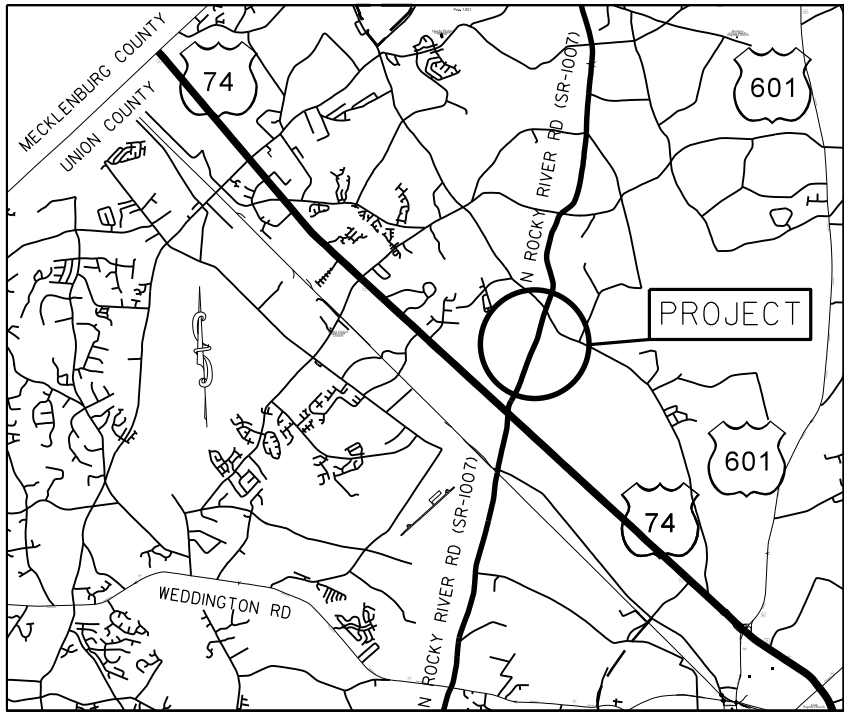


PROJECT: 50129.3.3 TIP:U-5703B



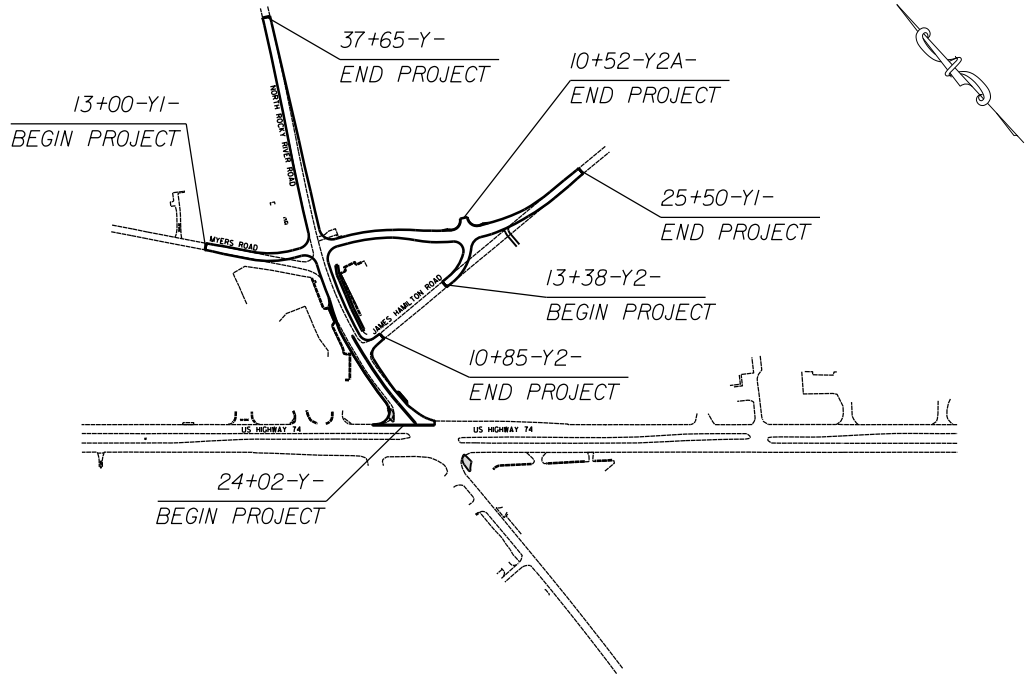
VICINITY MAP NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
UNION COUNTY

LOCATION: REALIGN JAMES HAMILTON TO INTERSECT ROCKY RIVER RD. AT MYERS RD.

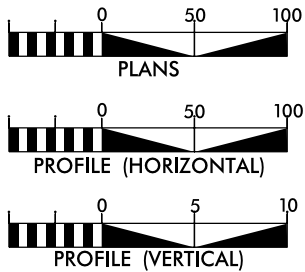
TYPE OF WORK: GRADING, DRAINAGE, PAVING, MONOLITHIC CONCRETE ISLAND, SIGNAL, CURB AND GUTTER, AND THERMOPLASTIC PAVEMENT MARKINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50129.3.3	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50129.1.FS1		P.E.	
50129.2.3		R/W	
50129.3.3		CONST.	



CLEARING ON THIS PROJECT SHALL BE TO THE LIMITS ESTABLISHED BY METHOD III AS DESCRIBED IN THE NCDOT STANDARD DRAWINGS

GRAPHIC SCALES



DESIGN DATA

ADT =
ADT =
DHV = %
D = %
T = %
V = MPH

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT 50129.3.3 = 0.56 MILES
TOTAL LENGTH OF STATE PROJECT 50129.3.3 = 0.56 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
DIVISION TEN
DIVISION DESIGN / CONSTRUCT UNIT

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 27, 2024

LETTING DATE:
AUGUST 20, 2025

DONALD HARWARD
PROJECT ENGINEER

DONALD HARWARD
PROJECT DESIGN ENGINEER



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

07/22/2025



DocuSigned by:
Travis J. Preslar
A53C1AC7A1FF47B...

APPROVED BY
DIVISION PROJECT TEAM LEAD
DATE

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

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	

HYDROLOGY:

Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
Single Tree	
Single Shrub	
Hedge	

VEGETATION:

Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

UTILITIES:

* SUE – Subsurface Utility Engineering
LOS – Level of Service – A,B,C or D (Accuracy)

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 Test Hole (SUE – LOS A)*	
U/G Power Line (SUE – LOS B)*	
U/G Power Line (SUE – LOS C)*	
U/G Power Line (SUE – LOS D)*	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Test Hole (SUE – LOS A)*	
U/G Telephone Cable (SUE – LOS B)*	
U/G Telephone Cable (SUE – LOS C)*	
U/G Telephone Cable (SUE – LOS D)*	
U/G Telephone Conduit (SUE – LOS B)*	
U/G Telephone Conduit (SUE – LOS C)*	
U/G Telephone Conduit (SUE – LOS D)*	
U/G Fiber Optics Cable (SUE – LOS B)*	
U/G Fiber Optics Cable (SUE – LOS C)*	
U/G Fiber Optics Cable (SUE – LOS D)*	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line Test Hole (SUE – LOS A)*	
U/G Water Line (SUE – LOS B)*	
U/G Water Line (SUE – LOS C)*	
U/G Water Line (SUE – LOS D)*	
Above Ground Water Line	

TV:

TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Test Hole (SUE – LOS A)*	
U/G TV Cable (SUE – LOS B)*	
U/G TV Cable (SUE – LOS C)*	
U/G TV Cable (SUE – LOS D)*	
U/G Fiber Optic Cable (SUE – LOS B)*	
U/G Fiber Optic Cable (SUE – LOS C)*	
U/G Fiber Optic Cable (SUE – LOS D)*	

GAS:

Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE – LOS A)*	
U/G Gas Line (SUE – LOS B)*	
U/G Gas Line (SUE – LOS C)*	
U/G Gas Line (SUE – LOS D)*	
Above Ground Gas Line	

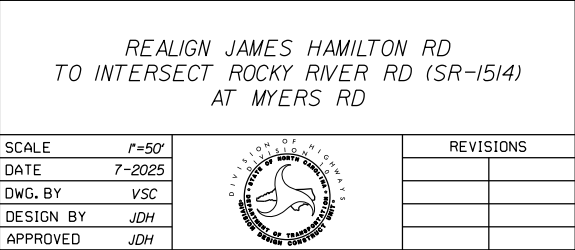
SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE – LOS A)*	
SS Force Main Line (SUE – LOS B)*	
SS Force Main Line (SUE – LOS C)*	
SS Force Main Line (SUE – LOS D)*	

MISCELLANEOUS:

Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE – LOS B)*	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
Abandoned According to Utility Records	
End of Information	

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50I29.3.3	IB	
F.A. PROJECT NO.			



RIGHT OF WAY, EASEMENT AND
PROPOSED ALIGNMENT SHEET

PROJECT NO.	SHEET NO.
50i29.3.3	IC
F.A. PROJECT NO.	

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	473307.1379	1519768.8530
POT	20+89.51	472570.1052	1520571.2376
POT	34+45.98	471652.4801	1521570.2275

Y			
TYPE	STATION	NORTH	EAST
PC	10+00.00	471258.4559	1520453.0925
PCC	14+26.70	471678.5822	1520524.5357
PT	21+78.83	472429.4419	1520566.8451
PC	24+66.60	472717.0804	1520575.8273
PCC	30+43.85	473268.9025	1520726.2442
PRC	33+64.91	473546.3025	1520807.8084
PT	37+95.30	473916.8810	1521106.6215

Y1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	473729.4200	1520284.3940
PC	14+45.72	473370.9652	1520549.2994
PT	15+81.06	473283.6159	1520651.1723
PC	17+54.17	473203.1778	1520804.4682
PRC	19+70.61	473068.7936	1520972.4401
PT	24+31.90	472870.4183	1521374.7732
POT	26+57.17	472859.1895	1521599.7725

Y2			
TYPE	STATION	NORTH	EAST
POT	10+00.00	472909.2315	1520597.0430
PC	13+64.67	472891.0548	1520961.2640
PT	15+23.17	472960.6776	1521095.5059

ROW MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
Y	24+14.94	42.00	472664.1317	1520616.1943
Y	24+66.60	42.00	472715.7695	1520617.8068
Y	24+94.88	-52.14	472748.1529	1520524.9740
Y	25+18.00	-31.68	472770.7143	1520546.9064
Y	26+37.13	42.00	472879.5031	1520634.3359
Y	26+99.91	42.00	472938.9716	1520646.1153
Y	29+65.61	42.00	473181.3412	1520728.9210
Y	30+72.83	-30.01	473308.8254	1520713.9756
Y	30+76.00	42.00	473276.6890	1520778.4897
Y	33+64.91	42.00	473524.2147	1520923.5314
Y	35+00.00	42.00	473640.0247	1520994.1171
Y	36+00.00	29.80	473732.5139	1521034.8931

ROW MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
Y1	14+79.77	-30.00	473365.2359	1520592.9969
Y1	15+81.06	-30.00	473310.1808	1520665.1115
Y1	16+02.97	-30.00	473300.0004	1520684.5129
Y1	17+18.89	32.27	473190.9990	1520758.2250
Y1	17+20.00	-30.00	473245.6219	1520788.1456
Y1	17+53.05	32.04	473175.3286	1520788.5899
Y1	17+54.17	-30.00	473229.7428	1520818.4074
Y1	19+70.07	31.28	473048.9230	1520948.2754
Y1	19+70.61	-30.00	473088.2231	1520995.2983
Y1	20+83.73	30.41	472966.5766	1521035.0193
Y1	24+03.49	-30.00	472902.3966	1521349.4457

ROW MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
Y2	14+56.35	-30.00	472939.2797	1521032.6136
Y2	13+87.99	-30.00	472921.5366	1520981.3872

PERMANENT UTILITY EASEMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
Y	26+00.00	42.00	472844.0713	1520628.8034
Y	26+38.02	49.22	472879.1254	1520641.5977
Y	27+01.69	52.00	472938.4447	1520656.2476
Y	29+75.49	52.00	473185.6584	1520742.0204
Y	30+61.50	57.00	473256.8449	1520784.6574
Y	33+64.91	57.00	473516.3262	1520936.2896
Y	34+50.00	57.00	473589.2697	1520980.9857

PERMANENT DRAINAGE EASEMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
Y1	21+83.00	-30.00	472962.7653	1521150.9676
Y1	22+03.00	-57.00	472978.3968	1521179.6933
Y1	22+11.00	-30.00	472950.8630	1521174.6560
Y1	22+22.00	-45.00	472960.1986	1521190.2539

I, Barry D. Davis, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item, R/W and Easement Staking, was performed under my responsible charge meeting NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures as of 2017. Those standards can be found at <https://connect.ncdot.gov/resources/Location/Pages/>.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from survey control established under my supervision; that the depicted property data shown herein were surveyed under my supervision; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (see deeds for final determination).

Witness my signature, registration number and seal this 21st day of July 2025

Barry D. Davis, DocuSigned by: PLS* L-4384
Professional Land Surveyor

Barry Davis

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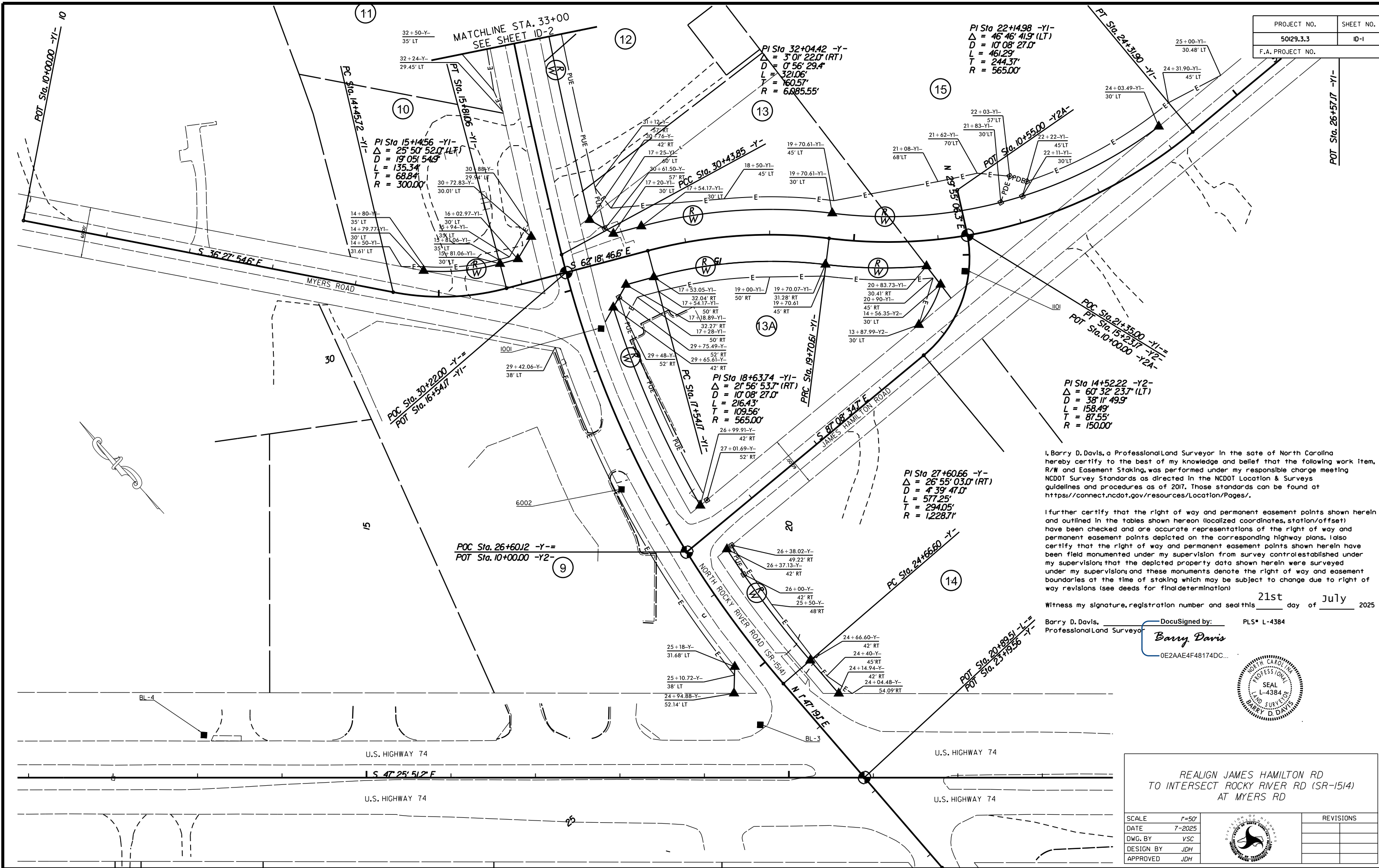
NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED BY THE DIVISION 10 DDC UNIT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE DIVISION 10 DDC UNIT.

REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	1"=50'		REVISIONS	
DATE	7-2025			
DWG. BY	VSC			
DESIGN BY	JDH			
APPROVED	JDH			

PROJECT NO.	SHEET NO.
50I29.3.3	10-1
F.A. PROJECT NO.	



I, Barry D. Davis, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item, R/W and Easement Staking, was performed under my responsible charge meeting NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures as of 2017. Those standards can be found at <https://connect.ncdot.gov/resources/Location/Pages/>.

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Witness my signature, registration number and seal this 21st day of July 2025

Barry D. Davis, Professional Land Surveyor

DocuSigned by: PLS# L-4384

Barry Davis

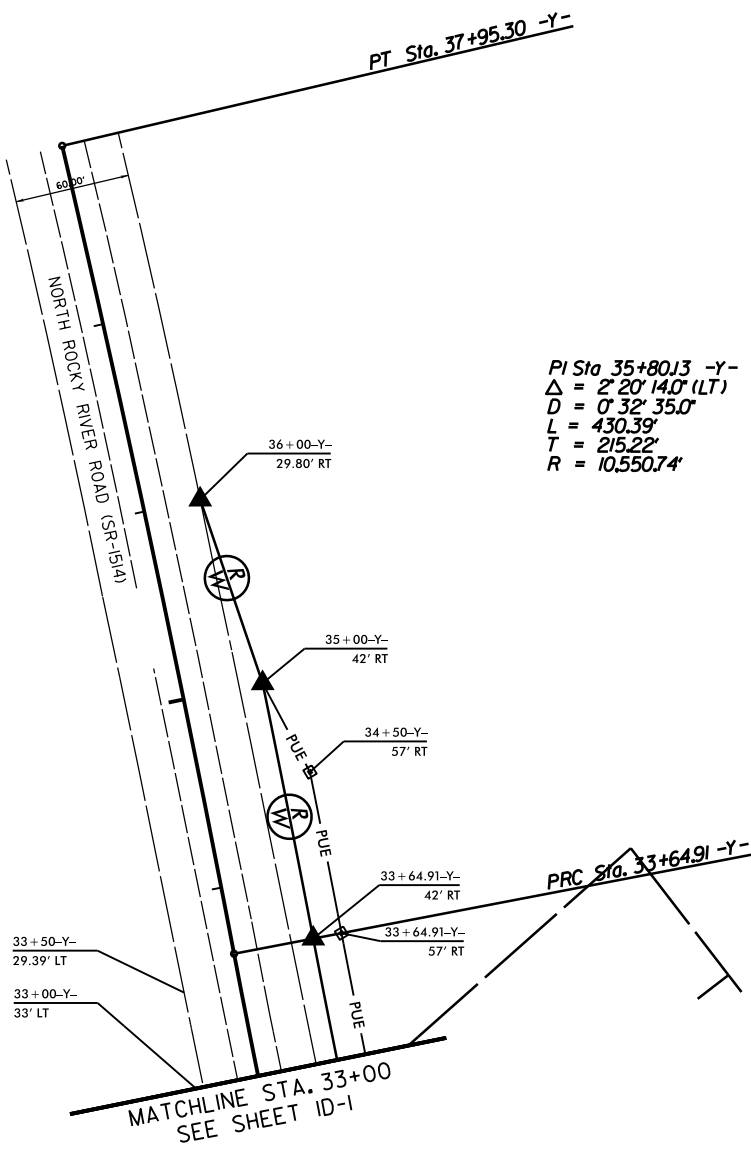
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REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	1"=50'	REVISIONS
DATE	7-2025	
DWG. BY	VSC	
DESIGN BY	JDH	
APPROVED	JDH	

PROJECT NO.	SHEET NO.
50I29.3.3	ID-2
F.A. PROJECT NO.	



I, Barry D. Davis, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item, R/W and Easement Staking, was performed under my responsible charge meeting NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures as of 2017. Those standards can be found at <https://connect.ncdot.gov/resources/Location/Pages/>.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from survey control established under my supervision; that the depicted property data shown herein were surveyed under my supervision; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (see deeds for final determination)

Witness my signature, registration number and seal this 21st day of July 2025

Barry D. Davis, DocuSigned by: Barry D. Davis PLS# L-4384
Professional Land Surveyor
0E2AAE4F48174DC...

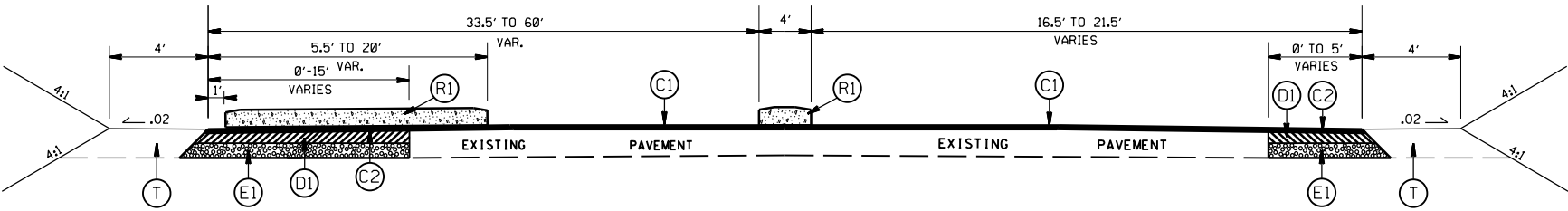


REALIGN JAMES HAMILTON RD TO INTERSECT ROCKY RIVER RD (SR-1514) AT MYERS RD		
SCALE	1"=50'	REVISIONS
DATE	7-2025	
DWG. BY	VSC	
DESIGN BY	JDH	
APPROVED	JDH	

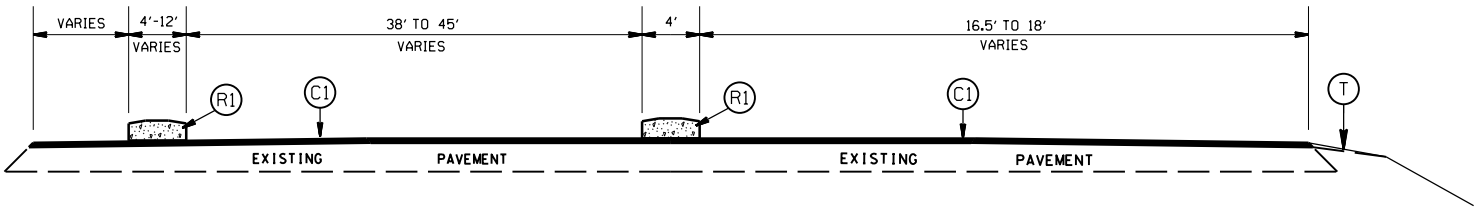
PROJECT NO.
50i29.3.3
F.A. PROJECT NO.

SHEET NO.
2

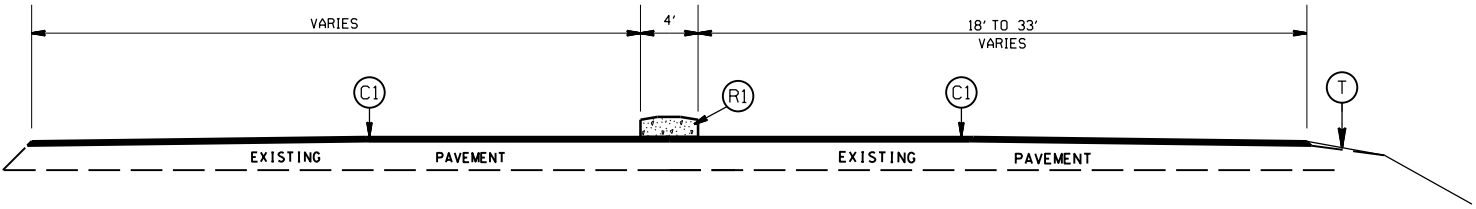
ROADWAY DESIGN
ENGINEER
07/22/2025
SEAL
042673
JAMES HAMILTON
DIVISION OF HIGHWAYS
STATE OF MISSISSIPPI



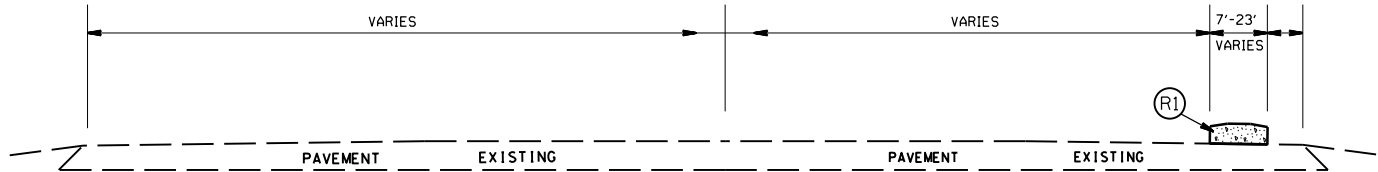
TYPICAL SECTION NO.4
STA 24+40.26 TO 24+67.81 -Y-



TYPICAL SECTION NO.3
STA 24+32.11 TO 24+40.26 -Y-



TYPICAL SECTION NO.2
STA 23+80.62 TO 24+32.11 -Y-



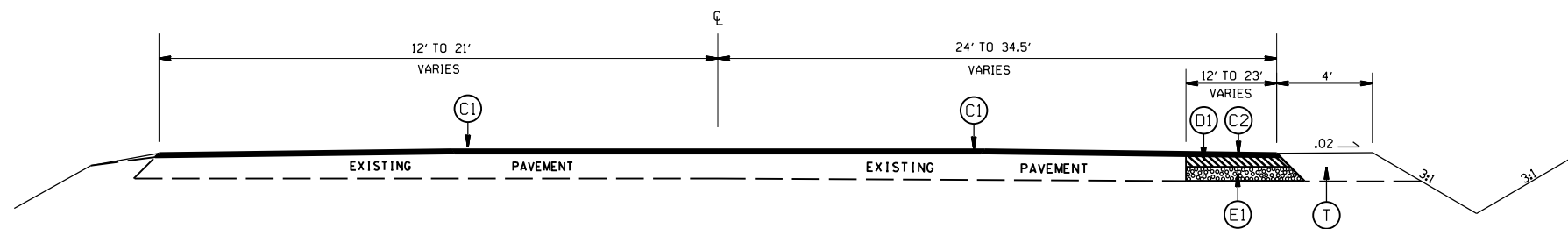
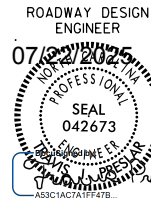
TYPICAL SECTION NO.1
STA 21+57.00 TO 22+08.00 -Y-

PAVEMENT SCHEDULE

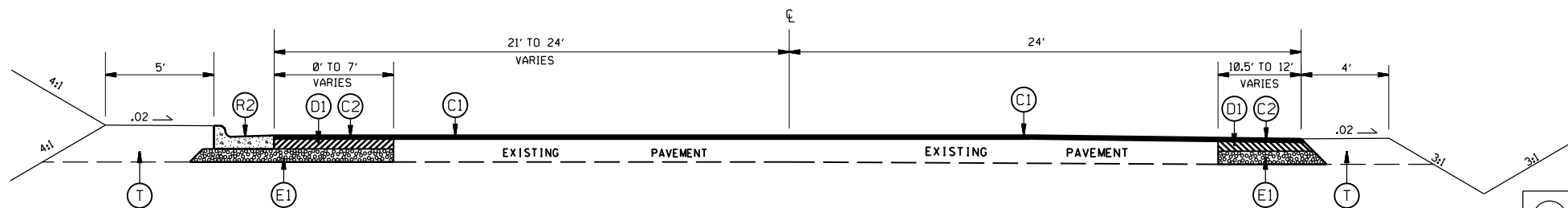
C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R2	PROP. 2'-6" CURB & GUTTER
T	EARTH MATERIAL

RELIGN JAMES HAMILTON RD
TO INTERSECTION ROCKY RIVER RD (SR-1514)
AT MYERS RD

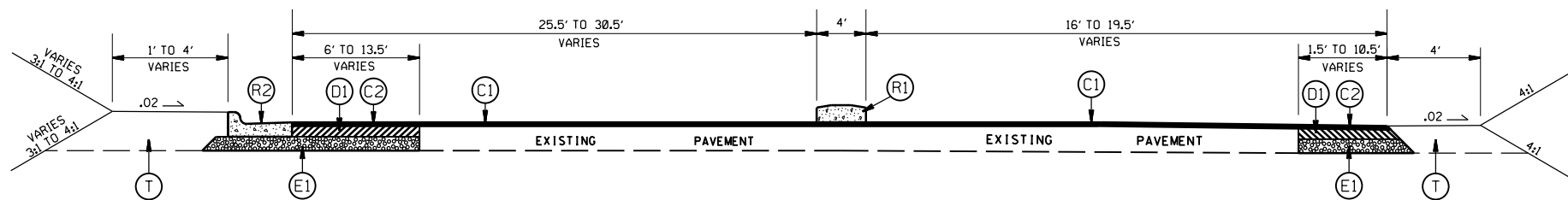
SCALE	N/A		REVISIONS	
DATE	7-2025			
DWG. BY	VSC			
DESIGN BY	JDH			
APPROVED	JDH			



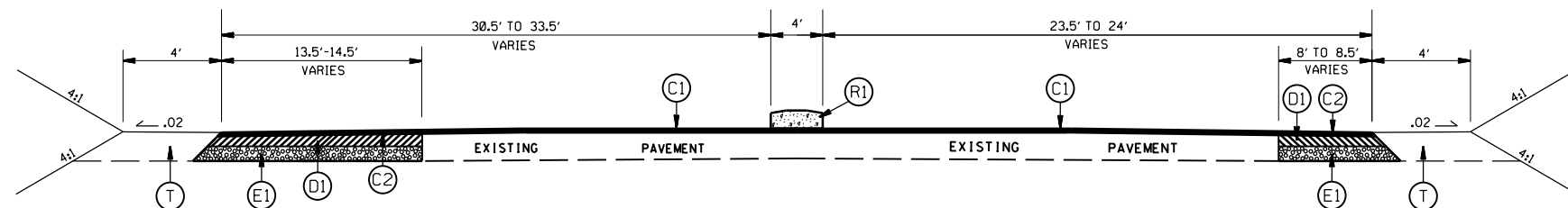
TYPICAL SECTION NO.8
STA 27+81.16 TO 29+95.52 -Y-



TYPICAL SECTION NO.7
STA 27+22.97 TO 27+81.16 -Y-



TYPICAL SECTION NO.6
STA 24+71.38 TO 27+22.97 -Y-



TYPICAL SECTION NO.5
STA 24+67.81 TO 24+71.38 -Y-

PAVEMENT SCHEDULE

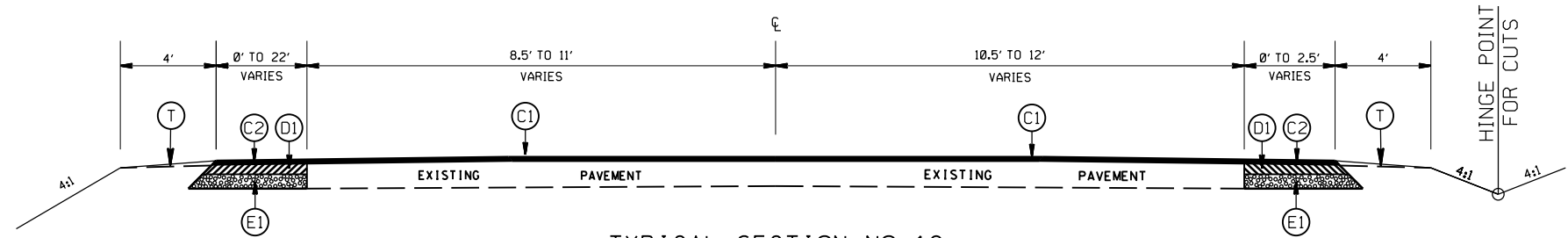
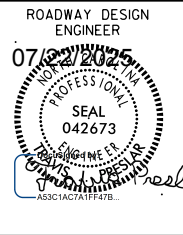
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RELIGN JAMES HAMILTON RD
TO INTERSECTION ROCKY RIVER RD (SR-1514)
AT MYERS RD

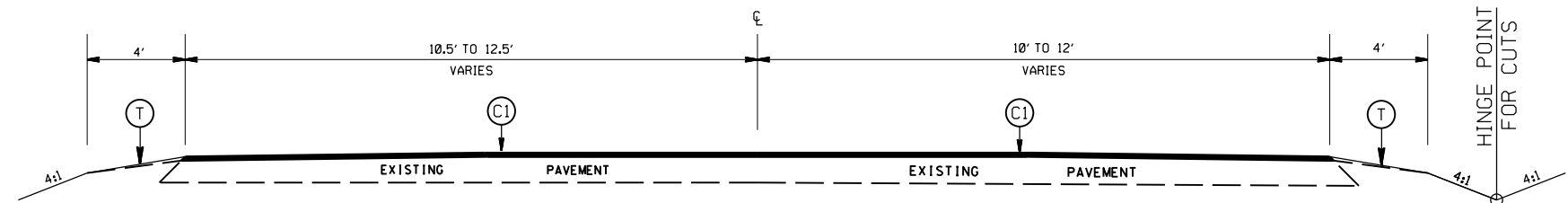
SCALE	N/A
DATE	7-2025
DWG. BY	VSC
DESIGN BY	JDH
APPROVED	JDH



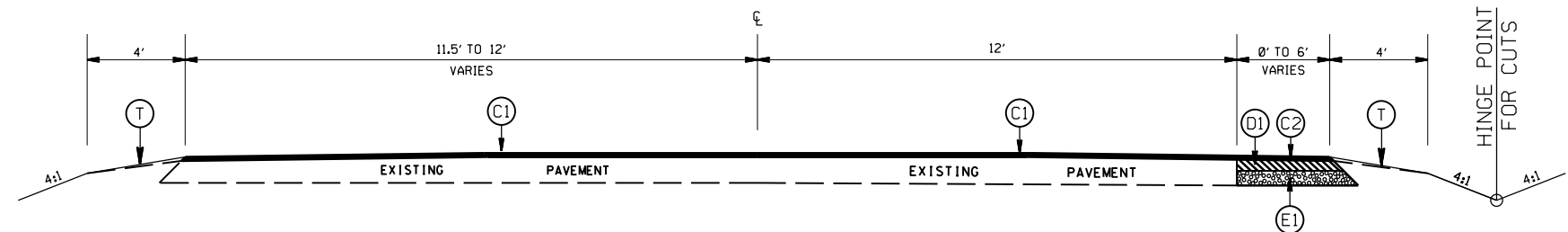
REVISIONS	



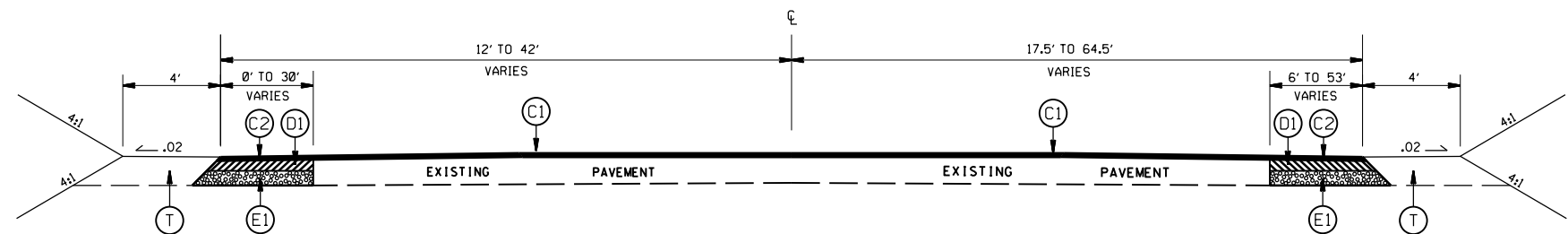
TYPICAL SECTION NO.12
STA 13+25.00 TO 14+76.92 -Y1-
STA 24+00.00 TO 25+25.00 -Y1-
STA 10+31.51 TO 10+44.13 -Y2-
STA 13+38.00 TO 13+72.44 -Y2-



TYPICAL SECTION NO.11
STA 37+40.00 TO 37+65.00 -Y-
STA 13+00.00 TO 13+25.00 -Y1-
STA 25+25.00 TO 25+50.00 -Y1-
STA 10+59.36 TO 10+84.36 -Y2-



TYPICAL SECTION NO.10
STA 34+43.06 TO 37+40.00 -Y-



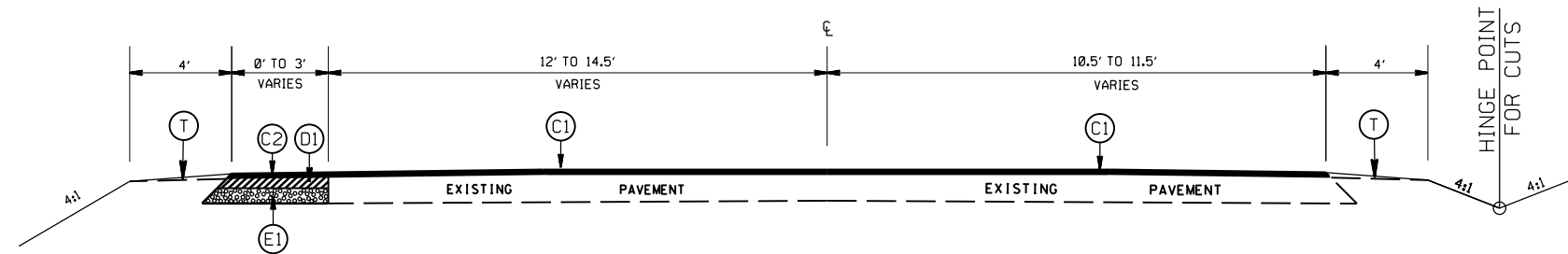
TYPICAL SECTION NO.9
STA 29+95.52 TO 30+09.33 -Y-
STA 30+34.67 TO 34+43.06 -Y-

PAVEMENT SCHEDULE

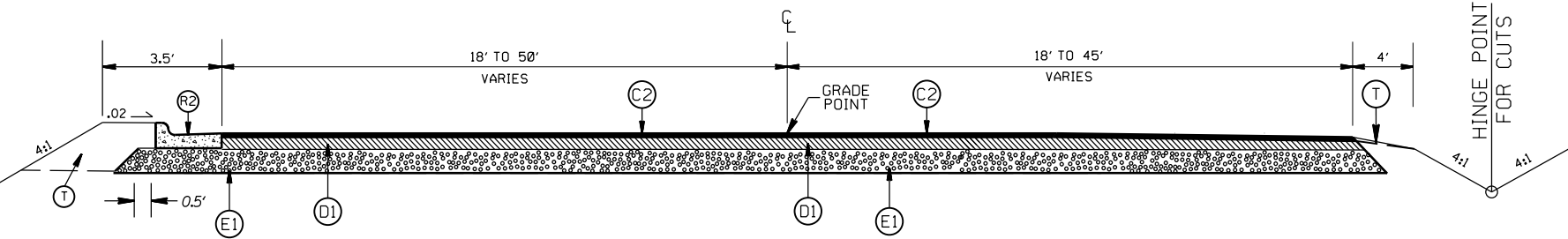
C1	PROP. APPROX. 1 1/2" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R2	PROP. 2'-6" CURB & GUTTER
T	EARTH MATERIAL

RELIGN JAMES HAMILTON RD
TO INTERSECTION ROCKY RIVER RD (SR-1514)
AT MYERS RD

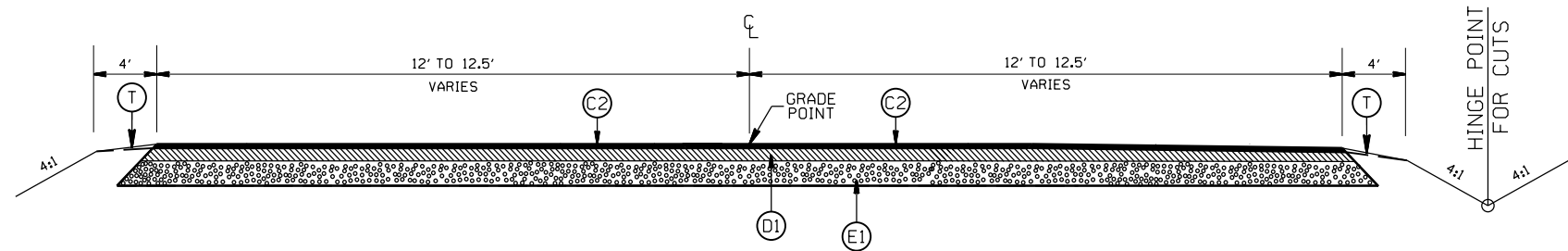
SCALE	N/A		REVISIONS
DATE	7-2025		
DWG. BY	VSC		
DESIGN BY	JDH		
APPROVED	JDH		



TYPICAL SECTION NO.15
STA 10+44.13 TO 10+59.36 -Y2-



TYPICAL SECTION NO.14
STA 20+75.40 TO 21+16.19 -Y1-
STA 21+44.13 TO 21+88.88 -Y1-



TYPICAL SECTION NO.13
STA 14+76.92 TO 16+43.50 -Y1-
STA 16+79.30 TO 20+75.00 -Y1-
STA 21+88.88 TO 24+00.00 -Y1-
STA 13+72.44 TO 15+00.62 -Y2-

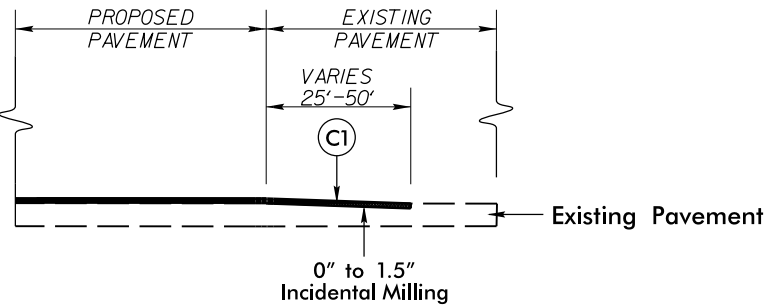
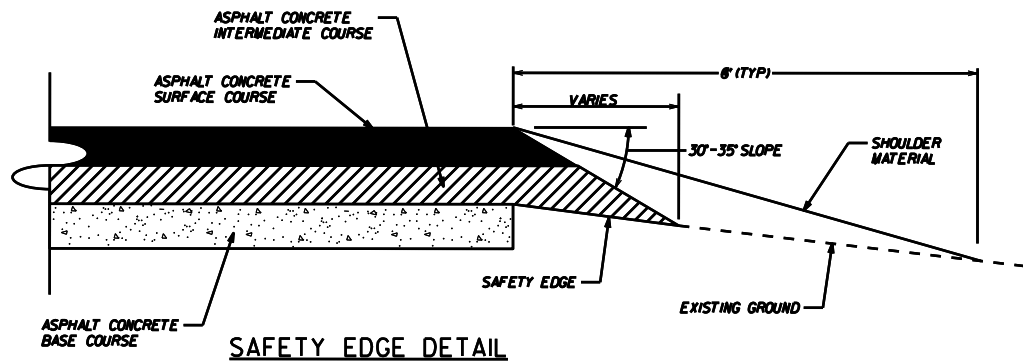
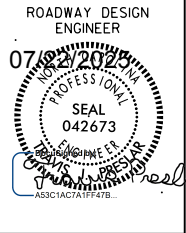
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R2	PROP. 2'-6" CURB & GUTTER
T	EARTH MATERIAL

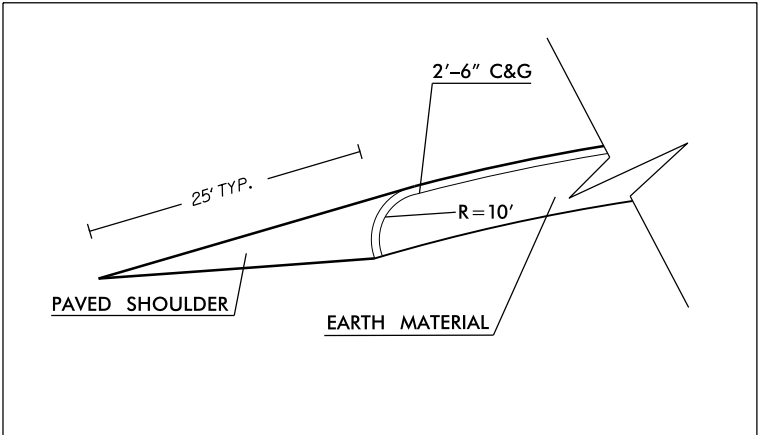
RELIGN JAMES HAMILTON RD
TO INTERSECTION ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	N/A		REVISIONS	
DATE	7-2025			
DWG. BY	VSC			
DESIGN BY	JDH			
APPROVED	JDH			

PROJECT NO.	SHEET NO.
50i29.3.3	2D
F.A. PROJECT NO.	



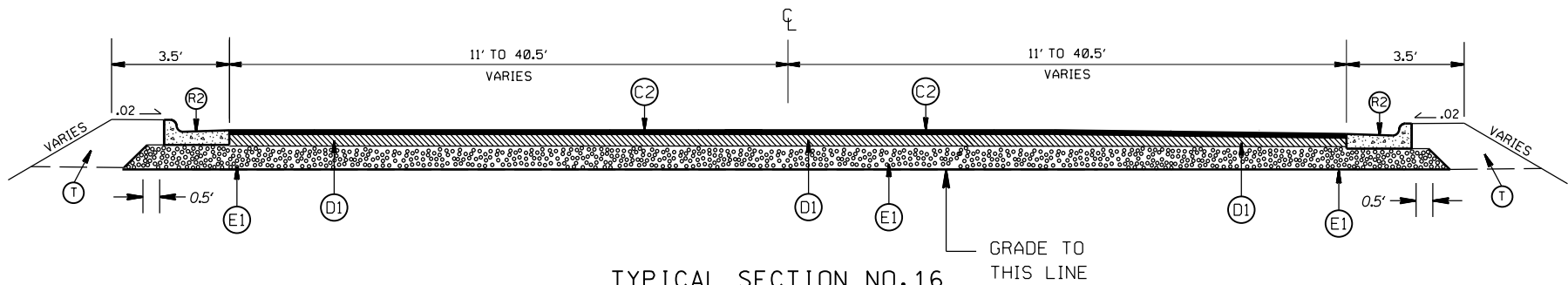
INCIDENTAL MILLING DETAIL
EXISTING ROAD TIE-IN
PROJECT TIE-INS



CURB DETAIL

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
D1	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
R1	PROP. 5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R2	PROP. 2'-6" CURB & GUTTER
T	EARTH MATERIAL

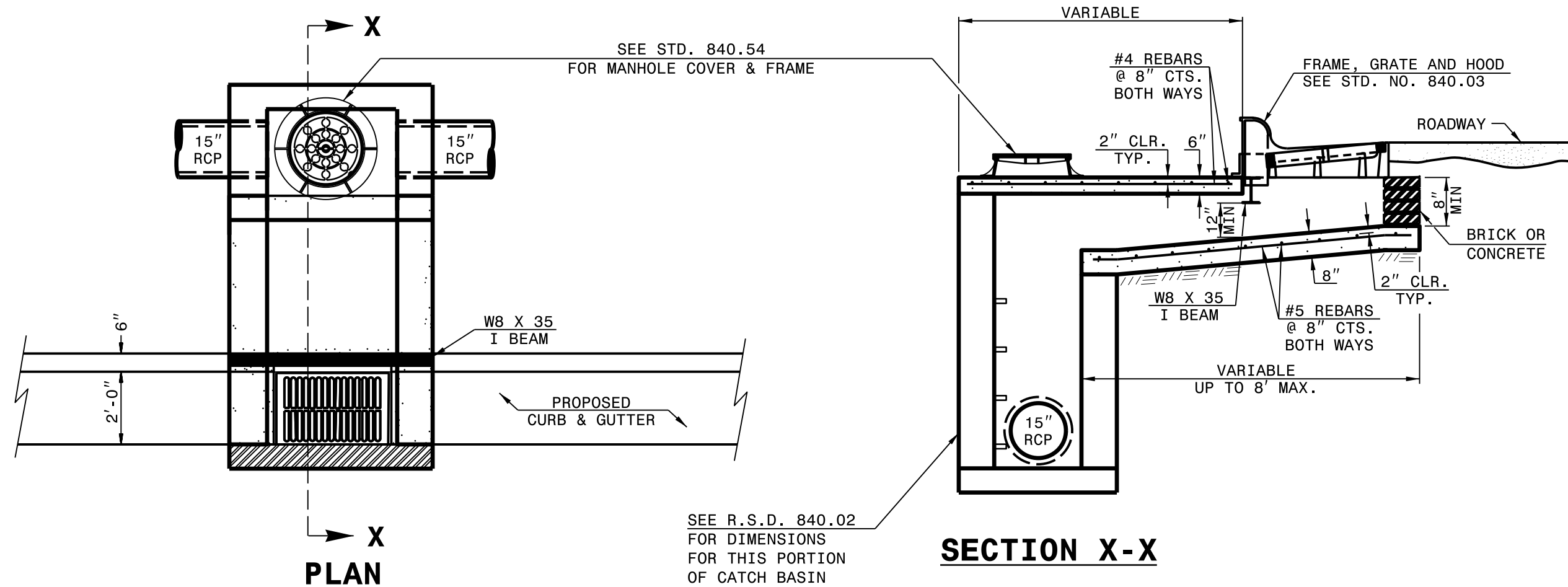


TYPICAL SECTION NO.16
STA 10+17.32 TO 10+51.72 -Y2A-

RELIGN JAMES HAMILTON RD
TO INTERSECTION ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	N/A		REVISIONS	
DATE	7-2025			
DWG. BY	VSC			
DESIGN BY	JDH			
APPROVED	JDH			

PROPOSED OFFSET CATCH BASIN DETAIL



NOTES:

MORTAR JOINTS $\frac{1}{2}$ " TO $\frac{1}{4}$ " THICK.

USE CLASS "B" CONCRETE THROUGHOUT.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66

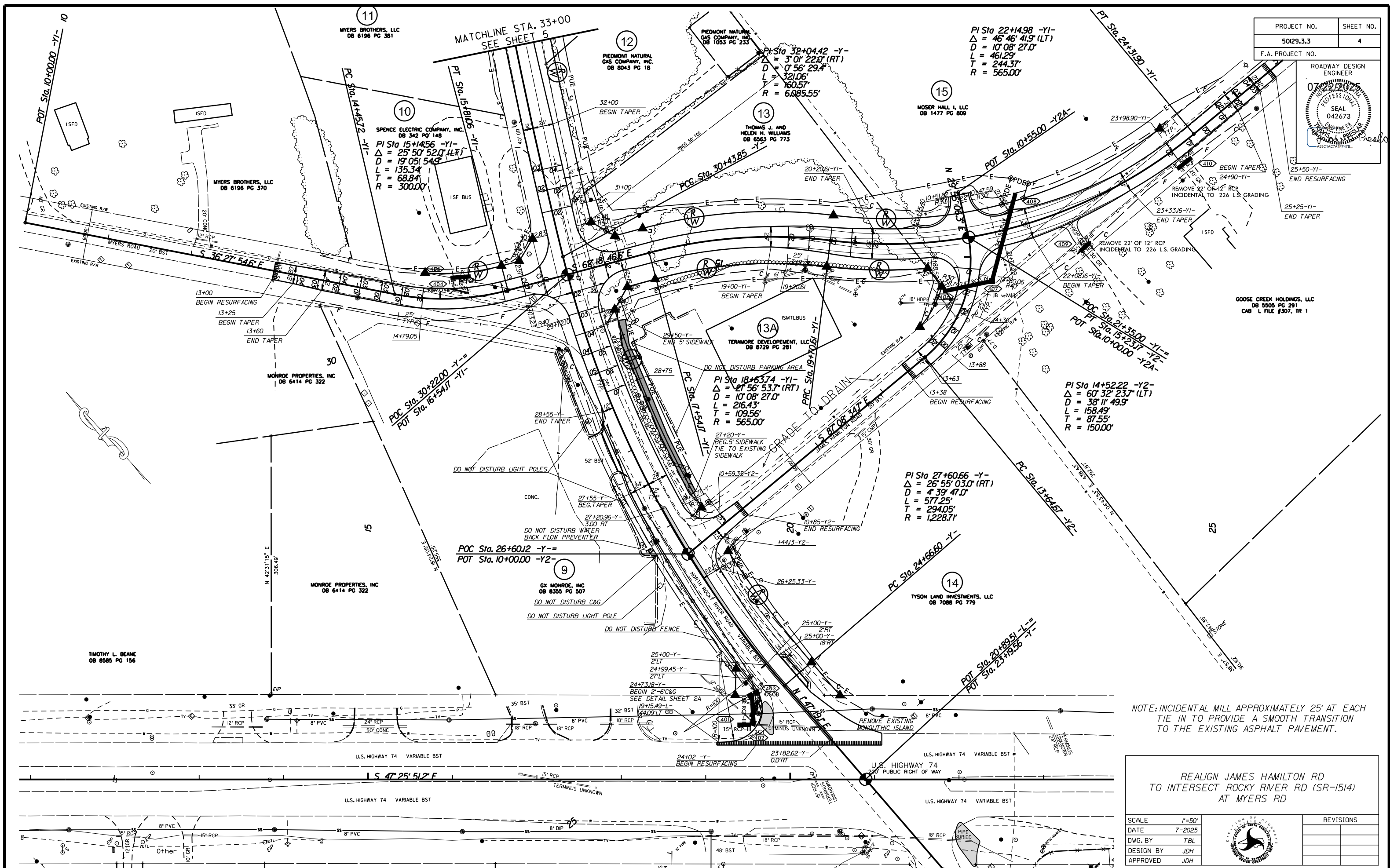
RELIGN JAMES HAMILTON RD
TO INTERSECTION ROCKY RIVER RD (SR-151/4)
AT MYERS RD

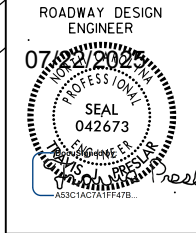
SCALE	N/A		REVISIONS	
DATE	7-2025			
DWG. BY	VSC			
DESIGN BY	JDH			
APPROVED	JDH			

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

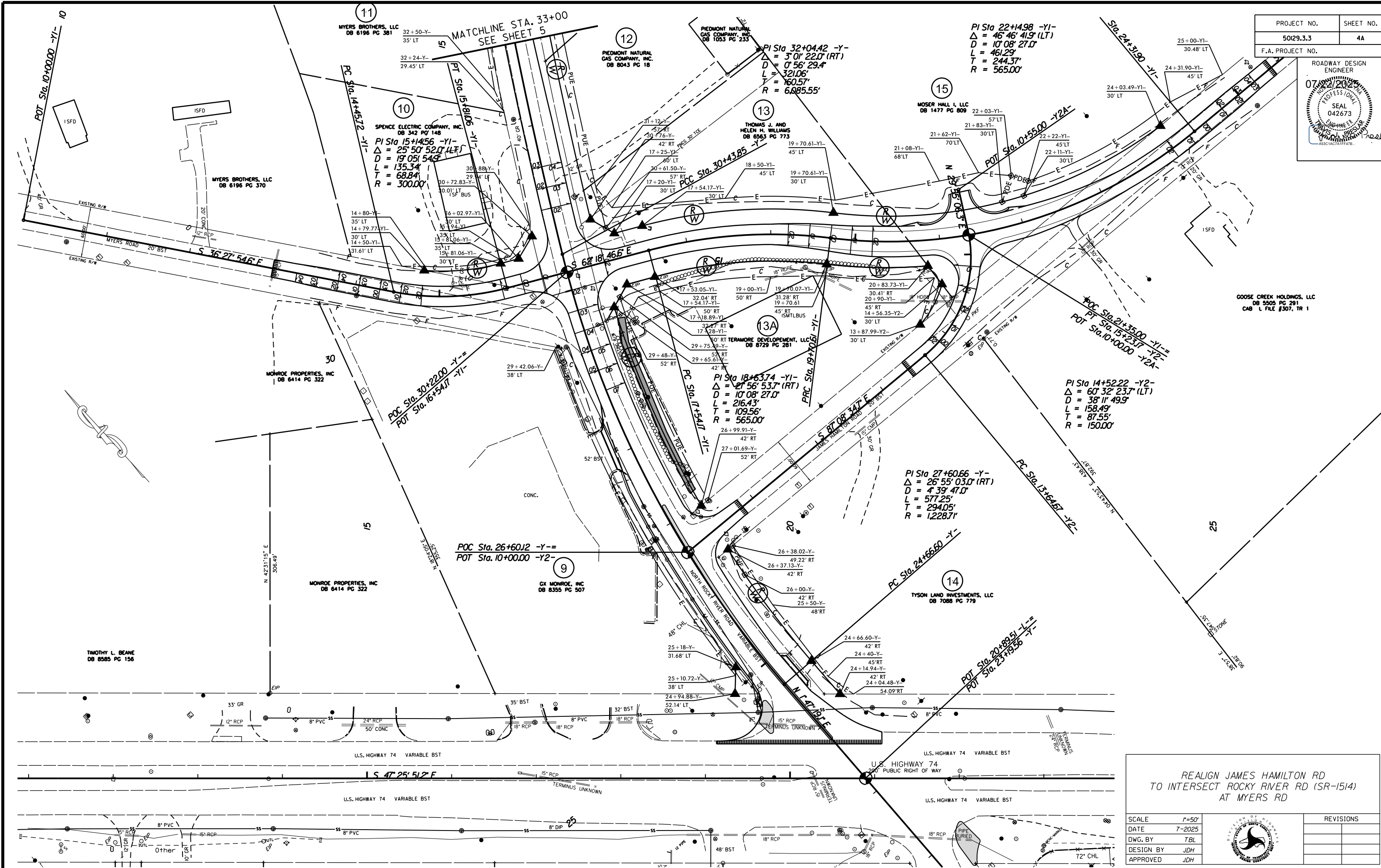
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUB-REGIONAL & REGIONAL
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

[illegible]





GOOSE CREEK HOLDINGS, LLC
DB 5505 PG 291
CAB L FILE #307, TR 1



REALIGN JAMES HAMILTON RD TO INTERSECT ROCKY RIVER RD (SR-1514) AT MYERS RD		REVISIONS	
SCALE	1"=50'		
DATE	7-2025		
DWG. BY	TBL		
DESIGN BY	JDH		
APPROVED	JDH		

PROJECT NO.	SHEET NO.
50i29.3.3	5
F.A. PROJECT NO.	

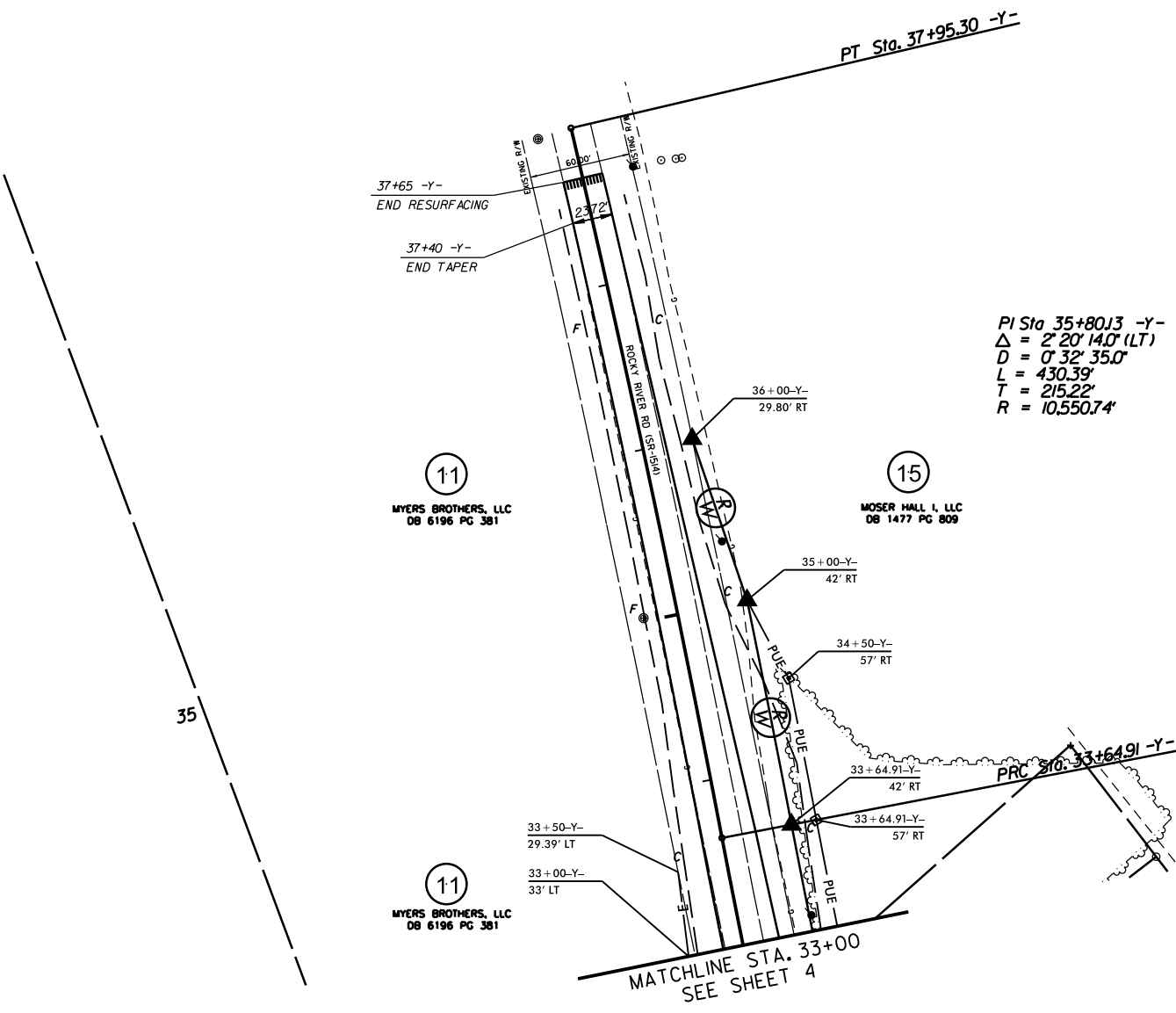
ROADWAY DESIGN
ENGINEER

07/22/2025

PROFESSIONAL
SEAL
042673

STATE OF MISSISSIPPI

JOHN D. HAMILTON



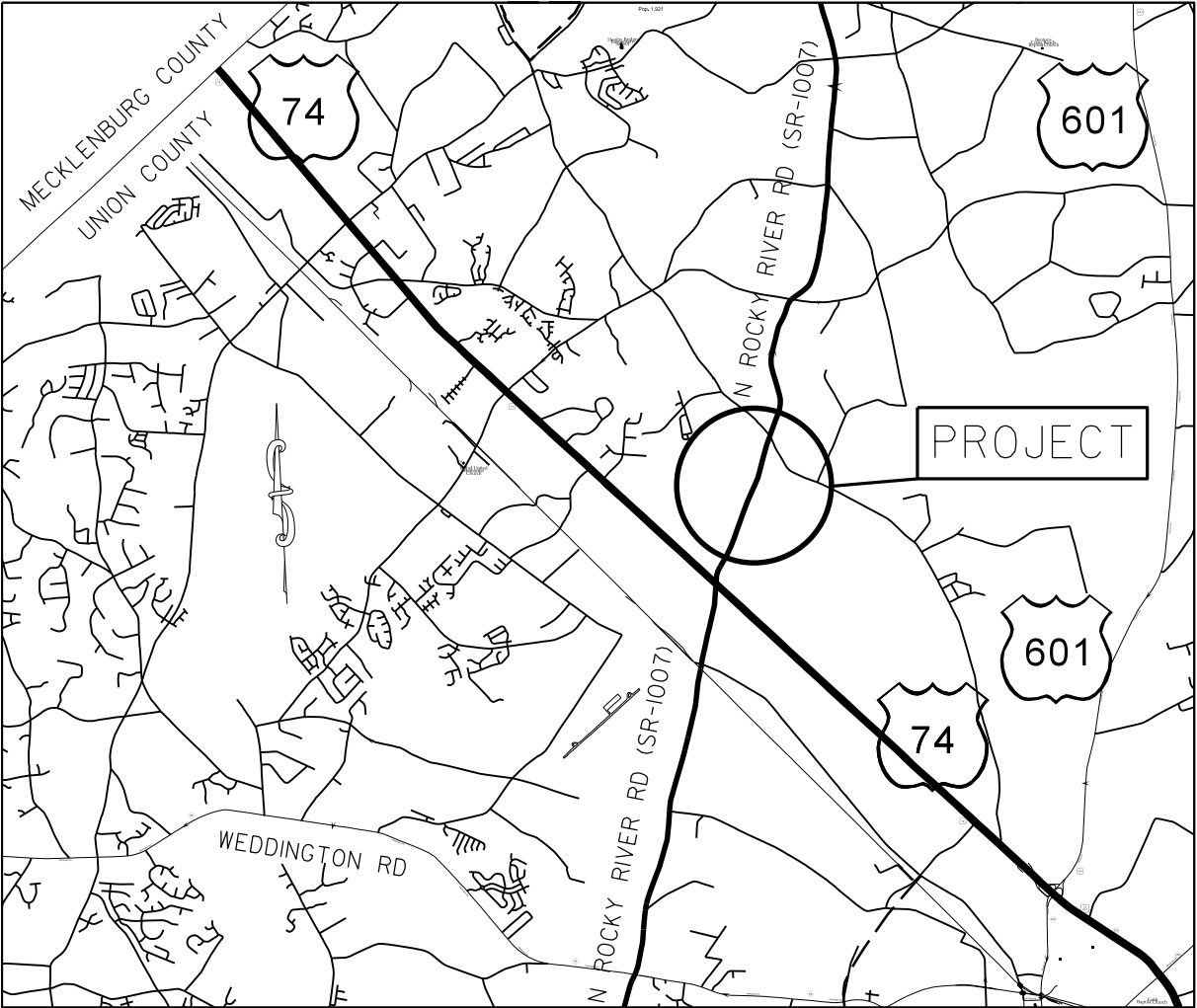
NOTE: INCIDENTAL MILL APPROXIMATELY 25' AT EACH
TIE IN TO PROVIDE A SMOOTH TRANSITION
TO THE EXISTING ASPHALT PAVEMENT.

REALIGN JAMES HAMILTON RD TO INTERSECT ROCKY RIVER RD (SR-1514) AT MYERS RD	
SCALE	1"=50'
DATE	7-2025
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	JDH
	
REVISIONS	

21-JUL-2025 13:54
4:14 PM
\\F:\GIS\Projects\2025\5703B\U-5703B-us74 -Rocky river-undr-EC-tshdgn
163301

TIP PROJECT: U-5703B

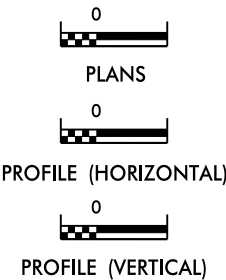
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL



VICINITY MAP NOT TO SCALE

INSTALL PERIMETER EROSION
CONTROL MEASURES
DURING INITIAL CLEARING PHASE

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:
DDC UNIT DIVISION 10
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2024 STANDARD SPECIFICATIONS

Designed by:
VITALIY CHEPEL **4658**
NAME LEVEL III CERTIFICATION NO.

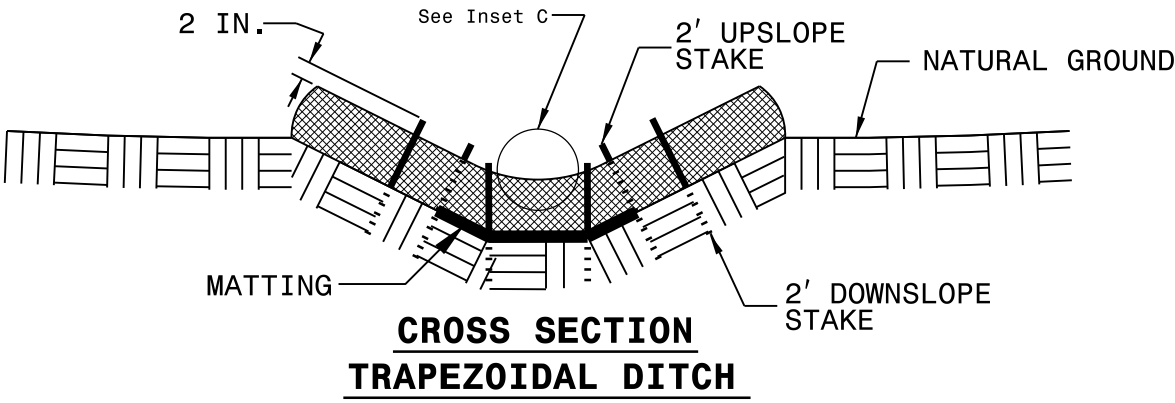
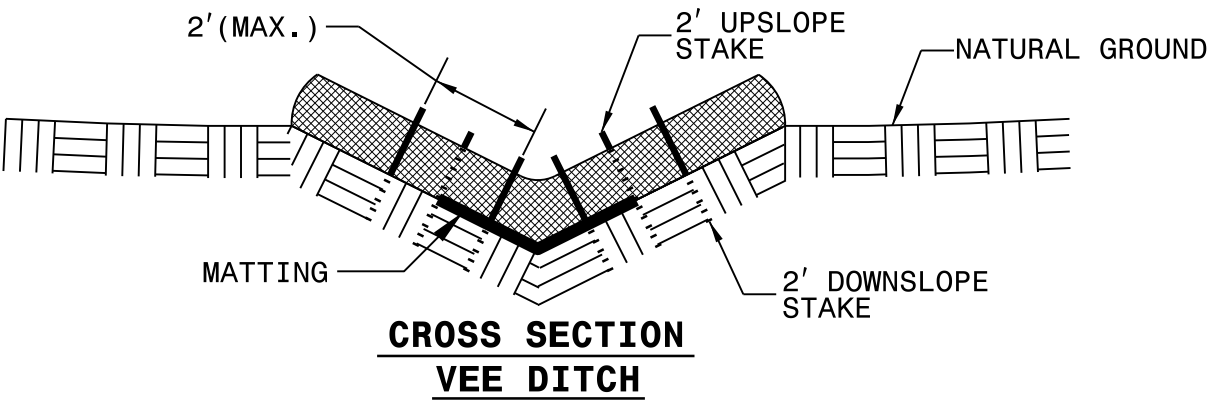
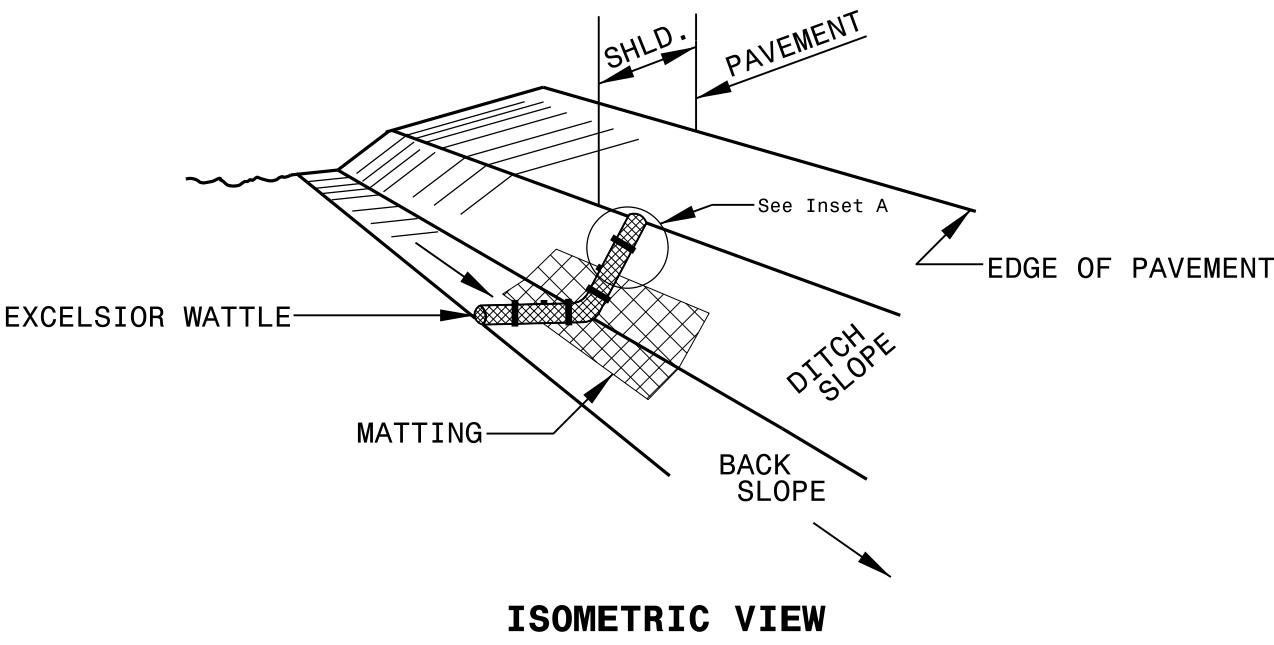
Roadway Standard Drawings	
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered 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 J
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 J
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type J	1634.02 Temporary Rock Sediment Dam Type J
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 J
1630.05 Temporary Diversion	1640.01 Coir Fiber Jaffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	50129.3.3	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50129.1.3		P.E.	
50129.2.3		R/W	
50129.3.3		CONST.	

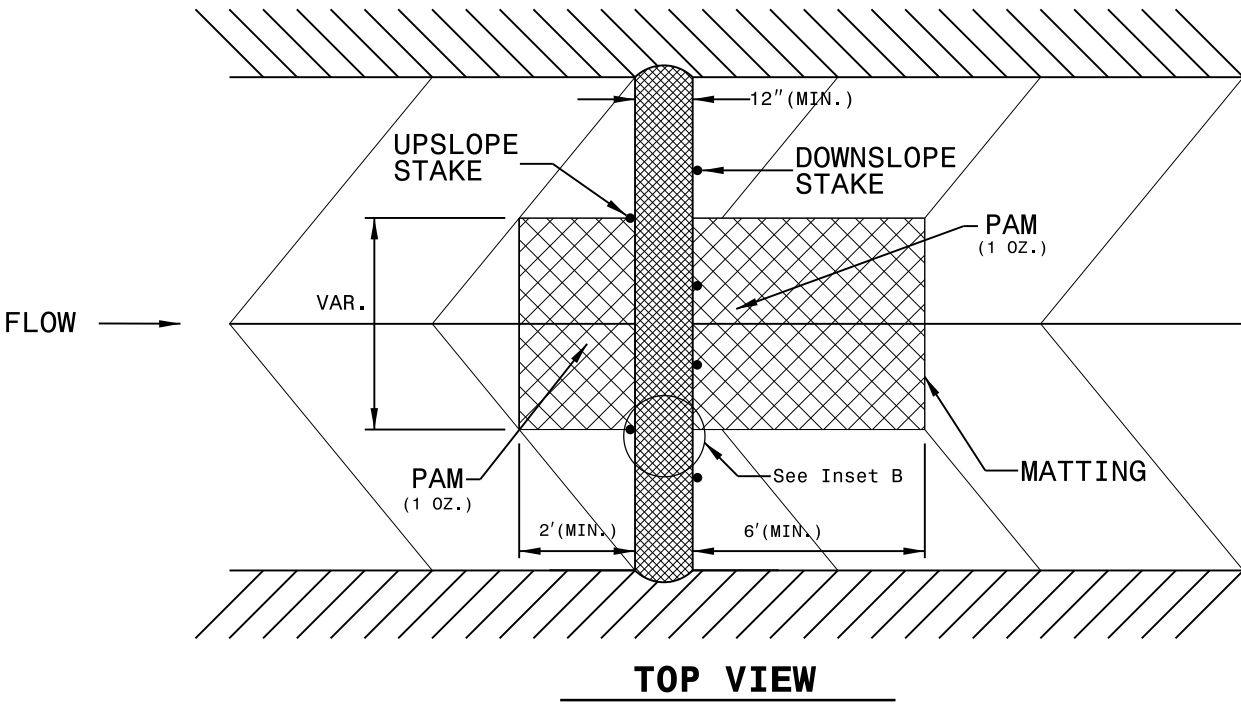
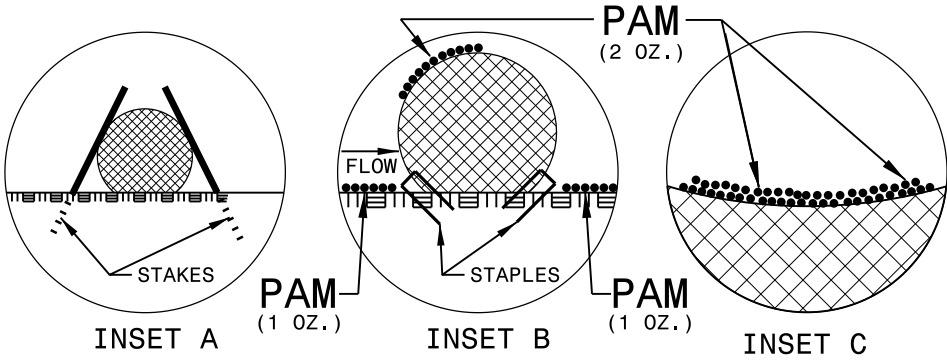
EROSION AND SEDIMENT CONTROL MEASURES

Sta. #	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	III III III
1622.01	Temporary Berms and Slope Drains	TD
1630.02	Silt Basin Type B	TD
1633.01	Temporary Rock Silt Check Type-A	TD
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TD
1633.02	Temporary Rock Silt Check Type-B	TD
	Wattle / Coir Fiber Wattle	TD
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	TD
1634.01	Temporary Rock Sediment Dam Type-A	TD
1634.02	Temporary Rock Sediment Dam Type-B	TD
1635.01	Rock Pipe Inlet Sediment Trap Type-A	TD
1635.02	Rock Pipe Inlet Sediment Trap Type-B	TD
1630.04	Stilling Basin	TD
1630.06	Special Stilling Basin	TD
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	TD
	Tiered Skimmer Basin	TD
	Infiltration Basin	TD

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

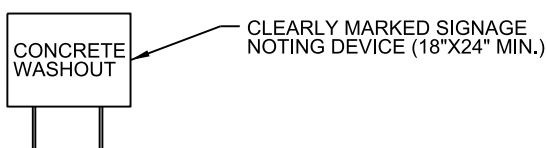
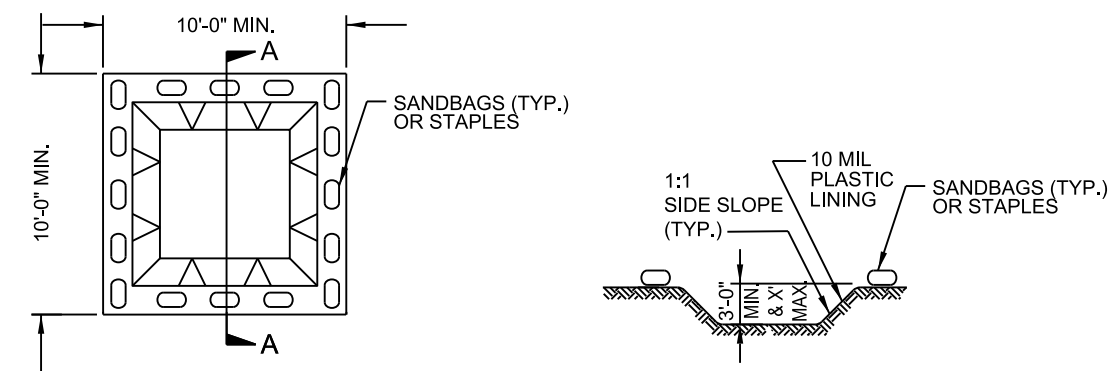


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
 - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
 - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
 - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
 - PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
 - INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO.	SHEET NO.
50I29.3.3	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

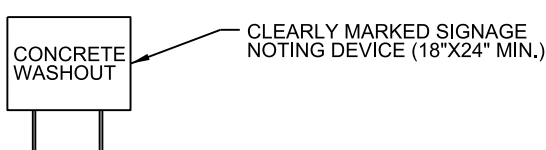
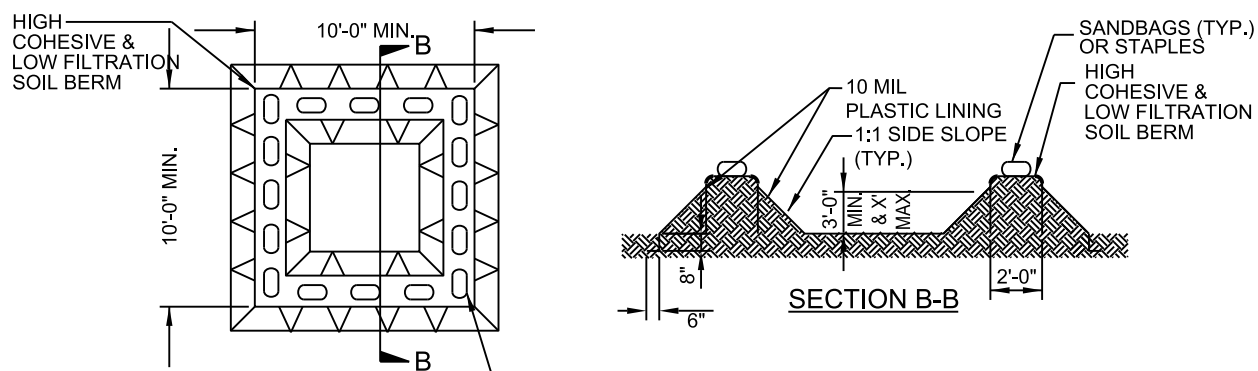
ONSITE CONCRETE WASHOUT
STRUCTURE WITH LINER



- SECTION A-A**
- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



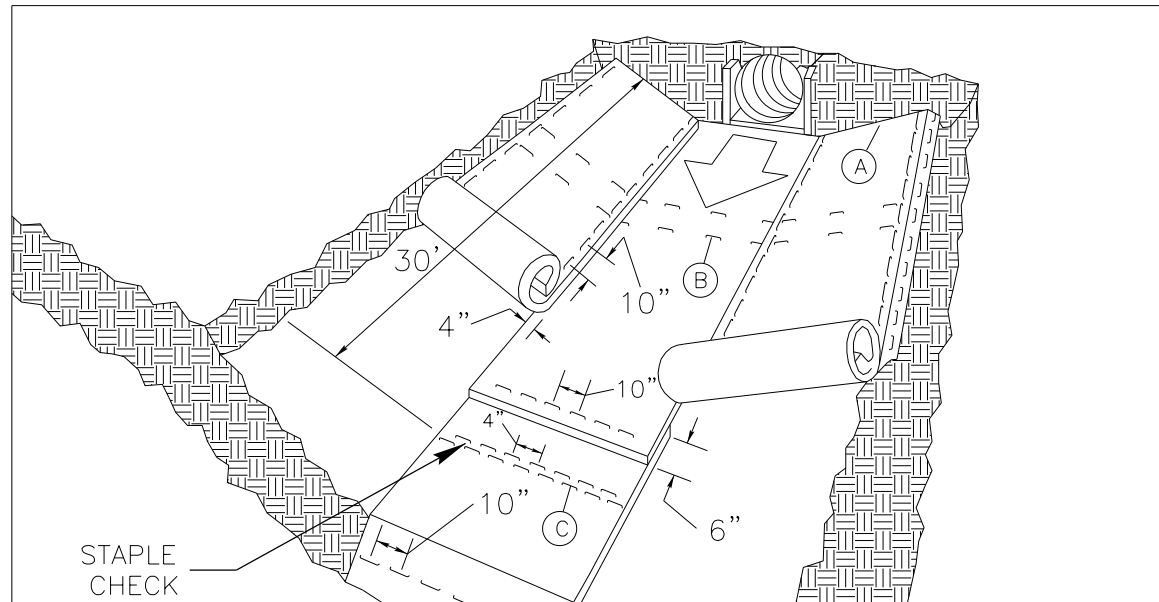
- SECTION B-B**
- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PLAN

ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

MATting INSTALLATION DETAIL

PROJECT REFERENCE NO.	SHEET NO.
50129.3.3	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATting IN DITCHES

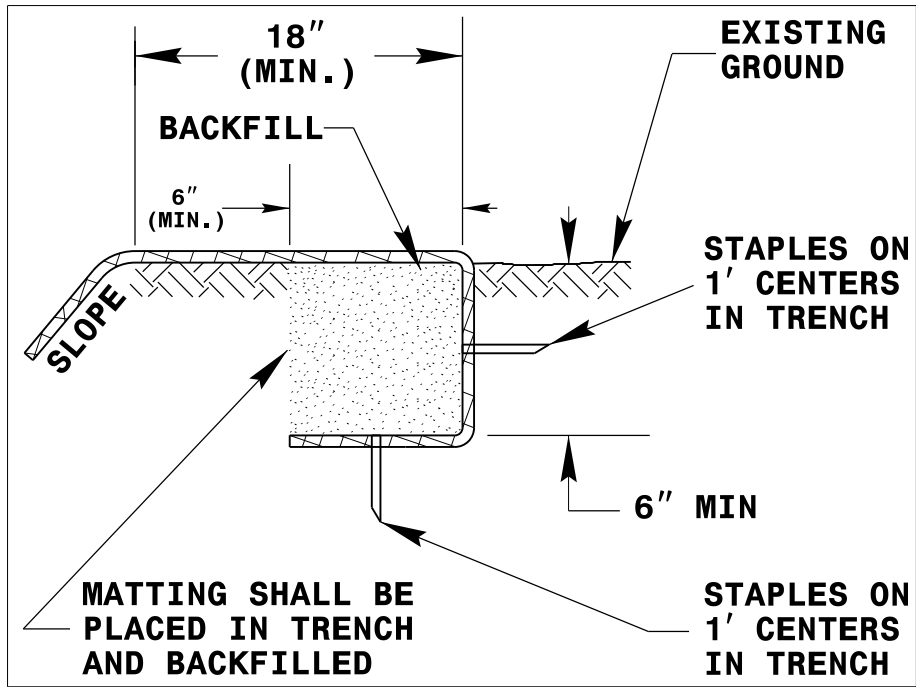
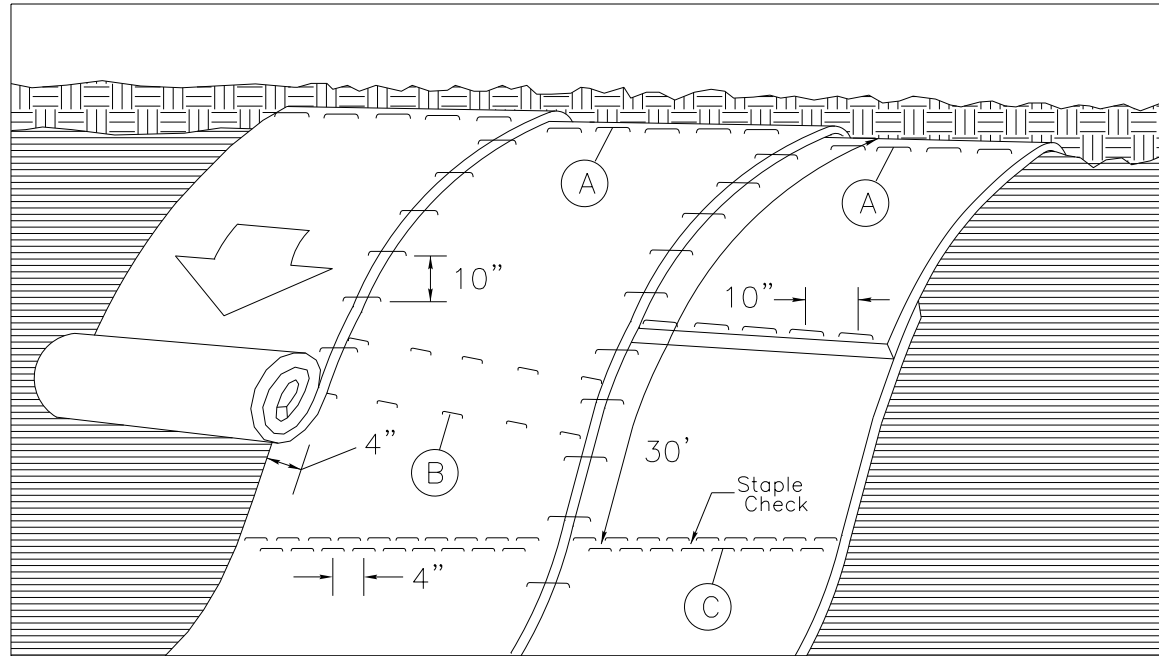


DIAGRAM (A)



MATting ON SLOPES

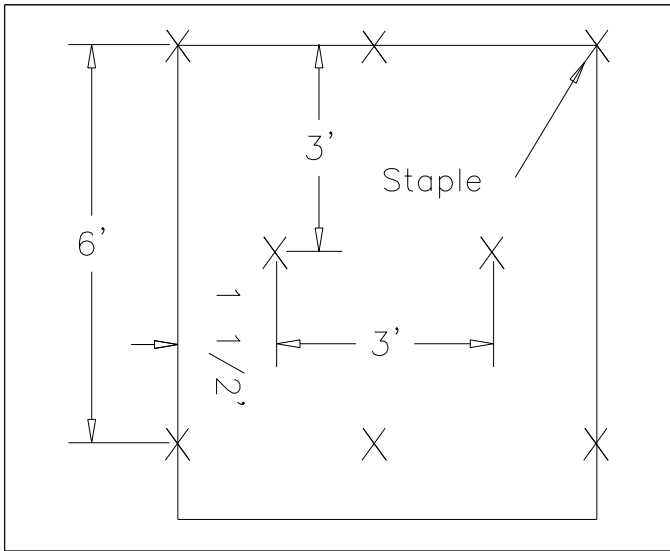


DIAGRAM (B)

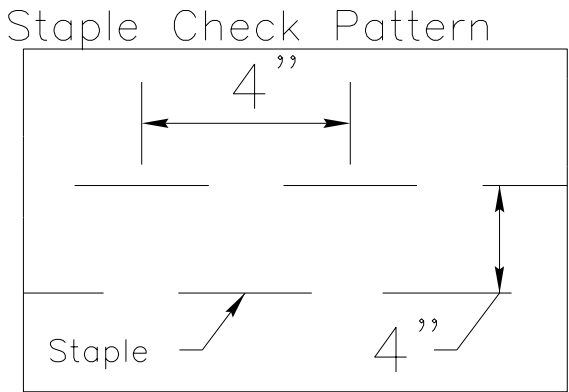


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

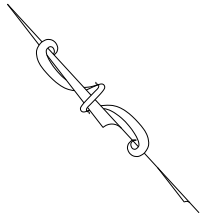
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
50129.3.3	EC-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

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

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50I29.3.3	EC-5	
F.A. PROJECT NO.			



INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.
SEE SHEET 2A

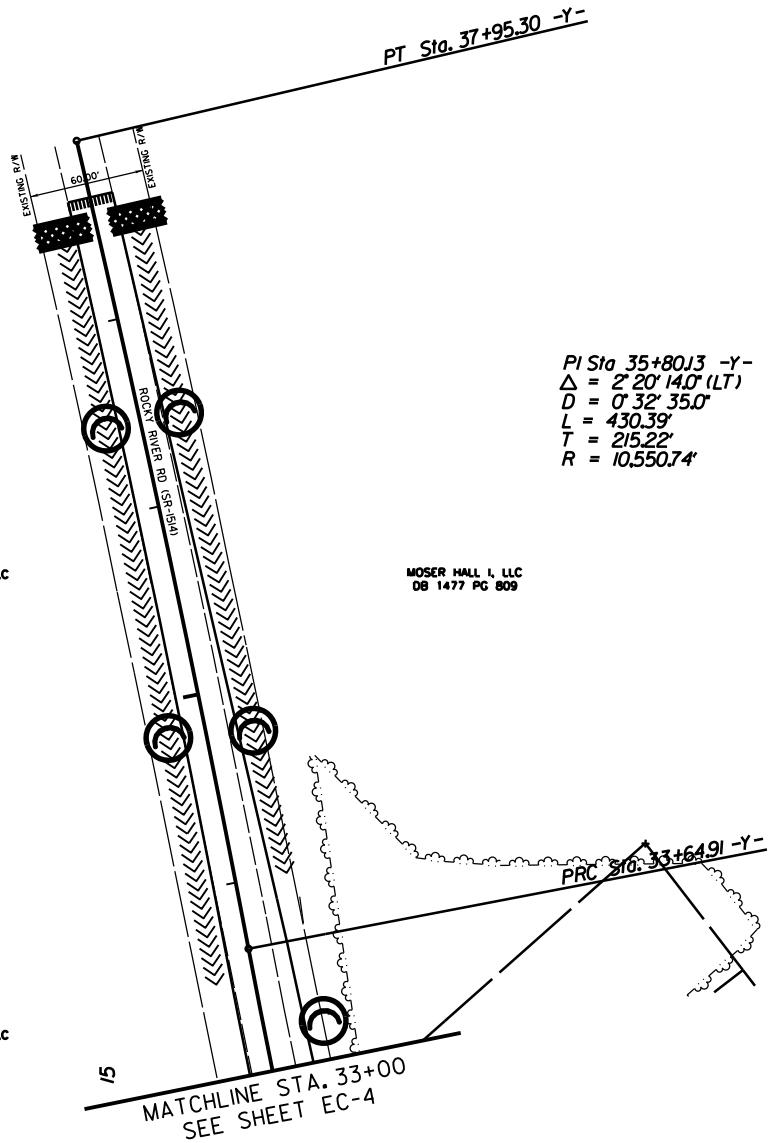
25+00 TO 26+00 -Y- RT
27+00 TO 27+50 -Y- RT
28+50 TO 29+50 -Y- RT
34+00 TO 37+50 -Y- RT
28+50 TO 29+50 -Y- LT
30+50 TO 31+00 -Y- LT
33+50 TO 37+00 -Y- LT
14+50 TO 15+12 -Y1- LT
15+50 TO 16+00 -Y1- LT
17+00 TO 20+00 -Y1- LT
17+00 TO 19+00 -Y1- RT
14+00 TO 15+00 -Y2- LT

35

MYERS BROTHERS, LLC
DB 6196 PG 381

MOSER HALL I, LLC
DB 1477 PG 809

MYERS BROTHERS, LLC
DB 6196 PG 381

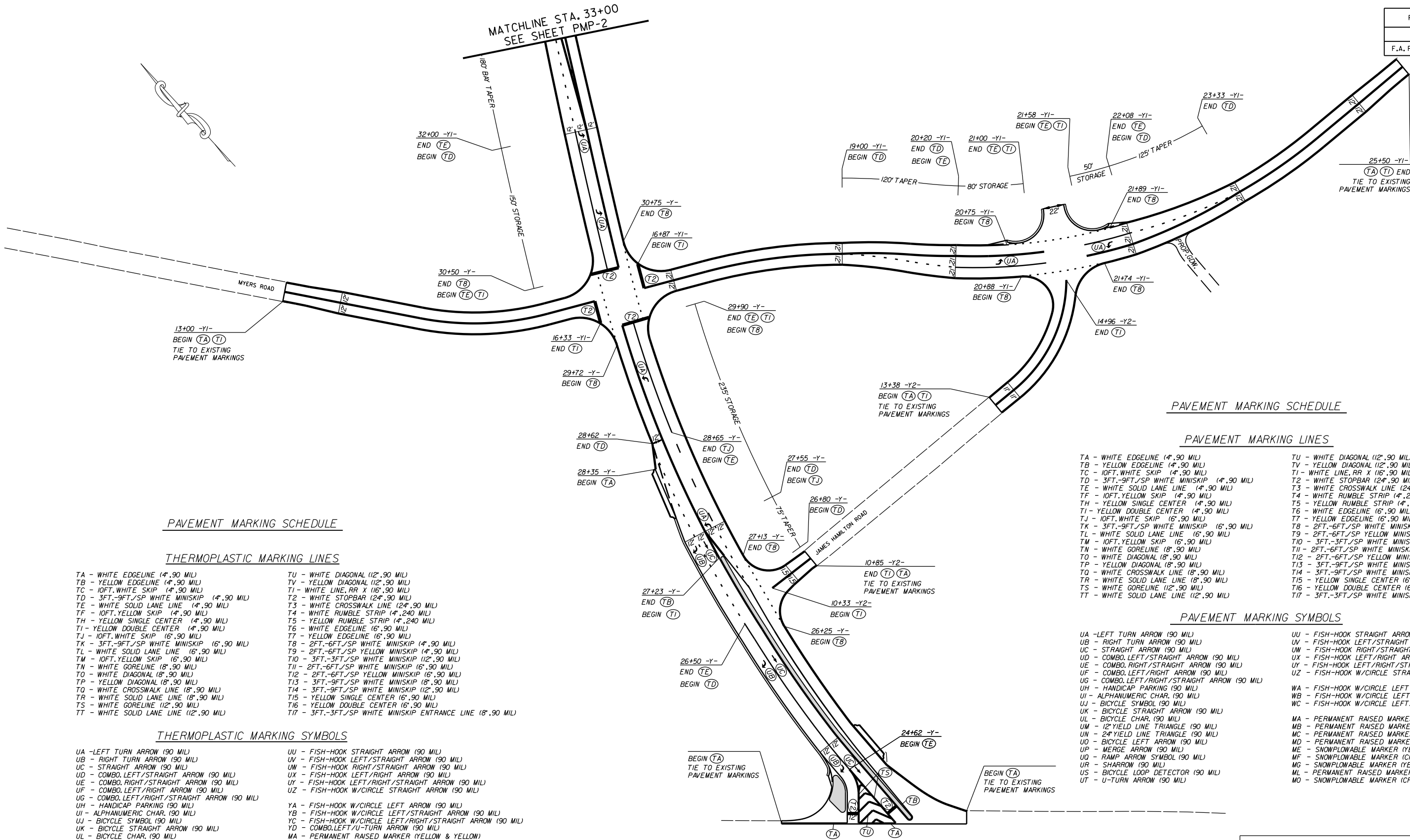


PI Sta 35+80.13 -Y-
 $\Delta = 2^\circ 20' 14.0''$ (LT)
 $D = 0^\circ 32' 35.0''$
 $L = 430.39'$
 $T = 215.22'$
 $R = 10,550.74'$

EROSION CONTROL MEASURES MAY BE CHANGED
IN FIELD AS DIRECTED BY THE ENGINEER

REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-154)
AT MYERS RD

SCALE	1"=50'		REVISIONS	
DATE	7-2025			
DWG. BY	VSC			
DESIGN BY	VSC			
APPROVED	JDH			



PAVEMENT MARKING SCHEDULE

THERMOPLASTIC MARKING LINES

- | | |
|--|---|
| TA - WHITE EDGELINE (4'.90 MIL) | TU - WHITE DIAGONAL (12'.90 MIL) |
| TB - YELLOW EDGELINE (4'.90 MIL) | TV - YELLOW DIAGONAL (12'.90 MIL) |
| TC - 10FT. WHITE SKIP (4'.90 MIL) | TI - WHITE LINE, RR X (16'.90 MIL) |
| TD - 3FT.-9FT./SP WHITE MINISKIP (4'.90 MIL) | T2 - WHITE STOPBAR (24'.90 MIL) |
| TE - WHITE SOLID LANE LINE (4'.90 MIL) | T3 - WHITE CROSSWALK LINE (24'.90 MIL) |
| TF - 10FT. YELLOW SKIP (4'.90 MIL) | T4 - WHITE RUMBLE STRIP (4'.240 MIL) |
| TH - YELLOW SINGLE CENTER (4'.90 MIL) | T5 - YELLOW RUMBLE STRIP (4'.240 MIL) |
| TJ - YELLOW DOUBLE CENTER (4'.90 MIL) | T6 - WHITE EDGELINE (6'.90 MIL) |
| TJ - 10FT. WHITE SKIP (6'.90 MIL) | T7 - YELLOW EDGELINE (6'.90 MIL) |
| TK - 3FT.-9FT./SP WHITE MINISKIP (6'.90 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4'.90 MIL) |
| TL - WHITE SOLID LANE LINE (6'.90 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4'.90 MIL) |
| TM - 10FT. YELLOW SKIP (6'.90 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12'.90 MIL) |
| TN - WHITE GORELINE (8'.90 MIL) | T11 - 2FT.-6FT./SP WHITE MINISKIP (6'.90 MIL) |
| TO - WHITE DIAGONAL (8'.90 MIL) | T12 - 2FT.-6FT./SP YELLOW MINISKIP (6'.90 MIL) |
| TP - YELLOW DIAGONAL (8'.90 MIL) | T13 - 3FT.-9FT./SP WHITE MINISKIP (12'.90 MIL) |
| TQ - WHITE CROSSWALK LINE (8'.90 MIL) | T14 - 3FT.-9FT./SP WHITE MINISKIP (12'.90 MIL) |
| TR - WHITE SOLID LANE LINE (8'.90 MIL) | T15 - YELLOW SINGLE CENTER (6'.90 MIL) |
| TS - WHITE GORELINE (12'.90 MIL) | T16 - YELLOW DOUBLE CENTER (6'.90 MIL) |
| TT - WHITE SOLID LANE LINE (12'.90 MIL) | T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8'.90 MIL) |

THERMOPLASTIC MARKING SYMBOLS

- | | |
|--|--|
| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
| UB - RIGHT TURN ARROW (90 MIL) | UV - FISH-HOOK LEFT/STRAIGHT ARROW (90 MIL) |
| UC - STRAIGHT ARROW (90 MIL) | UW - FISH-HOOK RIGHT/STRAIGHT ARROW (90 MIL) |
| UD - COMBO. LEFT/STRAIGHT ARROW (90 MIL) | UX - FISH-HOOK LEFT/RIGHT ARROW (90 MIL) |
| UE - COMBO. RIGHT/STRAIGHT ARROW (90 MIL) | UY - FISH-HOOK LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UF - COMBO. LEFT/RIGHT ARROW (90 MIL) | UZ - FISH-HOOK W/CIRCLE STRAIGHT ARROW (90 MIL) |
| UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL) | |
| UH - HANDICAP PARKING (90 MIL) | YA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
| UI - ALPHANUMERIC CHAR. (90 MIL) | YB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL) |
| UJ - BICYCLE SYMBOL (90 MIL) | YC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
| UK - BICYCLE STRAIGHT ARROW (90 MIL) | YD - COMBO. LEFT/U-TURN ARROW (90 MIL) |
| UL - BICYCLE CHAR. (90 MIL) | MA - PERMANENT RAISED MARKER (YELLOW & YELLOW) |
| UM - 12" YIELD LINE TRIANGLE (90 MIL) | MB - PERMANENT RAISED MARKER (CRYSTAL & RED) |
| UN - 24" YIELD LINE TRIANGLE (90 MIL) | MC - PERMANENT RAISED MARKER (YELLOW & RED) |
| UO - BICYCLE LEFT ARROW (90 MIL) | MD - PERMANENT RAISED MARKER (YELLOW) |
| UP - MERGE ARROW (90 MIL) | ME - SNOWFLOWABLE MARKER (YELLOW & YELLOW) |
| UQ - RAMP ARROW SYMBOL (90 MIL) | MF - SNOWFLOWABLE MARKER (CRYSTAL & RED) |
| UR - SHARROW (90 MIL) | MG - SNOWFLOWABLE MARKER (YELLOW & RED) |
| US - BICYCLE LOOP DETECTOR (90 MIL) | ML - PERMANENT RAISED MARKER (CRYSTAL & CRYSTAL) |
| UT - U-TURN ARROW (90 MIL) | MO - SNOWFLOWABLE MARKER (CRYSTAL & CRYSTAL) |

PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING LINES

- | | |
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| TL - WHITE SOLID LANE LINE (6'.90 MIL) | T8 - 2FT.-6FT./SP WHITE MINISKIP (4'.90 MIL) |
| TM - 10FT. YELLOW SKIP (6'.90 MIL) | T9 - 2FT.-6FT./SP YELLOW MINISKIP (4'.90 MIL) |
| TN - WHITE GORELINE (8'.90 MIL) | T10 - 3FT.-3FT./SP WHITE MINISKIP (12'.90 MIL) |
| TO - WHITE DIAGONAL (8'.90 MIL) | T11 - 2FT.-6FT./SP WHITE MINISKIP (6'.90 MIL) |
| TP - YELLOW DIAGONAL (8'.90 MIL) | T12 - 2FT.-6FT./SP YELLOW MINISKIP (6'.90 MIL) |
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| | T17 - 3FT.-3FT./SP WHITE MINISKIP ENTRANCE LINE (8'.90 MIL) |

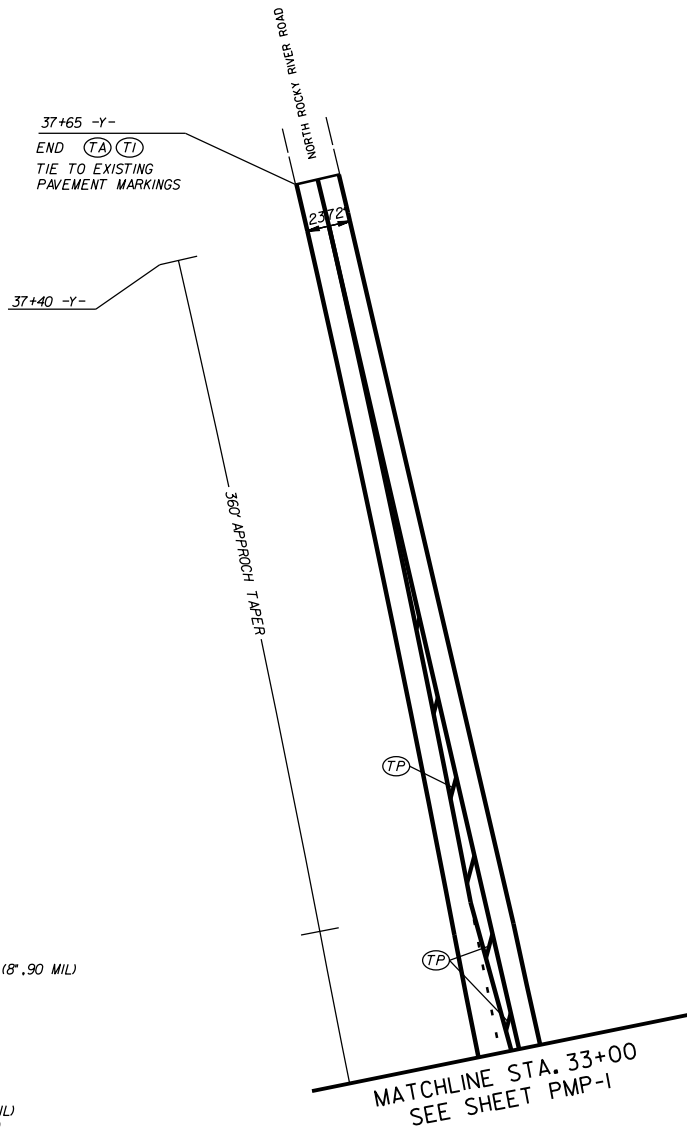
PAVEMENT MARKING SYMBOLS

- | | |
|--|--|
| UA - LEFT TURN ARROW (90 MIL) | UU - FISH-HOOK STRAIGHT ARROW (90 MIL) |
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| UG - COMBO. LEFT/RIGHT/STRAIGHT ARROW (90 MIL) | |
| UH - HANDICAP PARKING (90 MIL) | WA - FISH-HOOK W/CIRCLE LEFT ARROW (90 MIL) |
| UI - ALPHANUMERIC CHAR. (90 MIL) | WB - FISH-HOOK W/CIRCLE LEFT/STRAIGHT ARROW (90 MIL) |
| UJ - BICYCLE SYMBOL (90 MIL) | WC - FISH-HOOK W/CIRCLE LEFT/RIGHT/STRAIGHT ARROW (90 MIL) |
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REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	1"=50'	REVISIONS
DATE	7-2025	
DWG. BY	TBL	
DESIGN BY	JDH	
APPROVED	JDH	





PAVEMENT MARKING SCHEDULE

THERMOPLASTIC MARKING LINES

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REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	1"=50'	REVISIONS
DATE	7-2025	
DWG. BY	TBL	
DESIGN BY	JDH	
APPROVED	JDH	

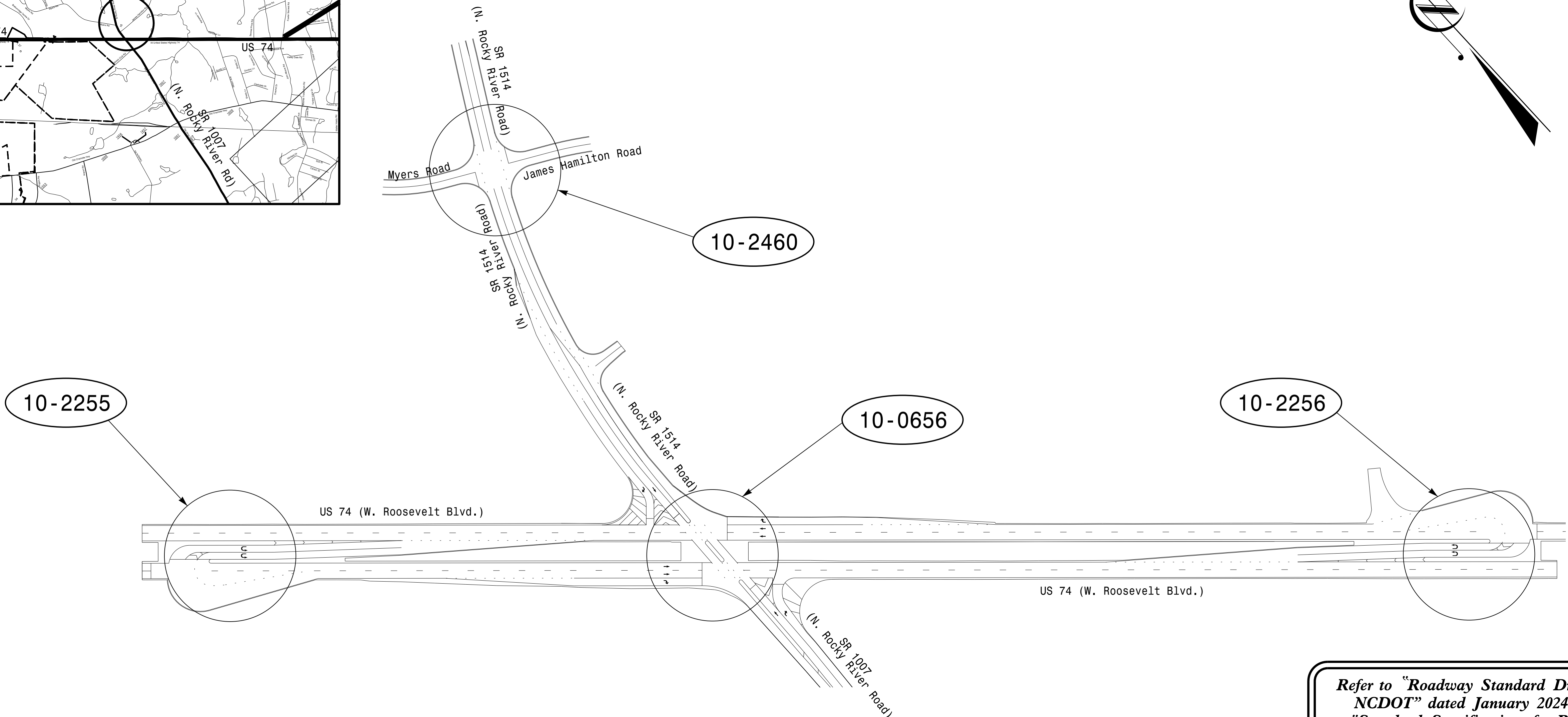
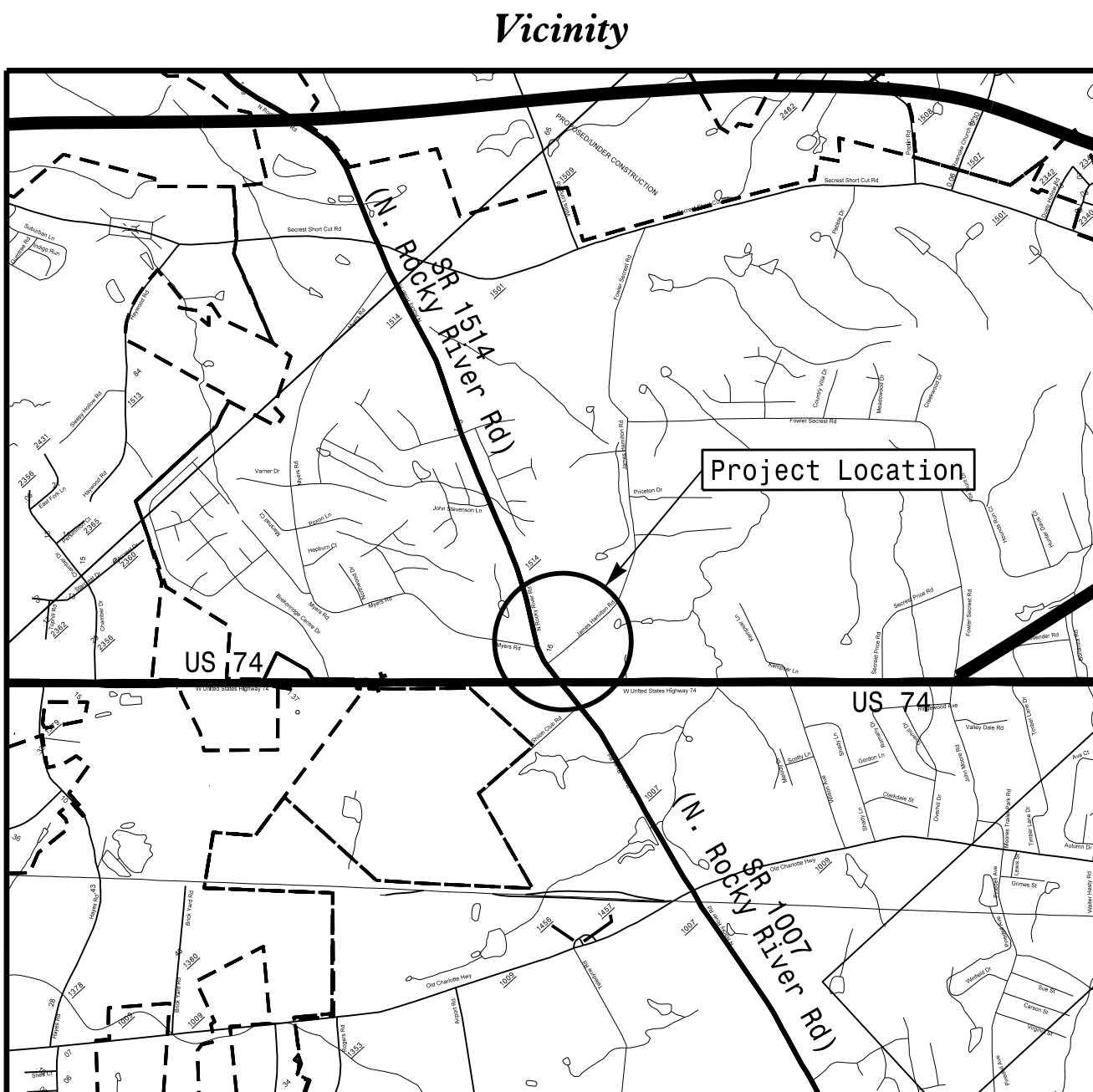
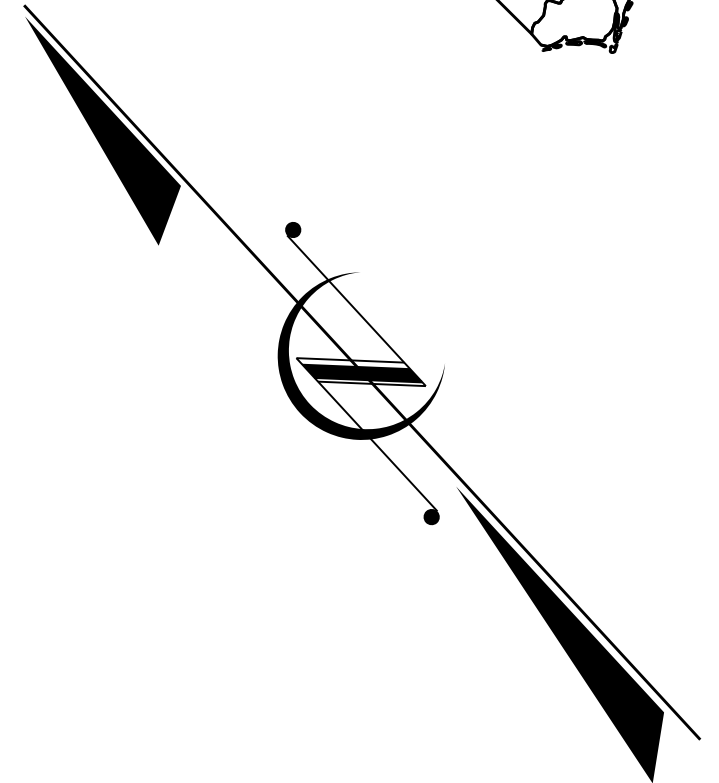
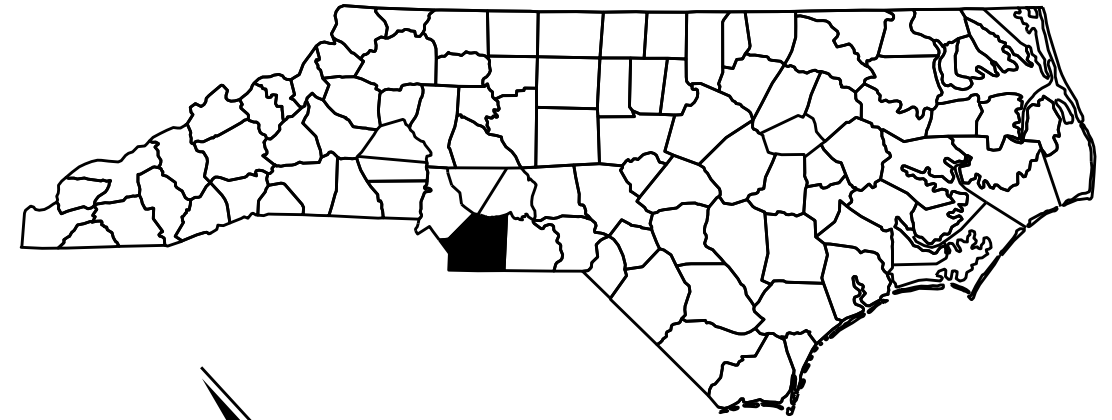


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UNION COUNTY

**LOCATION: US 74 AT SR 1007/1514 (N. ROCKY RIVER ROAD) AND
EASTBOUND/WESTBOUND U-TURNS & SR 1514 (N. ROCKY
RIVER ROAD) AT MYERS ROAD /JAMES HAMILTON ROAD**

TYPE OF WORK: TRAFFIC SIGNALS & SIGNAL COMMUNICATIONS



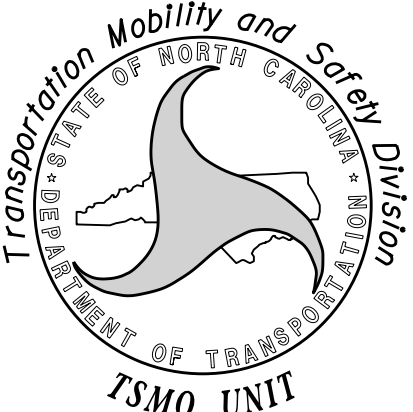
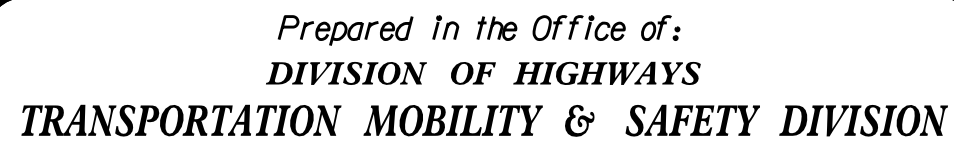
*Refer to "Roadway Standard Drawings
NCDOT" dated January 2024 and
"Standard Specifications for Roads
and Structures" dated January 2024.*

<i>Sheet #</i>	<i>Reference #</i>	<i>Location/Description</i>
<i>Sig. 1,0</i>	-----	<i>Title Sheet</i>
<i>Sig. 2,0-Sig 2,1</i>	10-2255	<i>US 74 Eastbound at N. Rocky River Road Westbound U-Turn</i>
<i>Sig. 3,0-Sig 3,1</i>	10-0656	<i>US 74 (W. Roosevelt Blvd.) at SR 1007 (N. Rocky River Rd.) / SR 1514 (N. Rocky River Rd.)</i>
<i>Sig. 4,0-Sig 4,1</i>	10-2256	<i>US 74 Westbound at N. Rocky River Road Eastbound U-Turn</i>
<i>Sig. 5,0-Sig 5,1</i>	10-2460	<i>SR 1514 (N. Rocky River Rd) at Myers Road /James Hamilton Road</i>
<i>SCP 1</i>	-----	<i>Signal Communication Plans</i>

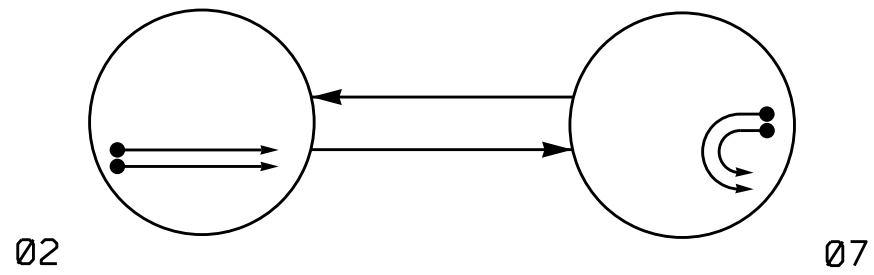
**TRANSPORTATION SYSTEMS
MANAGEMENT & OPERATIONS**

Contacts:

R. Nicholas Zinser, PE - Western Region Signals Engineer
D. Todd Joyce, PE - Signal Equipment Design Engineer
Alex D. Stewart, PE - Intelligent Transportation Systems Engineer



PHASING DIAGRAM



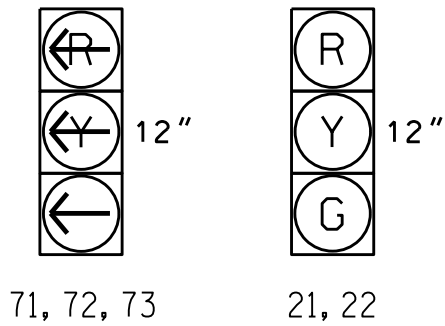
PHASING DIAGRAM DETECTION LEGEND

- ←● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ←-- UNSIGNALIZED MOVEMENT
- ←--> PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE		
	Ø2	Ø7	FLASH
21, 22	G	R	Y
71, 72, 73	R	Y	G

SIGNAL FACE I.D.

All Heads L.E.D.

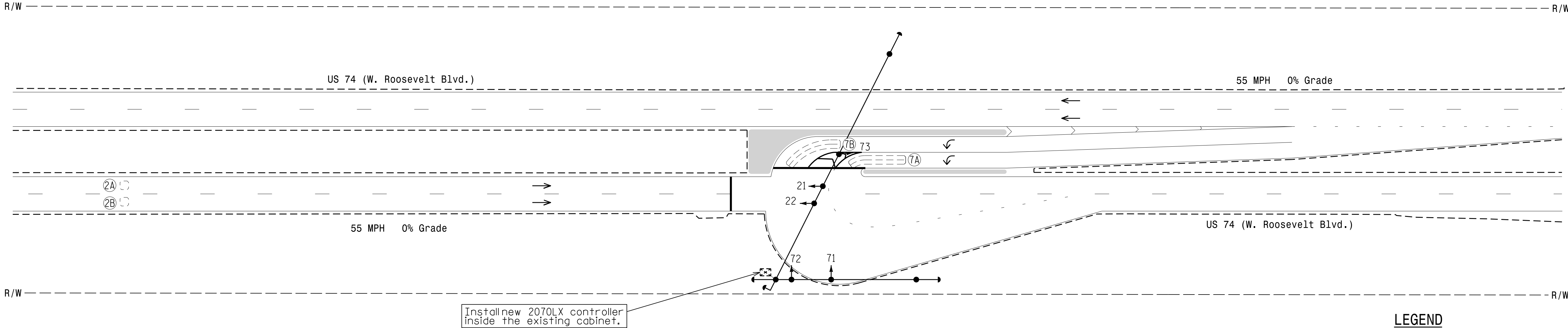


MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR				PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	6X6	420	5	-	2	-	-	X	X	X	-
2B	6X6	420	5	-	2	-	-	X	X	X	-
7A	6X40	0	2-4-2	-	7	-	-	X	-	X	-
7B	6X40	0	2-4-2	-	7	-	-	X	-	X	-

2 Phase
Fully Actuated
US 74 (Indian Trail) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #: 2255



MAXTIME TIMING CHART		
FEATURE	PHASE	
	2	7
Walk *	-	-
Ped Clear *	-	-
Min Green *	14	7
Passage *	6.0	2.0
Max I *	90	30
Yellow Change	5.2	3.0
Red Clear	2.0	3.3
Added Initial *	1.5	-
Maximum Initial *	46	-
Time Before Reduction *	15	-
Time To Reduce *	45	-
Minimum Gap	3.4	-
Advance Walk	-	-
Non Lock Detector	-	X
Vehicle Recall	MIN RECALL	-
Dual Entry	-	-

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

LEGEND

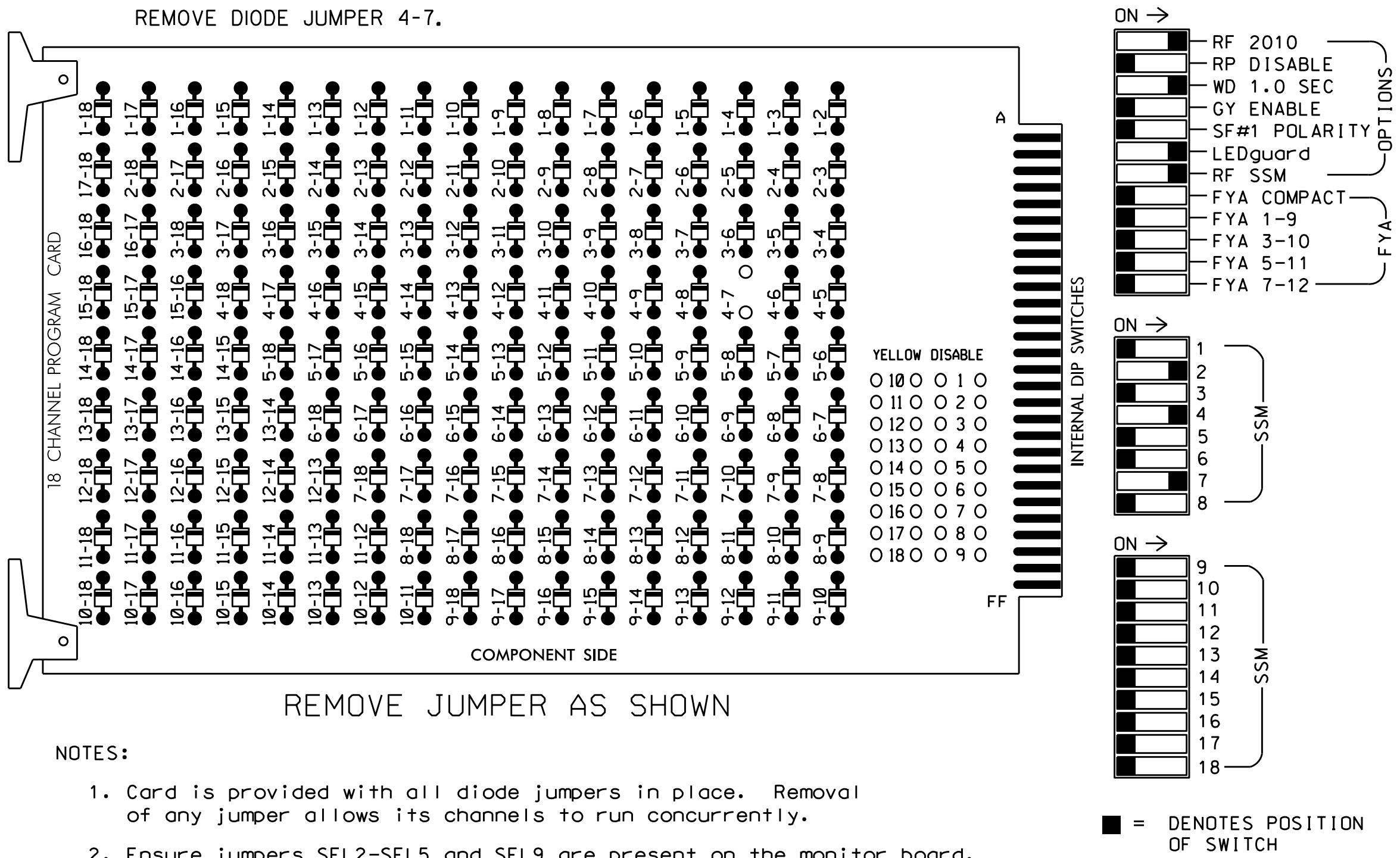
- | PROPOSED | EXISTING |
|-------------------------------|-------------------------------|
| ○→ Traffic Signal Head | ●→ N/A |
| ●→ Modified Signal Head | → N/A |
| ↓ Sign | ↓ N/A |
| □ Pedestrian Signal Head | □ N/A |
| With Push Button & Sign | With Push Button & Sign |
| Signal Pole with Guy | Signal Pole with Guy |
| Signal Pole with Sidewalk Guy | Signal Pole with Sidewalk Guy |
| Inductive Loop Detector | Inductive Loop Detector |
| Controller & Cabinet | Controller & Cabinet |
| Junction Box | Junction Box |
| 2-in Underground Conduit | 2-in Underground Conduit |
| N/A Right of Way | N/A Right of Way |
| → Directional Arrow | → Directional Arrow |

Signal Upgrade

	US 74 Eastbound at N. Rocky River Road Westbound U-Turn		
	Division 10 Union County Monroe		
PLAN DATE: June 2023	REVIEWED BY: R.N. Zinser		
PREPARED BY: T.A. Kenion	REVIEWED BY:		
750 N. Greenfield Pkwy, Garner, NC 27529	REVISIONS	INIT.	DATE
SIGNED BY: R. Nicholas Zinser		DATE: 7/19/2023	
SIC. INVENTORY NO. 10-2255			

18 CHANNEL CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumper and set switches as shown)



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 plan.
- Program controller to start up in phase 2 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
- The cabinet and controller are part of the US 74 (Indian Trail) CLS.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....12
Load Switches Used.....S2, S5, S10
Phases Used.....2, 7
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....NOT USED
Overlap "4".....NOT USED
Overlap "7".....*

*See overlap programming detail on this sheet

PROJECT REFERENCE NO.	SHEET NO.
U-5703B	Sig. 2.1

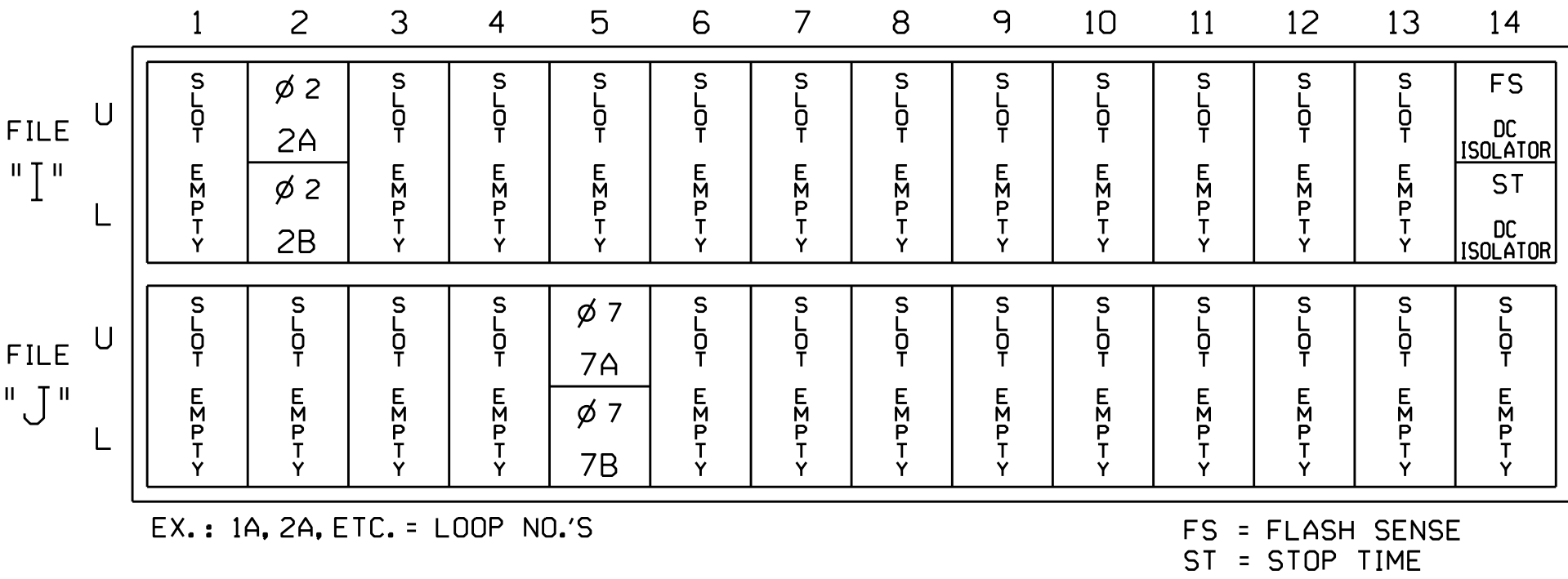
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16
PHASE	1	2	2 PED	3	OL7	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	73	NU	NU	NU	NU	71,72	NU	NU
RED		128										
YELLOW		129										
GREEN		130										
RED ARROW					101					122		
YELLOW ARROW					102					123		
GREEN ARROW					103					124		

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	TB2-5,6	I2U	39	1	2	2			X	X	X	
2B	TB2-7,8	I2L	43	5	3	2			X	X	X	
7A	TB5-5,6	J5U	57	19	21	7			X		X	
7B	TB5-7,8	J5L	57	19	21	7			X		X	

INPUT FILE POSITION LEGEND: J2L

FILE J

SLOT 2

LOWER

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channels Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2	X			2
3	Phase Vehicle	3		X	X	3
4	Overlap	7		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6	X		X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1	X		X	9
10	Overlap	2		X	X	10
11	Overlap	3	X			11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

Channel 4
changed to
Overlap 7

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

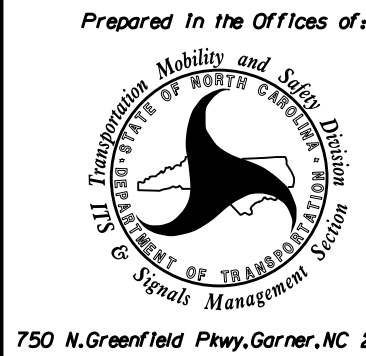
Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	7
Type	Normal
Included Phases	7
Modifier Phases	-
Modifier Overlaps	-
Trail Green	0
Trail Yellow	0.0
Trail Red	0.0

Electrical Detail

ELECTRICAL AND PROGRAMMING
DETAILS FOR:



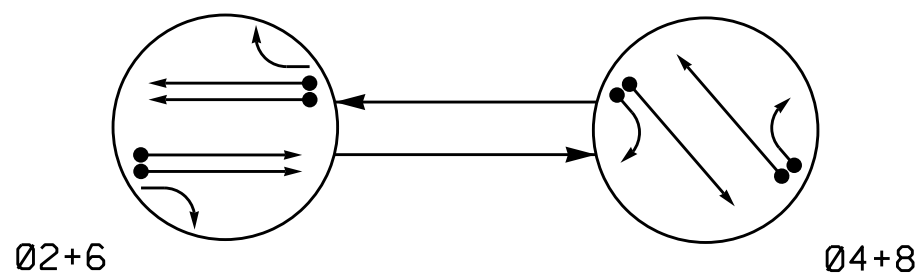
US 74 Eastbound
at
N. Rocky River Road
Westbound U-Turn

Division 10	Union County	Monroe
PLAN DATE: July 2023	REVIEWED BY:	
PREPARED BY: Zarrar Zafar	REVIEWED BY:	
REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

SEAL	07/20/2023
SEAL 031001	DATE
ENGINEER	
TODD JOYCE	
Sig. INVENTORY NO.	10-2255

PHASING DIAGRAM



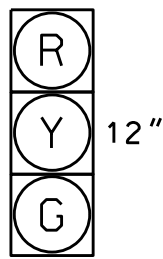
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE	PHASE		
	02+6	04+8	FLASH
21, 22	G	R	Y
41, 42, 43	R	G	R
61, 62	G	R	Y
81, 82, 83	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



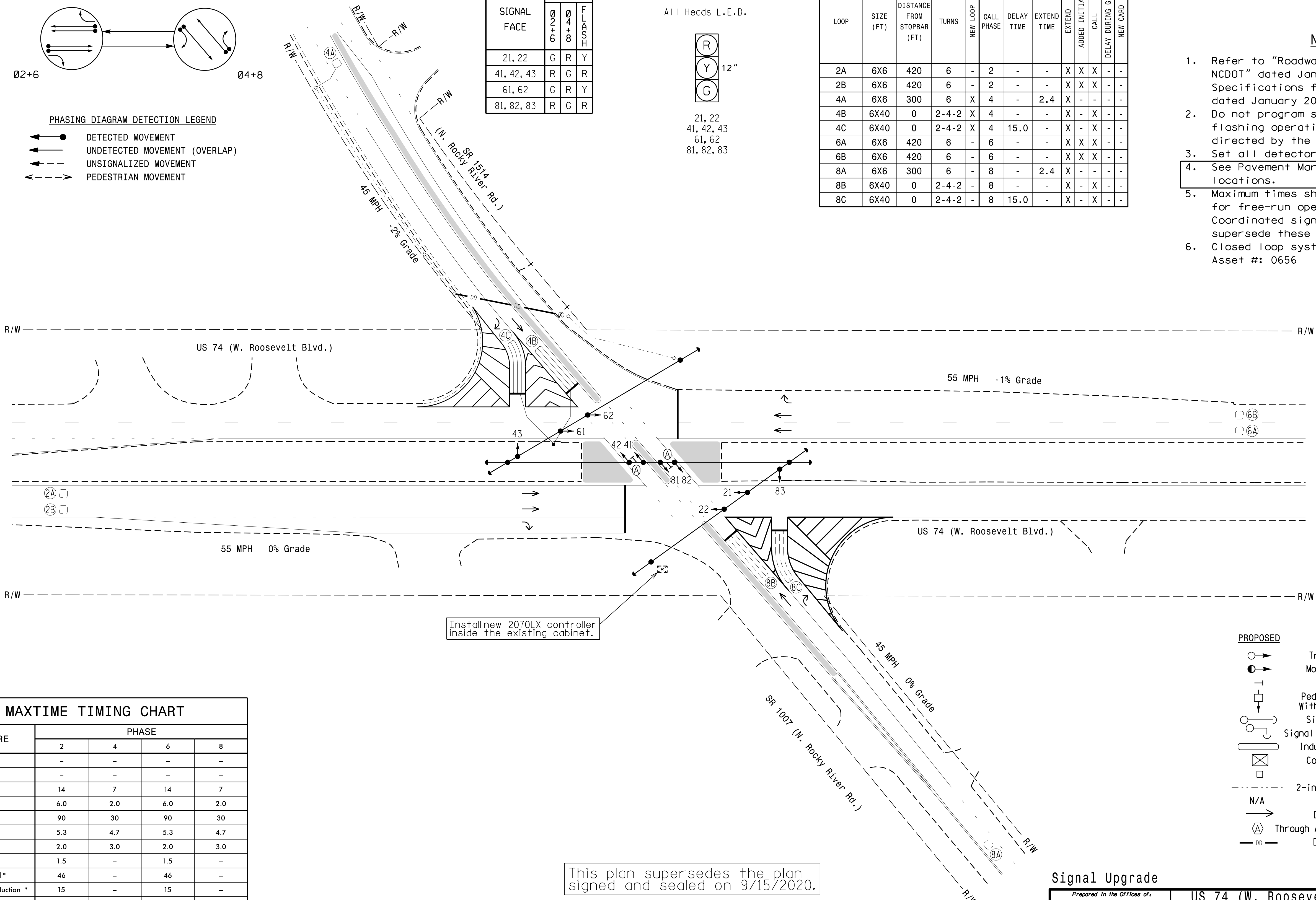
21, 22
41, 42, 43
61, 62
81, 82, 83

MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR				PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	INITIAL	CALL	NEW CARD
2A	6X6	420	6	-	2	-	-	X	X	X	-
2B	6X6	420	6	-	2	-	-	X	X	X	-
4A	6X6	300	6	X	4	-	2.4	X	-	-	-
4B	6X40	0	2-4-2	X	4	-	-	X	-	X	-
4C	6X40	0	2-4-2	X	4	15.0	-	-	X	-	-
6A	6X6	420	6	-	6	-	-	X	X	X	-
6B	6X6	420	6	-	6	-	-	X	X	X	-
8A	6X6	300	6	-	8	-	2.4	X	-	-	-
8B	6X40	0	2-4-2	-	8	-	-	X	-	X	-
8C	6X40	0	2-4-2	-	8	15.0	-	X	-	X	-

2 Phase
Fully Actuated
US 74 (Indian Trail) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Set all detector units to presence mode.
- See Pavement Marking Plans for stop bar locations.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #: 0656



MAXTIME TIMING CHART				
FEATURE	PHASE			
	2	4	6	8
Walk *	-	-	-	-
Ped Clear *	-	-	-	-
Min Green *	14	7	14	7
Passage *	6.0	2.0	6.0	2.0
Max I *	90	30	90	30
Yellow Change	5.3	4.7	5.3	4.7
Red Clear	2.0	3.0	2.0	3.0
Added Initial *	1.5	-	1.5	-
Maximum Initial *	46	-	46	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	45	-	45	-
Minimum Gap	3.4	-	3.4	-
Advance Walk	-	-	-	-
Non Lock Detector	-	X	-	X
Vehicle Recall	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	X	-	X

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

LEGEND

- | PROPOSED | EXISTING |
|----------|----------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
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| | |
| | |
| | |

This plan supersedes the plan signed and sealed on 9/15/2020.

Signal Upgrade

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

US 74 (W. Roosevelt Blvd.)
at
SR 1007 (N. Rocky River Rd.)/
SR 1514 (N. Rocky River Rd.)

Division 10 Union County Monroe

PLAN DATE: June 2023 REVIEWED BY: R.N. Zinser

PREPARED BY: T.A. Kenion REVIEWED BY:

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 043914
RICHARD N. ZINSER

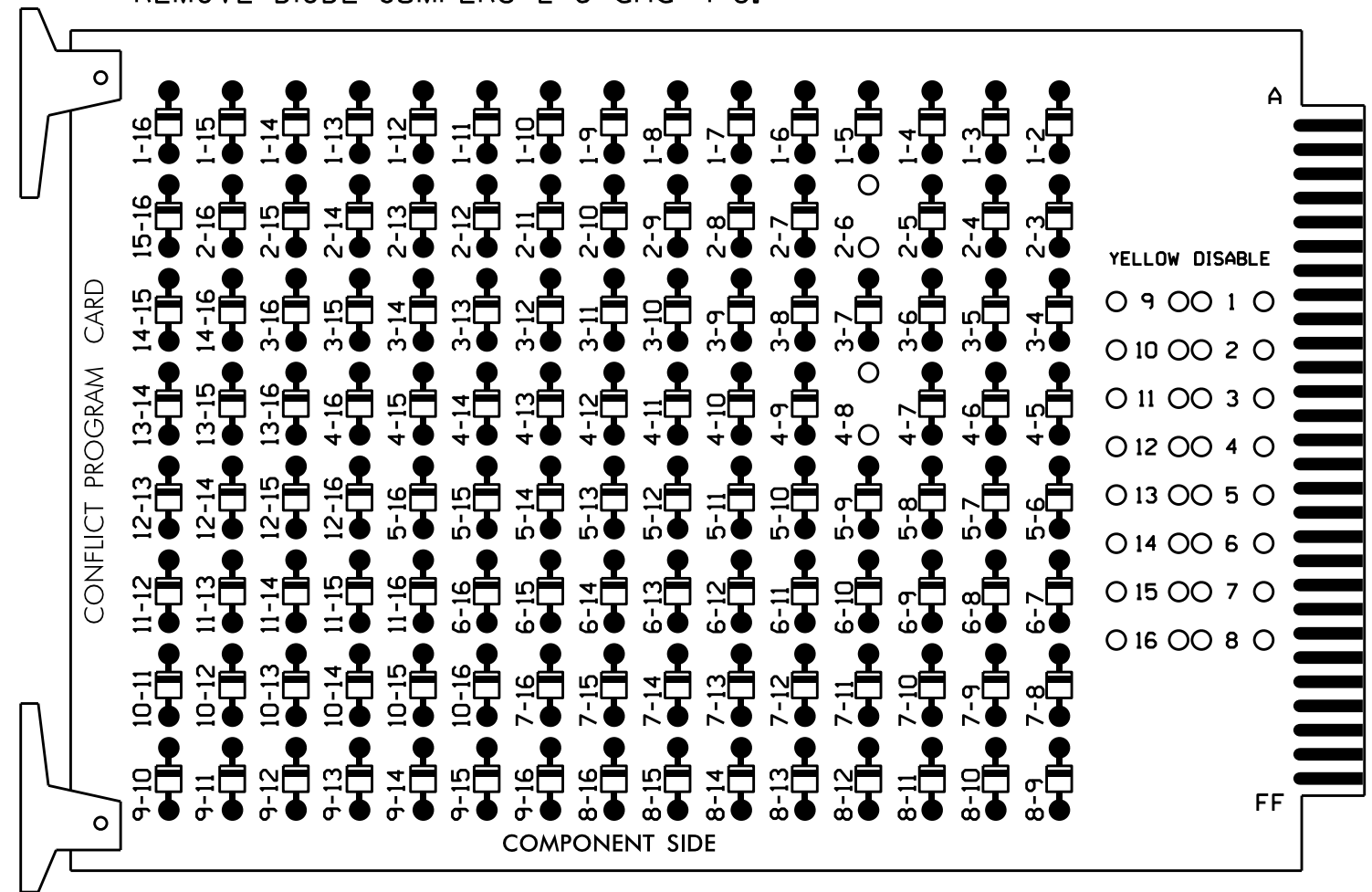
DocuSigned by:
R. Nicholas Zinser 7/19/2023

SIG. INVENTORY NO. 10-0656

16 CHANNEL IP CONFLICT MONITOR
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

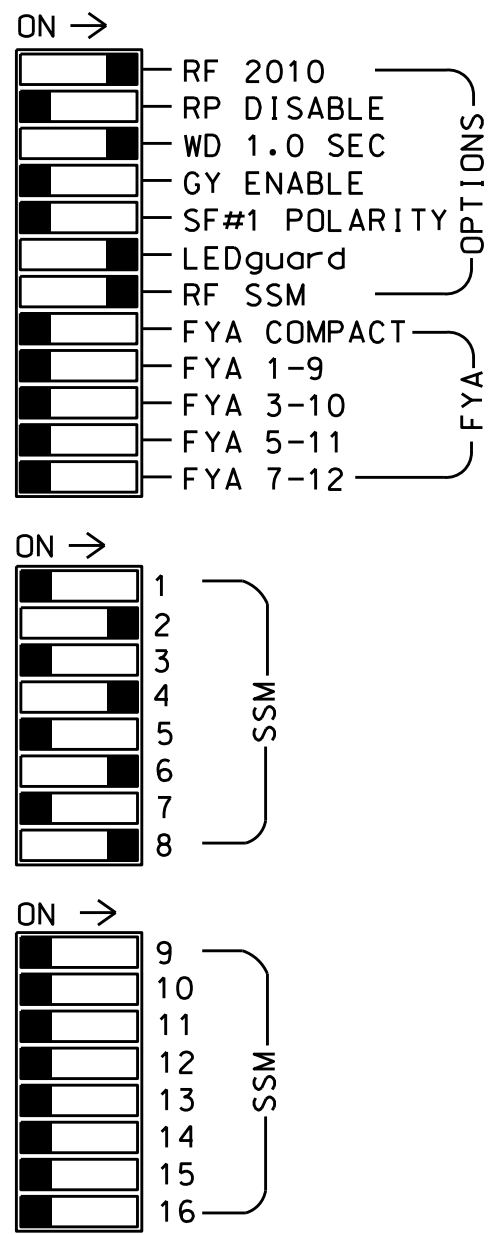
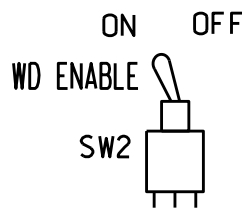
REMOVE DIODE JUMPERS 2-6 and 4-8.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Make sure jumpers SEL2-SEL5 are present on the monitor board.
- Integrate monitor with Ethernet network in cabinet.



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 plan.
- Program phases 4 and 8 for Dual Entry.
- Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
- The cabinet and controller are part of the US 74 (Indian Trail) CLS.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S2, S4, S6, S8
Phases Used.....2, 4, 6, 8
Overlaps.....NONE

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1	2	PED	3	4	PED	5	6	PED	7	8	PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42 43	NU	NU	61,62	NU	NU	81,82 83	NU	NU	NU	NU	NU	NU	NU
RED		128			101			134			107							
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW																		
YELLOW ARROW																		
GREEN ARROW																		

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I" L	U -OR- 2A	U -OR- 2B	U -OR- 2C	U -OR- 2D	U -OR- 2E	U -OR- 2F	U -OR- 2G	U -OR- 2H	U -OR- 2I	U -OR- 2J	U -OR- 2K	U -OR- 2L	U -OR- 2M	U -OR- 2N
FILE "J" L	U -OR- 6A	U -OR- 6B	U -OR- 6C	U -OR- 6D	U -OR- 6E	U -OR- 6F	U -OR- 6G	U -OR- 6H	U -OR- 6I	U -OR- 6J	U -OR- 6K	U -OR- 6L	U -OR- 6M	U -OR- 6N

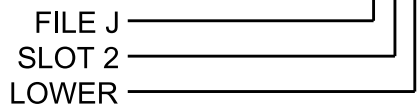
EX. : 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	TB2-5.6	I2U	39	1	2	2			X	X	X	
2B	TB2-7.8	I2L	43	5	3	2			X	X	X	
4A	TB6-1.2	I7U	65	31	10	4		2.4	X			
4B	TB6-3.4	I7L	78	44	11	4			X		X	
4C	TB6-5.6	I8U	49	11	12	4	15		X		X	
6A	TB3-5.6	J2U	40	2	16	6			X	X	X	
6B	TB3-7.8	J2L	44	6	17	6			X	X	X	
8A	TB4-5.6	I5U	58	20	7	8		2.4	X			
8B	TB4-9,10	I6U	41	3	8	8			X		X	
8C	TB4-11,12	I6L	45	7	9	8	15		X		X	

INPUT FILE POSITION LEGEND: J2L



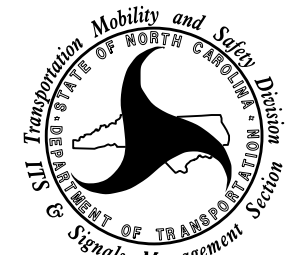
This Plan Supersedes Electrical
Detail Sealed on 9/15/2020

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-0656
DESIGNED: June 2023
SEALED: 7/19/2023
REVISED: N/A

Electrical Detail

ELECTRICAL AND PROGRAMMING
DETAILS FOR:

Prepared in the Offices of:



750 N. Greenfield Pkwy, Garner, NC 27529

US 74 (W. Roosevelt Blvd.)

at
SR 1007 (N. Rocky River Rd.)/
SR 1514 (N. Rocky River Rd.)

Division 10 Union County Monroe

PLAN DATE: July 2023 REVIEWED BY:

PREPARED BY: Zarrar Zafar REVIEWED BY:

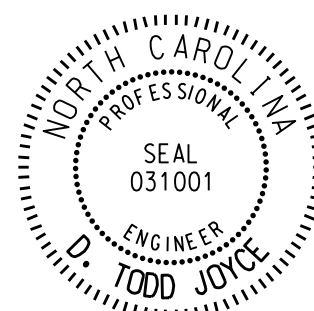
REVISIONS INIT. DATE

REVISIONS INIT. DATE

REVISIONS INIT. DATE

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

SEAL

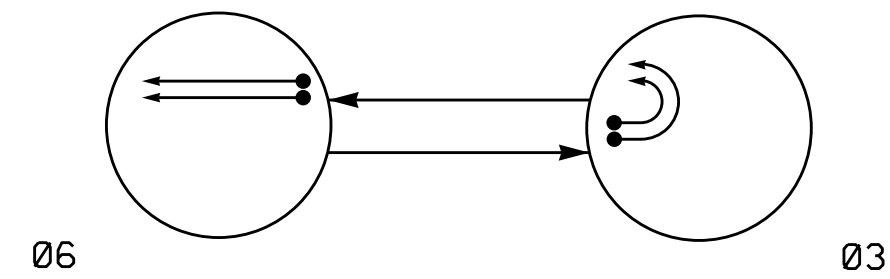


DocuSigned by:
D. Todd Joyce 07/20/2023

DATE

SIG. INVENTORY NO. 10-0656

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

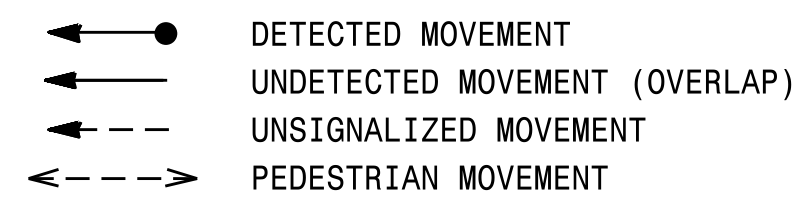
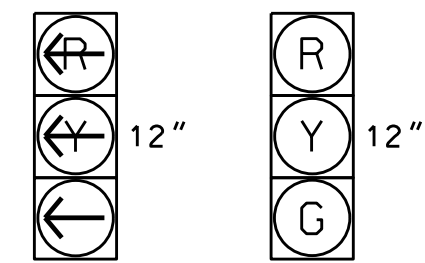


TABLE OF OPERATION	
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

SIGNAL FACE	PHASE		
	0 6	0 3	F L A S H
31, 32, 33	→	←	→
61, 62	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.



31, 32, 33

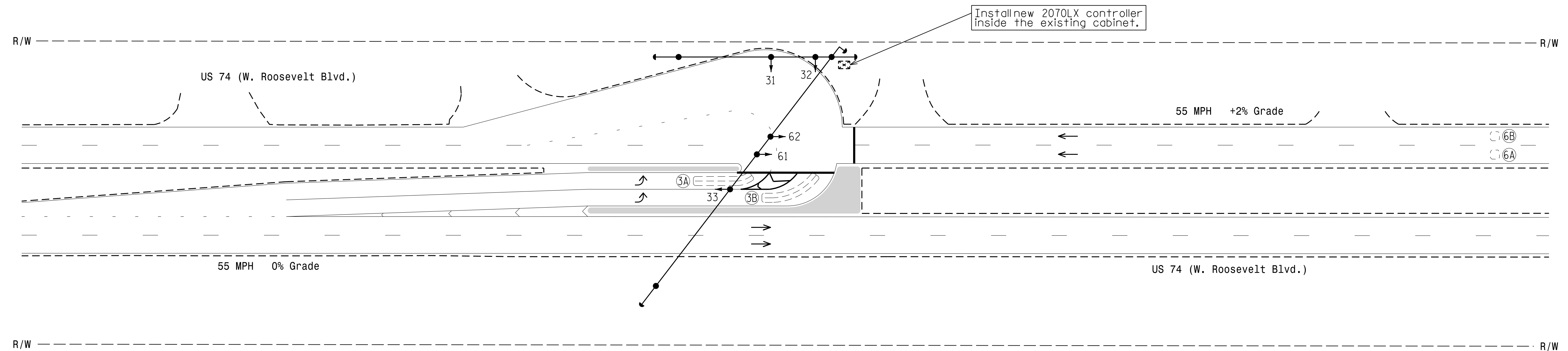
61, 62

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
3A	6X40	0	2-4-2	-	3	-	-	X	-	X	-
3B	6X40	0	2-4-2	-	3	-	-	X	-	X	-
6A	6X6	420	5	-	6	-	-	X	X	X	-
6B	6X6	420	5	-	6	-	-	X	X	X	-

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Pavement markings are existing.
5. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
6. Closed loop system data: Controller Asset #: 2256

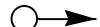
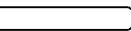
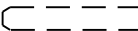
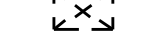
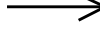


MAXTIME TIMING CHART

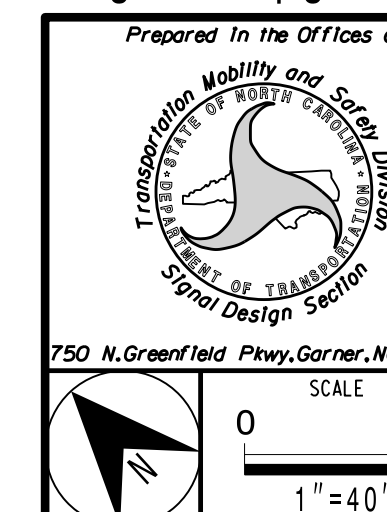
FEATURE	PHASE	
	3	6
Walk *	–	–
Ped Clear *	–	–
Min Green *	7	14
Passage *	2.0	6.0
Max 1 *	30	90
Yellow Change	3.0	5.0
Red Clear	3.1	2.0
Added Initial *	–	1.5
Maximum Initial *	–	46
Time Before Reduction *	–	15
Time To Reduce *	–	45
Minimum Gap	–	3.4
Advance Walk	–	–
Non Lock Detector	X	–
Vehicle Recall	–	MIN RECALL
Dual Entry	–	–

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

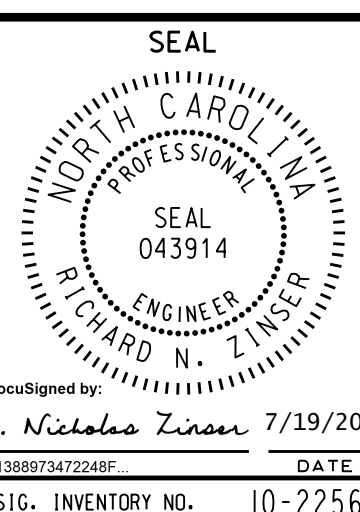
LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	

Signal Upgrade

[illegible]

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

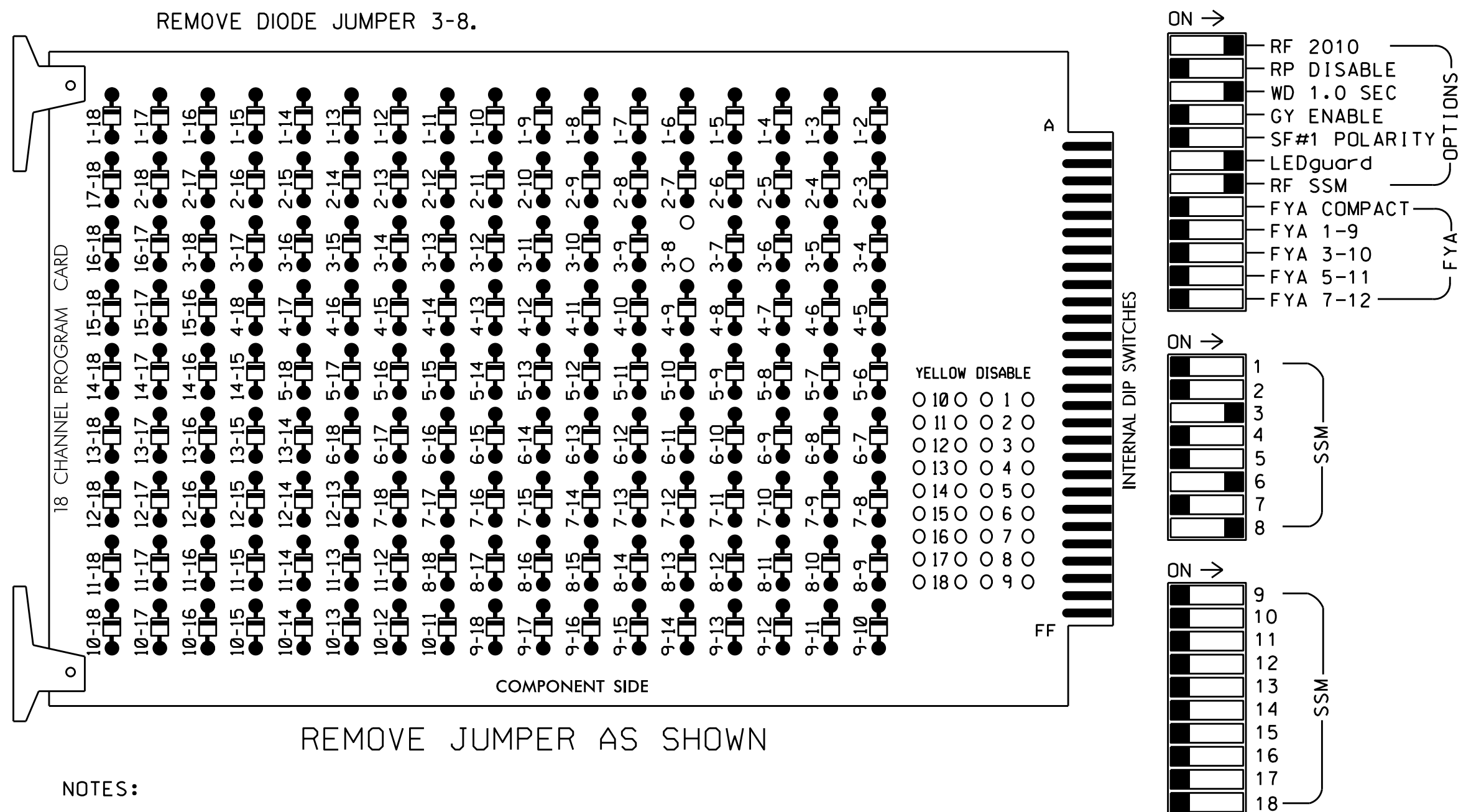


Occupied by: Nicholas Zinser 7/19/2023
DATE
SIG. INVENTORY NO. 10-2256

18 CHANNEL CONFLICT MONITOR

PROGRAMMING DETAIL

(remove jumper 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 plan.
- Program controller to start up in phase 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
- The cabinet and controller are part of the US 74 (Indian Trail) CLS.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....12
Load Switches Used.....S4, S8, S11
Phases Used.....3, 6
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....NOT USED
Overlap "4".....NOT USED
Overlap "7".....*

*See overlap programming detail on this sheet

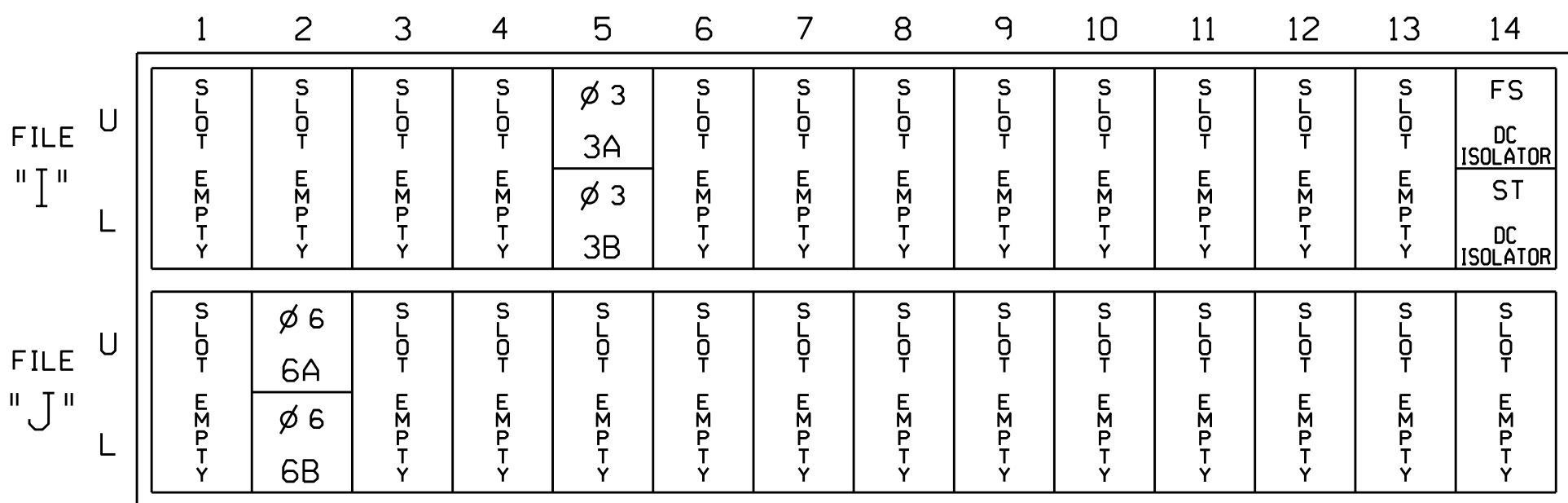
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	OL7	8 PED
SIGNAL HEAD NO.	NU	NU	NU	31,32	NU	NU	NU	61,62	NU	NU	33	NU
RED								134				
YELLOW								135				
GREEN								136				
RED ARROW				116							107	
YELLOW ARROW				117							108	
GREEN ARROW				118							109	

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
3A	TB4-5,6	I5U	58	20	7	3			X		X	
3B	TB4-7,8	I5L	58	20	7	3			X		X	
6A	TB3-5,6	J2U	40	2	16	6			X	X	X	
6B	TB3-7,8	J2L	44	6	17	6			X	X	X	

INPUT FILE POSITION LEGEND: J2L

FILE J
SLOT 2
LOWER

OUTPUT CHANNEL CONFIGURATION

Front Panel

Main Menu >Controller >More>Channels>Channels Config

Web Interface

Home >Controller >Advanced IO>Channels>Channels Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2	X			2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6	X		X	6
7	Phase Vehicle	7		X		7
8	Overlap	7		X	X	8
9	Overlap	1	X		X	9
10	Overlap	2		X	X	10
11	Overlap	3	X			11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

Channel 8
changed to
Overlap 7

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2256
DESIGNED: June 2023
SEALED: 7/19/2023
REVISED: N/A

OVERLAP PROGRAMMING

Front Panel

Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface

Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	7
Type	Normal
Included Phases	3
Modifier Phases	-
Modifier Overlaps	-
Trail Green	0
Trail Yellow	0.0
Trail Red	0.0

Electrical Detail

ELECTRICAL AND PROGRAMMING
DETAILS FOR:

Prepared in the Offices of:
TRANSPORTATION
Mobility and Safety Division
STATE OF NORTH CAROLINA
Signal Management Section
750 N. Greenfield Pkwy, Garner, NC 27529

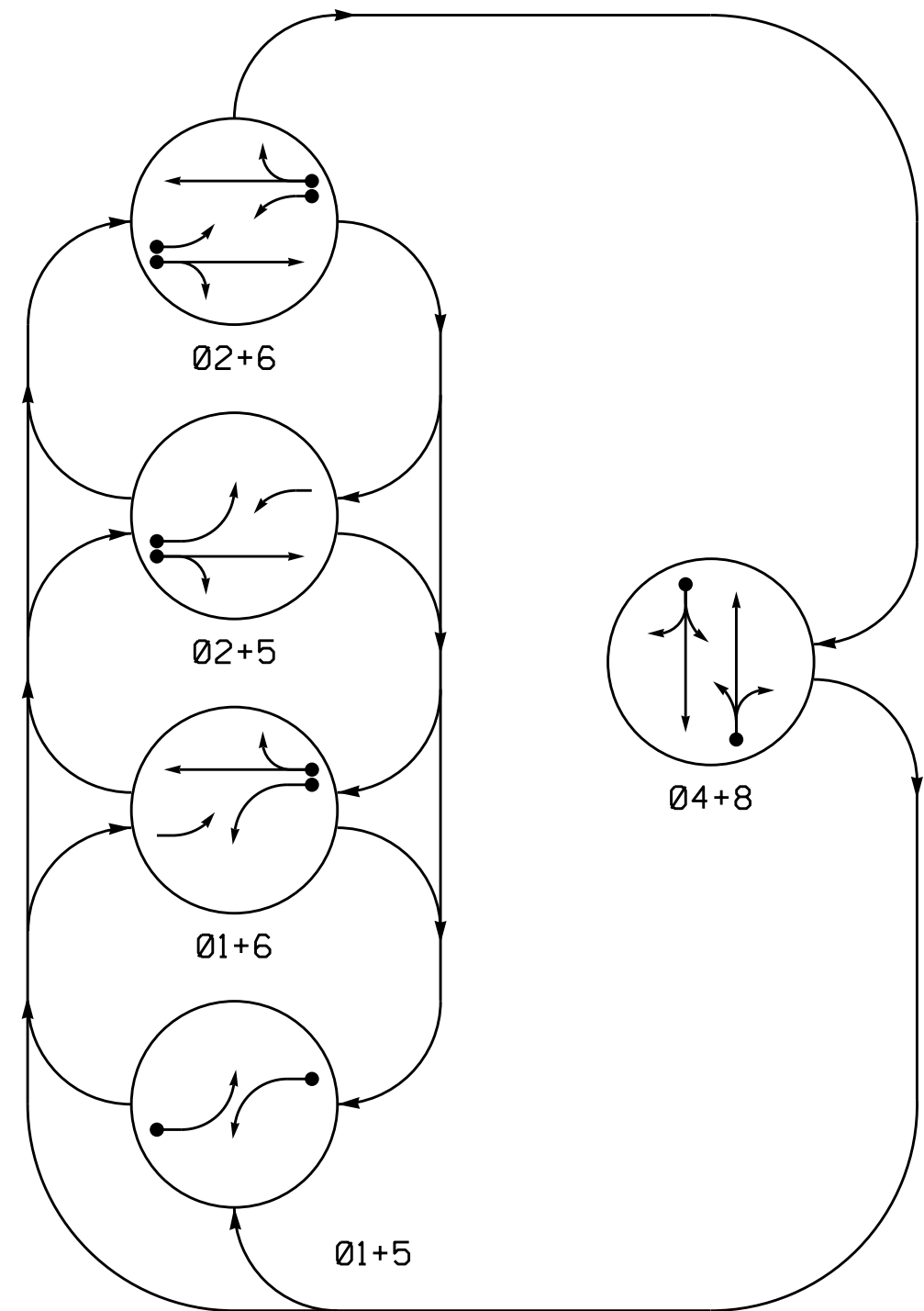
US 74 Westbound
at
N. Rocky River Road
Eastbound U-Turn

Division 10	Union County	Monroe
PLAN DATE: July 2023	REVIEWED BY:	
PREPARED BY: Zarrar Zafar	REVIEWED BY:	
REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
031001
TODD JOYCE
DocuSigned by:
D. Todd Joyce
07/20/2023
DATE
SIG. INVENTORY NO. 10-2256

PHASING DIAGRAM



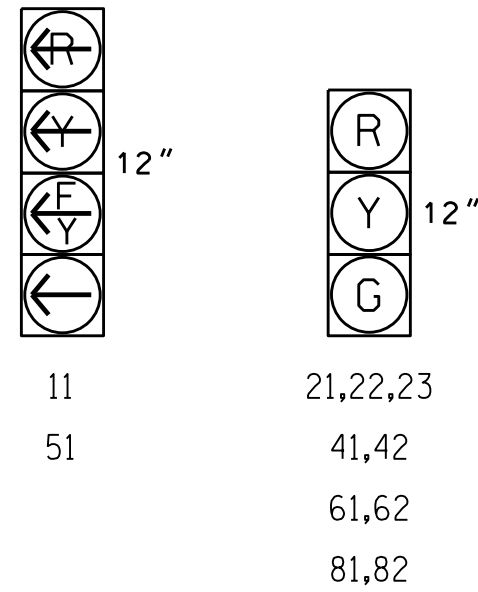
PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE	PHASE					
	Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 4 + 8	FLASH
11	←	←	←	←	←	Y
21,22,23	R	R	G	G	R	Y
41, 42	R	R	R	R	G	R
51	←	←	←	←	←	Y
61,62	R	G	R	G	R	Y
81,82	R	R	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

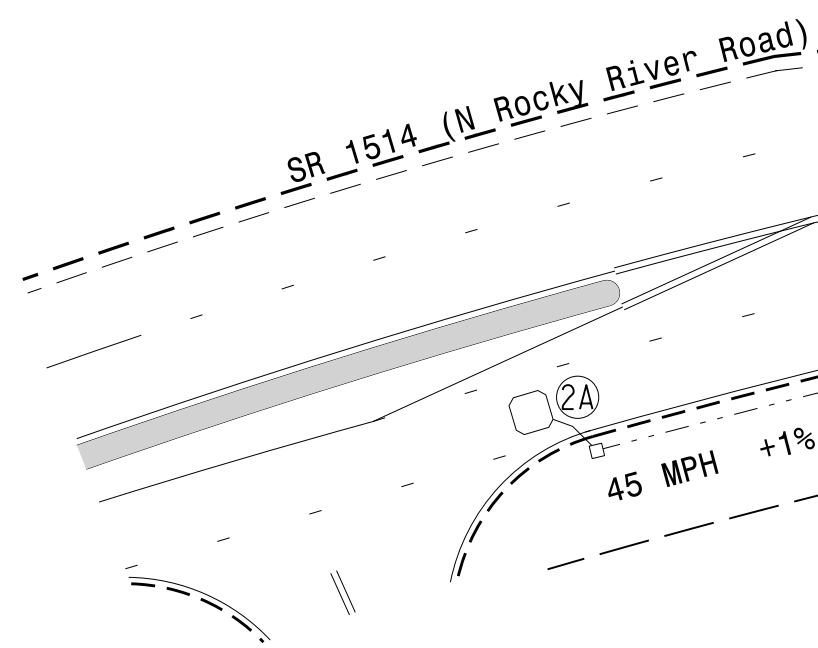


MAXTIME DETECTOR INSTALLATION CHART											
DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	NEW CARD
1A	6X40	0	2-4-2	X	1	15.0	-	X	-	X	-
2A	6X6	270	5	X	2	3.0	-	X	-	X	X
4A	6X40	0	2-4-2	X	4	10.0	-	X	X	X	-
5A	6X40	0	2-4-2	X	5	15.0	-	X	-	X	-
6A	6X6	300	5	X	6	-	-	X	X	X	-
8A	6X40	0	2-4-2	X	8	10.0	-	X	-	X	-

5 Phase
Fully Actuated
US 74 (Indian Trail) CLS

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



Wood Pole #1
Sta. 29+85 -Y- +/-
30' LT +/-

Wood Pole #2
Sta. 30+56 -Y- +/-
30' LT +/-

Wood Pole #4
Sta. 29+84 -Y- +/-
42' RT +/-

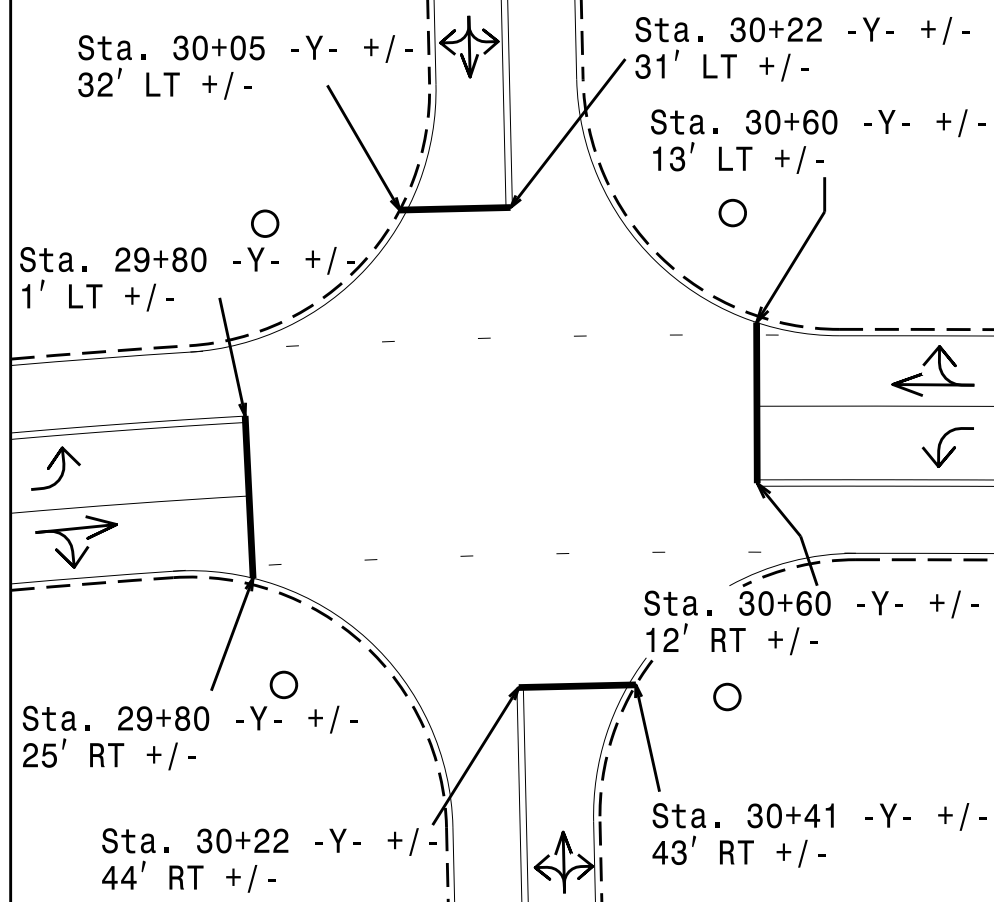
Wood Pole #3
Sta. 30+55 -Y- +/-
45' RT +/-

MAXTIME TIMING CHART

FEATURE	PHASE						
	1	2	4	5	6	8	
Walk *	-	-	-	-	-	-	-
Ped Clear *	-	-	-	-	-	-	-
Min Green *	7	12	7	7	12	7	7
Passage *	2.0	6.0	2.0	2.0	6.0	2.0	2.0
Max I *	25	90	30	25	90	30	30
Yellow Change	3.0	4.7	3.8	3.0	4.7	3.8	3.8
Red Clear	1.6	1.0	1.2	1.8	1.0	1.2	1.2
Added Initial *	-	2.5	-	-	2.5	-	-
Maximum Initial *	-	31	-	-	34	-	-
Time Before Reduction *	-	15	-	-	15	-	-
Time To Reduce *	-	30	-	-	30	-	-
Minimum Gap	-	3.0	-	-	3.0	-	-
Advance Walk	-	-	-	-	-	-	-
Non Lock Detector	X	-	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL	-	-
Dual Entry	-	-	X	-	-	-	X

* These values may be field adjusted. Do not adjust Min Green and Passage 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 Stop Bar Locations



LEGEND

- PROPOSED: Traffic Signal Head, Modified Signal Head, Sign, Pedestrian Signal Head With Push Button & Sign, Signal Pole with Guy, Signal Pole with Sidewalk Guy, Inductive Loop Detector, Controller & Cabinet, Junction Box, 2-in Underground Conduit, Right of Way, Directional Arrow.
- EXISTING: N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A.

New Installation

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

TRANSPORTATION MOBILITY AND SAFETY DIVISION

STATE OF NORTH CAROLINA

Signal Design Section

SR 1514 (N Rocky River Rd)
at
Myers Road /
James Hamilton Road

Division 10 Union County Monroe

PLAN DATE: May 2023 REVIEWED BY: R.N. Zinser

PREPARED BY: T.A. Kenion REVIEWED BY:

REVISIONS

INIT. DATE

Seal: R. Nicholas Zinser, Professional Engineer, License No. 043914, State of North Carolina.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

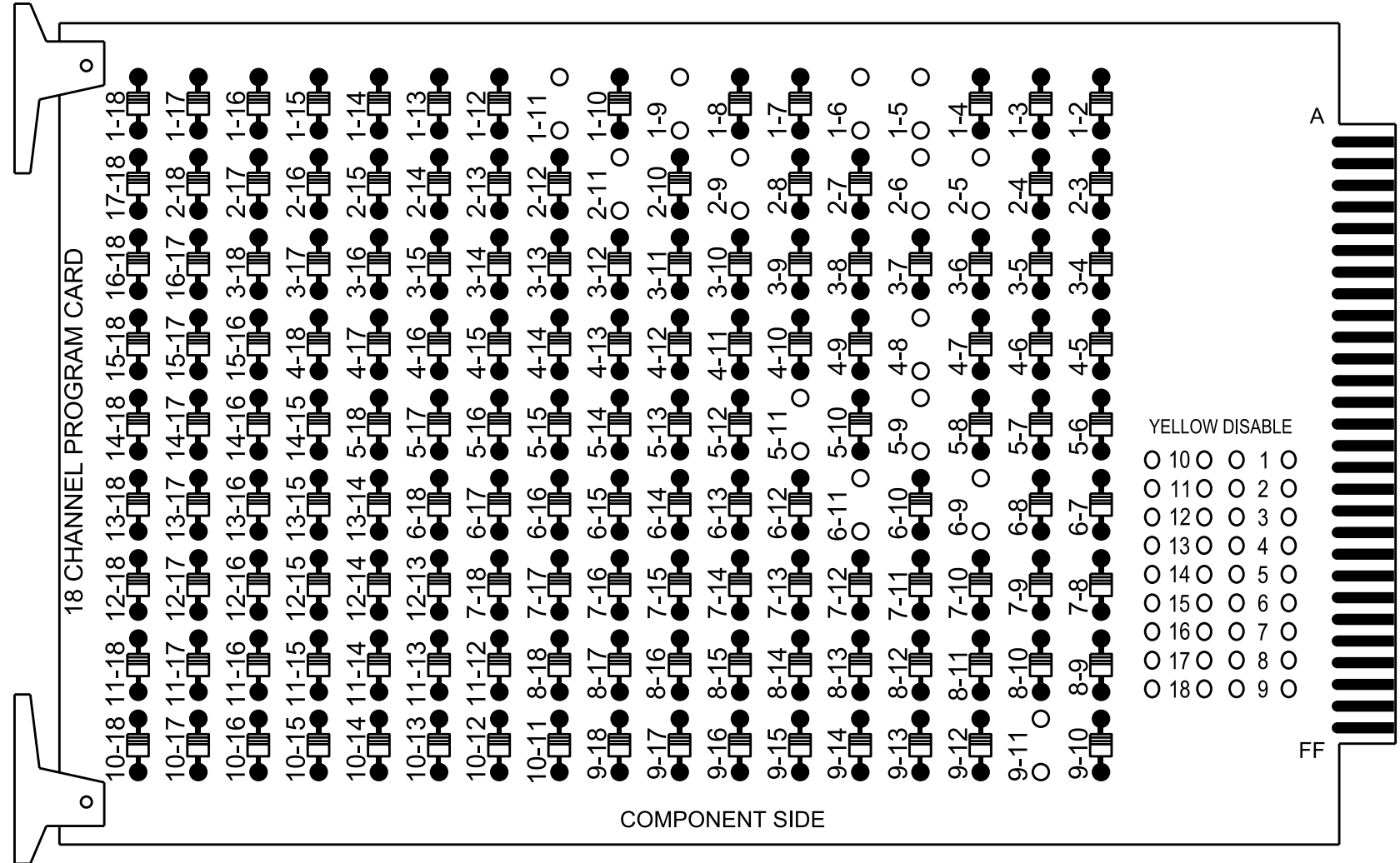
Seal: R. Nicholas Zinser, Professional Engineer, License No. 043914, State of North Carolina.

SIG. INVENTORY NO. 10-2460

(remove jumpers and set switches as shown)

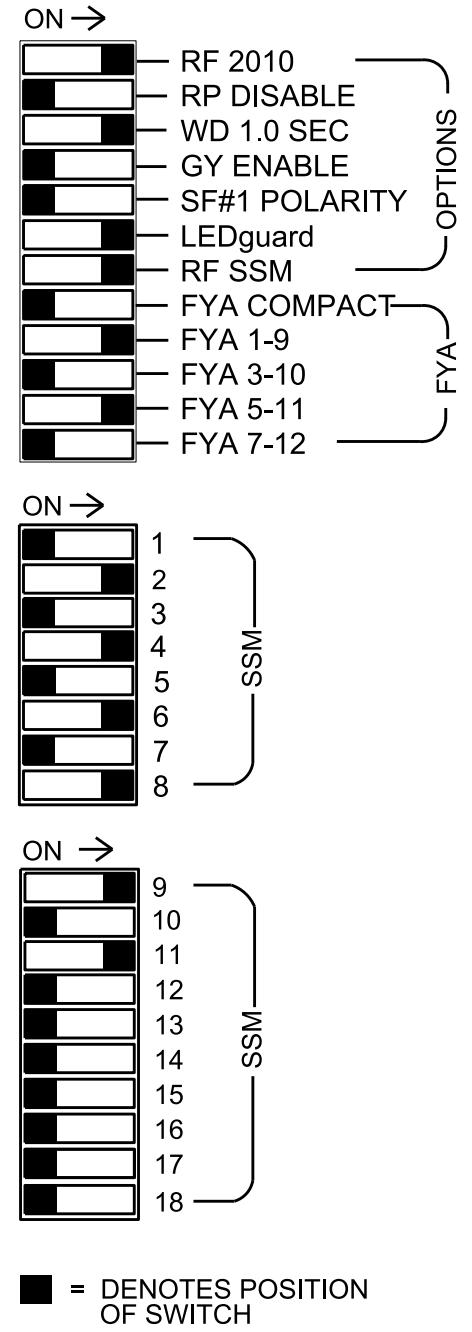
ON OFF
WD ENABLE
SW2

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



REMOVE JUMPERS AS SHOWN

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



1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.

3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.

4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

5. The cabinet and controller are part of the US 74 (Indian Trail) Closed Loop System.

Controller.....	2070LX
Cabinet.....	332 w/ Aux
Software.....	Q-Free MAXTIME
Cabinet Mount.....	18 With Aux. Output File
Load Switches Used.....	S1, S2, S5, S7, S8, S11, AUX S1, AUX S4
Phases Used.....	1, 2, 4, 5, 6, 8
Overlap "1".....	*
Overlap "2".....	NOT USED
Overlap "3".....	*
Overlap "4".....	NOT USED

*See overlap programming detail on this sheet.

[illegible]

* Denotes install load resistor. See load resistor installation detail this sheet. NU = Not Used
★ See pictorial of head wiring in detail this sheet.

(front view)

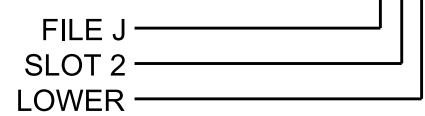
[illegible]

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

FS = FLASH SENSE
ST = STOP TIME

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1	15		X		X	
				-	29	6	3		X		X	X
2A	TB2-5,6	I2U	39	1	2	2			X	X	X	
4A	TB4-9,10	I6U	41	3	8	4	10		X		X	
5A	TB3-1,2	J1U	55	17	15	5	15		X		X	
				-	31	2	3		X		X	X
6A	TB3-5,6	J2U	40	2	16	6			X	X	X	
8A	TB5-9,10	J6U	42	4	22	8	10		X		X	

INPUT FILE POSITION LEGEND: J2L

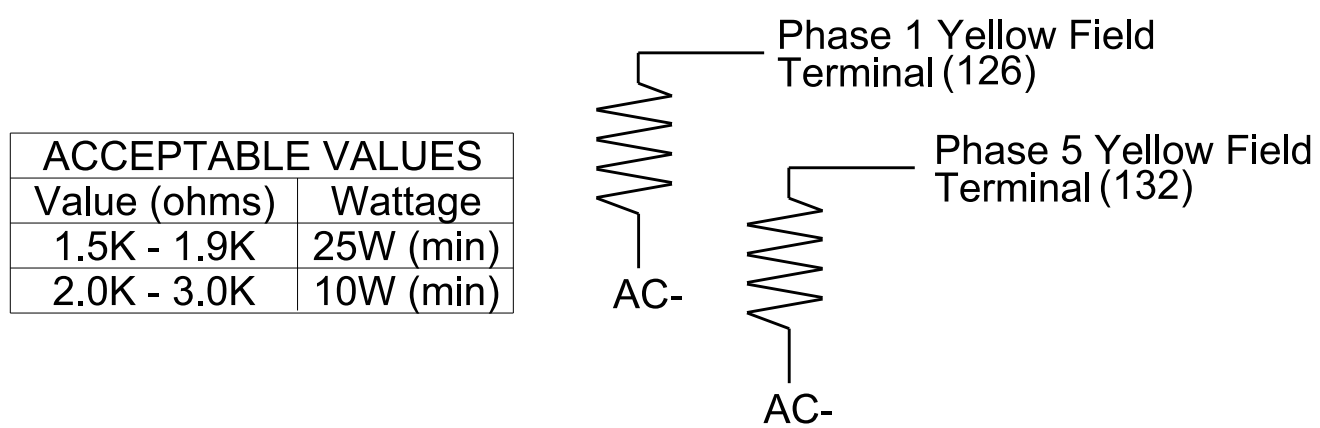


Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

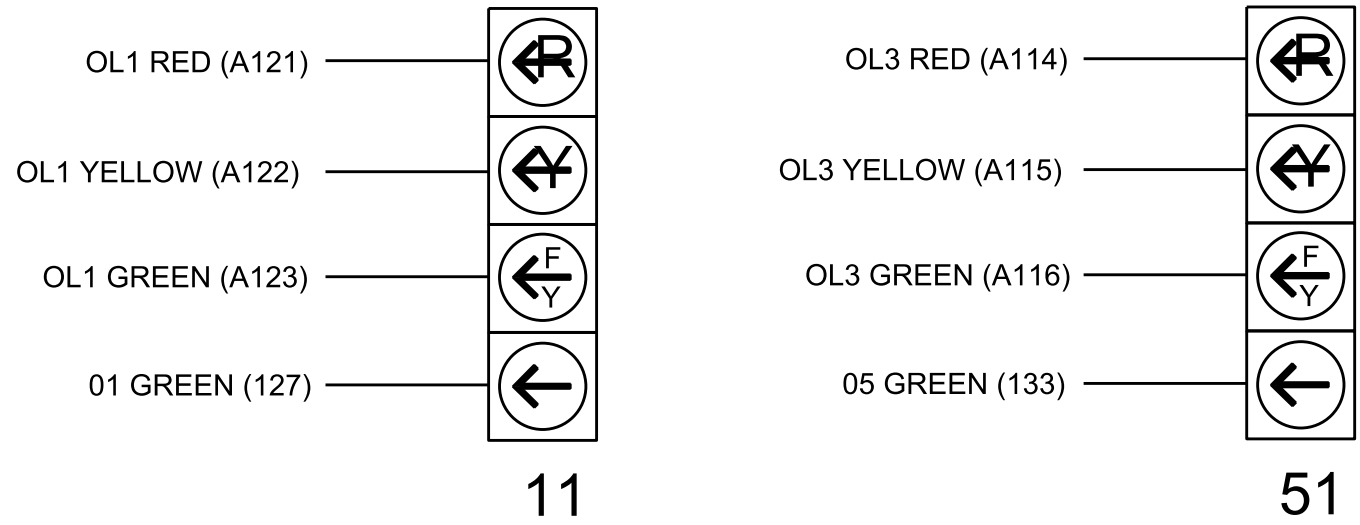
Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap	1	2	3	4
Type	FYA 4 - Section	Off	FYA 4 - Section	Off
Included Phases	2	-	6	-
Modifier Phases	1	-	5	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

(install resistors as shown)



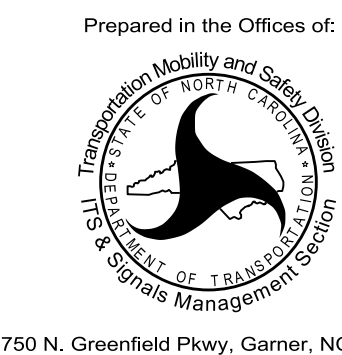
(wire signal heads as shown)



OVERLAP PROGRAMMING

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-2460
DESIGNED: May 2023
SEALED: 6/21/2023
REVISED:

Electrical Detail

Electrical and Programming
Details For:

750 N. Greenfield Pkwy, Garner, NC 27529

SR 1514 (N Rocky River Rd)
at
Myers Road /
James Hamilton Road

Division 10 Union County Monroe

PLAN DATE: June 2023	REVIEWED BY: DTJ
----------------------	------------------

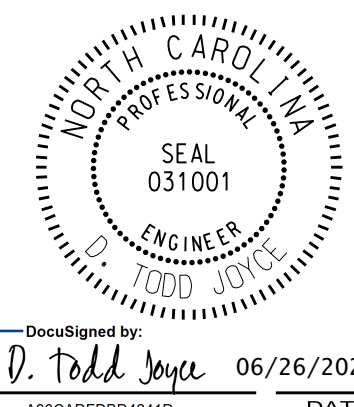
PREPARED BY: D.J. Craddock	REVIEWED BY:
----------------------------	--------------

REVISIONS	INIT.	DATE
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[illegible]

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

SEAL



DocuSigned by:
D. D. L. M. 06/26/2022

V. Todd Joyce 06/26/2023
100012522212112 DATE

SIG INVENTORY NO	10-2460
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LEGEND



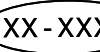
YAGI ANTENNA (SINGLE)



EXISTING CONTROLLER AND CABINET



GATEWAY RADIO LOCATION



SIGNAL INVENTORY NUMBER



EXISTING METAL POLE W/MAST ARM



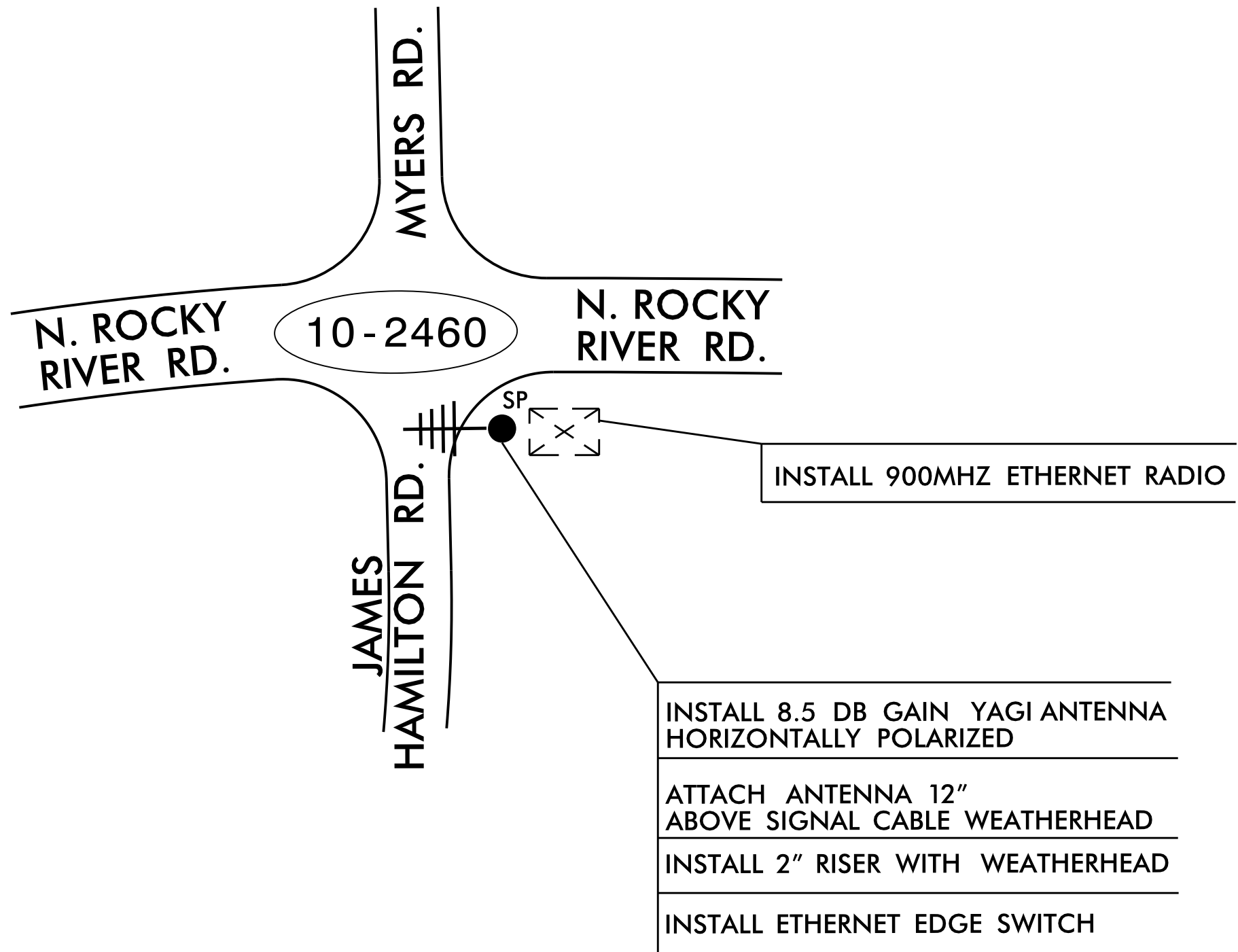
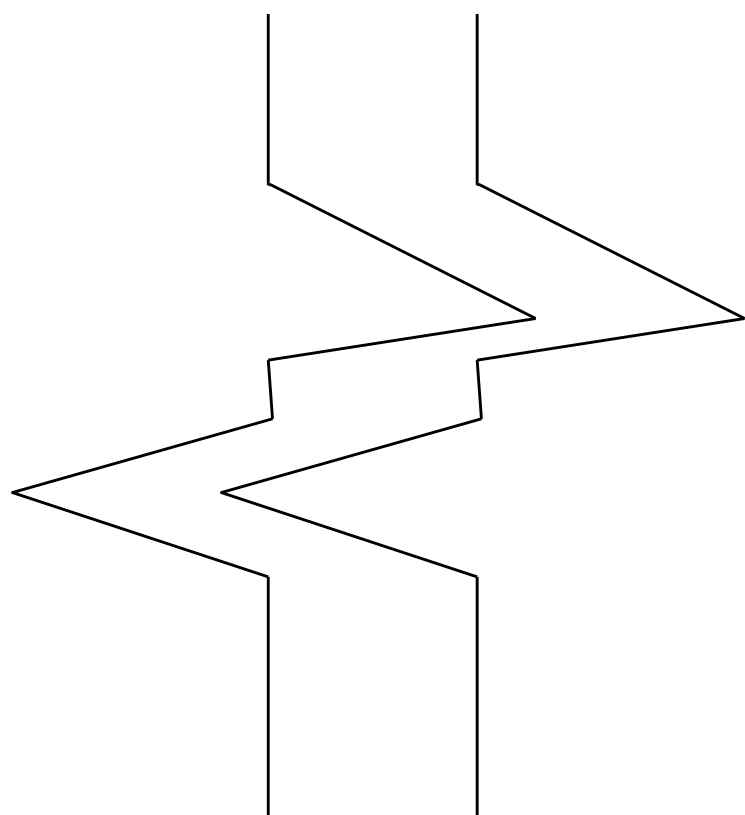
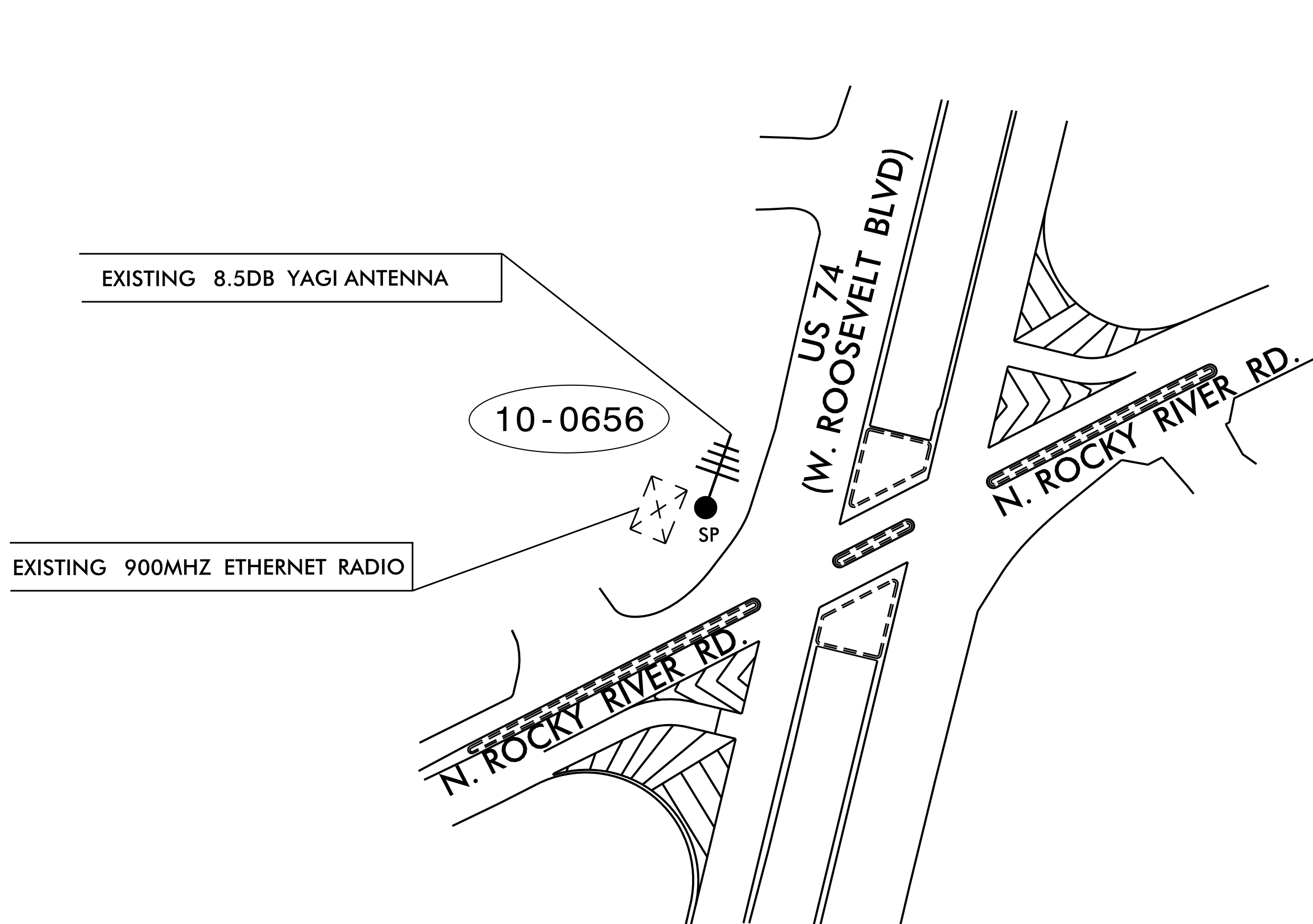
SIGNAL POLE



EXISTING METAL POLE



EXISTING WOOD POLE



NOTES FOR WIRELESS COMMUNICATIONS:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION TRAFFIC ENGINEER AT (704) 973-4400 OR THE SIGNAL SHOP AT (704) 244-8285.
NOTIFY THE DEPUTY DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL WIRELESS CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNALS ARE COMMUNICATING WITH THE CENTRAL SYSTEM.
- INSTALL COAXIAL CABLE:
 - ON WOOD POLES, REQUIRING A NEW RIGID GALVANIZED STEEL RISER, INSTALL A 2" RISER WITH WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
 - ON METAL POLES WITH MAST ARMS, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL A 1/2" HOLE UP THROUGH THE BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.
 - ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
 - BETWEEN THE POINT OF EXITING THE RISER, METAL POLE OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 3/4" STAINLESS STEEL STRAPS EVERY 12".
- IF AN EXISTING 2" SPARE RIGID GALVANIZED STEEL RISER IS AVAILABLE, INSTALL THE COAXIAL CABLE IN THE SPARE RISER WITH 2" WEATHERHEAD.
- INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN.
(NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
- INSTALL WIRELESS RADIO WITH EXTERIOR DISCONNECT SWITCH LOCATED ON CABINET.
(NOTE: RF ANTENNA DISCONNECT SWITCH AND DECAL ARE NOT REQUIRED WHEN THE ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
- MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.
- REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS."

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Prepared in the Offices of:



750 N. Greenfield Plaza, Garner, NC 27529



D10-33 INDIAN TRAILS/STALLINGS
WIRELESS COMMUNICATION PLAN

DIVISION 10 UNION CO. DocuSign by: MONROE

PLAN DATE: JUNE 2023 REVIEWED BY: *Greg, Greg D.* DocuSign by: ALEX D. STEWART

PREPARED BY: H.T. BERGGREN, EI DocuSign by: ALEX D. STEWART

REVISIONS

INIT. DATE

06/23/2023

SEAL

NORTH CAROLINA

PROFESSIONAL

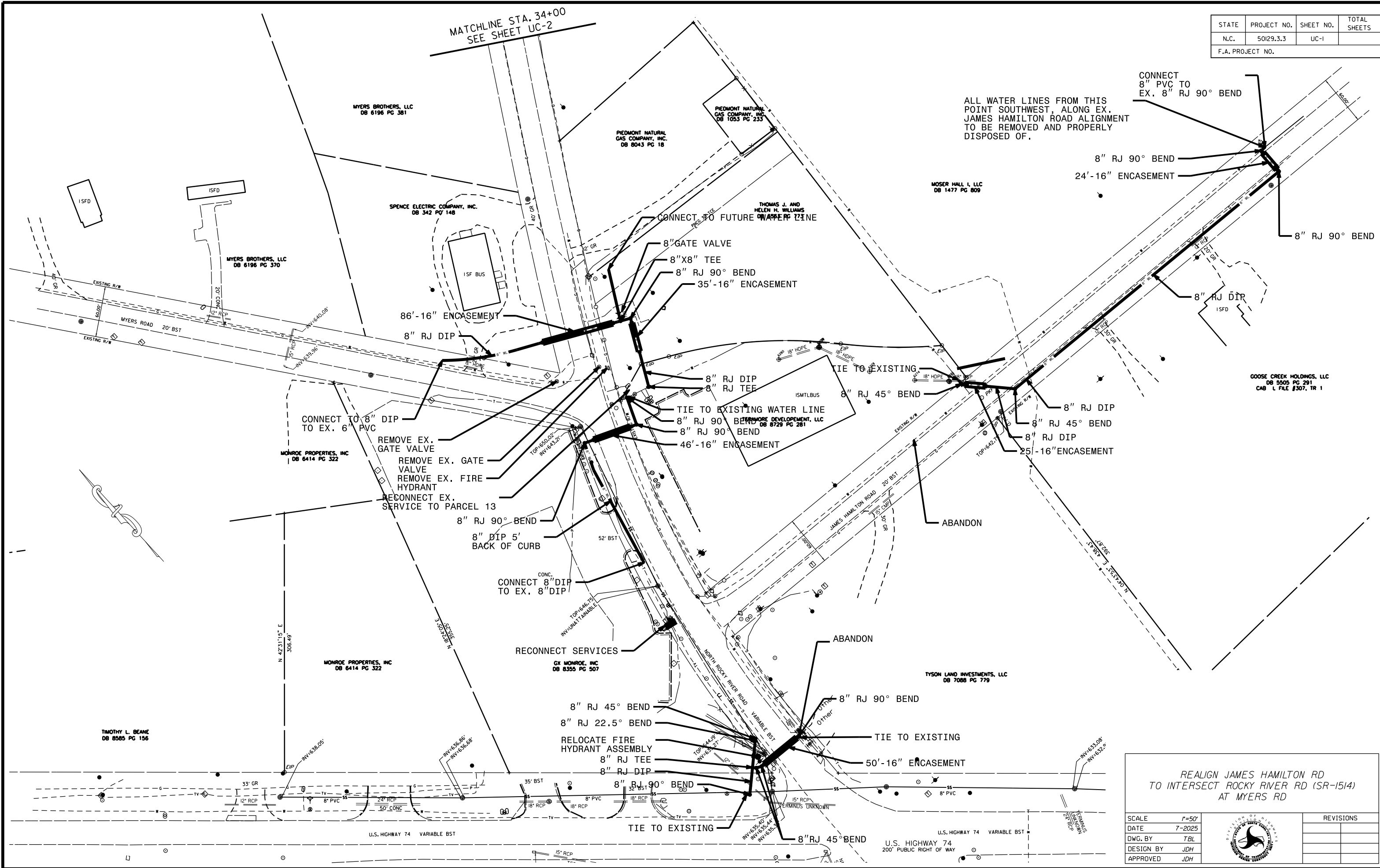
SEAL 046152

ENGINEER

ALEX D. STEWART

DocuSign by: ALEX D. STEWART

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50129.3.3	UC-1	
F.A. PROJECT NO.			



CONNECT
8" PVC TO
EX. 8" RJ 90° BEND

8" RJ 90° BEND

24'-16" ENCASEMENT

8" RJ 90° BEND

8" RJ DIP

ISFD

ALL WATER LINES FROM THIS
POINT SOUTHWEST, ALONG EX.
JAMES HAMILTON ROAD ALIGNMENT
TO BE REMOVED AND PROPERLY
DISPOSED OF.

GOOSE CREEK HOLDINGS, LLC
DB 5505 PG 291
CAB L FILE #307, TR 1

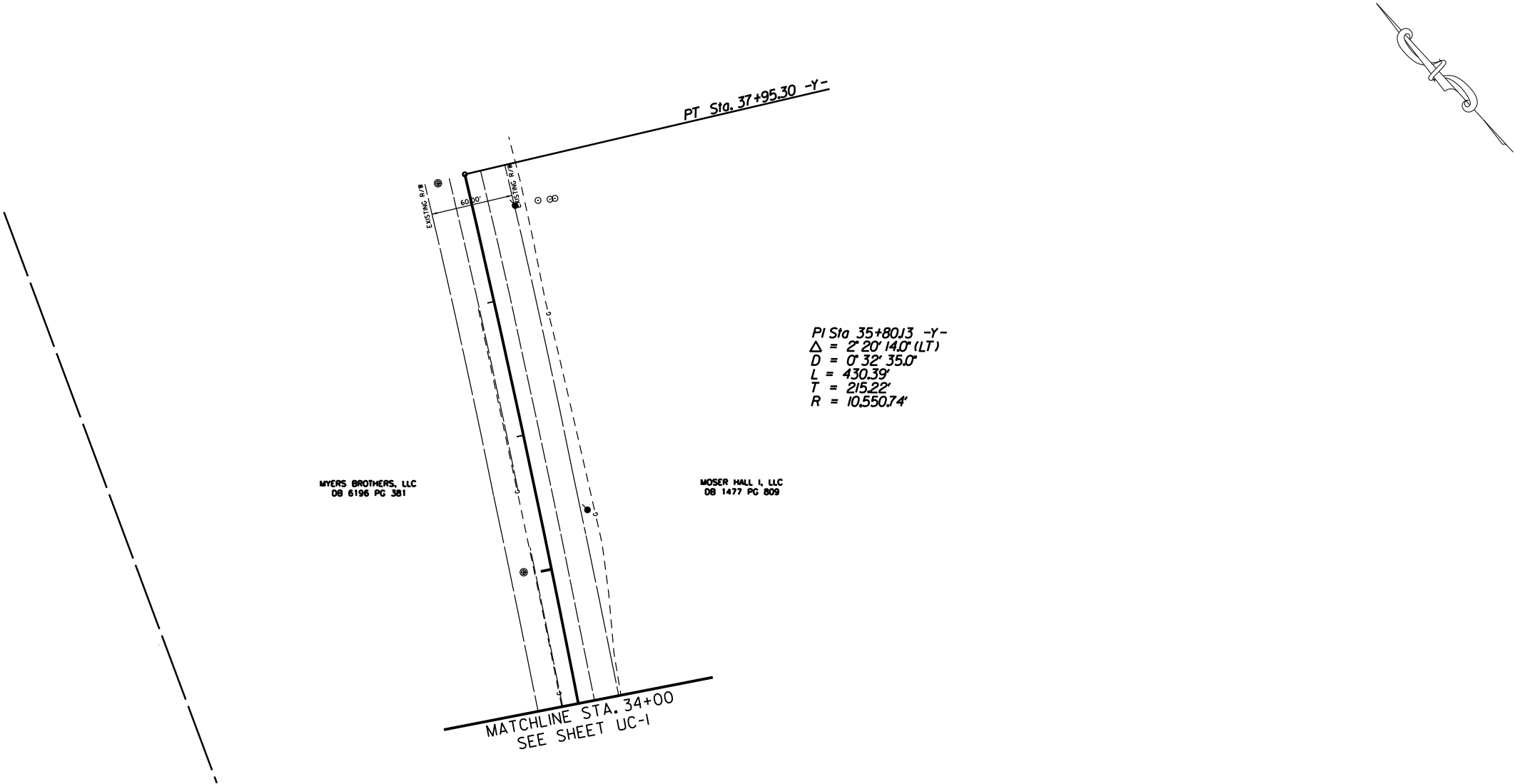
REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-1514)
AT MYERS RD

SCALE	1"=50'
DATE	7-2025
DWG. BY	TBL
DESIGN BY	JDH
APPROVED	JDH

REVISIONS

U.S. HIGHWAY 74
200' PUBLIC RIGHT OF WAY

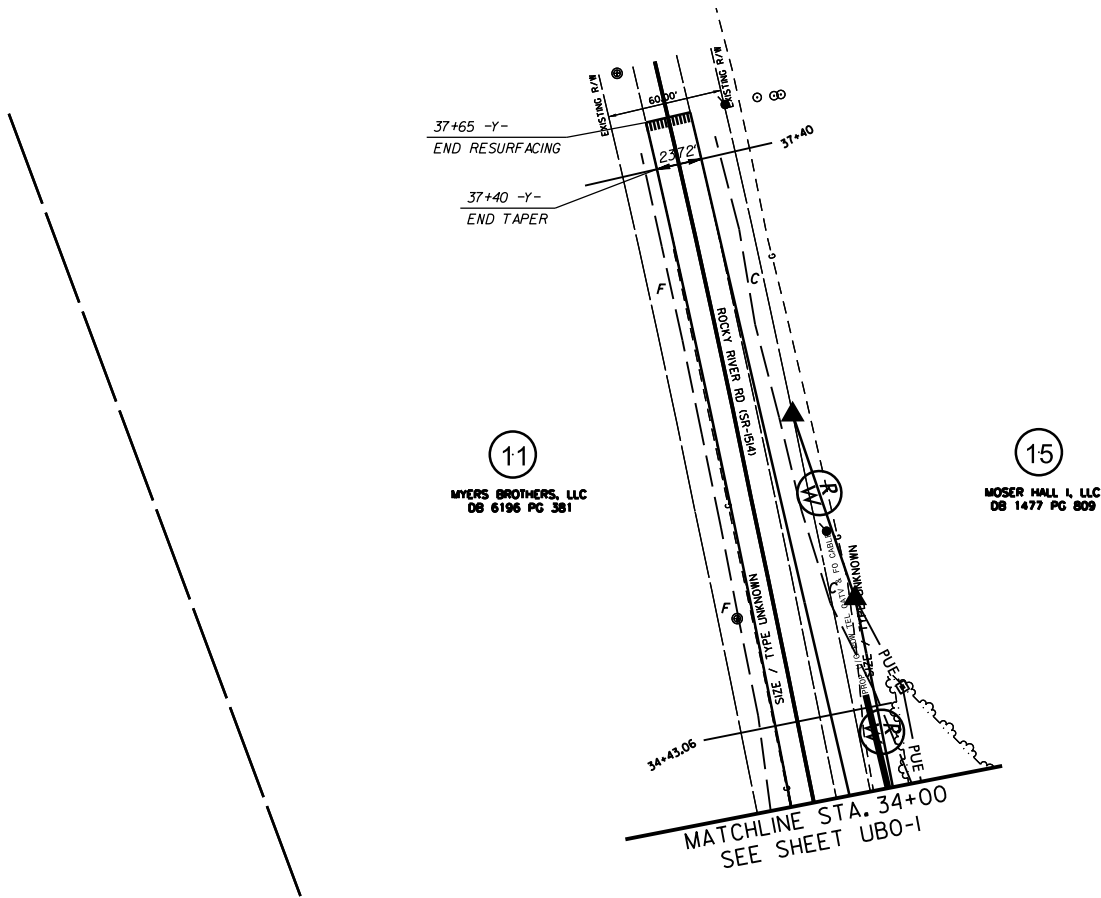
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F.A. PROJECT NO.			



REALIGN JAMES HAMILTON RD
TO INTERSECT ROCKY RIVER RD (SR-1514)
AT MYERS RD

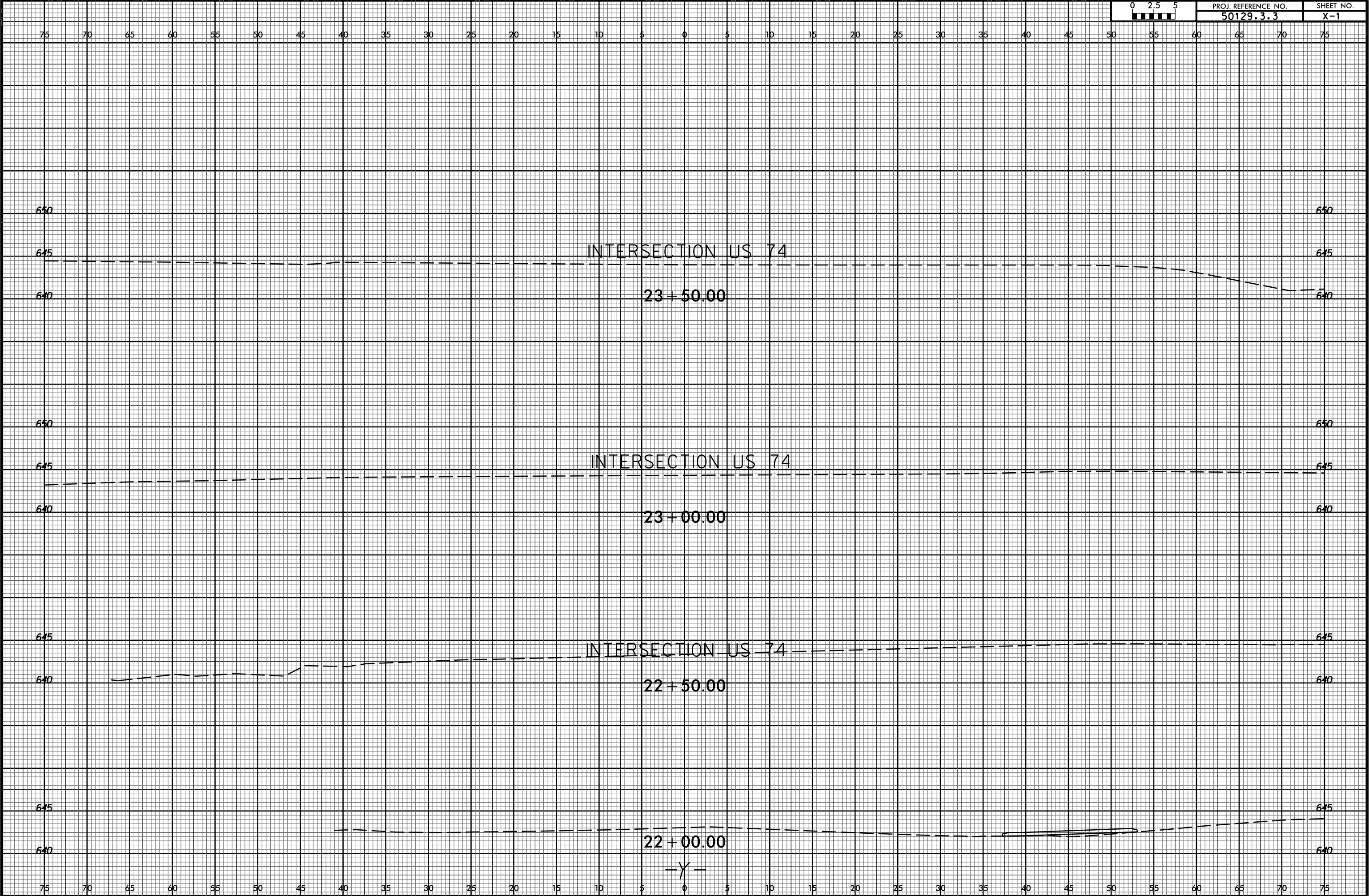
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DATE	7-2025			
DWG. BY	JDH			
DESIGN BY	TBL			
APPROVED	JDH			

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	50I29.3.3	UBO-2	
F.A. PROJECT NO.			



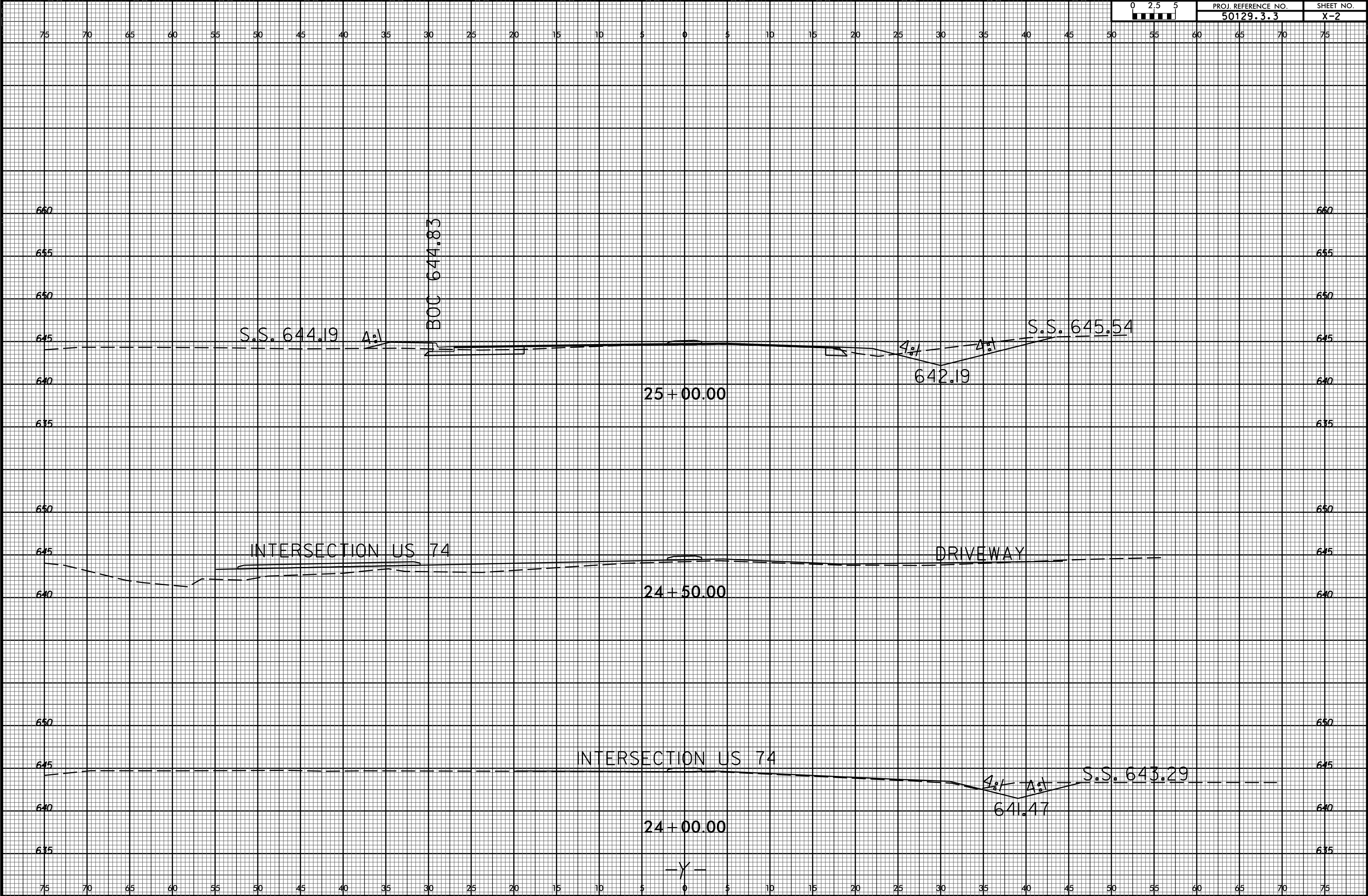
NOTE: INCIDENTAL MILL APPROXIMATELY 25' AT EACH
TIE IN TO PROVIDE A SMOOTH TRANSITION
TO THE EXISTING ASPHALT PAVEMENT.

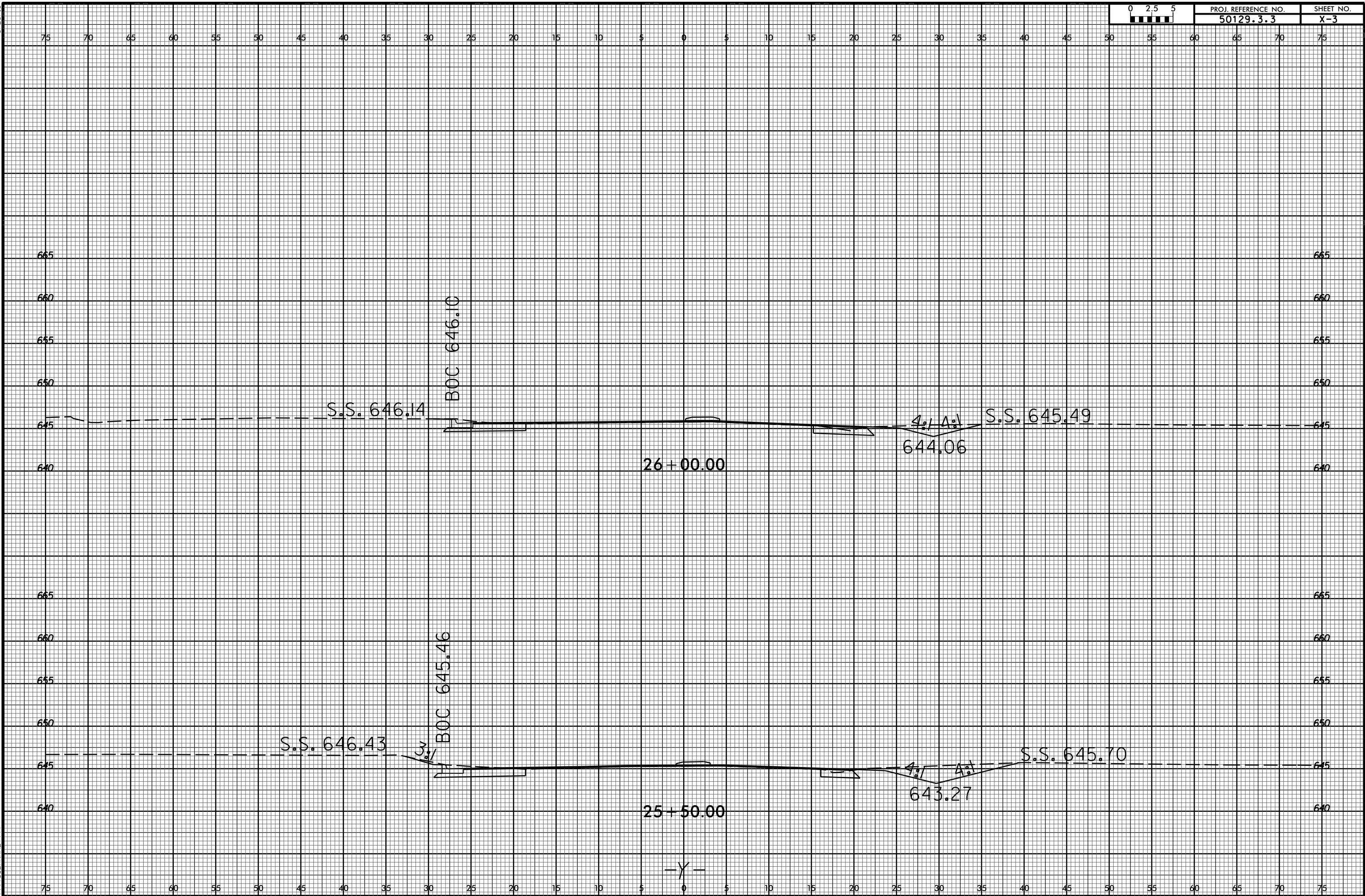
REALIGN JAMES HAMILTON RD TO INTERSECT ROCKY RIVER RD (SR-1514) AT MYERS RD			REVISIONS	
SCALE	1"=50'			
DATE	7-2025			
DWG. BY	x			
DESIGN BY	x			
APPROVED	x			



6/23/16

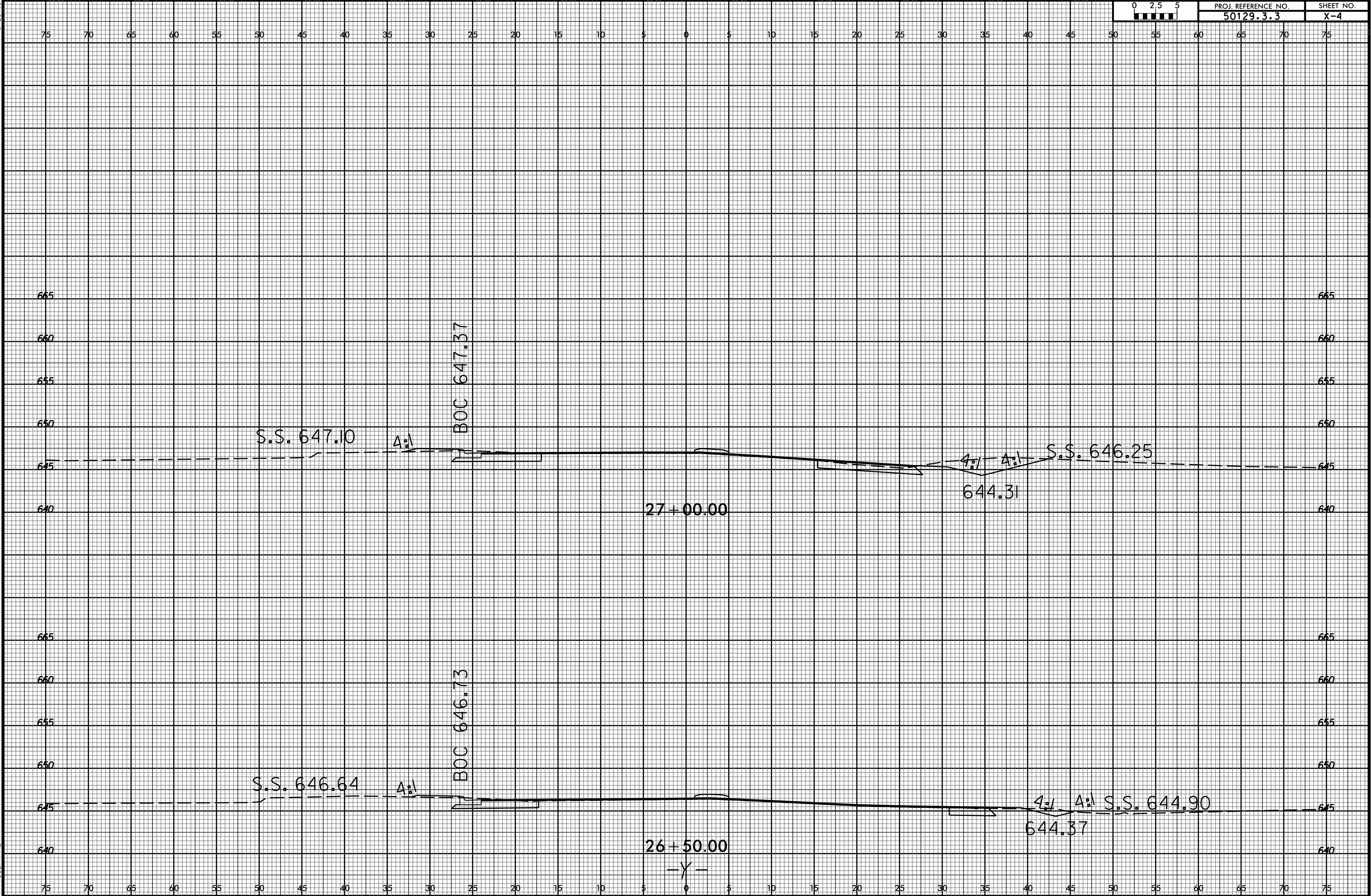
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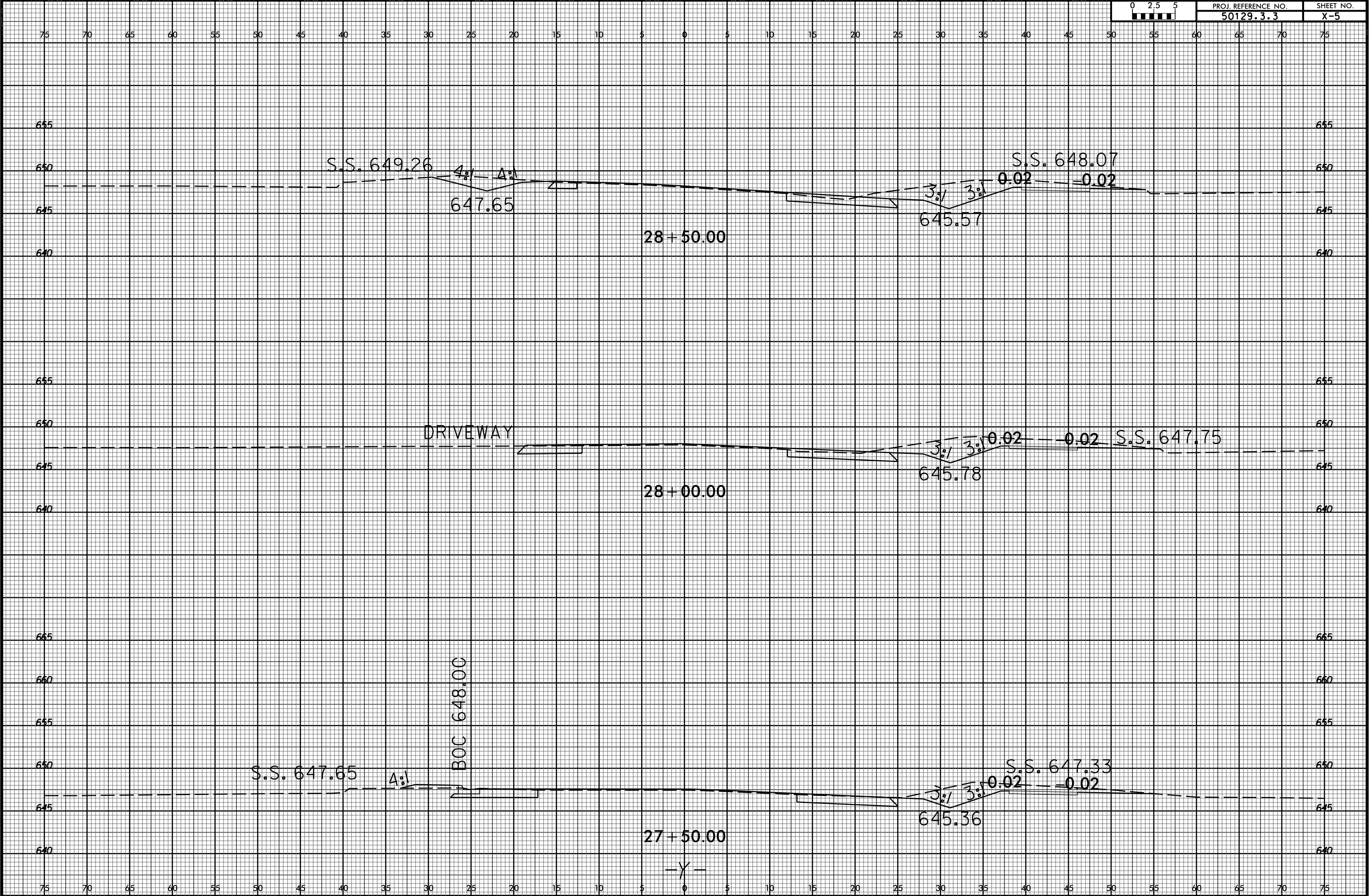
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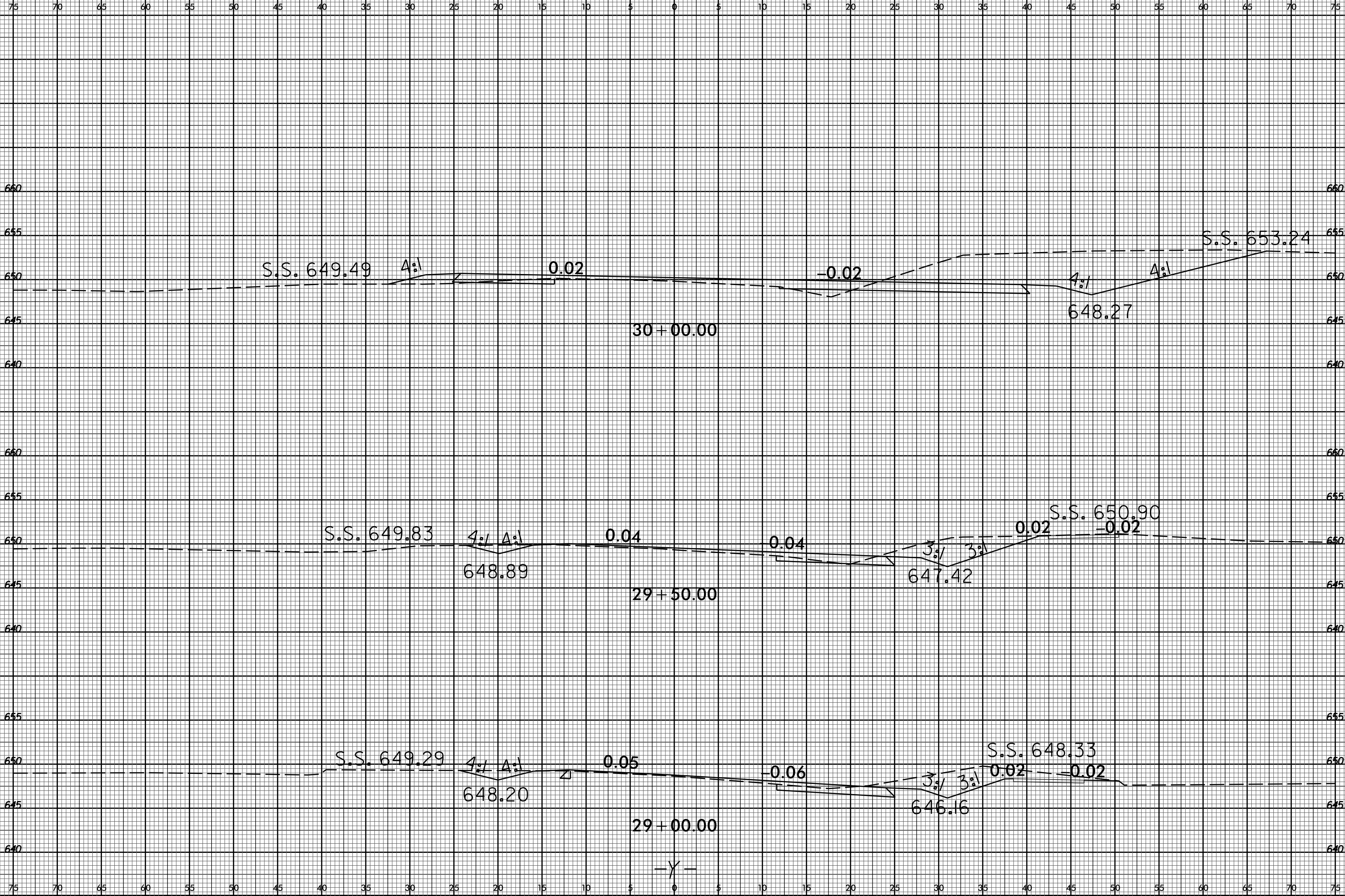
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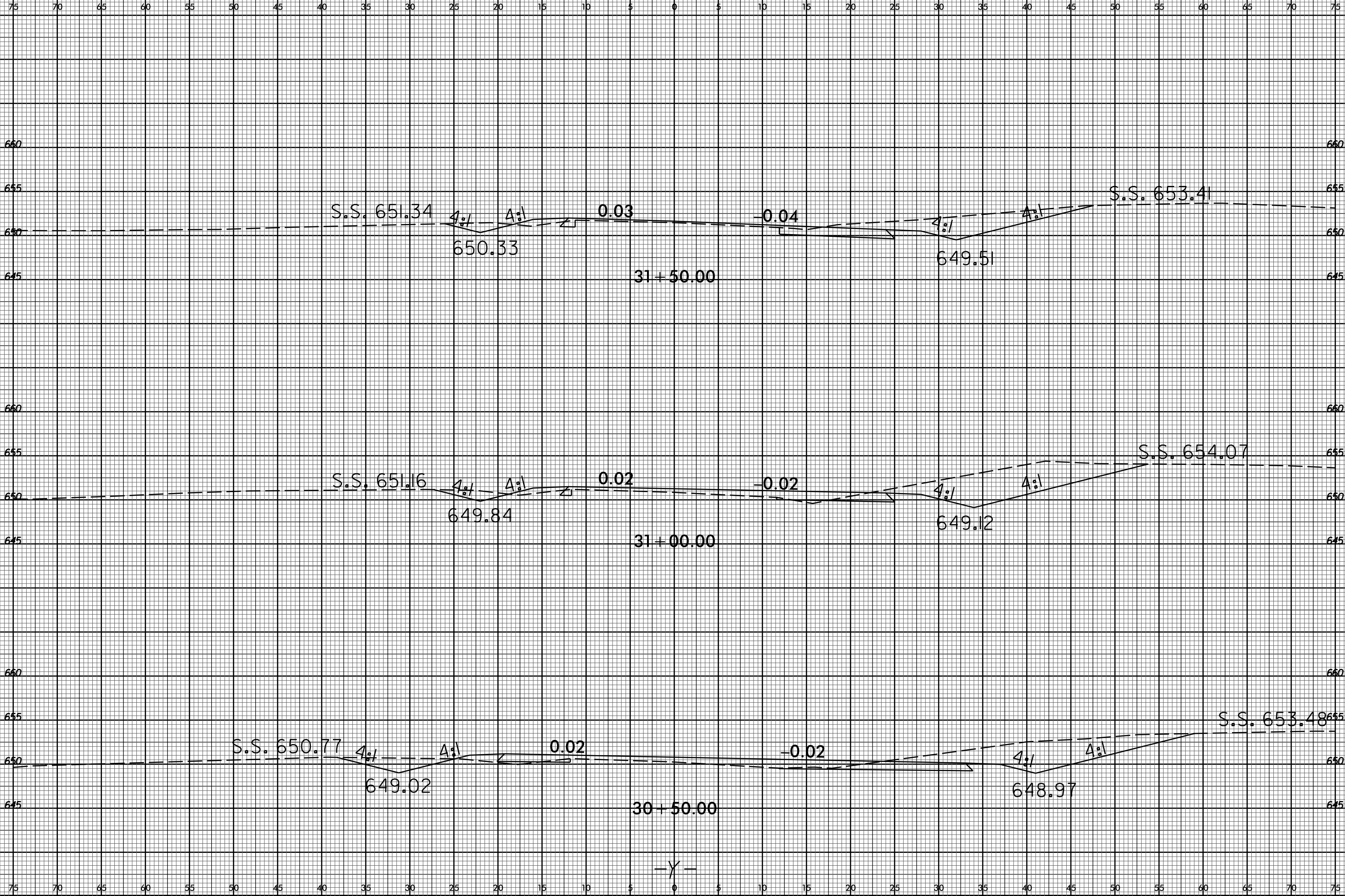
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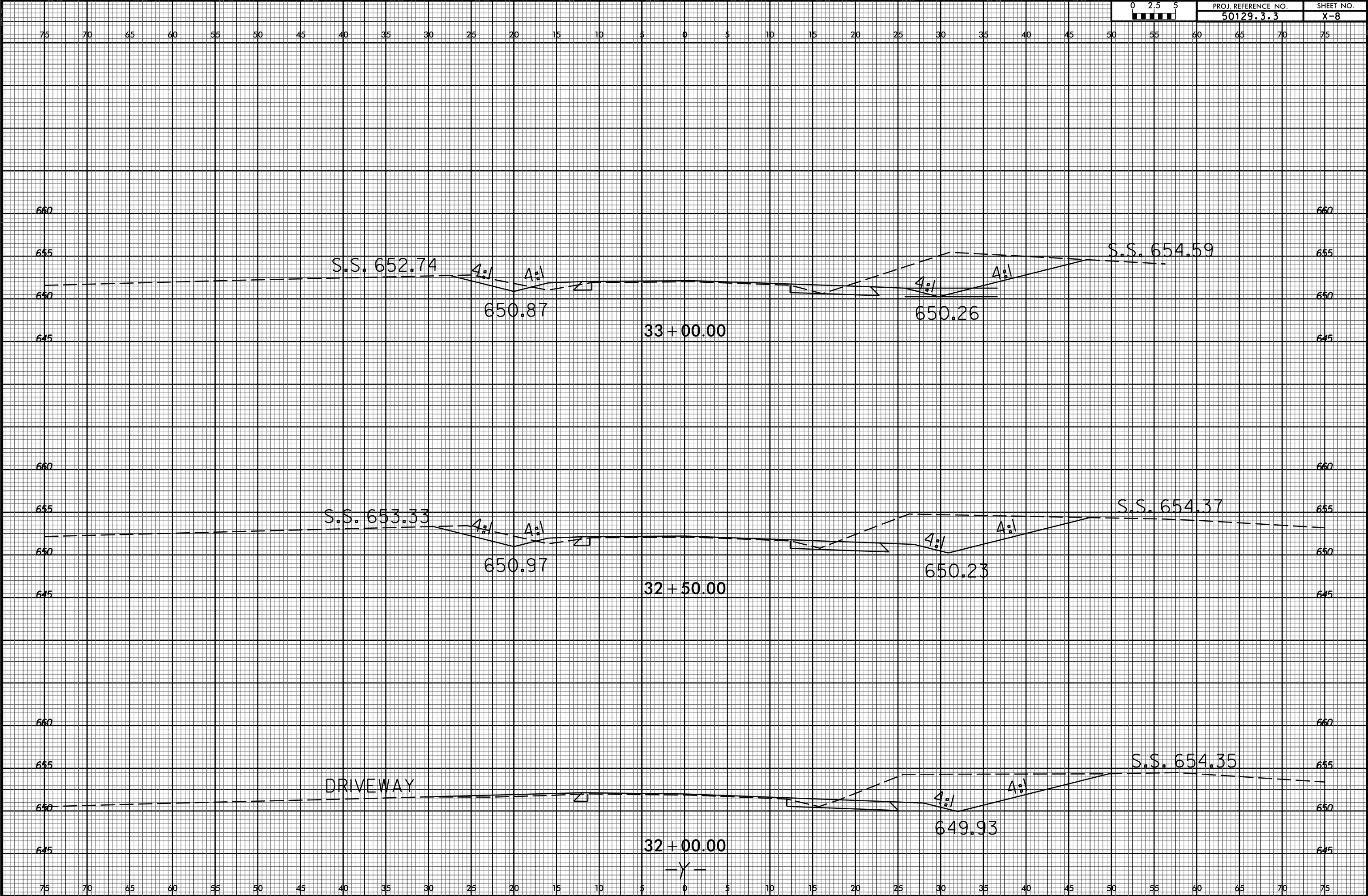
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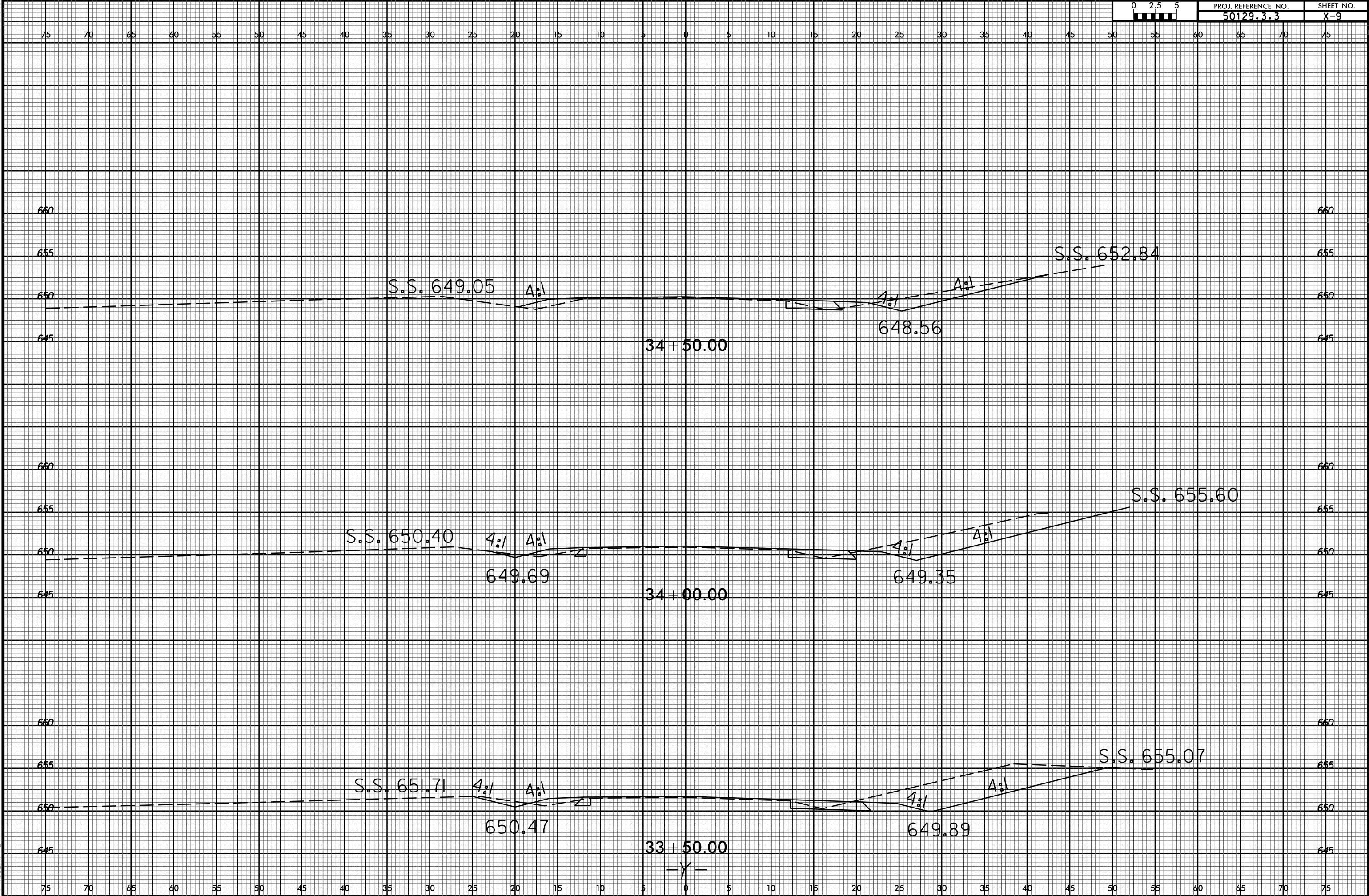
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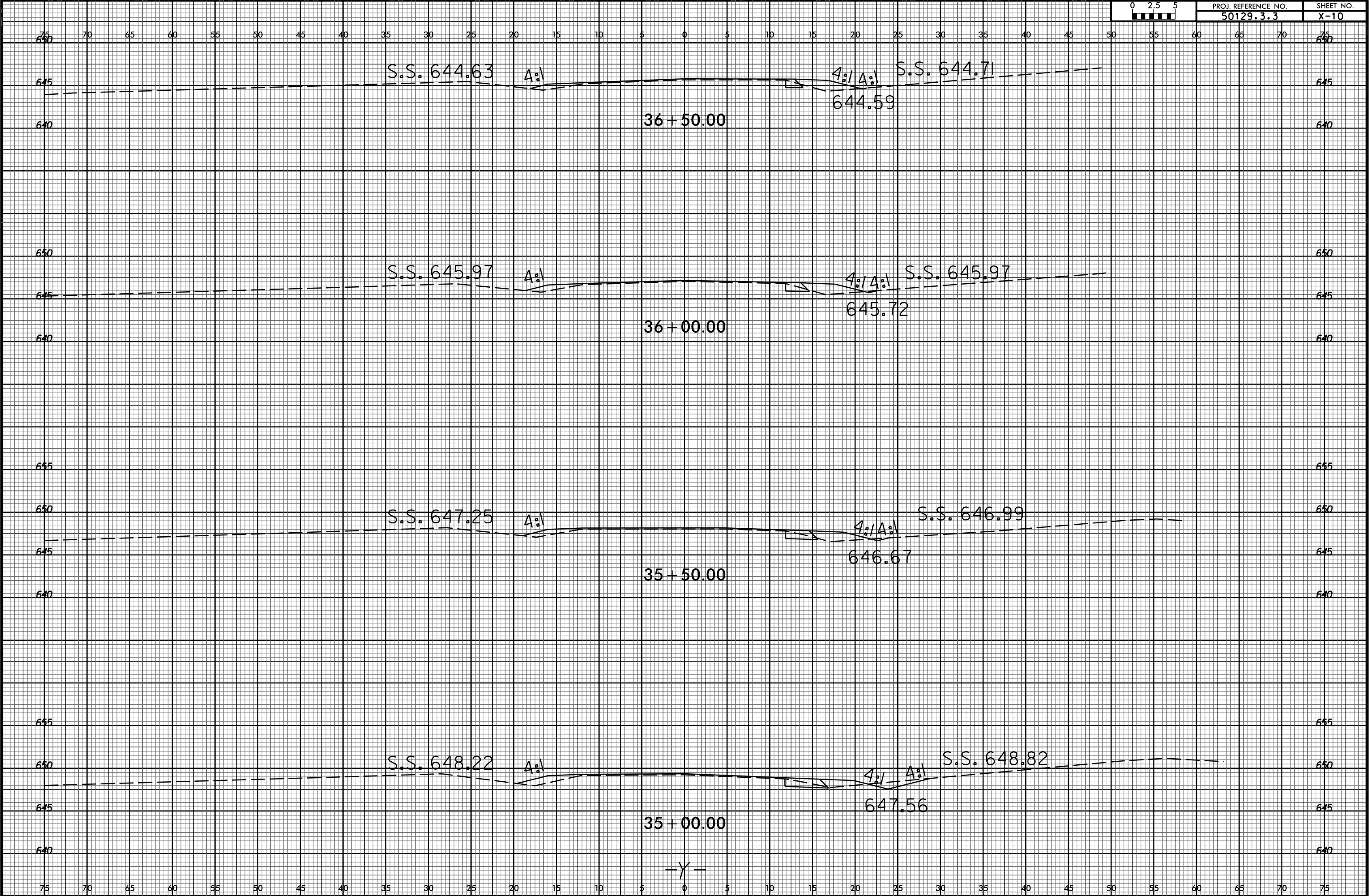
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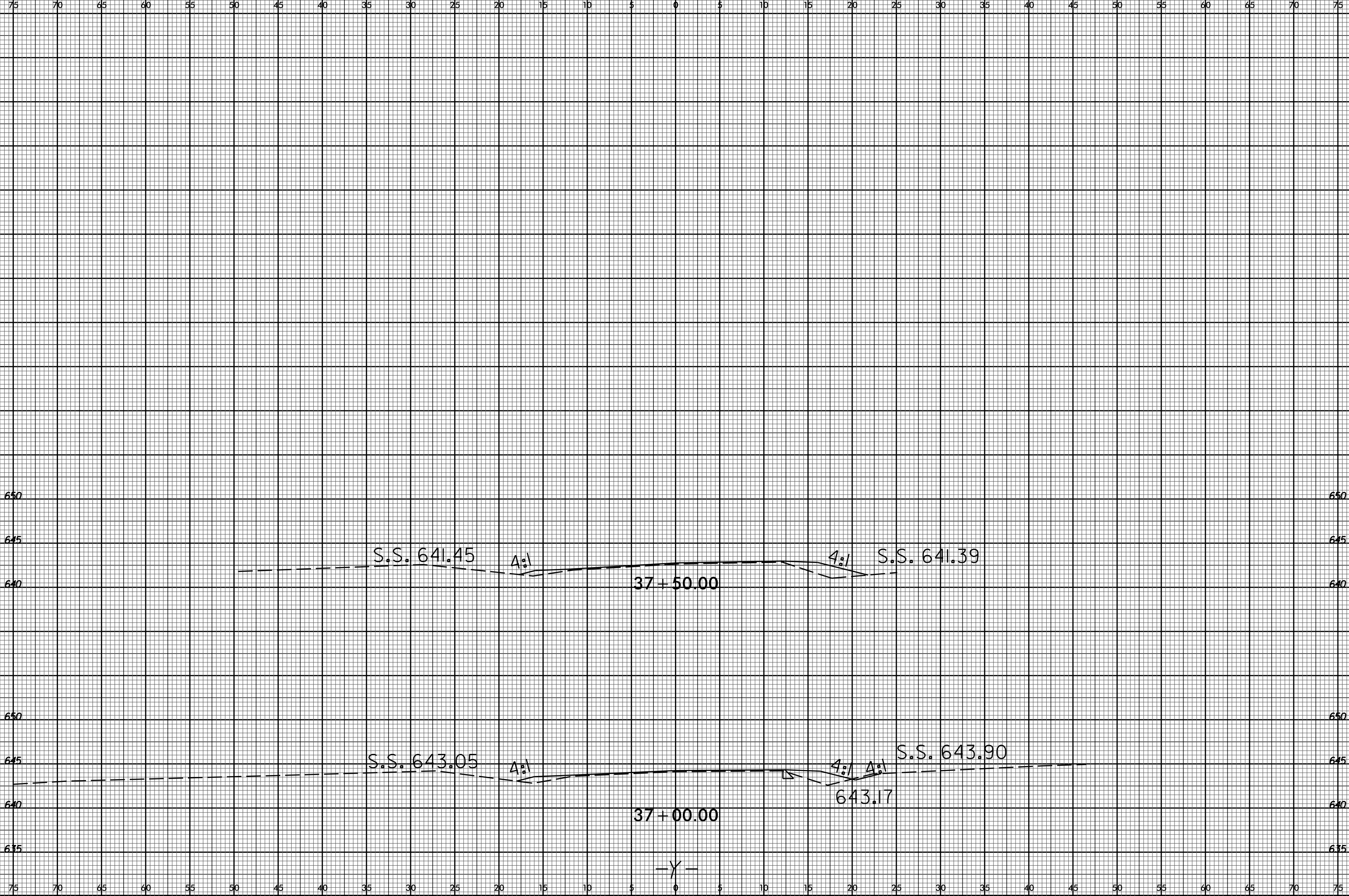
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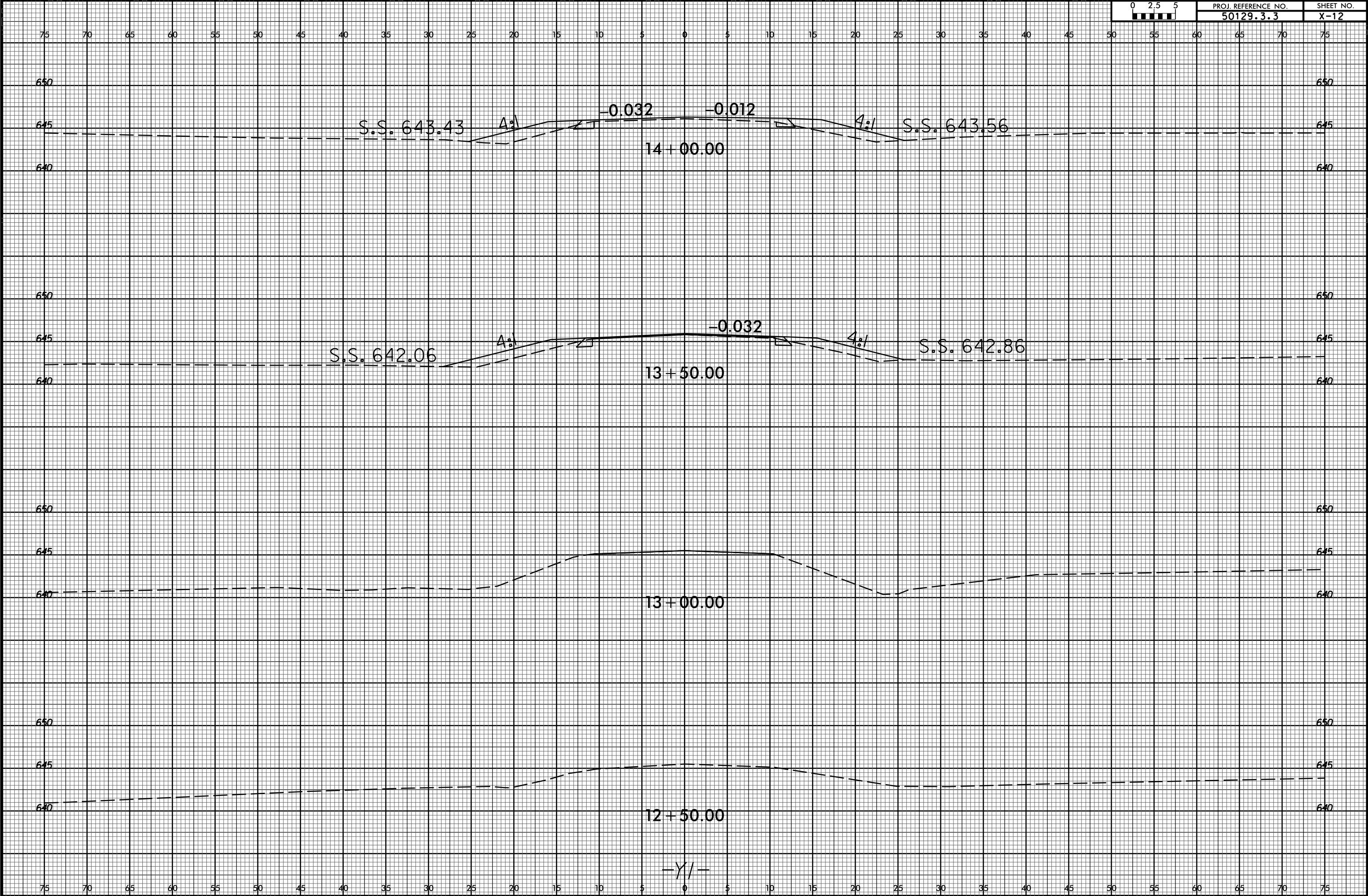
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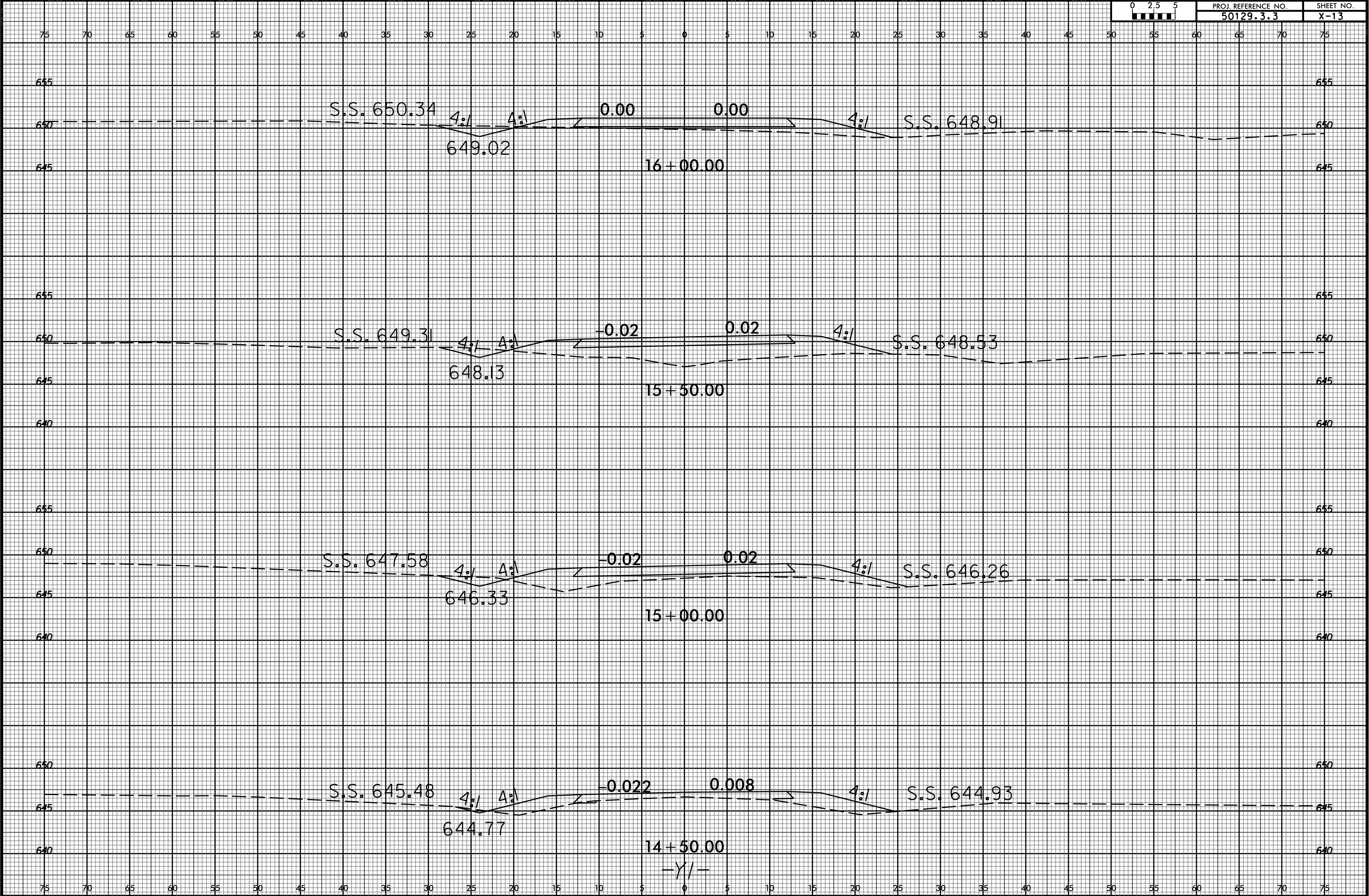
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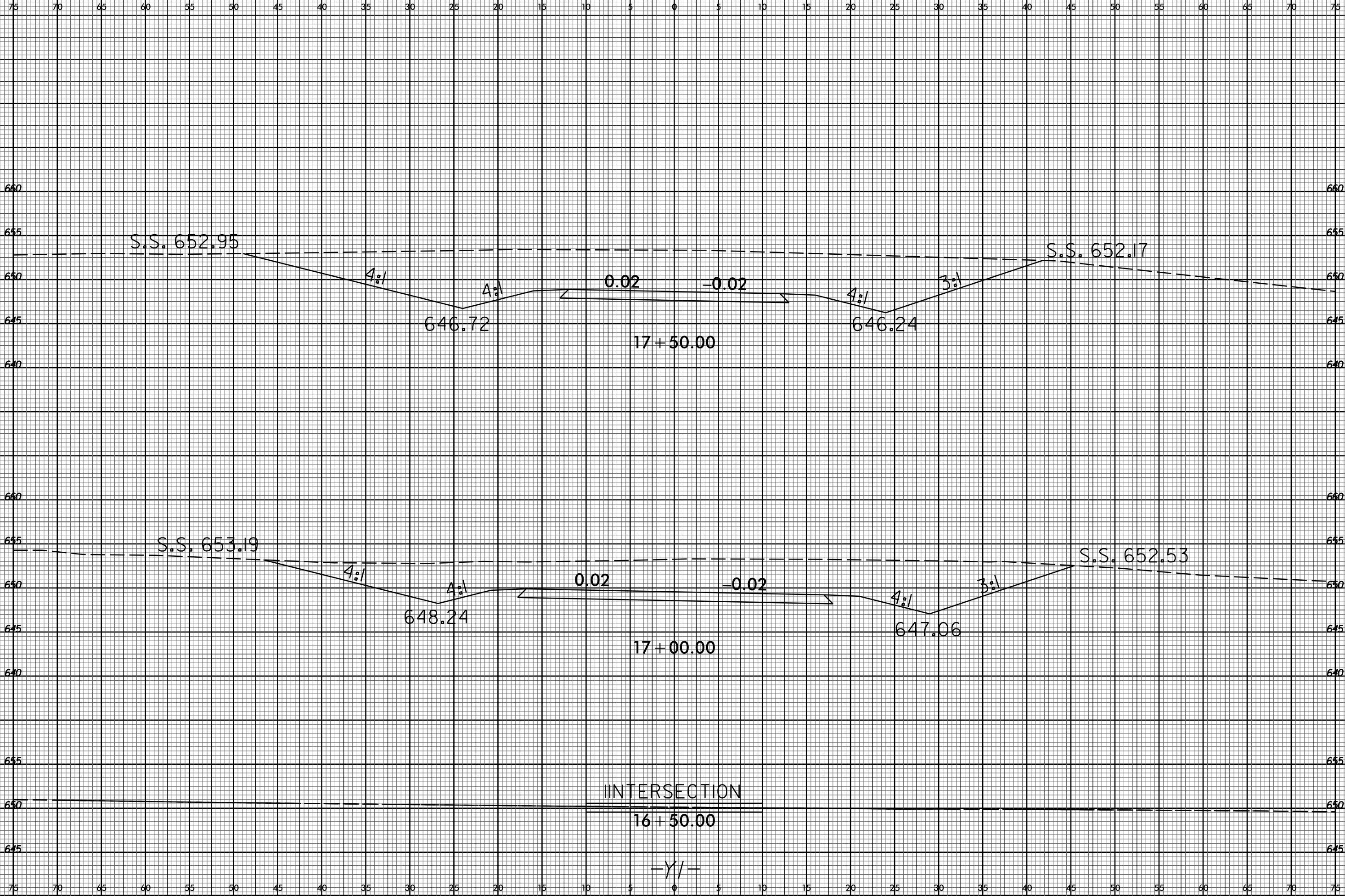
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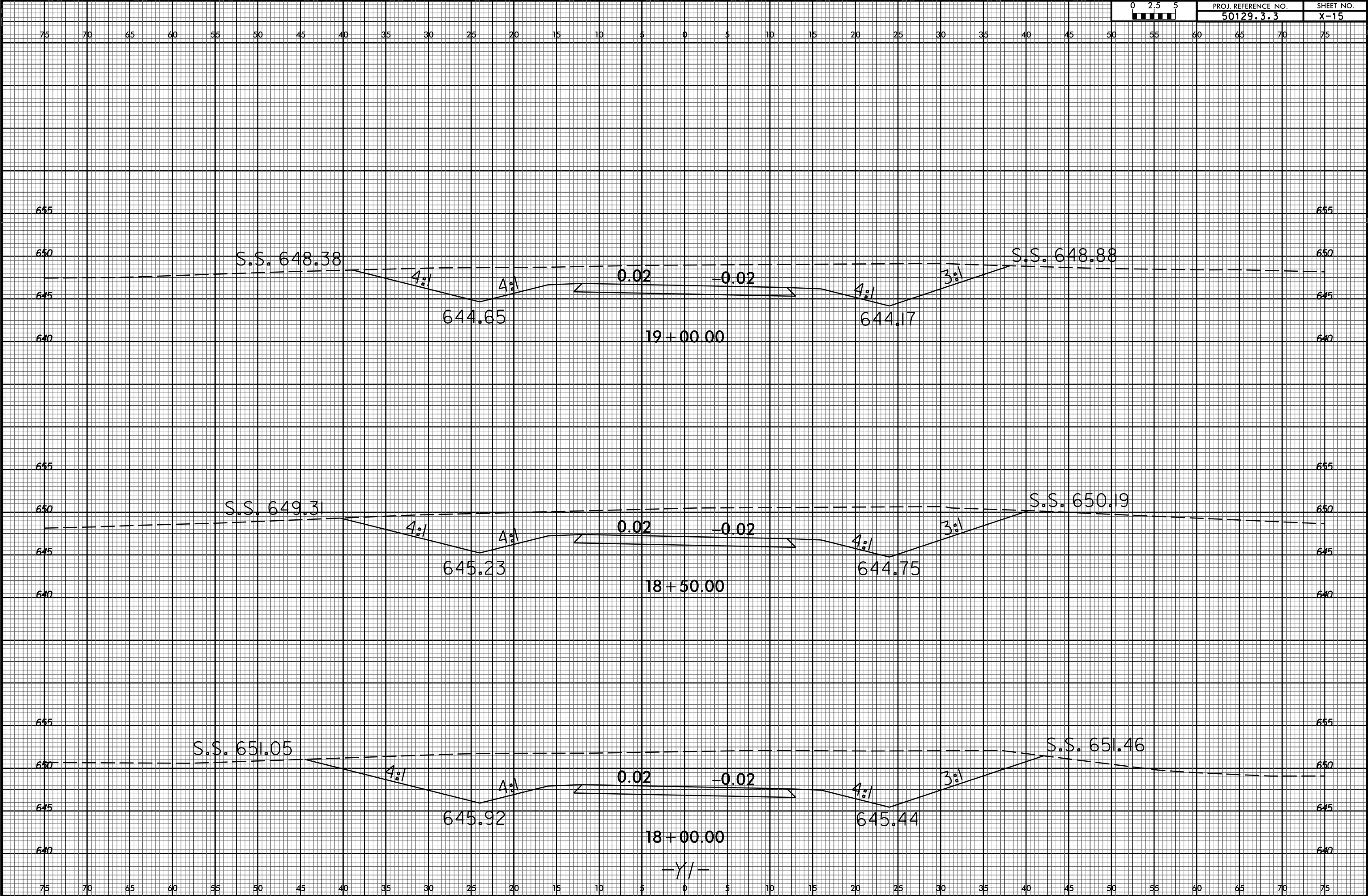
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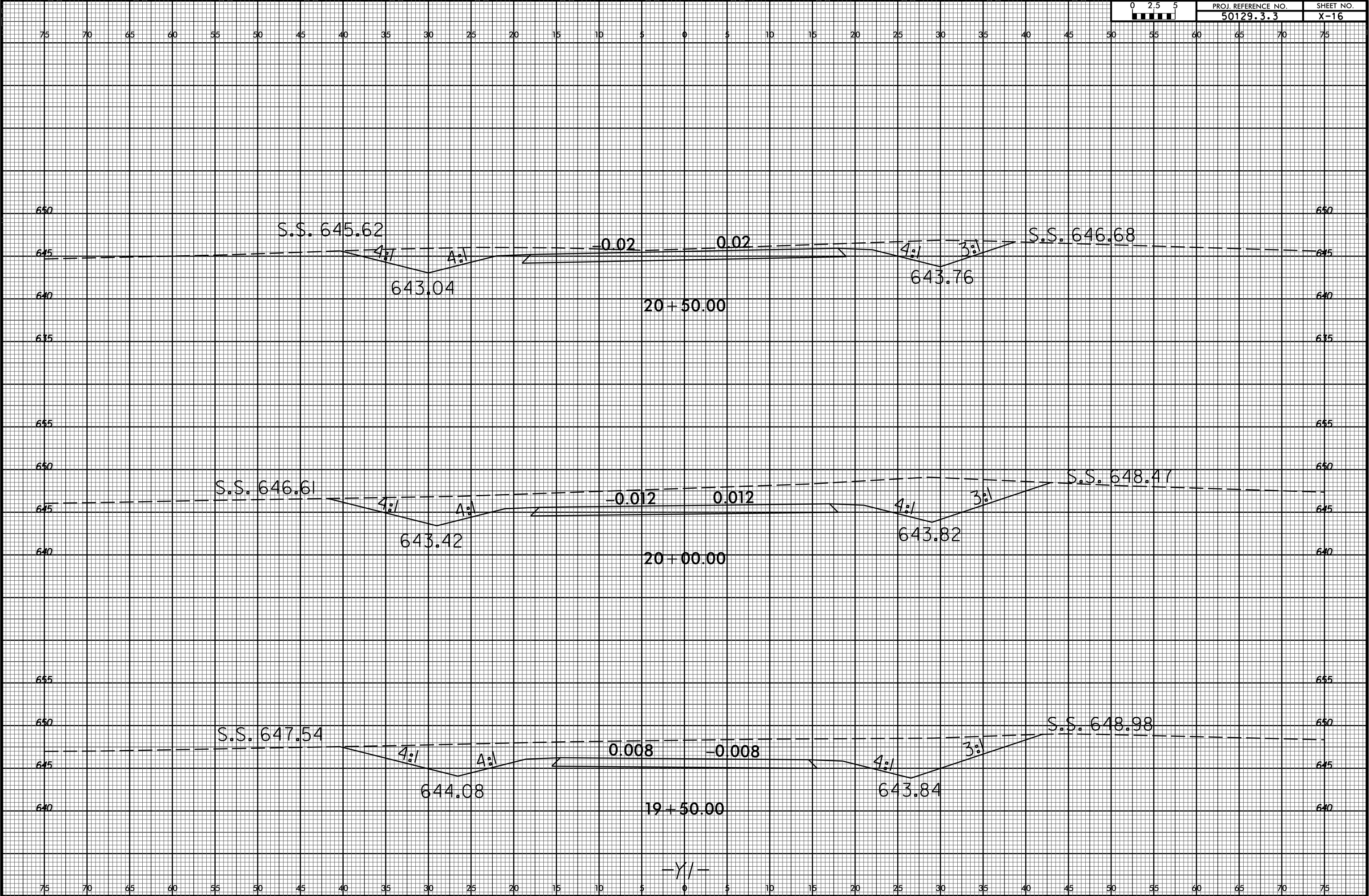
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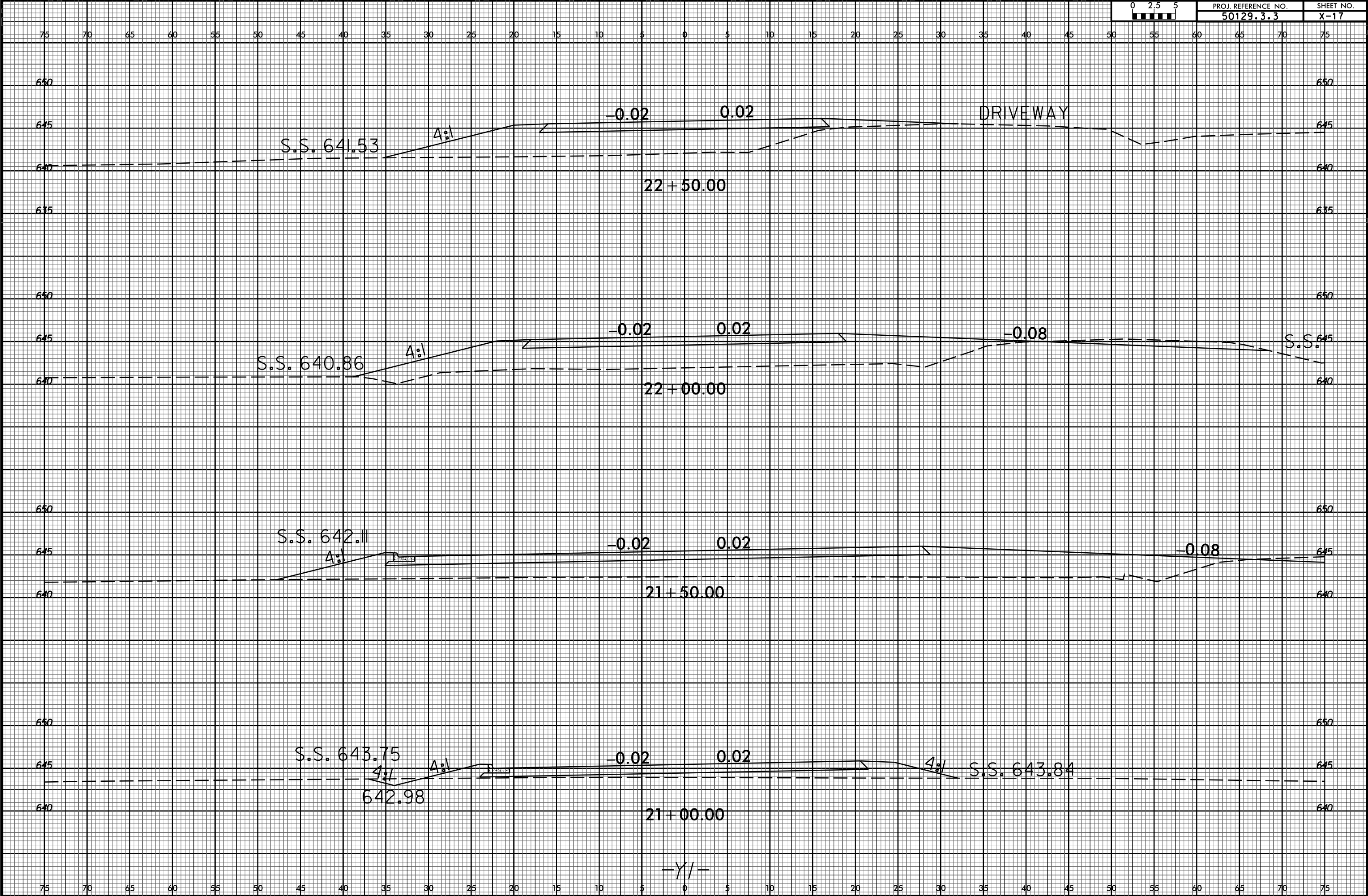
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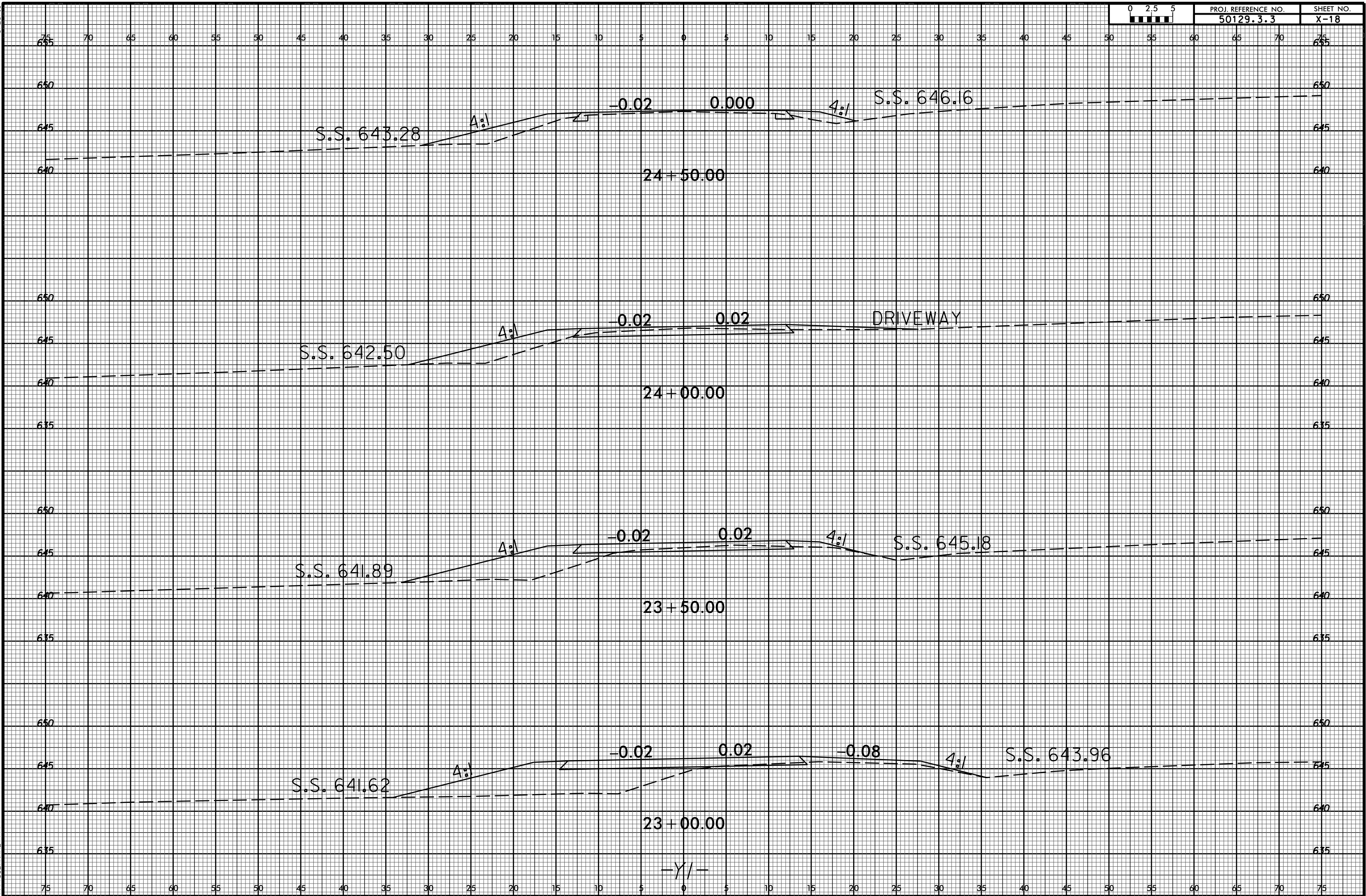
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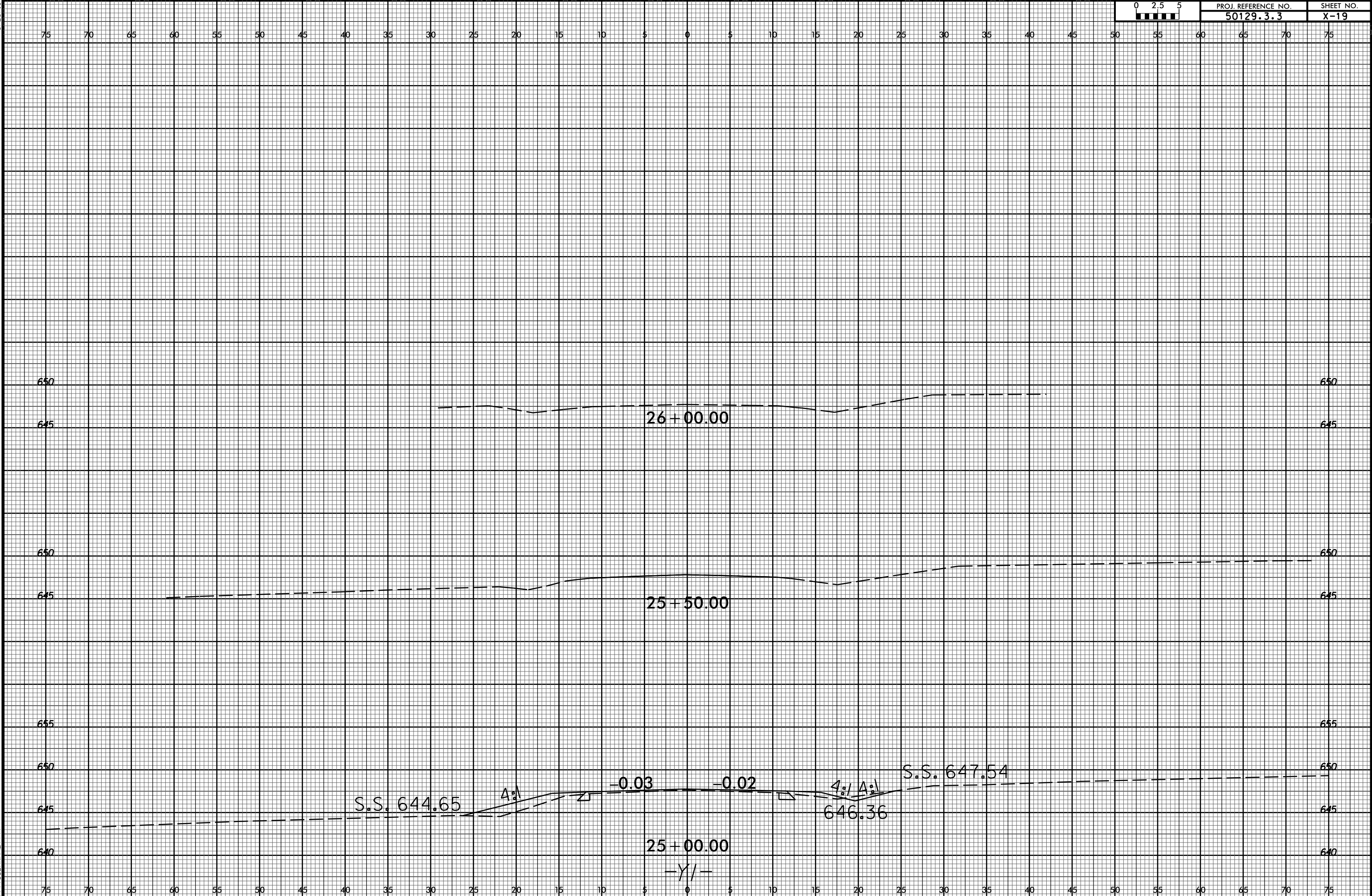
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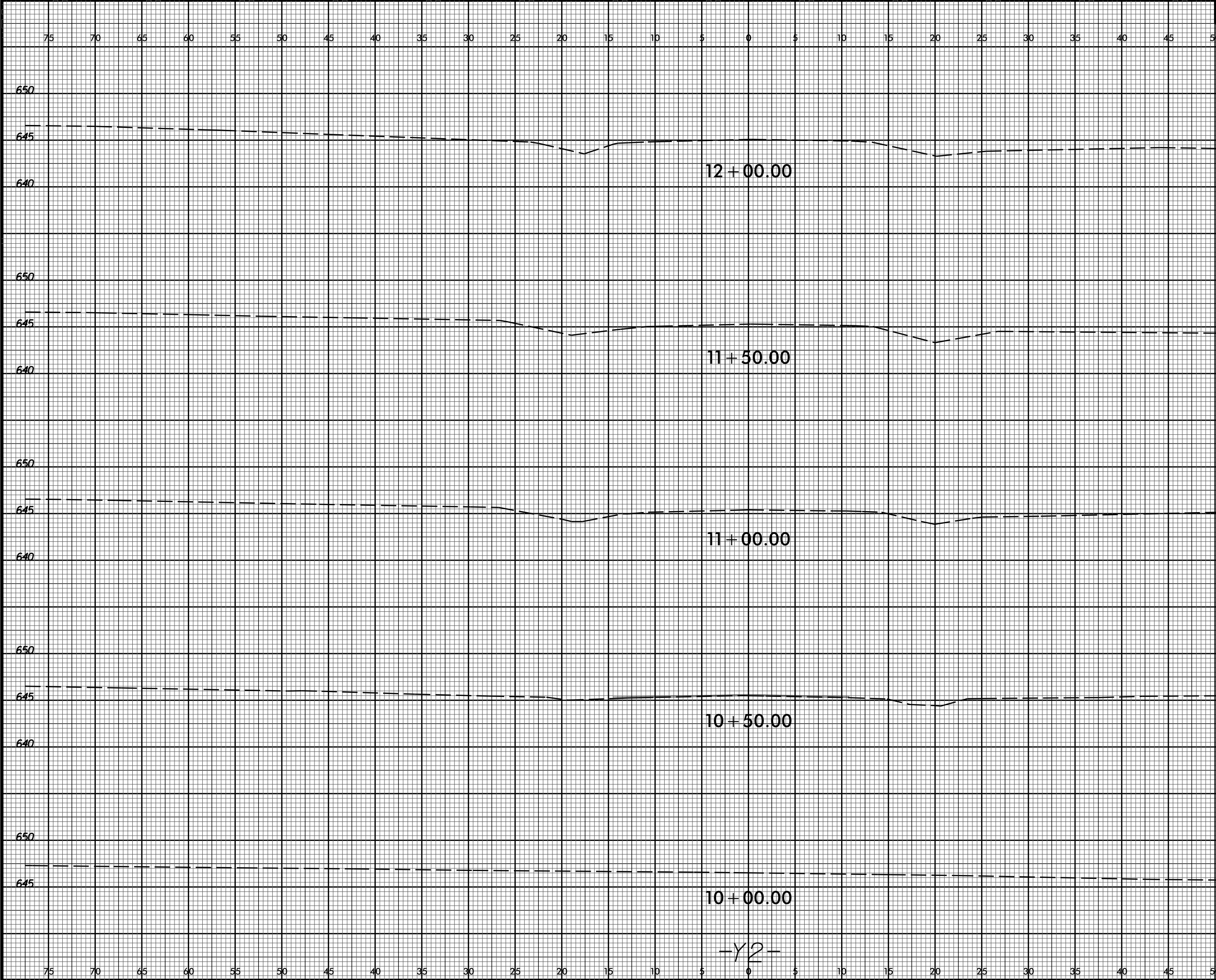


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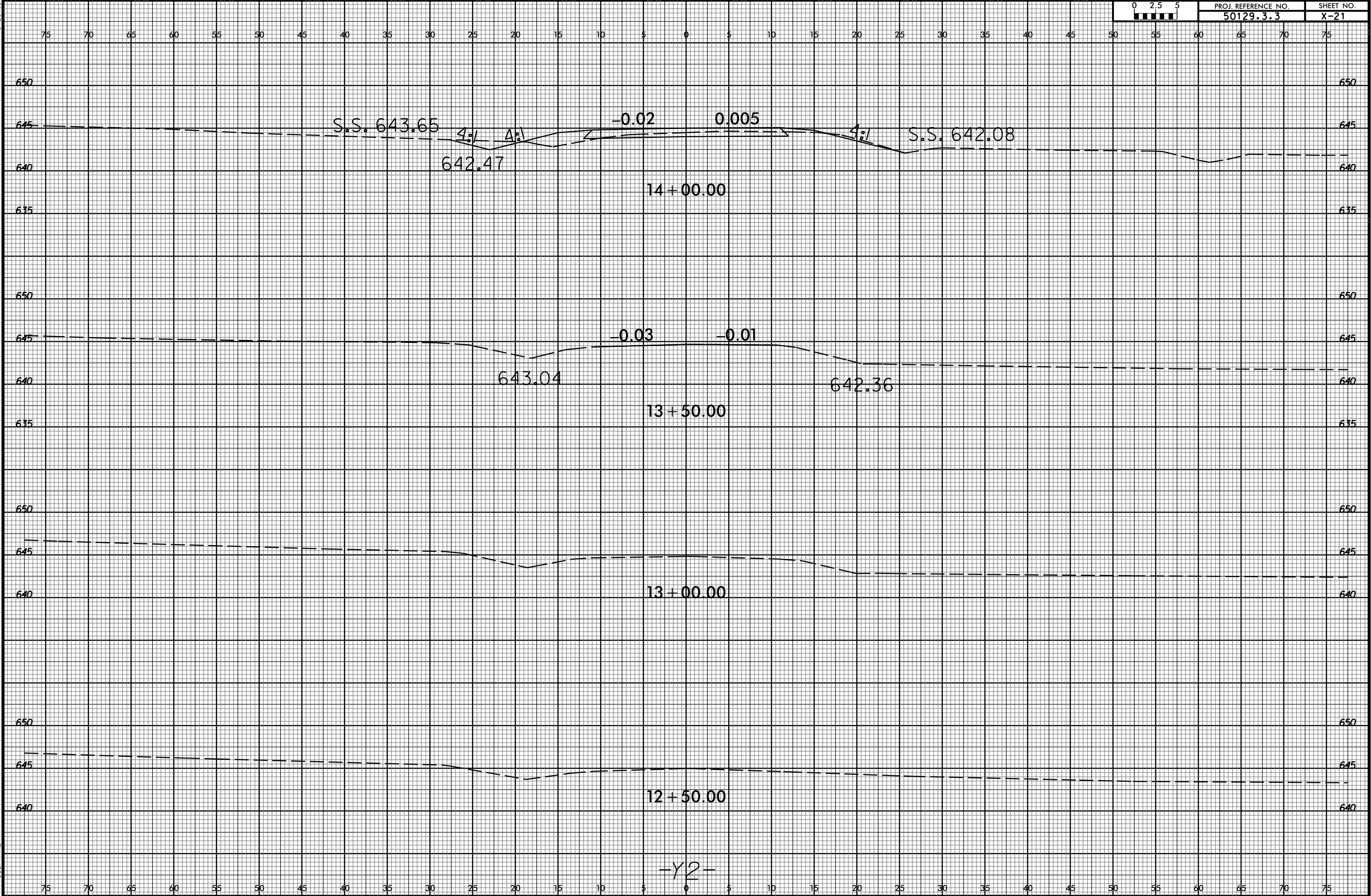
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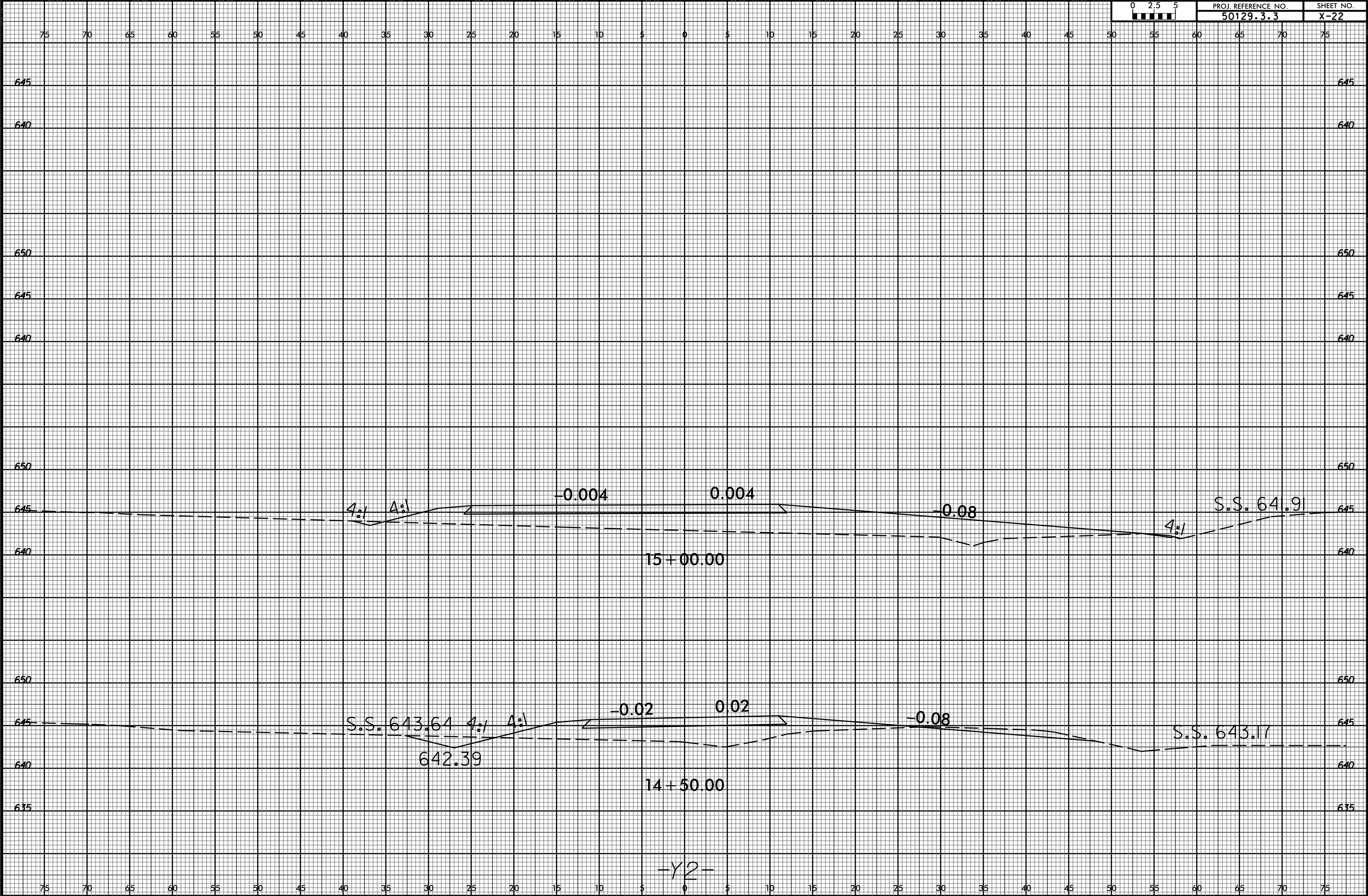


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