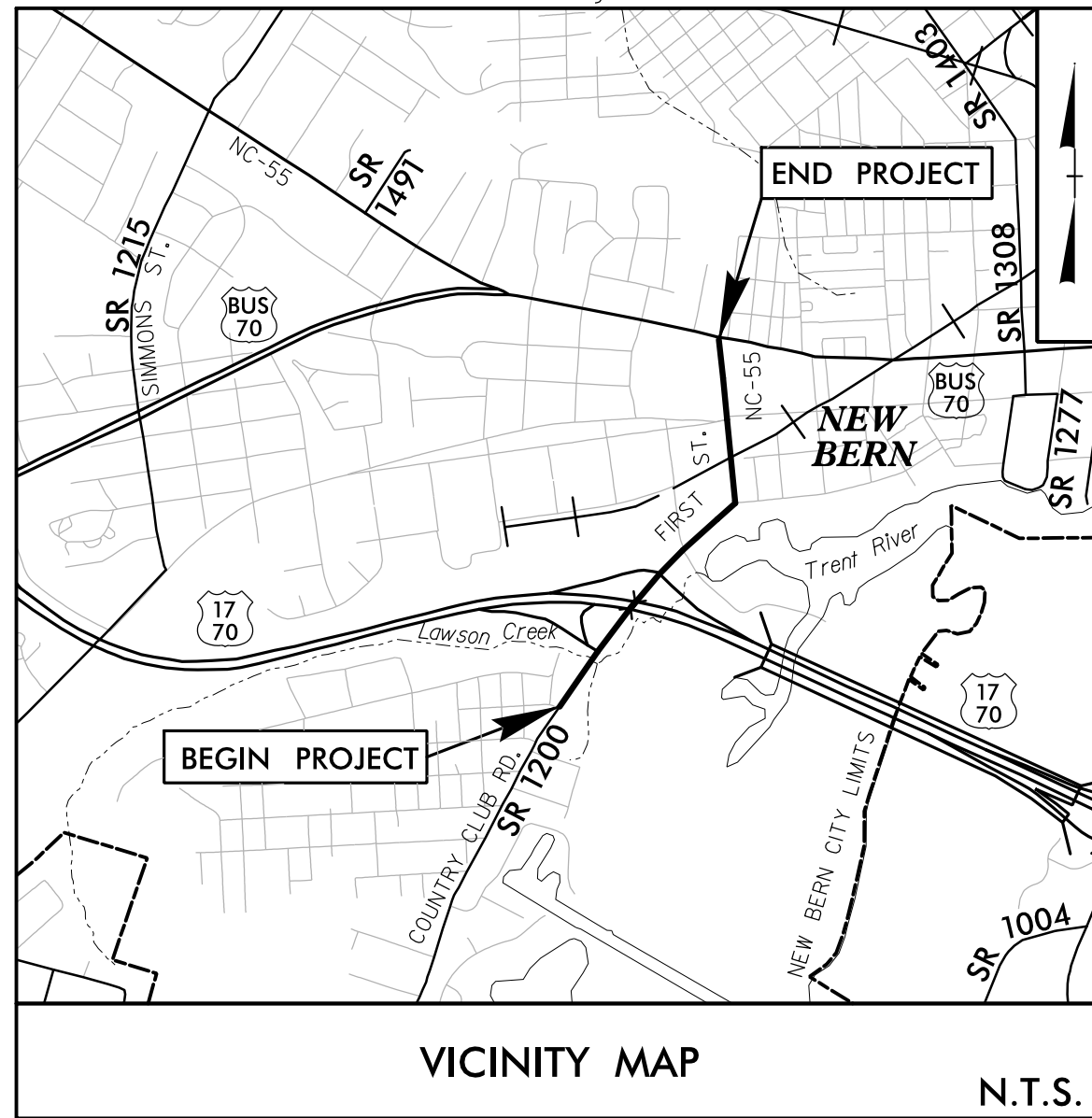


09/08/19

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



# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## CRAVEN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5992	1	74
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47112.1.1		P.E.	
47112.2.1		R.O.W	
47112.3.1		CONSTRUCTION	

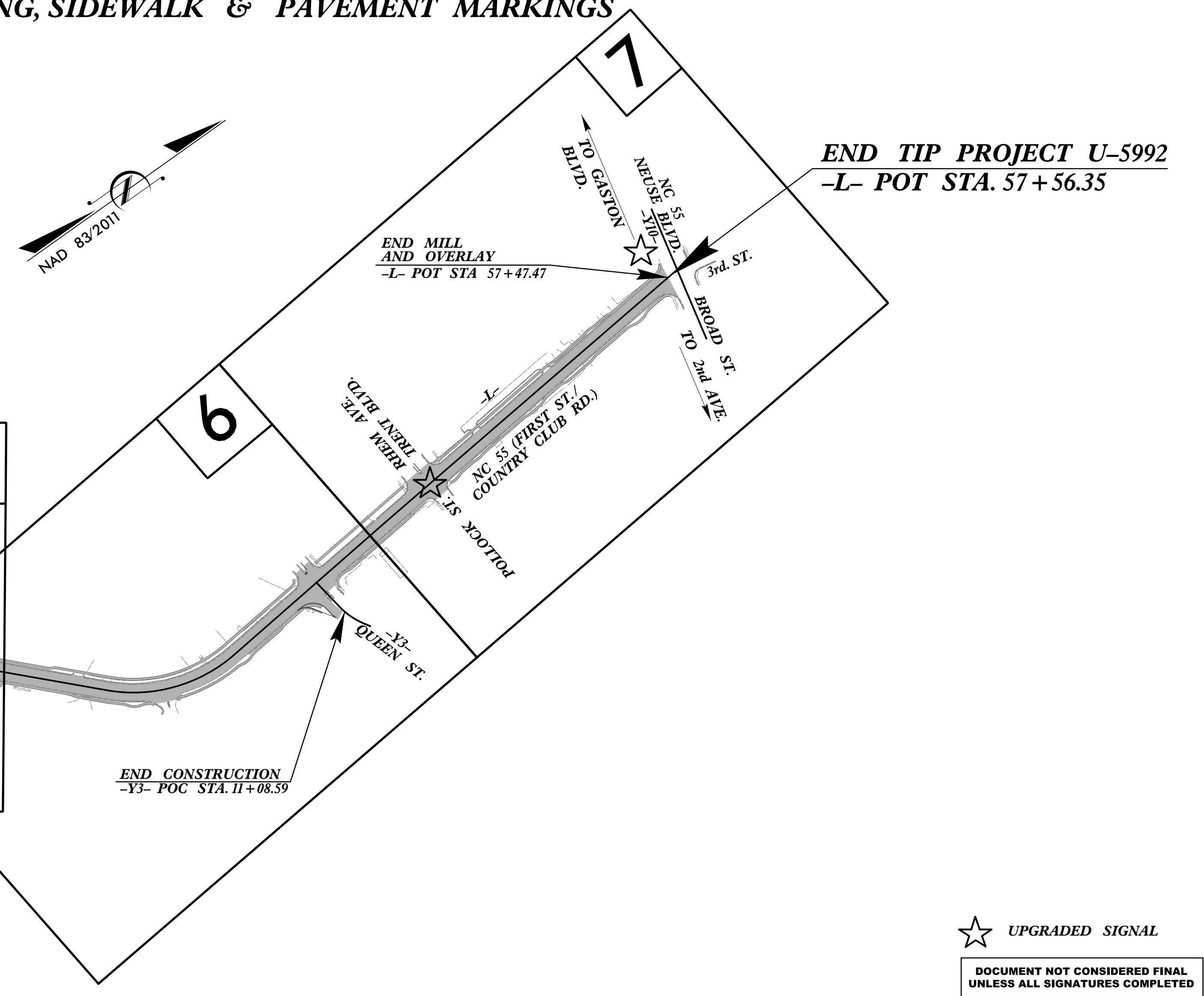
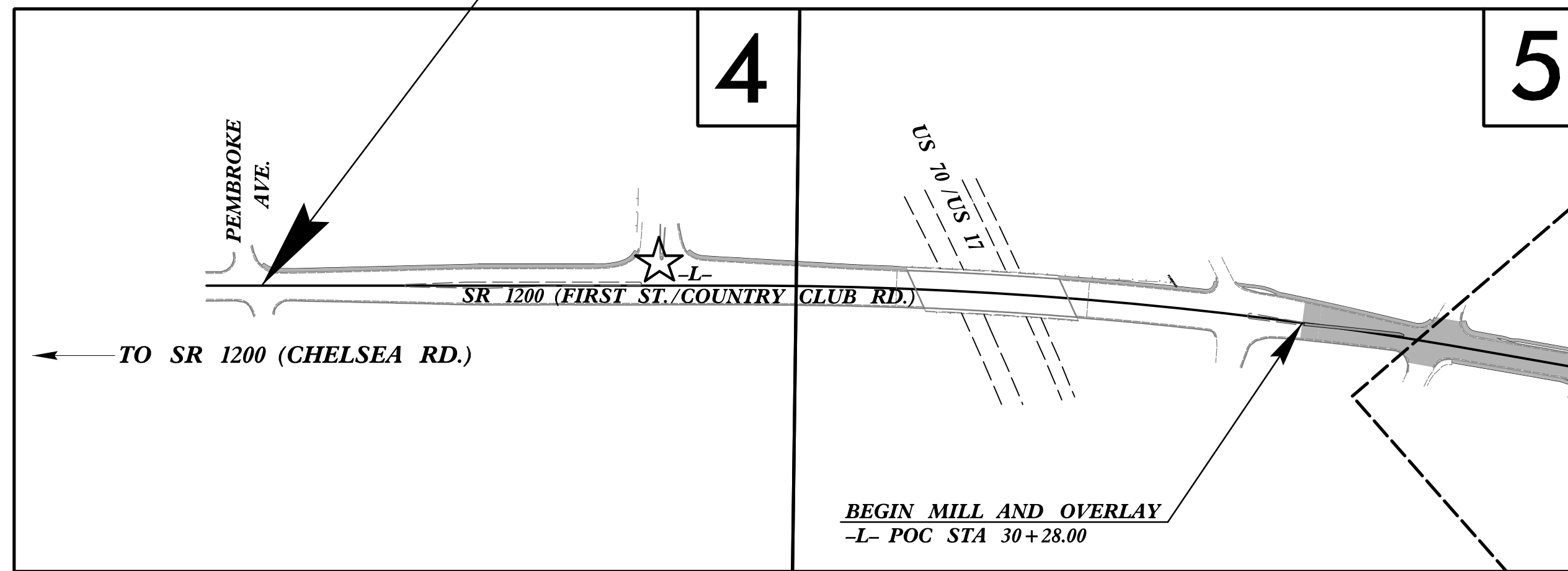
**LOCATION: SR 1200 (FIRST ST./COUNTRY CLUB RD.) FROM PEMBROKE AVE. TO NC 55 (NEUSE BLVD./BROAD ST) IN NEW BERN**

**TYPE OF WORK: GRADING, PAVING, SIDEWALK & PAVEMENT MARKINGS**

**TIP PROJECT: U-5992**

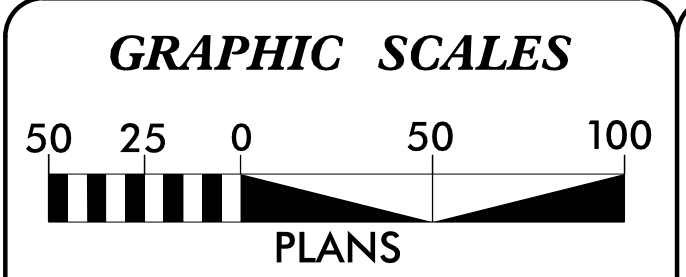
**CONTRACT: DB00423**

**BEGIN TIP PROJECT U-5992**  
-L- POT STA. 11+02.13



★ UPGRADED SIGNAL

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



**DESIGN DATA**

ADT 2018 =	12,190
ADT 2038 =	14,150
K =	9 %
D =	60 %
T =	2.1 % *
V =	40 MPH
* TTST = 0% DUAL 2.1%	
FUNC CLASS =	
MAJOR COLLECTOR	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT U-5992 =	0.515 MILES
TOTAL LENGTH OF TIP PROJECT U-5992 =	0.881 MILES

NCDOT CONTACT:                      JEFFREY D. CABANISS, PE  
Project Development Engineer

**PLANS PREPARED FOR THE NCDOT BY:**

**STV** 100 Years

2018 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
NOVEMBER 20, 2017

**LETTING DATE:**  
MAY 23, 2018

STV Engineers, Inc.  
1600 Perimeter Park Dr.  
Suite 225  
Morrisville, NC 27560  
NC License Number F-0991

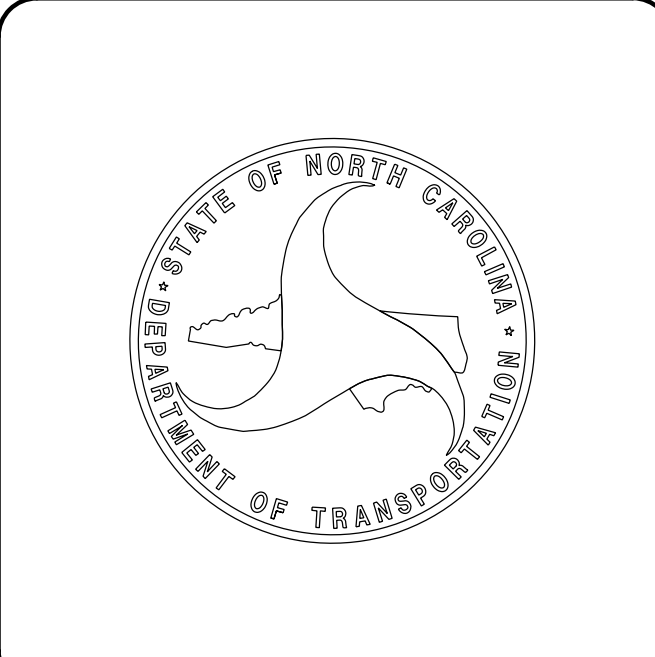
**PATRICK A. LIVINGSTON, PE**  
PROJECT ENGINEER

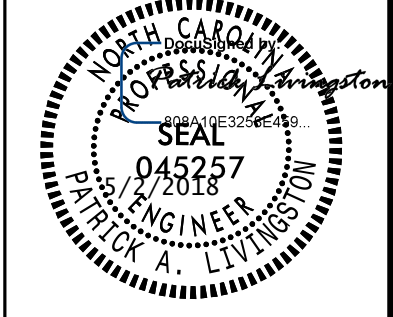

**WESTON D. MURPHY, EI**  
PROJECT DESIGN ENGINEER

**ROADWAY DESIGN ENGINEER**

STATE OF NORTH CAROLINA  
PROFESSIONAL ENGINEER  
SEAL  
045257  
2018  
PATRICK A. LIVINGSTON  
P.E.

DocuSigned by:  
*Patrick A. Livingston*  
SIGNATURE: \_\_\_\_\_ P.E.



PROJECT REFERENCE NO. <i>U-5992</i>	SHEET NO. <i>1A</i>
ROADWAY DESIGN ENGINEER	
	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
STV Engineers, Inc. 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

**INDEX OF SHEETS**

**GENERAL NOTES**

**STANDARD DRAWINGS**

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEETS
1D-1	PROPOSED ALIGNMENT & PERMANENT EASEMENT CONTROL SHEET
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-3	CURB RAMP DETAILS
3B-1	ROADWAY SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 7	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-10	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-4	PAVEMENT MARKING AND SIGNING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIG-1 THRU SIG-11	SIGNAL PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-18	CROSS-SECTIONS

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

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

**CLEARING:**  
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

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

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

**STREET TURNOUT:**  
 STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

**GUARDRAIL:**  
 THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

**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:  
 CENTURY LINK, CITY OF NEW BERN (ELECTRIC, TELEPHONE FIBER, WATER, SEWER), MCNC, PIEDMONT NATURAL GAS, TIME WARNER CABLE.  
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

**CURB RAMPS**  
 CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

2018 ROADWAY ENGLISH STANDARD DRAWINGS EFF. 01-16-2018

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
<b>DIVISION 2 - EARTHWORK</b>	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
<b>DIVISION 8 - INCIDENTALS</b>	
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
848.06	Curb Ramp - Existing Curb & Gutter
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units

8/17/09

F:\2018\Projects\Proje\Sheets\U5992.rdy.psh\_1A.dgn



# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

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

## BUILDINGS AND OTHER CULTURE:

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

## HYDROLOGY:

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

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ CSX TRANSPORTATION MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

Note: Not to Scale \*S.U.E. = Subsurface Utility Engineering

## 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	----- (R/W)
New Right of Way Line with Pin and Cap	----- (R/W) ▲
New Right of Way Line with Concrete or Granite R/W Marker	----- (R/W) ●
New Control of Access Line with Concrete CA Marker	----- (C/A)
Existing Control of Access	----- (C/A)
New Control of Access	----- (C/A)
Existing Easement Line	----- E
New Temporary Construction Easement	----- E
New Temporary Drainage Easement	----- TDE
New Permanent Drainage Easement	----- PDE
New Permanent Drainage / Utility Easement	----- DUE
New Permanent Utility Easement	----- PUE
New Temporary Utility Easement	----- TUE
New Aerial Utility Easement	----- AUE

## ROADS AND RELATED FEATURES:

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

## VEGETATION:

Single Tree	☼
Single Shrub	☼

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	⊕
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	⊕
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	----- T ---
U/G Telephone Cable LOS C (S.U.E.*)	----- T ---
U/G Telephone Cable LOS D (S.U.E.*)	----- T ---
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC ---
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC ---
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC ---
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO ---
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO ---
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO ---

## WATER:

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

## TV:

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

## GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	----- 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 ---

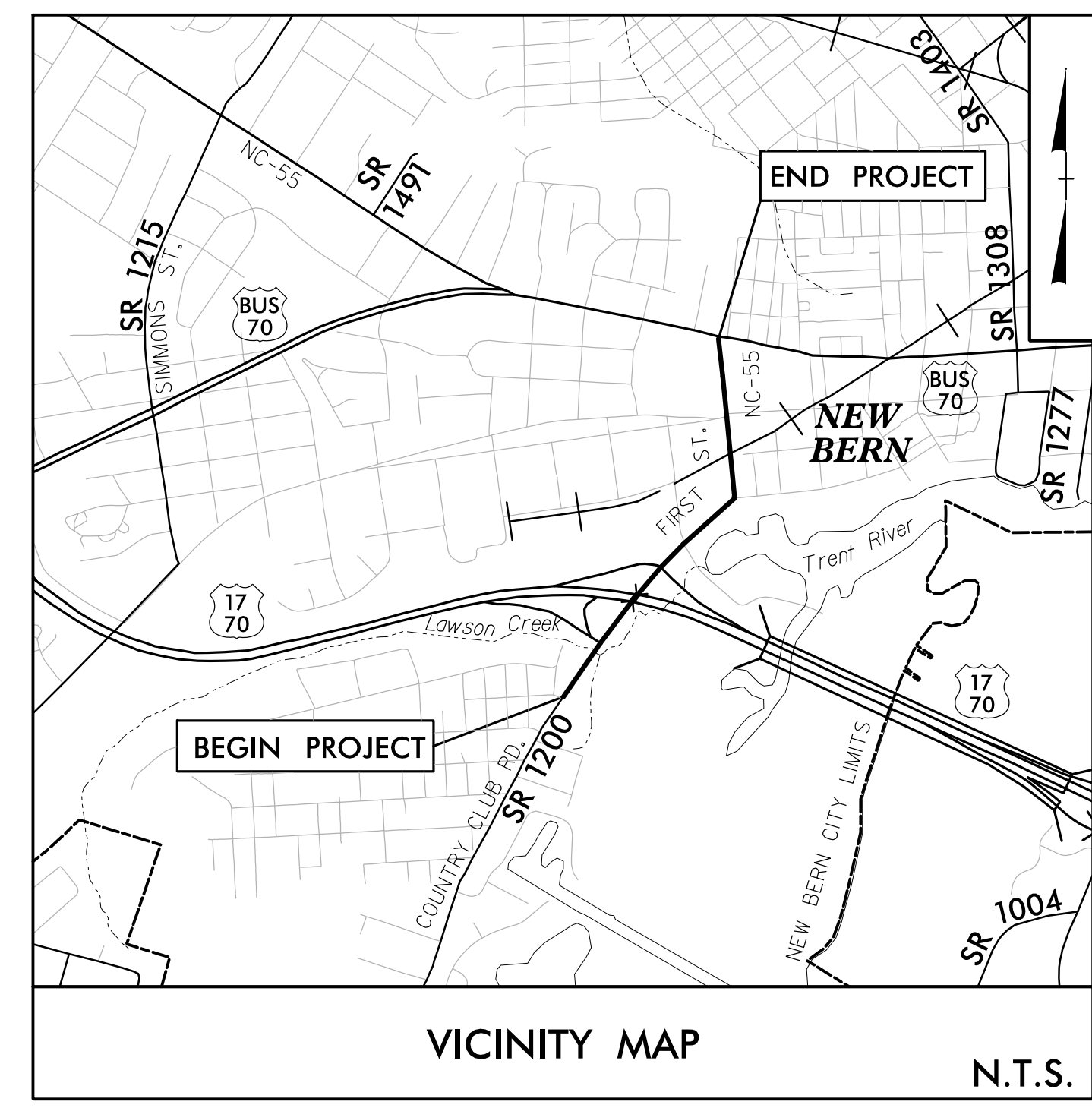
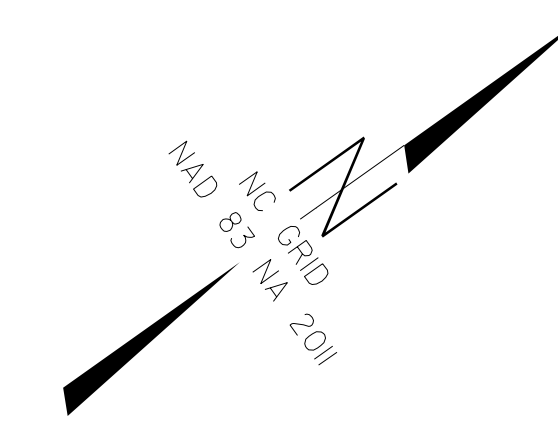
## SANITARY SEWER:

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	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- TUL ---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

# SURVEY CONTROL SHEET U-5992



VICINITY MAP N.T.S.

U-5992 L5\* 02-17-042

DESCRIPTION: PROJECT 54025.1.1 (U-5992) CRAVEN COUNTY NC 55 (FIRST ST./COUNTRY CLUB RD.) FROM NC 55 (NEUSE BLVD.) TO PEMBROKE AVE.

PROJECT DATUM: THIS IS AN ENGLISH PROJECT BASED ON NAD83/NA2011 DATUM. NCGS MONUMENT "PEMBROKE1" WAS HELD AS A GRID COORDINATE AND THE NETWORK WAS LOCALIZED FROM THERE.

NCGS NORTHING : PEMBROKE1 : 497646.48  
 EASTING : 2580797.96

AVERAGE COMBINED FACTOR : 0.99988029  
 DATE OF SURVEY : JUNE-JULY 2017

VERTICAL DATUM: THIS IS AN ENGLISH PROJECT ON NAVD88 DATUM. ELEVATIONS ARE BASED ON NCGS MONUMENT CRA 146. ELEV. 38.59'

NOTE: ALL -BL- POINTS ARE BASELINE TRAVERSE MONUMENTS AND ARE NOT LOCATED ON THE -L- ALIGNMENT. ALL BASELINE POINTS ARE 30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS. ALL DISTANCES SHOWN ARE GROUND DISTANCES IN FEET UNLESS OTHERWISE STATED.

BASELINES  
 -BL- ALONG NC 55 (FIRST ST./COUNTRY CLUB RD.)

FIELD CONTACT: ROBERT J. REIGNER, PLS  
 TES I LOCATION & SURVEY  
 NEW BERN, NC  
 TEL. (252) 514-4784

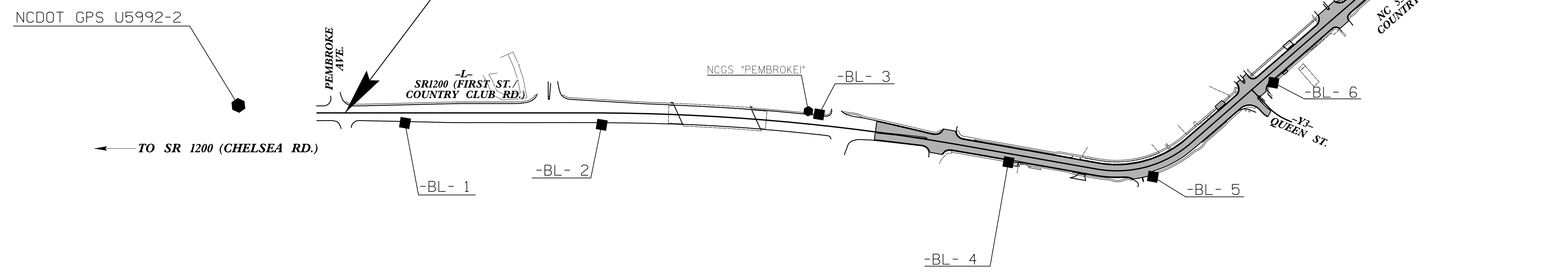
R.D. RIGGS  
 TT IV LOCATION & SURVEY  
 NEW BERN, NC  
 TEL. (252) 514-4784

-BL-

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
GPS2	(U5992-NCDOT GPS-2)	495974.2800	2579583.2200	11.18	OUTSIDE PROJECT LIMITS	
1	(BL-1)	496429.6640	2579985.0590	19.83	13+19.13	36.49 RT
2	(BL-2)	497007.3240	2580403.6950	36.18	20+32.74	42.87 RT
3	(BL-3)	497671.5070	2580829.7400	31.13	28+18.14	38.75 LT
4	(BL-4)	498130.7760	2581368.8680	9.02	35+22.26	31.06 RT
5	(BL-5)	498527.2850	2581715.3250	11.34	40+35.93	40.72 RT
6	(BL-6)	499080.8310	2581690.5440	9.83	45+77.53	32.17 RT
7	(BL-7)	499493.4670	2581590.5620	9.77	49+98.02	27.10 LT
GPS3	(U5992-NCDOT GPS-3)	500331.8300	2581541.8600	13.94	OUTSIDE PROJECT LIMITS	

**BEGIN TIP PROJECT U-5992 -L- POT STA. 11+02.13**  
**N = 496273.9412**  
**E = 2579829.5878**

**END TIP PROJECT U-5992 -L- POT STA. 57+56.35**  
**N = 500250.9323**  
**E = 2581545.3035**



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "PEMBROKE1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 497646.48(FT) EASTING: 2580797.96(FT) ELEVATION: 32.46(FT)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988029

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "PEMBROKE1" TO -L- STATION 11+02.13 IS  
 S 35°12'15.31" W 1,679.76'

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

NOTE: DRAWING NOT TO SCALE

8/17/09  
 8/30/2018  
 MicroStation  
 Pro:\Projects\U5992\Drawings\IC-1.dgn



# PROPOSED ALIGNMENT & PERMANENT EASEMENT CONTROL SHEET U-5992

## PROPOSED ALIGNMENTS

## RIGHT OF WAY POINTS

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	496190.7017	2579770.4126
PC	19+89.96	496997.5537	2580344.0054
PT	33+47.91	498030.4339	2581222.9497
PC	38+43.82	498378.7326	2581575.9499
PT	42+10.32	498712.2509	2581695.8633
PC	46+63.10	499162.6835	2581649.8485
PT	47+91.21	499290.1790	2581637.2364
POT	57+79.24	500273.7097	2581543.1240

Y3			
TYPE	STATION	NORTH	EAST
POT	10+00.00	499002.5202	2581666.2103
PC	10+87.46	499014.9700	2581752.7840
PT	11+70.36	499043.1993	2581830.0999
POT	11+87.47	499052.2483	2581844.6194

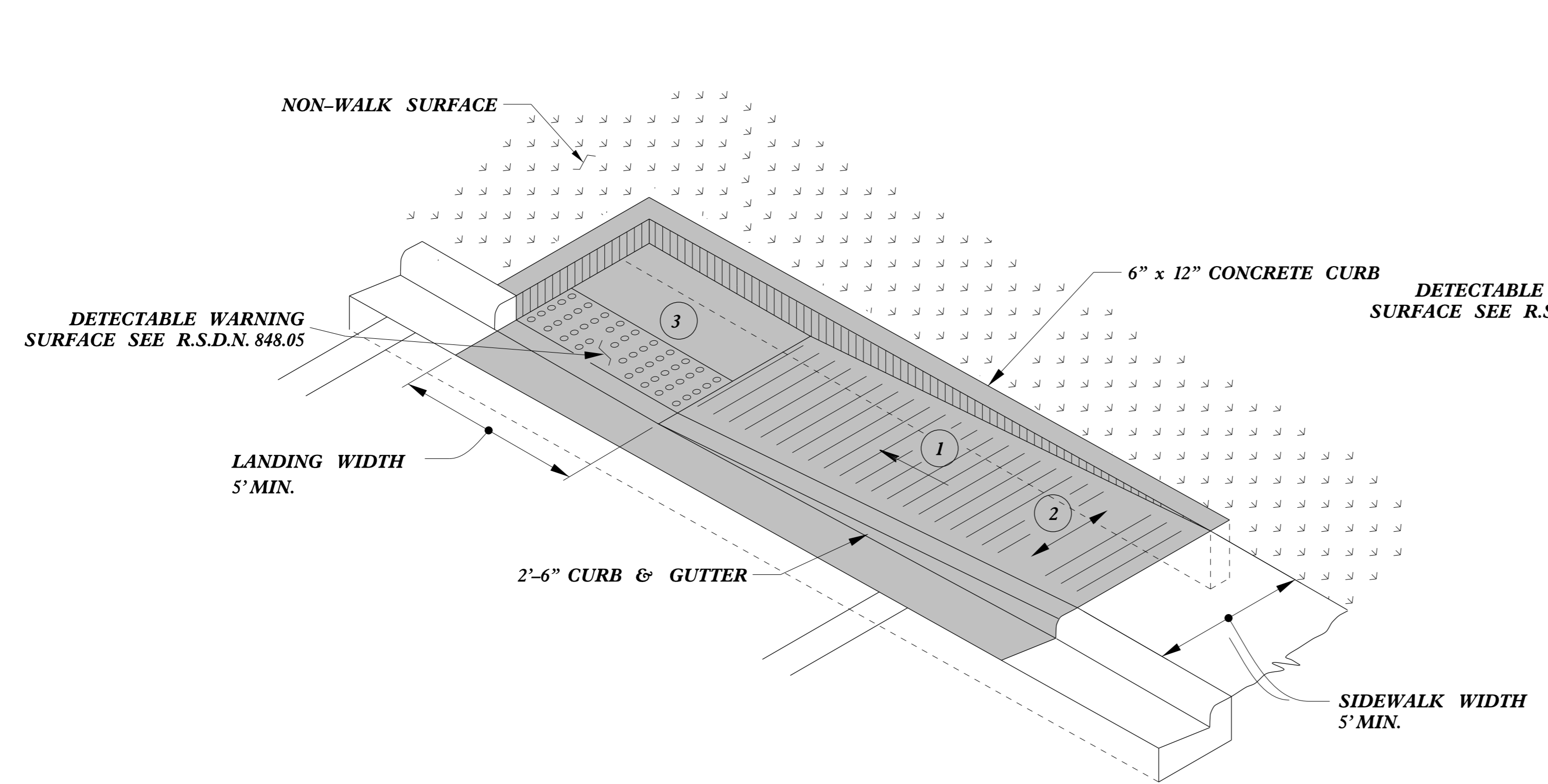
Y10			
TYPE	STATION	NORTH	EAST
POT	10+00.00	500311.5587	2581371.7008
POT	13+75.94	500230.5055	2581738.8009

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	32+22.77	43.00	497911.7075	2581165.2694
L	33+16.00	32.00	497985.2873	2581222.8476
L	33+47.91	32.00	498007.6552	2581245.4250
L	34+50.00	32.00	498079.3565	2581318.0940
L	35+65.00	35.00	498157.9913	2581402.0617
L	35+81.00	31.00	498172.0763	2581410.6416
L	35+85.00	-34.19	498221.2929	2581367.6997
L	36+78.00	-34.00	498286.4733	2581434.0364
L	36+97.00	-40.00	498304.0890	2581443.3471
L	37+32.00	31.00	498278.1312	2581518.1281
L	37+43.00	42.00	498278.0249	2581533.6820
L	38+43.82	-40.00	498407.2058	2581547.8559
L	38+43.82	42.00	498348.8357	2581605.4486
L	40+50.00	39.00	498542.5281	2581718.3382
L	40+50.00	42.00	498541.6725	2581721.2136
L	42+10.32	-40.00	498708.1857	2581656.0704
L	42+10.32	39.00	498716.2144	2581734.6614
L	43+48.00	39.00	498853.1833	2581720.6691
L	43+63.00	32.96	498867.4915	2581713.1324
L	44+45.00	-39.00	498941.7541	2581633.2150
L	44+59.48	-49.00	498955.1411	2581621.7908
L	45+39.71	-44.00	499035.4680	2581618.6154
L	45+51.28	36.00	499055.1087	2581697.0254
L	48+39.86	-45.00	499334.3175	2581587.8073
L	48+70.04	36.00	499372.0762	2581665.5643
L	49+43.51	45.00	499446.0711	2581667.5252
L	49+60.00	-39.26	499454.4591	2581582.0799
L	49+75.00	-36.00	499469.7010	2581583.8921
L	50+50.00	38.00	499551.4089	2581650.4133
L	51+02.00	-36.00	499596.1237	2581571.7966
L	53+57.00	-37.00	499849.8690	2581546.5116
L	54+51.12	38.00	499950.7056	2581612.2067
L	55+57.00	-37.00	500048.9596	2581527.4609
L	55+75.00	-31.00	500067.4492	2581531.7191
L	57+28.00	-31.00	500219.7536	2581517.1453
L	57+46.98	-40.00	500237.7872	2581506.3786

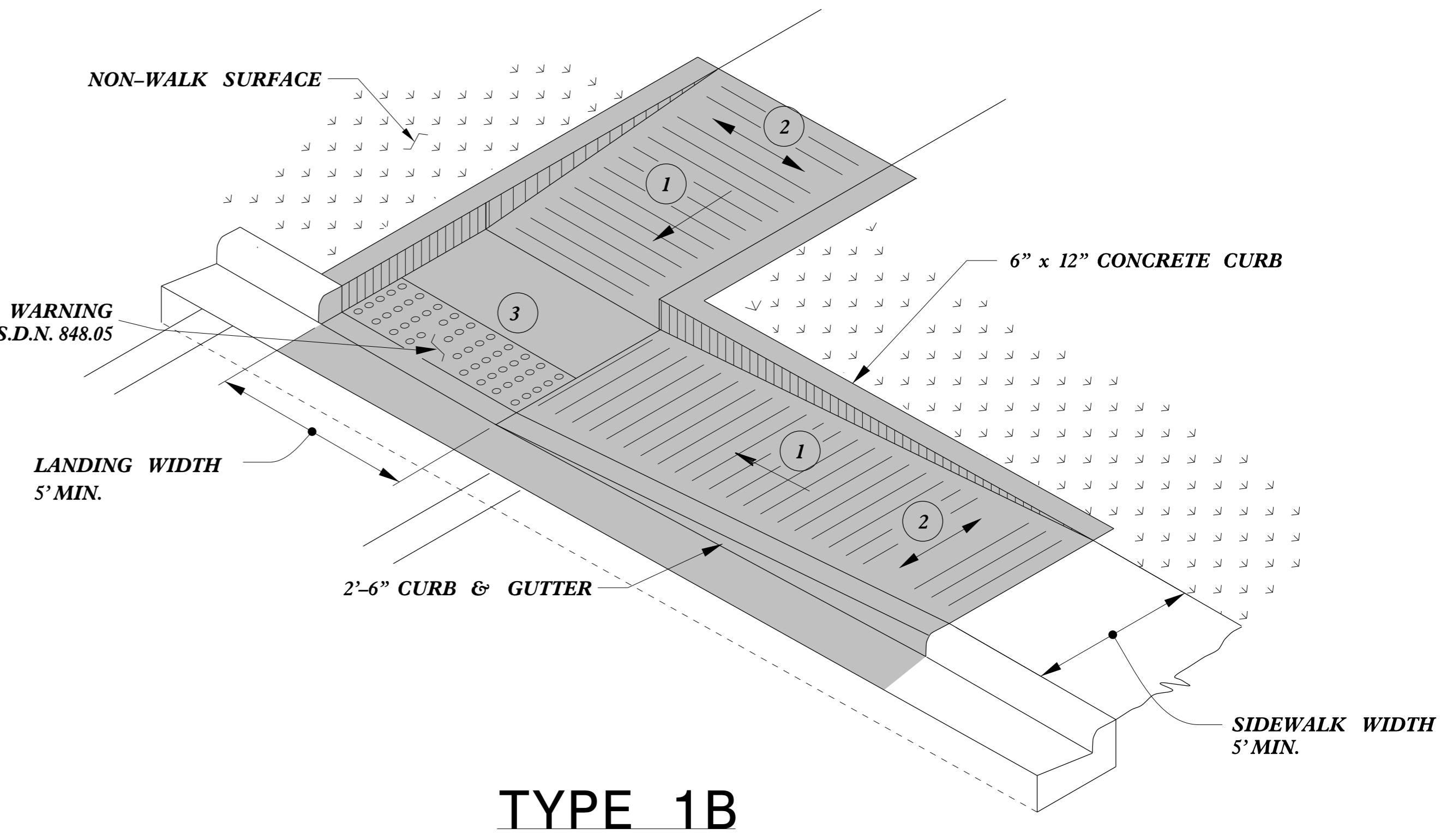
NOTES:

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

5/14/99



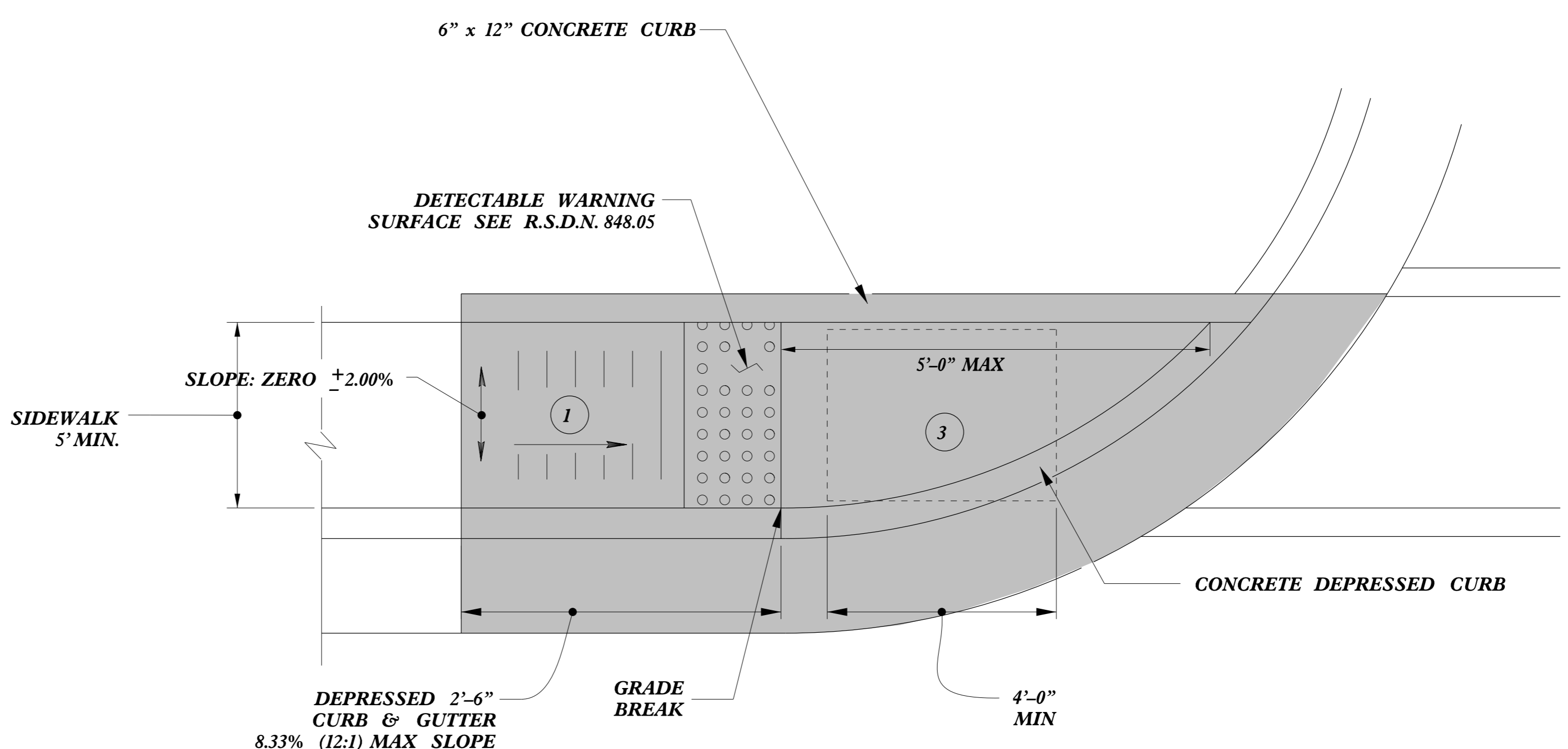
**TYPE 1A**



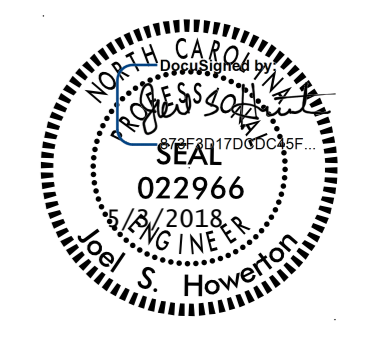
**TYPE 1B**

**PAY LIMITS FOR 1 CURB RAMP**

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



**TYPE 1**



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

**CURB RAMPS**  
Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11  
 MODIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

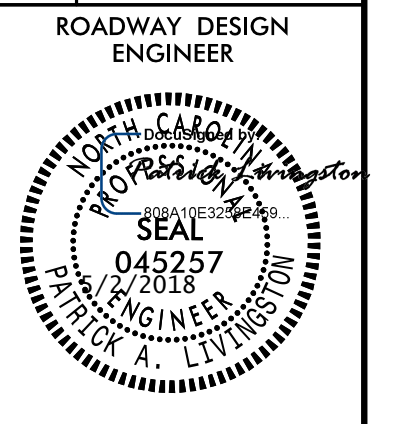
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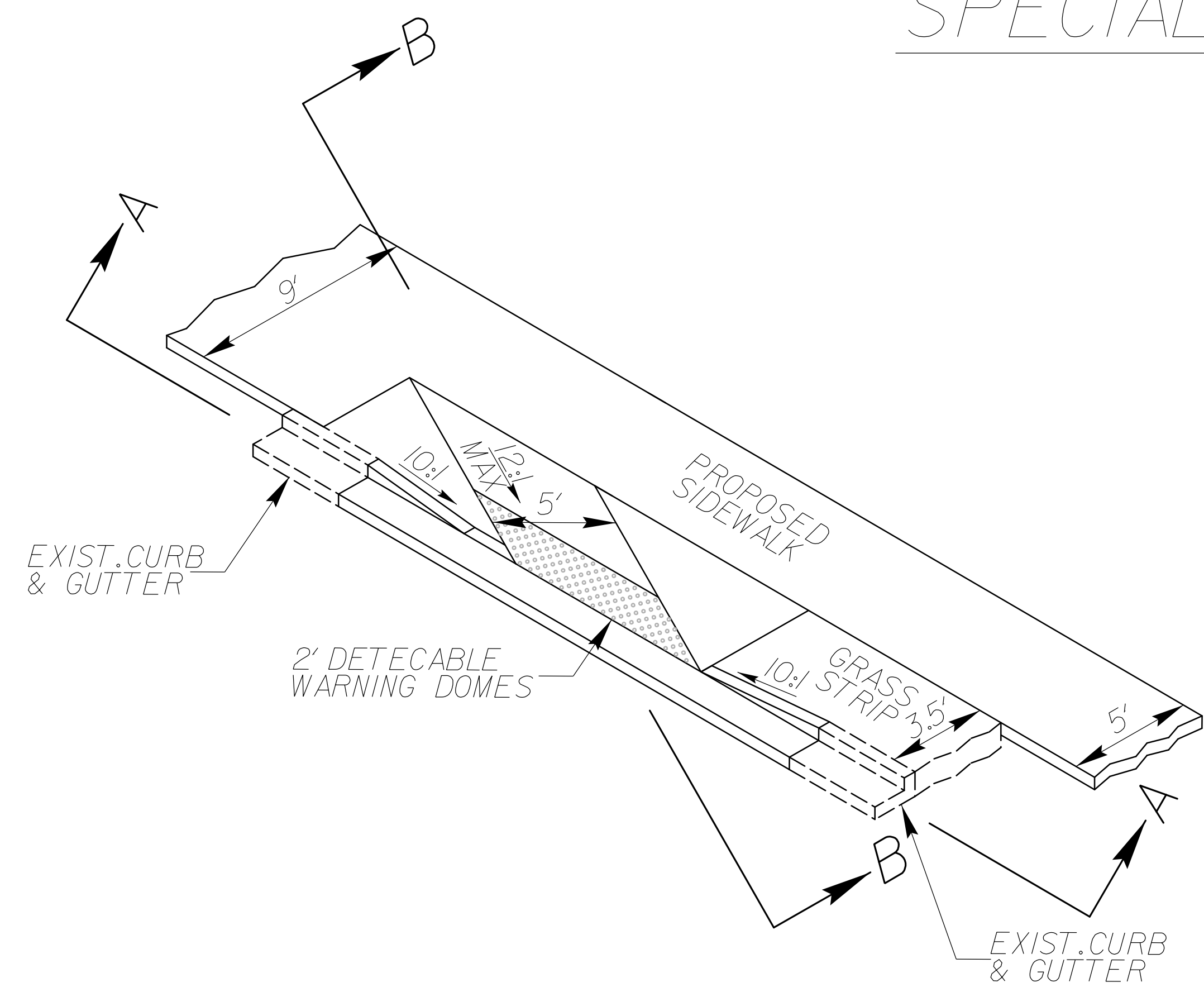
# SPECIAL CURB RAMP DESIGN

PROJECT REFERENCE NO. U-5992	SHEET NO. 2C-3
---------------------------------	-------------------

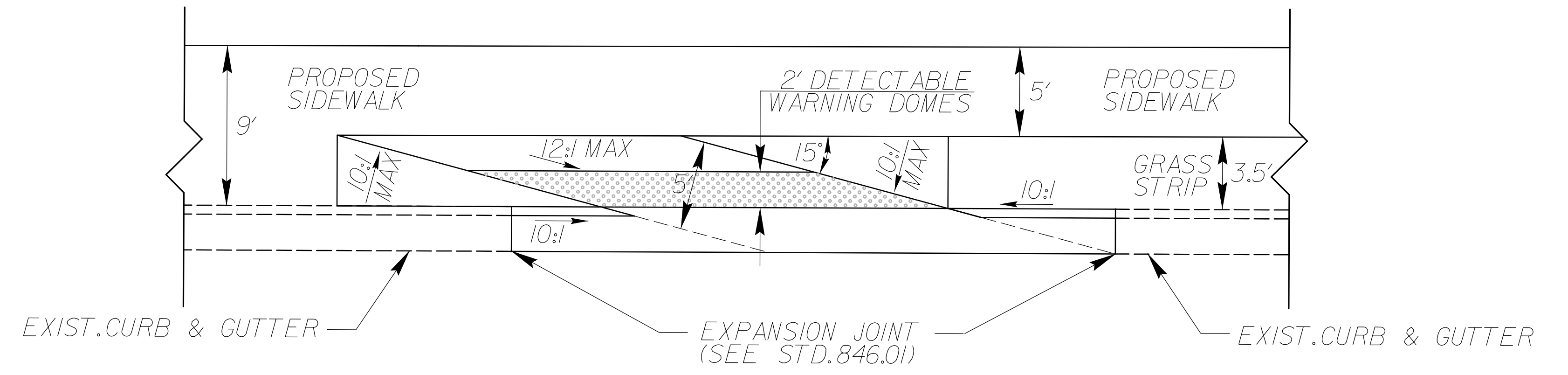


**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

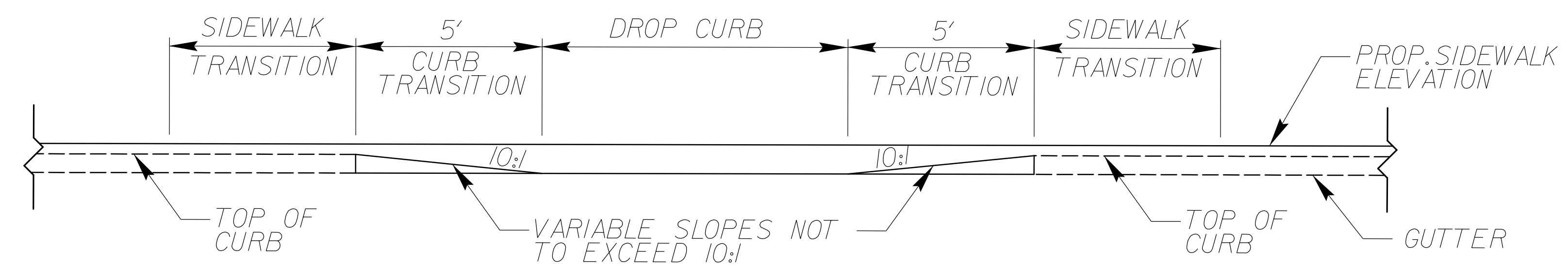
**STV** 100 Years  
 STV Engineers, Inc.  
 1600 Perimeter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991



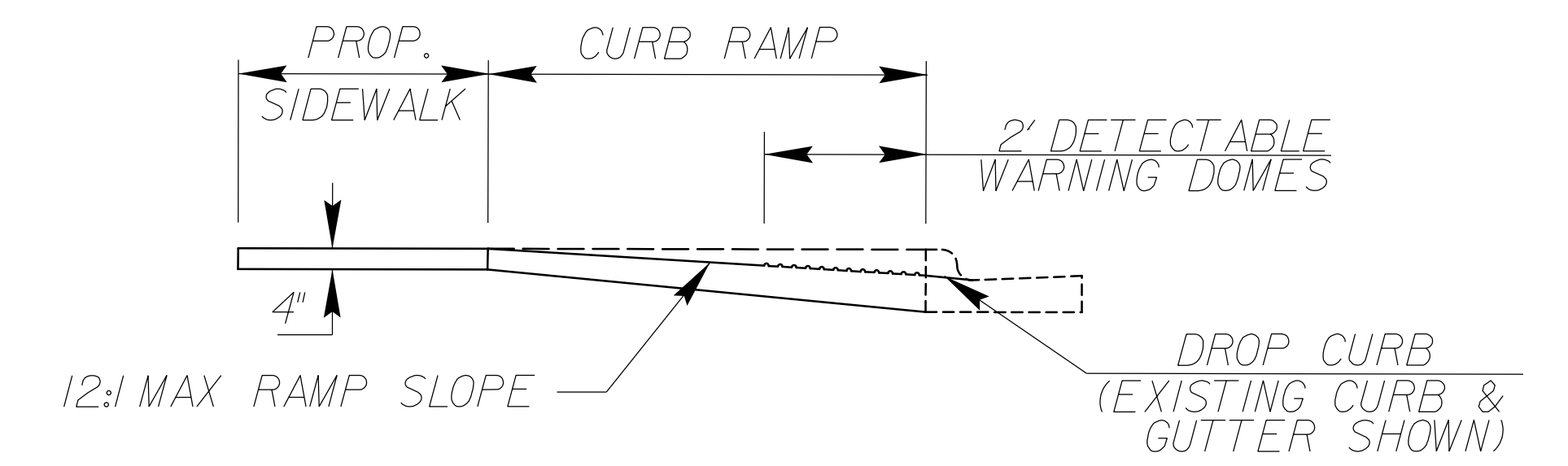
ISOMETRIC VIEW



PLAN VIEW  
CURB RAMP FOR BICYCLES



SECTION A-A

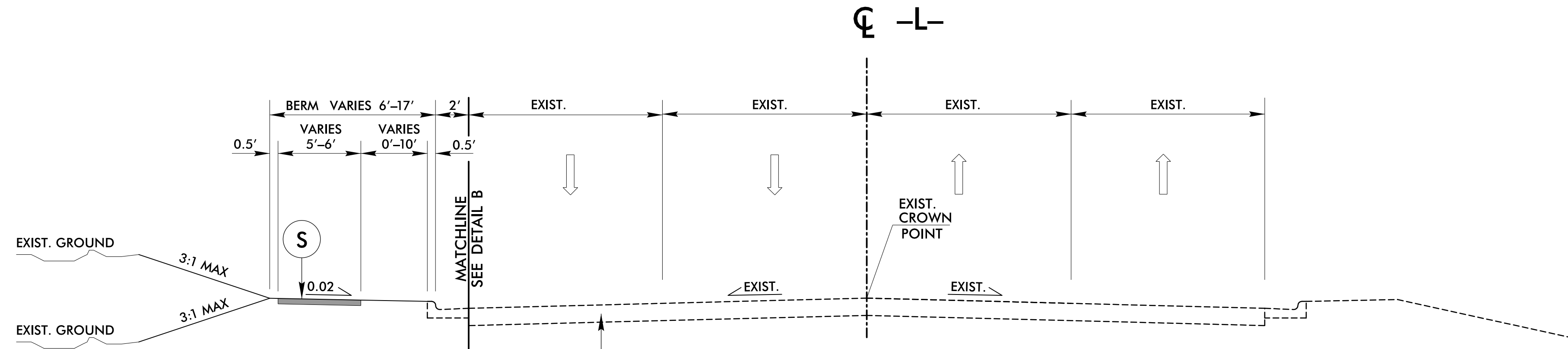


SECTION B-B



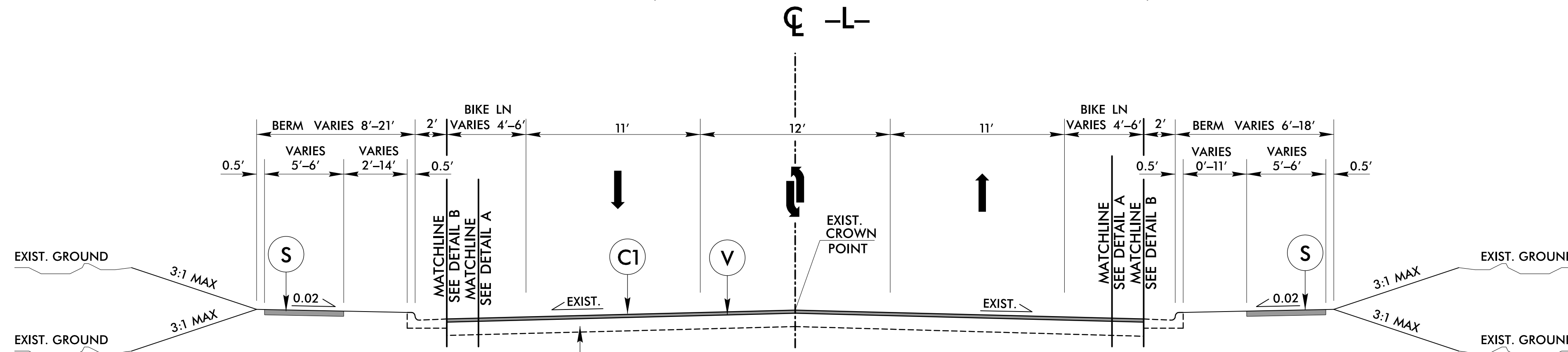
PROJECT REFERENCE NO. U-5992	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
STV Engineers, Inc. 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

### SR 1200 (FIRST ST./COUNTRY CLUB ROAD)

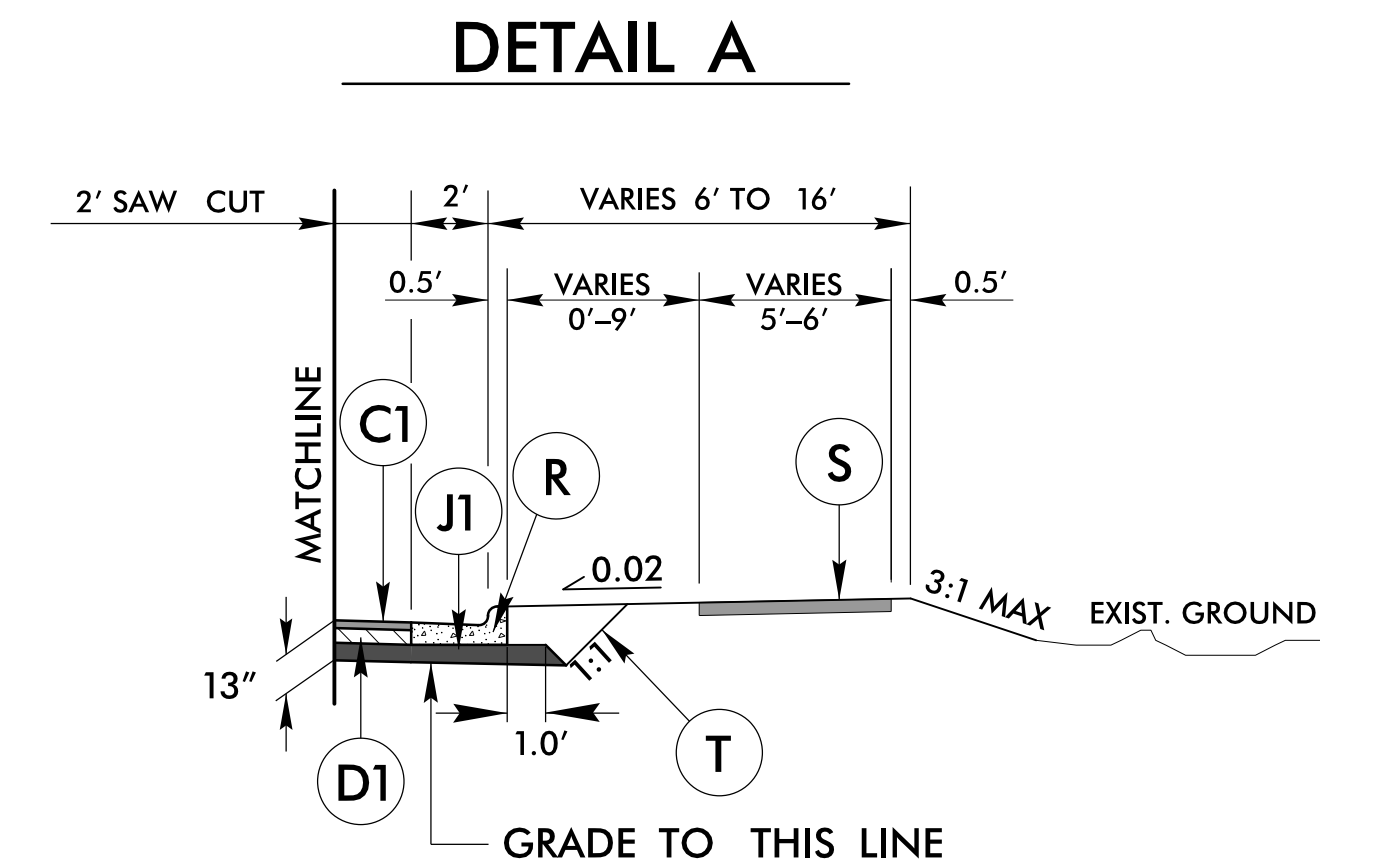


**TYPICAL SECTION NO. 1**  
 -L- STA. 11+02.13 TO 23+10.60 (BEGIN EXIST. BRIDGE)  
 -L- STA. 25+92.77 (END EXIST. BRIDGE) TO 30+28.00  
 -L- STA. 57+47.47 TO 57+56.35

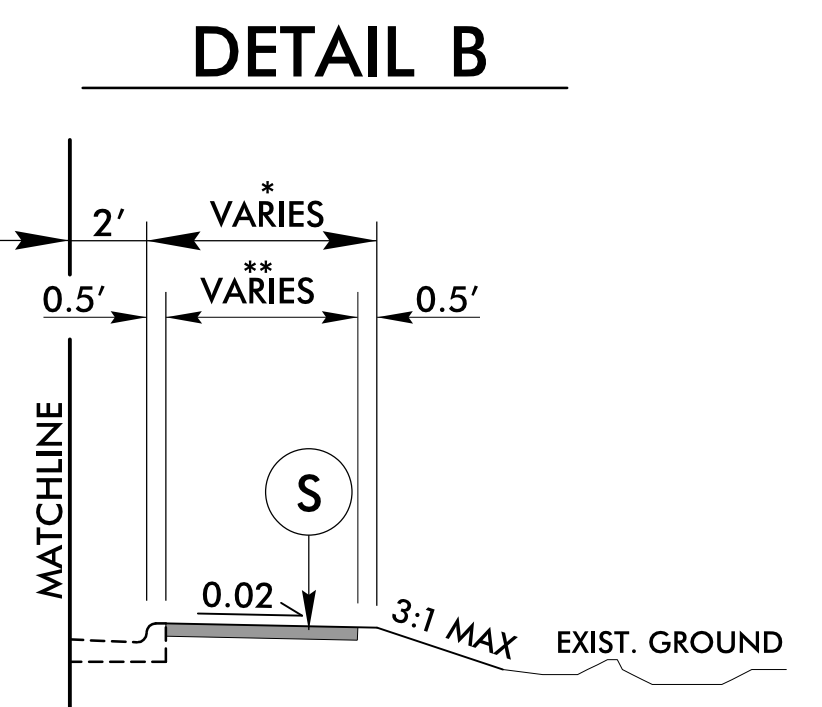
### NC 55 (FIRST ST./COUNTRY CLUB ROAD)



**TYPICAL SECTION NO. 2**  
 -L- STA. 30+28.00 TO 57+47.47



- L- STA. 37+40.00 LT. TO -L- STA. 37+81.00 LT.
- L- STA. 38+15.00 LT. TO -L- STA. 38+55.00 LT.
- L- STA. 38+60.00 RT. TO -L- STA. 39+20.00 RT.
- L- STA. 44+11.54 RT. TO -L- STA. 44+73.37 RT.
- NOTE: C&G CONTINUES TO -Y3- STA. 11+08.59 RT.
- L- STA. 48+15.00 RT. TO -L- STA. 48+65.00 RT.
- L- STA. 50+71.42 LT. TO -L- STA. 51+10.78 LT.
- L- STA. 53+17.29 LT. TO -L- STA. 53+60.81 LT.
- L- STA. 56+50.00 LT. TO -L- STA. 57+54.56 LT.



NOTE: TO MINIMIZE IMPACTS, BERM SLOPE IS REVERSED IN THESE LOCATIONS. SEE PLANS FOR TRANSITIONS.

FINAL PAVEMENT DESIGN

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
J1	6" ABC
R	PROP. 2'-6" CURB AND GUTTER
S	PROP. 4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	3" MILLING

ALL PAVEMENT SLOPES 1:1 UNLESS NOTED OTHERWISE

LINE	STATION TO STATION	LT./RT.	* BERM WIDTH	** SIDEWALK WIDTH
-L-	14+00.00 TO 15+50.00	LT.	7'	6'
-L-	33+12.85 TO 35+30.00	RT.	7'	6'
-L-	36+50.00 TO 37+50.00	RT.	6'	5'
-L-	55+33.00 TO 56+99.00	RT.	VAR. 10' TO 20'	5'





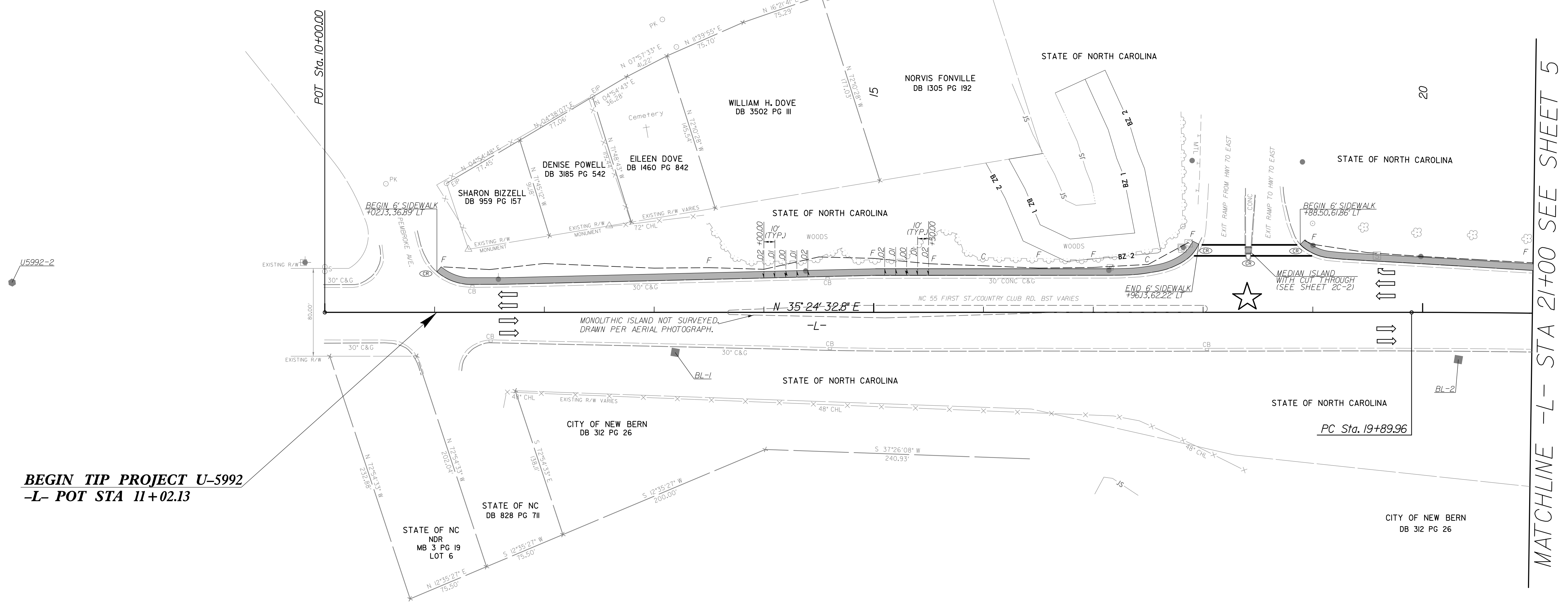


ROADWAY DESIGN ENGINEER



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**STV** 100 Years  
 STV Engineers, Inc.  
 1800 Perimeter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991



**BEGIN TIP PROJECT U-5992**  
**-L- POT STA 11+02.13**

-L-  
 PI Sta 26+70.66  
 $\Delta = 9^{\circ} 58' 30.0''$  (RT)  
 $D = 0^{\circ} 44' 04.4''$   
 $L = 1,357.95'$   
 $T = 680.70'$   
 $R = 7,800.00'$   
 $e = EXIST.$

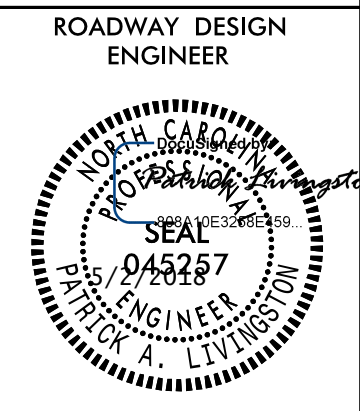
MATCHLINE -L- STA 21+00 SEE SHEET 5

8/17/99

4/10/2018  
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 8/17/99

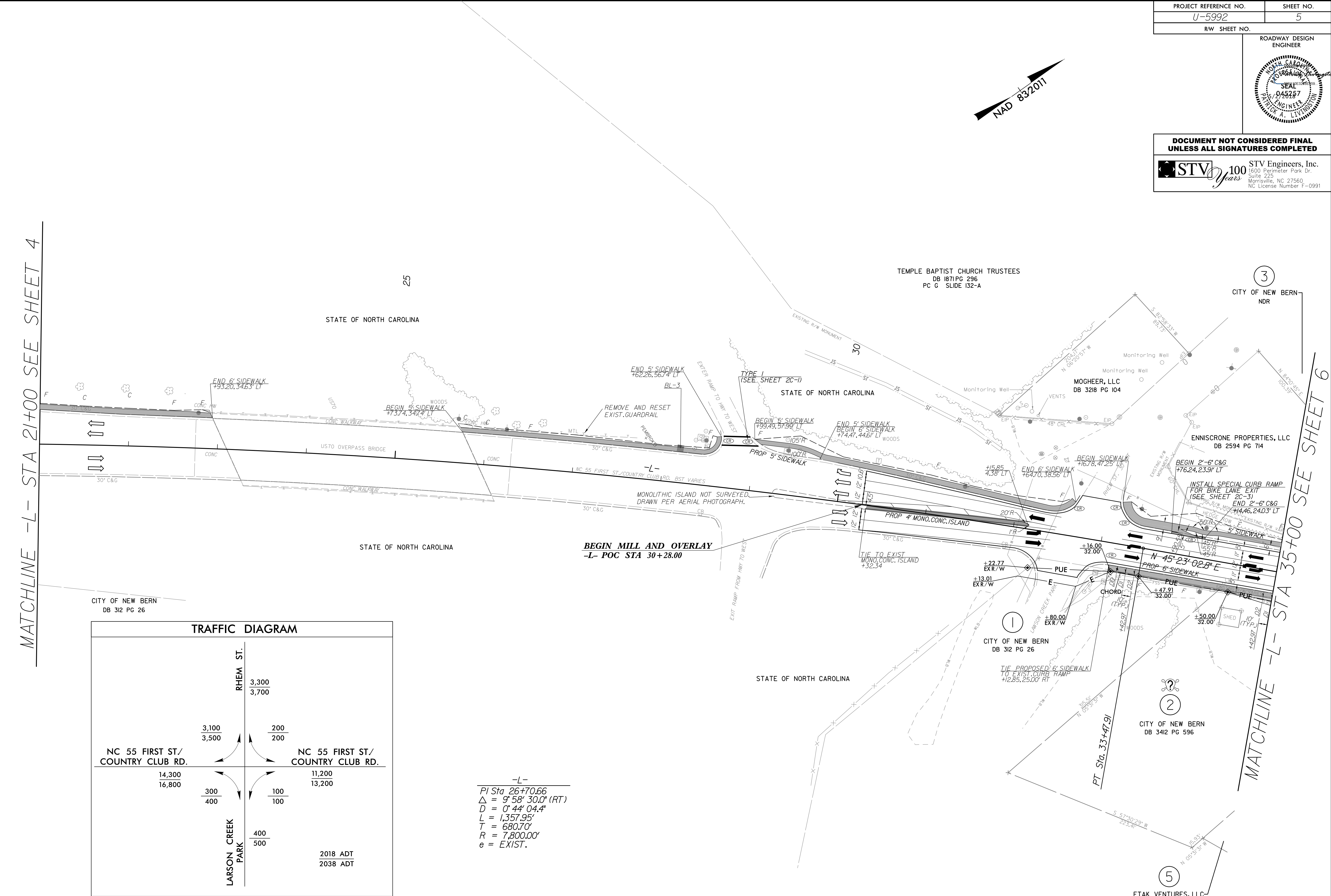
NOTES: ALL CURB RAMPS SHALL BE CONSTRUCTED PER NCDOT STD.848.06 UNLESS OTHERWISE NOTED  
 ALL STATIONS AND OFFSET CALL-OUTS FOR CURB & GUTTER ARE MEASURED FROM THE BACK OF CURB UNLESS OTHERWISE NOTED





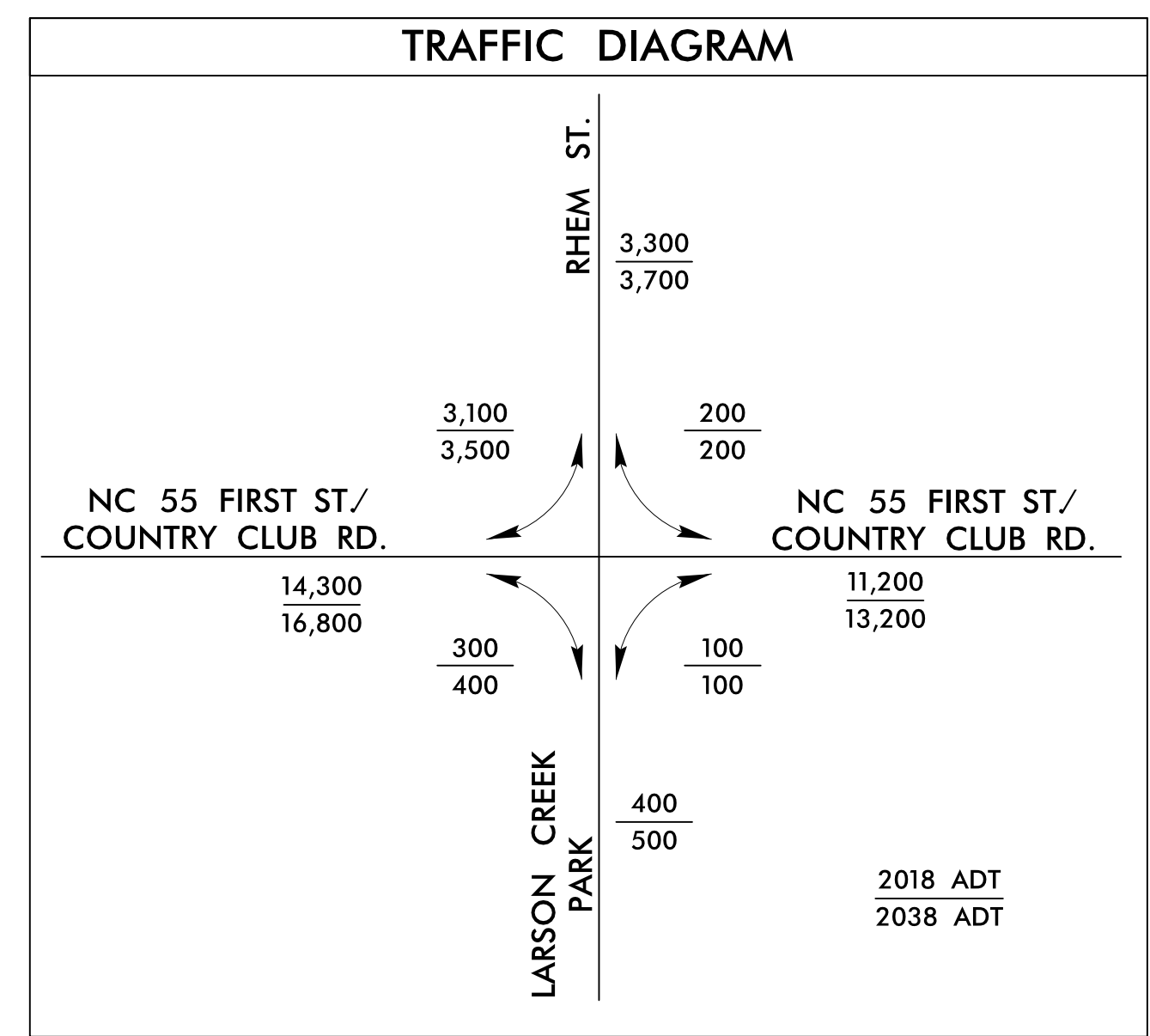
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

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1800 Perimeter Park Dr.  
Suite 225  
Morrisville, NC 27560  
NC License Number F-0991



MATCHLINE -L- STA 21+00 SEE SHEET 4

MATCHLINE -L- STA 35+00 SEE SHEET 6



-L-

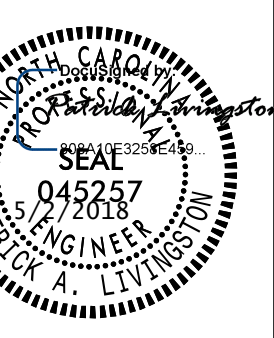
PI Sta 26+70.66  
 $\Delta = 9^{\circ} 58' 30.0''$  (RT)  
 $D = 0^{\circ} 44' 04.4''$   
 $L = 1,357.95'$   
 $T = 680.70'$   
 $R = 7,800.00'$   
 $e = \text{EXIST.}$

NOTES: ALL CURB RAMPS SHALL BE CONSTRUCTED PER NCDOT STD.848.06 UNLESS OTHERWISE NOTED  
 ALL STATIONS AND OFFSET CALL-OUTS FOR CURB & GUTTER ARE MEASURED FROM THE BACK OF CURB UNLESS OTHERWISE NOTED

8/17/19  
 4/10/2018  
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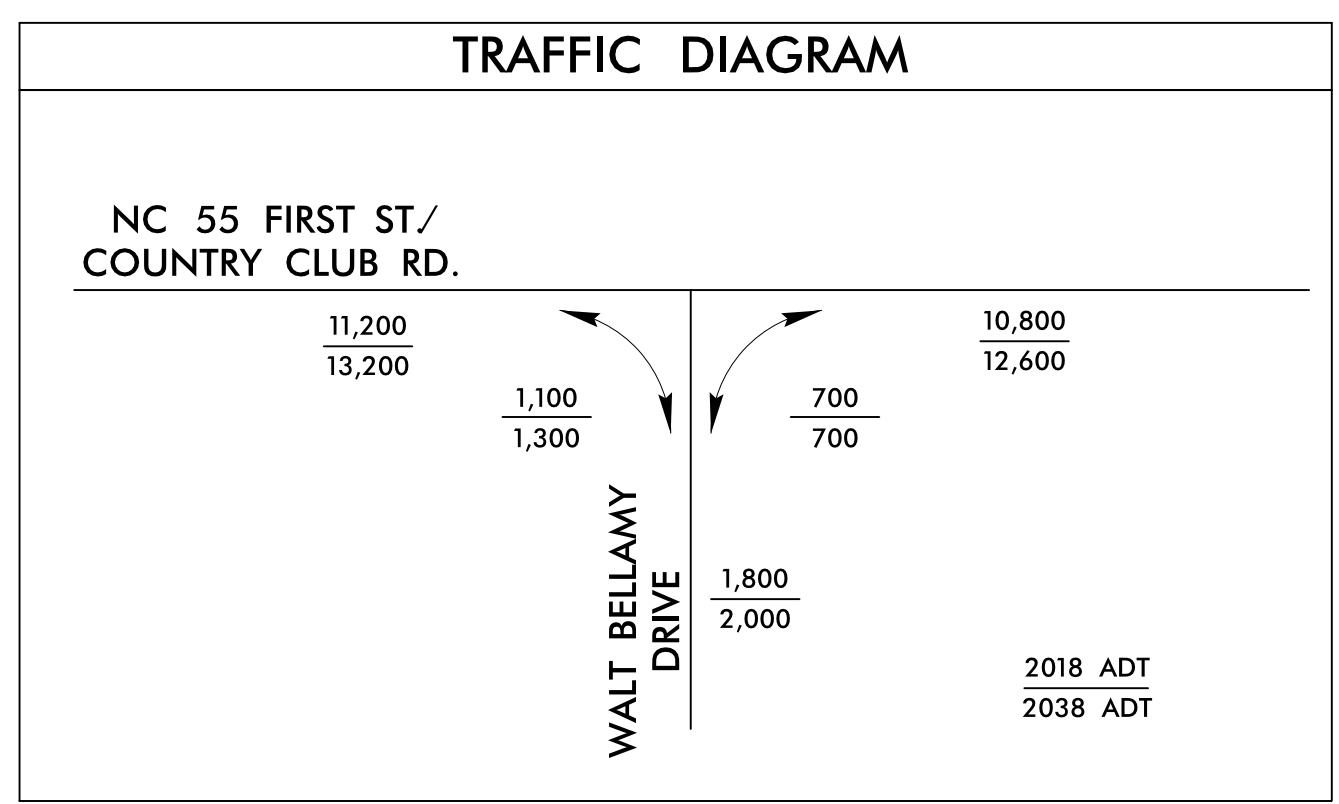
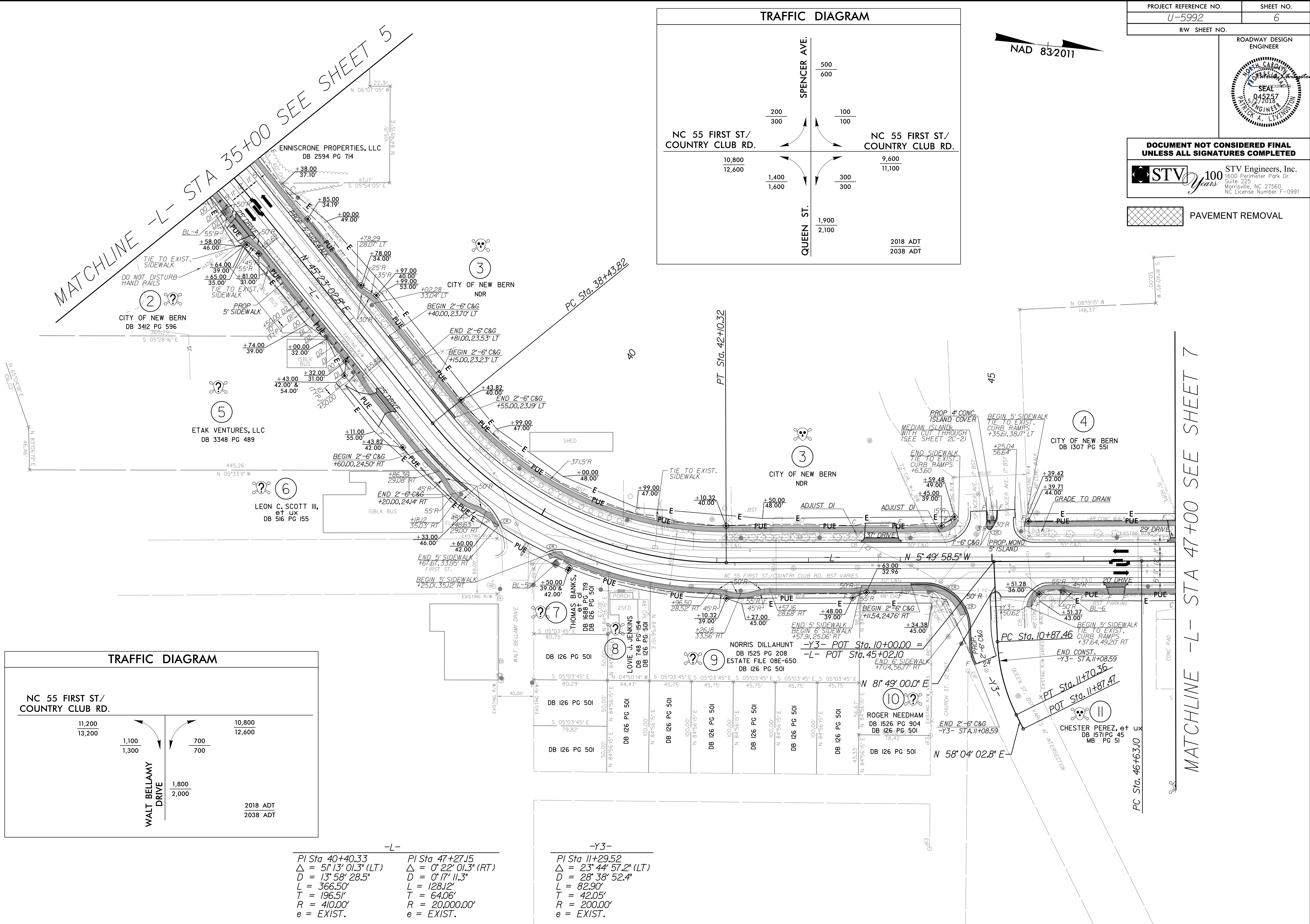
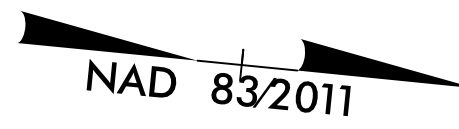
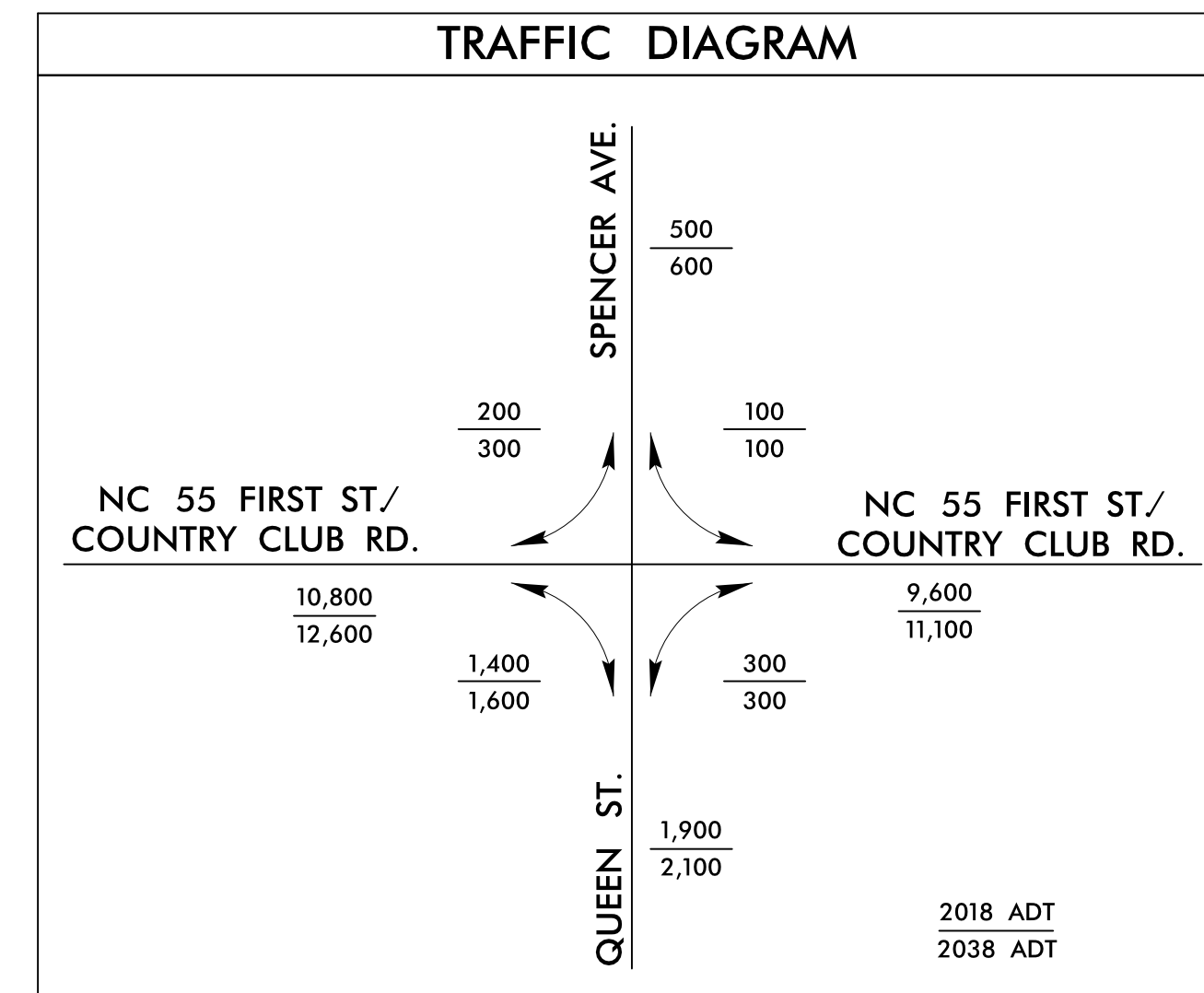
ROADWAY DESIGN ENGINEER



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 STV Engineers, Inc.  
 1800 Perimeter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991

PAVEMENT REMOVAL



-L-		-Y3-	
PI Sta 40+40.33	PI Sta 47+27.15	PI Sta 11+29.52	
$\Delta = 51^{\circ}13'01.3"$ (LT)	$\Delta = 0^{\circ}22'01.3"$ (RT)	$\Delta = 23^{\circ}44'57.2"$ (LT)	
D = 13'58" 28.5"	D = 0'17" 11.3"	D = 28'38" 52.4"	
L = 366.50'	L = 128.12'	L = 128.90'	
T = 196.51'	T = 64.06'	T = 42.05'	
R = 410.00'	R = 200.00'	R = 200.00'	
e = EXIST.	e = EXIST.	e = EXIST.	

NOTES: ALL CURB RAMPS SHALL BE CONSTRUCTED PER NCDOT STD.848.06 UNLESS OTHERWISE NOTED  
 ALL STATIONS AND OFFSET CALL-OUTS FOR CURB & GUTTER ARE MEASURED FROM THE BACK OF CURB UNLESS OTHERWISE NOTED

MATCHLINE -L- STA 47+00 SEE SHEET 7

8/17/19

8/13/2018  
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 M:\paw  
 8/13/2018



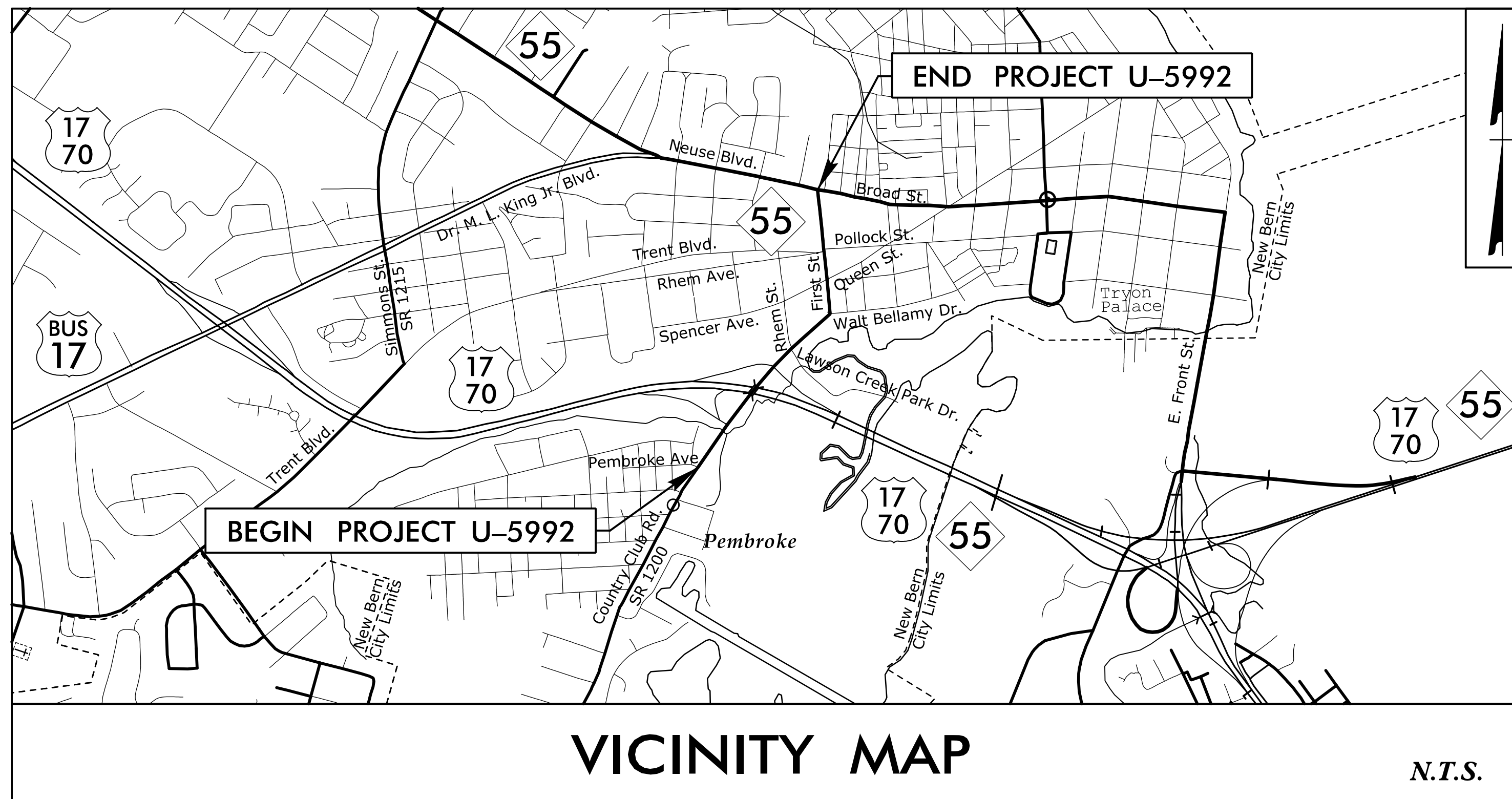
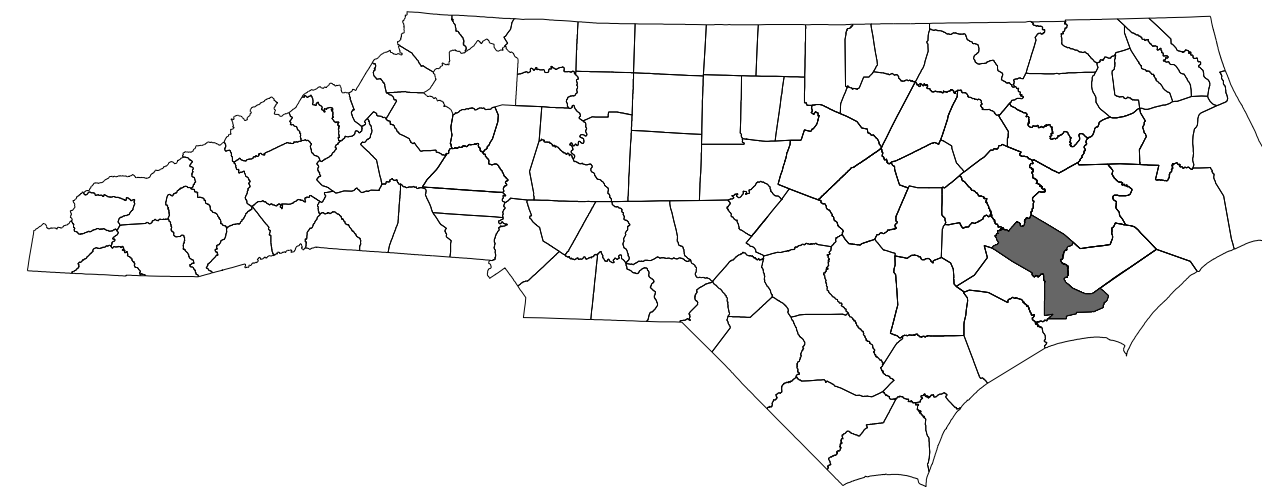




STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**CRAVEN COUNTY**



**LOCATION: SR 1200 (FIRST ST./COUNTRY CLUB RD.) FROM PEMBOKE AVE. TO NC 55 (NEUSE BLVD./BROAD ST.) IN NEW BERN**

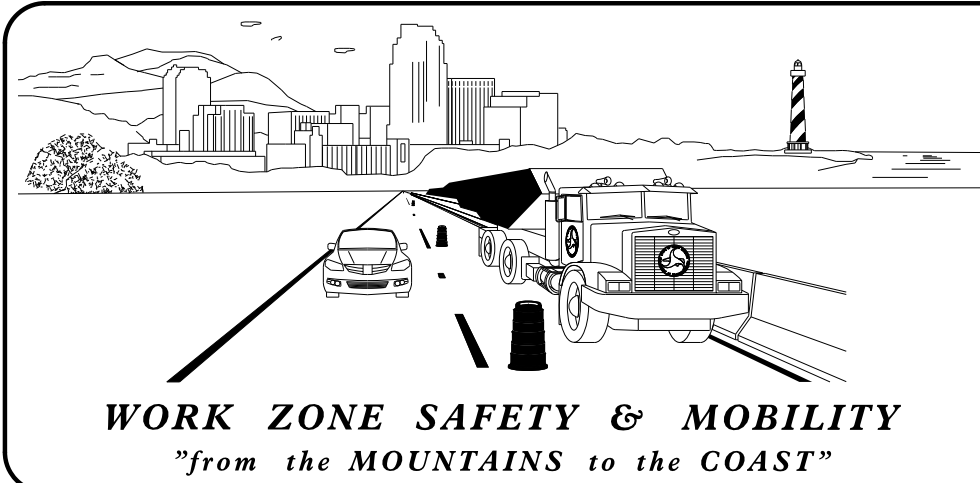
**INDEX OF SHEETS**

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	ROADWAY STANDARD DRAWING & LEGEND
TMP-2	GENERAL NOTES
TMP-3	PHASING
TMP-4 THRU TMP-7	PHASE I DETAIL
TMP-8 THRU TMP-10	PHASE II DETAIL

SHEET NO.  
TMP-1

**PROJECT: U-5992**

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



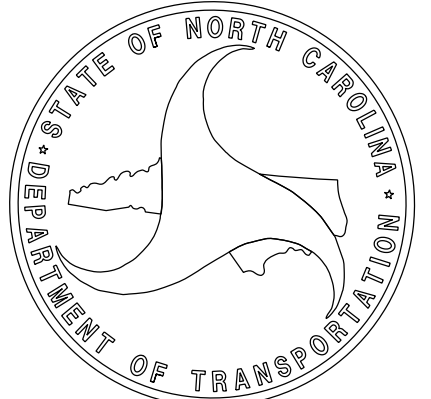
NCDOT DIVISION 2  
**PROJECT DEVELOPMENT OFFICE**  
1037 W.H. SMITH BLVD.,  
GREENVILLE, NC 27843

**JEFFREY D. CABANISS, PE**  
PROJECT DEVELOPMENT ENGINEER

**STV** 100 Years  
STV Engineers, Inc.  
1600 Perimeter Park Dr.  
Suite 225  
Morrisville, NC 27560  
NC License Number F-0991

**PATRICK A. LIVINGSTON, PE**  
PROJECT ENGINEER

**WESTON D. MURPHY, EI**  
PROJECT DESIGN ENGINEER



**100% TRAFFIC CONTROL PLANS**  
SUBMITTED: 04-30-18

APPROVED: *Patrick Livingston*  
DATE: 5/27/2018



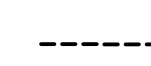

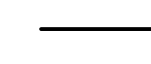
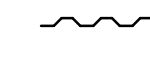
# ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1150.01	FLAGGERS
1180.01	SKINNY DRUMS

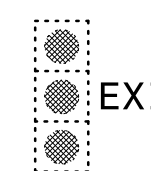
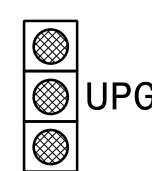
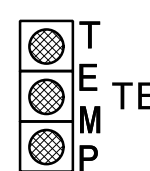
# LEGEND

## GENERAL

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







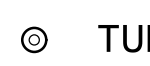
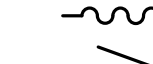
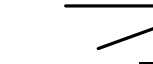



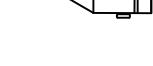
## SIGNALS

-  EXISTING
-  UPGRADED
-  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

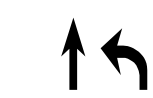

## TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN


## PAVEMENT MARKERS

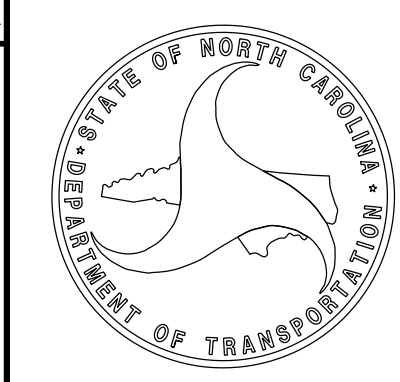
-  CRYSTAL / CRYSTAL
-  CRYSTAL / RED
-  YELLOW / YELLOW

## PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS
-  EXISTING PAVEMENT MARKING SYMBOLS

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

APPROVED:  DATE: 5/2/2018



ROADWAY STANDARD  
DRAWINGS & LEGEND





## GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE ROADWAY PLANS AND STANDARD 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) NO TIME RESTRICTIONS REQUIRED, HOWEVER THERE SHALL BE 2 LANES (1 IN EACH DIRECTION) OPEN AT ALL TIMES.

#### ROAD NAME

COUNTRY CLUB ROAD(SR 1200) / FIRST STREET(NC 55)

### HOLIDAYS & EVENTS

- FOR UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S DAY, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31ST AND 9:00 AM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY, THEN UNTIL 9:00 AM THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 9:00 AM MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 9:00 AM TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY.  
  
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY, THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 9:00 AM TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 PM TUESDAY AND 9:00 AM MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 PM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 AM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS DAY.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- 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.
- 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.
- 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 WITHIN A LANE OF TRAVEL OF AN UNDIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC 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.
- DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

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

### TRAFFIC PATTERN ALTERATIONS

- NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

- INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINING OF CONSTRUCTION.
- PROVIDE SIGING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- STATE FORCES WILL COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) (200FT) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC CONTROL DEVICES

- WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (35MPH) 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.
- 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

- TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

### MISCELLANEOUS

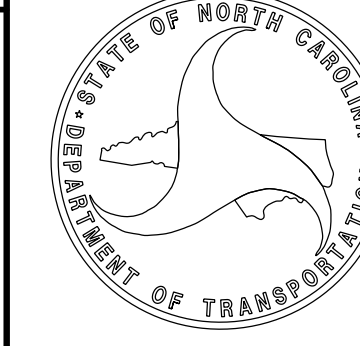
- LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER

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4/30/2018

DOCUMENT NOT CONSIDERED FINAL  
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APPROVED: Patrick Livingston DATE: 5/2/2018



GENERAL NOTES



PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-3



## PHASING

NOTES: CONTRACTOR TO MAINTAIN ACCESS TO DRIVEWAYS FOR ALL PHASES WITHIN THE PROJECT LIMITS AND COORDINATE AS NECESSARY WITH PROPERTY OWNERS AND THE ENGINEER.  
POSTED SPEED LIMIT = 35 MPH

### PHASE I

STEP 1: USING NCDOT RSD 1101.01 SHEET 2 OF 3 AND SHEET 3 OF 3, INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL PROJECT APPROACHES.

STEP 2: AWAY FROM TRAFFIC, USING NCDOT RSD 1101.02 SHEET 3 OF 14, CLOSE THE LEFT MOST LANE OF -L- FROM STA. 11+02.13 TO STA. 57+56.35 AND CLOSE THE RIGHT MOST LANE OF -L- FROM STA. 30+28.00 TO STA. 57+56.35 TO PERFORM THE FOLLOWING AS SHOWN IN TMP-4 THRU TMP-7:

- A) CONSTRUCT THE SIDEWALK AND CURB & GUTTER ON -L- (COUNTRY CLUB RD.(SR 1200) / FIRST ST.(NC 55)) FROM STA. 11+02.13 LEFT TO 30+28.00 LEFT.
- \*B) CONSTRUCT THE SIDEWALK AND CURB & GUTTER IMPROVEMENTS AND THE PROPOSED ROADWAY IMPROVEMENTS UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ON -L- (COUNTRY CLUB RD.(SR 1200) / FIRST ST.(NC 55)) FROM STA. 30+28.00 LEFT TO 57+56.35 LEFT.
- \*C) CONSTRUCT THE SIDEWALK AND CURB & GUTTER IMPROVEMENTS AND THE PROPOSED ROADWAY IMPROVEMENTS UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ON -L- (COUNTRY CLUB RD.(SR 1200) / FIRST ST.(NC 55)) FROM STA. 30+28.00 RIGHT TO 57+56.35 RIGHT.

STEP 3: USING NCDOT RSD 1101.02 SHEET 3 OF 14, TEMPORARILY CLOSE THE RIGHT TURN LANE ON -Y10- (NEUSE BLVD.) AS NECESSARY TO TIE IN TO EXISTING INTERSECTION.

### PHASE II

STEP 1: AWAY FROM TRAFFIC, USING NCDOT RSD 1101.02 SHEET 7 OF 14, CLOSE THE LEFT AND RIGHT INSIDE LANES OF -L- (COUNTRY CLUB RD. (SR 1200)/FIRST ST.(NC 55)) FROM STA. 30+28.00 TO STA. 57+56.35.

CONSTRUCT THE PROPOSED ROADWAY IMPROVEMENTS UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ON -L- (COUNTRY CLUB RD. (SR 1200)/FIRST ST.(NC 55)) FROM STA. 30+28.00 TO 57+56.35 AS SHOWN IN TMP-8 THRU TMP-10.

STEP 2: PLACE TEMPORARY DOUBLE YELLOW CENTERLINE PAVEMENT MARKINGS ON COUNTRY CLUB RD. (SR 1200) / FIRST ST. (NC 55) FROM STA. 30+28.00 TO 57+56.35.

### PHASE III

STEP 1: AWAY FROM TRAFFIC, USING NCDOT RSD 1101.02 SHEET 3 AND THEN 7 OF 14 TO PERFORM THE FOLLOWING:

- A) PLACE THE FINAL LAYER OF SURFACE COURSE ON -L- (COUNTRY CLUB RD. (SR 1200)/FIRST ST.(NC 55)) FROM STA. 30+28.00 TO 57+56.35.
- B) TEMPORARILY CLOSE THE RIGHT TURN LANE ON -Y10- (NEUSE BLVD.) AS NECESSARY TO TIE IN TO EXISTING INTERSECTION.

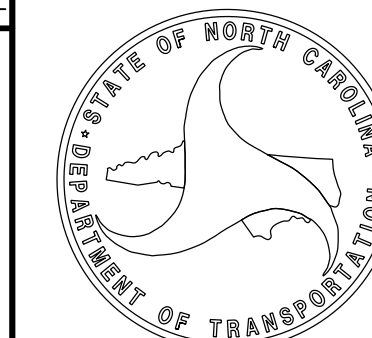
STEP 2: USING NCDOT RSD 1101.02 SHEET 11 OF 14, PLACE FINAL PAVEMENT MARKINGS AND MARKERS FROM -L- STA 30+28.00 TO -L- STA 57+56.35, AND TIE TO EXISTING MARKINGS (SEE PAVEMENT MARKING PLAN).

STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES AND SIGNING. OPEN COUNTRY CLUB RD. (SR 1200) / FIRST ST. (NC 55) TO FINAL TRAFFIC PATTERN.

\*SIDEWALKS FROM -L- STA. 30+28.00 TO STA. 57+56.35 CAN BEGIN AFTER PERMANENT EASEMENTS OR RIGHT OF ENTRY ARE OBTAINED PER PARCEL. ANTICIPATED DATE OF EASEMENTS IS NO LATER THAN SEPTEMBER 3, 2018.

DOCUMENT NOT CONSIDERED FINAL  
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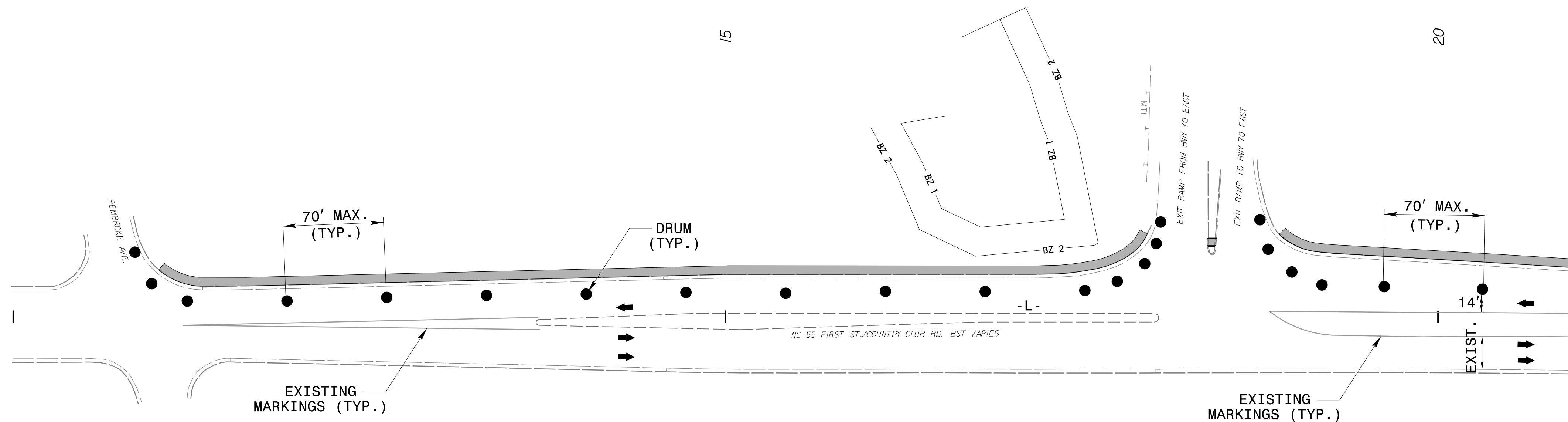
APPROVED: *Patrick Livingston* DATE: 5/2/2018



PHASING

PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-4

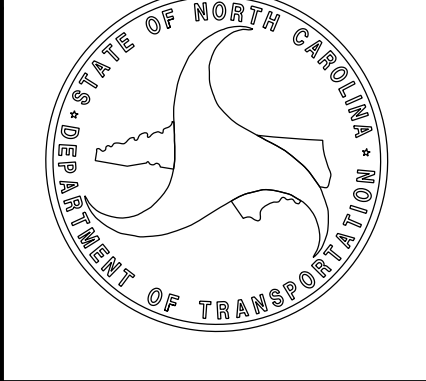
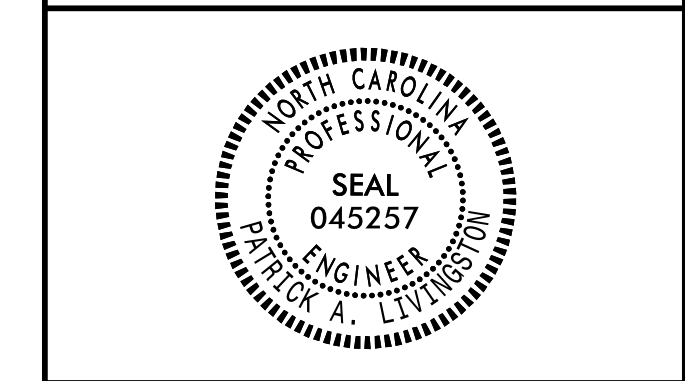
**STV** 100 STV Engineers, Inc.  
 1800 Promoter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991



MATCHLINE -L- STA 21+00 SEE SHEET TMP-5

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APPROVED: *Patrick Livingston* DATE: 5/2/2018



PHASE I DETAIL

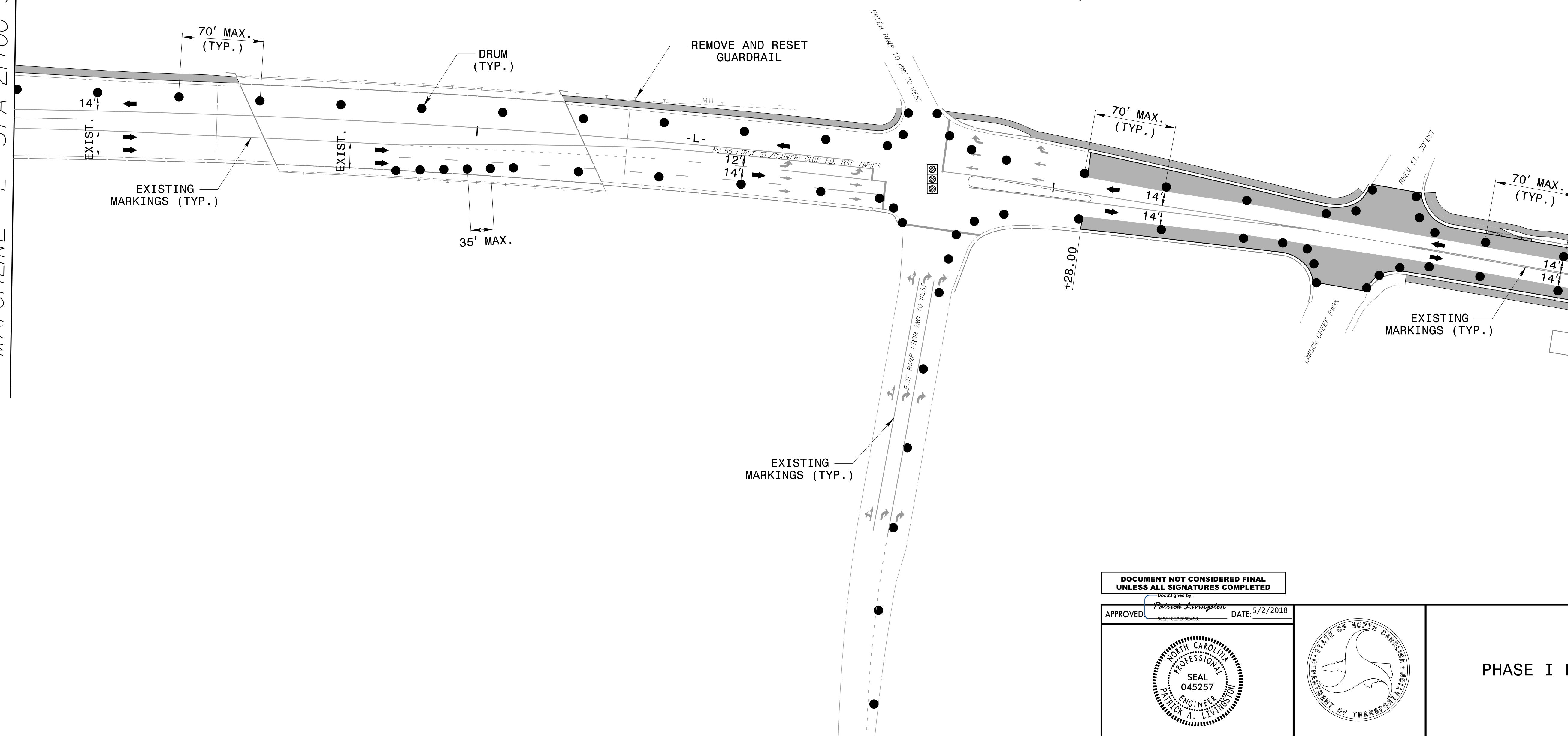
PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-5

**STV** 100 Years  
 STV Engineers, Inc.  
 1600 Promoter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991



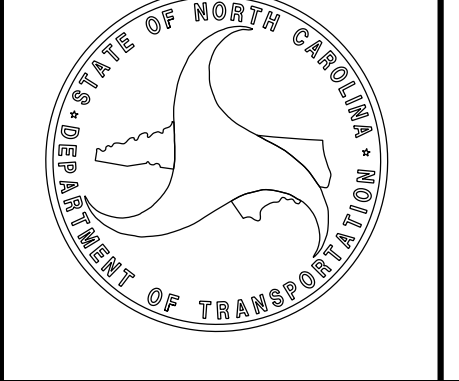
MATCHLINE -L- STA 21+00 SEE SHEET TMP-4

MATCHLINE -L- STA 35+00 SEE SHEET TMP-6



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APPROVED: *Patrick Livingston* DATE: 5/2/2018



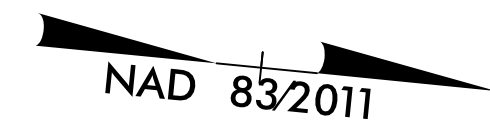
PHASE I DETAIL



8/17/19

PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-6

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 STV Engineers, Inc.  
 1800 Promoter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991



MATCHLINE -L- STA 35+00 SEE SHEET TMP-5

70' MAX. (TYP.)  
 14'  
 14'  
 EXISTING MARKINGS (TYP.)  
 NC 55 FIRST ST./COUNTRY CLUB RD. BST VARIES

DRUM (TYP.)

70' MAX. (TYP.)

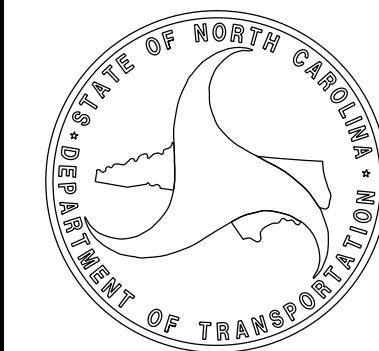
EXISTING MARKINGS (TYP.)

MATCHLINE -L- STA 47+00 SEE SHEET TMP-7

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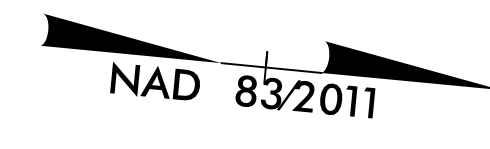
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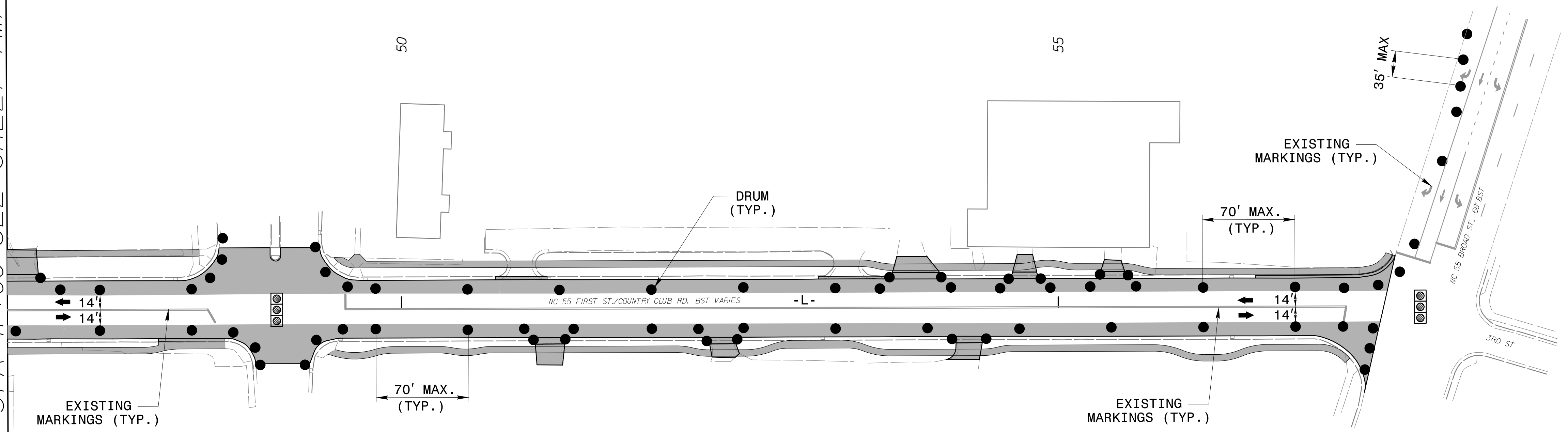
PHASE I DETAIL

PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-7

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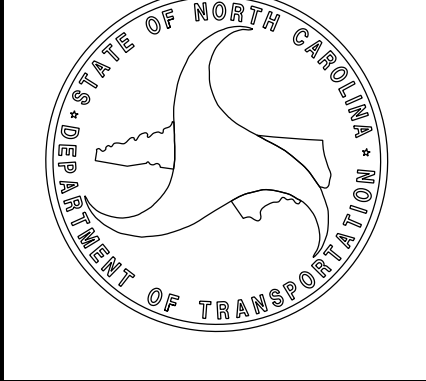
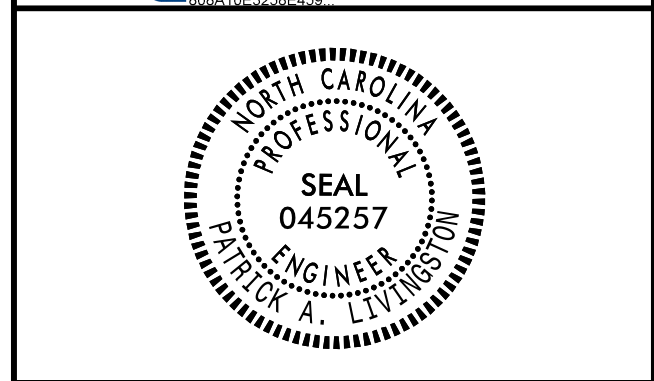
MATCHLINE -L- STA 47+00 SEE SHEET TMP-6



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APPROVED: *Patrick Livingston* DATE: 5/2/2018

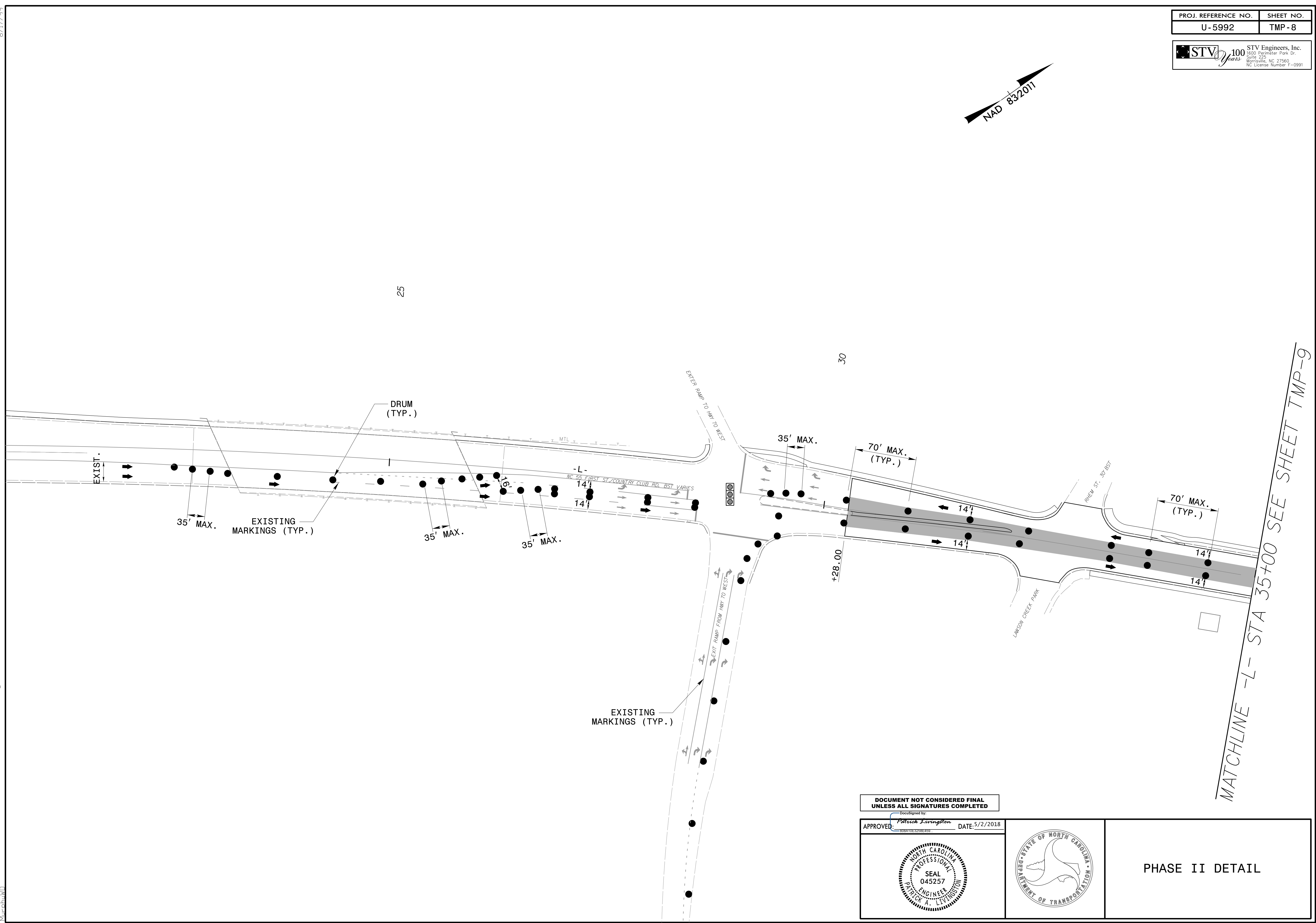


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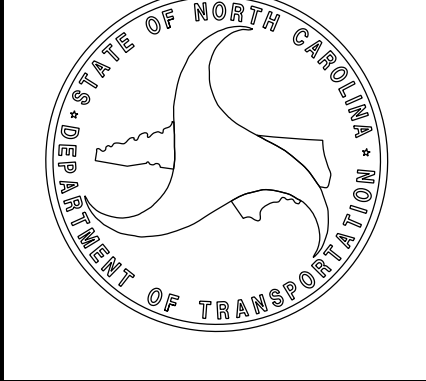
PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-8

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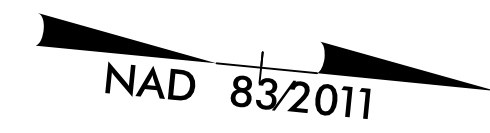
APPROVED: *Patrick Livingston* DATE: 5/2/2018  
DESIGNED BY: PATRICK A. LIVINGSTON



**PHASE II DETAIL**

PROJ. REFERENCE NO.	SHEET NO.
U-5992	TMP-9

**STV** 100 Years  
 STV Engineers, Inc.  
 1820 Promoter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991



MATCHLINE -L- STA 35+00 SEE SHEET TMP-8

70' MAX.  
(TYP.)

14'

NC 55 FIRST ST./COUNTRY CLUB RD. BST VARIES

DRUM  
(TYP.)

45

70' MAX.  
(TYP.)

14'

14'

NC 55 FIRST ST./COUNTRY CLUB RD. BST VARIES

FIRST ST.

WALT BELLAMY DRIVE

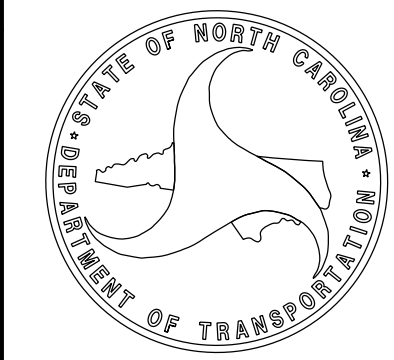
CHURCH ST. 12' BST

QUEEN ST. BST VARIES AT INTERSECTION

MATCHLINE -L- STA 47+00 SEE SHEET TMP-10

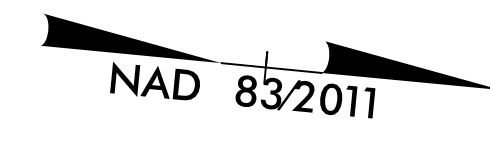
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

APPROVED: *Patrick Livingston* DATE: 5/2/2018

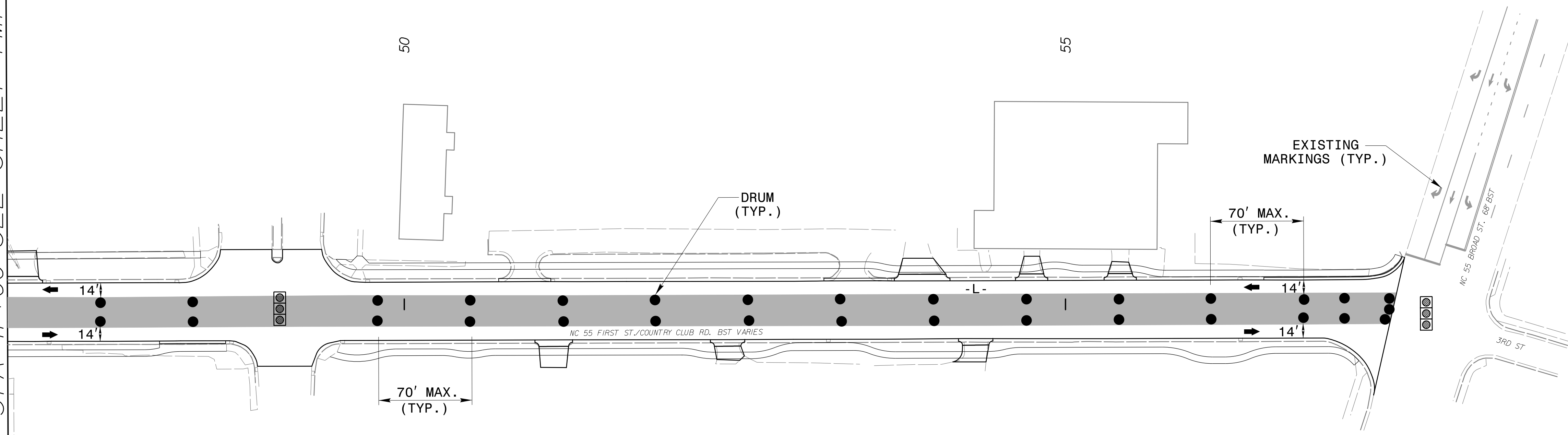


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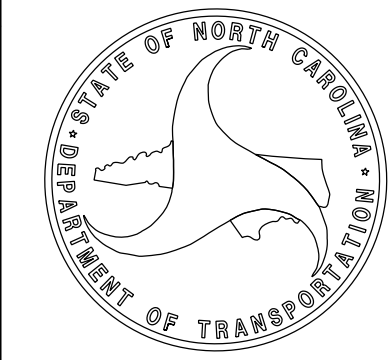


MATCHLINE -L- STA 47+00 SEE SHEET TMP-9



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 UNLESS ALL SIGNATURES COMPLETED

APPROVED: *Petrick Livingston* DATE: 5/2/2018



PHASE II DETAIL

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
U-5992	PMP-1

**PAVEMENT MARKING &  
SIGNING PLAN**

**CRAVEN COUNTY**

LOCATION: SR 1200 (FIRST ST./COUNTRY CLUB RD.) FROM PEMBROKE AVE.  
TO NC 55 (NEUSE BLVD./BROAD ST) IN NEW BERN

**PROJECT: U-5992**

**CONTRACT: DB00423**

**FINAL PAVEMENT MARKING SCHEDULE**

SYMBOL	DESCRIPTION
TA	WHITE EDGELINE <u>THERMOPLASTIC (4", 90 MILS)</u>
T8	2' WHITE MINI SKIP 6' <u>THERMOPLASTIC (4", 120 MILS)</u>
TD	3' MINI SKIP 9'
TF	YELLOW 10' SKIPS
TH	YELLOW SINGLE CENTER
TI	YELLOW DOUBLE CENTER <u>THERMOPLASTIC (6", 120 MILS)</u>
TL	WHITE SOLID LANE LINE <u>THERMOPLASTIC (8", 90 MILS)</u>
TP	YELLOW DIAGONAL <u>THERMOPLASTIC (12", 120 MILS)</u>
TQ	WHITE CROSSWALK LINE <u>THERMOPLASTIC (24", 120 MILS)</u>
T2	WHITE STOP BAR <u>THERMOPLASTIC (90 MILS)</u>
UA	LEFT TURN ARROW
UC	STRAIGHT ARROW
UE	COMBINED STRAIGHT/RIGHT ARROW
UG	COMBINED LEFT/RIGHT/STRAIGHT ARROW
UJ	BICYCLE SYMBOL
UK	BICYCLE STRAIGHT ARROW <u>THERMOPLASTIC (120 MILS)</u>
UI	CHARACTERS <u>MARKERS</u>
ME	SNOWPLOWABLE RAISED MAKER

**ROADWAY STANDARD DRAWINGS**

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

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E', AND 'F' SIGNS ON U CHANNEL POSTS
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
1205.07	PAVEMNET MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

**SUMMARY OF QUANTITIES**

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	SUPPORTS, 3-LB STEEL U-CHANNEL	330	LF
4102000000	SIGN ERECTION, TYPE E	24	EA
4685000000	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	4442	LF
4686000000	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	5591	LF
4690000000	THERMOPLASTIC PAVEMENT MARKING LINES (6", 120 MILS)	1028	LF
4695000000	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	54	LF
4697000000	THERMOPLASTIC PAVEMENT MARKING LINES (12", 120 MILS)	1743	LF
4710000000	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	186	LF
4725000000	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	57	EA
4721000000	THERMOPLASTIC PAVEMENT MARKING CHARACTERS (120 MILS)	4	EA
4905000000	SNOWPLOWABLE PAVEMENT MARKERS	30	EA

**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.

**PAVEMENT MARKING:**

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

ROAD NAME	MARKING	MARKER
NC 55	THERMOPLASTIC	RAISED
- TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- REMOVE/REPLACE ANY CONFLICTING PAVEMENT MARKINGS.
- PASSING ZONE WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- REPLACE ANY PAVEMENT MARKINGS BEYOND THE PROJECT LIMITS DAMAGED BY THE CONTRACTORS' OPERATIONS DURING CONSTRUCTION.



**SIGNING:**

- SIGNS FURNISHED BY STATE
- ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POST UNLESS OTHERWISE INDICATED ON THE PLANS.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTING SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE 'E' AND 'F' SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

**INDEX OF SHEETS**

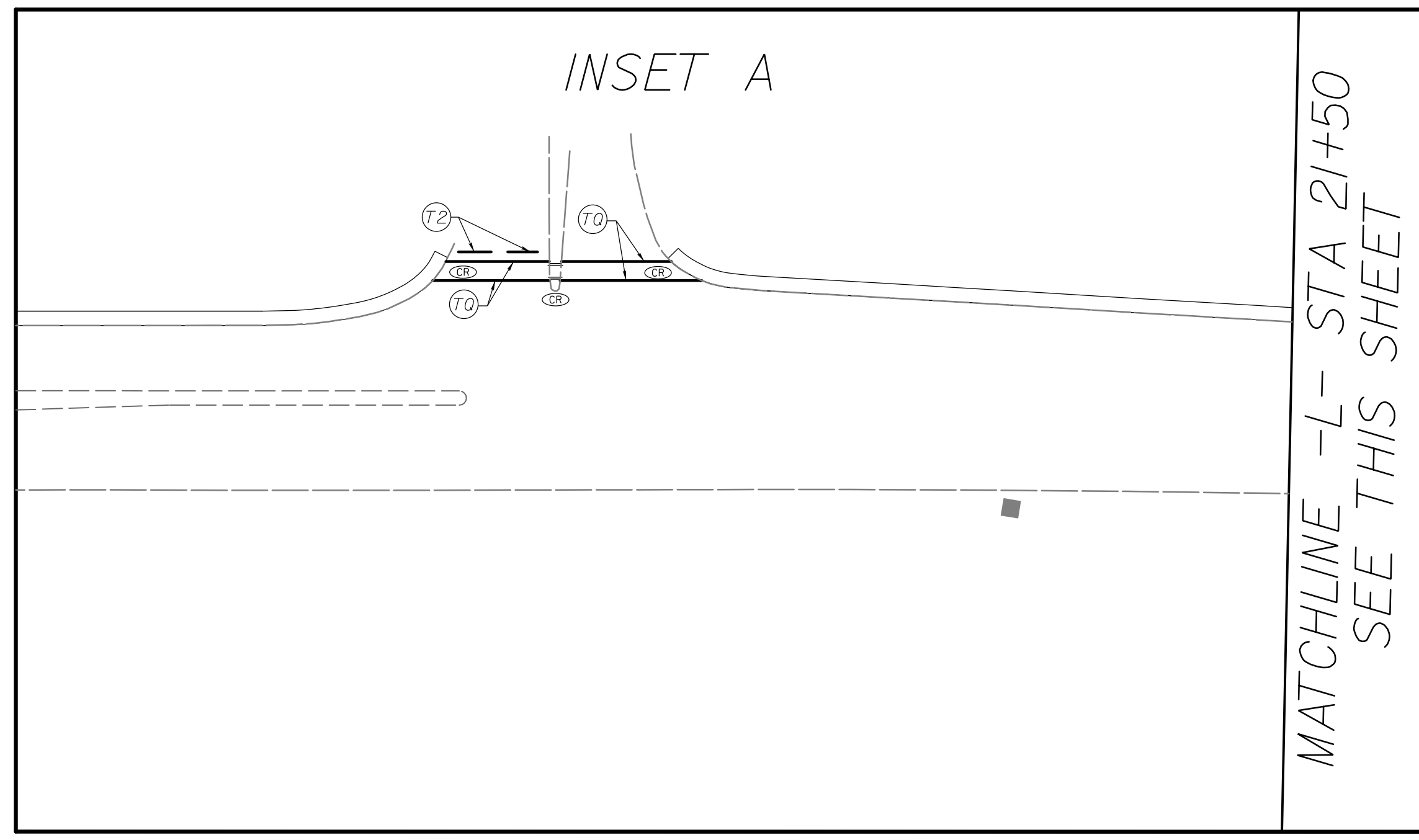
SHEET NO.	TITLE
PMP-1	PAVEMENT MARKING & SIGNING PLAN COVER SHEET
PMP-2 THRU PMP-4	PAVEMENT MARKING & SIGNING DETAIL SHEETS

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APPROVED:  DATE: 5/2/2018 	PLAN PREPARED FOR N.C.D.O.T. BY: STV ENGINEERS, INC. PATRICK A. LIVINGSTON, PE PROJECT ENGINEER WESTON D. MURPHY, EI DESIGN ENGINEER STARKE W. HIPPI, EI DESIGN TECHNICIAN
--	--



MATCHLINE -L- STA 21+50  
SEE INSET A



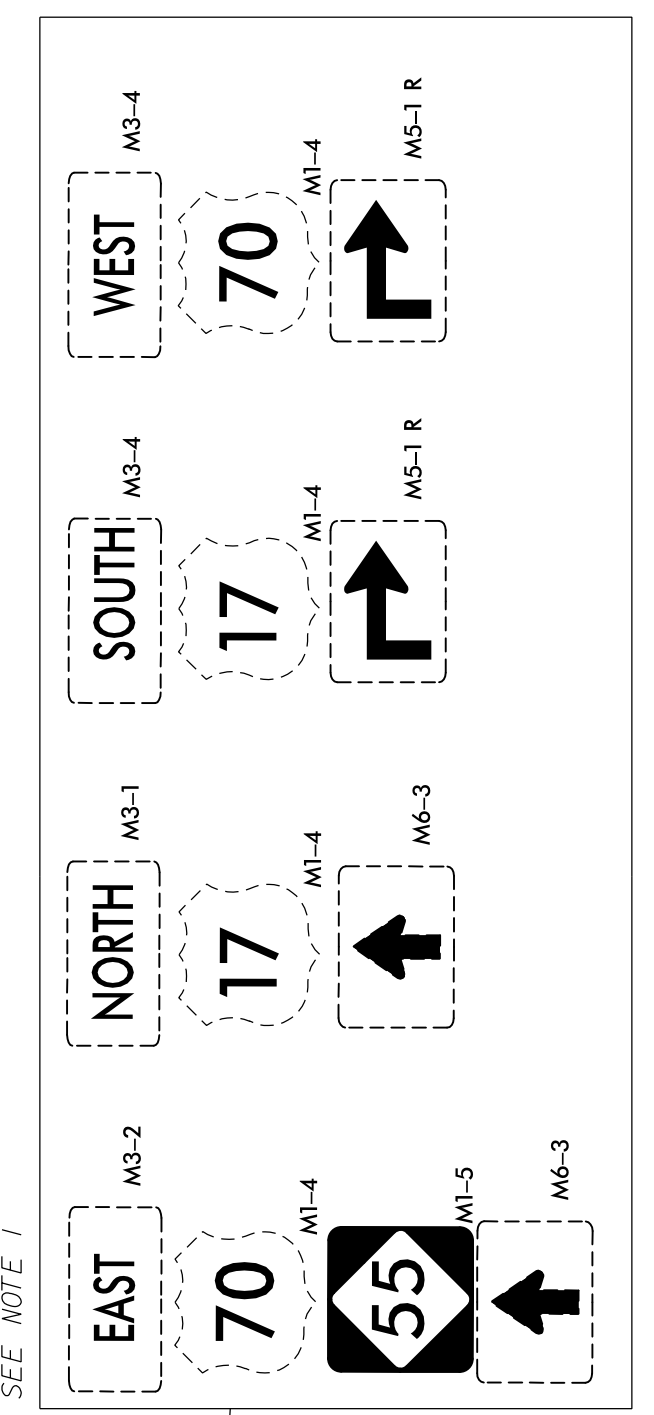
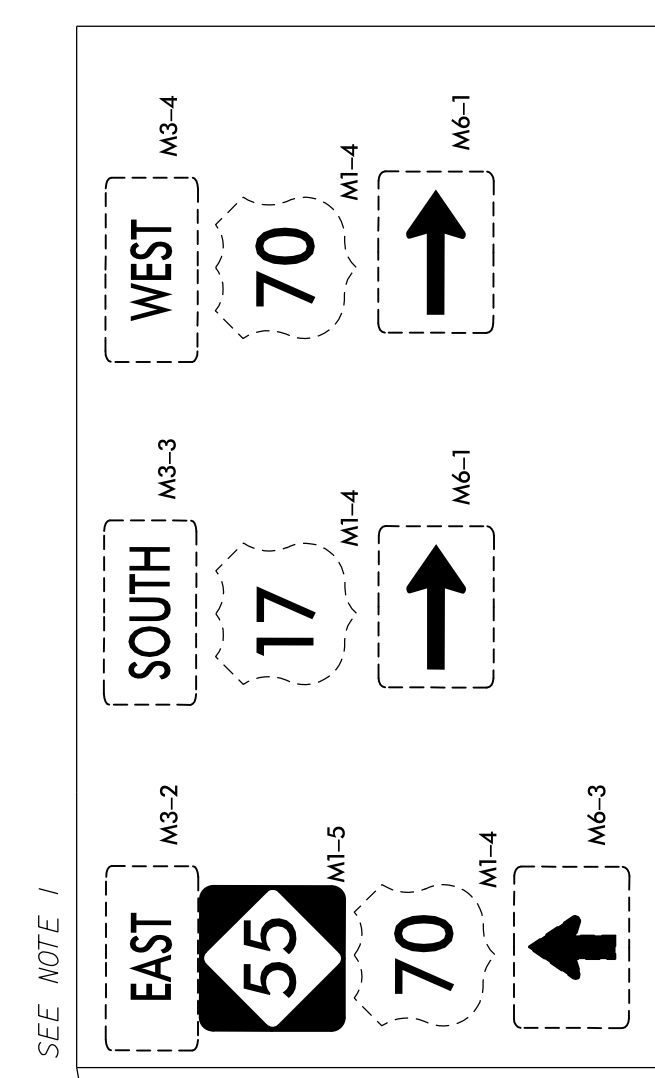
MATCHLINE -L- STA 21+50  
SEE THIS SHEET

PAVEMENT MARKING SCHEDULE	
SYMBOL	DESCRIPTION
	THERMOPLASTIC (4", 90 MILS)
TA	WHITE EDGELINE THERMOPLASTIC (4", 120 MILS)
T8	2' WHITE MINI SKIP 6'
TD	3' MINI SKIP 9'
TF	YELLOW 10' SKIPS
TH	YELLOW SINGLE CENTER
TI	YELLOW DOUBLE CENTER
	THERMOPLASTIC (6", 120 MILS)
TL	WHITE SOLID LANE LINE THERMOPLASTIC (8", 90 MILS)
TP	YELLOW DIAGONAL THERMOPLASTIC (12", 120 MILS)
TQ	WHITE CROSSWALK LINE THERMOPLASTIC (24", 120 MILS)
T2	WHITE STOP BAR THERMOPLASTIC (90 MILS)
UA	LEFT TURN ARROW
UC	STRAIGHT ARROW
UE	COMBINED STRAIGHT/RIGHT ARROW
UG	COMBINED LEFT/RIGHT/STRAIGHT ARROW
UJ	BICYCLE SYMBOL
UK	BICYCLE STRAIGHT ARROW
UI	ALPHANUMERIC CHARACTERS MARKERS
ME	SNOWPLOWABLE RAISED MARKER

SUMMARY OF SIGNAGE QUANTITIES		
	R4-7 24" X 30"	QUANTITY REQ'D = 1
	W11-2 36" X 36"	QUANTITY REQ'D = 4
	W16-7p 24" X 12"	QUANTITY REQ'D = 4

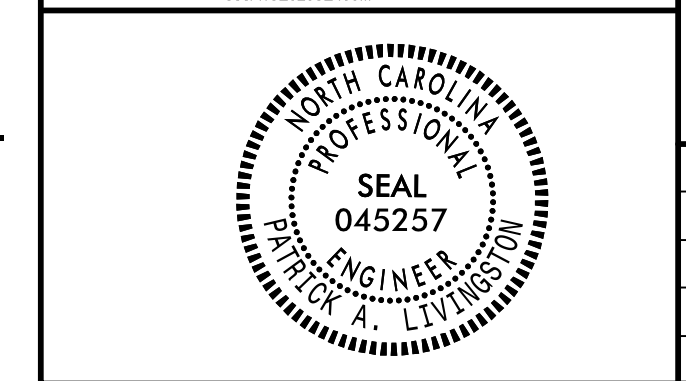
NOTE: SIGN B AND SIGN C SHALL BE INSTALLED ON THE SAME POST AND SHALL BE FLOURESCENT YELLOW-GREEN BACKGROUND.

- NOTES:
- 1) RELOCATE EXIST. SIGN SYSTEM AND ERECT NEW U-CHANNEL.
  - 2) REMOVE EXIST. SIGN SYSTEM.
  - 3) RETAIN EXIST. SIGN SYSTEM.
  - 4) PAVEMENT MARKINGS, MARKERS, SYMBOLS, AND CHARACTERS TO BE MARKED ACCORDING TO THE ROADWAY STANDARD DRAWINGS UNLESS NOTED OTHERWISE.



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

APPROVED: Patrick Livingston DATE: 5/2/2018



PAVEMENT MARKING & SIGNING DETAIL		REVISIONS
SCALE: NONE	DATE: 04/30/18	
DWG. BY: WDM	DESIGN BY: WDM	
REVIEWED BY: PAL		

MATCHLINE -L- STA 35+00 SEE SHEET PMP-3



8/17/99

**STV** 100 Years  
 STV Engineers, Inc.  
 1800 Perimeter Park Dr.  
 Suite 225  
 Morrisville, NC 27560  
 NC License Number F-0991

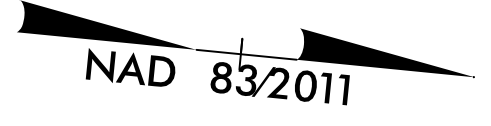
PROJ. REFERENCE NO.	SHEET NO.
U-5992	PMP-3

MATCHLINE -L- STA 35+00 SEE SHEET PMP-2

### SUMMARY OF SIGNAGE QUANTITIES

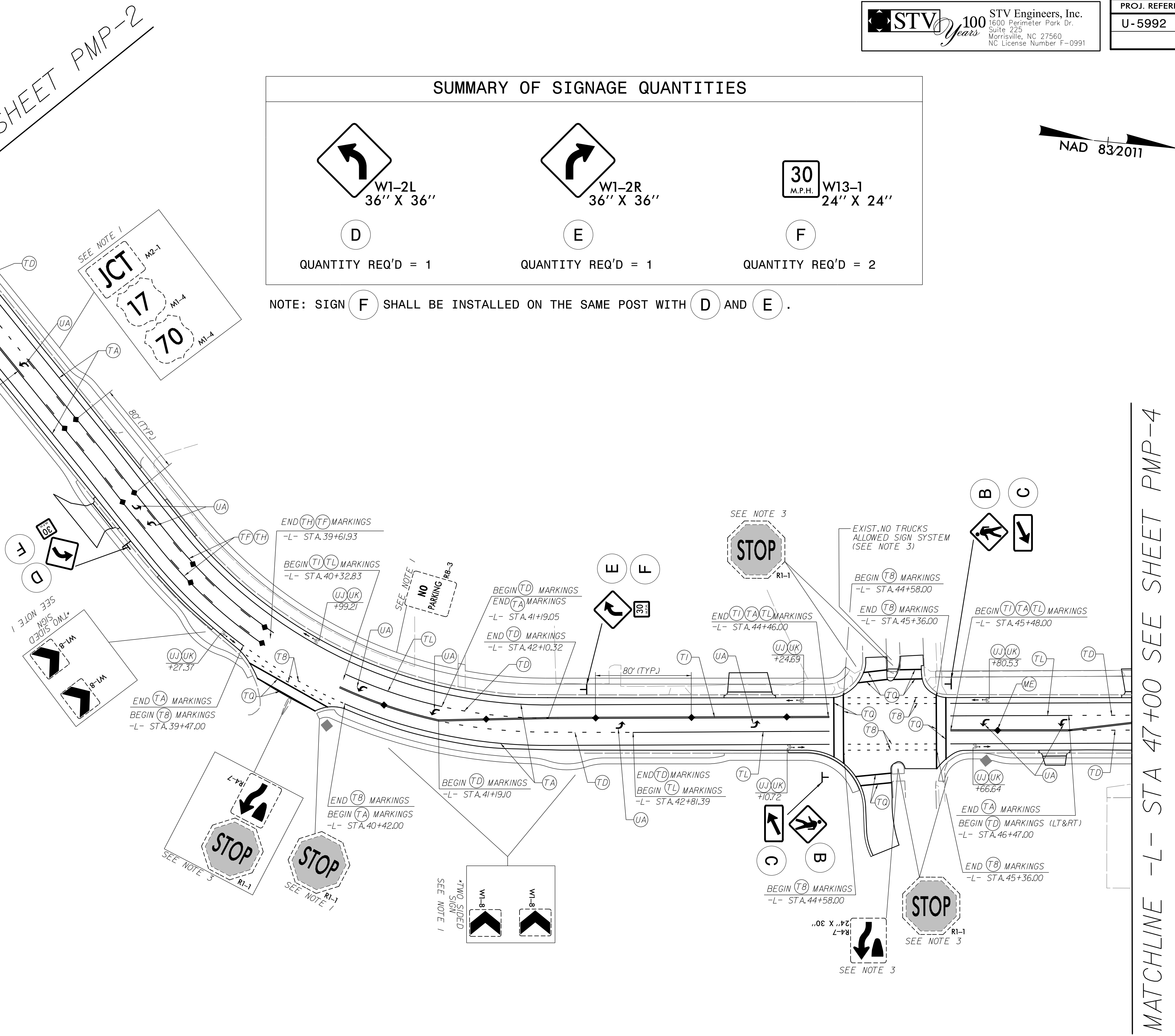
W1-2L 36" X 36"	W1-2R 36" X 36"	W13-1 24" X 24"
(D)	(E)	(F)
QUANTITY REQ'D = 1	QUANTITY REQ'D = 1	QUANTITY REQ'D = 2

NOTE: SIGN (F) SHALL BE INSTALLED ON THE SAME POST WITH (D) AND (E).



### PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
TA	THERMOPLASTIC (4", 90 MILS) WHITE EDGELINE
T8	THERMOPLASTIC (4", 120 MILS) 2' WHITE MINI SKIP 6'
TD	3' WHITE MINI SKIP 9'
TF	YELLOW 10' SKIPS
TH	YELLOW SINGLE CENTER
TI	YELLOW DOUBLE CENTER
TL	THERMOPLASTIC (6", 120 MILS) WHITE SOLID LANE LINE
TP	THERMOPLASTIC (8", 90 MILS) YELLOW DIAGONAL
TQ	THERMOPLASTIC (12", 120 MILS) WHITE CROSSWALK LINE
T2	THERMOPLASTIC (24", 120 MILS) WHITE STOP BAR
UA	THERMOPLASTIC (90 MILS) LEFT TURN ARROW
UC	STRAIGHT ARROW
UE	COMBINED STRAIGHT/RIGHT ARROW
UG	COMBINED LEFT/RIGHT/STRAIGHT ARROW
UJ	BICYCLE SYMBOL
UK	BICYCLE STRAIGHT ARROW
UI	CHARACTERS (120 MILS) ALPHANUMERIC CHARACTERS
ME	MARKERS SNOWPLOWABLE RAISED MARKER



MATCHLINE -L- STA 47+00 SEE SHEET PMP-4

- NOTES:
- 1) RELOCATE EXIST. SIGN SYSTEM AND ERECT NEW U-CHANNEL.
  - 2) REMOVE EXIST. SIGN SYSTEM.
  - 3) RETAIN EXIST. SIGN SYSTEM.
  - 4) PAVEMENT MARKINGS, MARKERS, SYMBOLS, AND CHARACTERS TO BE MARKED ACCORDING TO THE ROADWAY STANDARD DRAWINGS UNLESS NOTED OTHERWISE.

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

APPROVED: *Patrick Livingston* DATE: 5/2/2018

**PAVEMENT MARKING & SIGNING DETAIL**

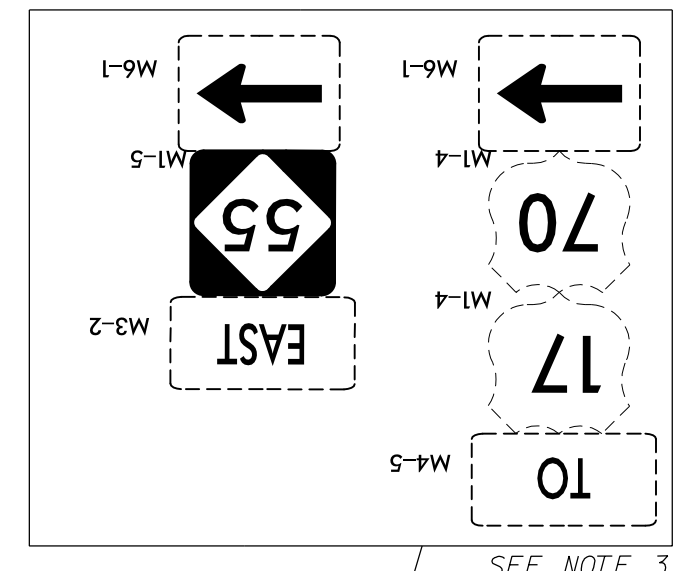
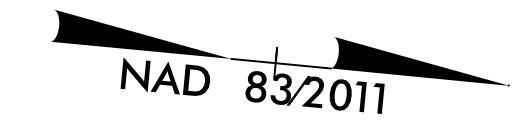
SCALE: NONE	REVISIONS
DATE: 04/30/18	
DWG. BY: WDM	
DESIGN BY: WDM	
REVIEWED BY: PAL	

Professional Engineer Seal: Patrick A. Livingston, No. 045257, State of North Carolina.

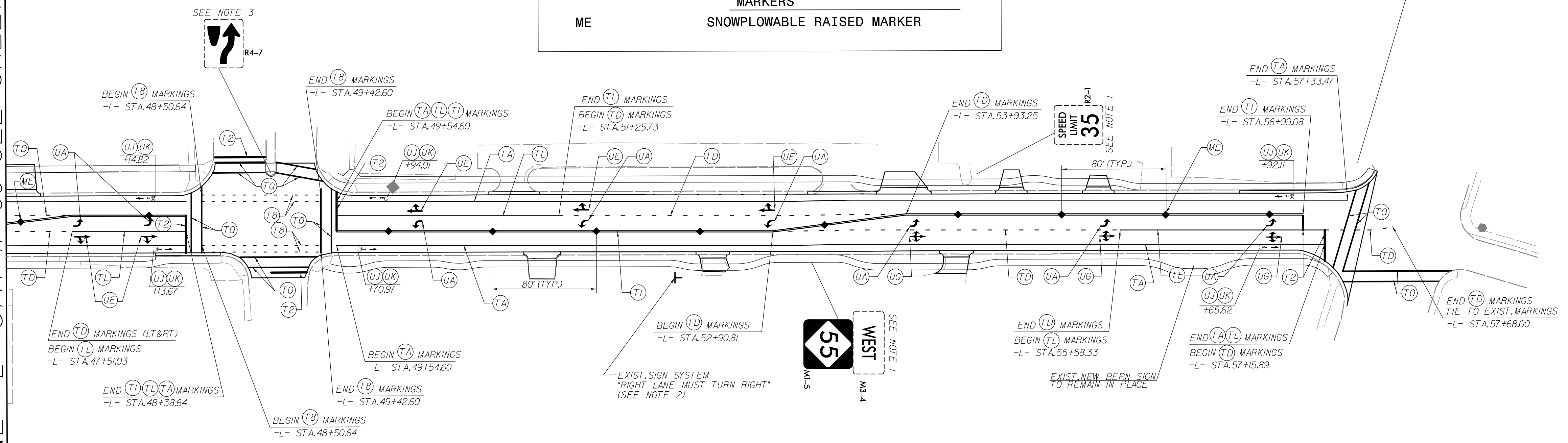
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PAVEMENT MARKING SCHEDULE	
SYMBOL	DESCRIPTION
	THERMOPLASTIC (4", 90 MILS)
TA	WHITE EDGELINE
	THERMOPLASTIC (4", 120 MILS)
T8	2' WHITE MINI SKIP 6'
TD	3' MINI SKIP 9'
TF	YELLOW 10' SKIPS
TH	YELLOW SINGLE CENTER
TI	YELLOW DOUBLE CENTER
	THERMOPLASTIC (6", 120 MILS)
TL	WHITE SOLID LANE LINE
	THERMOPLASTIC (8", 90 MILS)
TP	YELLOW DIAGONAL
	THERMOPLASTIC (12", 120 MILS)
TQ	WHITE CROSSWALK LINE
	THERMOPLASTIC (24", 120 MILS)
T2	WHITE STOP BAR
	THERMOPLASTIC (90 MILS)
UA	LEFT TURN ARROW
UC	STRAIGHT ARROW
UE	COMBINED STRAIGHT/RIGHT ARROW
UG	COMBINED LEFT/RIGHT/STRAIGHT ARROW
UJ	BICYCLE SYMBOL
UK	BICYCLE STRAIGHT ARROW
	CHARACTERS (120 MILS)
UI	ALPHANUMERIC CHARACTERS
	MARKERS
ME	SNOWPLOWABLE RAISED MARKER



MATCHLINE -L- STA 47+00 SEE SHEET PMP-3



- NOTES:
- 1) RELOCATE EXIST. SIGN SYSTEM AND ERECT NEW U-CHANNEL.
  - 2) REMOVE EXIST. SIGN SYSTEM.
  - 3) RETAIN EXIST. SIGN SYSTEM.
  - 4) PAVEMENT MARKINGS, MARKERS, SYMBOLS, AND CHARACTERS TO BE MARKED ACCORDING TO THE ROADWAY STANDARD DRAWINGS UNLESS NOTED OTHERWISE.

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

APPROVED: *Patrick Livingston* DATE: 5/2/2018

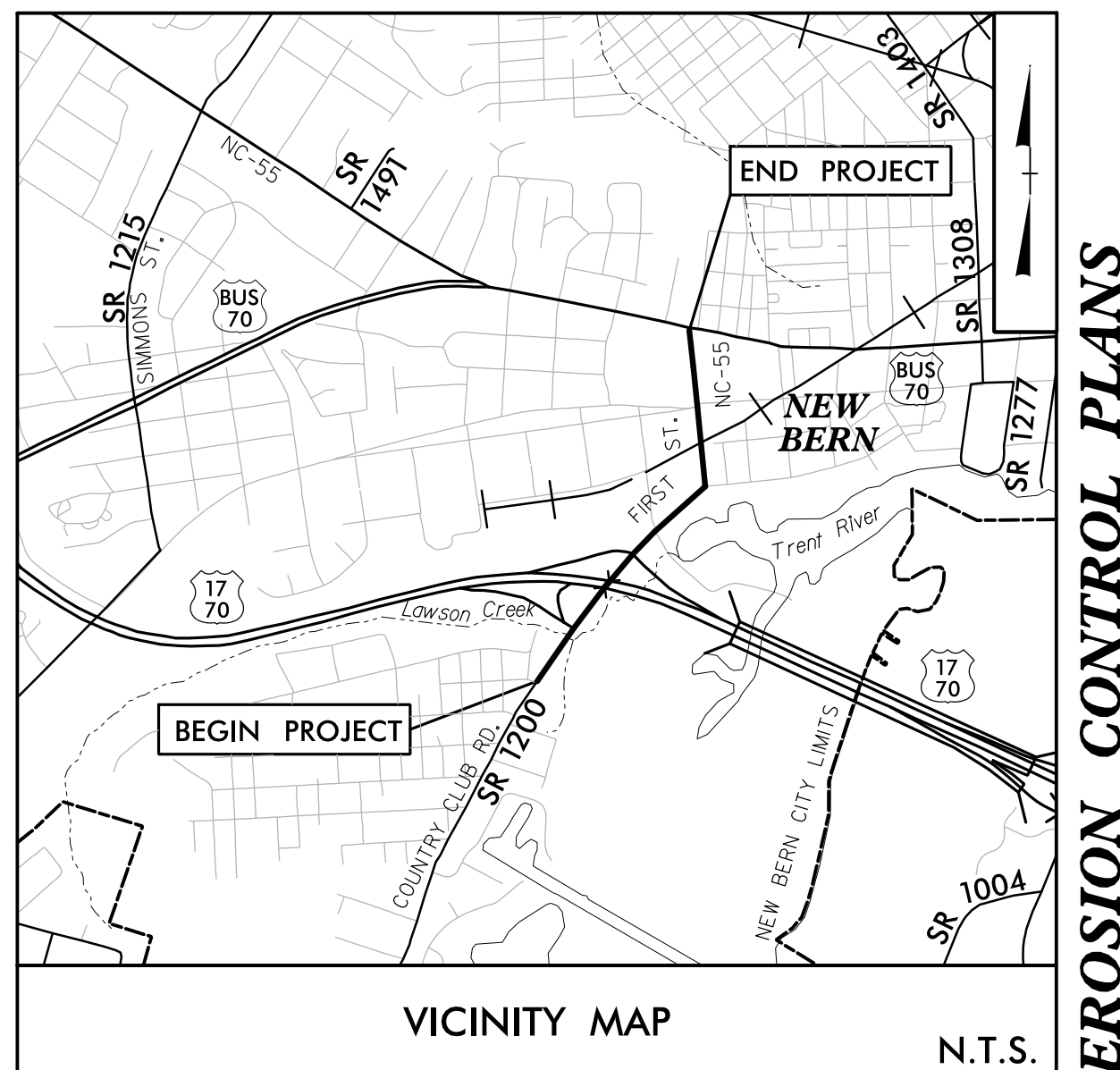
SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045257 PATRICK A. LIVINGSTON

**PAVEMENT MARKING & SIGNING DETAIL**

SCALE: NONE  
 DATE: 04/30/18  
 DWG. BY: WDM  
 DESIGN BY: WDM  
 REVIEWED BY: PAL

REVISIONS	

**TIP PROJECT U-5992**



**EROSION CONTROL PLANS**

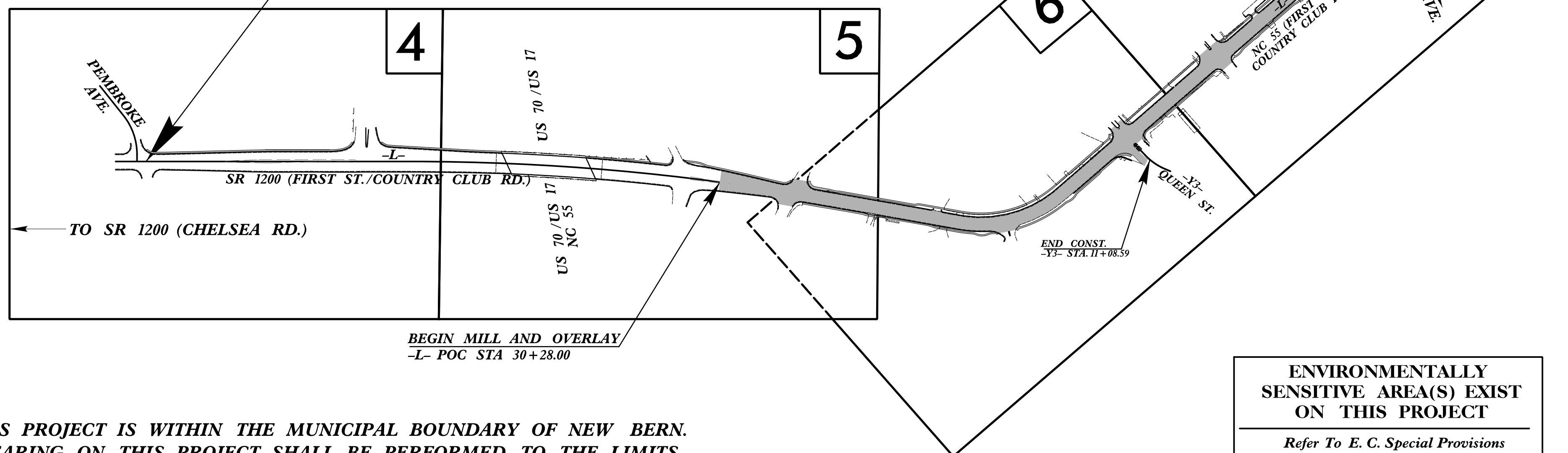
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## PLAN FOR PROPOSED HIGHWAY EROSION CONTROL **CRAVEN COUNTY**

**LOCATION: SR 1200 (FIRST ST./COUNTRY CLUB RD.) FROM PEMBROKE AVE.  
TO NC 55 (NEUSE BLVD./BROAD ST) IN NEW BERN**

**TYPE OF WORK: GRADING, PAVING, SIDEWALK & PAVEMENT MARKINGS**

**BEGIN TIP PROJECT U-5992  
-L- POT STA. 11+02.13**



**THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF NEW BERN.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS  
ESTABLISHED BY METHOD II.**

**END TIP  
PROJECT U-5992  
-L- POT STA.  
57+56.35**

**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

**ENVIRONMENTALLY  
SENSITIVE AREA(S) EXIST  
ON THIS PROJECT**  
*Refer To E. C. Special Provisions  
for Special Considerations.*

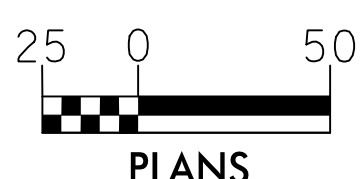
**THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5992	EC-1	13
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47112.1.1		P.E.	
47112.2.1		ROW	
47112.3.1		CONSTRUCTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
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	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W
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	U
1635.02	Rock Pipe Inlet Sediment Trap Type-B	U
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	▭

**GRAPHIC SCALE**



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

Prepared In the Office of:  
**STV ENGINEERS, INC.**  
900 WEST TRADE STREET, SUITE 715  
CHARLOTTE, NC 28202  
**2018 STANDARD SPECIFICATIONS**

Designed by:  
**JORDAN BENDL** 3928  
NAME LEVEL III CERTIFICATION NO.

Reviewed In the Office of:  
**NCDOT DIVISION 2 PROJECT DEVELOPMENT OFFICE**  
1037 W.H. SMITH BLVD  
GREENVILLE, NC 27834  
**2018 STANDARD SPECIFICATIONS**

Reviewed by:  
**RENE REMY**  
(AECOM REVIEW TEAM)


**Roadway Standard Drawings**

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

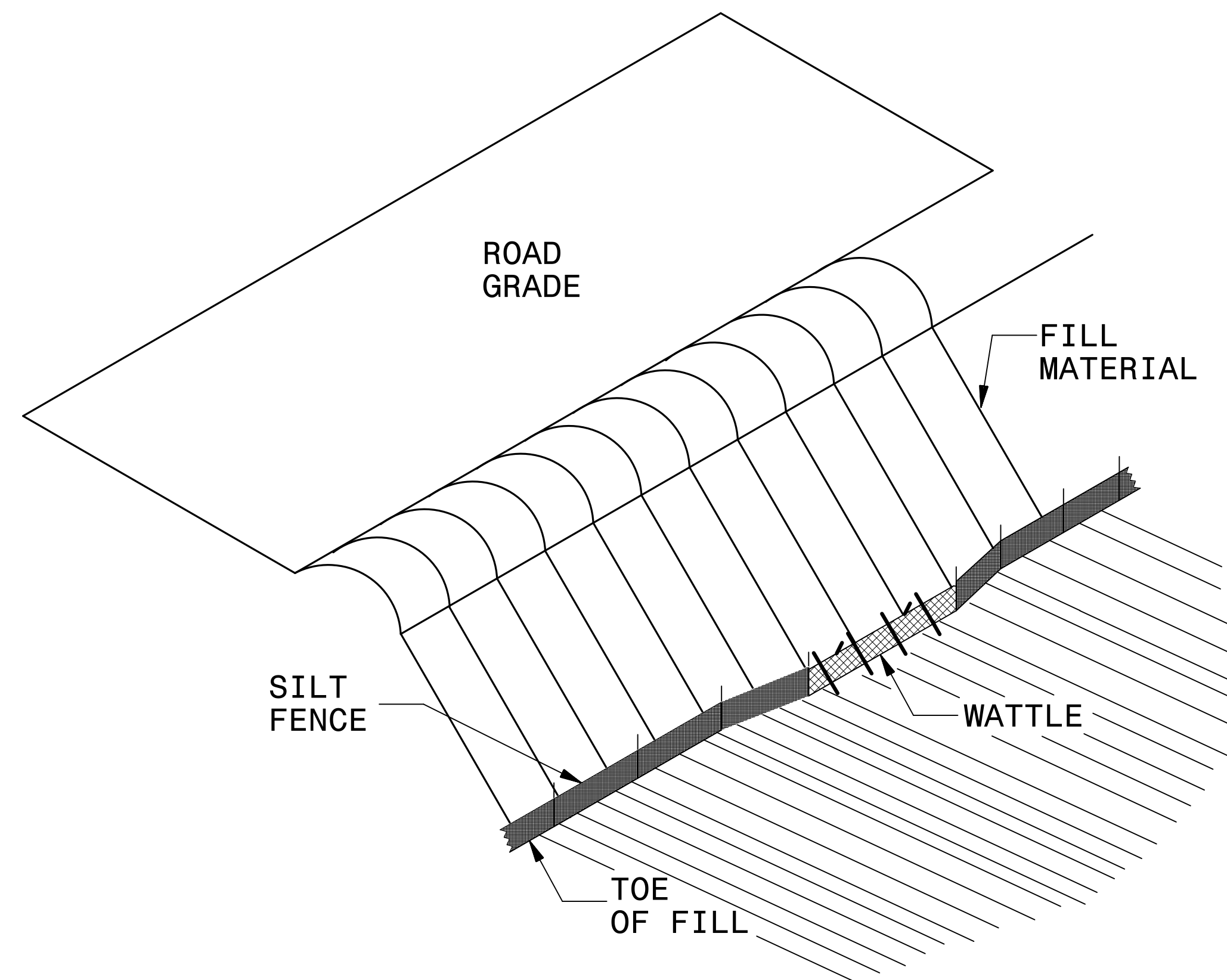
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type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

**STV** 100 Years  
STV Engineers, Inc.  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
NC License Number F-0991

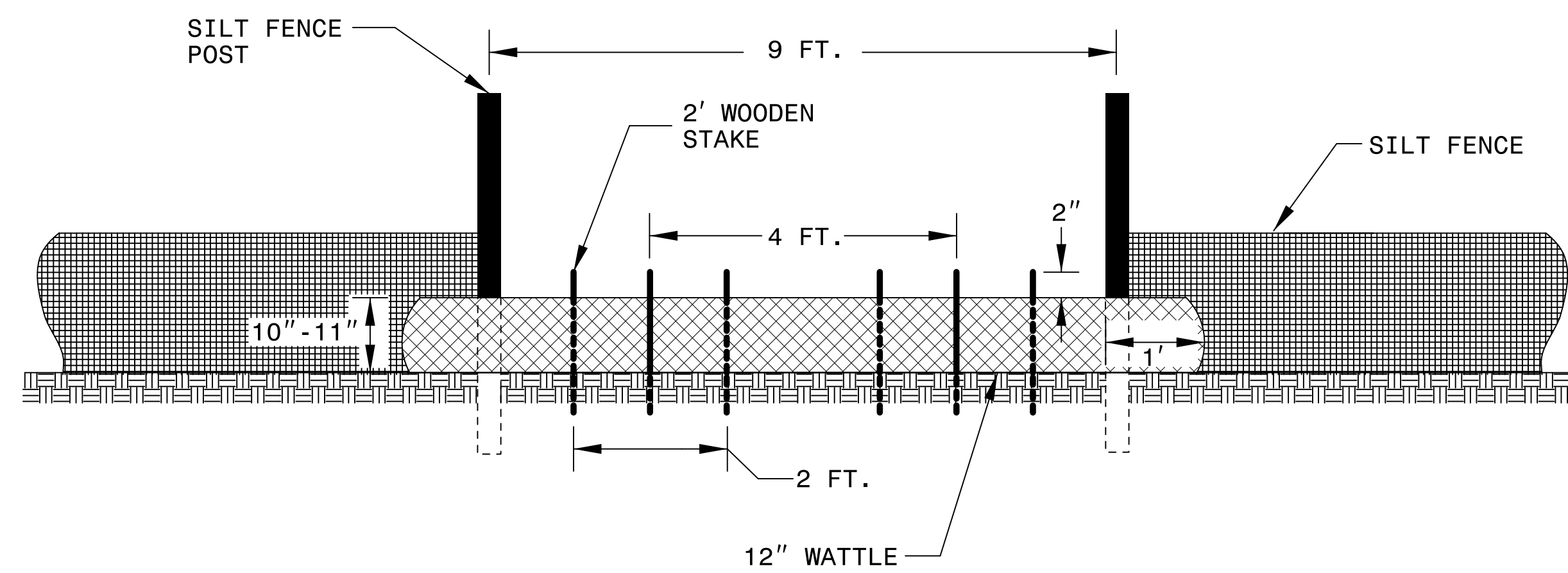


PROJECT REFERENCE NO. U-5992	SHEET NO. EC-2
RW SHEET NO.	
 STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	

# SILT FENCE COIR FIBER WATTLE BREAK DETAIL



**ISOMETRIC VIEW**

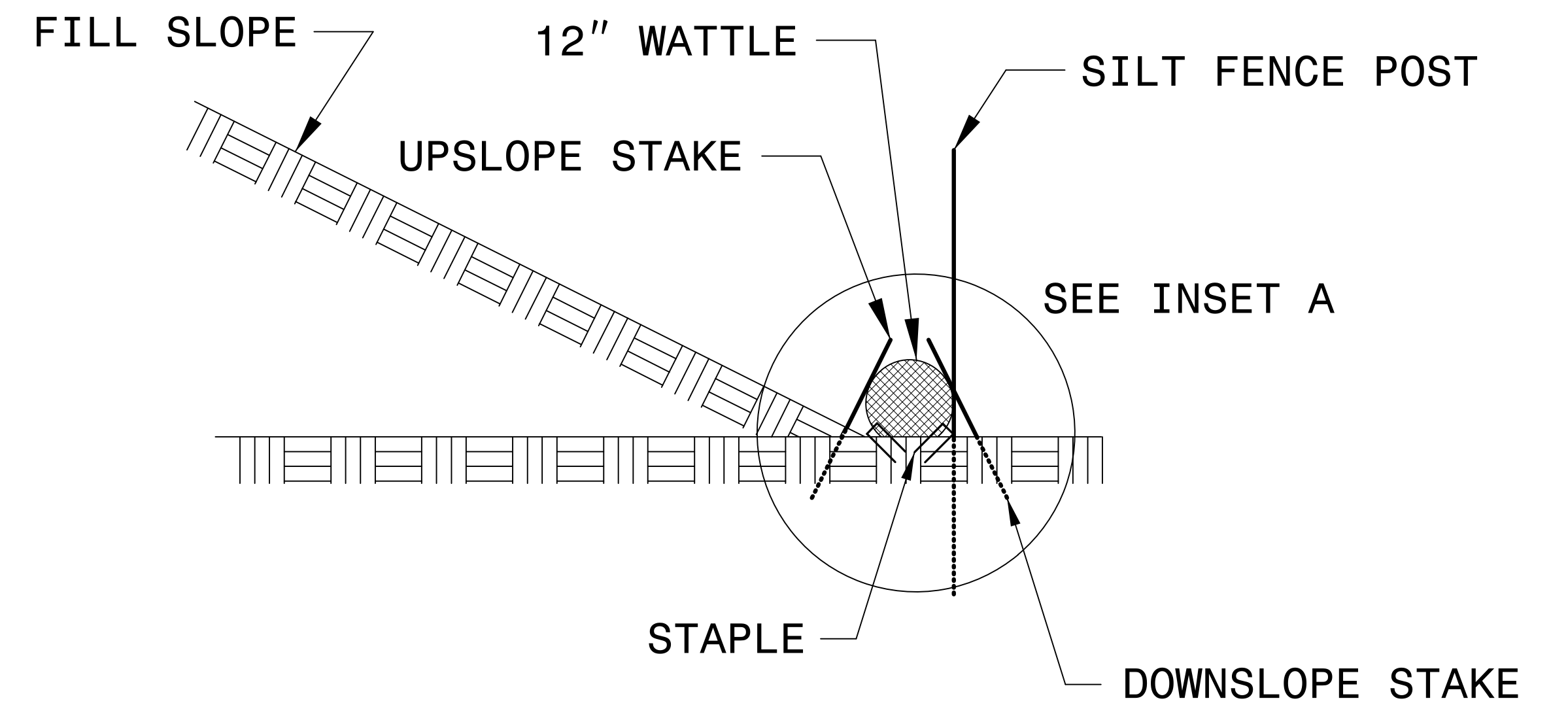
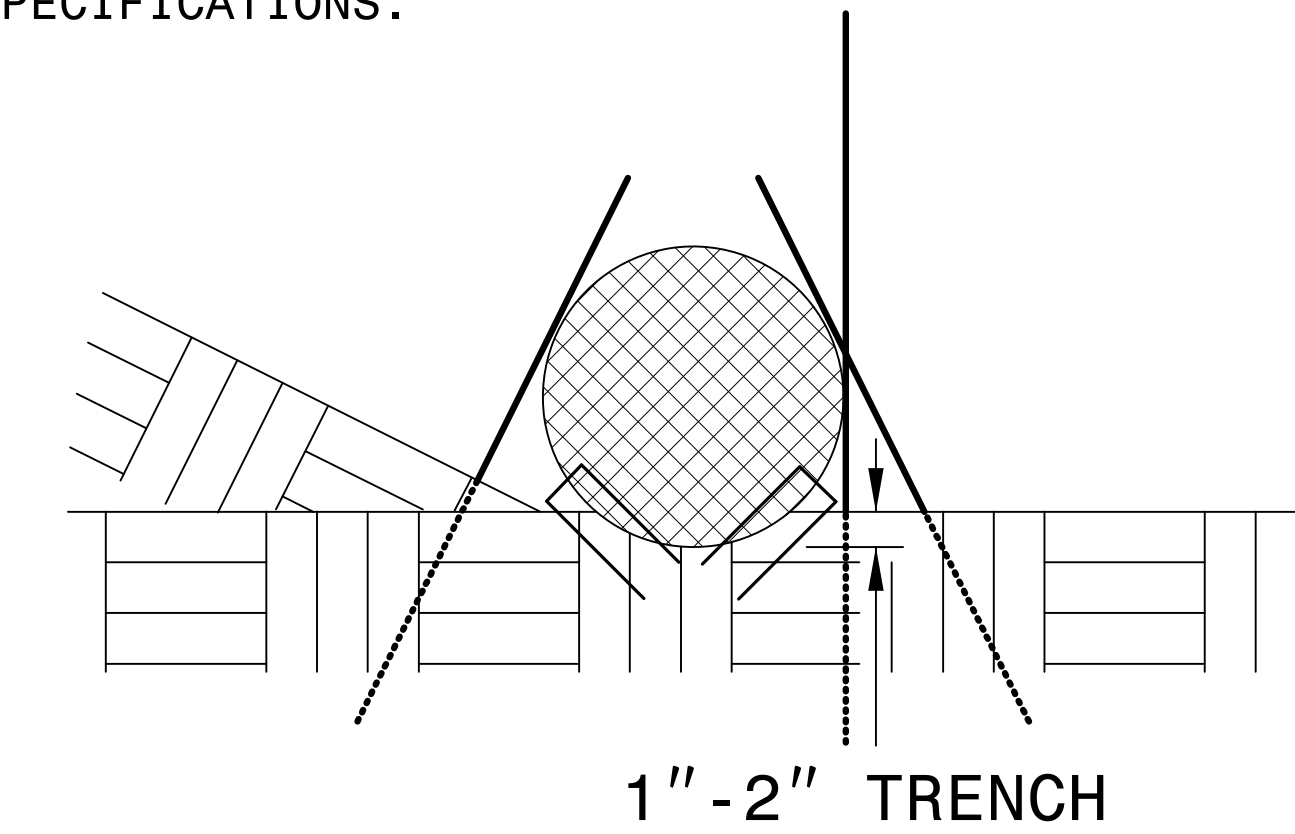


**VIEW FROM SLOPE**


**NOTES:**

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

**INSET A**



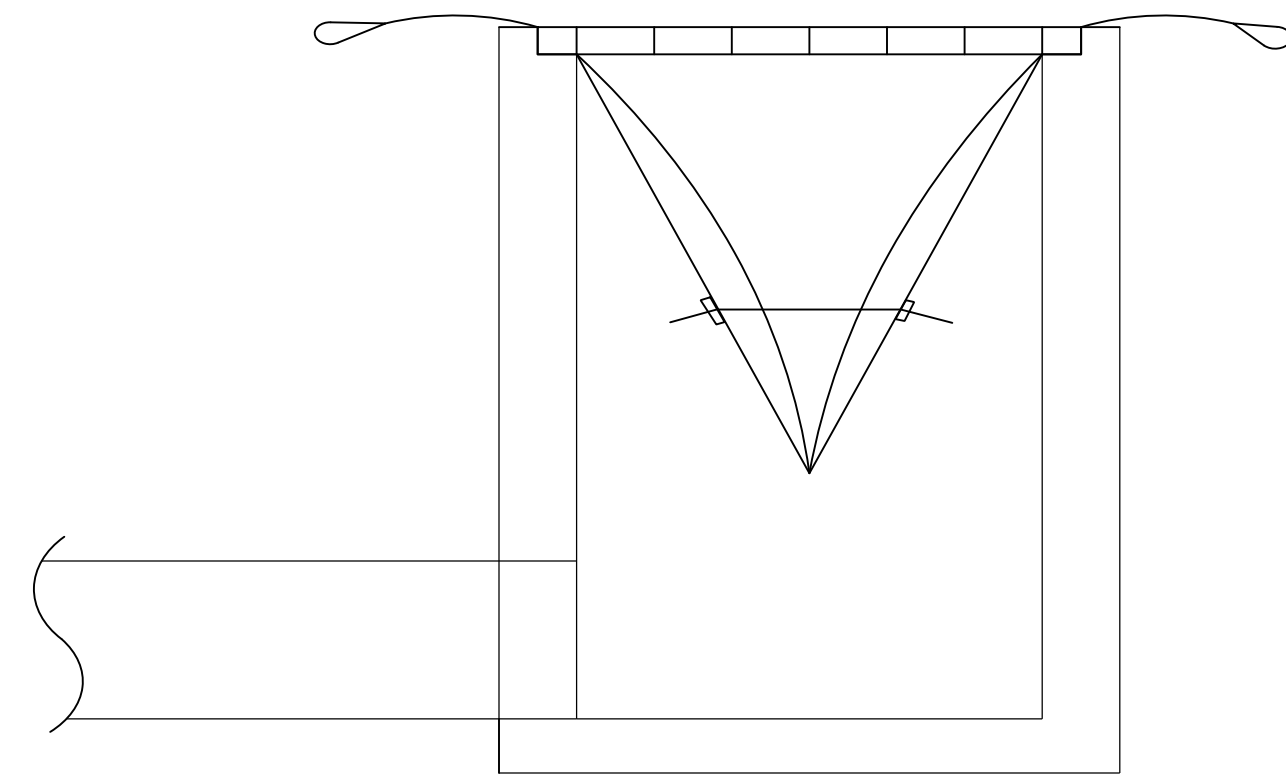
**SIDE VIEW**

PROJECT REFERENCE NO. U-5992	SHEET NO. EC-2A
RW SHEET NO.	
 STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	

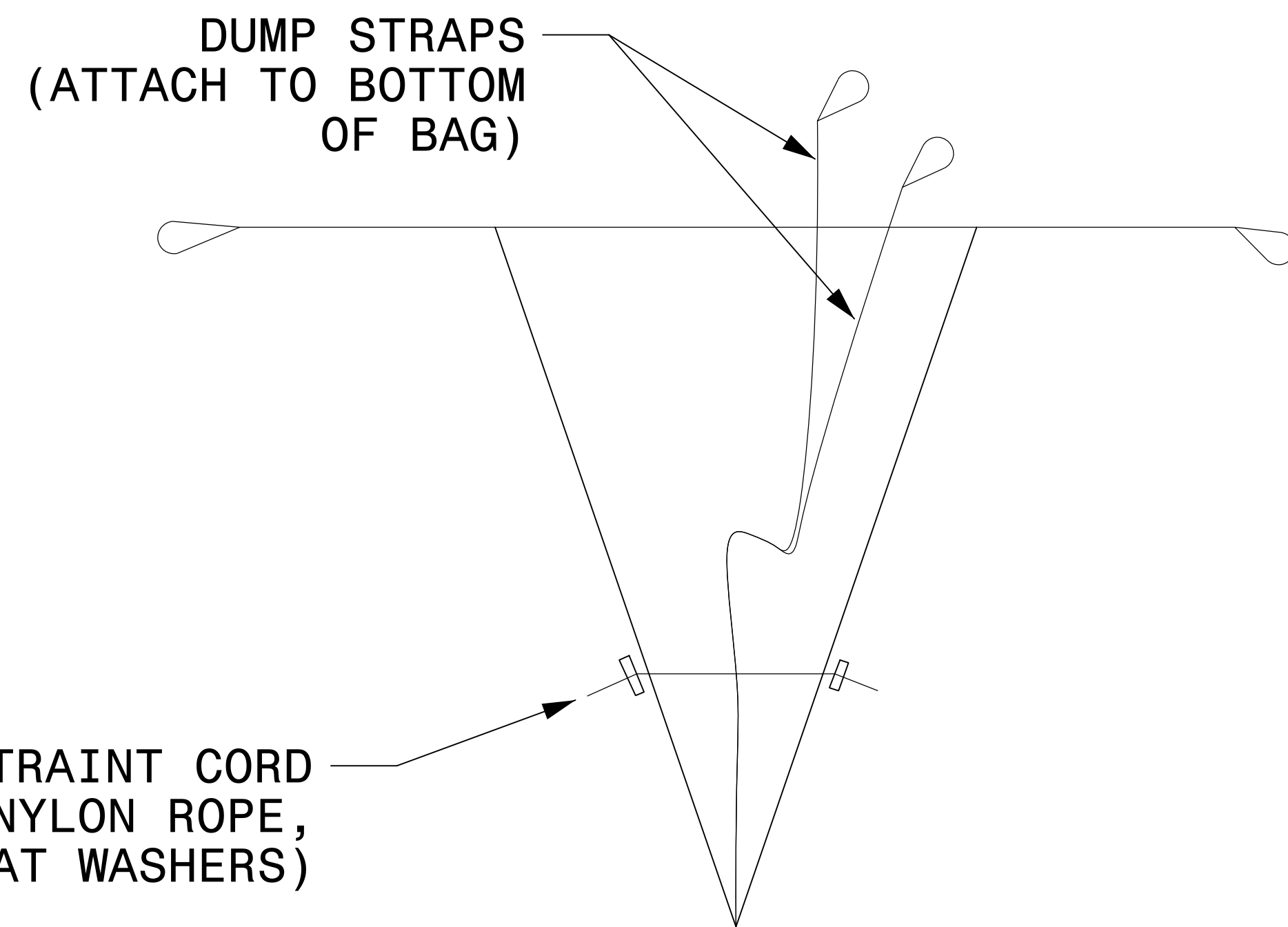
# FABRIC INSERT INLET PROTECTION DEVICE DETIAL (FOR CATCH BASINS)

**NOTES:**

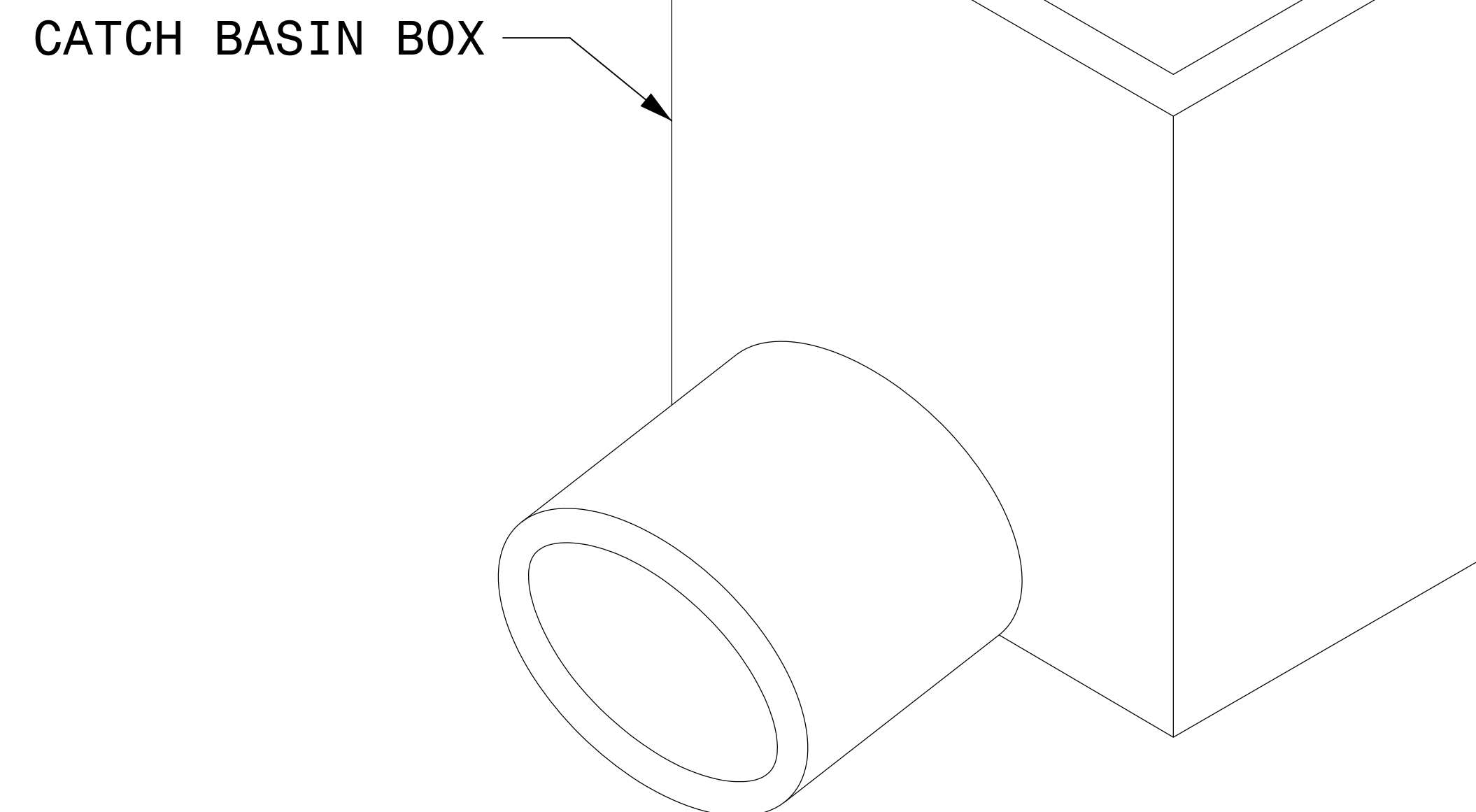
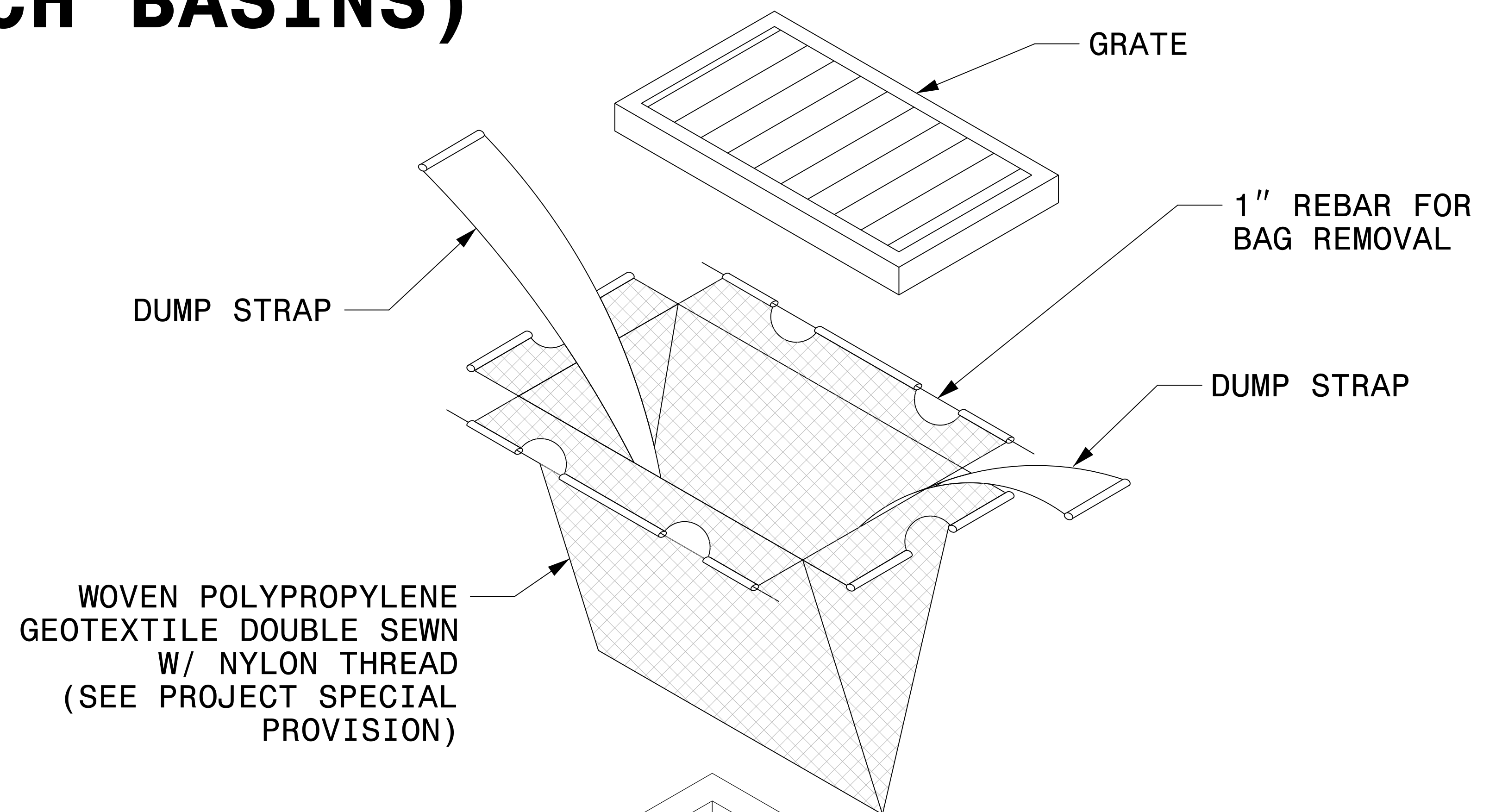
INLET PROTECTION DEVICE SHALL BE EMPTIED, CLEANED AND PLACED BACK INTO THE CATCH BASIN WHEN IT REACHES 50% CAPACITY OR AS DIRECTED BY INSPECTOR



**SIDE VIEW INSTALLATION**



**SIDE VIEW OF BAG CONSTRUCTION**




**ISOMETRIC VIEW OF FINAL INSTALLATION**

5/1/2018  
 R:\Environmental\Details\U-5992\_EC\_IPSH\_02A\_Fabric\_Insert.rvt.dgn  
 02/16






DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. U-5992	SHEET NO. EC-3A
RW SHEET NO.	
 STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 NC License Number F-0991	

# SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.



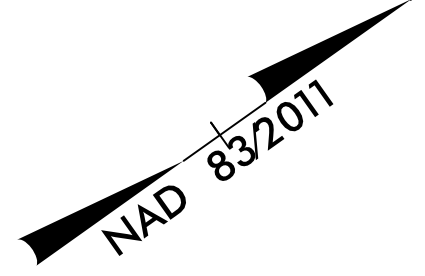
PROJECT REFERENCE NO. U-5992	SHEET NO. EC-4/CONST.-4
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

**NOTE:** UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

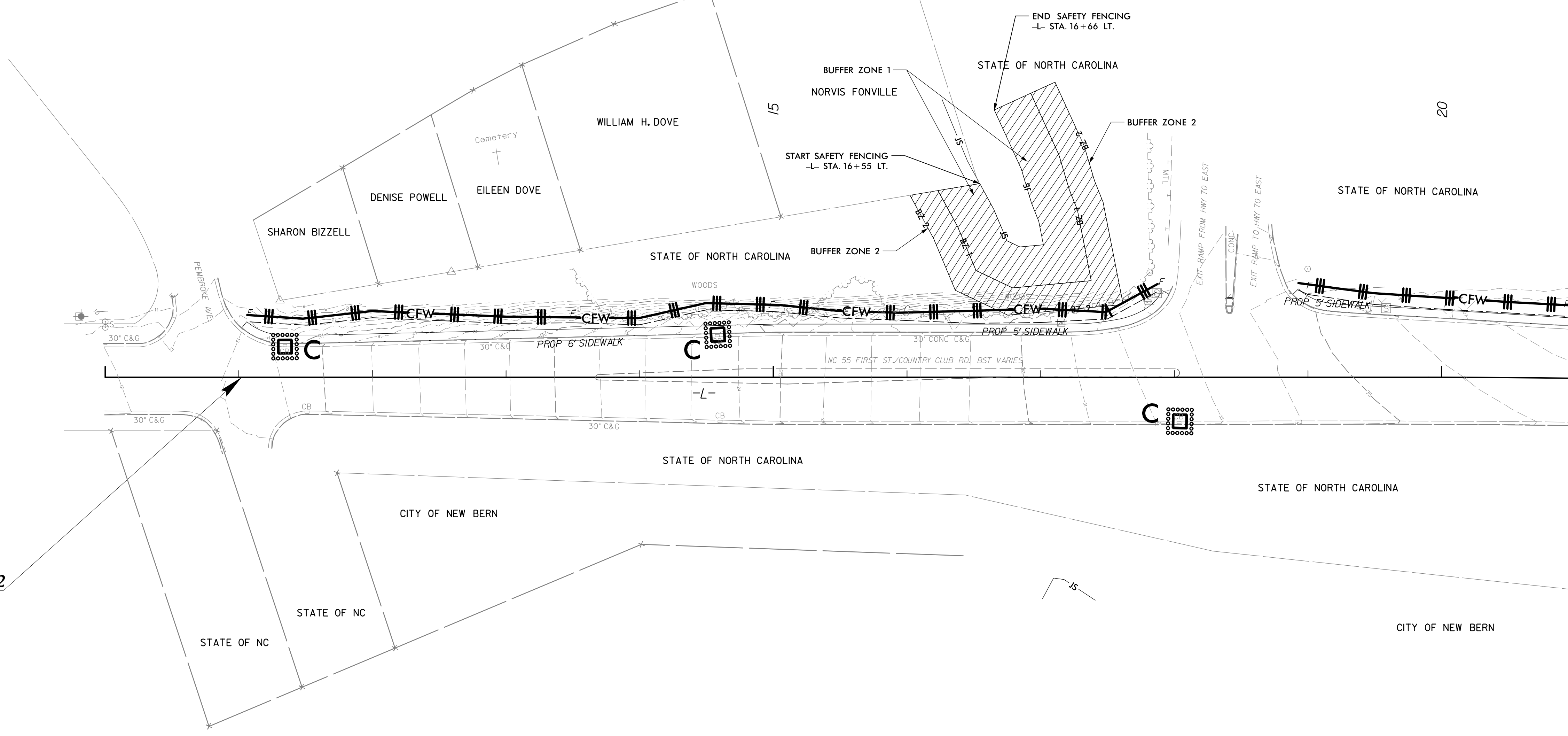
**NOTE:** THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE)


CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4



**BEGIN TIP PROJECT U-5992**  
**-L- POT STA 11+02.13**

**MATCHLINE -L- STA 21+00 SEE SHEET 5**



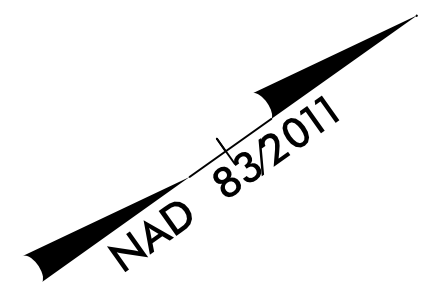
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U-5992	EC-5/CONST.-5
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 1600 Perimeter Park Dr. Suite 229 Morrisville, NC 27560 NC License Number F-0991	

**NOTE:** UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

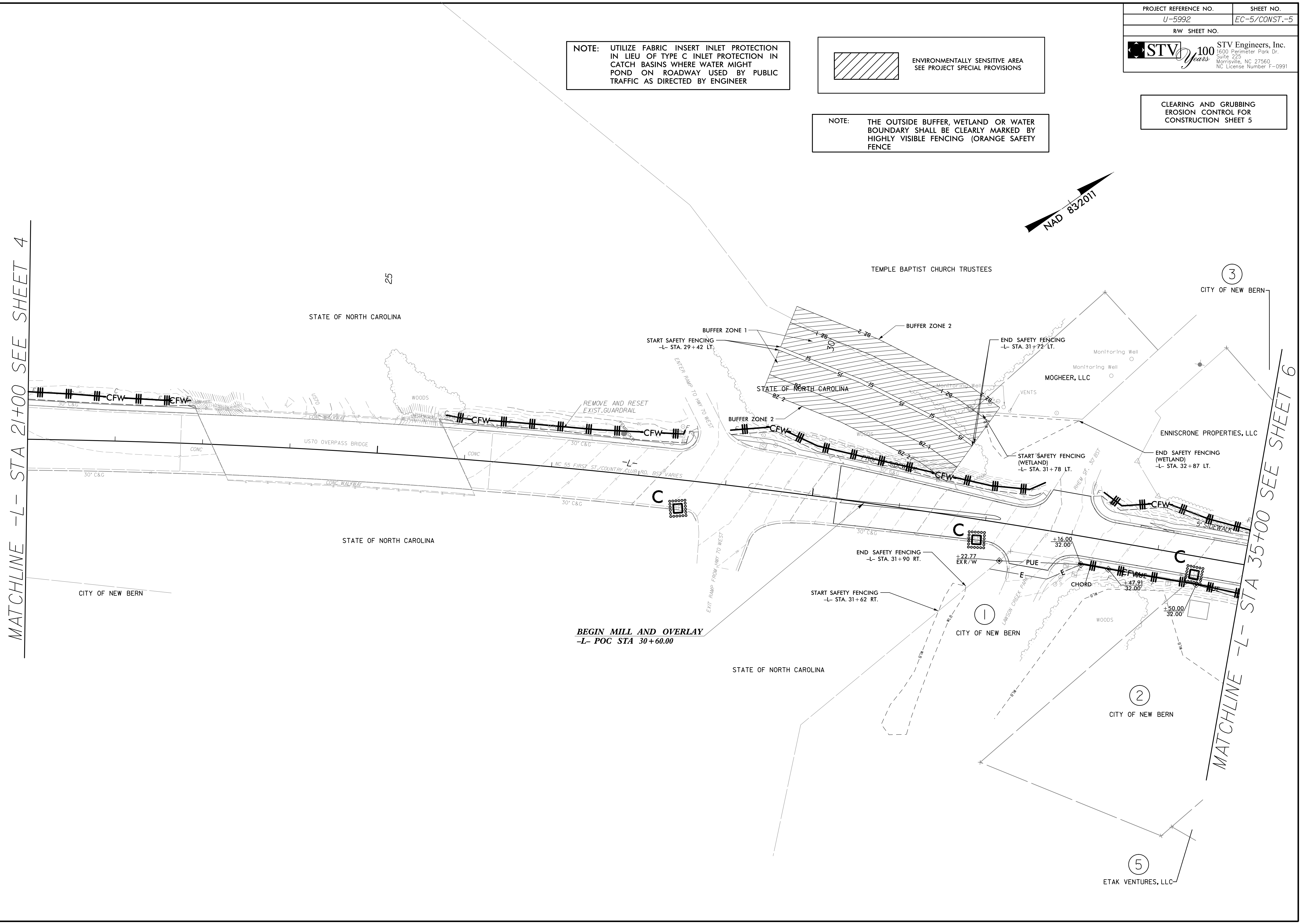
**NOTE:** THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE)

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5




MATCHLINE -L- STA 21+00 SEE SHEET 4

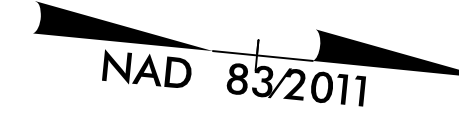
MATCHLINE -L- STA 35+00 SEE SHEET 6



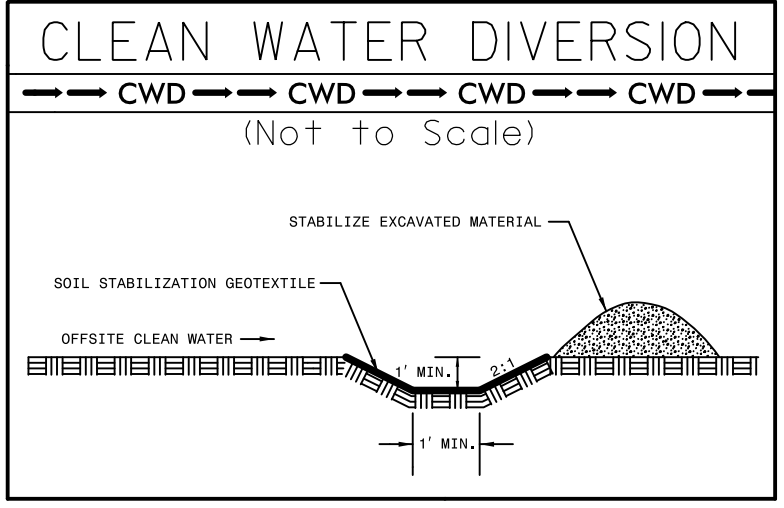
**BEGIN MILL AND OVERLAY**  
-L- POC STA 30+60.00



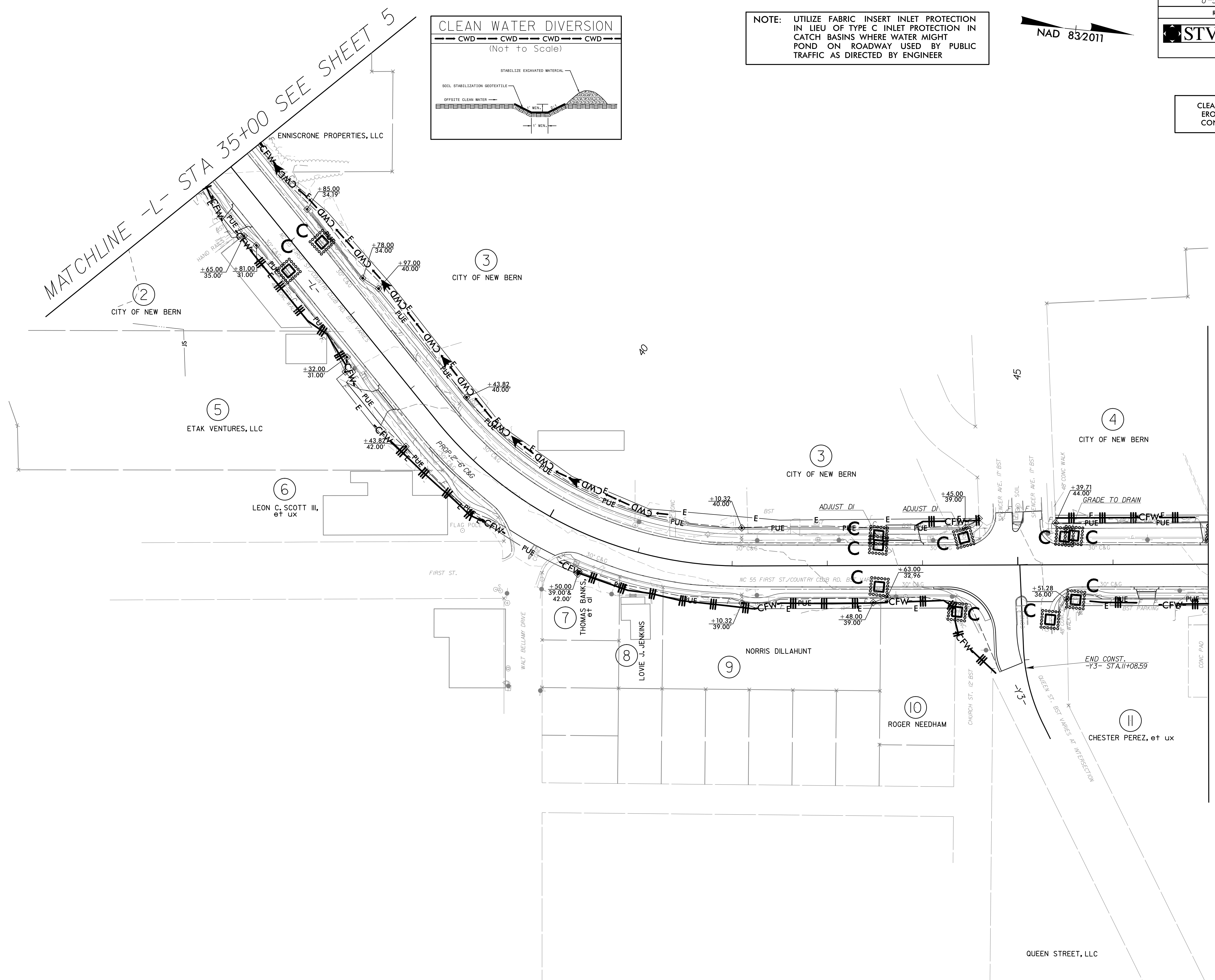
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U-5992	EC-6/CONST.-6
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	




**NOTE:** UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER



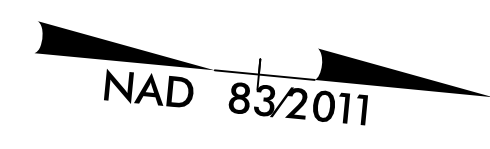
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 6



5/1/2018  
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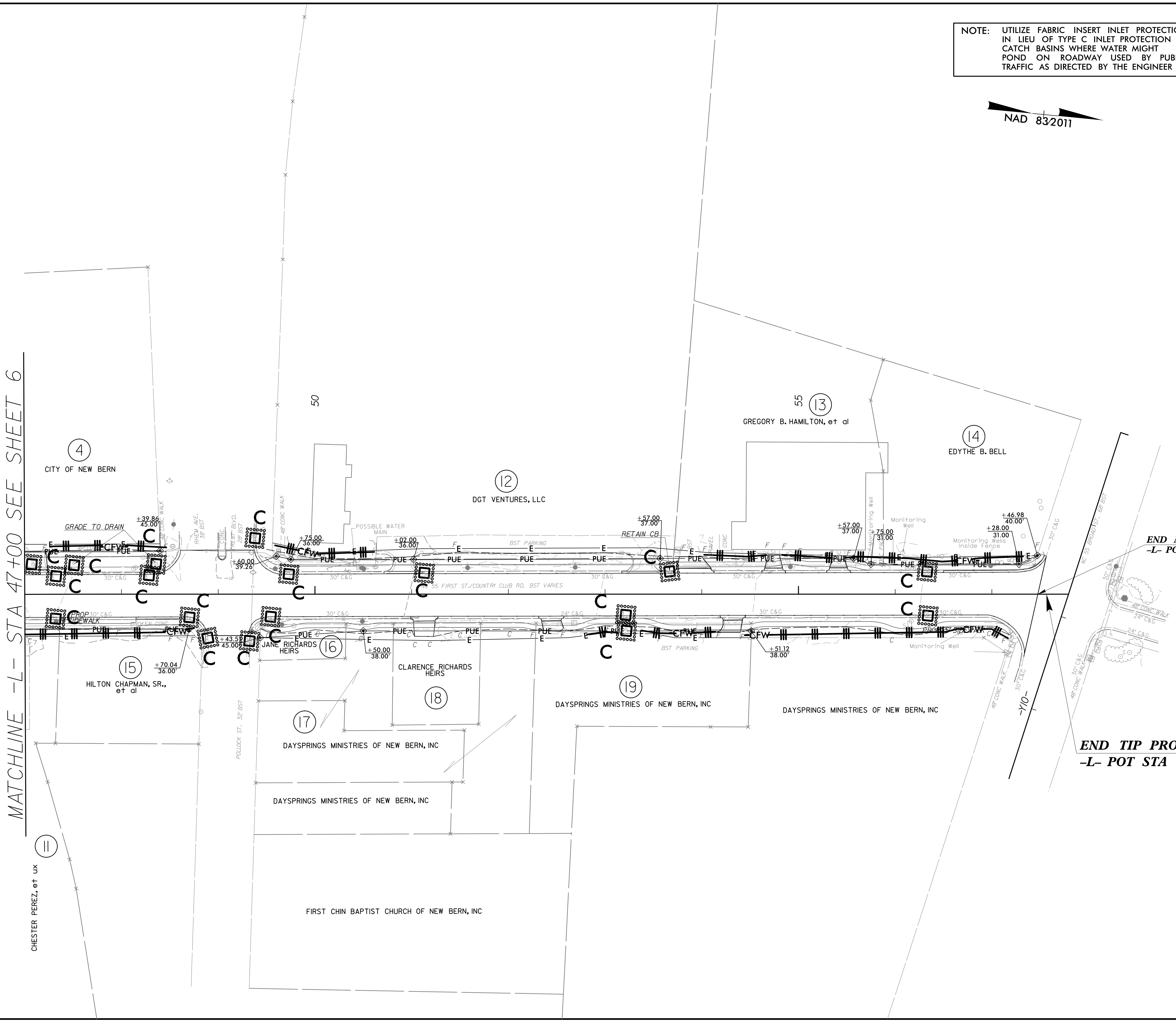
PROJECT REFERENCE NO.	SHEET NO.
U-5992	EC-7/CONST.-7
RW SHEET NO.	
 <b>STV</b> 100 Years STV Engineers, Inc. 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY THE ENGINEER



CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 7

MATCHLINE -L- STA 47+00 SEE SHEET 6




**END MILL AND OVERLAY**  
-L- POT STA 57+47.47

**END TIP PROJECT U-5992**  
-L- POT STA 57+56.35

5/1/2018  
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PROJECT REFERENCE NO.	SHEET NO.
U-5992	EC-8/CONST.-4
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER

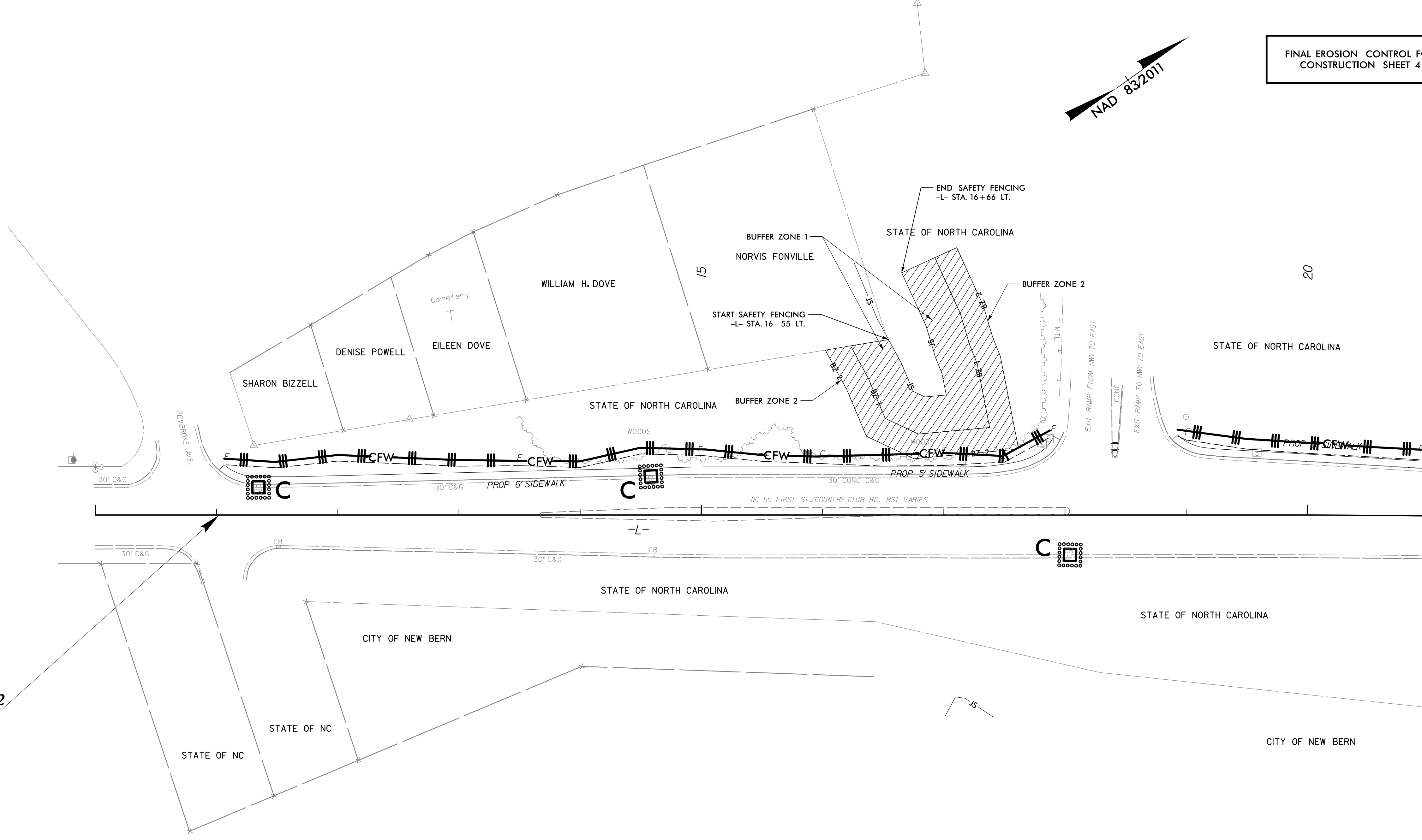
NOTE: THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE)


FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 4



**GIN TIP PROJECT U-5992**  
- POT STA 11+02.13

MATCHLINE -L- STA 21+00 SEE SHEET 5



PROJECT REFERENCE NO.	SHEET NO.
U-5992	EC-9/CONST.-5
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 1600 Perimeter Park Dr. Suite 275 Morrisville, NC 27560 NC License Number F-0991	

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER

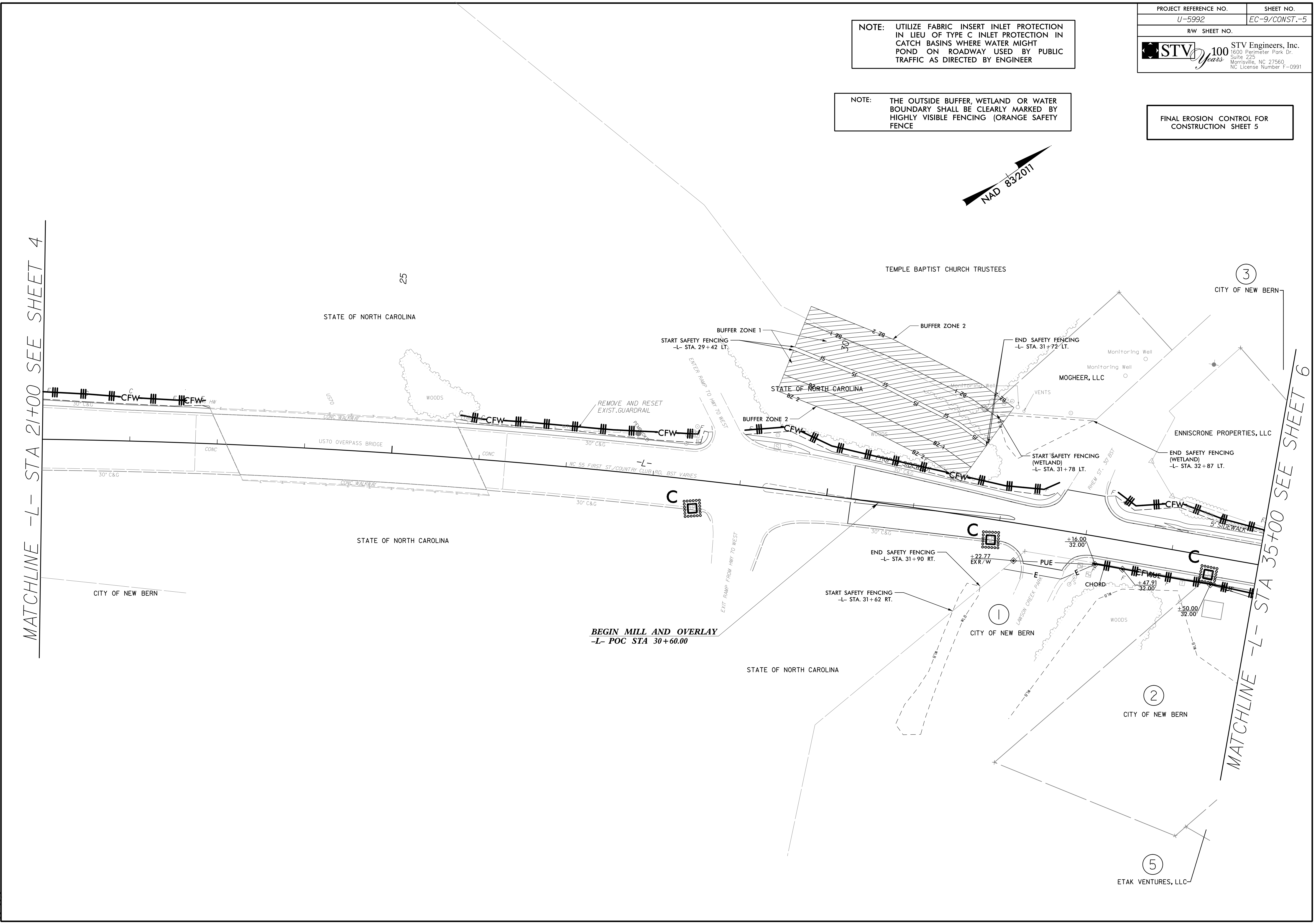
NOTE: THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE)

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 5




MATCHLINE -L- STA 21+00 SEE SHEET 4

MATCHLINE -L- STA 35+00 SEE SHEET 6



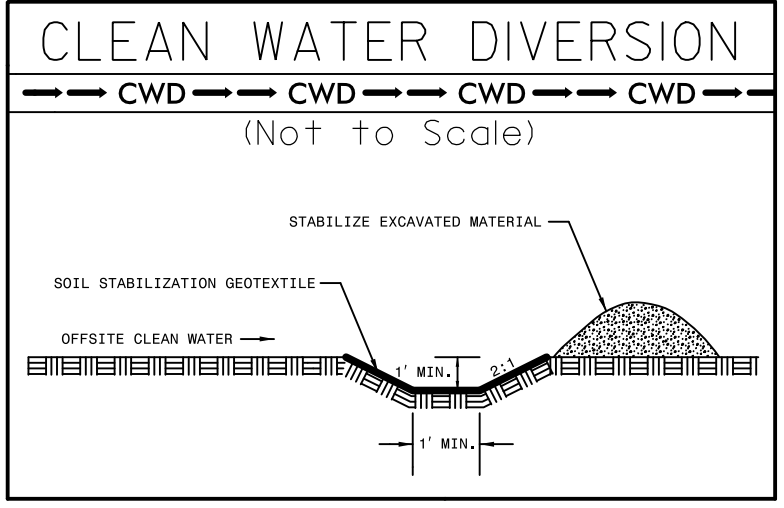
**BEGIN MILL AND OVERLAY**  
 -L- POC STA 30+60.00



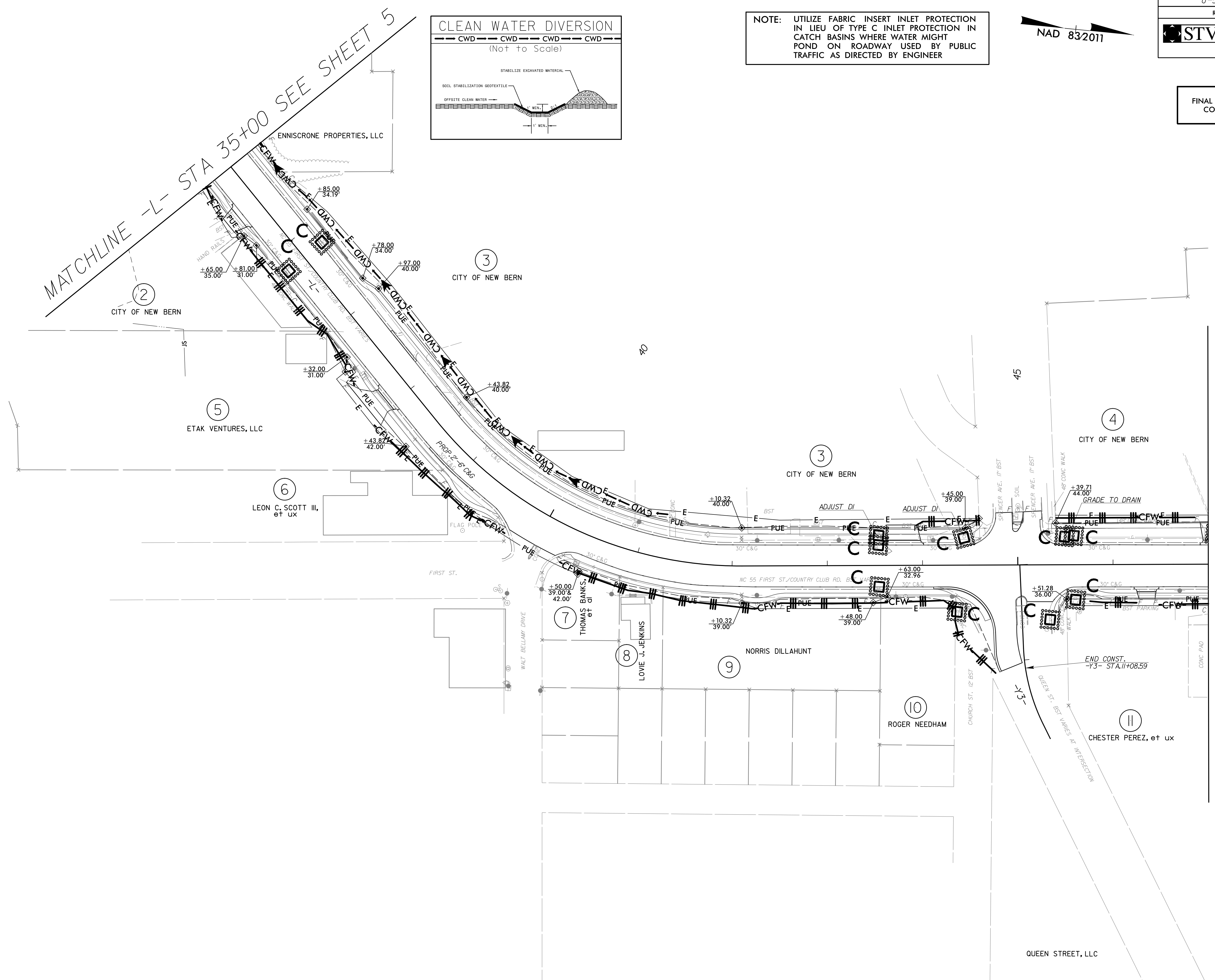
PROJECT REFERENCE NO.	SHEET NO.
U-5992	EC-10/CONST.-6
RW SHEET NO.	
 <b>STV Engineers, Inc.</b> 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

NAD 83/2011

**NOTE:** UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER




**FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 6**



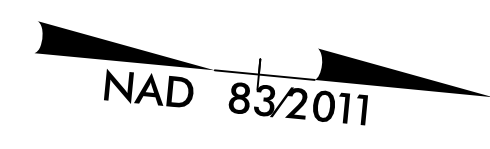
MATCHLINE -L- STA 35+00 SEE SHEET 5

MATCHLINE -L- STA 47+00 SEE SHEET 7

5/1/2018  
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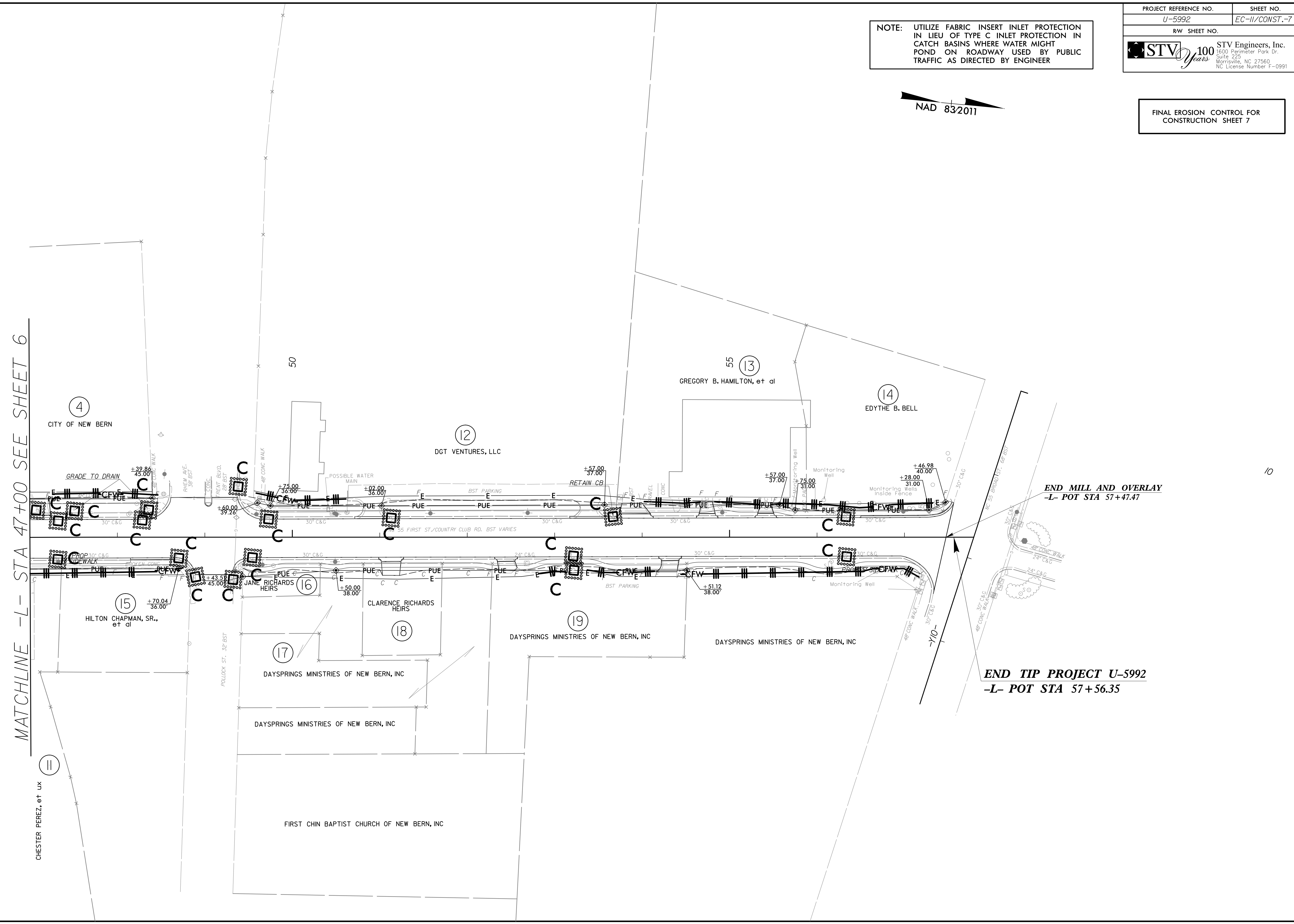
PROJECT REFERENCE NO.	SHEET NO.
U-5992	EC-II/CONST.-7
RW SHEET NO.	
 <b>STV</b> 100 Years STV Engineers, Inc. 1600 Perimeter Park Dr. Suite 225 Morrisville, NC 27560 NC License Number F-0991	

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER



FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 7

MATCHLINE -L- STA 47+00 SEE SHEET 6



END MILL AND OVERLAY  
-L- POT STA 57+47.47

END TIP PROJECT U-5992  
-L- POT STA 57+56.35

5/1/2018  
R:\Environmental\Design\SH1\U5992\_EC\_psh11.dgn  
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**TIP PROJECT: U-5992**

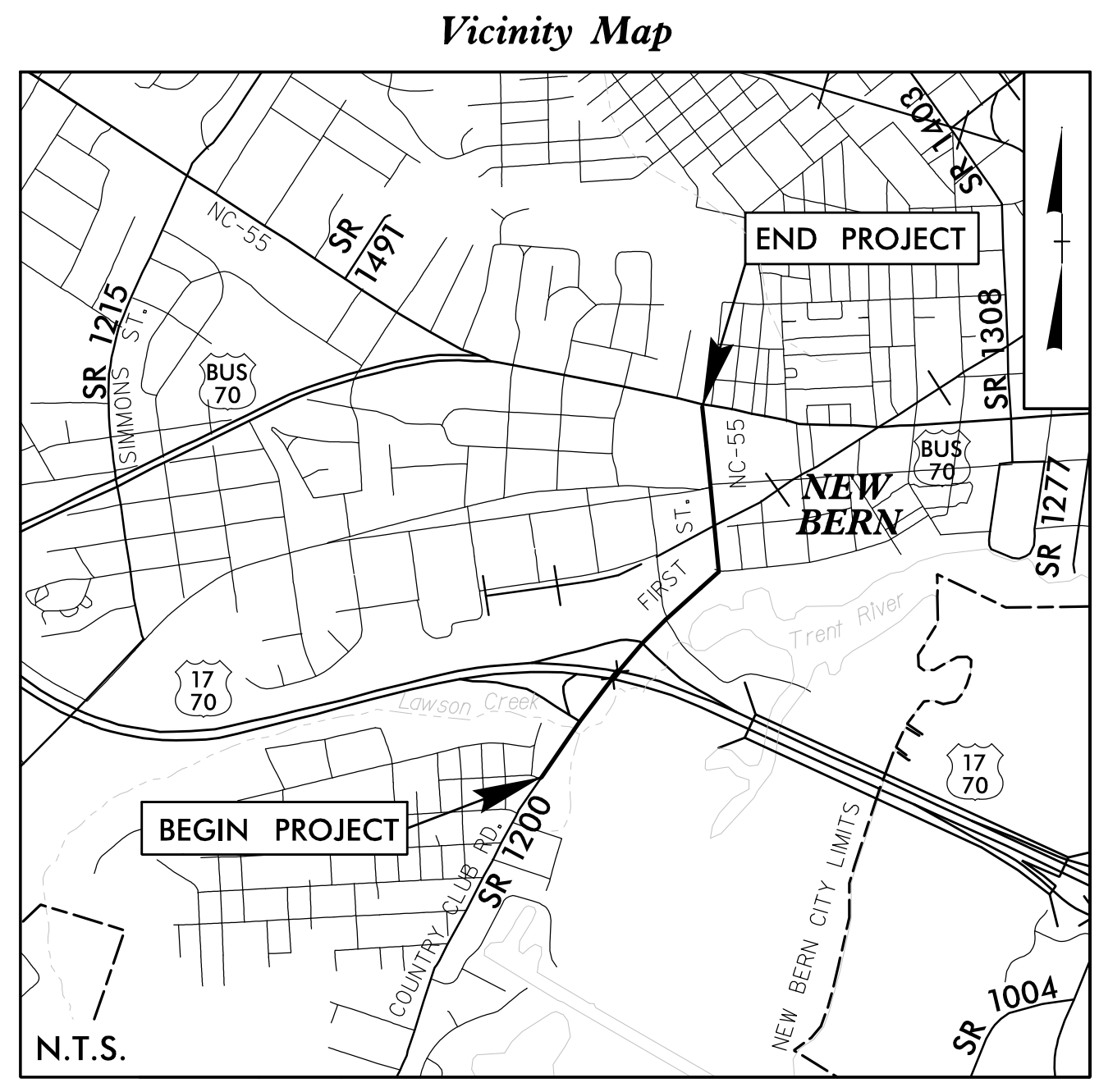
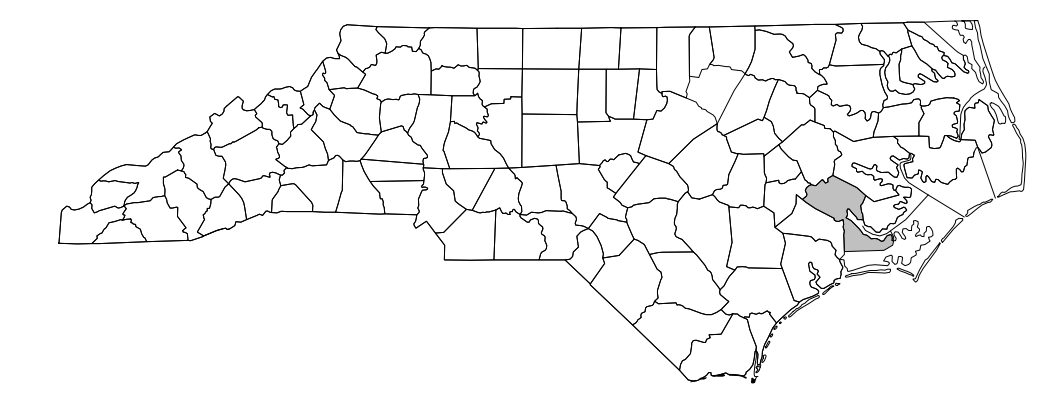
**CONTRACT: DB00423**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CRAVEN COUNTY**

Project No. <b>U-5992</b>	Sheet No. <b>Fig. 1.0</b>
------------------------------	------------------------------

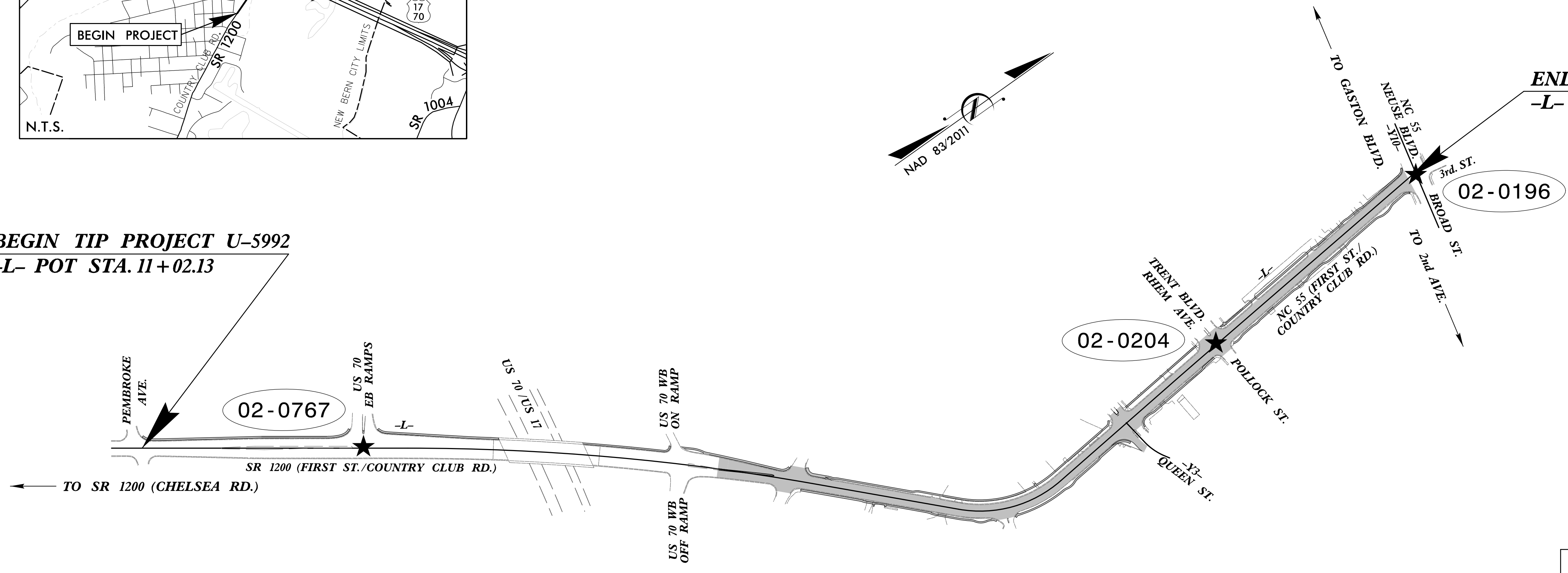
**STV** 100 Years  
STV Engineers, Inc.  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
(704) 372-1885  
NC License Number F-0991



**LOCATION: SR 1200 (FIRST ST./COUNTRY CLUB RD.) FROM PEMBROKE AVE. TO NC 55 (NEUSE BLVD./BROAD ST) IN NEW BERN**  
**TYPE OF WORK: SIGNALS**

**BEGIN TIP PROJECT U-5992**  
**-L- POT STA. 11+02.13**

**END TIP PROJECT U-5992**  
**-L- POT STA. 57+56.35**

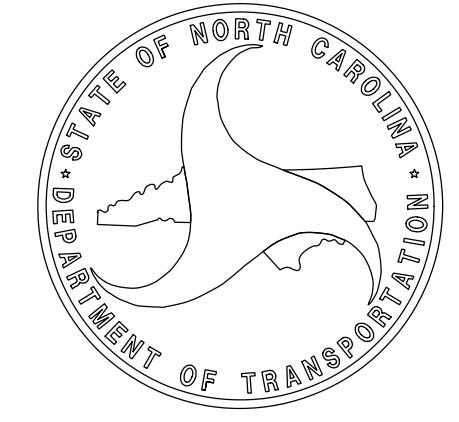


★ SIGNAL UPGRADE  
XX-XXXX SIGNAL ID NUMBER

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

Sheet #	Reference #	Title Sheet
-----	-----	-----
Sig. 1.0		NC 55 (Neuse Boulevard)/SR 1395 (Broad Street) at NC 55 (First Street)/Third Avenue
Sig. 2.0-2.4	02-0196	SR 1400 (First Street) at Trent Boulevard/Pollock Street
Sig. 3.0-3.1	02-0204	SR 1200 (Country Club Road) at US 70 Eastbound Ramps
Sig. 4.0-4.3	02-0767	

NCDOT DIVISION 2 OFFICE

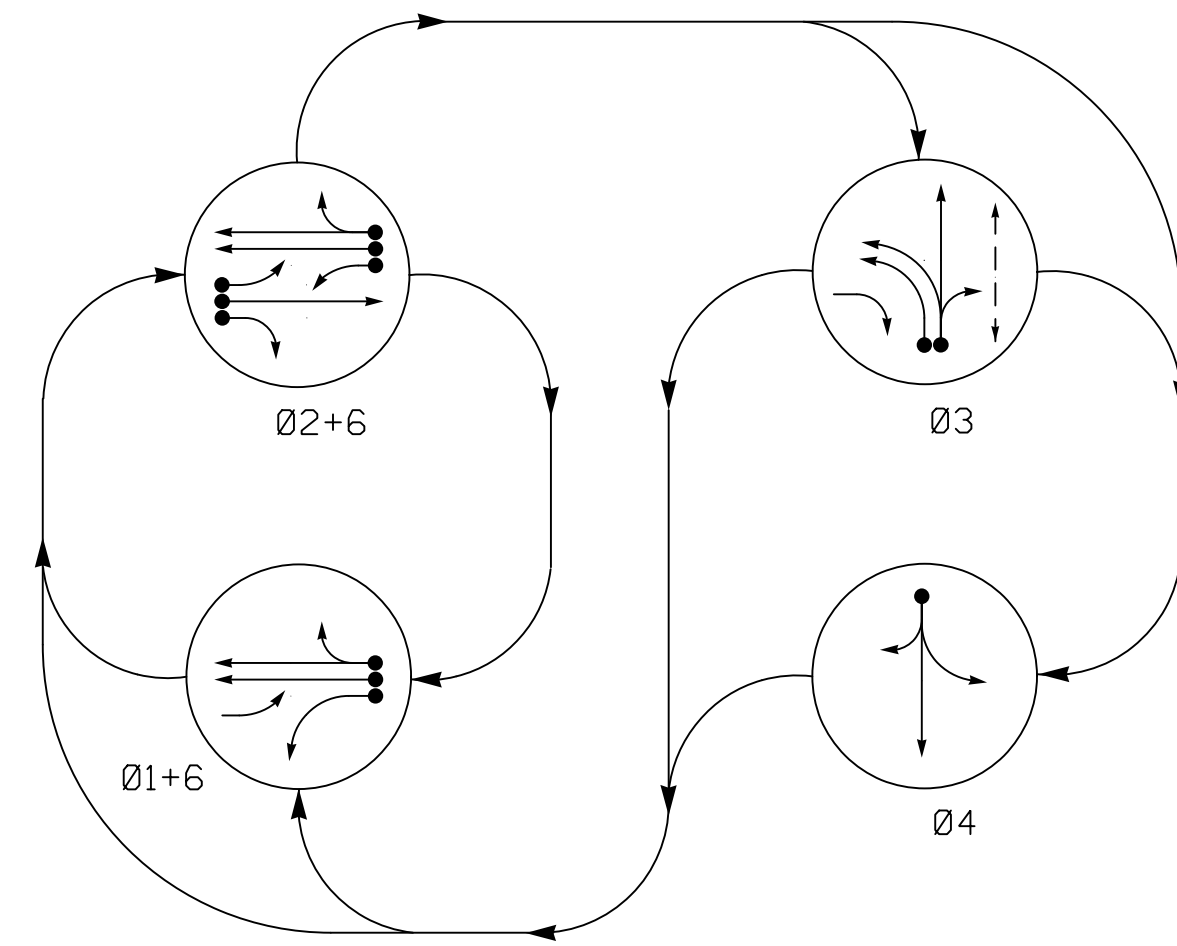


NCDOT Division 2 Project Development Office  
1037 W. H. Smith Boulevard, Greenville, NC 27834



4 Phase Fully Actuated With EV Preemption Neuse Blvd/Broad St TBS

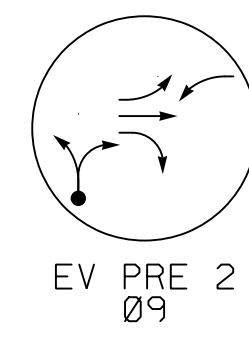
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

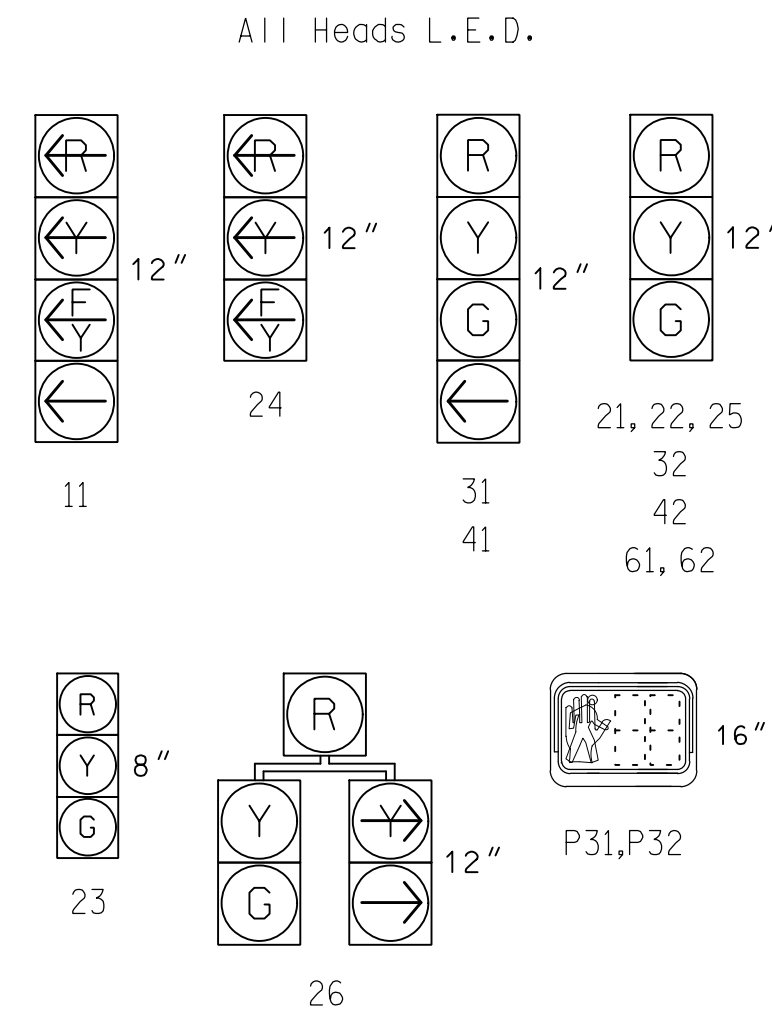
EV PREEMPT PHASE (Medium Priority)



SIGNAL FACE	PHASE					
	Ø 1 + 6	Ø 2 + 6	Ø 3	Ø 4	Ø 1 + 6 + Ø 2 + 6	F L S H
11	←	←	←	←	←	←
21,22	G	G	G	G	R	Y
***23	DRK	DRK	DRK	DRK	G	R
24	←	←	←	←	←	←
25	R	G	R	R	G	Y
26	R	G	R	R	G	Y
31	R	R	G	R	R	R
32	R	R	G	R	R	R
41	R	R	R	G	R	R
42	R	R	R	G	R	R
61,62	G	G	R	R	R	Y
P31,P32	DW	DW	W	DW	DW	DRK

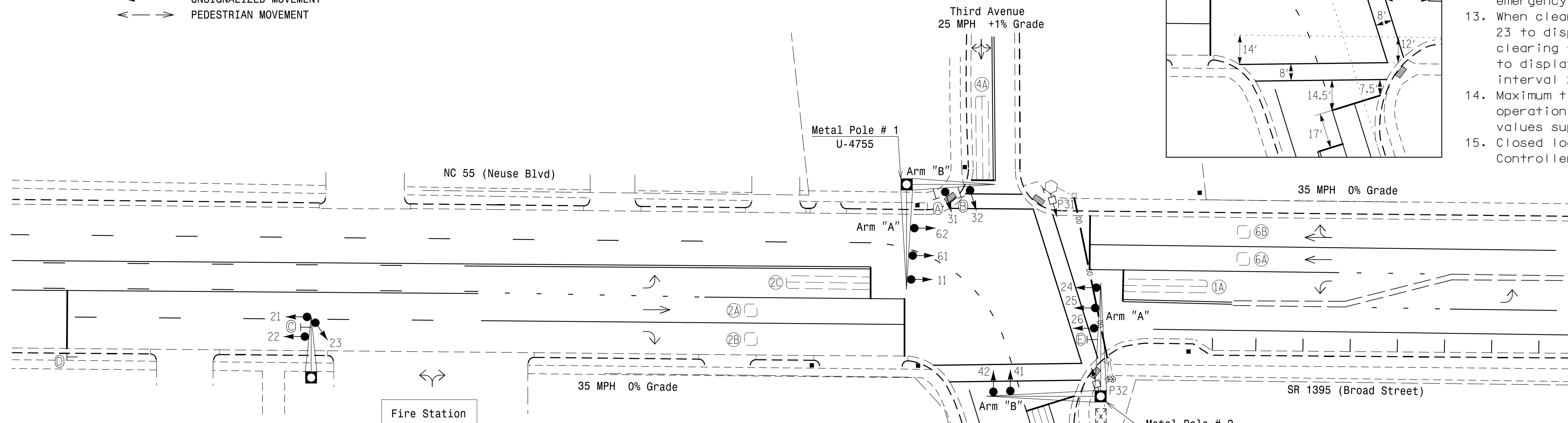
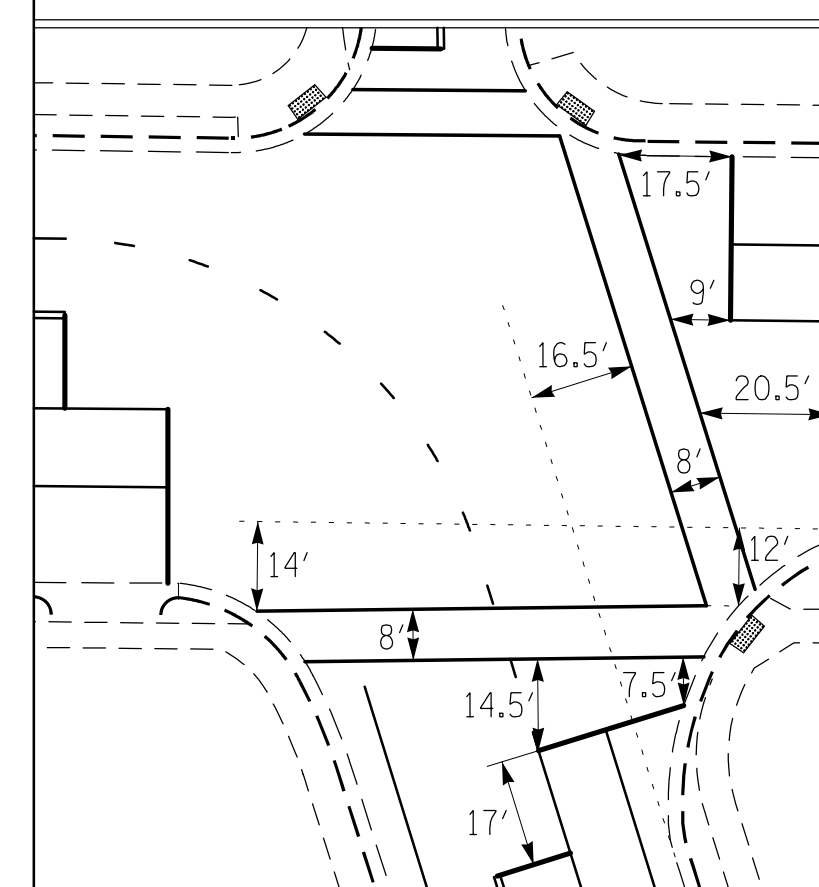
\*\*\*See Note 13 DRK=Dark

SIGNAL FACE I.D.



LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	DETECTOR PROGRAMMING				STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
				PHASE	CALLING	EXTENSION	FULL TIME DELAY				
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	15	-
2A	6X6	70	4	-	2	Y	Y	-	-	-	-
2B	6X6	70	4	-	2	Y	Y	-	-	-	-
2C	6X40	0	2-4-2	-	2	Y	Y	-	-	-	-
3A	6X40	0	2-4-2	Y	3	Y	Y	-	-	3	-
3B	6X40	0	2-4-2	Y	3	Y	Y	-	-	10	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	10	-
6A	6X6	70	3	-	6	Y	Y	-	-	-	-
6B	6X6	70	3	-	6	Y	Y	-	-	-	-

STOPBAR AND CROSSWALK LOCATIONS



FEATURE	PHASE					
	1	2	3	4	6	9
Min Green 1 *	7	10	7	7	10	7
Extension 1	2.0	3.0	2.0	2.0	3.0	0
Max Green 1 *	20	60	30	25	60	30
Yellow Clearance	3.0	3.8	3.8	3.1	3.8	3.8
Red Clearance	2.8	2.0	2.5	2.5	2.0	2.0
Walk 1 *	-	-	7	-	-	-
Don't Walk 1	-	-	20	-	-	-
Seconds Per Actuation *	-	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	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.

OASIS 2070 EV PREEMPT	
FUNCTION	PRE 2
Interval 1 - Dwell Green	255
Interval 1 - Dwell Yellow	0.0*
Interval 1 - Dwell Red	0.0*
Interval 5 - Exit Green	1
Interval 5 - Yellow	0.0
Interval 5 - Red	0.0
Exit Phase(s)	2, 6
Priority	Medium
Delay Time	**
Min Green Before Pre	1
Ped Clear Before Pre	0*
Yellow Clear Before Pre	0.0*
Red Clear Before Pre	0.0*
Dwell Min Time	**
Enable Backup Protection	N
Ped Clear Through Yellow	Y

\* Time defaults to time used for phase during normal operation  
\*\* See Note 12

PROPOSED	LEGEND	EXISTING
○	Traffic Signal Head	●
○	Modified Signal Head	N/A
+	Sign	+
+	Pedestrian Signal Head	+
+	Pushbutton & Sign	+
+	Metal Pole With Mastarm	+
+	Inductive Loop Detector	+
+	Controller & Cabinet	+
+	Junction Box	+
+	2-in Underground Conduit	+
+	Directional Drill	N/A
+	Wheel Chair Ramp	N/A
N/A	Right of Way	---
→	Directional Arrow	→
⊕	Type I Pushbutton Post	⊕
○	Type II Signal Pedestal	●
⊕	Left Arrow "ONLY" Sign (R3-5L)	⊕
⊕	Dual Turn and Through Arrows Sign	⊕
⊕	"EMERGENCY SIGNAL" Sign (R10-13)	⊕
⊕	"Stop Here on Red" Sign (R10-6)	⊕
⊕	Right Arrow "ONLY" Sign (R3-5R)	⊕

Signal Upgrade

**STV** 100 Years  
STV Engineers, Inc.  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
(704) 372-1885  
NC License Number F-0991

Prepared For:  
NCDOT Div 2 Project Development Office  
1637 W.H. Smith Blvd, Greenville, NC 27834  
SCALE: 1"=30'

NC 55 (Neuse Boulevard)/  
SR 1395 (Broad Street)  
at  
NC 55 (First Street)/Third Avenue  
Division 2 Craven County New Bern  
PLAN DATE: January 2018 REVIEWED BY: R. Dubnicka  
PREPARED BY: J. Trueblood REVIEWED BY: J. Carroll

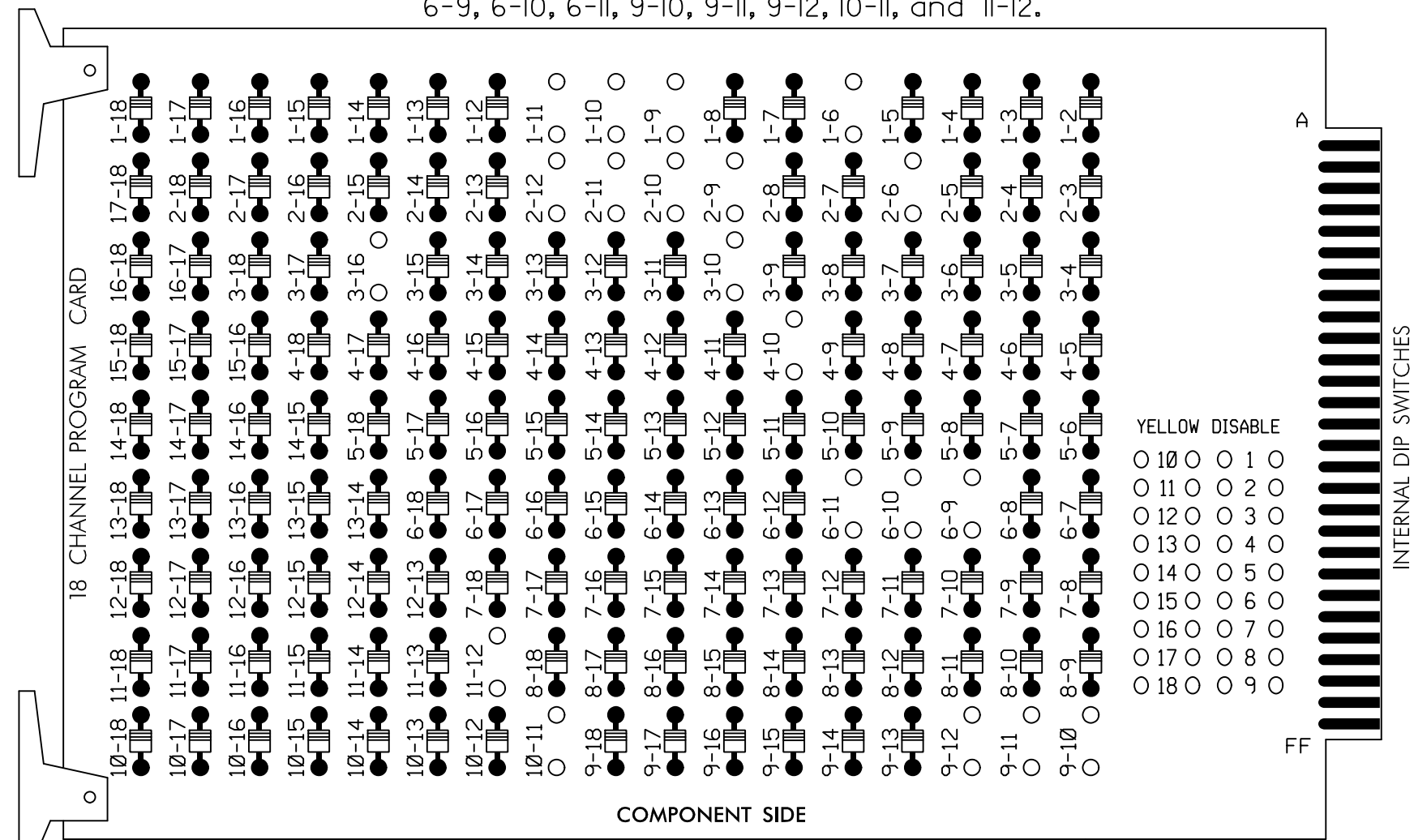
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  
SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
J. Carroll  
5/2/2018  
SIG. INVENTORY NO. 02-0196



### EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-6, 1-9, 1-10, 1-11, 2-6, 2-9, 2-10, 2-11, 2-12, 3-10, 3-16, 4-10, 6-9, 6-10, 6-11, 9-10, 9-11, 9-12, 10-11, and 11-12.



REMOVE JUMPERS AS SHOWN

#### NOTES:

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

#### NOTES

- 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.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phase 3 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash, and overlaps 1 and 2 as Wag Overlaps.
- The cabinet and controller are part of the Neuse Blvd / Broad St TBS.

#### EQUIPMENT INFORMATION

CONTROLLER.....2070L  
 CABINET.....332 /W/ AUX  
 SOFTWARE.....ECONOLITE OASIS  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE  
 LOAD SWITCHES USED.....S1,S2,S4,S5,S8,S12,  
 AUX S1,AUX S2,AUX S4,AUX S5  
 PHASES USED.....1,2,3,3 PED,4,6,\*9  
 OVERLAP "A".....1+2+9  
 OVERLAP "B".....1+2+3+4+6  
 OVERLAP "C".....6+9  
 OVERLAP "D".....9  
 OVERLAP "F".....2+9

\*USED ONLY DURING PREEMPTION.

#### 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	OLF	2 PED	3	4	4 PED	5	6	6 PED	7	8	3 PED	OLA	OLB	SPARE	OLC	OLD	SPARE			
SIGNAL HEAD NO.	11	25,26	FIRE PILOT LAMP	26	31	32	41	42	NU	NU	61,62	NU	NU	NU	P31, P32	11	21,22	NU	24	23	NU
RED	128			116	116	101	101				134					A124		A101			
YELLOW	*	129		117	117	102	102				135					A125		A102			
GREEN	130			118	118	103	103				136					A126		A103			
RED ARROW																A121		A114			
YELLOW ARROW				117												A122		A115			
FLASHING YELLOW ARROW																A123		A116			
GREEN ARROW	127			118	118	103															
PED YELLOW			*																		
			*																		112

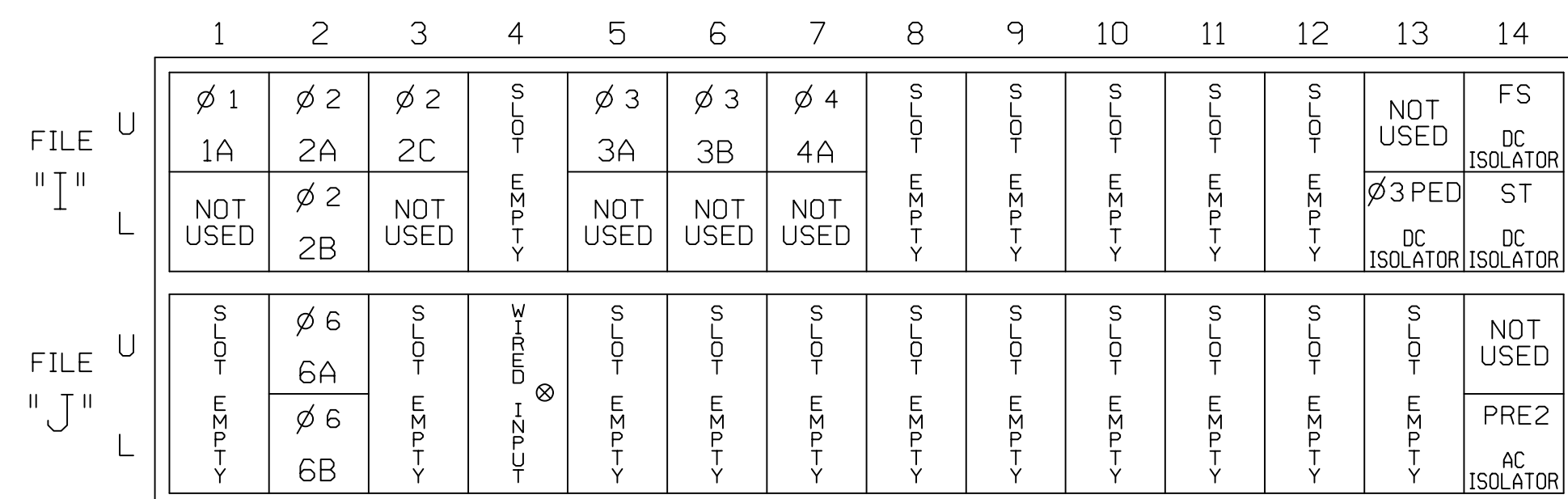
NU = Not Used

\* Denotes install load resistor. See load resistor installation detail this sheet.

\* See pictorial of head wiring in detail below.

#### INPUT FILE POSITION LAYOUT

(front view)



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

FS = FLASH SENSE  
ST = STOP TIME  
PRE = PREEMPT

⊗ Wired Input - Do not populate slot with detector card

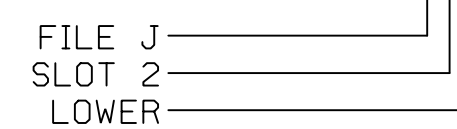
#### INPUT FILE CONNECTION & PROGRAMMING CHART

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 <sup>1</sup>	TB2-1,2	I1U	56	18	1	1	Y	Y	-	-	15
2A	TB2-5,6	J4U	48	10	26	6	Y	Y	-	-	-
2B	TB2-7,8	I2U	39	1	2	2	Y	Y	-	-	-
2C	TB2-9,10	I3U	63	25	32	2	Y	Y	-	-	-
3A	TB4-5,6	I5U	58	20	3	3	Y	Y	-	-	3
3B	TB4-9,10	I6U	41	3	4	3	Y	Y	-	-	10
4A	TB6-1,2	I7U	65	27	34	4	Y	Y	-	-	10
6A	TB3-5,6	J2U	40	2	6	6	Y	Y	-	-	-
6B	TB3-7,8	J2L	44	6	16	6	Y	Y	-	-	-
PED PUSH BUTTONS											
P31,P32	TB8-8,9	I13L	70	32	PED 8	3 PED					

NOTE:  
INSTALL DC ISOLATOR IN INPUT FILE SLOT I13.

<sup>1</sup>Add jumper from I1-W to J4-W, on rear of input file.

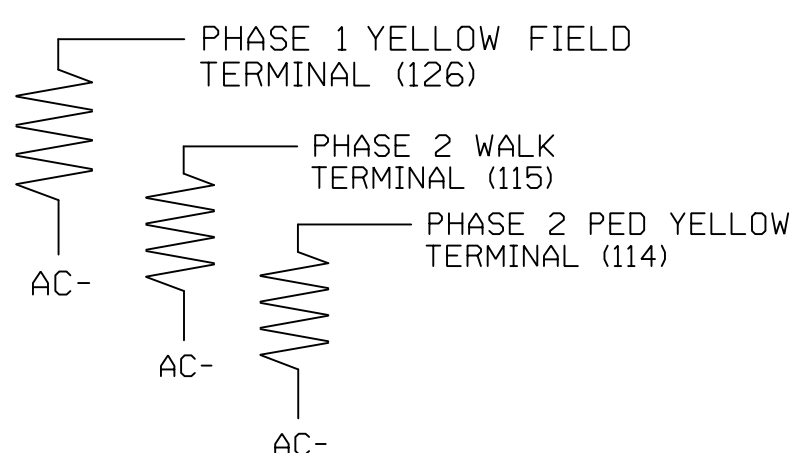
INPUT FILE POSITION LEGEND: J2L



#### LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



#### PHASE SEQUENCE PROGRAMMING DETAIL

(program controller as shown below)

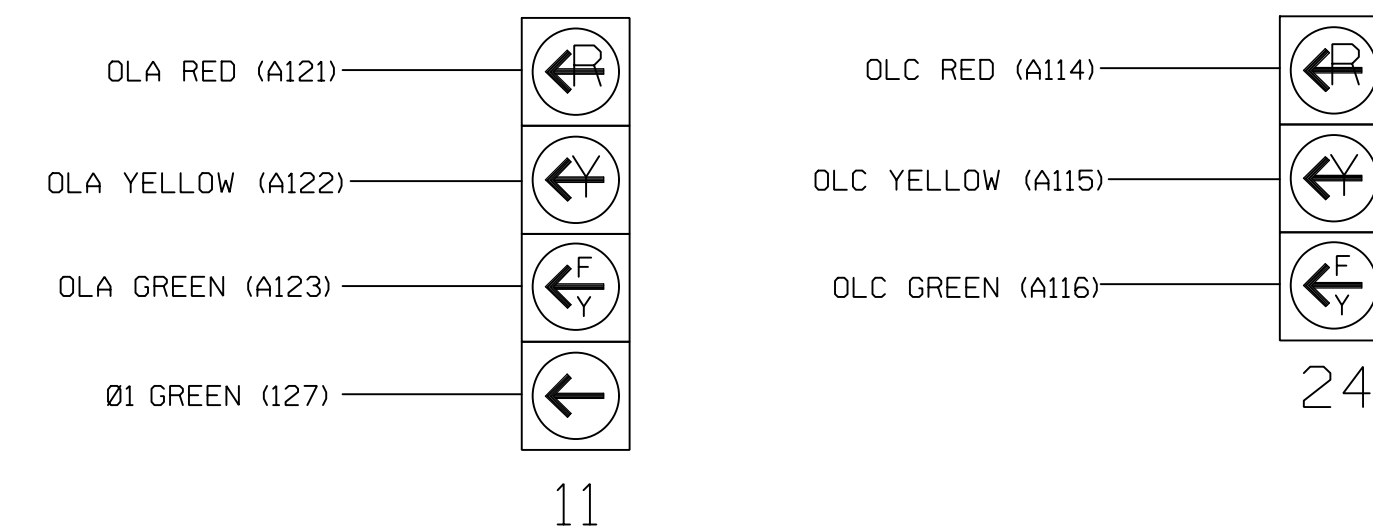
FROM OASIS LOCAL CONTROLLER MAIN MENU  
SELECT: 4 PHASE SEQUENCE

PHASE SEQUENCE: PAGE 1	NEXT: PAGES)	PHASE	1	2	3	4	5	6	7	8	9	10	11	12
RNG:LEAD	BARRIER 1	X-LAG:LEAD	BARRIER 2	X-LAG:LEAD	BARRIER 3	X-LAG								
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0



#### 4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 for programming instructions.

#### PREEMPT ONLY PHASE OMIT NOTE

(program controller as shown below)

From Main Menu press '2' (Phase Control). Then '1' (Phase Control Functions). Program Phase 9 for 'Omit Phase' and Phases 1, 2, 3, 4 and 6 for 'Startup Calls'. This is to prevent Phase 9 from being served when not in Preempt.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 02-0196  
DESIGNED: JANUARY 2018  
SEALED: 5/2/2018  
REVISED: N/A

Electrical Details - Sheet 1 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

STATE OF NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030005

Prepared for: **STV Engineers, Inc.**

Division 2 Craven County New Bern

NC 55 (Neuse Boulevard) / SR 1395 (Broad Street) at NC 55 (First Street) / Third Avenue

PLAN DATE: January 2018 REVIEWED BY: R. Dubnicka

PREPARED BY: J. Trueblood REVIEWED BY: J. Carroll

REVISIONS INIT. DATE

Signature: *Justin T. Carroll* DATE: 5/2/2018

SIG. INVENTORY NO. 02-0196



## 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

PRESS '+'

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

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

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #52 OFF

PRESS '+'

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

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

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #51 ON

PRESS '+'

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

LOGICAL I/O COMMAND #4 (+/-COMMAND#)  
IF OUTPUT ASSIGNMENT #49 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #39 OFF

PRESS '+'

NOTE: LOGIC FOR HEAD 23 DARK

LOGICAL I/O COMMAND #5 (+/-COMMAND#)  
IF INPUT ASSIGNMENT #14 IS ON  
OR ACTIVE PREEMPTION #2 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #33 ON

PRESS '+'

NOTE: FIRE HOUSE PILOT LAMP LOGIC.

LOGICAL I/O COMMAND #6 (+/-COMMAND#)  
IF INPUT ASSIGNMENT #14 IS OFF  
AND ACTIVE PREEMPTION #2 IS OFF

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #33 OFF

PRESS '+'

END OF PROGRAMMING

NOTE: FIRE HOUSE PILOT LAMP LOGIC.

### REFERENCE SCHEDULE

OUTPUT 50 = Overlap A Red  
OUTPUT 51 = Overlap A Yellow  
OUTPUT 52 = Overlap A Green  
OUTPUT 49 = Overlap B Green  
OUTPUT 39 = Overlap D Red  
OUTPUT 33 = Phase 2 Ped Yellow  
INPUT 14 = Preempt 2 Input

## 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: |12345678910111213141516  
VEH OVL PARENTS: |XX X  
VEH OVL NOT VEH: |  
VEH OVL NOT PED: |  
VEH OVL GRN EXT: |  
STARTUP COLOR: - RED - YELLOW - GREEN  
FLASH COLORS: - RED - YELLOW X GREEN

↓  
PRESS '+'

NOTE: GREEN FLASH

PAGE 1: VEHICLE OVERLAP 'B' SETTINGS  
PHASE: |12345678910111213141516  
VEH OVL PARENTS: |XXXX X  
VEH OVL NOT VEH: |  
VEH OVL NOT PED: |  
VEH OVL GRN EXT: |  
STARTUP COLOR: - RED - YELLOW - GREEN  
FLASH COLORS: - RED - YELLOW GREEN

↓  
PRESS '+'

PAGE 1: VEHICLE OVERLAP 'C' SETTINGS  
PHASE: |12345678910111213141516  
VEH OVL PARENTS: |X X  
VEH OVL NOT VEH: |  
VEH OVL NOT PED: |  
VEH OVL GRN EXT: |  
STARTUP COLOR: - RED - YELLOW - GREEN  
FLASH COLORS: - RED - YELLOW X GREEN

↓  
PRESS '+'

NOTE: GREEN FLASH

PAGE 1: VEHICLE OVERLAP 'D' SETTINGS  
PHASE: |12345678910111213141516  
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 GREEN

↓  
PRESS '+' TWICE

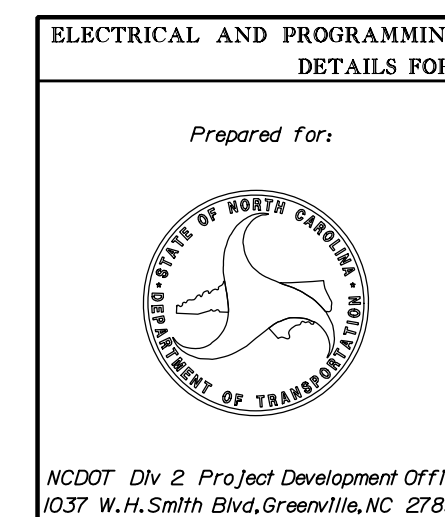
PAGE 1: VEHICLE OVERLAP 'F' SETTINGS  
PHASE: |12345678910111213141516  
VEH OVL PARENTS: |X X  
VEH OVL NOT VEH: |  
VEH OVL NOT PED: |  
VEH OVL GRN EXT: |  
STARTUP COLOR: - RED - YELLOW - GREEN  
FLASH COLORS: - RED - YELLOW GREEN

↓  
PRESS '+' TWICE

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 02-0196  
DESIGNED: JANUARY 2018  
SEALED: 5/2/2018  
REVISED: N/A

Electrical Details - Sheet 2 of 4



Prepared for:		NC 55 (Neuse Boulevard)/ SR 1395 (Broad Street) at NC 55 (First Street)/Third Avenue	
Division 2	Craven County	New Bern	
PLAN DATE: January 2018	REVIEWED BY: R. Dubnicka		
PREPARED BY: J. Trueblood	REVIEWED BY: J. Carroll		
REVISIONS	INIT.	DATE	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
SEAL	5/2/2018
SIGNATURE	DATE
SIG. INVENTORY NO. 02-0196	

NCDOT DIV 2 Project Development Office  
1037 W.H. Smith Blvd, Greenville, NC 27834



## SIGNAL OUTPUT REMAPPING ASSIGNMENT PROGRAMMING DETAIL FOR SIGNAL HEADS 25&26 *(program controller as shown below)*

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS). WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "11"

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

STEP 1

```

PAGE:1 C1 PIN:12 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....11
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.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.  
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:32 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...6
SELECT COLOR(0=RED,1=YEL,2=GRN)....0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.  
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

PRESS "+" KEY FOR OUTPUT 12

```

PAGE:1 C1 PIN:12 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....11
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.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

STEP 2

```

PAGE:1 C1 PIN:13 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....12
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.  
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:33 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...6
SELECT COLOR(0=RED,1=YEL,2=GRN)....1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.  
PRESS THE 'ENT' KEY AFTER INPUTTING DATA, THEN 'ESC'.

PRESS "+" KEY FOR OUTPUT 13

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:13 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....12
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

STEP 3

```

PAGE:1 C1 PIN:15 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....13
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.  
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:34 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...6
SELECT COLOR(0=RED,1=YEL,2=GRN)....2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' 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 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:15 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....13
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

OUTPUT PROGRAMMING FOR HEAD 51 COMPLETE

## COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

### PED 3 PROGRAMMING DETAIL

*(program controller as shown below)*

#### CHANGING OUTPUT ASSIGNMENTS

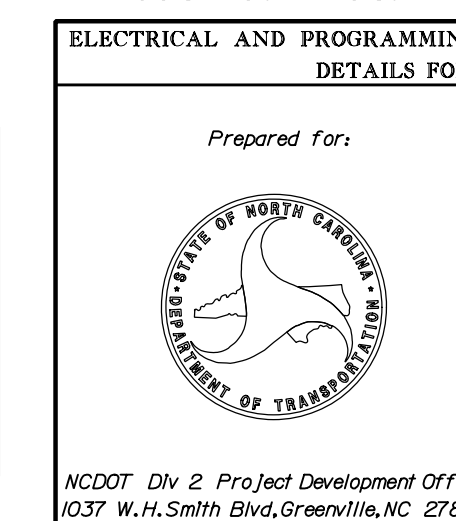
1. FROM MAIN MENU SELECT '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS)
2. ENTER 17 (PHASE 8 DW) FOR OUTPUT ASSIGNMENT #.
3. SCROLL DOWN TO 'PEDESTRIAN PHASE' AND ENTER 'Y' **REGARDLESS OF DEFAULT PROGRAMMING!**
4. ENTER '3' FOR 'SELECT PEDESTRIAN PHASE'. NO CHANGE NEEDED FOR 'SELECT COLOR'
5. BACKUP TO 'OUTPUT ASSIGNMENTS AND SETTINGS MENU:' BY PRESSING THE 'ESC' BUTTON ON KEYBOARD.
6. SELECT '1' (OUTPUT ASSIGNMENTS)
7. ENTER 18 (PHASE 8 W) FOR OUTPUT ASSIGNMENT #.
8. REPEAT STEPS # 3 AND # 4.

#### CHANGING INPUT ASSIGNMENTS

1. FROM MAIN MENU SELECT '7' (DETECTORS), THEN '2' (PEDESTRIAN DETECTOR ASSIGNMENTS)
2. CYCLE TO PED DETECTOR #8 BY REPEATEDLY DEPRESSING '+' KEY
3. MODIFY PHASE ASSIGNED TO PED DETECTOR # 8 FROM PHASE 8 TO PHASE 3

PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 02-0196  
DESIGNED: JANUARY 2018  
SEALED: 5/2/2018  
REVISED: N/A



ELECTRICAL AND PROGRAMMING DETAILS FOR:		NC 55 (Neuse Boulevard)/ SR 1395 (Broad Street) at NC 55 (First Street)/Third Avenue	
Prepared For:	Division 2	Craven County	New Bern
PLAN DATE: January 2018	REVIEWED BY: R. Dubnicka		
PREPARED BY: J. Trueblood	REVIEWED BY: J. Carroll		
REVISIONS	INIT.	DATE	
DocuSigned by: Justin T. Carroll		5/2/2018	
SIGNATURE		DATE	
SIG. INVENTORY NO. 02-0196			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 030005  
JUSTIN T. CARROLL

DocuSigned by: Justin T. Carroll  
5/2/2018  
SIGNATURE DATE  
SIG. INVENTORY NO. 02-0196

Electrical Details - Sheet 3 of 4

### EMERGENCY VEHICLE PREEMPTION PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press 'A' (Preemption), then '1' (Standard Preemptions). Press 'NEXT' to advance to Preemption #2.

INTERVAL/TIMING	PREEMPTION #2	SETTINGS (NEXT:1-10)	CLEAR/DWELL PHASES	
GRN	YEL	RED	12345678910111213141516	
1	255	0.0	0.0	X
2	0	0.0	0.0	
3	0	0.0	0.0	
4	0	0.0	0.0	
5	1	0.0	0.0	X X

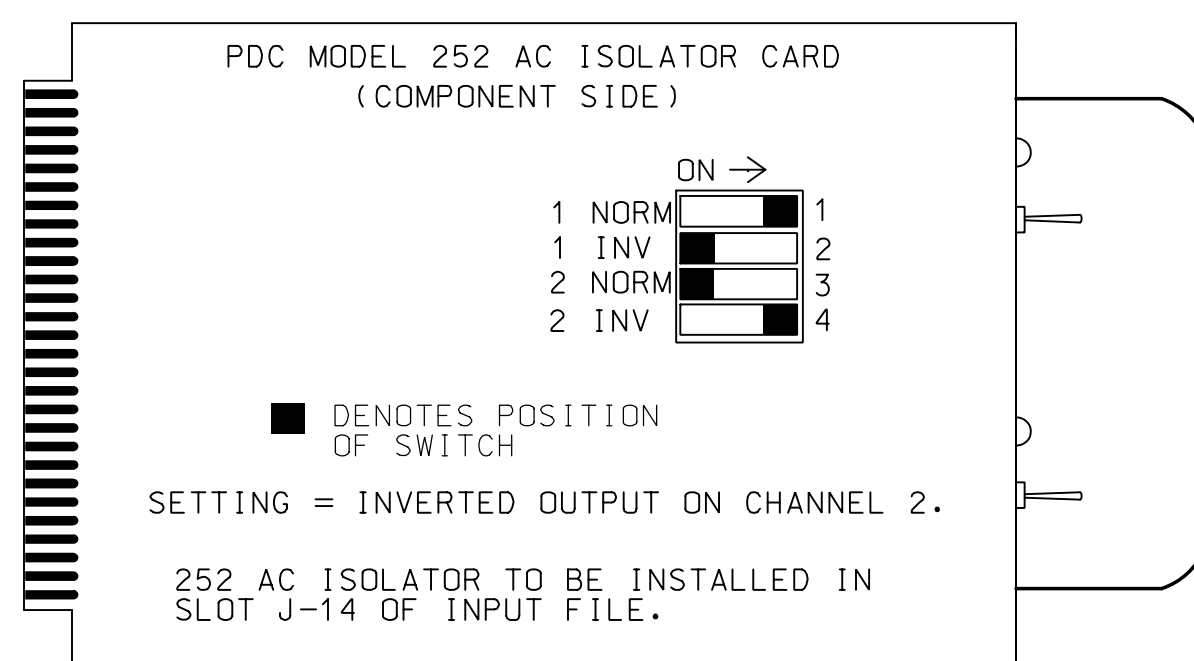
  

EXIT CALLS	OPTIONS
PRIORITY (Y/N TO SELECT) .....	MED
DELAY TIMER (0-255 SEC) .....	*
MIN GREEN BEFORE PRE (0= DEFAULT)...	1
PED CLEAR BEFORE PRE (0= DEFAULT)...	0
YELLOW CLEAR BEFORE PRE (0= DEFAULT)...	0.0
RED CLEAR BEFORE PRE (0= DEFAULT)...	0.0
DWELL MIN TIMER (0-255 SEC) .....	*
DWELL MAX TIMER (0=OFF,1-255MIN) .....	0
DWELL HOLD-OVER TIMER (0-255) .....	0
LATCH CALL? .....	Y
LINK TO NEXT PREEMPT? .....	N
ENABLE BACKUP PROTECTION? .....	N
HOLD CLEAR 1 PHASES DURING DELAY? .....	N
FAST GREEN FLASH DWELL PHASES? .....	N
PED CLEARANCE THROUGH YELLOW? .....	Y
INHIBIT OVERLAP GREEN EXTENSION? .....	N
SERVICE DURING SOFTWARE FLASH? .....	N
REST IN RED DURING DWELL INTERVAL? .....	N
FLASH DWELL INTERVAL? .....	N
ALLOW PEDS IN DWELL INTERVAL? .....	N
RE-TIME DWELL INTERVAL? .....	Y
OVERLAPS:	ABCDEFGHIJKLMNOP
DWELL INT FLASH YELLOW	
OMIT OVERLAPS:	

\* Denotes timing to be determined in field.

### PREEMPT 2 AC ISOLATOR (MODEL 252) OUTPUT PROGRAMMING DETAIL

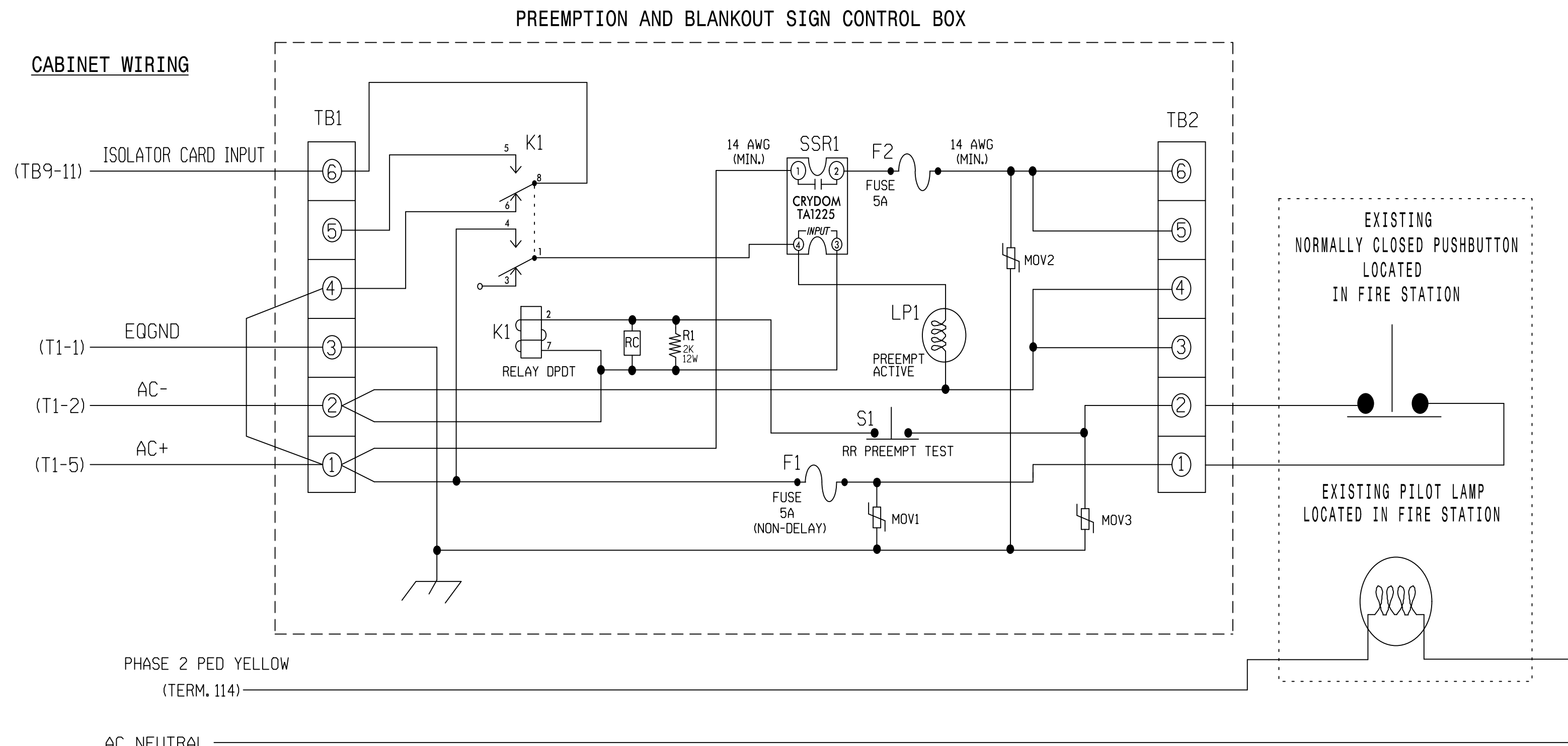
(set DIP switches as shown below)



NOTE: IF ANOTHER MANUFACTURER TYPE OF AC ISOLATOR IS USED, OUTPUT PROGRAMMING IS LIKELY NOT TO EQUATE TO THAT SHOWN ABOVE.

### EV Preemption Control Box Wiring Detail

(wire as shown below)

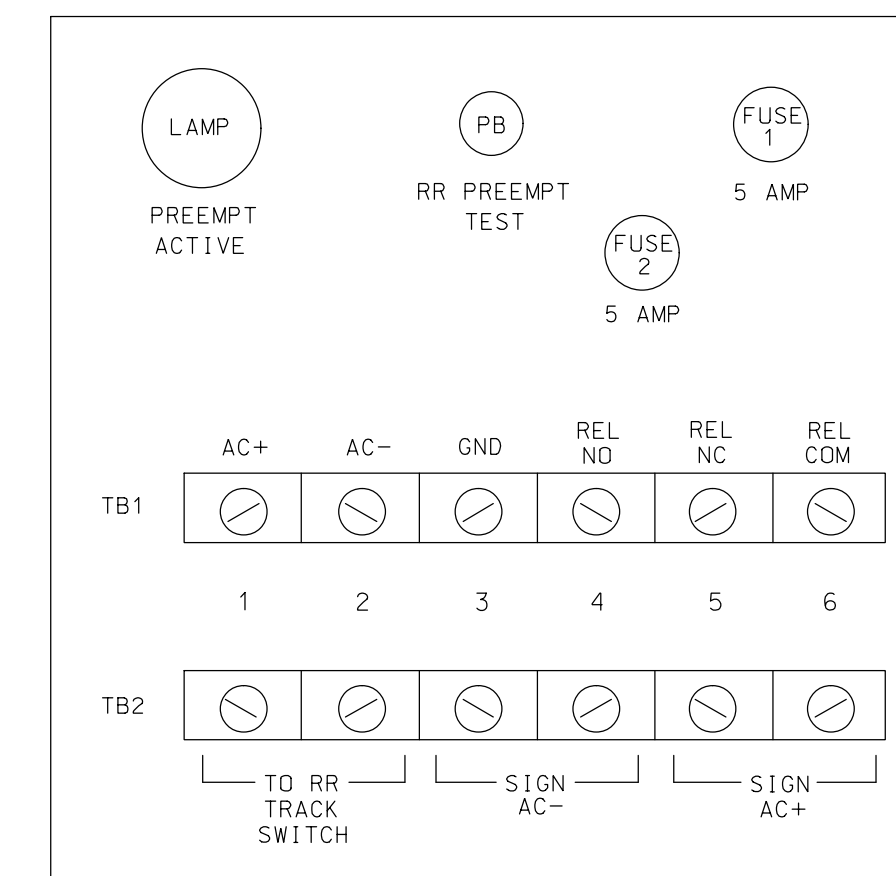


FRONT VIEW

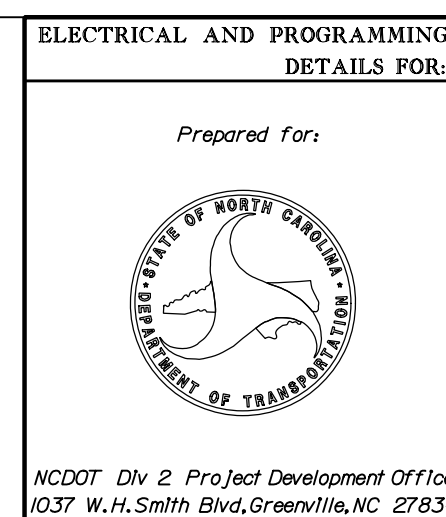
### NOTES

- Relay K1 is shown in the energized (Preempt not active) normal operation state.
- Relay K1 is a DPDT with 120VAC coil with octal base.
- Relay SSR1 is a SPST (normally open) Solid State Relay with AC input and AC (25 amp) output.
- AC Isolator Card shall activate preemption upon removal of AC+ from the input (as shown above). To accomplish this set invert dip switch on AC Isolator Card.
- IMPORTANT!! Terminal TB9-12 (on input panel) shall be connected to AC neutral (jumper may have to be added).

FRONT VIEW



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 02-0196  
DESIGNED: JANUARY 2018  
SEALED: 5/2/2018  
REVISED: N/A



Electrical Details - Sheet 4 of 4

NC 55 (Neuse Boulevard)/ SR 1395 (Broad Street) at NC 55 (First Street)/Third Avenue

Division 2	Craven County	New Bern
PLAN DATE: January 2018	REVIEWED BY: R. Dubnicka	
PREPARED BY: J. Trueblood	REVIEWED BY: J. Carroll	
REVISIONS	INIT.	DATE

DocuSigned by: Justin T. Carroll  
5/2/2018  
SIGNATURE DATE  
SIG. INVENTORY NO. 02-0196

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 030005  
JUSTIN T. CARROLL



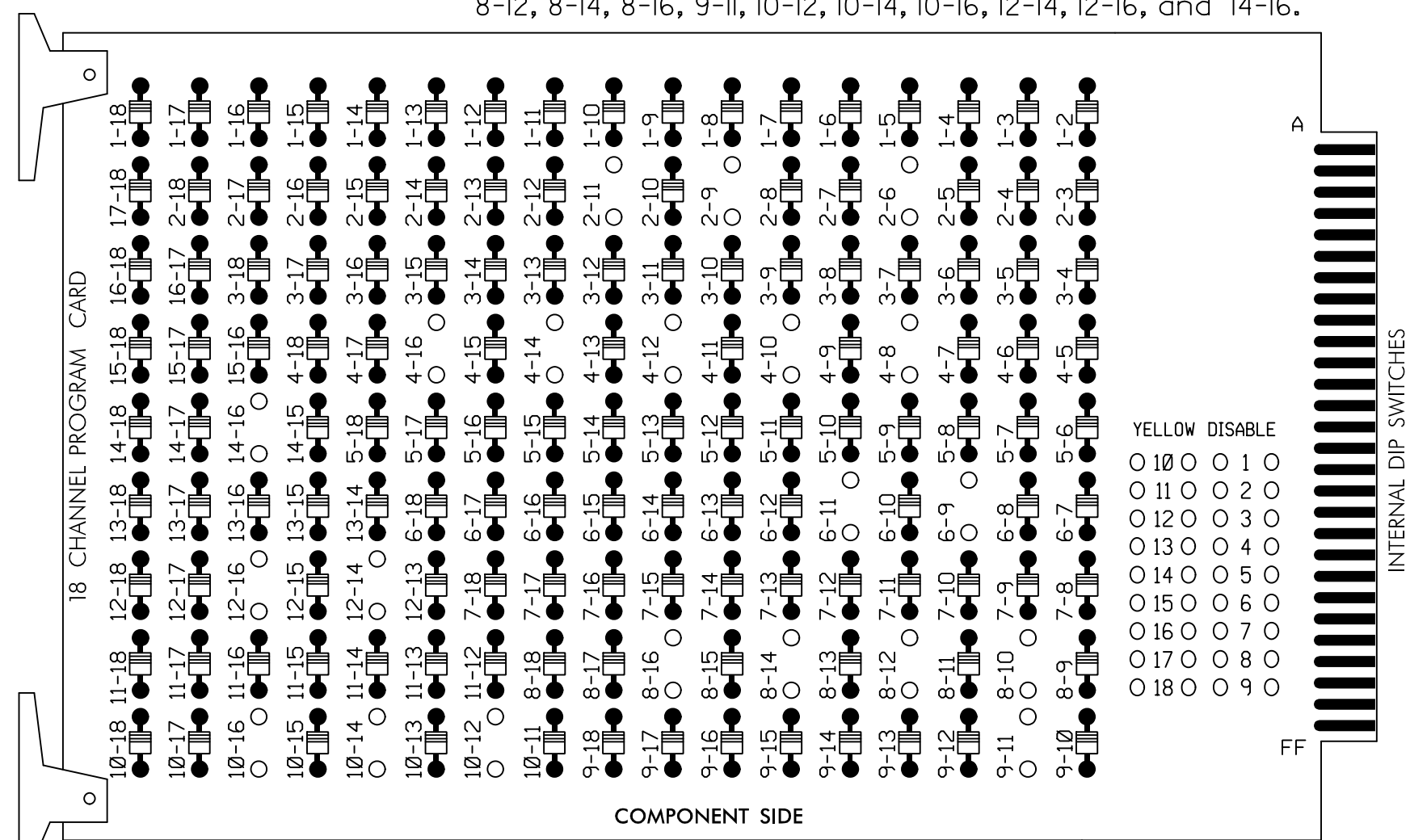




### EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-6, 2-9, 2-11, 4-8, 4-10, 4-12, 4-14, 4-16, 6-9, 6-11, 8-10, 8-12, 8-14, 8-16, 9-11, 10-12, 10-14, 10-16, 12-14, 12-16, and 14-16.



REMOVE JUMPERS AS SHOWN

**NOTES:**

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

■ = DENOTES POSITION OF SWITCH

### NOTES

- 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.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 4 and 8 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash and overlaps 1 and 2 as Wag Overlaps.
- The cabinet and controller are part of the Neuse Blvd / Broad St TBS.

### EQUIPMENT INFORMATION

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

### 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.	NU	22,23	NU	NU	42,43	P41, P42	NU	62,63	NU	NU	82,83	P81, P82	61	81	NU	21	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																		
Hand icon							104					110						
Walking person icon							106					112						

NU = Not Used

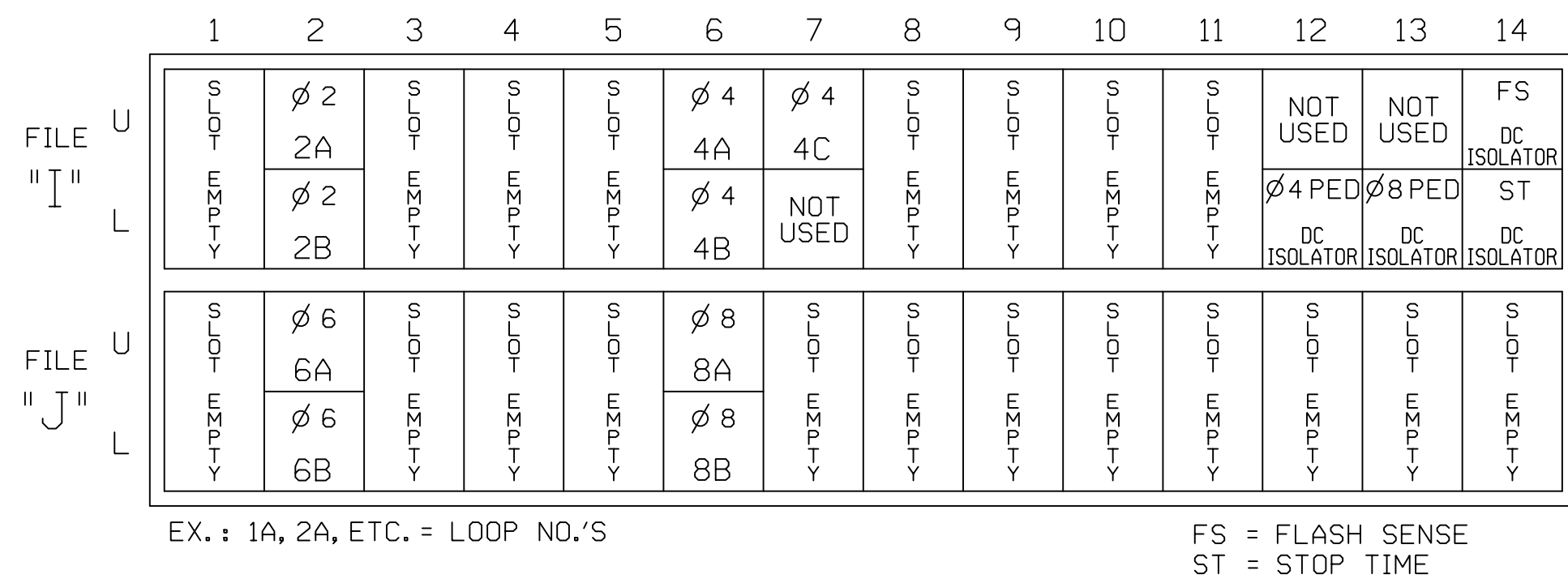
\* See pictorial of head wiring in detail below.

### COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

### INPUT FILE POSITION LAYOUT

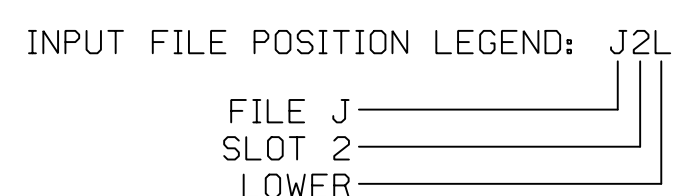
(front view)



### 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
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	-	-	-
4B	TB4-11,12	I6L	45	7	14	4	Y	Y	-	-	-
4C	TB6-1,2	I7U	65	27	34	4	Y	Y	-	-	15
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	-	-	10
PED PUSH BUTTONS											
P41,P42	TB8-5,6	I12L	69	31							4 PED
P81,P82	TB8-8,9	I13L	70	32							8 PED

NOTE:  
 INSTALL DC ISOLATORS IN INPUT FILE SLOTS 112 AND 113.



### 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: 12345678910111213141516
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?...Y
GREEN EXTENSION (0-255 SEC)...0.0
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 'B' SETTINGS
PHASE: 12345678910111213141516
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)...0.0
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: 12345678910111213141516
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?...Y
GREEN EXTENSION (0-255 SEC)...0.0
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 '+'

```

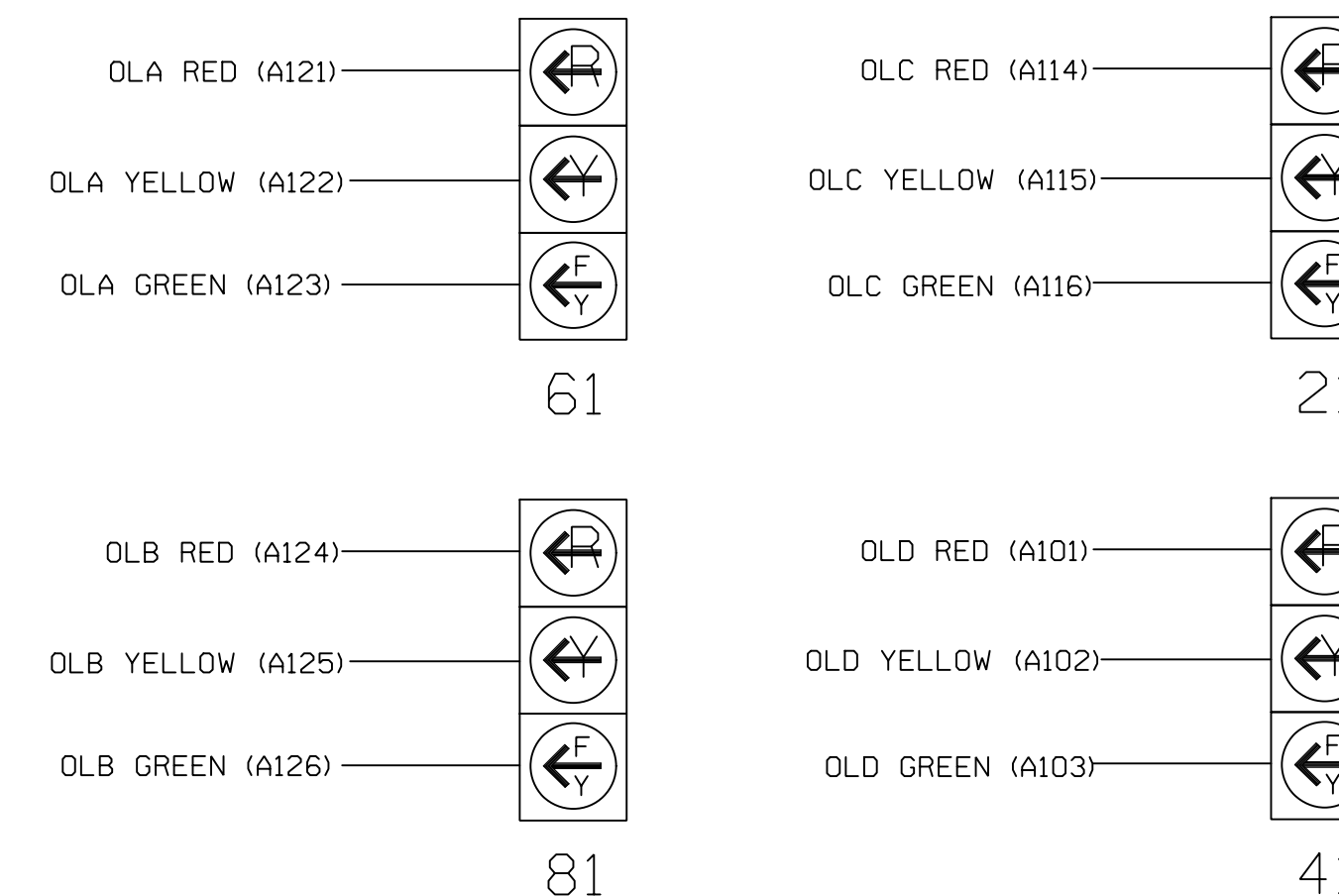
PAGE 1: VEHICLE OVERLAP 'D' SETTINGS
PHASE: 12345678910111213141516
VEH OVL PARENTS: X
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR: - RED - YELLOW - GREEN
FLASH COLORS: - RED - YELLOW X GREEN
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC)...0.0
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

OVERLAP PROGRAMMING COMPLETE

### 3 SECTION FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



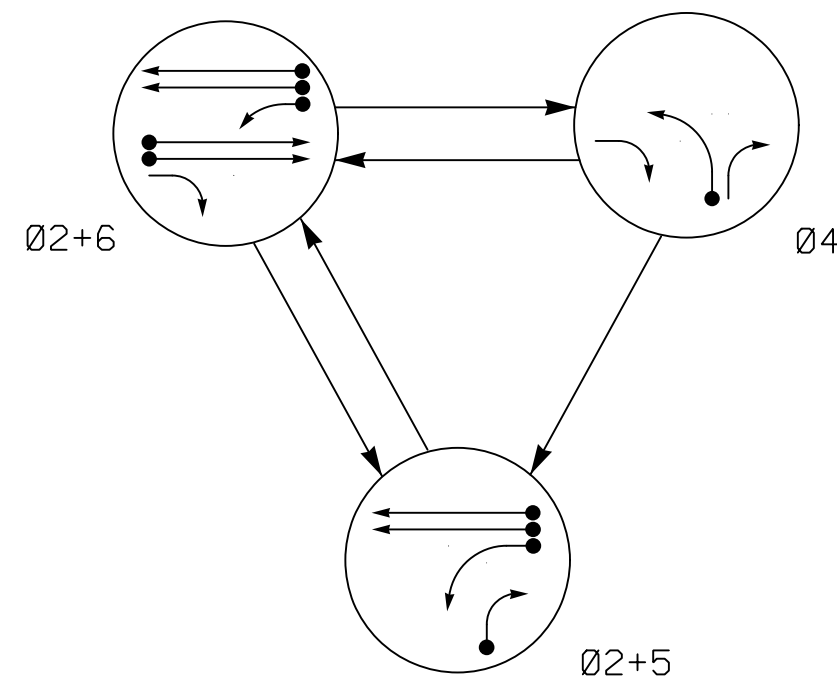
### ELECTRICAL DETAIL SHEET

ELECTRICAL AND PROGRAMMING DETAILS FOR:		SR 1400 (First Street) at Trent Boulevard/Pollock Street		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared for:		Division 2 Craven County New Bern		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030005 JUSTIN T. CARROLL	
PLAN DATE: January 2018		REVIEWED BY: R. Dubnicka		5/2/2018	
PREPARED BY: J. Trueblood		REVIEWED BY: J. Carroll		DATE	
REVISIONS	INIT.	DATE	SIGNATURE		
			DATE		
NCDOT Div 2 Project Development Office 1037 W.H. Smith Blvd, Greenville, NC 27834		STV Engineers, Inc. 900 West Trade St., Suite 715 Charlotte, NC 28202 (704) 372-1885 NC License Number F-0991		SIC. INVENTORY NO. 02-0204	

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 02-0204  
 DESIGNED: JAN 2018  
 SEALED: 5/2/2018  
 REVISED: N/A



**PHASING DIAGRAM**



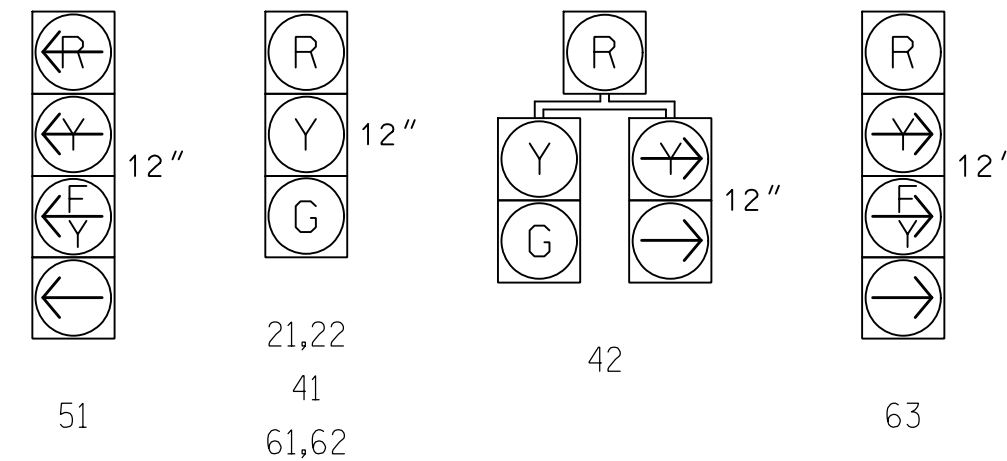
**PHASING DIAGRAM DETECTION LEGEND**

- ◄● DETECTED MOVEMENT
- ◄ UNDETECTED MOVEMENT (OVERLAP)
- ◄ UNSIGNALIZED MOVEMENT
- ◄→ PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE			
	Ø 2 + 5	Ø 2 + 6	Ø 4	FLASH
21,22	G	G	R	Y
41	R	R	G	R
42	R	R	G	R
51	←	←	←	←
61,62	R	G	R	Y
63	R	←	←	←

**SIGNAL FACE I.D.**

All Heads L.E.D.



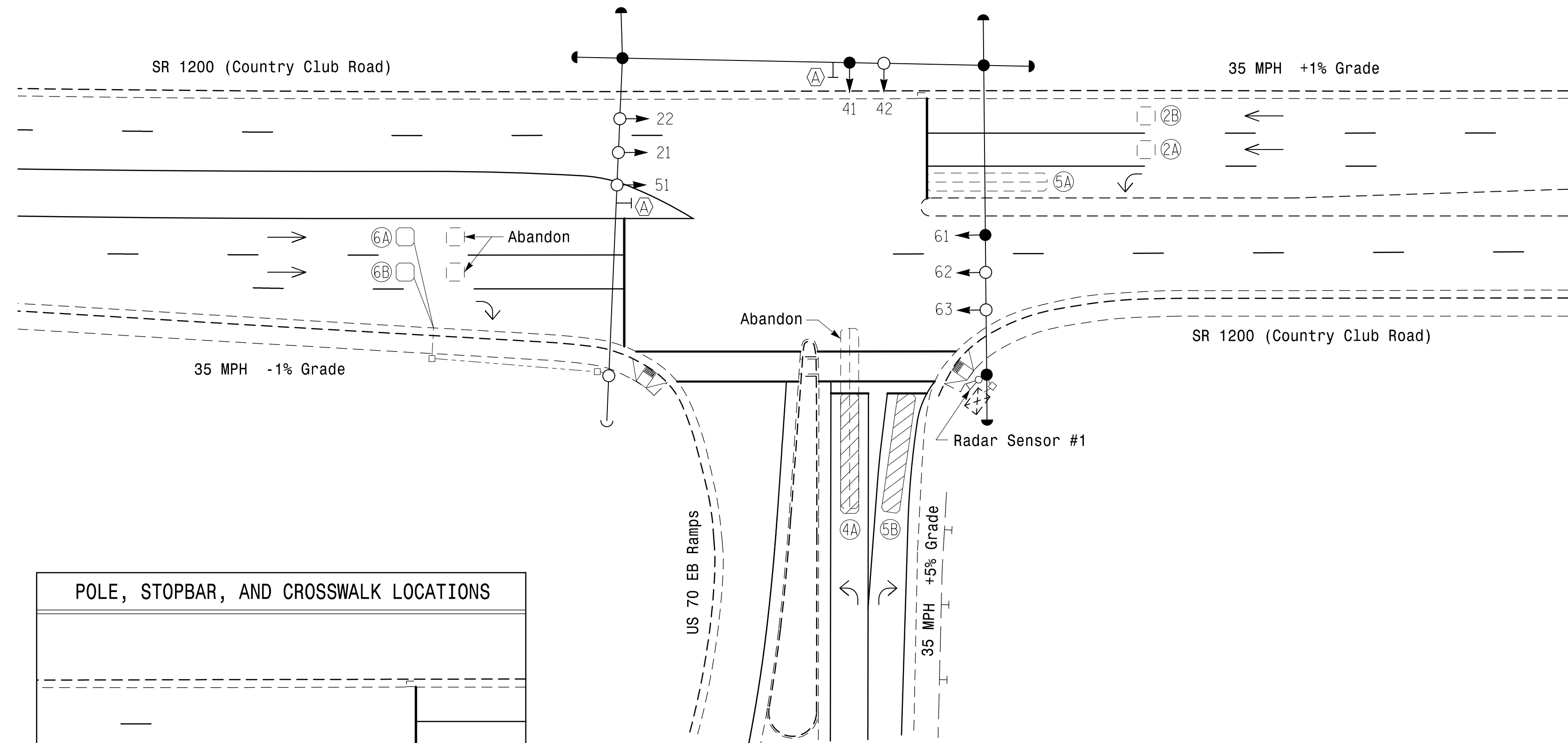
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING					SYSTEM LOOP	NEW CARD	SENSOR NO.
					PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME			
2A,2B	6X6	70	4	-	2	Y	Y	-	-	-	-	-
4A	6X40	0	*	*	4	Y	Y	-	-	-	-	1
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
5B	6X40	0	*	*	5	Y	Y	-	-	15	-	1
6A	6X6	70	5	Y	6	Y	Y	-	-	-	-	-
6B	6X6	70	5	Y	6	Y	Y	-	-	-	-	-

\* RADAR DETECTION

**3 Phase Fully Actuated (US 70 Time Based System)**

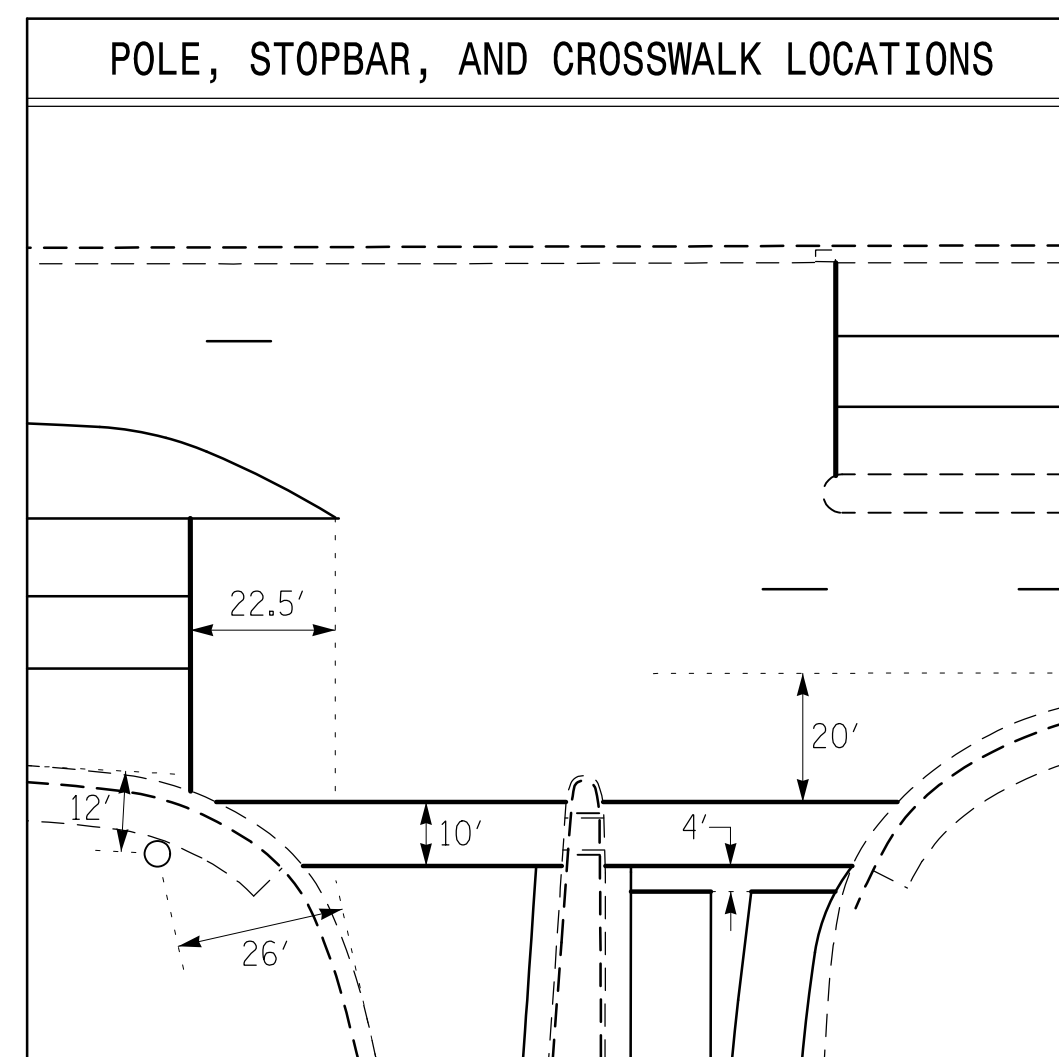
**NOTES**

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018, "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Reposition existing signal head numbered 61.
- Set all detector units to presence mode.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



FEATURE	PHASE			
	2	4	5	6
Min Green 1 *	10	7	7	10
Extension 1 *	3.0	2.0	2.0	3.0
Max Green 1 *	35	20	20	35
Yellow Clearance	3.9	3.0	3.0	3.9
Red Clearance	2.1	2.8	2.6	2.1
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	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.



PROPOSED	LEGEND	EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
+	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	→
▨	Radar Detection Zone	N/A
○	Radar Sensor	●
⊙	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	⊙
N/A	Curb Ramp	↘

**STV** 100 Years  
 STV Engineers, Inc.  
 900 West Trade St., Suite 715  
 Charlotte, NC 28202  
 (704) 372-1885  
 NC License Number F-0991

**Signal Upgrade**

Prepared For: **SR 1200 (Country Club Road) at US 70 Eastbound Ramps**

Division 2 Craven County New Bern

PLAN DATE: March 2018 REVIEWED BY: R. Dubnicka

PREPARED BY: J. Trueblood REVIEWED BY: J. Carroll

SCALE: 1"=30'

REVISIONS: \_\_\_\_\_ INIT. DATE

DocuSigned by: *Justin S. Small* 5/2/2018

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

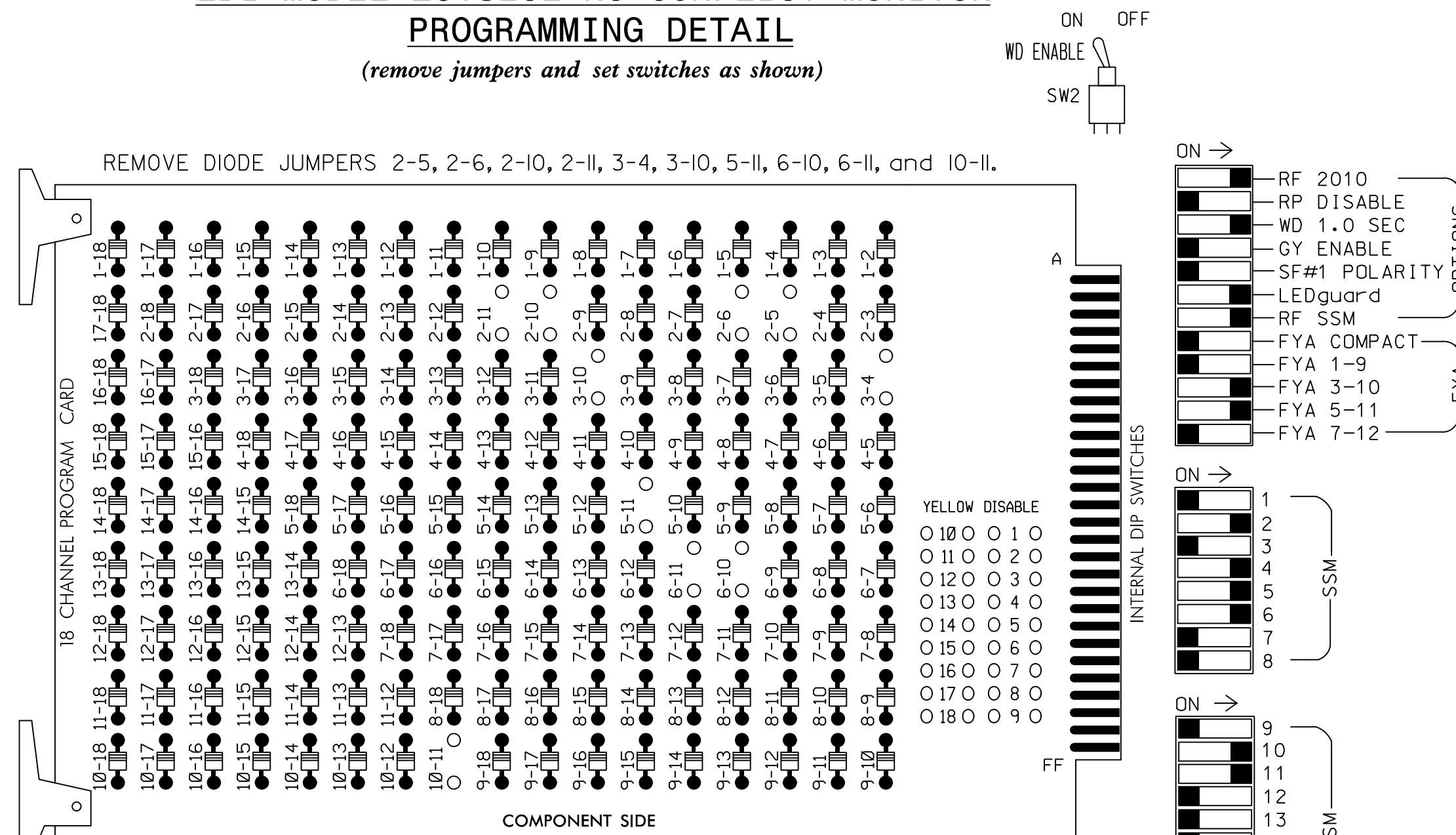
SIG. INVENTORY NO. 02-0767

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 030005  
 JUSTIN T. CARROLL

### EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

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

### NOTES

- 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.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2 and 6 for Yellow Flash, and overlap 2 as Wag overlap.
- The cabinet and controller are part of the US 70 Time Based System.

### EQUIPMENT INFORMATION

CONTROLLER.....2070L  
 CABINET.....332 /W/ AUX  
 SOFTWARE.....ECONOLITE OASIS  
 CABINET MOUNT.....BASE  
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE  
 LOAD SWITCHES USED.....S2,S4,S5,S7,S8,AUX S2,AUX S4  
 PHASES USED.....2,4,5,6  
 OVERLAP "A".....NOT USED  
 OVERLAP "B".....6  
 OVERLAP "C".....5+6  
 OVERLAP "D".....NOT USED  
 OVERLAP "E".....NOT USED  
 OVERLAP "F".....NOT USED  
 OVERLAP "G".....4

### 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	OLG	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	63	41,42	NU	51	42	61,62	NU	NU	NU	NU	63	NU	51	NU	NU
RED		128			101		*	134						A124				
YELLOW		129		*	102			135										
GREEN		130			103			136										
RED ARROW																		A114
YELLOW ARROW								132						A125				A115
FLASHING YELLOW ARROW														A126				A116
GREEN ARROW					118		133	133										

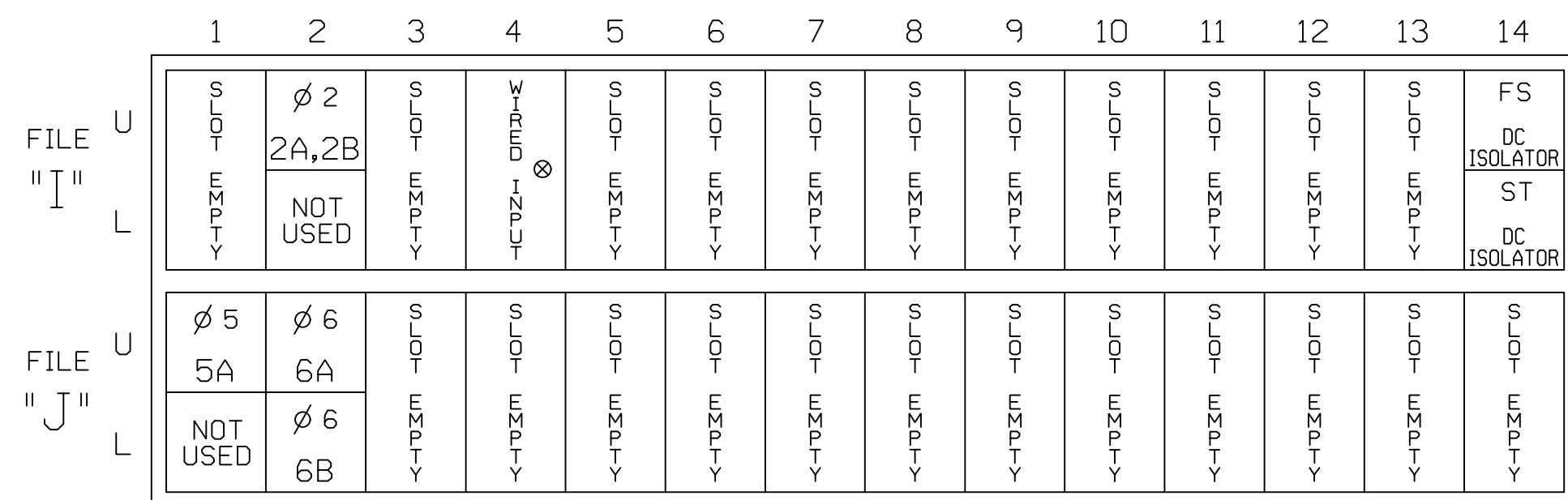
NU = Not Used

\* Denotes install load resistor. See load resistor installation detail this sheet.

★ See pictorial of head wiring in detail below.

### INPUT FILE POSITION LAYOUT

(front view)

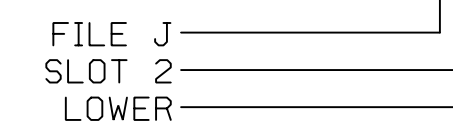


### INPUT FILE CONNECTION & PROGRAMMING CHART

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
2A,2B	TB2-5,6	I2U	39	1	2	2	Y	Y	-	-	-
5A <sup>1</sup>	TB3-1,2	J1U	55	17	5	5	Y	Y	-	-	15
	-	I4U	47	9	22	2	Y	Y	-	-	-
6A	TB3-5,6	J2U	40	2	6	6	Y	Y	-	-	-
6B	TB3-7,8	J2L	44	6	16	6	Y	Y	-	-	-

<sup>1</sup>Add jumper from J1-W to 14-W, on rear of input file.

### INPUT FILE POSITION LEGEND: J2L

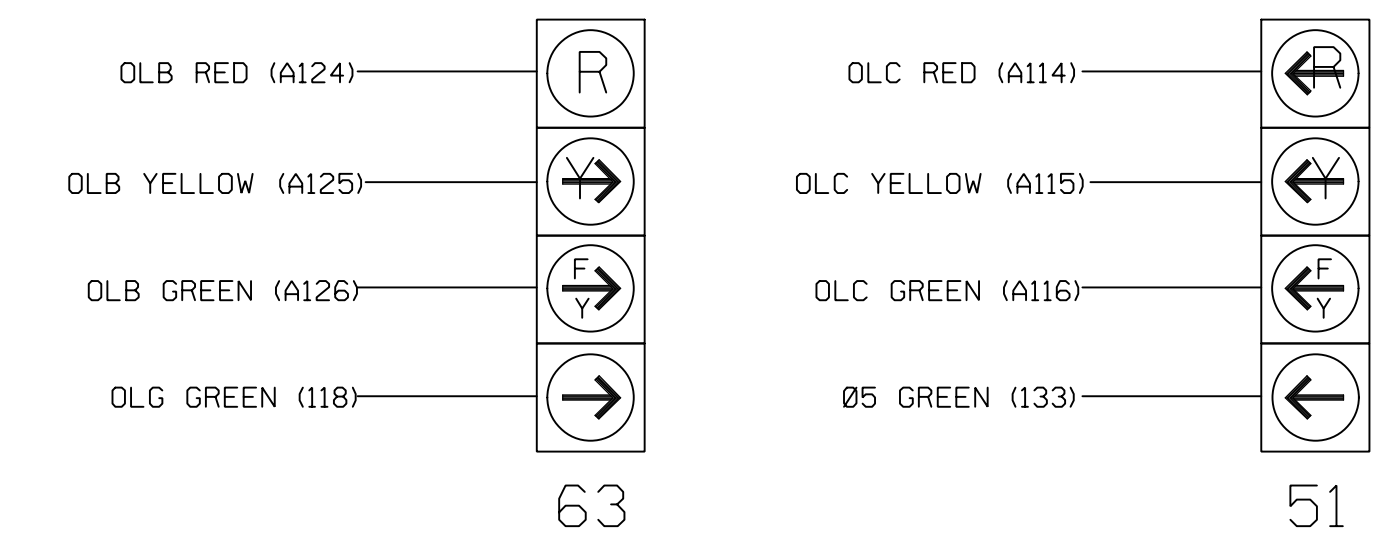


### SPECIAL DETECTOR NOTE

For detection zones (4A) and (5B), install a radar detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting location to accomplish the detection scheme shown on the Signal Design Plans.

### 4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



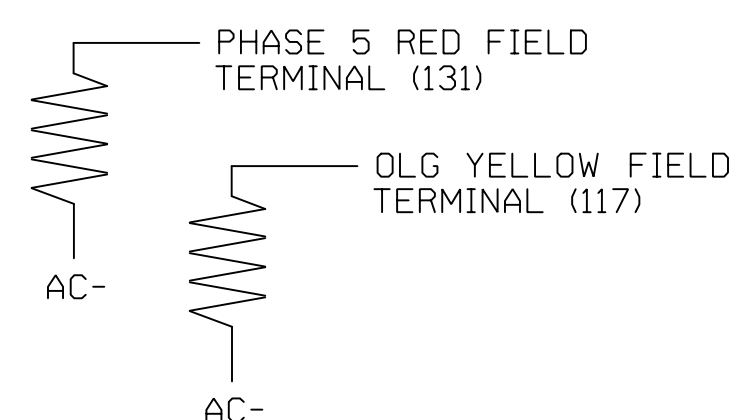
NOTE

- The sequence display for these signals requires special logic programming. See sheet 2 for programming instructions.

### LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

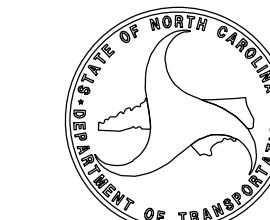
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



### ELECTRICAL DETAIL SHEET 1 OF 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared For:



SR 1200 (Country Club Road) at US 70 Eastbound Ramps

Division 2 Craven County New Bern

PLAN DATE: March 2018 REVIEWED BY: R. Dubnicka

PREPARED BY: J. Trueblood REVIEWED BY: J. Carroll

REVISIONS INIT. DATE

NCDOT Div 2 Project Development Office  
 1037 W.H. Smith Blvd, Greenville, NC 27834

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER

SEAL 030005

JUSTIN T. CARROLL

DocuSigned by: Justin T. Carroll

5/2/2018

SIGNATURE DATE

SIG. INVENTORY NO. 02-0767



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

(program controller as shown below)

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

LOGICAL I/O COMMAND #1 (+/-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

PRESS '+'

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

LOGICAL I/O COMMAND #2 (+/-COMMAND#)  
IF ACTIVE PHASE #5 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #44 OFF

PRESS '+'

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

LOGICAL I/O COMMAND #3 (+/-COMMAND#)  
IF YELLOW ON PHASE #5 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #43 ON

PRESS '+'

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

LOGICAL I/O COMMAND #4 (+/-COMMAND#)  
IF ACTIVE OVERLAP #7 IS ON  
AND RED CLEAR ON OVL #7 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #47 ON  
SET OUTPUT ASSIGNMENT #48 OFF

PRESS '+'

NOTE: LOGIC FOR OVERLAP G RED CLEAR (HEAD 63).

LOGICAL I/O COMMAND #5 (+/-COMMAND#)  
IF ACTIVE OVERLAP #7 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #49 OFF

PRESS '+'

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" (HEAD 63).

LOGICAL I/O COMMAND #6 (+/-COMMAND#)  
IF YELLOW ON OVERLAP #7 IS ON

↓  
SCROLL DOWN

THEN:  
SET OUTPUT ASSIGNMENT #48 ON

PRESS '+'

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE (HEAD 63).

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 47 = Overlap B Red  
OUTPUT 48 = Overlap B Yellow  
OUTPUT 49 = Overlap B Green

## OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

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

PRESS '+'

PAGE 1: VEHICLE OVERLAP 'B' SETTINGS  
PHASE: |12345678910111213141516  
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?...Y  
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: |12345678910111213141516  
VEH OVL PARENTS: | XX  
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?...Y  
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 '+' FOUR TIMES

PAGE 1: VEHICLE OVERLAP 'G' SETTINGS  
PHASE: |12345678910111213141516  
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 - GREEN  
SELECT VEHICLE OVERLAP OPTIONS: (Y/N)  
FLASH YELLOW IN CONTROLLER FLASH?...Y  
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

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 02-0767  
DESIGNED: MAR 2018  
SEALED: 5/2/2018  
REVISED: N/A

### ELECTRICAL DETAIL SHEET 2 OF 3



ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for:

NCDOT Div 2 Project Development Office  
1037 W.H. Smith Blvd, Greenville, NC 27834

SR 1200 (Country Club Road) at US 70 Eastbound Ramps	
Division 2	Craven County New Bern
PLAN DATE: March 2018	REVIEWED BY: R. Dubnicka
PREPARED BY: J. Trueblood	REVIEWED BY: J. Carroll
REVISIONS	INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Justin T. Carroll  
5/2/2018  
SIGNATURE DATE  
SIG. INVENTORY NO. 02-0767

### OUTPUT ASSIGNMENT PROGRAMMING DETAIL TO REMAP OVERLAP 'G' TO LOADSWITCH S4

(program controller as shown below)

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN  
'1' (OUTPUT ASSIGNMENTS).  
WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION, ENTER "6"

```

PAGE:1 C1 PIN:7 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....6
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.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

LOADSWITCH S4 RED

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT. THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.  
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:7 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...7
SELECT COLOR (0=RED,1=YEL,2=GRN)...0
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR.  
ENTER DATA AS SHOWN.  
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:7 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....6
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.....Y
PEDESTRIAN PHASE.....
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 7

```

PAGE:1 C1 PIN:8 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....7
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

LOADSWITCH S4 YELLOW

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT. THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.  
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:8 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...7
SELECT COLOR (0=RED,1=YEL,2=GRN)...1
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR.  
ENTER DATA AS SHOWN.  
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:8 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....7
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

PRESS "+" KEY FOR OUTPUT 8

```

PAGE:1 C1 PIN:9 VEHICLE PHASE
OUTPUT ASSIGNMENT #.....8
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

LOADSWITCH S4 GREEN

THE OUTPUT IS SET AS A VEHICLE PHASE BY DEFAULT. THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.  
ENTER A "Y" FOR VEHICLE OVERLAP.

```

PAGE:1 C1 PIN:9 VEHICLE PHASE
SELECT VEHICLE OVERLAP (A=1,P=16)...7
SELECT COLOR (0=RED,1=YEL,2=GRN)...2
    
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE OVERLAP' THE SCREEN SHOWN ABOVE WILL APPEAR.  
ENTER DATA AS SHOWN.  
PRESS THE 'ENT' KEY AFTER ENTERING DATA, THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE OVERLAP' AS SHOWN BELOW.

```

PAGE:1 C1 PIN:9 VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.....8
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.....Y
PEDESTRIAN PHASE.....Y
VEHICLE OVERLAP.....Y
PEDESTRIAN OVERLAP.....
WATCHDOG.....
DETECTOR RESET.....
ADVANCE BEACON.....
OUT OF PHASE FLASHER.....
CONTROLLER FLASH.....
RUN FREE.....
RESERVED.....
PREEMPT.....
SOFT PREEMPT.....
ANY PREEMPT.....
COORDINATION PLAN.....
OFFSET.....
PHASE CHECK.....
PHASE ON.....
PHASE NEXT.....
    
```

OUTPUT PROGRAMMING COMPLETE

### FLASHER CIRCUIT MODIFICATION DETAIL

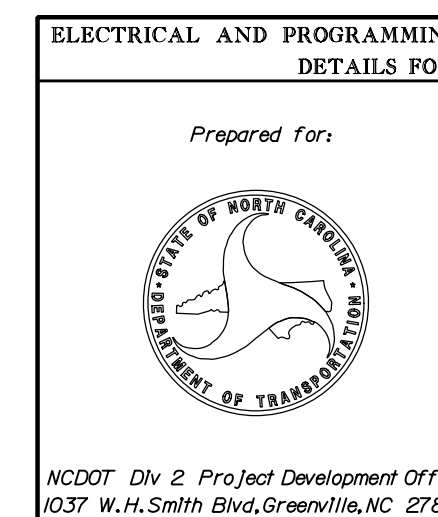
IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

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: 02-0767  
DESIGNED: MAR 2018  
SEALED: 5/2/2018  
REVISED: N/A

ELECTRICAL DETAIL SHEET 3 OF 3

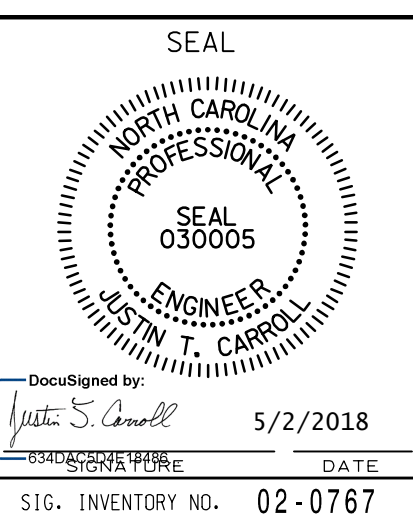


SR 1200 (Country Club Road)  
at  
US 70 Eastbound Ramps

Division 2 Craven County New Bern  
PLAN DATE: March 2018 REVIEWED BY: R. Dubnicka  
PREPARED BY: J. Trueblood REVIEWED BY: J. Carroll

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

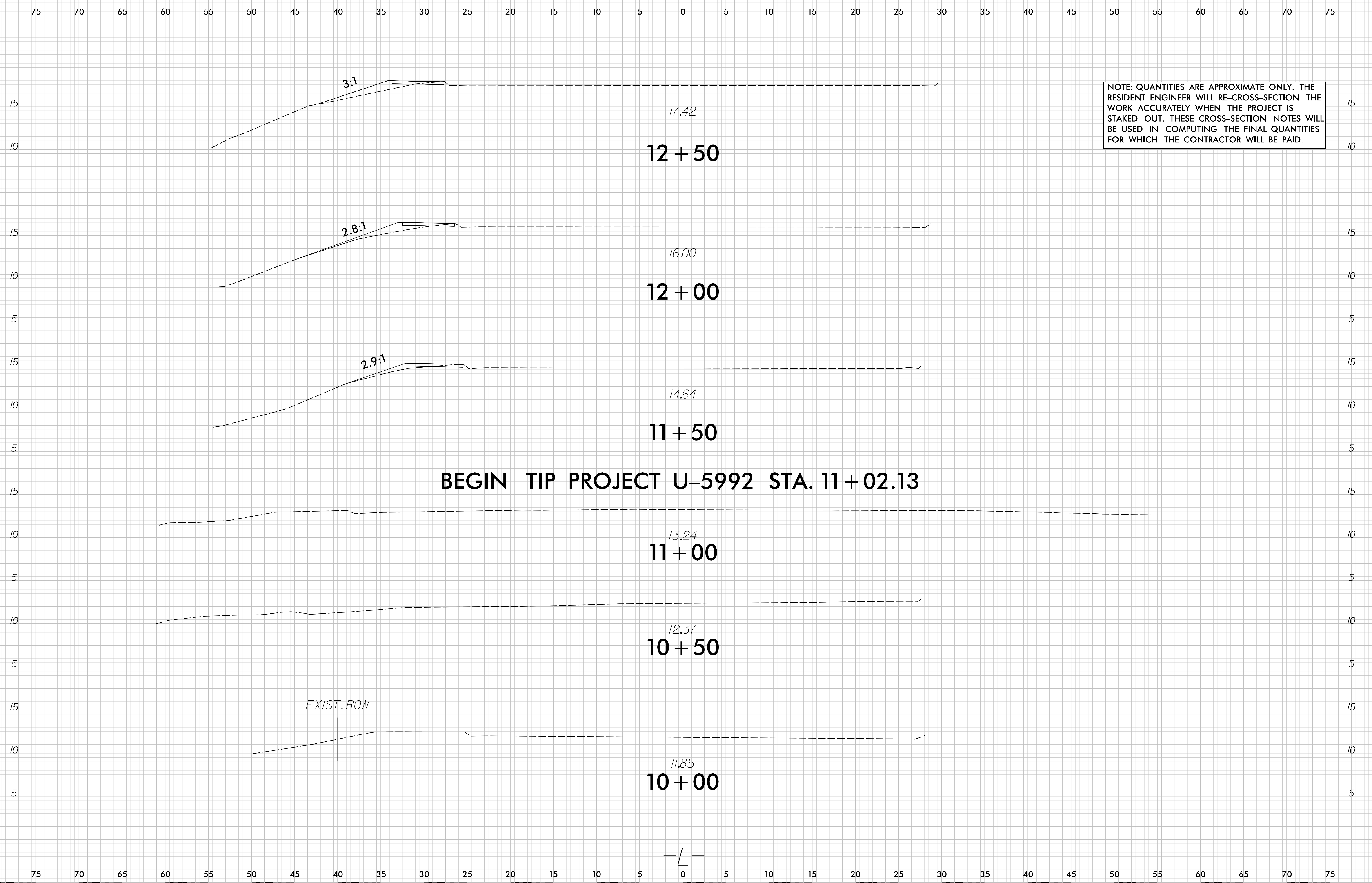






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0 2.5 5	PROJ. REFERENCE NO. U-5992	SHEET NO. X-1
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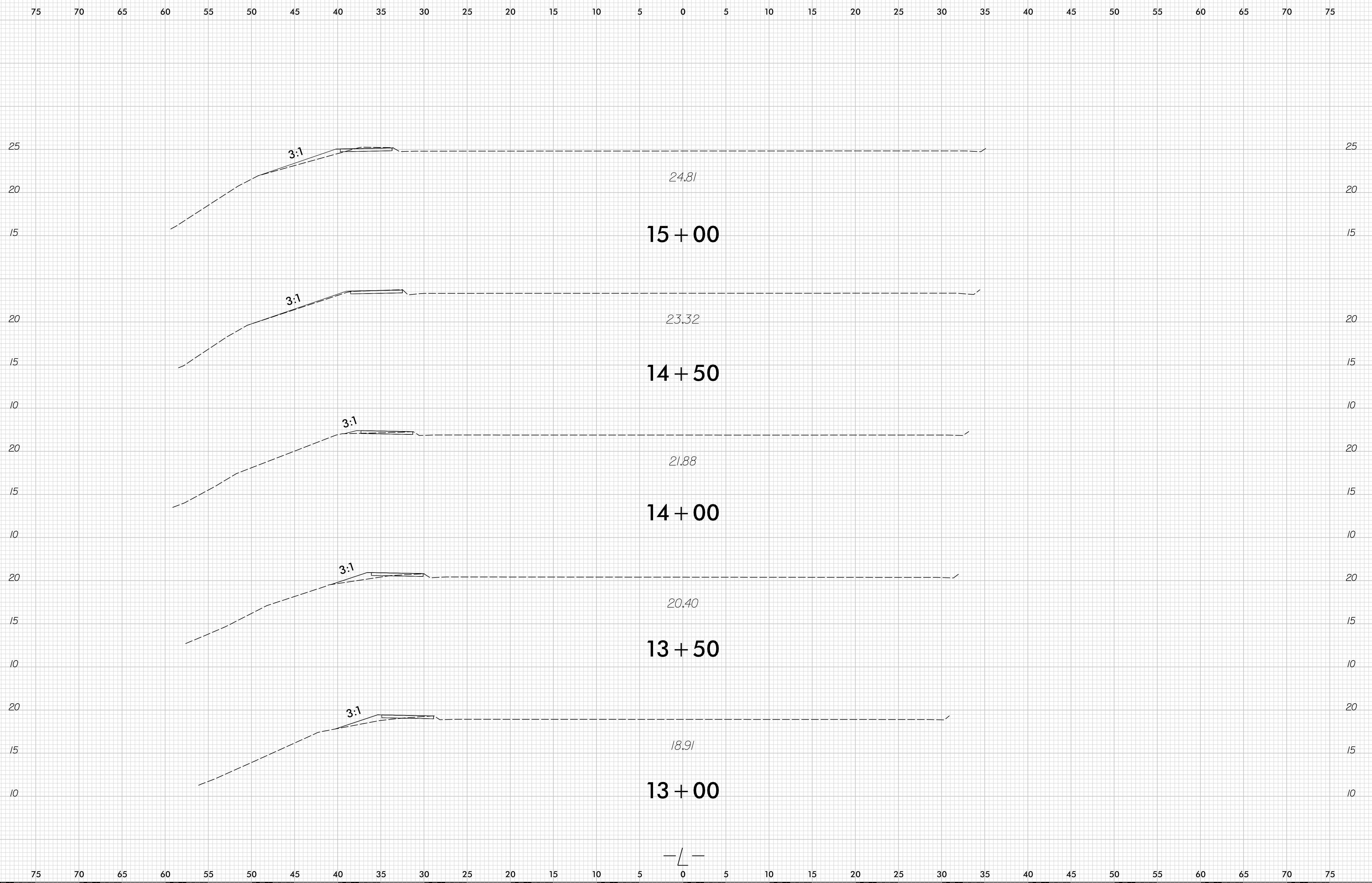


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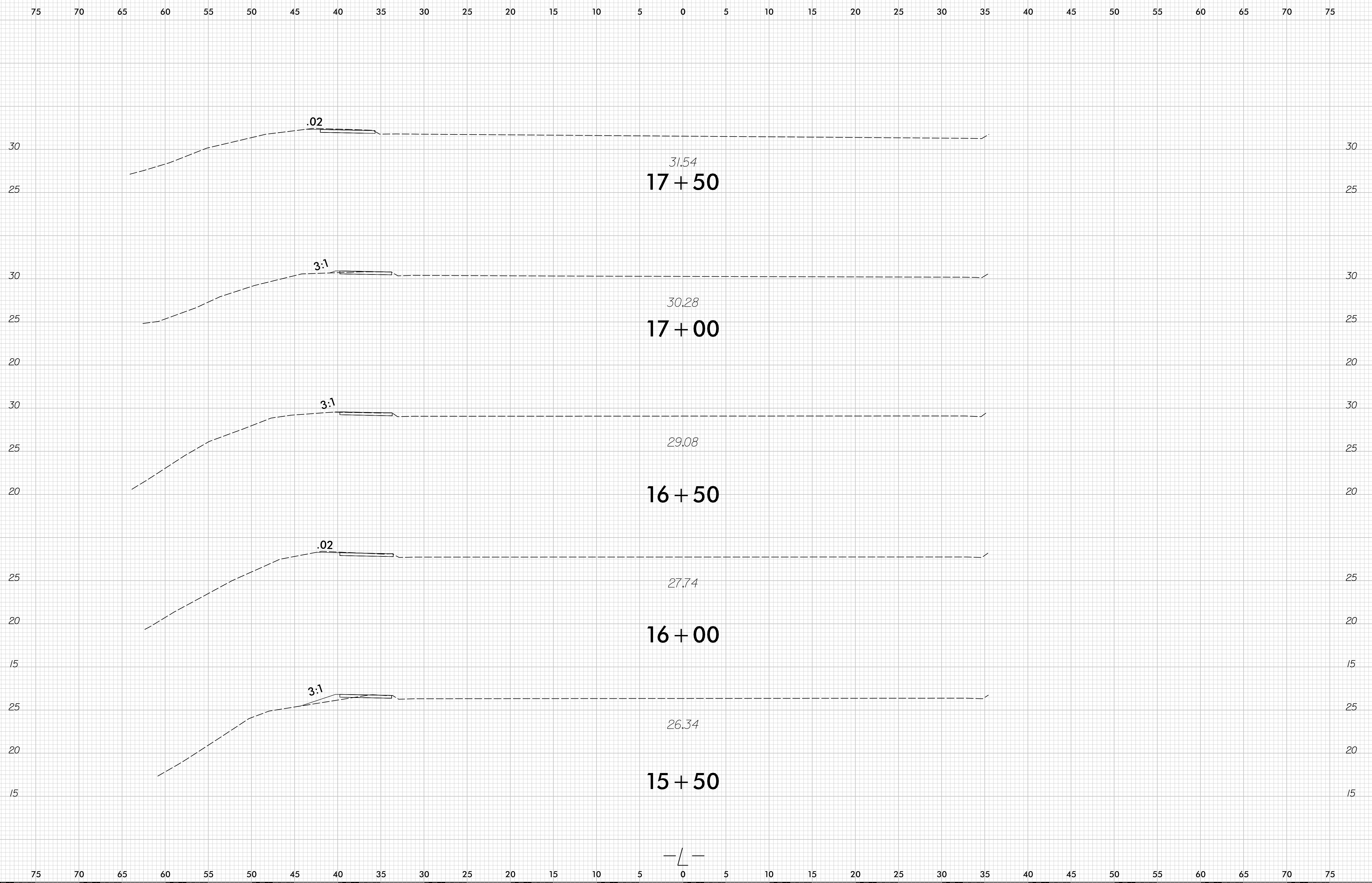
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0 2.5 5	PROJ. REFERENCE NO. U-5992	SHEET NO. X-3
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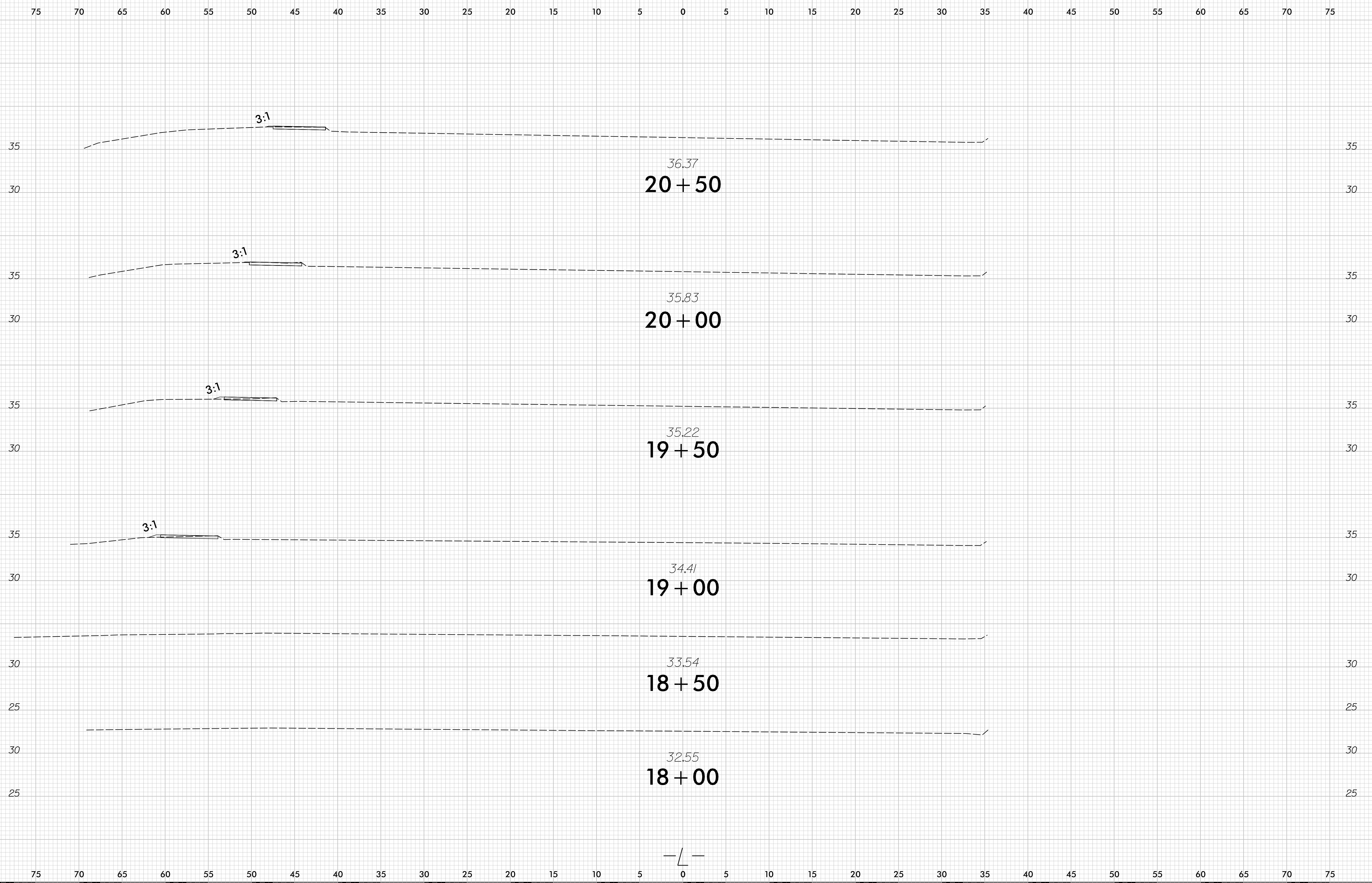


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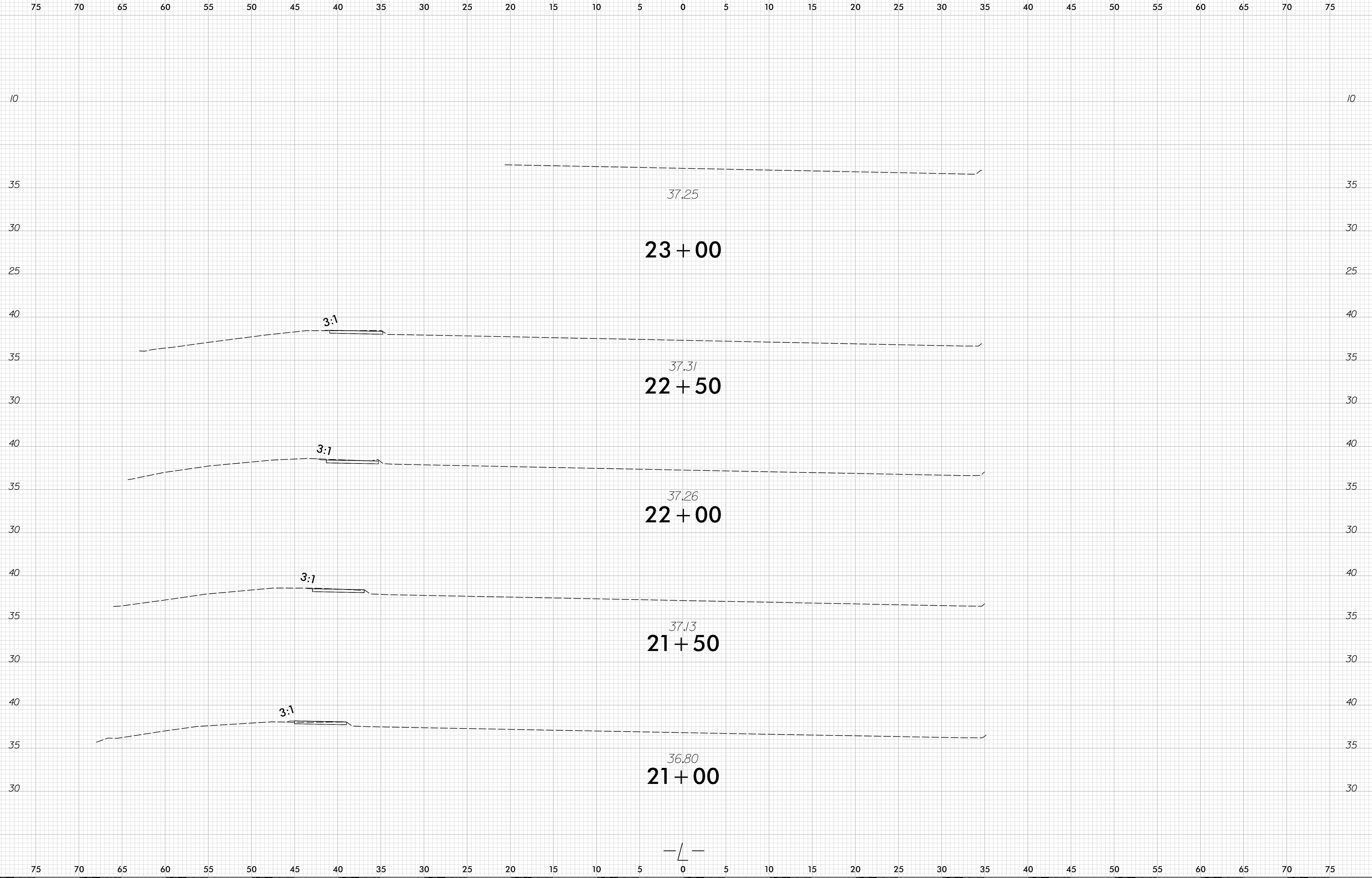
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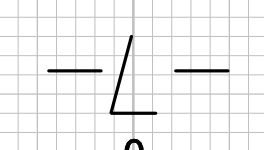
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6/23/16

0 2.5 5	PROJ. REFERENCE NO. U-5992	SHEET NO. X-5
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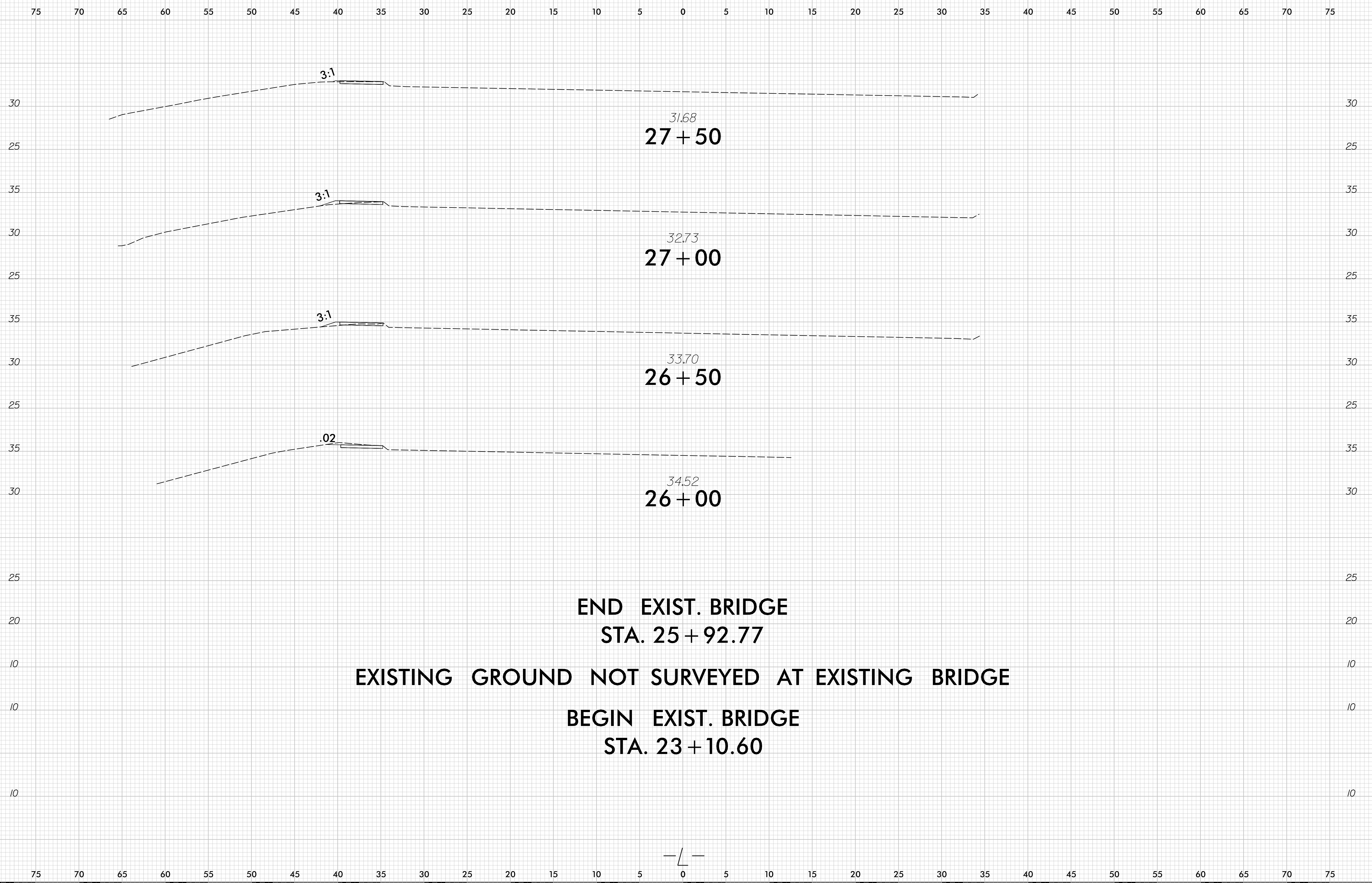


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6/23/16

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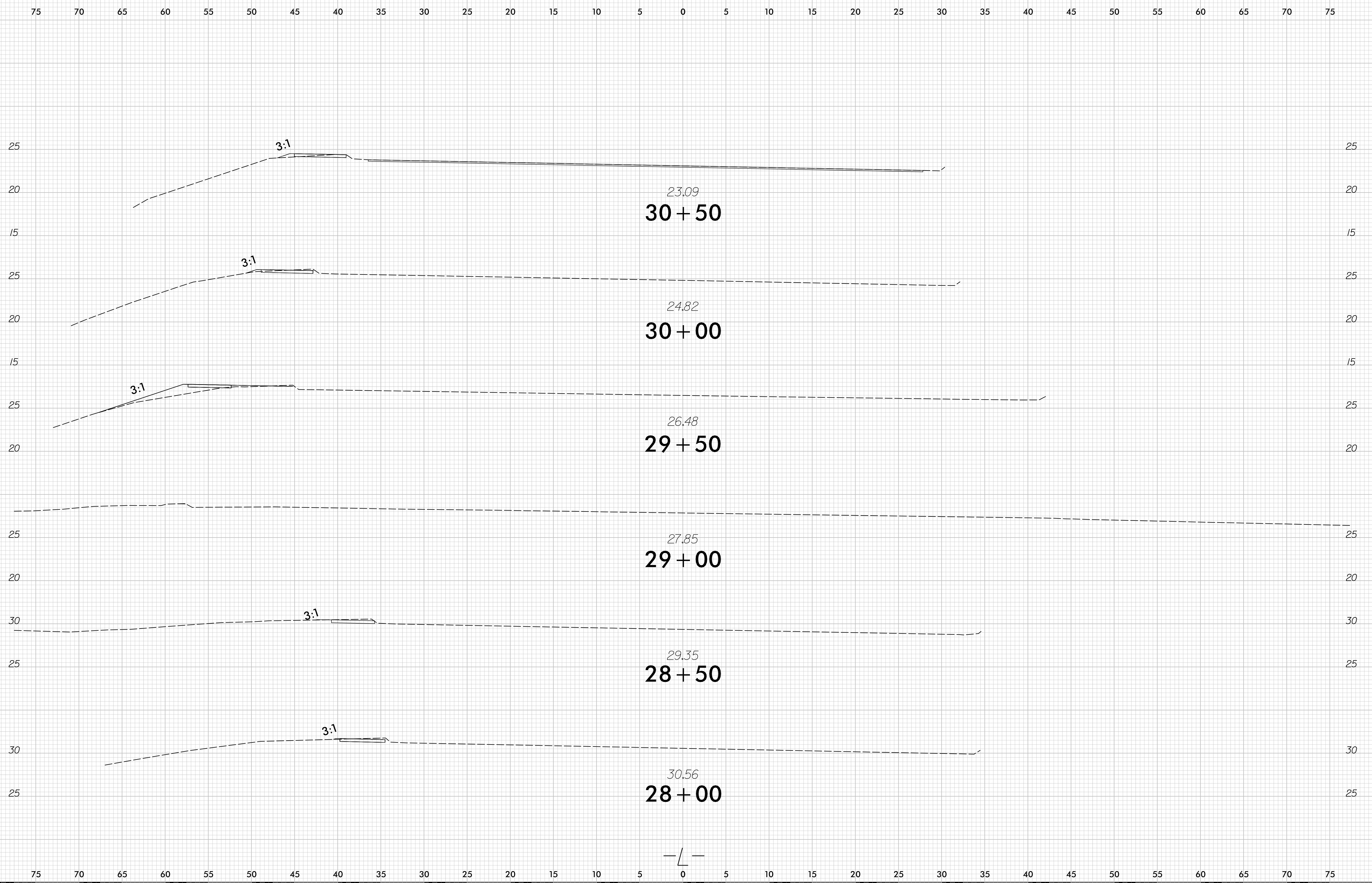


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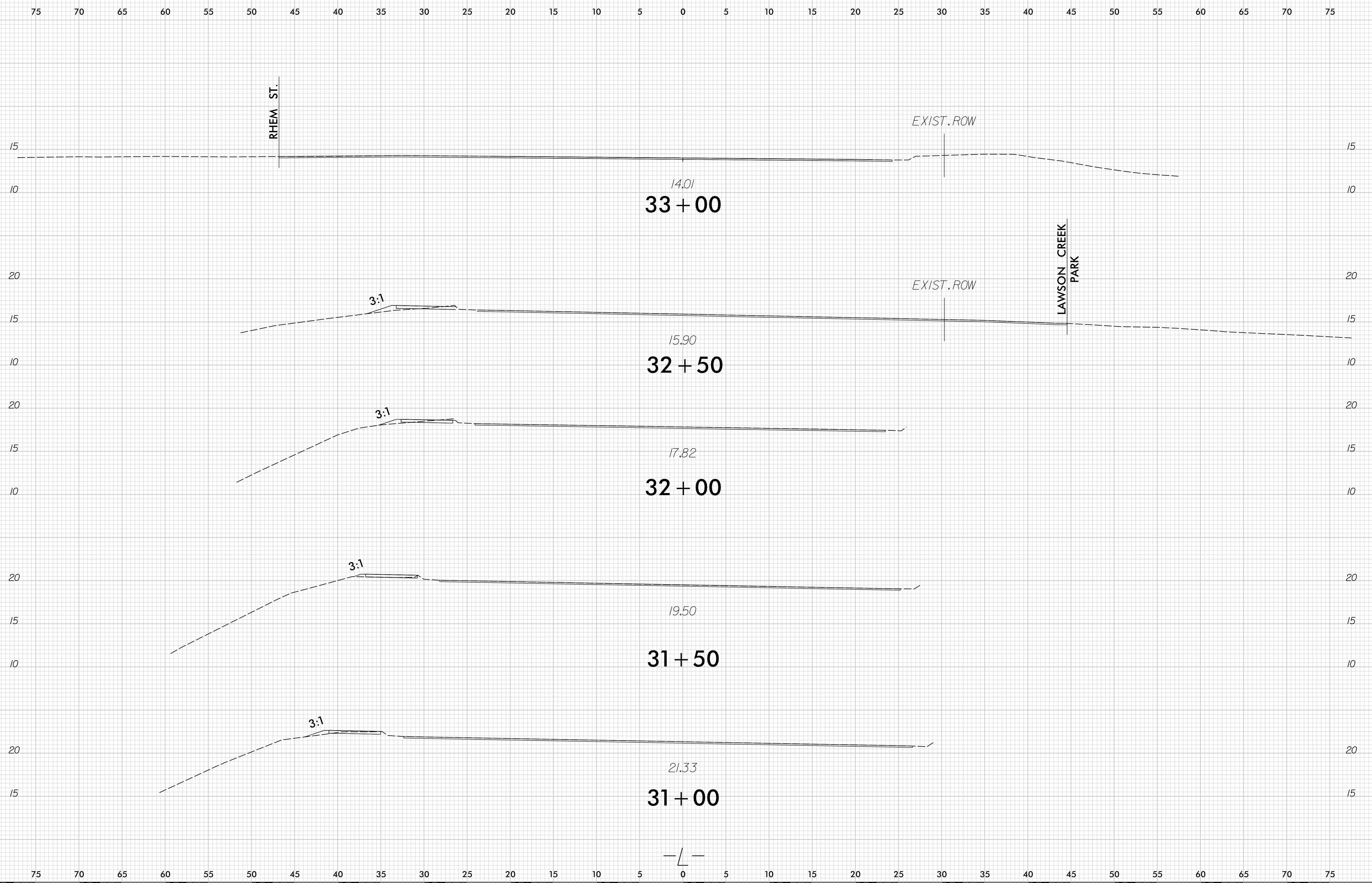
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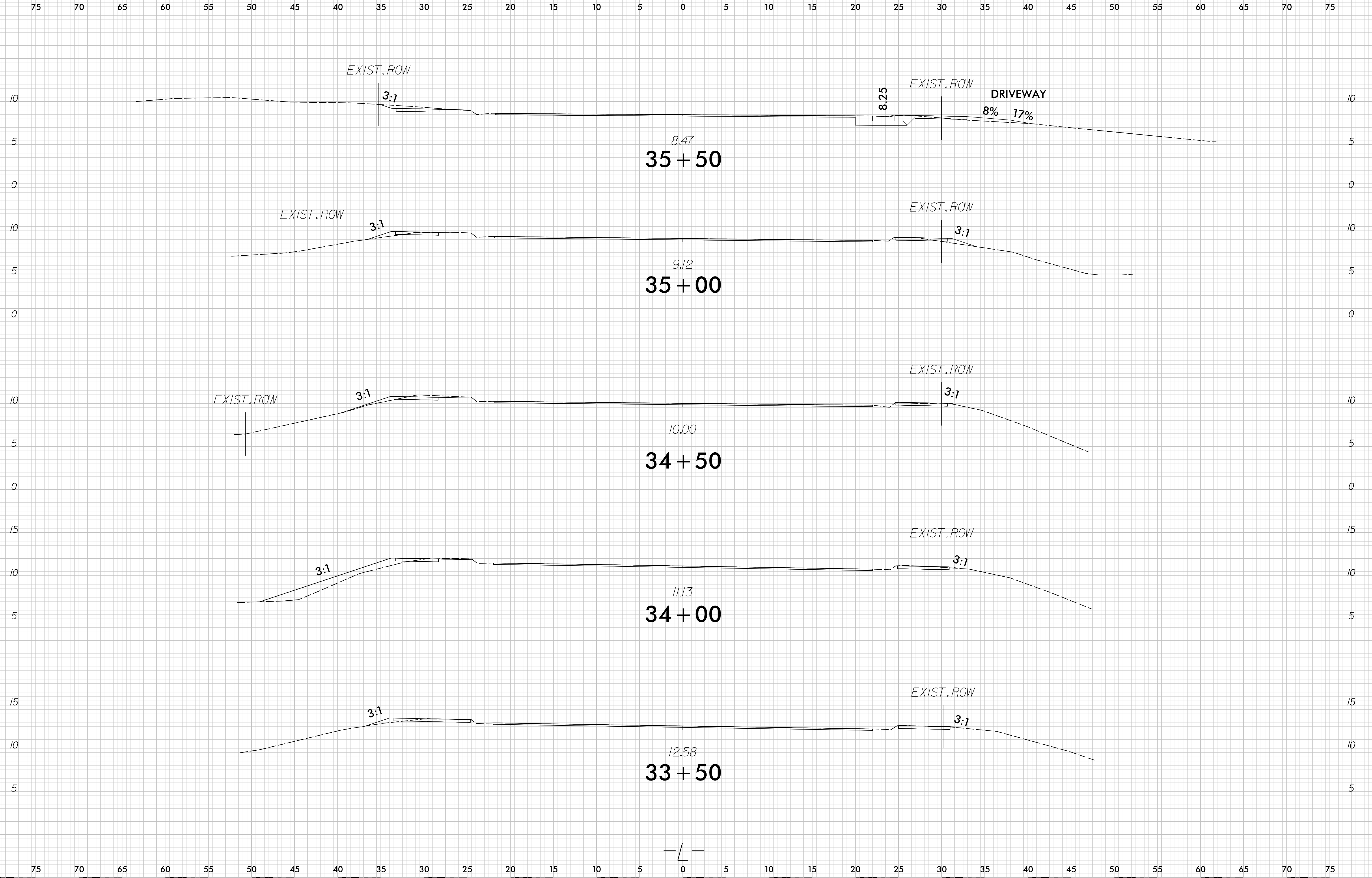
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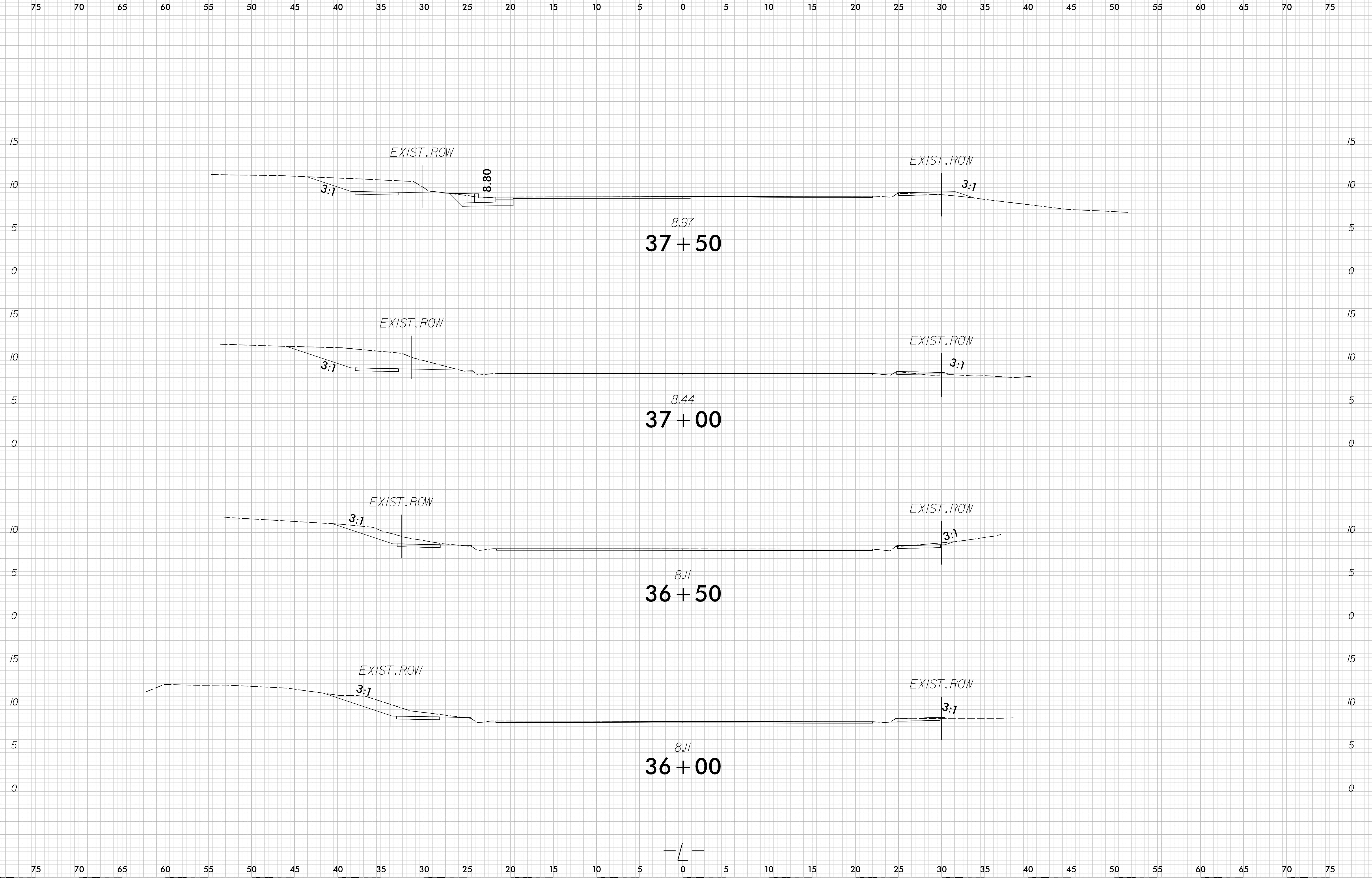
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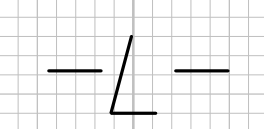
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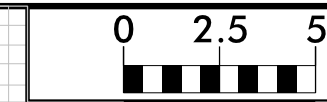
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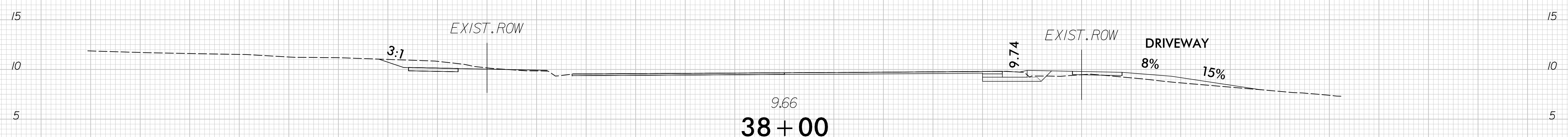
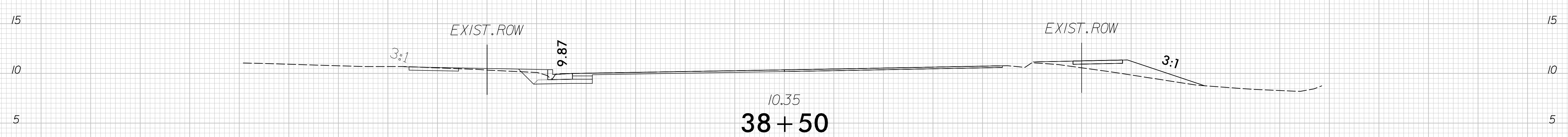
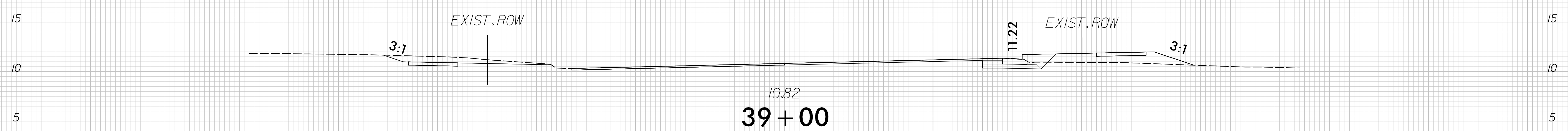
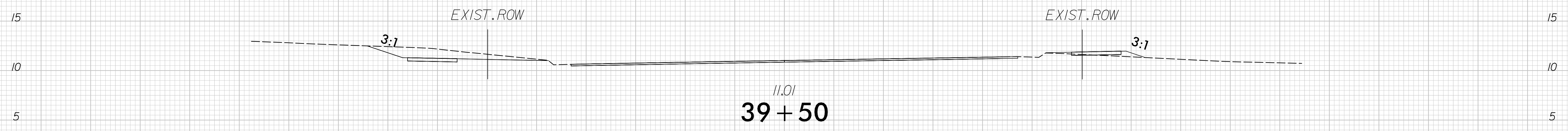
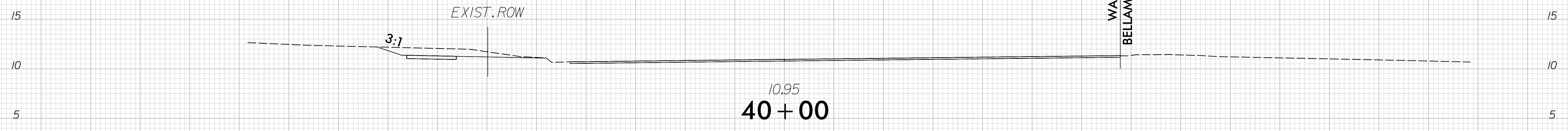
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PROJ. REFERENCE NO.	U-5992
SHEET NO.	X-11

PROJ. REFERENCE NO.	U-5992
SHEET NO.	X-11

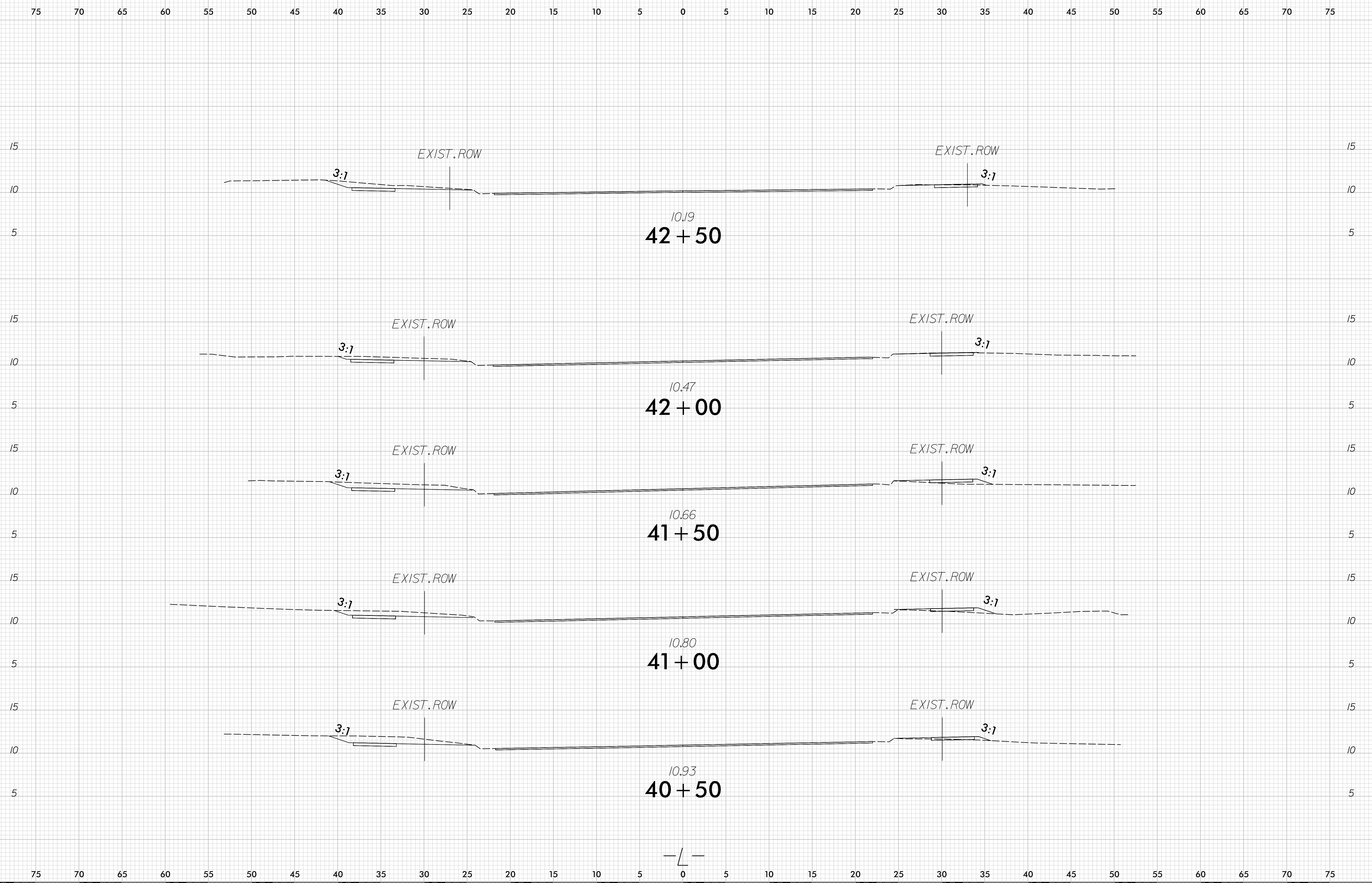
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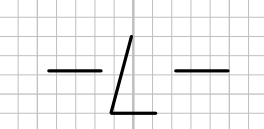
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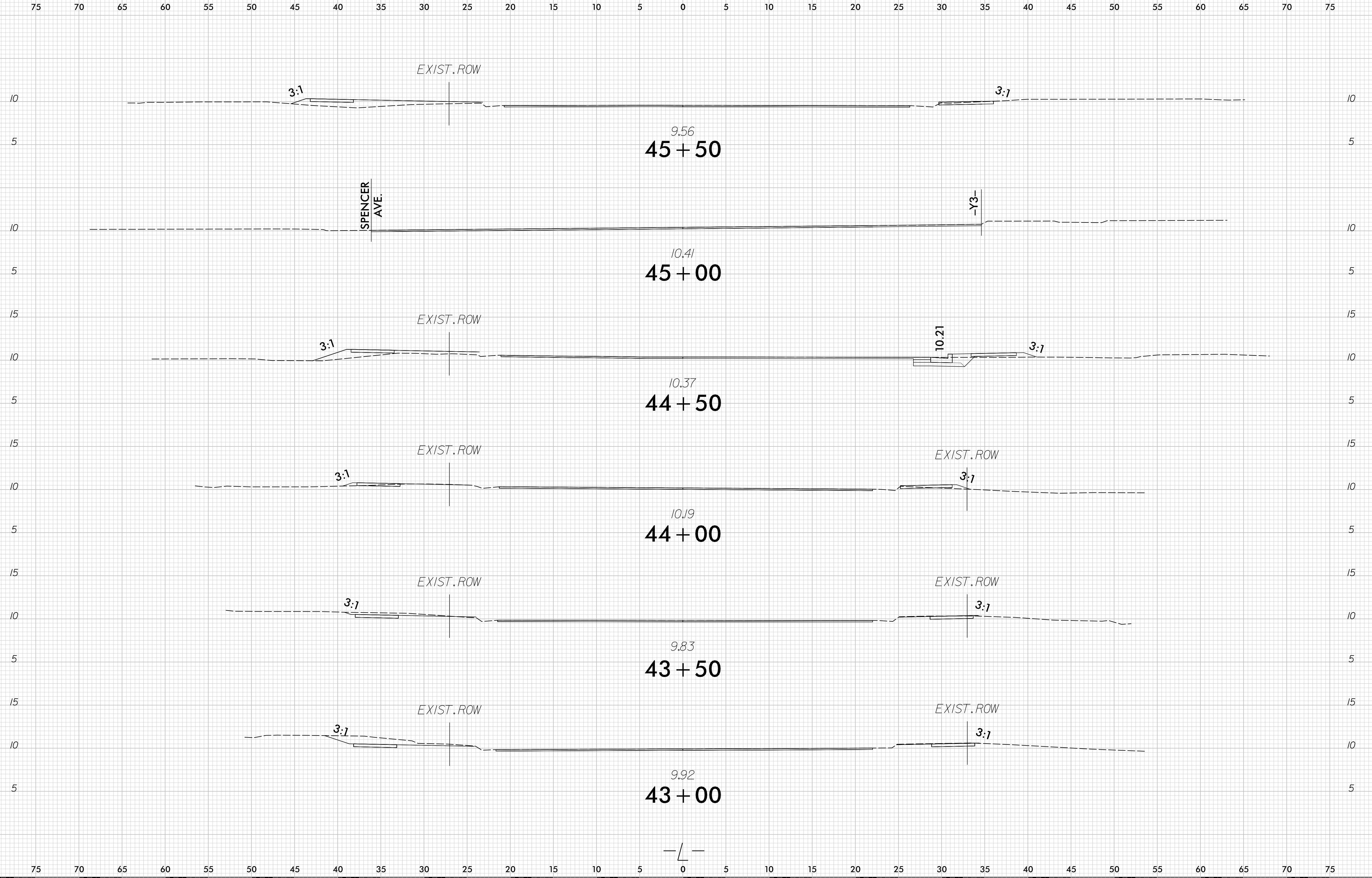


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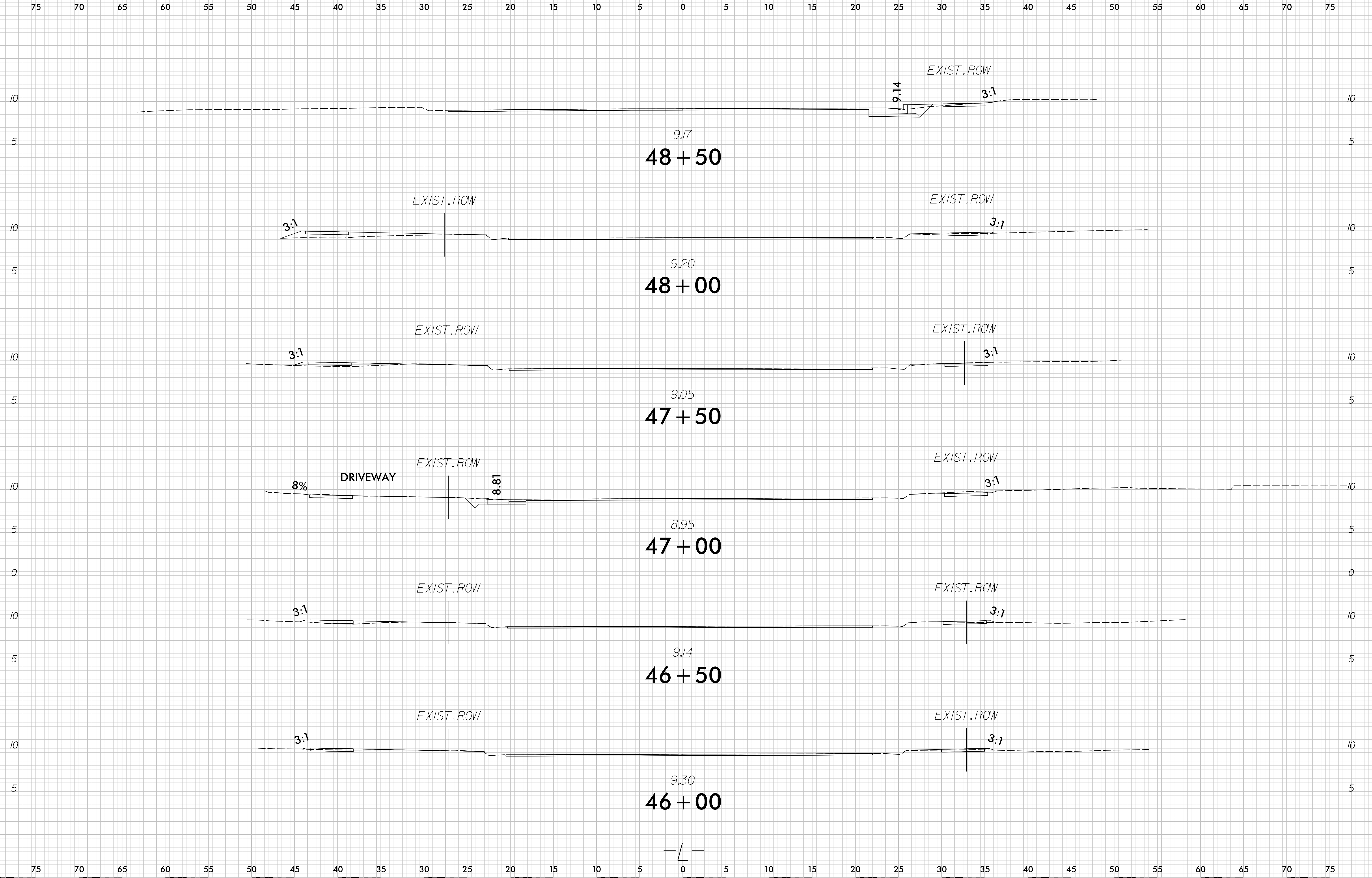
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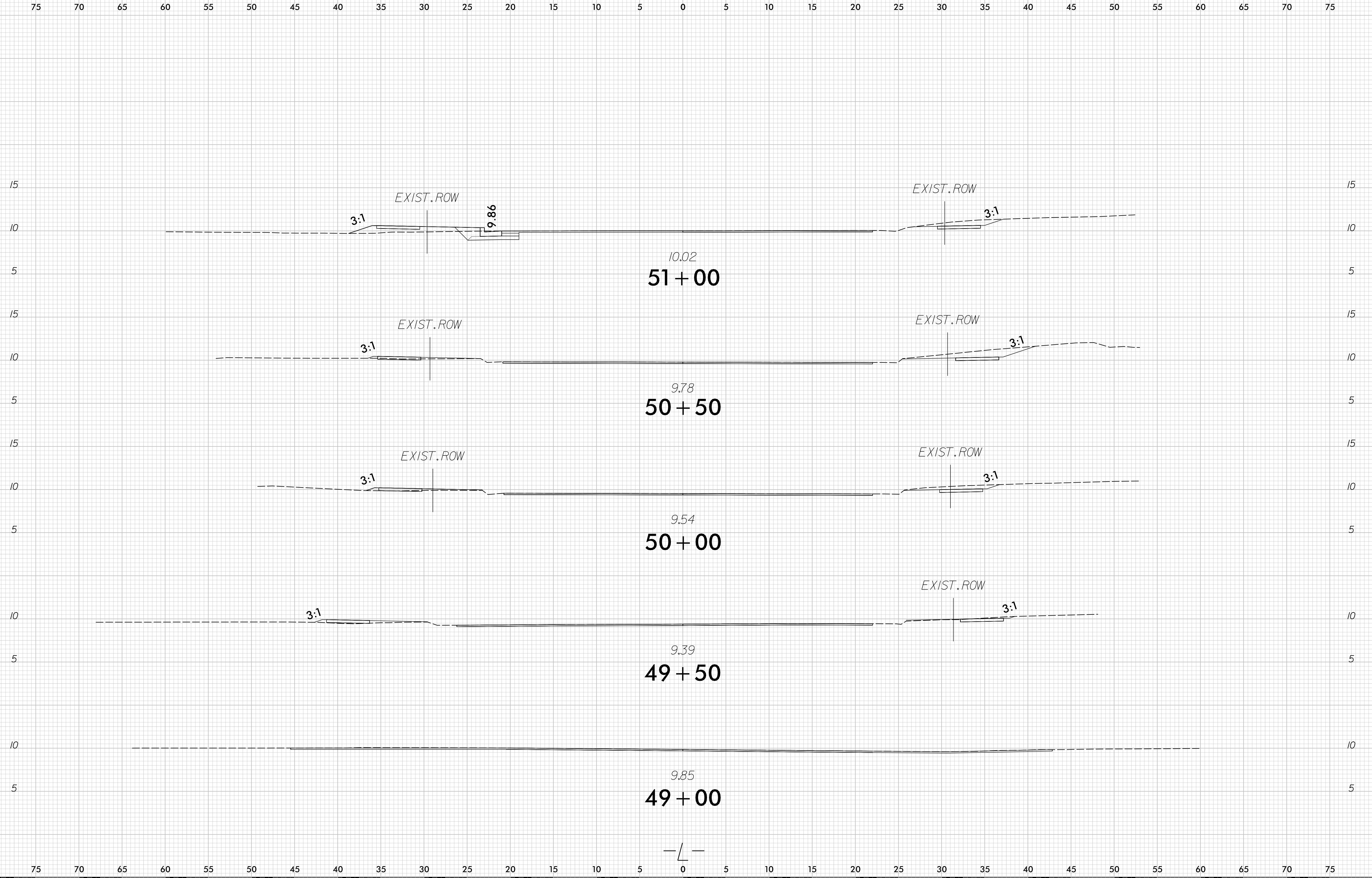
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0 2.5 5	PROJ. REFERENCE NO. U-5992	SHEET NO. X-14
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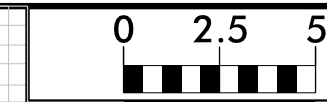
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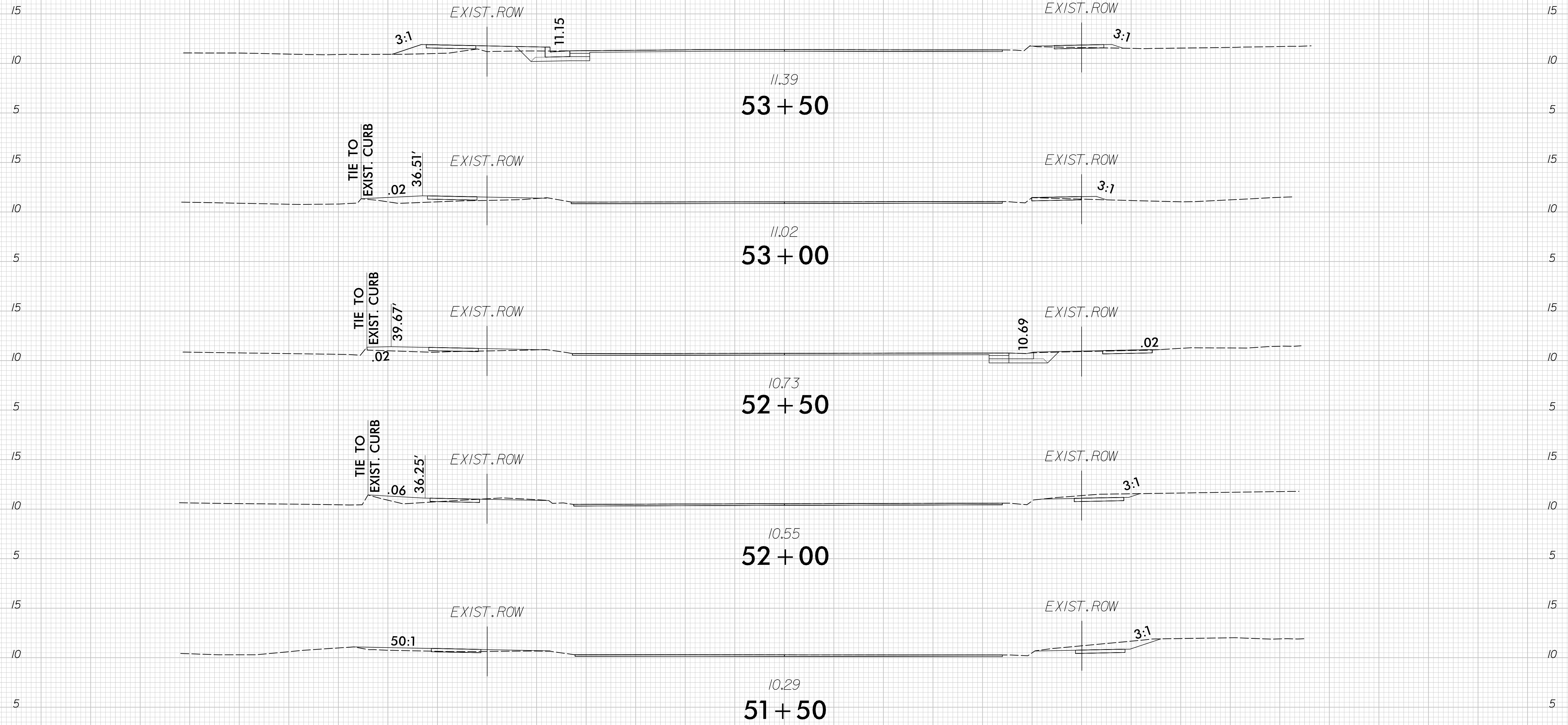
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PROJ. REFERENCE NO.  
U-5992

SHEET NO.  
X-16

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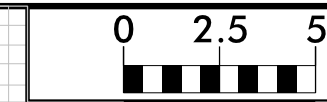


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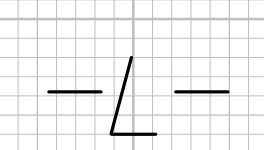
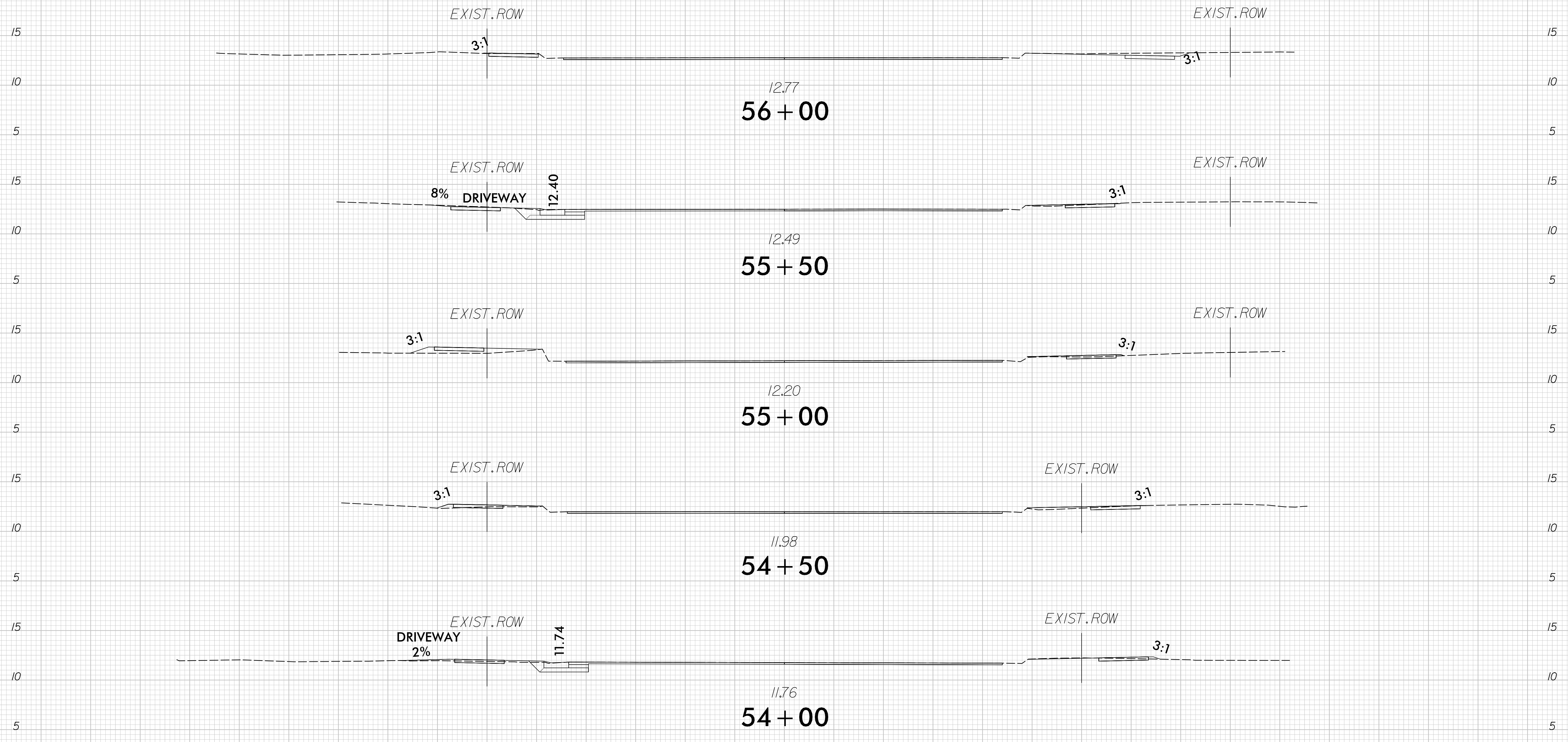
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6/23/16



PROJ. REFERENCE NO.	SHEET NO.
U-5992	X-17

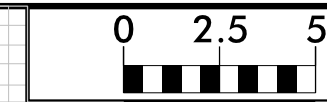
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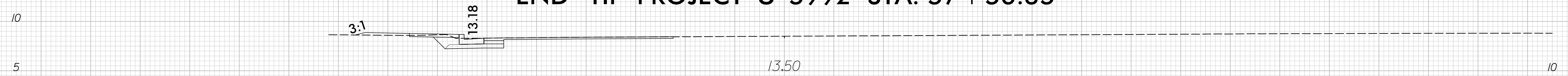
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PROJ. REFERENCE NO.	SHEET NO.
U-5992	X-18

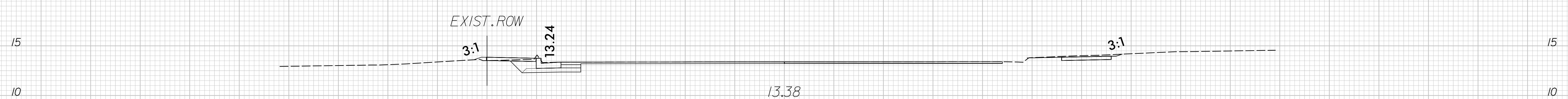
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**END TIP PROJECT U-5992 STA. 57 + 56.35**

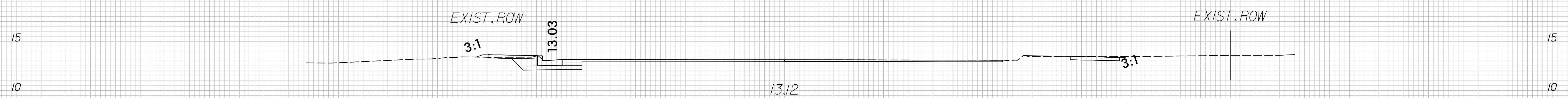


**57 + 50**

**END MILL AND OVERLAY STA. 57 + 47.47**



**57 + 00**



**56 + 50**



75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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