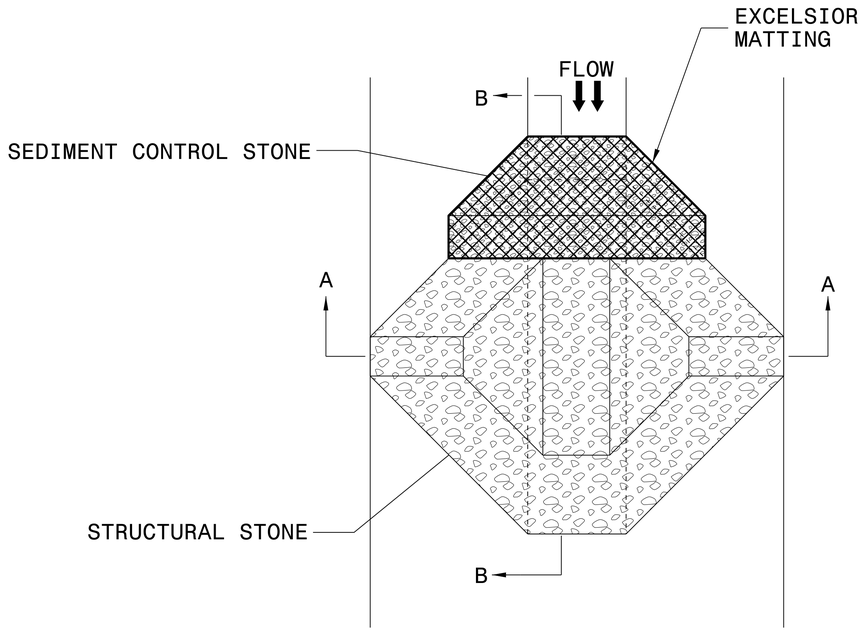
"jchandler" RT REV 29.7 AB

PROJECT REFERENCE NO.	SHEET NO.
U-5958	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

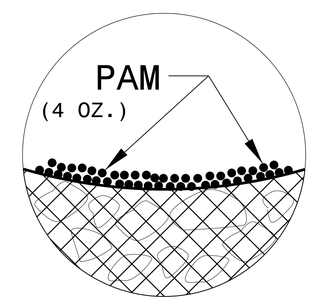
NOTES:

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

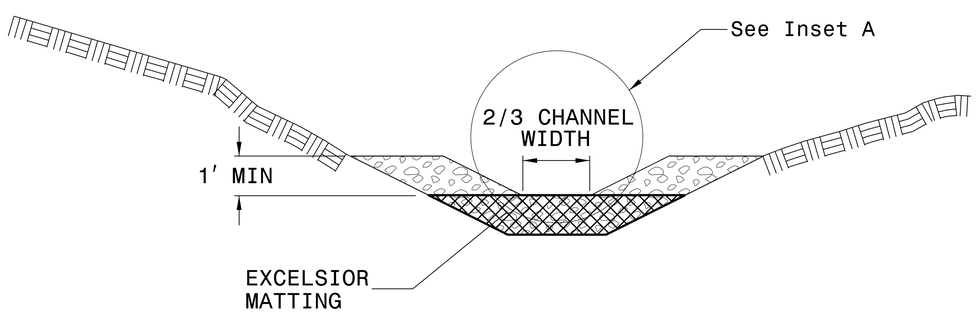
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

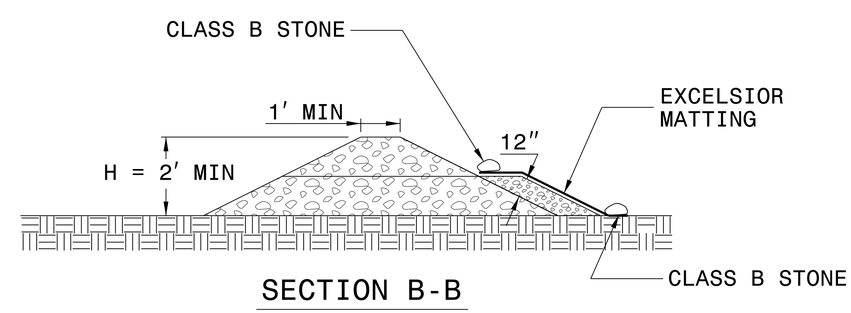
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-5958	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-Y-	19+50	23+00	RT	245
5	-Y-	19+50	23+00	LT	245
6	-WLØ-	68+50	70+00	RT	205
				SUBTOTAL	695
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					300
				TOTAL	995
				SAY	1,000

MATTING FOR EROSION CONTROL

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

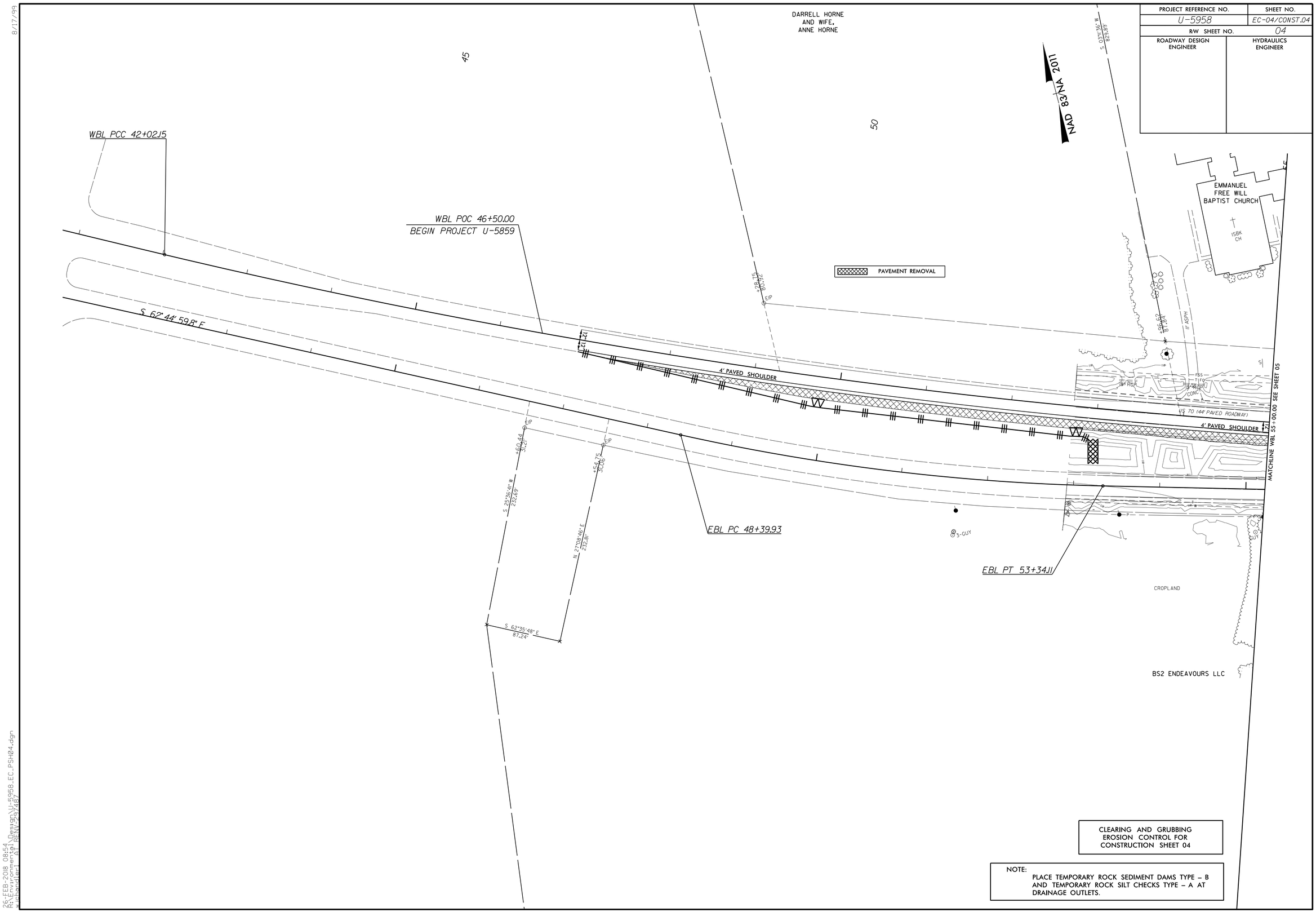
PROJECT REFERENCE NO.	SHEET NO.
U-5958	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 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.

PROJECT REFERENCE NO.	SHEET NO.
U-5958	EC-04/CONST.04
R/W SHEET NO.	04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

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

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PROJECT REFERENCE NO.	SHEET NO.
U-5958	EC-05/CONST.05
R/W SHEET NO.	05
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
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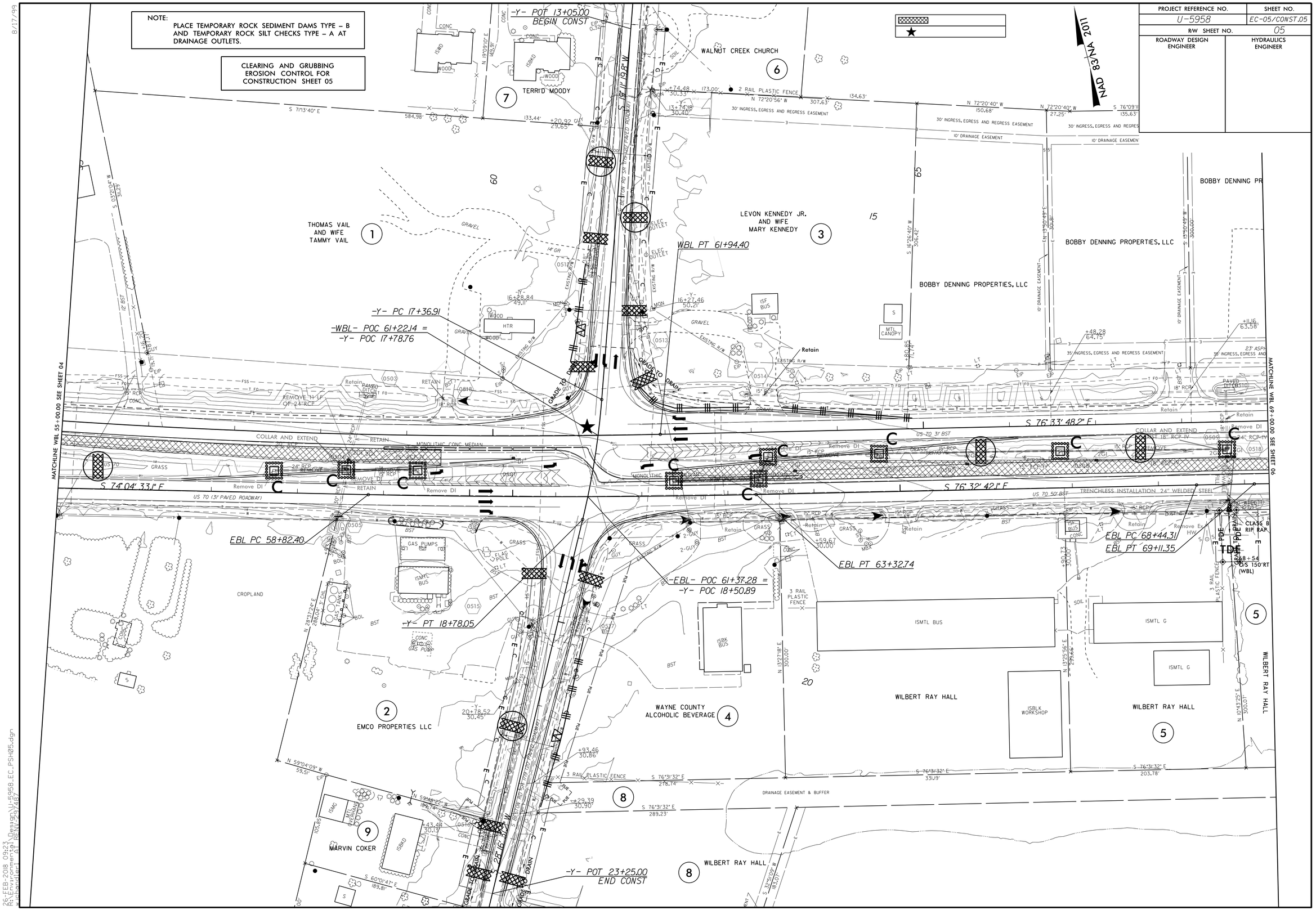
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 05



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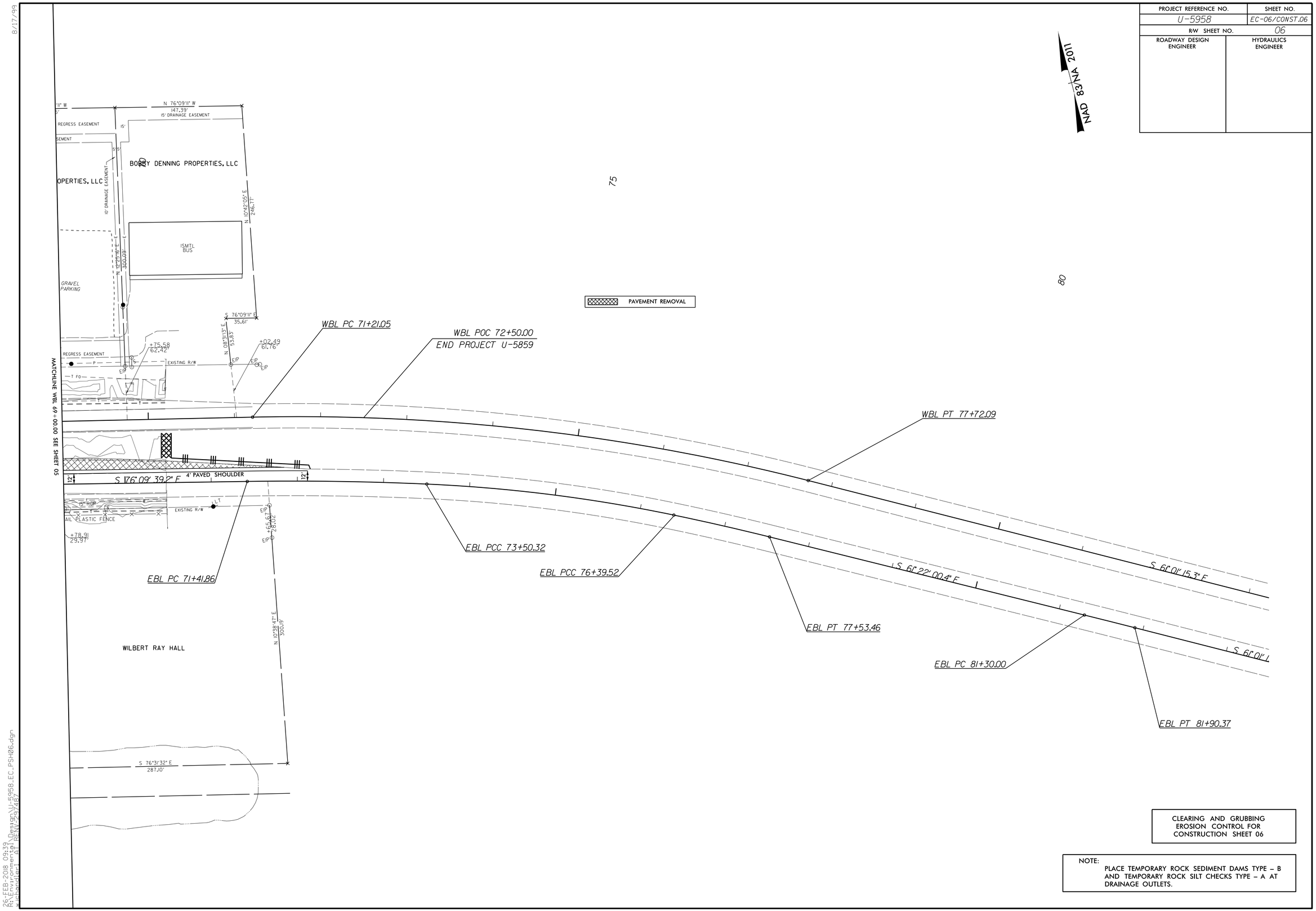
R/W SHEET NO.	06
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 06

NOTE:
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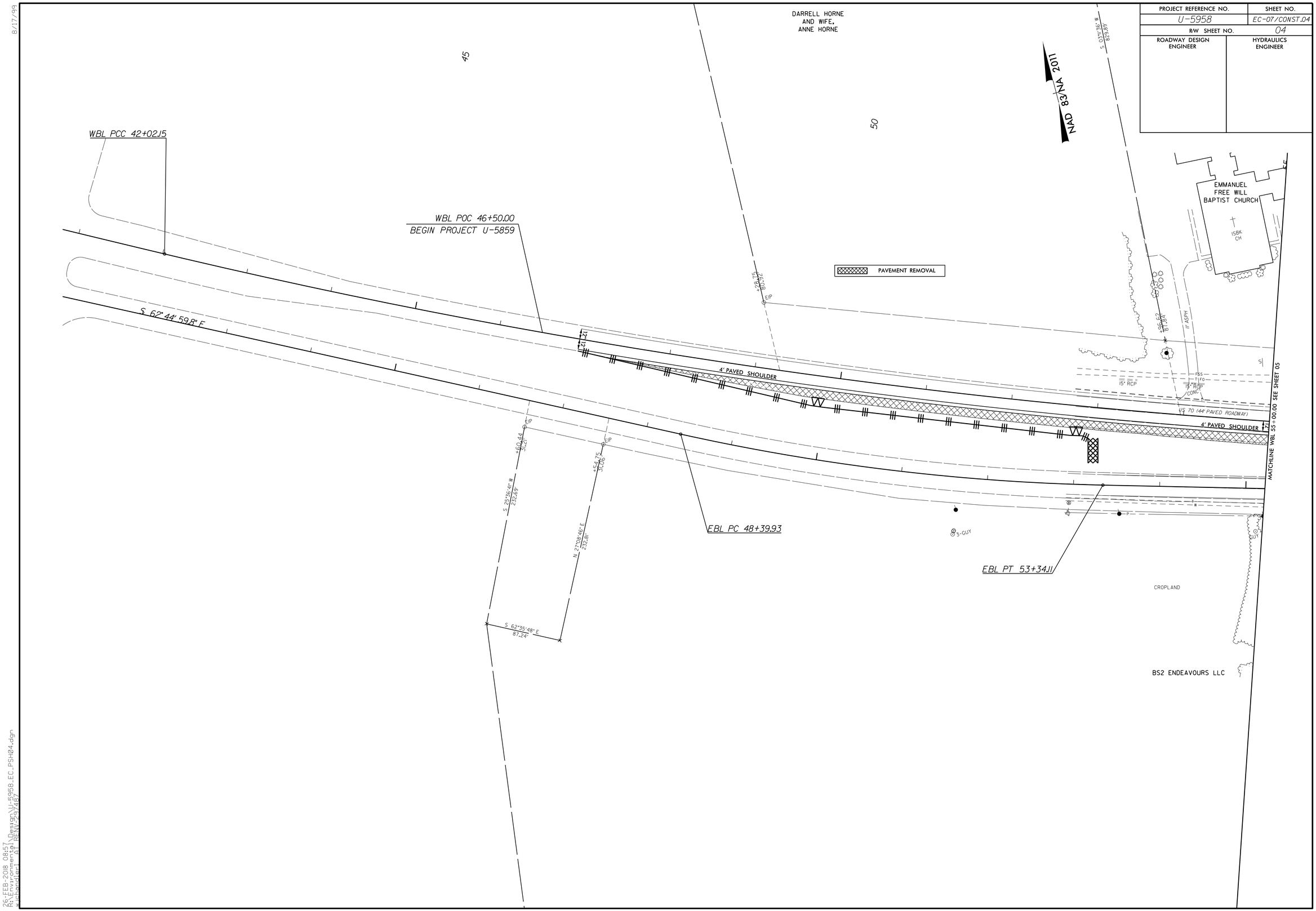
R/W SHEET NO.	04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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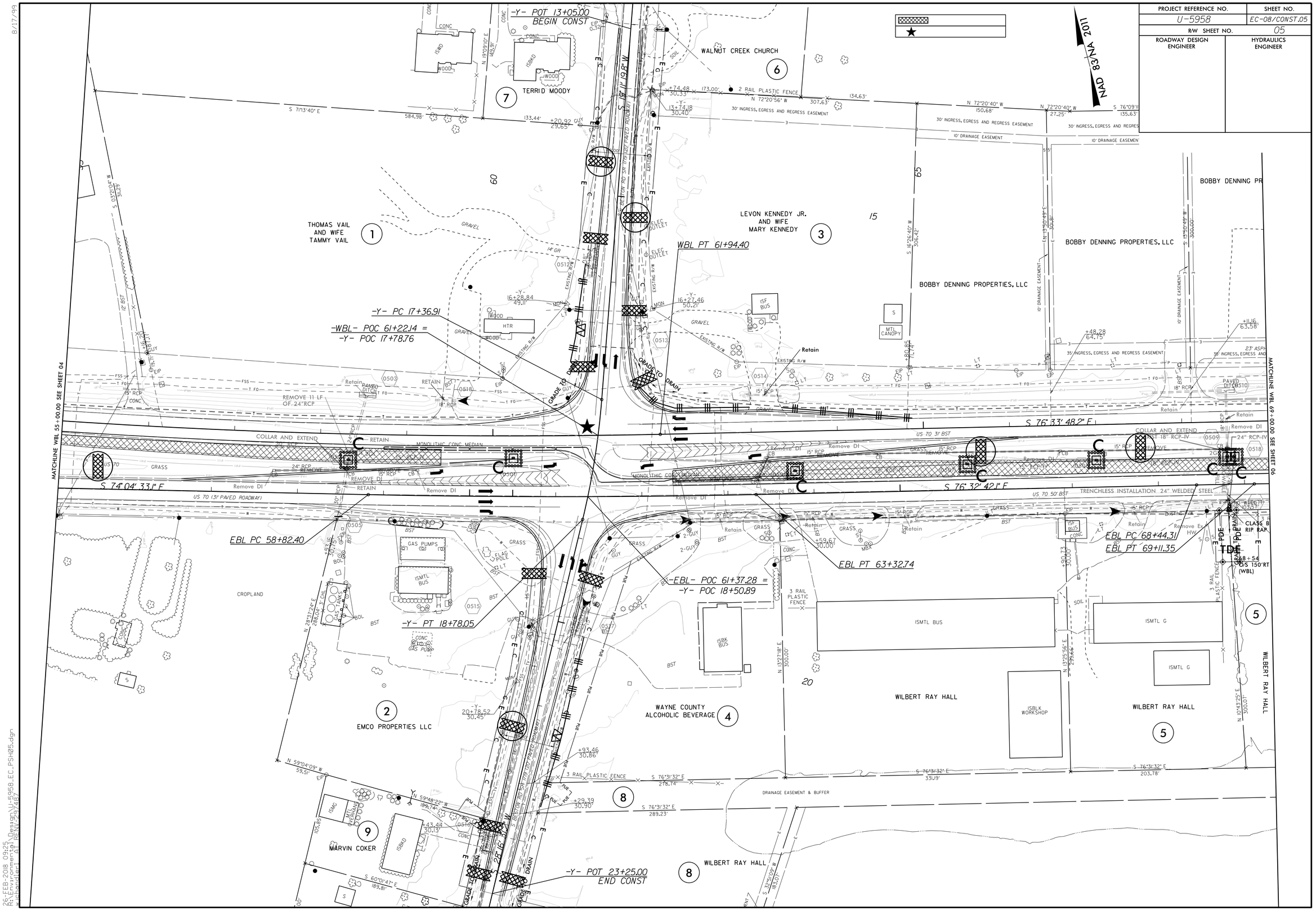
R/W SHEET NO.	05
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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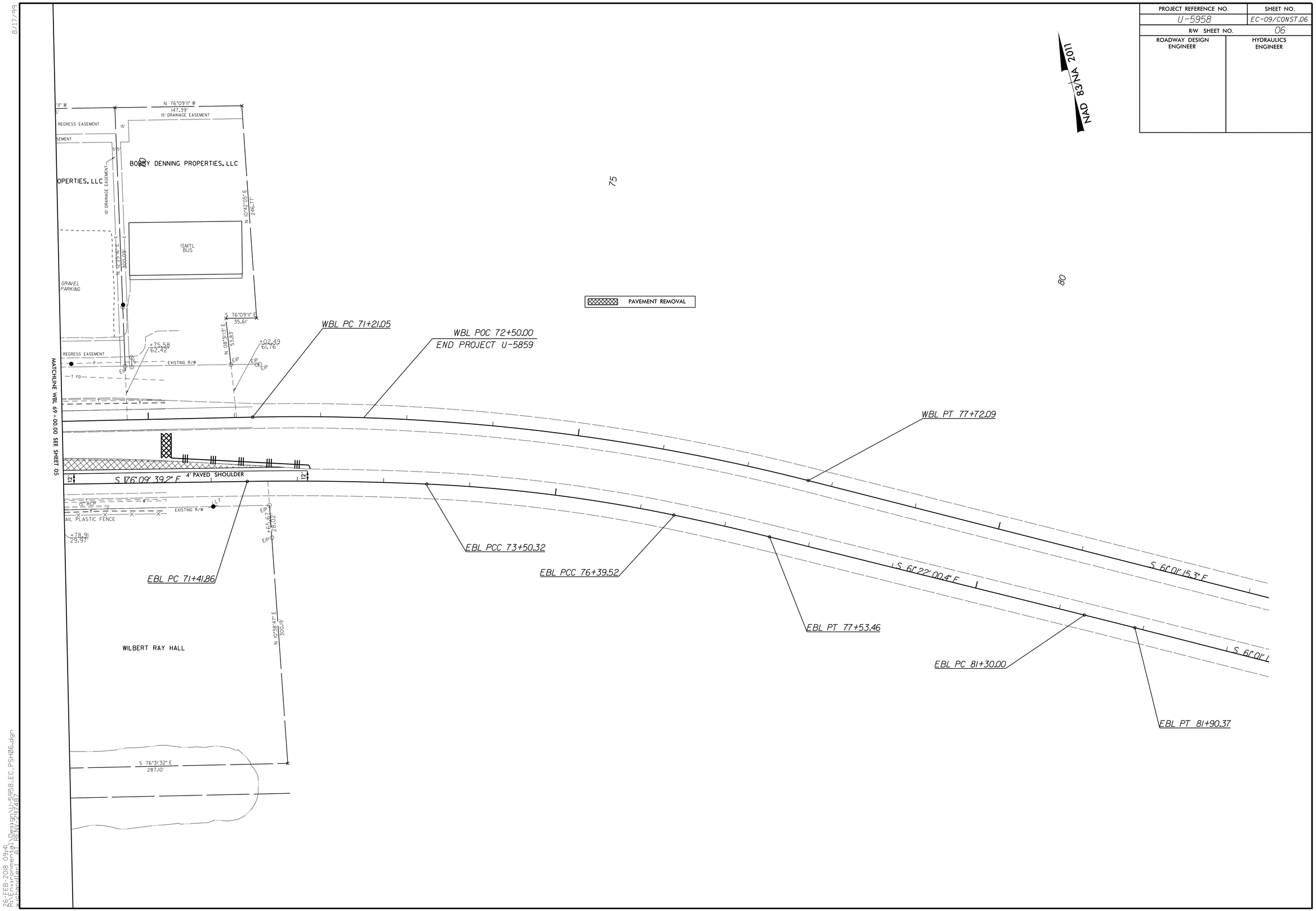
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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T.I.P.: U-5958

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
U-5958	SIGN-1

APPROVED: 2018.02.06 10:56:29 -05'00'

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER MATTHEW THIGPEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIGNING PLAN
WAYNE COUNTY

LOCATION: US 70 @ SR 1719 (BETSON RD.)

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
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.
- 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	140	L.F.
4102000000	904	SIGN ERECTION, TYPE E	8	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E	2	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	20	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	2	EA.

PAY ITEM NOTES

1 SIGN ERECTION, TYPE D, E, AND F
2 RELOCATE SIGN, TYPE E
3 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4 DISPOSAL OF SUPPORT, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	E AND F SHEETS
SIGN-3-5	SIGN DETAIL SHEETS

PLAN SUBMITTED TO:

name and title

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLAN PREPARED BY: VHB Engineering NC, P.C.

Matthew A. Thigpen, PE PROJECT ENGINEER

Matthew L. Stygles, EI PROJECT DESIGN ENGINEER

vhb
Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705
919.829.0328

2/5/2018
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TIP NO.	SHEET NO.
U-5958	SIGN-2

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DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034343 ENGINEER A. MATTHEW THIGPEN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

(401) QUANTITY REQ'D 4

54" X 18"
R6-1 (L)

TWO "U" POSTS PER SIGN

(402) QUANTITY REQ'D 2

54" X 18"
R6-1 (R)

TWO "U" POSTS PER SIGN

(403) QUANTITY REQ'D 2

24" X 30"
R4-7

ONE "U" POST PER SIGN

TYPE "E" SIGNS

2/5/2018
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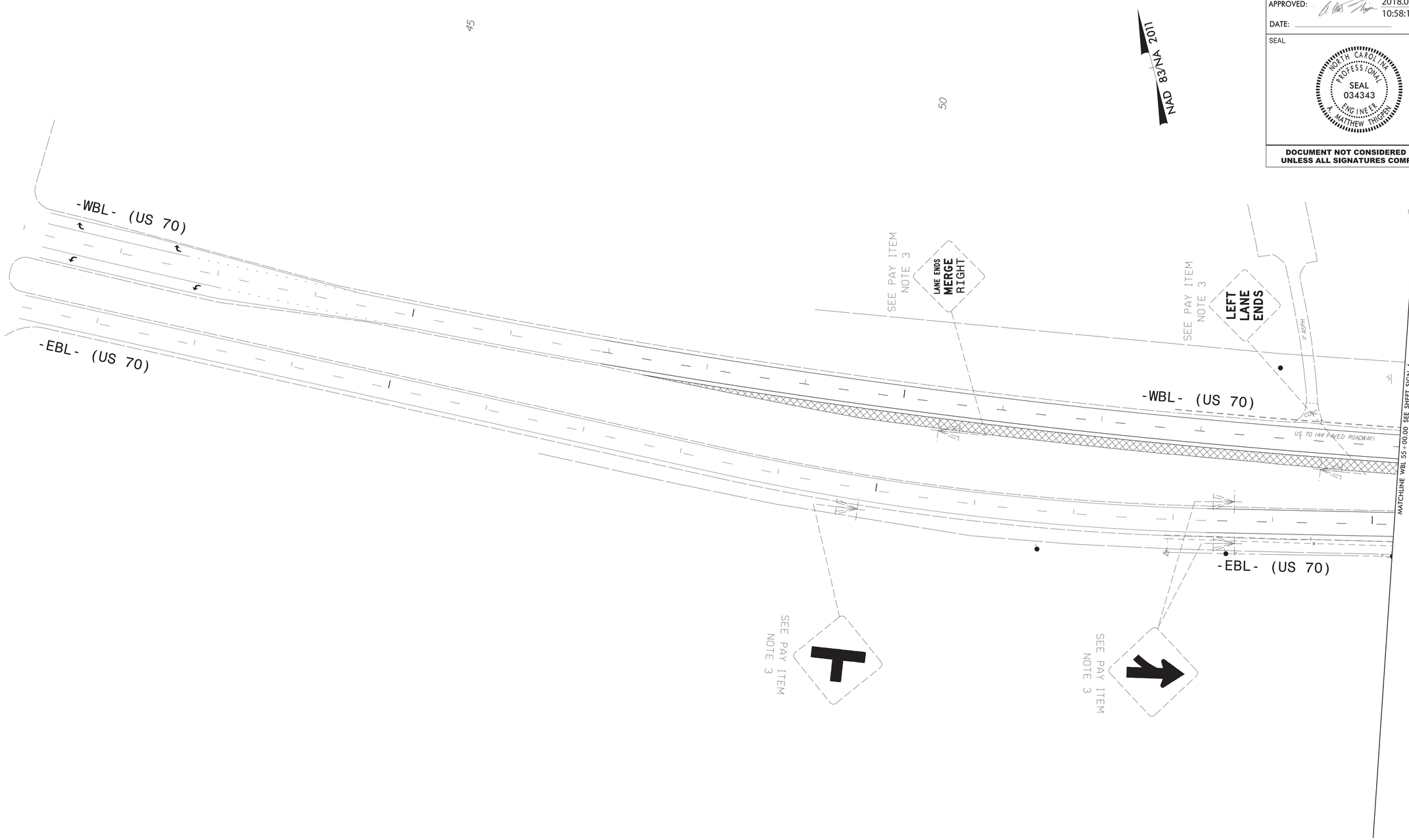

EXISTING & PROPOSED SIGNS

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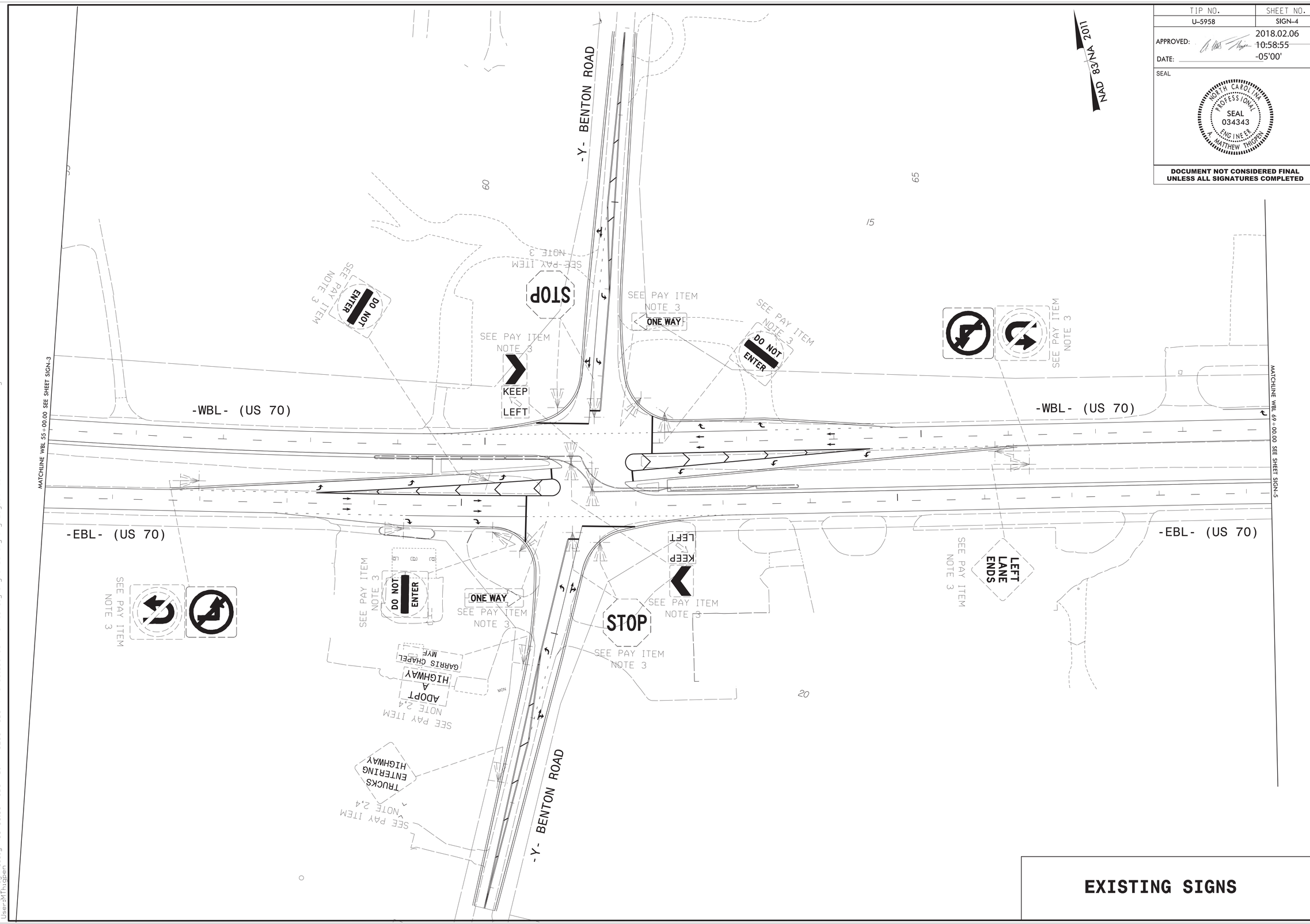

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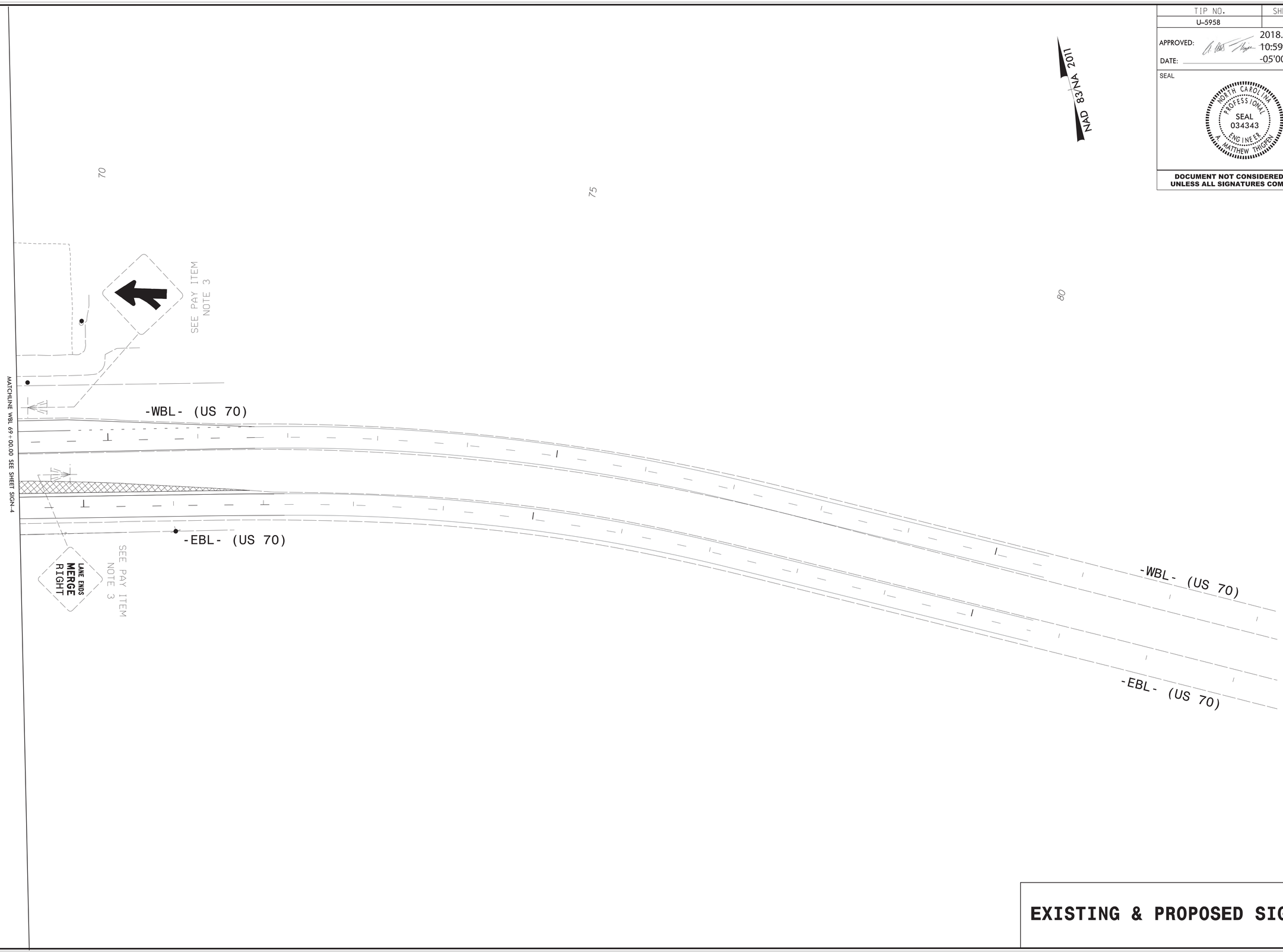

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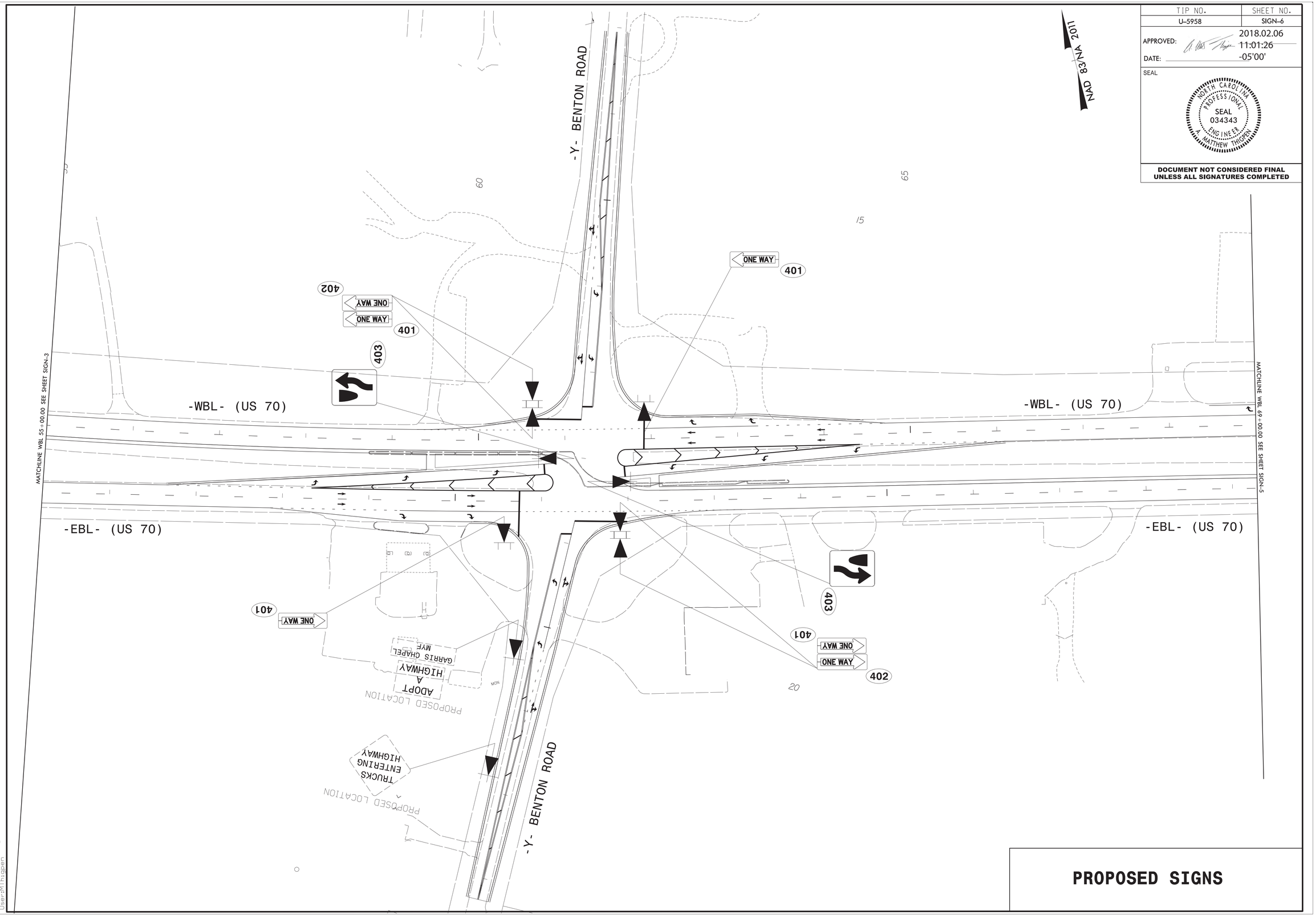

PROPOSED SIGNS

2/5/2018
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Project No.	Sheet No.
U–5958	Sig. 1.0

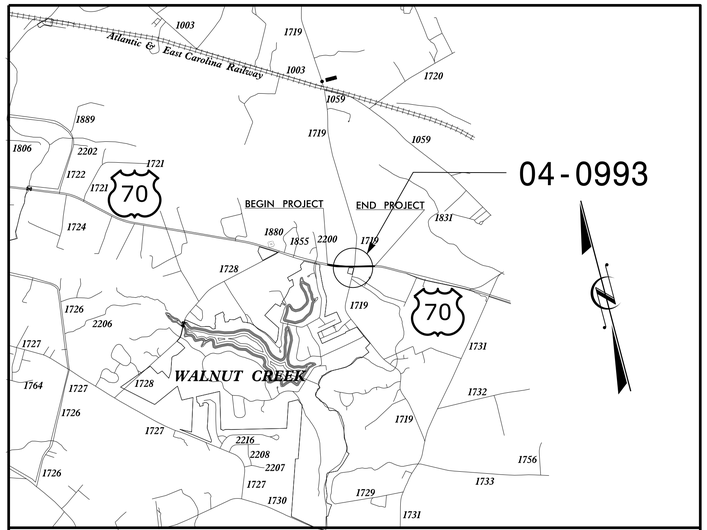
Project: U–5958

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

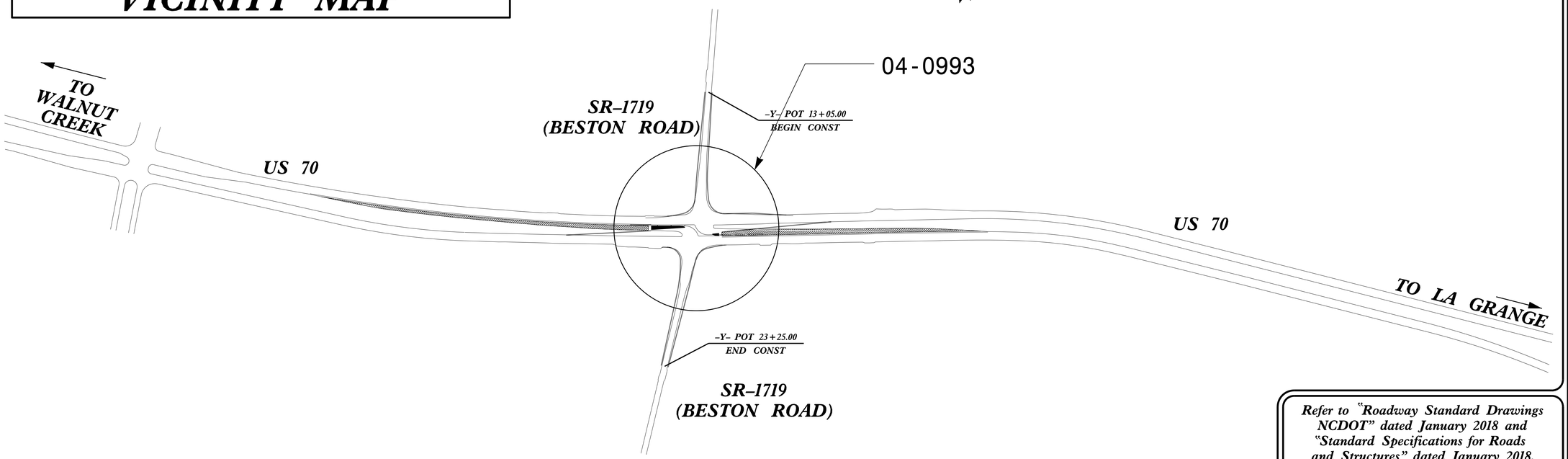
Wayne County

LOCATION: US 70 at SR 1719 (Beston Road)

TYPE OF WORK: Traffic Signals



VICINITY MAP



Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.

Index of Plans

Sheet #	Reference #	Location/Description
Sig. 1.0	--------	Title Sheet
Sig. 2.0–	04–0993	US 70 at SR 1719 (Beston Road) Signal Plan

INTELLIGENT TRANSPORTATION AND SIGNALS UNIT

Contacts:

Meredith McDiarmid – ITS & Signals Engineer
Jason P. Galloway – Signals Engineer
Keith M. Mims – Signal Equipment Design Engineer

Prepared in the Office of:
DIVISION OF HIGHWAYS
TRANSPORTATION MOBILITY AND SAFETY DIVISION
Transportation Mobility and Safety Division · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · ITS and Signals Unit
750 N. Greenfield Parkway, Garner, NC 27529

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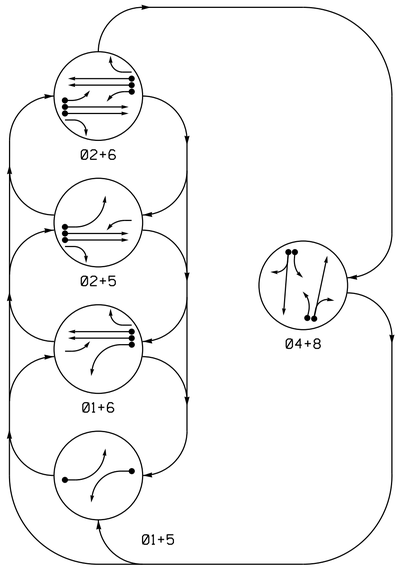
kgonzalo

PROJECT REFERENCE NO.	SHEET NO.
U-5958	Sig. 2.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	04+8	FLASH
11	←	←	F Y	F Y	R	Y
21,22,23	R	R	G	G	R	Y
41	R	R	R	F Y	R	R
42,43	R	R	R	R	G	R
51	←	F Y	←	F Y	R	Y
61,62,63	R	G	R	G	R	Y
81	R	R	R	F Y	R	R
82,83	R	R	R	R	G	R

TABLE OF OPERATION

SIGNAL FACE	INTERVAL 1	INTERVAL 2
24,26	ON	OFF
25,27	OFF	ON
64,66	ON	OFF
65,67	OFF	ON

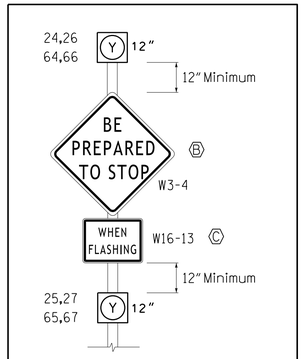


FIGURE 1

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	Y
					6	Y	Y	Y	-	3	-	Y
2A	6X6	420	6	Y	2	Y	Y	-	-	-	-	Y
2B	6X6	420	6	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	-	Y
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	Y
4C	6X20	0	2-4-2	Y	4	Y	Y	-	-	15	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
					2	Y	Y	Y	-	3	-	Y
6A	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y
6B	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	3	-	Y
8B	6X40	0	2-4-2	Y	8	Y	Y	-	-	-	-	Y
8C	6X20	0	2-4-2	Y	8	Y	Y	-	-	15	-	Y

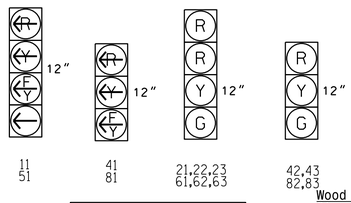
5 Phase
Fully Actuated
Isolated

NOTES

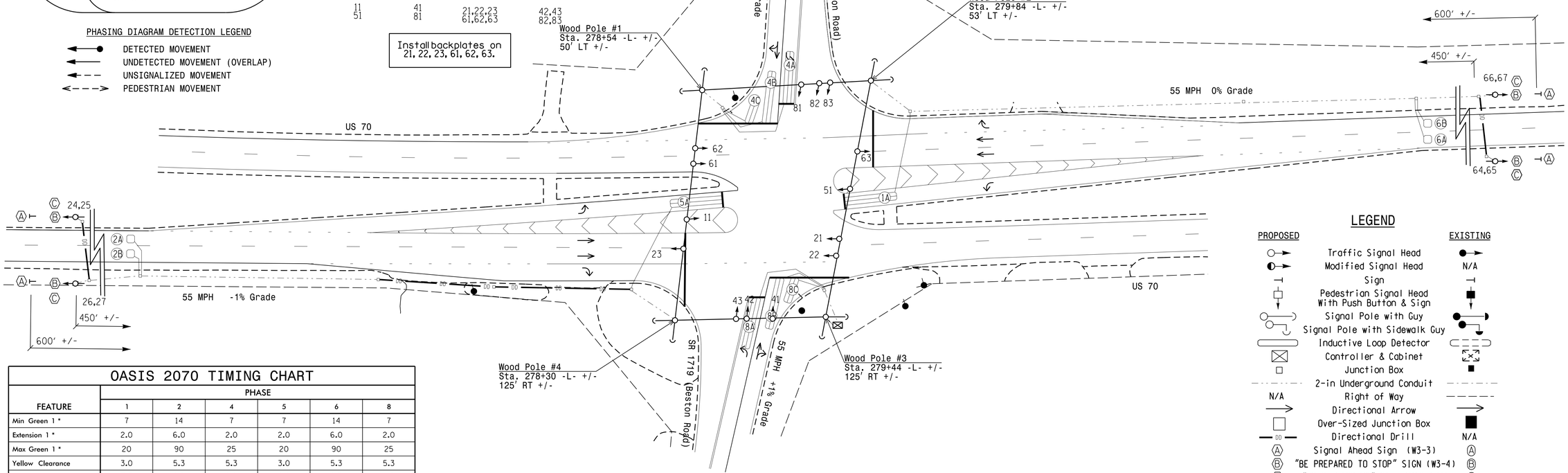
1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Flash beacons numbered 24 25, 26, 27, 64, 65, 66, 67 two seconds prior to the end of phase 2 and 6 green.

SIGNAL FACE I.D.

All Heads L.E.D.



Install backplates on 21, 22, 23, 61, 62, 63.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Over-Sized Junction Box	
DD	Directional Drill	N/A
A	Signal Ahead Sign (W3-3)	A
B	"BE PREPARED TO STOP" SIGN (W3-4)	B
C	"WHEN FLASHING" Sign (W16-13P)	C

OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	4	5	6	8
Min Green 1 *	7	14	7	7	14	7
Extension 1 *	2.0	6.0	2.0	2.0	6.0	2.0
Max Green 1 *	20	90	25	20	90	25
Yellow Clearance	3.0	5.3	5.3	3.0	5.3	5.3
Red Clearance	3.3	1.3	1.6	2.9	1.3	1.6
Walk 1 *	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	-	1.5	-
Max Variable Initial *	-	46	-	-	46	-
Time Before Reduction *	-	15	-	-	15	-
Time To Reduce *	-	30	-	-	30	-
Minimum Gap	-	3.4	-	-	3.4	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

New Installation

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 70 at SR 1719 (Beston Road)

Division 4 Wayne County Goldsboro

PLAN DATE: September 2017 REVIEWED BY: JPG
PREPARED BY: KGP, Jr. REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason P. Galloway 11/6/2017
F70DEA704881841D DATE

SIG. INVENTORY NO. 04-0993

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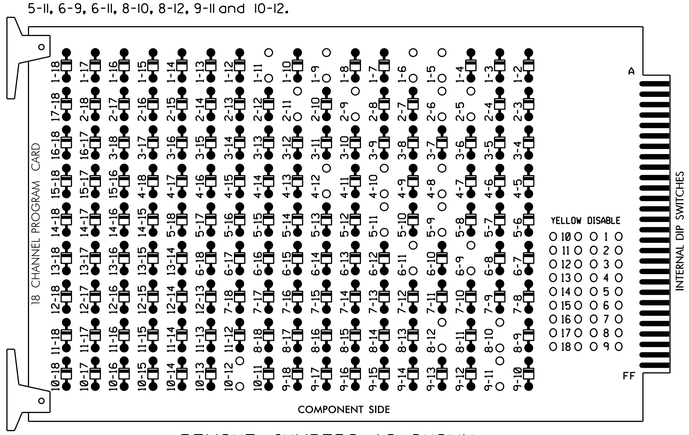
kgpeadin

PROJECT REFERENCE NO.	SHEET NO.
U-5958	Sig. 2.1

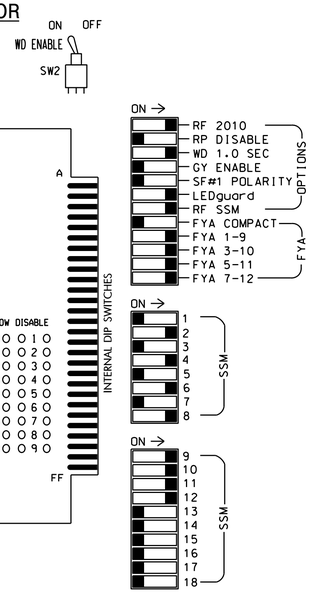
EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 2-5, 2-6, 2-9, 2-11, 4-8, 4-10, 4-12, 5-9, 5-11, 6-9, 6-11, 8-10, 8-12, 9-11 and 10-12.



REMOVE JUMPERS AS SHOWN



NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Program phases 4 and 8 for Dual Entry.
3. Enable Simultaneous Gap-Out for all Phases.
4. Program phases 2 and 6 for Variable Initial and Gap Reduction.
5. Program phases 2 and 6 for Startup In Green.
6. Program phases 2 and 6 for Yellow Flash, and overlaps 1 and 2 as Wag Overlaps.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,*S3,S5,*S6,S7,S8,*S9,S11, *S12,AUX S1,AUX S2,AUX S4,AUX S5
PHASES USED.....1,2,4,5,6,8
OVERLAP "A".....1+2
OVERLAP "B".....4
OVERLAP "C".....5+6
OVERLAP "D".....8

* USED FOR ADVANCE BEACONS, PHASE 2 AND PHASE 6 APPROACH

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11★	21, 22,23	24,26	NU	42,43	64,66	51★	61, 62,63	25,27	NU	82,83	65,67	11★	81★	NU	51★	41★	NU
RED		128			101			134			107							
YELLOW	*	129			102		*	135			108							
GREEN		130			103			136			109							
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW													A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127						133											
✋																		
PED YELLOW			**			**			**			**						
🚶			*			*			*			*						

NU = Not Used

* Denotes install load resistor. See load resistor installation detail sheet 2.

** Advance Beacons will be wired to S3-Y(114), S6-Y(105), S9-Y(120), and S12-Y(111). See wiring and programming details on sheets 3 and 4.

★ See pictorial of head wiring in detail below.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø1 1A	Ø2 2A	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	Ø4 4A	Ø4 4C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	Ø2 2B				Ø4 4B	NOT USED							ST DC ISOLATOR
FILE "J"	U	Ø5 5A	Ø6 6A	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	Ø8 8A	Ø8 8C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø6 6B				Ø8 8B	NOT USED							

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A[1]	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10	26	6	Y	Y	Y		3
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			
4C	TB6-1,2	I7U	65	27	34	4	Y	Y			15
5A[2]	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9	22	2	Y	Y	Y		3
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3
8B	TB5-11,12	J6L	46	8	18	8	Y	Y			
8C	TB7-1,2	J7U	66	28	38	8	Y	Y			15

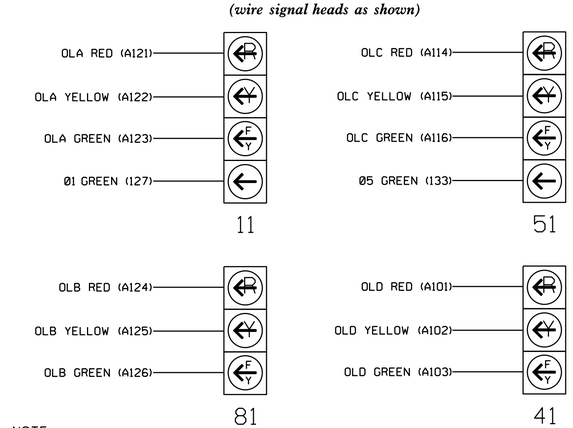
[1] Add jumper from I1-W to J4-W, on rear of input file.

[2] Add jumper from J1-W to I4-W, on rear of input file.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for signal heads 11 and 51 require special logic programming. See sheet 2 for programming instructions.

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 04-0993
DESIGNED: September 2017
SEALED: 11/06/2017
REVISED:

Electrical Detail - Sheet 1 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 70
at
SR 1719 (Beston Road)

Division 4 | Wayne County | Goldsboro

PLAN DATE: October 2017 | REVIEWED BY: T. Joyce
PREPARED BY: C. Strickland | REVIEWED BY:

REVISIONS	INIT.	DATE

Prepared in the Offices of:
Traffic Engineering Branch, Traffic Management Unit, Traffic Signals Management Section, Transportation Mobility and Safety Division, STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce 11/9/2017
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DATE

SIG. INVENTORY NO. 04-0993

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PROJECT REFERENCE NO.	SHEET NO.
U-5958	Sig. 2.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #1  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #51 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #4  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON
AND RED CLEAR ON PHASE #5  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #42 ON
SET OUTPUT  ASSIGNMENT #43 OFF
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

PRESS '+'

```
LOGICAL I/O COMMAND #5  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #44 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

PRESS '+'

```
LOGICAL I/O COMMAND #6  (+/-COMMAND#)
IF  YELLOW ON PHASE    #5  IS ON

SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #43 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦ X
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........2
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE. 1-16)....0
```

NOTICE GREEN FLASH

NOTICE 2 SECOND GREEN EXTENSION

PRESS '+'

```
PAGE 1: VEHICLE OVERLAP 'B' SETTINGS
PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦   X
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE. 1-16)....0
```

NOTICE GREEN FLASH

PRESS '+'

```
PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦    XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦     X
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........2
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE. 1-16)....0
```

NOTICE GREEN FLASH

NOTICE 2 SECOND GREEN EXTENSION

PRESS '+'

```
PAGE 1: VEHICLE OVERLAP 'D' SETTINGS
PHASE:          ¦123456789101112131415 16
VEH OVL PARENTS:¦       X
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE. 1-16)....0
```

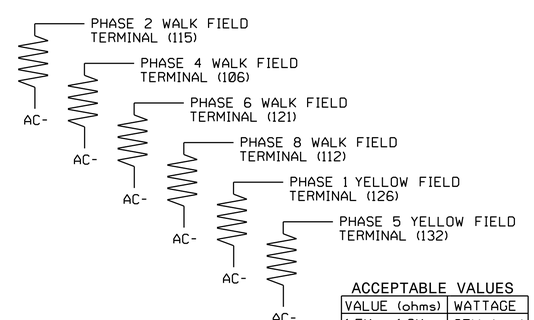
NOTICE GREEN FLASH

PRESS '+'

OVERLAP PROGRAMMING COMPLETE

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)



ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)

Electrical Detail - Sheet 2 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 04-0993
DESIGNED: September 2017
SEALED: 11/06/2017
REVISED:

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared In the Offices of:

Traffic Engineering Branch, Traffic Mobility and Safety Division, State of North Carolina Department of Transportation, Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

US 70
at
SR 1719 (Beston Road)

Division 4 | Wayne County | Goldsboro

PLAN DATE: October 2017 | REVIEWED BY: T. Joyce
PREPARED BY: C. Strickland | REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce 11/9/2017
A90CADFDBD4241D...
DATE

SIG. INVENTORY NO. 04-0993

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cestrickland

PROJECT REFERENCE NO.	SHEET NO.
U-5958	Sig. 2.3

OUTPUT ASSIGNMENT PROGRAMMING DETAIL FOR PHASE 2 ADVANCE BEACON APPROACH

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS). THEN '1' (OUTPUT ASSIGNMENTS). PRESS '+' UNTIL OUTPUT #33 (PIN 35) IS REACHED.

```
PAGE:1  C1 PIN:35  NOT ENABLED
OUTPUT ASSIGNMENT #.................33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH)..............1
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON.....................Y
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

THE FIRST THREE PROGRAMMING ROWS DEFINE THE OUTPUT TO FLASH. ALONG WITH THE RATE IN WHICH IT WILL FLASH.

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

```
PAGE:1  C1 PIN:35  NOT ENABLED
SELECT BEACON INDEX (1-4)..........1
```

WHEN A 'Y' IS ENTERED FOR 'ADVANCE BEACON' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'ADVANCE BEACON' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:35  ADVANCE BEACON
OUTPUT ASSIGNMENT #.................33
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH)..............1
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON.....................Y
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

FROM MAIN MENU PRESS '6' (OUTPUTS). THEN '1' (OUTPUT ASSIGNMENTS). PRESS '+' UNTIL OUTPUT #34 (PIN 36) IS REACHED.

```
PAGE:1  C1 PIN:36  NOT ENABLED
OUTPUT ASSIGNMENT #.................34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER...............Y
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

```
PAGE:1  C1 PIN:36  NOT ENABLED
SELECT OUTPUT ASSIGNMENT (1-64).......33
```

WHEN A 'Y' IS ENTERED FOR 'OUT OF PHASE FLASHER' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'OUT OF PHASE FLASHER' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:36  OUT OF PHASE FLASHER
OUTPUT ASSIGNMENT #.................34
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER...............Y
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ADVANCE BEACON PROGRAMMING DETAIL FOR PHASE 2 AND PHASE 6 APPROACH

(program controller as shown below)

1. FROM MAIN MENU PRESS '6' (OUTPUTS). THEN '2' (OUTPUT BEACON SETTINGS).

```
          OUTPUT BEACON SETTINGS
TRIGGER PHASES: |123456789101112131415 16
BEACON #1 OFF   | X
BEACON #2 OFF   |     X
BEACON #3 OFF   |
BEACON #4 OFF   |
                BEACON |  1  2  3  4
OFF DELAY TIME (0-255)|  0  0  0  0
ON DELAY TIME  (0-255)|  0  0  0  0
STOP-TIME HOLD (0-255)|  2  2  0  0
```

NOTICE STOP-TIME HOLD SETTINGS FOR BEACON #1 AND BEACON #2

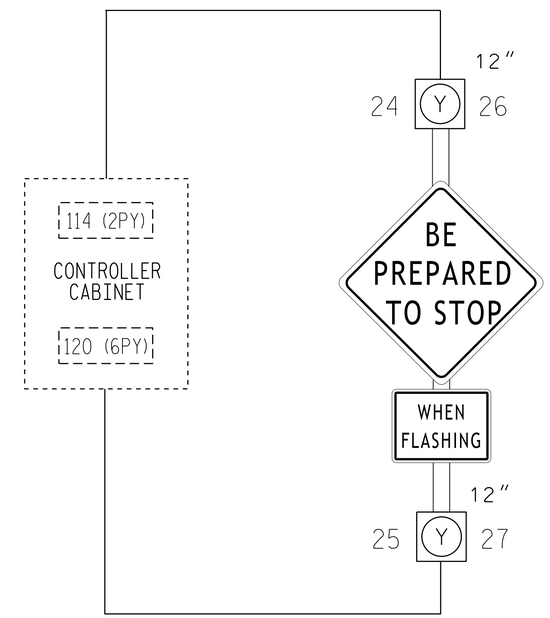
SCROLL DOWN TO VIEW ALL DATA

ADVANCE BEACON PROGRAMMING COMPLETE

NOTE: AN OUTPUT HAS TO BE ASSIGNED AS AN ADVANCE BEACON IN ORDER FOR PROPER OPERATION TO OCCUR. SEE OUTPUT ASSIGNMENT DETAIL FOR PHASE 2 APPROACH ON THIS SHEET, AND FOR PHASE 6 APPROACH ON SHEET 4.

ADVANCE BEACON WIRING DETAIL FOR PHASE 2 APPROACH

(wire flashers as shown below)



IMPORTANT

1. IF PRESENT, REMOVE, TAPE AND LABEL CONFLICT MONITOR WIRE ATTACHED TO THE REAR OF TERMINAL 114 (2PY) AND TERMINAL 120 (6PY).
2. INSTALL LOADSWITCHES IN OUTPUT FILE SLOTS S3 AND S9.
3. MAKE SURE LOAD RESISTORS ARE IN PLACE AS SHOWN IN LOAD RESISTOR INSTALLATION DETAIL ON SHEET 2.
4. TO ACTIVATE ADVANCE BEACON OPERATION AS INDICATED ON THE SIGNAL PLAN, RE-ASSIGN OUTPUT 33 AND 34 AS SHOWN ON THIS SHEET.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 04-0993
DESIGNED: September 2017
SEALED: 11/06/2017
REVISED:

Electrical Detail - Sheet 3 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
Signal Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

US 70
at
SR 1719 (Beston Road)

Division 4 | Wayne County | Goldsboro

PLAN DATE:	October 2017	REVIEWED BY:	T. Joyce
PREPARED BY:	C. Strickland	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce A80CADFDBD4241D... 11/9/2017 DATE

SIG. INVENTORY NO. 04-0993

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cestrickland

PROJECT REFERENCE NO.	SHEET NO.
U-5958	Sig. 2.4

OUTPUT ASSIGNMENT PROGRAMMING DETAIL FOR PHASE 6 ADVANCE BEACON APPROACH

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS). THEN '1' (OUTPUT ASSIGNMENTS). PRESS '+' UNTIL OUTPUT #35 (PIN 37) IS REACHED.

```
PAGE:1  C1 PIN:37  NOT ENABLED
OUTPUT ASSIGNMENT #.................35
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH)..............1
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON.....................Y
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

THE FIRST THREE PROGRAMMING ROWS DEFINE THE OUTPUT TO FLASH. ALONG WITH THE RATE IN WHICH IT WILL FLASH.

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

```
PAGE:1  C1 PIN:37  NOT ENABLED
SELECT BEACON INDEX (1-4)...........2
```

WHEN A 'Y' IS ENTERED FOR 'ADVANCE BEACON' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'ADVANCE BEACON' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:37  ADVANCE BEACON
OUTPUT ASSIGNMENT #.................35
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...1.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...50
MODE (0=SOLID,1=FLASH)..............1
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON.....................Y
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

FROM MAIN MENU PRESS '6' (OUTPUTS). THEN '1' (OUTPUT ASSIGNMENTS). PRESS '+' UNTIL OUTPUT #36 (PIN 38) IS REACHED.

```
PAGE:1  C1 PIN:38  NOT ENABLED
OUTPUT ASSIGNMENT #.................36
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER...............Y
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

THE NOT ENABLED 'Y' WILL REMAIN UNTIL THE FUNCTION OF THIS OUTPUT IS CHANGED. DO NOT ENTER AN 'N'.

```
PAGE:1  C1 PIN:38  NOT ENABLED
SELECT OUTPUT ASSIGNMENT (1-64).......35
```

WHEN A 'Y' IS ENTERED FOR 'OUT OF PHASE FLASHER' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

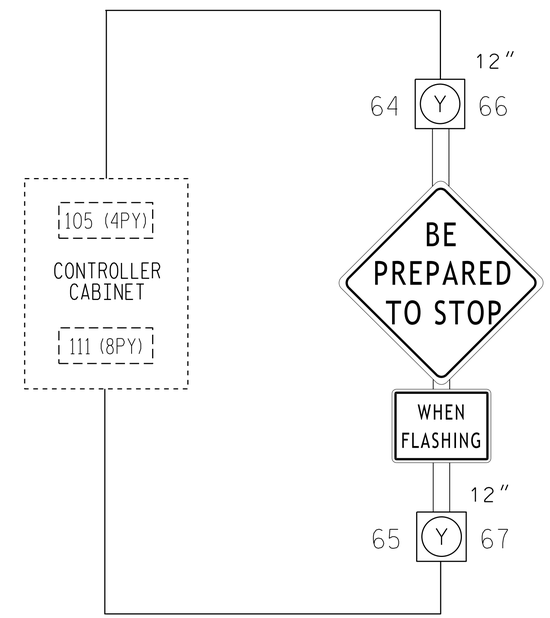
DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'OUT OF PHASE FLASHER' AS SHOWN BELOW.

```
PAGE:1  C1 PIN:38  OUT OF PHASE FLASHER
OUTPUT ASSIGNMENT #.................36
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER...............Y
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

NOTE: SEE ADVANCE BEACON PROGRAMMING DETAIL ON SHEET 3 TO PROGRAM THE PHASE 6 ADVANCE BEACON APPROACH.

ADVANCE BEACON WIRING DETAIL FOR PHASE 6 APPROACH

(wire flashers as shown below)



IMPORTANT

1. IF PRESENT, REMOVE, TAPE AND LABEL CONFLICT MONITOR WIRE ATTACHED TO THE REAR OF TERMINAL 105 (4PY) AND TERMINAL 111 (8PY).
2. INSTALL LOADSWITCHES IN OUTPUT FILE SLOTS S6 AND S12.
3. MAKE SURE LOAD RESISTORS ARE IN PLACE AS SHOWN IN LOAD RESISTOR INSTALLATION DETAIL ON SHEET 2.
4. TO ACTIVATE ADVANCE BEACON OPERATION AS INDICATED ON THE SIGNAL PLAN, RE-ASSIGN OUTPUT 35 AND 36 AS SHOWN ON THIS SHEET.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 04-0993
DESIGNED: September 2017
SEALED: 11/06/2017
REVISED:

Electrical Detail - Sheet 4 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

US 70
at
SR 1719 (Beston Road)

Division 4 | Wayne County | Goldsboro

PLAN DATE:	October 2017	REVIEWED BY:	T. Joyce
PREPARED BY:	C. Strickland	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce
A00CADFD8D4241D...
11/9/2017
DATE

SIG. INVENTORY NO. 04-0993

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cestrickland

PROJ. REFERENCE NO.	SHEET NO.
U-5958	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CROSS-SECTION SUMMARY

Quantities are approximate only. The Resident Engineer will recross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid.

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDES BACKFILL FOR UNDERCUT

STATION WBL	UNCLASSIFIED EXCAVATION (CU YD)	EMBANKMENT (CU YD)	
46+50			
47+00			
47+50			
48+00	5		
48+50	14	2	
49+00	23	5	
49+50	31	8	
50+00	34	12	
50+50	34	15	
51+00	34	15	
51+50	34	15	
52+00	34	15	
52+50	34	15	
53+00	34	15	
53+50	31	15	
54+00	28	16	
54+50	33	17	
55+00	42	15	
55+50	52	13	
56+00	59	11	
56+50	61	12	
57+00	56	14	
57+50	46	16	
58+00	36	16	
58+50	27	13	
59+00	15	14	
59+50	31	8	
60+00	59		
60+50	68	10	
61+00	36	10	
61+50	2	5	
62+00	9	26	
62+50	11	31	
63+00	11	27	
63+50	11	41	
64+00	9	53	
64+50	8	55	
65+00	6	55	
65+50	8	51	
66+00	11	43	
66+50	11	38	
67+00	12	37	
67+50	15	31	
68+00	18	25	
68+50	21	20	
69+00	18	22	
69+50	11	30	
70+00	9	34	
70+50	8	32	
71+00	5	26	
71+50	2	11	
72+00			
72+50			

STATION Y	UNCLASSIFIED EXCAVATION (CU YD)	EMBANKMENT (CU YD)	
13+05			
13+50	22	1	
14+00	35	5	
14+50	15	17	
15+00	8	25	
15+50	9	26	
16+00	15	16	
16+50	29	6	
17+00	30	5	
17+50	12	2	
18+00			
18+50			
19+00			
19+50	25	1	
20+00	47	2	
20+50	33	17	
21+00	31	22	
21+50	36	14	
22+00	45	10	
22+50	44	12	
23+00	24	21	
23+25	4	6	

STATION	UNCLASSIFIED EXCAVATION (CU YD)	EMBANKMENT (CU YD)	

STATION	UNCLASSIFIED EXCAVATION (CU YD)	EMBANKMENT (CU YD)	

6/23/16

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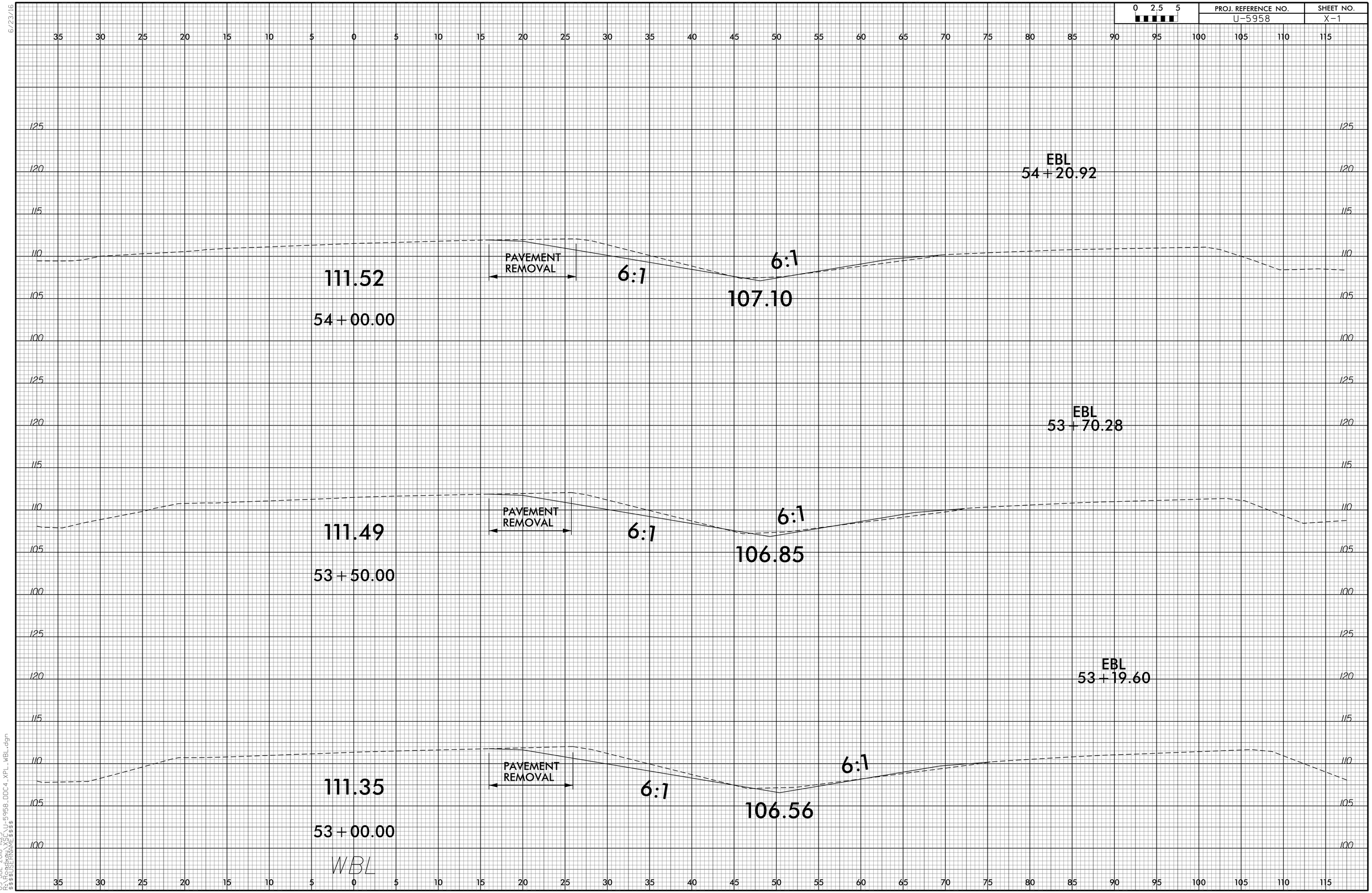
	U-5958	X-1



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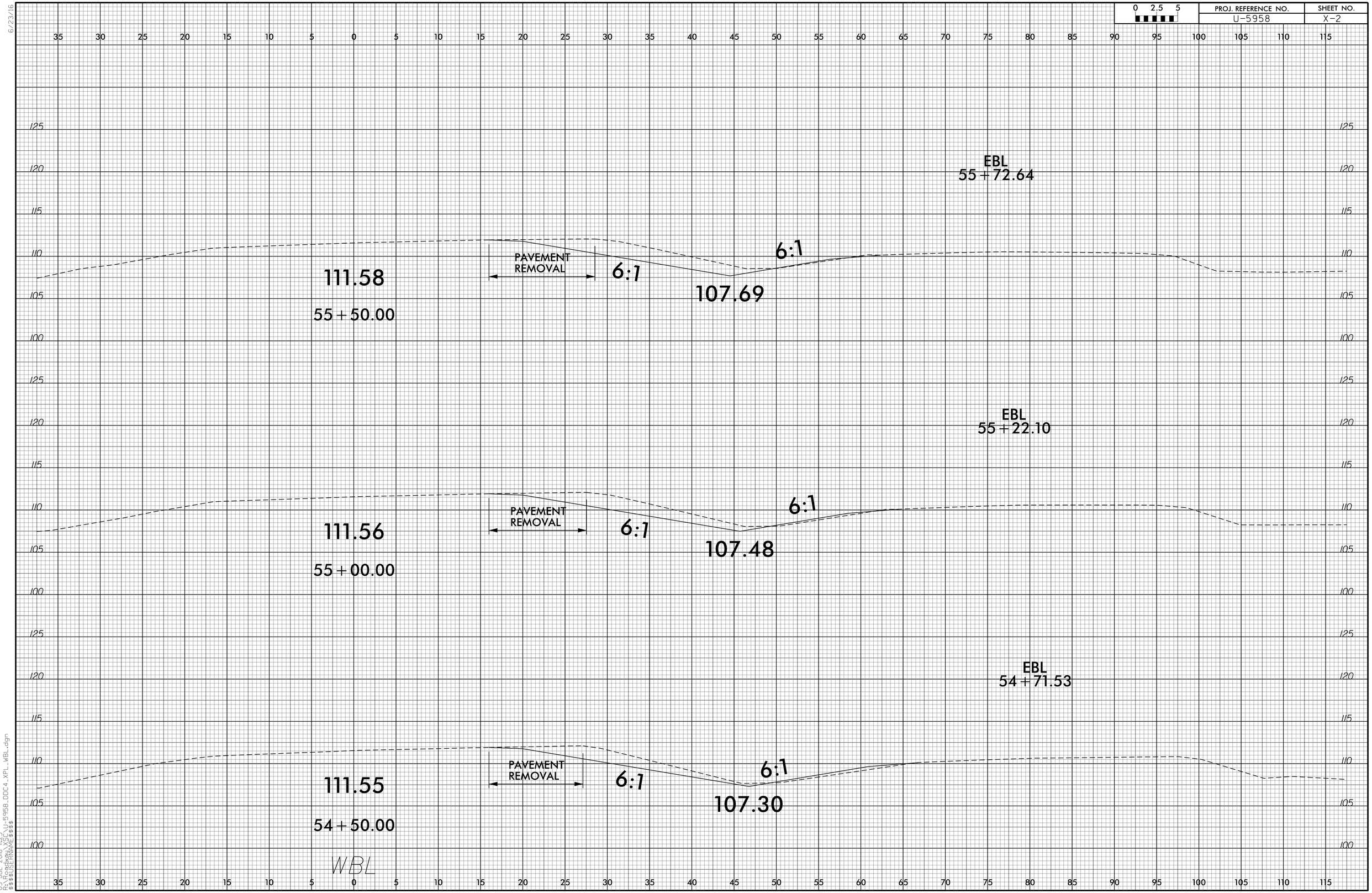

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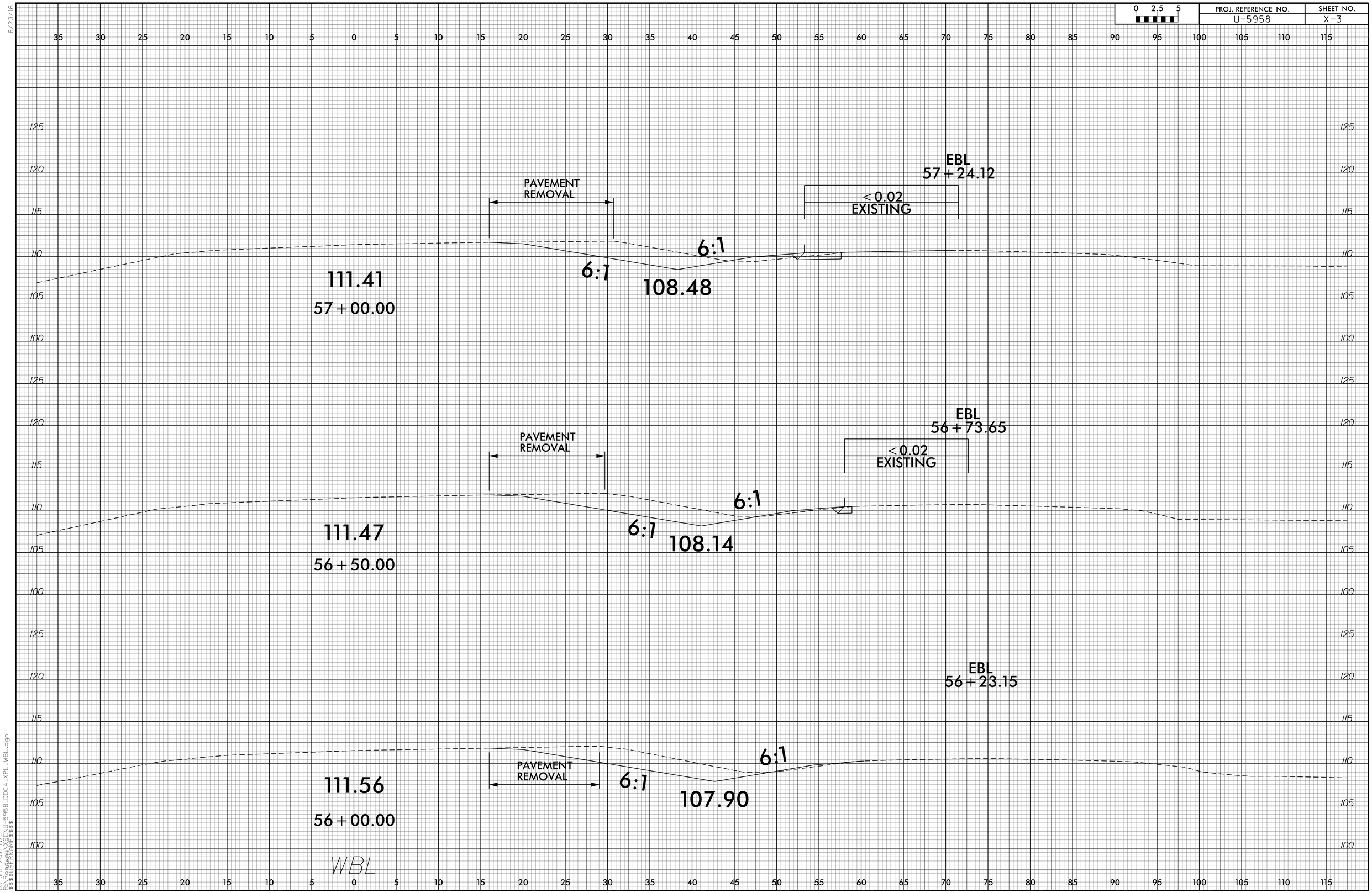

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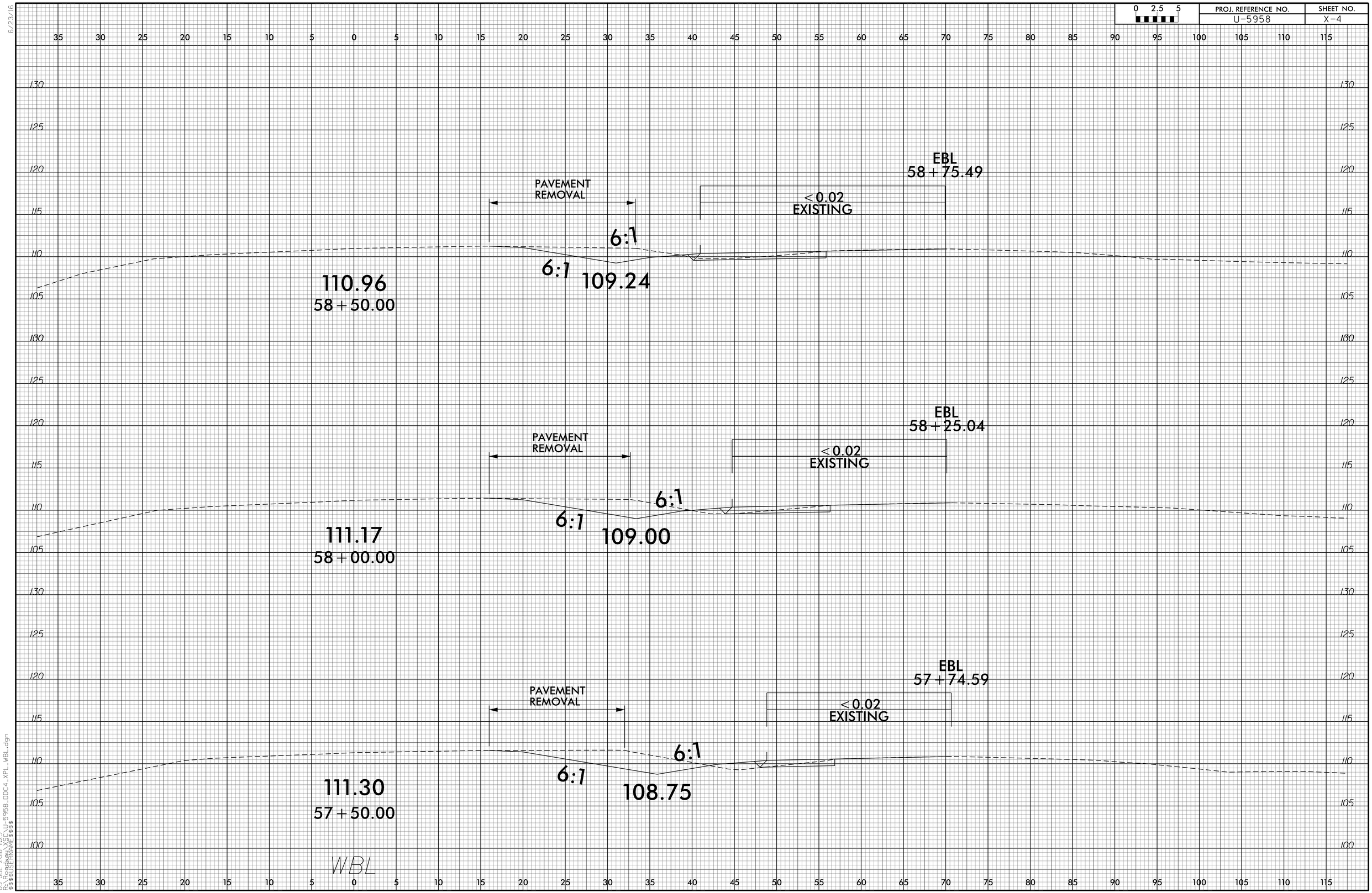
	U-5958	X-4



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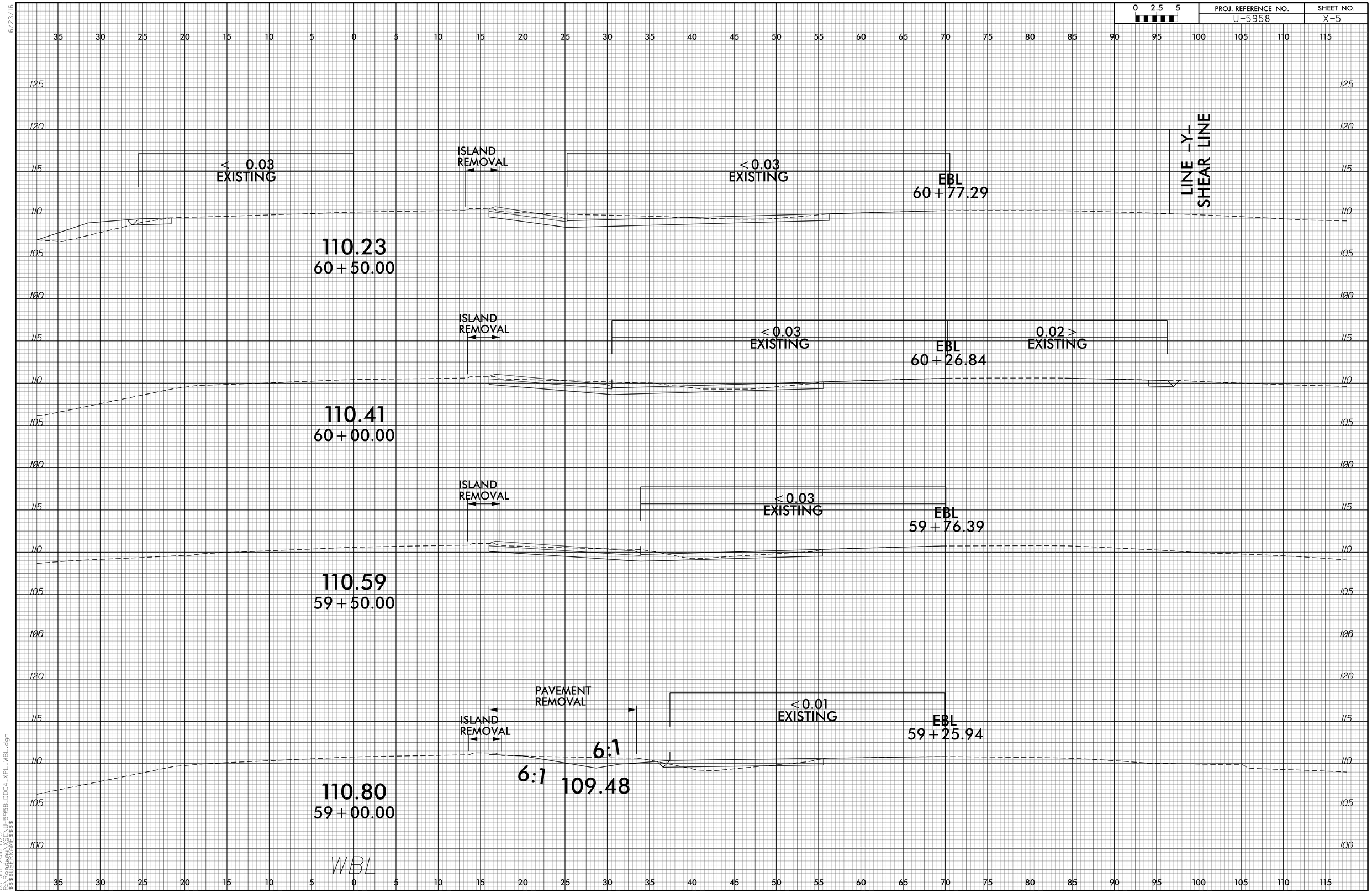

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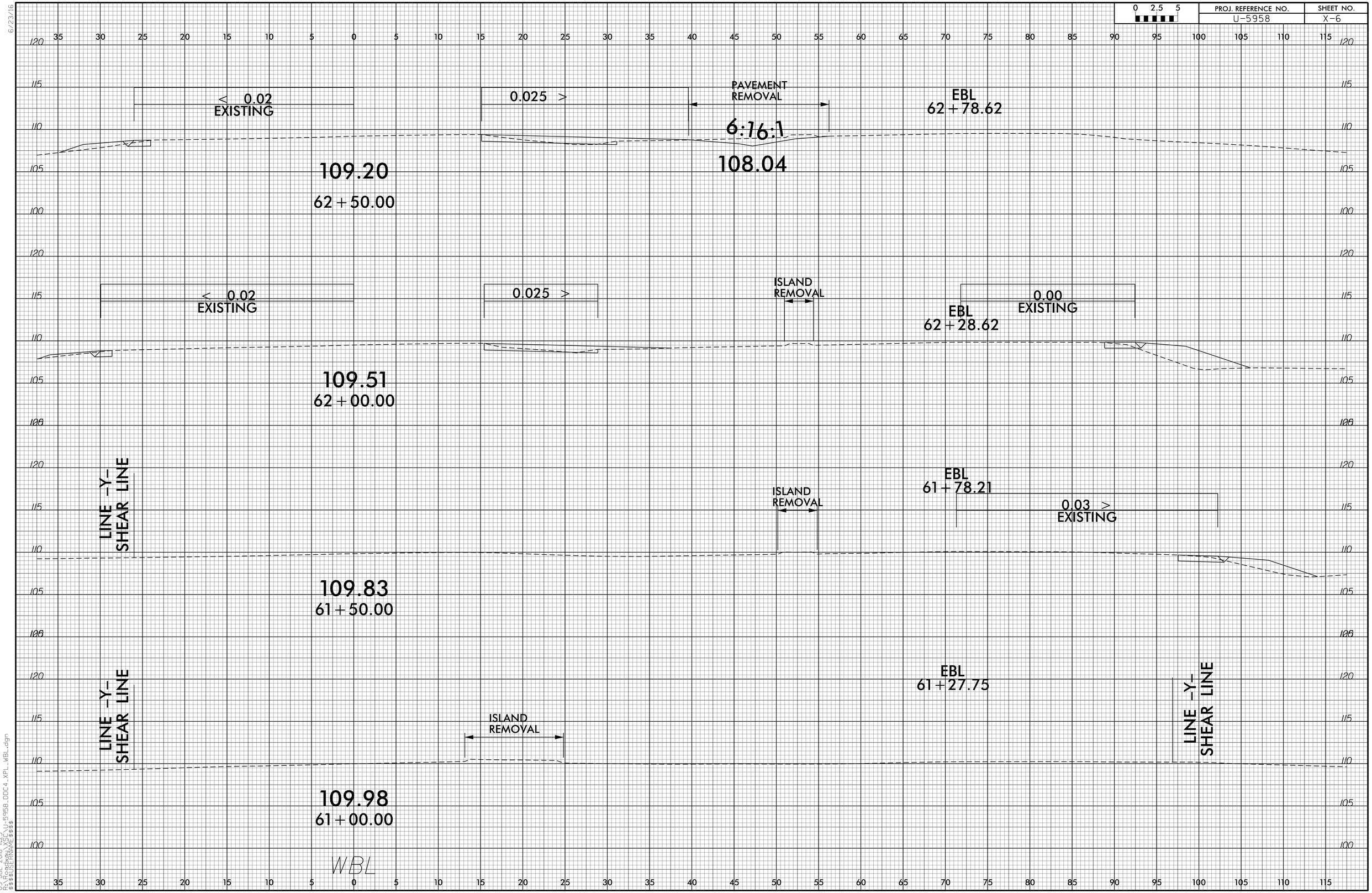
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5958	X-6



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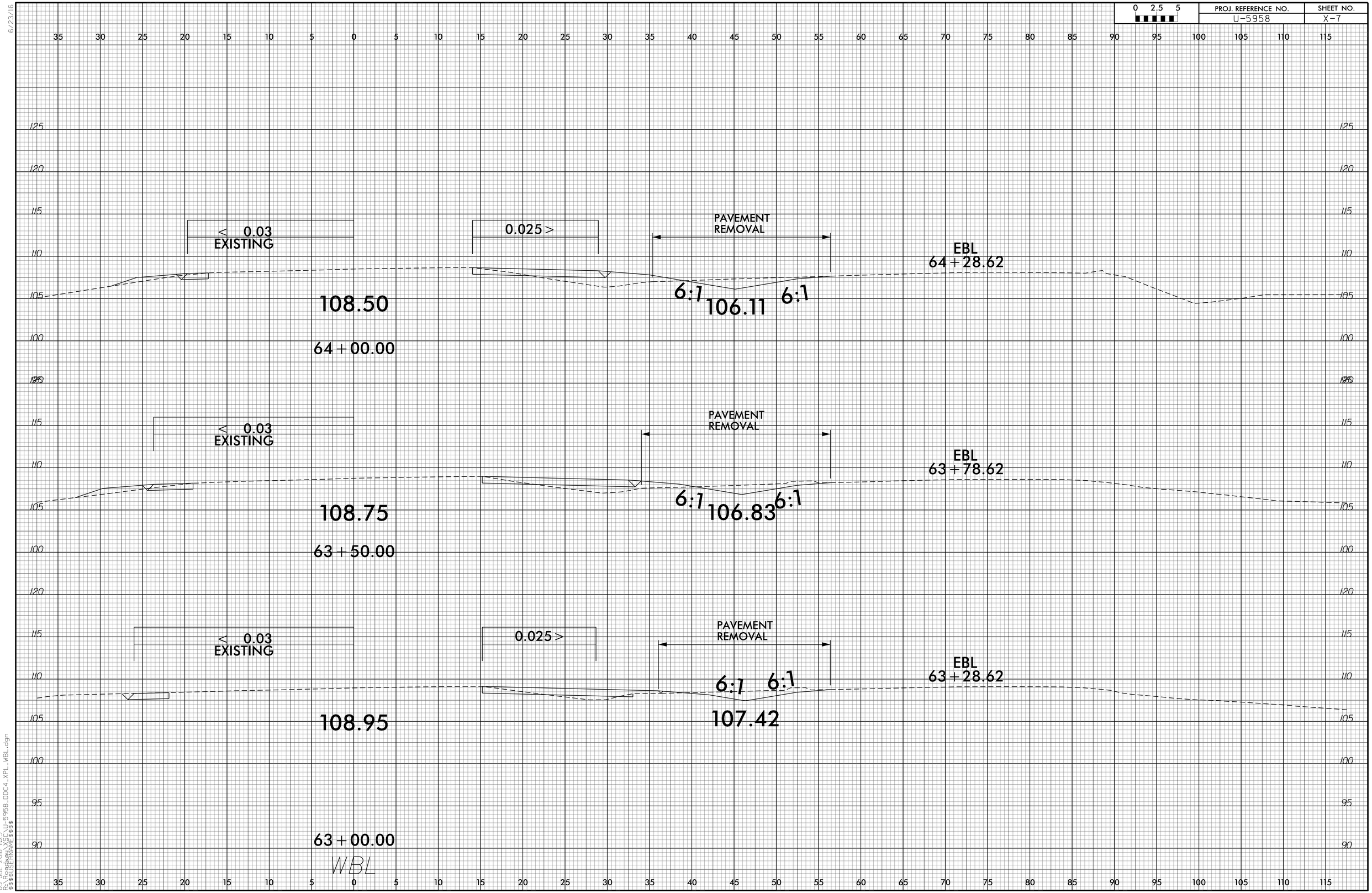

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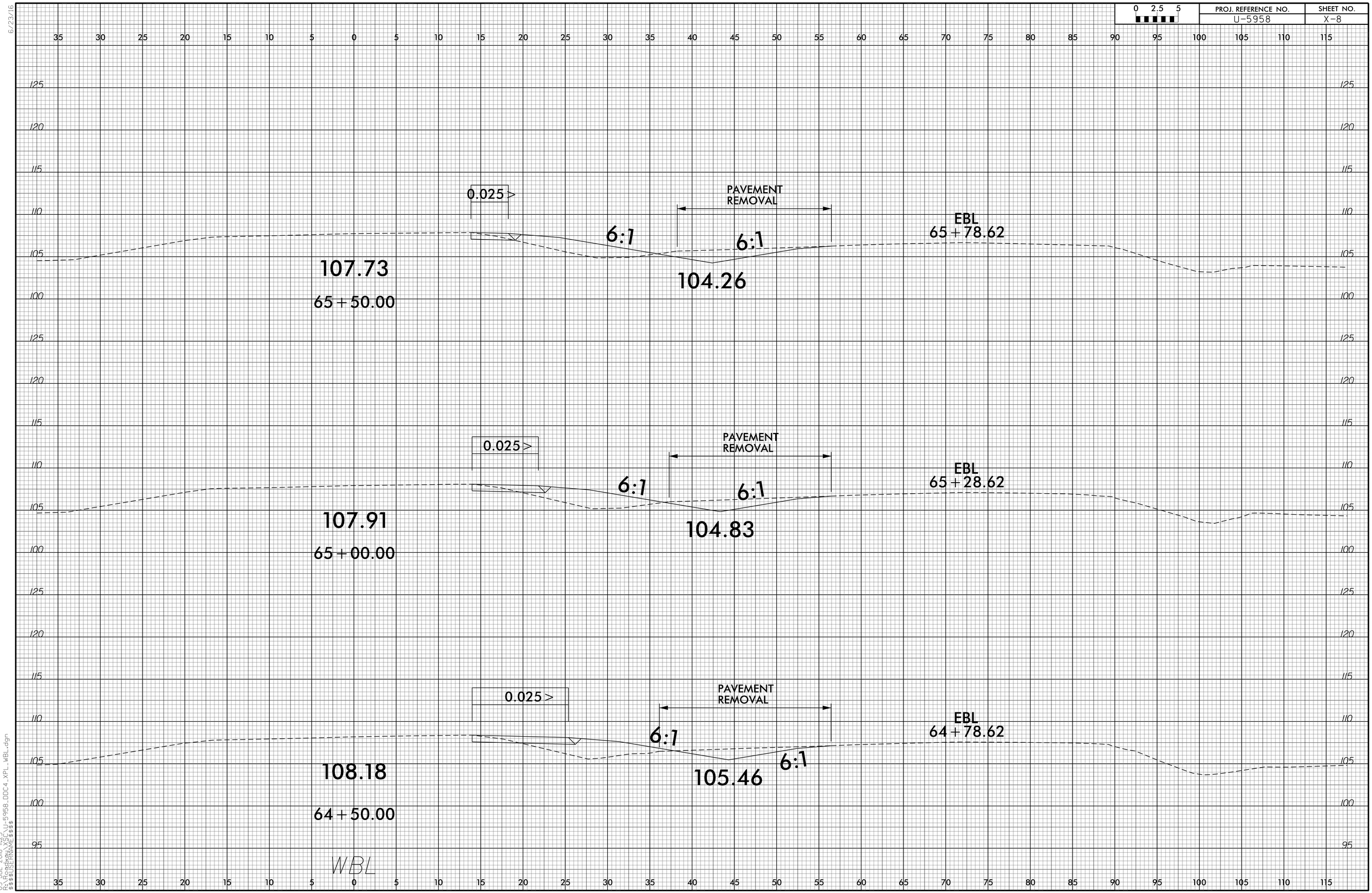

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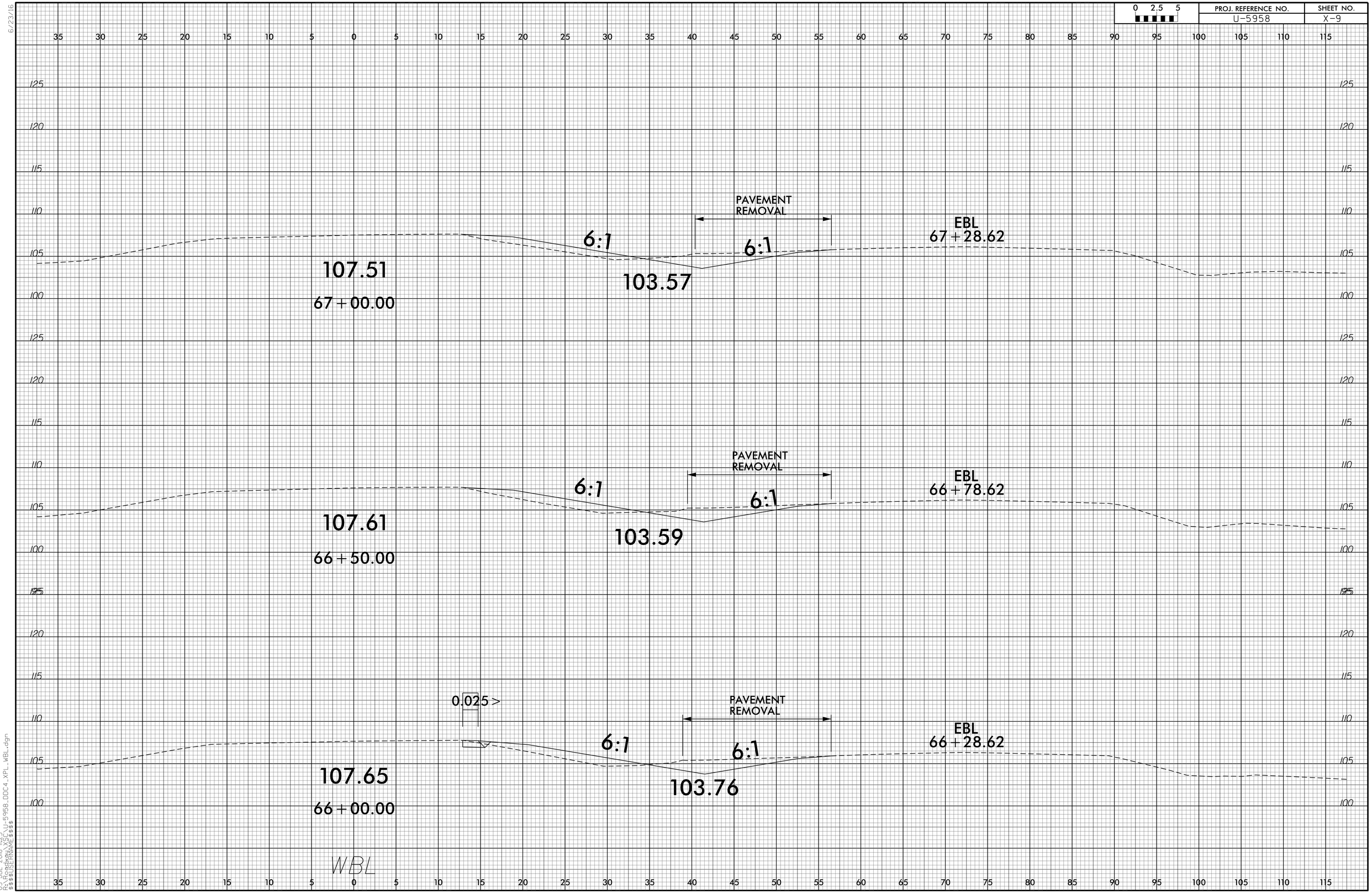
	U-5958	X-9



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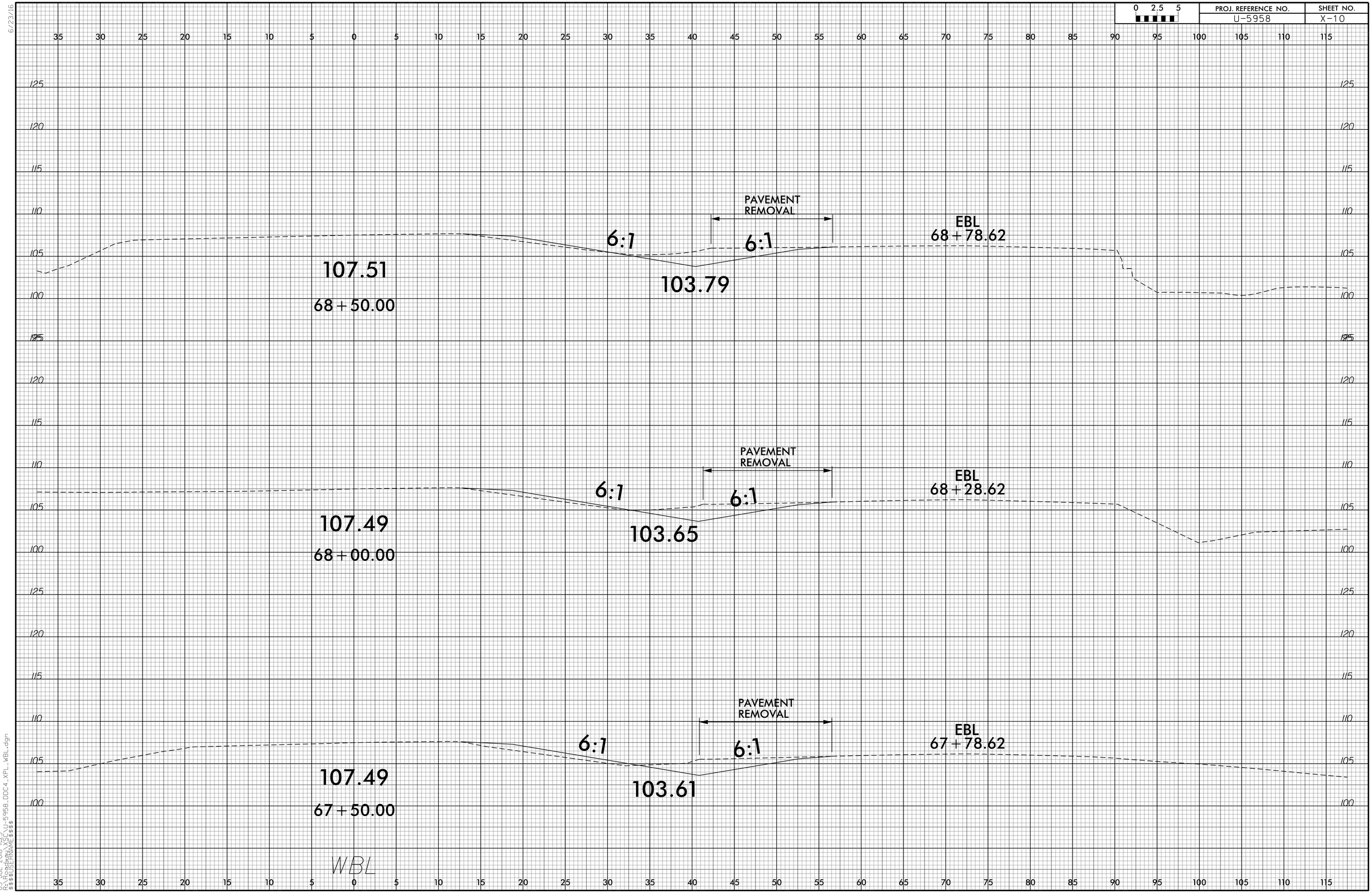
	U-5958	X-10



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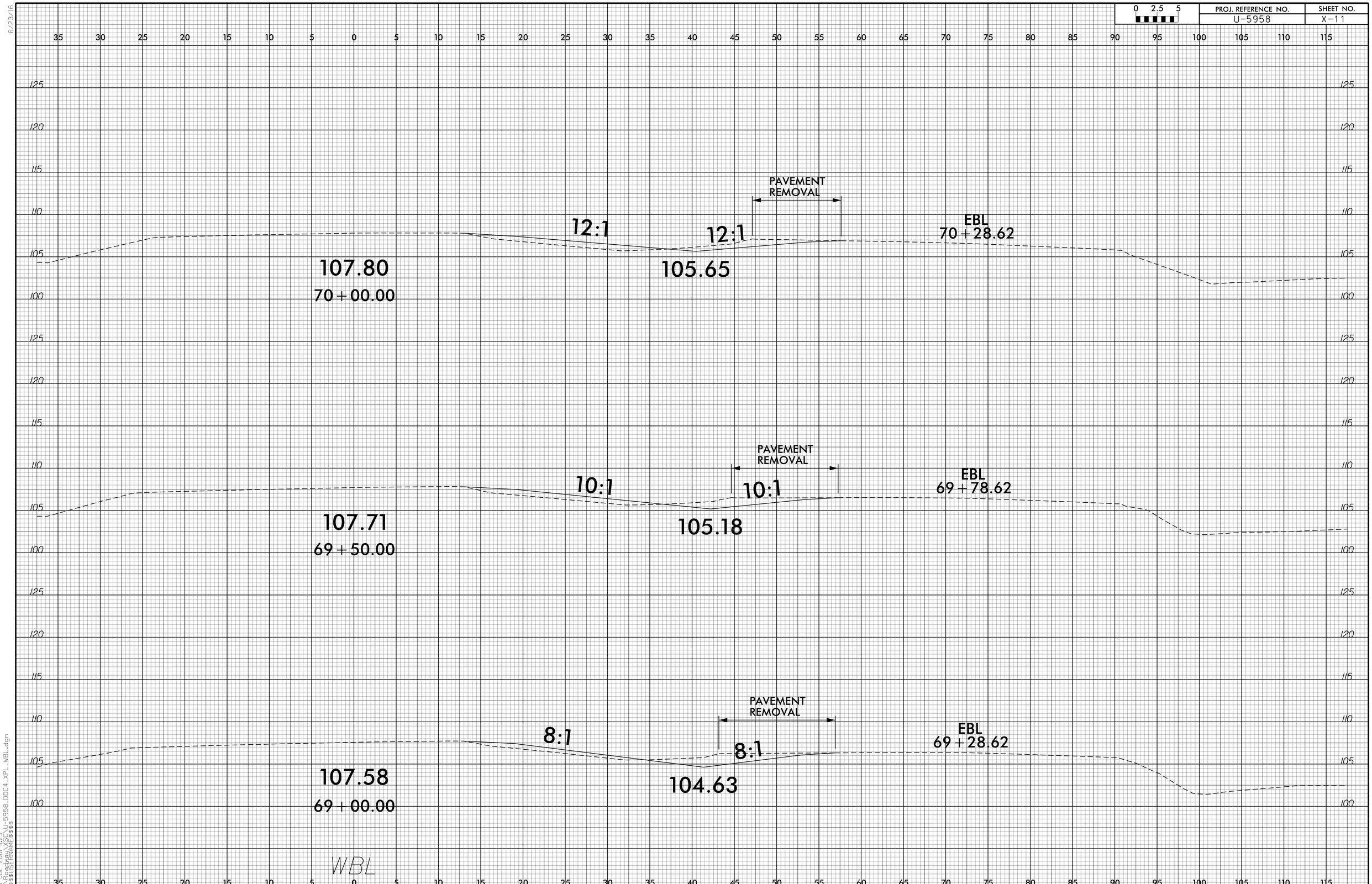

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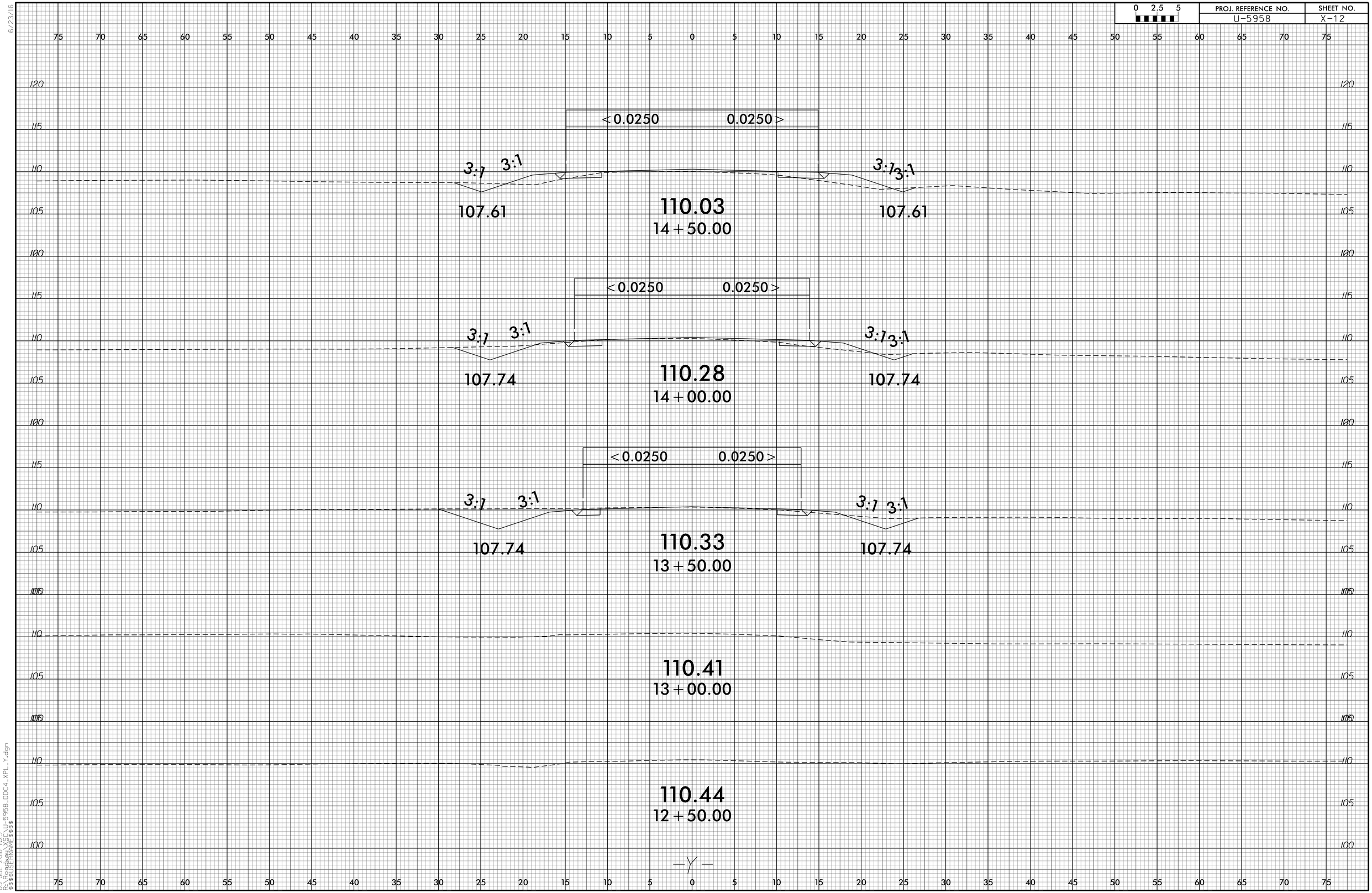
	U-5958	X-12



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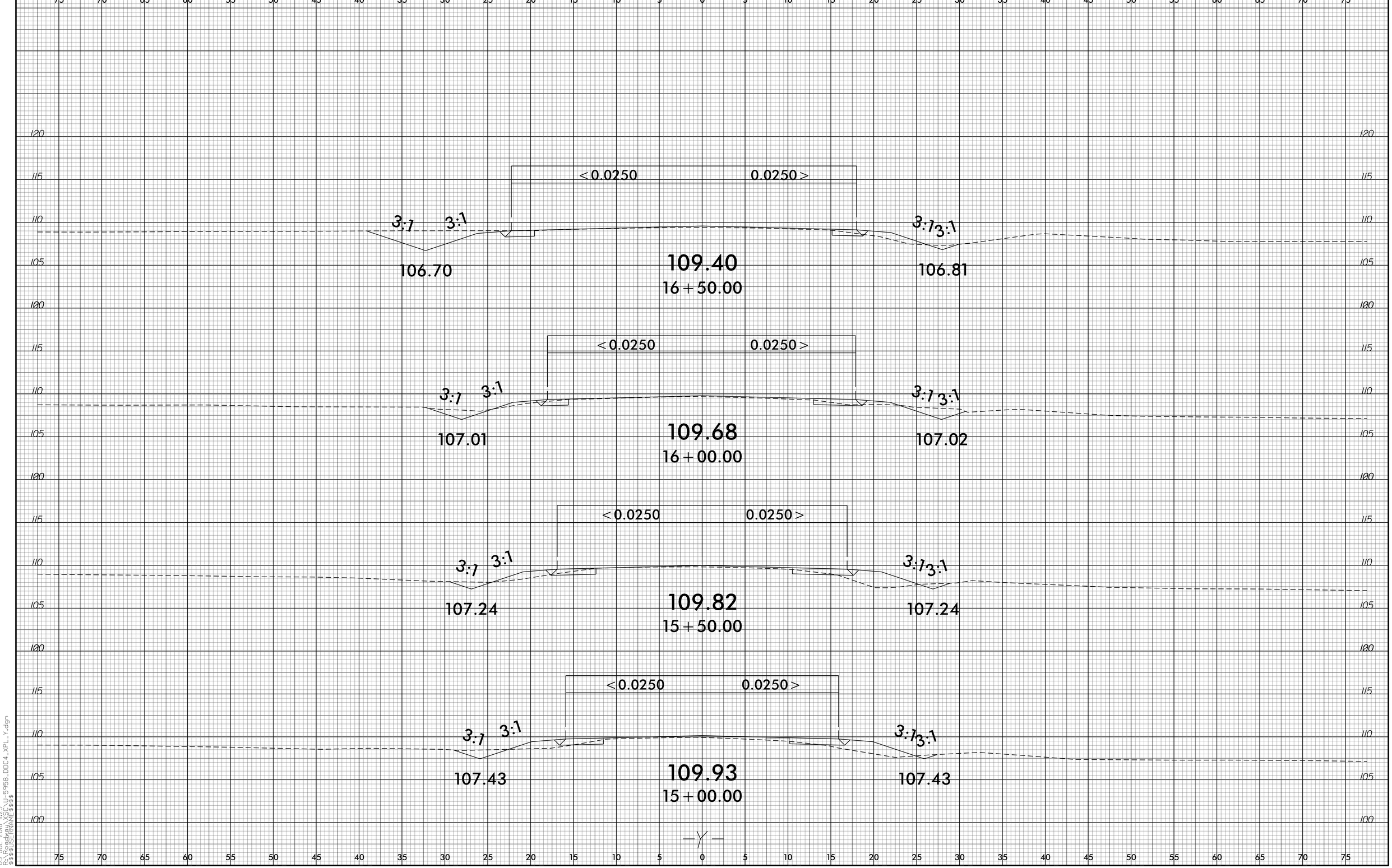
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5958	X-13



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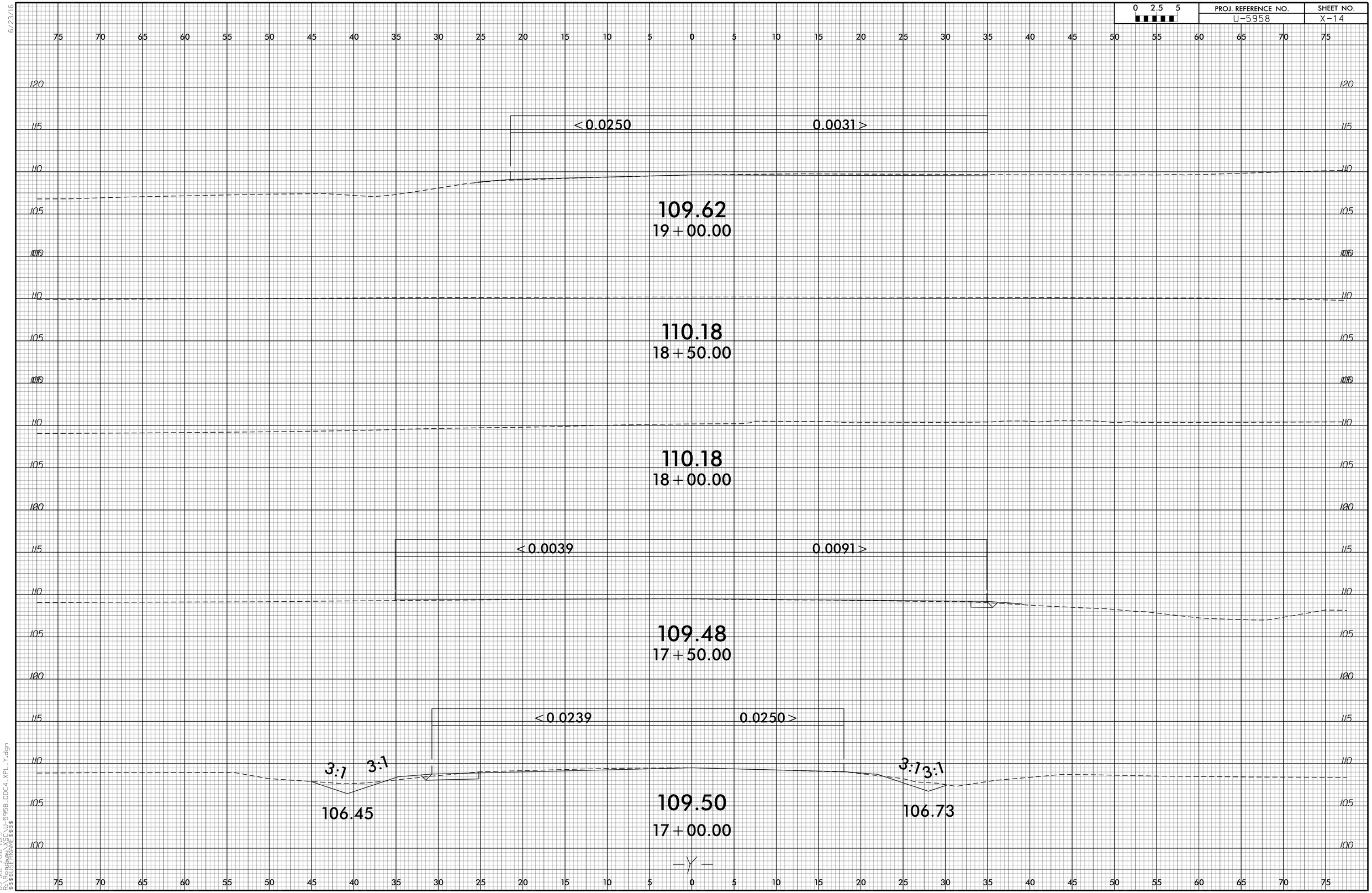
	U-5958	X-14



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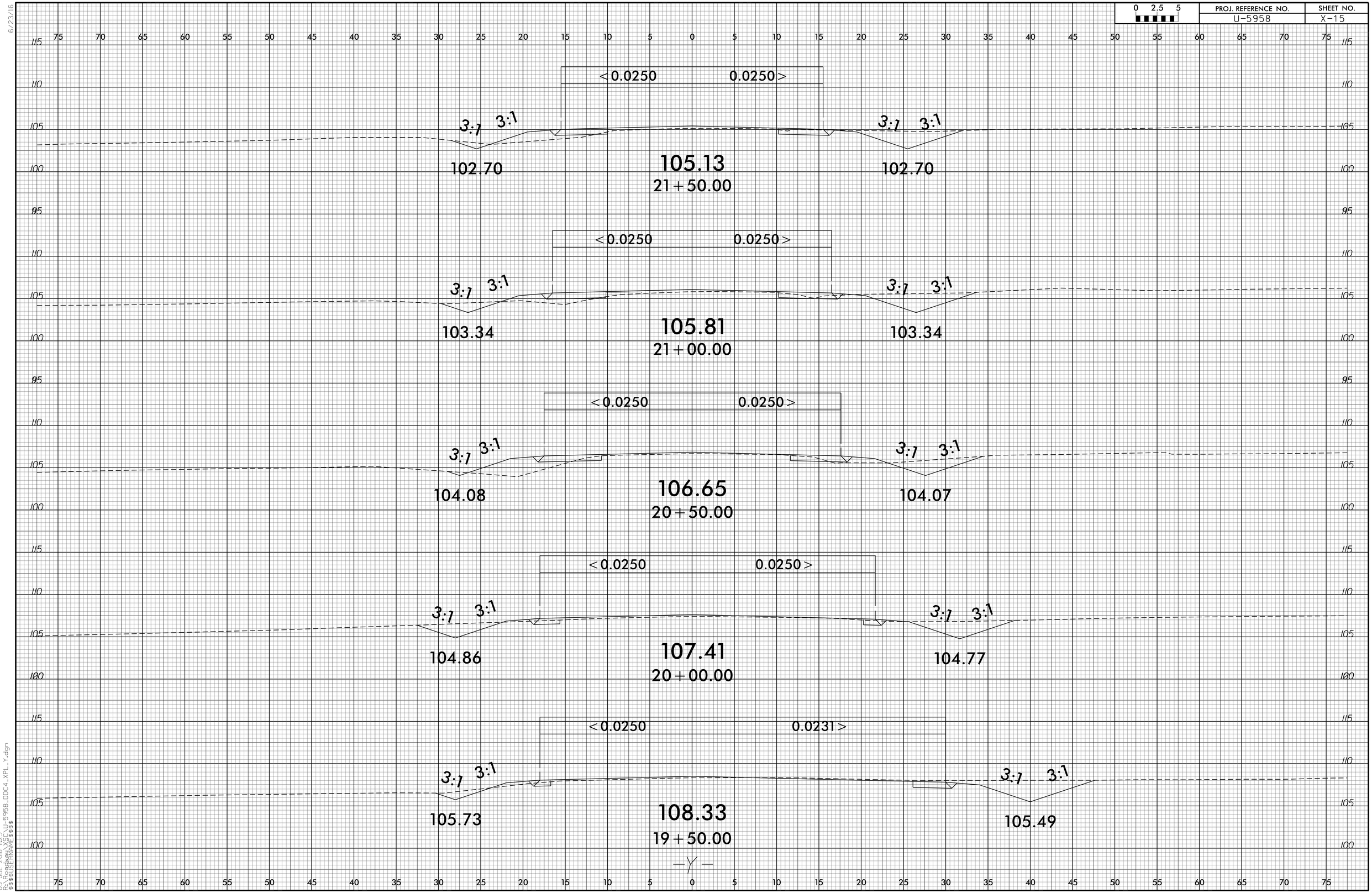
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5958	X-15



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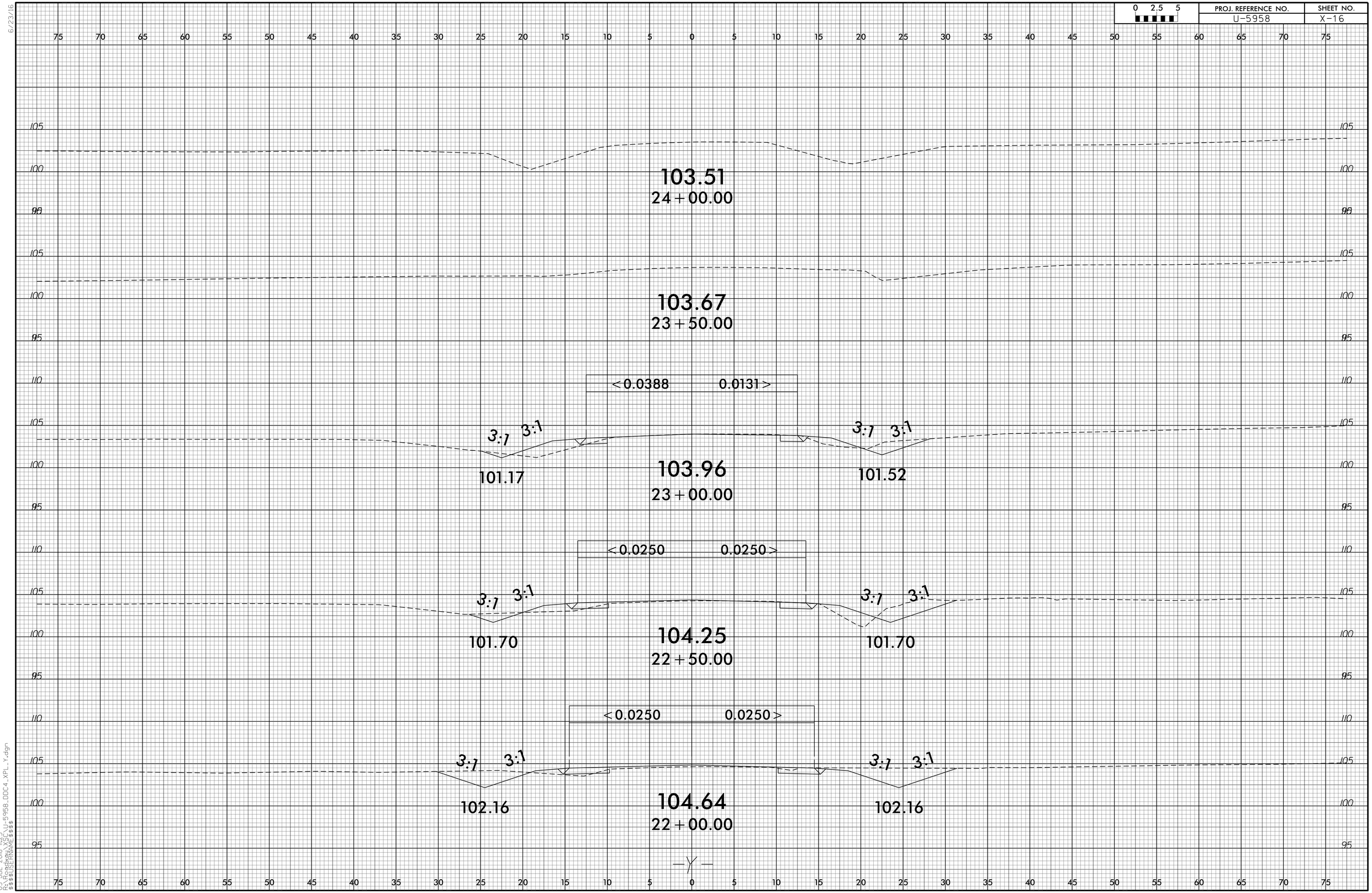

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