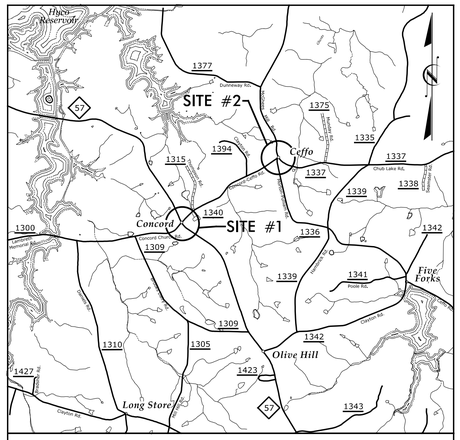
09/08/99

PROJECT: 36249.3130

CONTRACT: DE00070

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERSON COUNTY

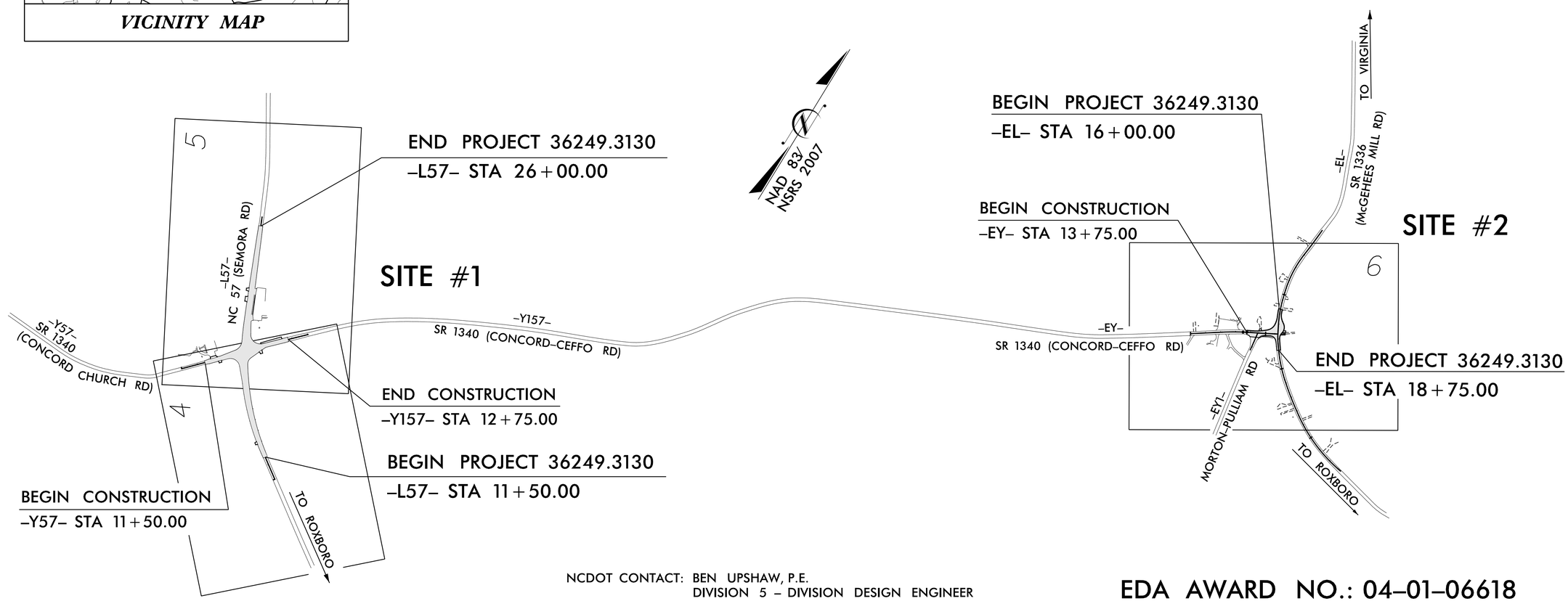
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	36249.3130	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
36249.3130		PE
36249.3130		R / W
36249.3130		CONSTR.

LOCATION: SITE #1 – INTERSECTION OF NC 57 (SEMORA ROAD) AND SR 1340 (CONCORD CHURCH ROAD/CONCORD–CEFFO RD) NEAR ROXBORO

SITE #2 – INTERSECTION OF SR 1336 (MCGHEES MILL ROAD) AND SR 1340 (CONCORD–CEFFO RD) NEAR ROXBORO

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNING



NCDOT CONTACT: BEN UPSHAW, P.E.
DIVISION 5 – DIVISION DESIGN ENGINEER

EDA AWARD NO.: 04–01–06618

GRAPHIC SCALES

50 0 50 100
PLANS

50 0 50 100
PROFILE (HORIZONTAL)

10 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT (2012) = X
ADT (2031) = X
DHV = X %
D = X %
T = X % *
V = 40 MPH
* TTST = X% DUAL X%

FUNC CLASS =
RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY PROJECT SITE #1	=	0.275 MI
LENGTH ROADWAY PROJECT SITE #2	=	0.052 MI
TOTAL	=	0.327 MI

Prepared In the Office of:
Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 16, 2012

LETTING DATE:
FEBRUARY 26, 2014

MICHAEL A. YOUNG, PE
PROJECT ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER JUSTIN I. CRAMER

SIGNATURE: P.E. 3/18/13

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG

SIGNATURE: P.E. 3-18-13

1/21/2014
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_ICA ENGINEERING, INC.

PROJECT REFERENCE NO.	SHEET NO.
36249.3.1.30	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG

7-31-13

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	PARCEL INDEX SHEET
3-A	SUMMARY OF EARTHWORK
3-B	SUMMARY OF DRAINAGE ITEMS
4 THRU 6	PLAN SHEET
7 THRU 8	PROFILE SHEET
TMP-1 THRU TMP-3	TRAFFIC CONTROL PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-5	SIGNING PLANS
UO-1 THRU UO-6	UTILITIES BY OTHERS PLANS
X-0	CROSS SECTION SUMMARY
X-1 THRU X-22	CROSS-SECTIONS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' 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.

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, Charter Communications,

Progress Energy, PSNC Energy and Piedmont Electric.

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

RIGHT-OF-WAY MARKERS:

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

PROJECT NOTE:
IF ARCHAEOLOGICAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, THE PROCEDURES CODIFIED AT 36 CFR 800.13(b) WILL APPLY AND THE NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICE AND THE CATAWBA INDIAN NATION SHALL BE CONTACTED IMMEDIATELY.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.45	Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
866.02	Woven Wire Fence - with Wood Post
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

8/17/99
8/22/2013
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USERNAME

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	1-B

Note: Not to Scale

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

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
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

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

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line
- Designated U/G Water Line (S.U.E.*)
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

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

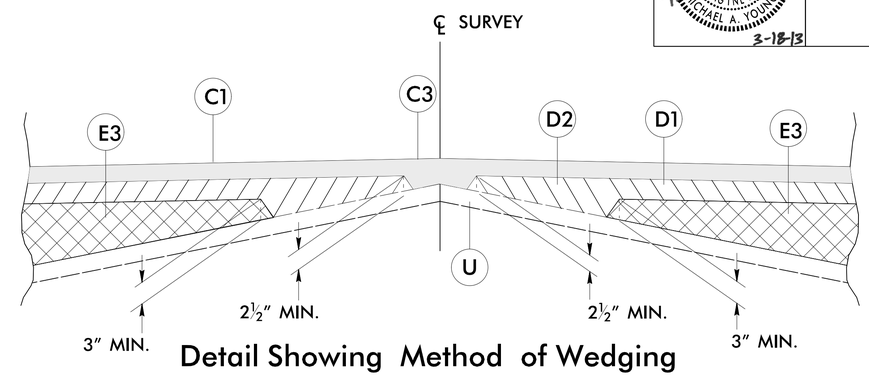
Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

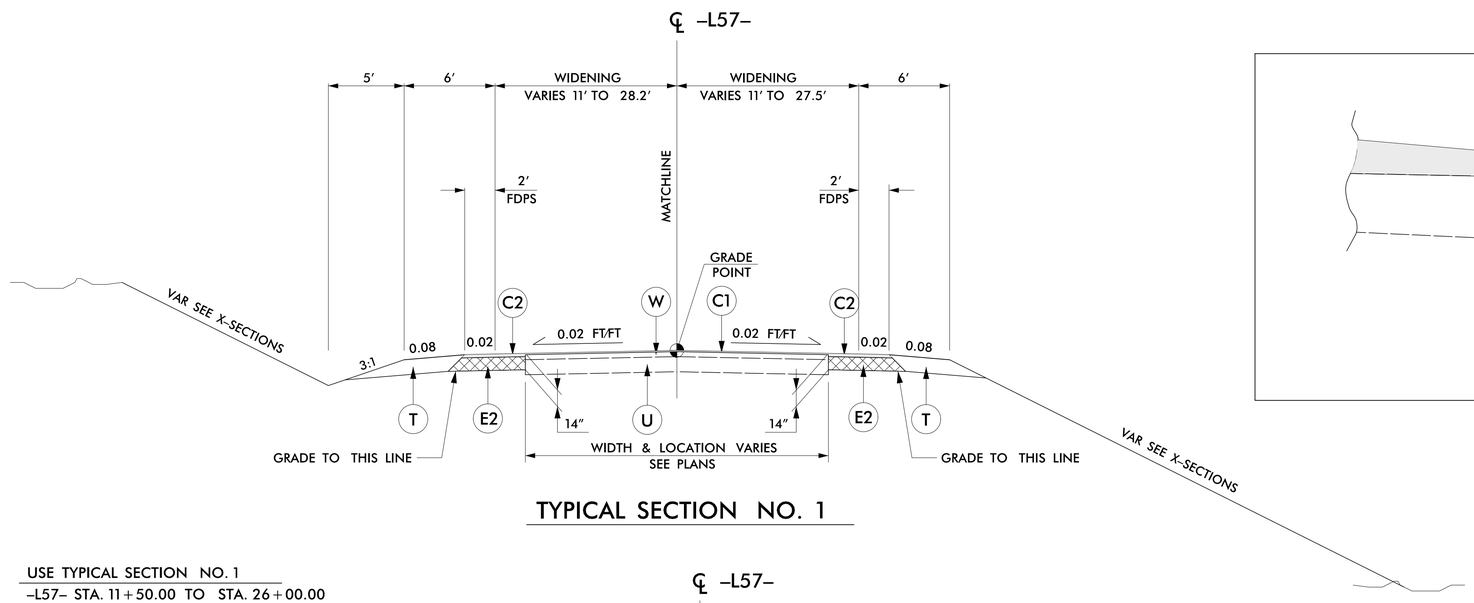
NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG
3-18-13

PAVEMENT SCHEDULE

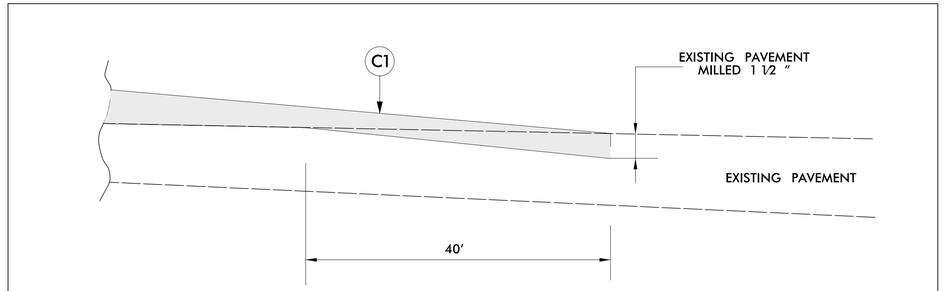
C1	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2′-6″ CONCRETE CURB AND GUTTER.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1½″ IN DEPTH OR GREATER THAN 2″ IN DEPTH.	T	EARTH MATERIAL
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.	W	WEDGING (SEE DETAIL THIS SHEET)
E1	PROP. APPROX. 5½″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.		
E2	PROP. APPROX. 11″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.		



Detail Showing Method of Wedging

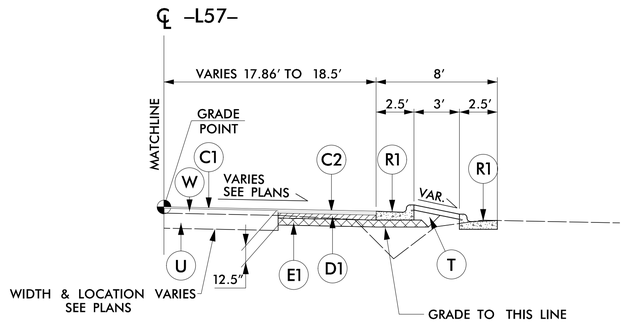


TYPICAL SECTION NO. 1



Incidental Milling Existing Pavement

USE TYPICAL SECTION NO. 1
–L57– STA. 11+50.00 TO STA. 26+00.00



TYPICAL SECTION NO. 1A

USE TYPICAL SECTION NO. 1A IN CONJUCTION WITH TYPICAL SECTION NO. 1
–L57– STA. 20+47.51 TO STA. 21+78.67

6/2/99
8/6/2013
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USERNAME

Florence & Hutcheson
CONSULTING ENGINEERS
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG
3-18-13

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2′-6″ CONCRETE CURB AND GUTTER.
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D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
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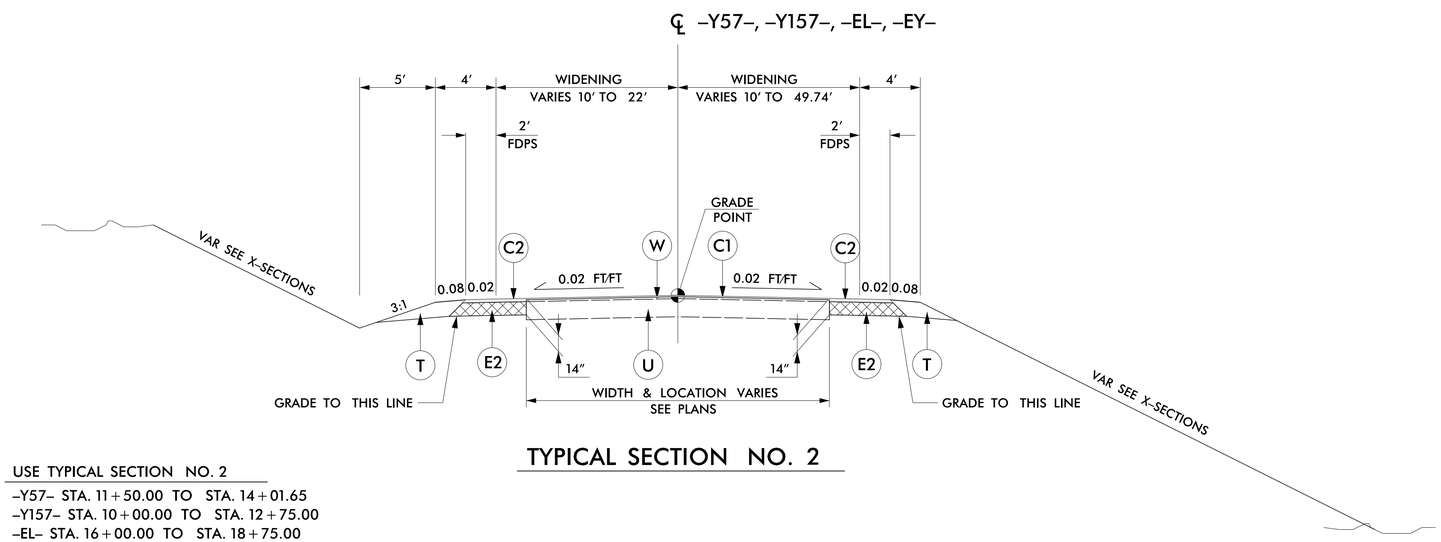

TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

–Y57– STA. 11+50.00 TO STA. 14+01.65
–Y157– STA. 10+00.00 TO STA. 12+75.00
–EL– STA. 16+00.00 TO STA. 18+75.00
–EY– STA. 13+75.00 TO STA. 15+75.00

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COMPUTED BY: MAY DATE: 7-18-2012
CHECKED BY: DATE:

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	3

PARCEL INDEX SHEET

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAMES
1	4	LINDSAY T. WAGSTAFF, JR & JOHN H. WAGSTAFF DBA WAGSTAFF ASSOCIATES
2	4, 5	LINDSAY T. WAGSTAFF, JR & JOHN H. WAGSTAFF
3	4	GARY T. CLAYTON
4	4, 5	VICTOR ED & RUTH CLAYTON, JR.
5	5	CONCORD UNITED METHODIST CHURCH INC.
6	5	PAULA SMITH OAKLEY
7	5	WAGSTAFF ASSOCIATES
8	6	NOT USED
9	6	ARTHUR & FRANCES WILEY, JR
10	6	PATRICIA BOWES ROWLAND
11	6	ARTHUR WILEY, ETAL

REVISIONS

2-27-13 MAY REMOVED PUE FROM PARCELS 8,9 & 11. MODIFIED TCE ON PARCELS 9 & 11. PARCEL 8 IS NO LONGER USED.

6/4/93
8/6/2013
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USERNAME

COMPUTED BY: MAY DATE: 8-7-2012
CHECKED BY: DATE:

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	3-A

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY NO. 1					
-L57- 11+50.00 TO 17+75.00	428		121		308
-L57- 18+75.00 TO 26+00.00	691		119		572
-Y57- 11+50.00 TO 13+25.00	166		3		163
-Y157- 10+75.00 TO 12+75.00	96		30		65
SUMMARY NO. 1 SUB-TOTAL	1,381		273		1,108
SUMMARY NO. 2					
-EL- 16+00.00 TO 18+75.00	277		21		256
-EY- 13+75.00 TO 15+25.00	16		22	6	
SUMMARY NO. 2 SUB-TOTAL	293		43	6	256
PROJECT SUB-TOTALS	1,674		316	6	1,364
MATERIAL FOR SHOULDER CONSTRUCTION			828	828	
WASTE IN LIEU OF BORROW				-834	-834
PROJECT TOTALS	1,674		1,144	0	530
GRAND TOTALS	1,674				530
SAY	1,700				

SHALLOW UNDERCUT = 400 CY
CLASS IV SUBGRADE STABILIZATION = 800 TONS

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

6/4/99
8/6/2013
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USERNAME

COMPUTED BY: DF DATE: 7/29/2013

CHECKED BY: MAY DATE: 7/30/2013

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
36249.3130	3-B

NC10461

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.

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

| STATION | LOCATION (LT, RT, OR CL)' | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | C.S. PIPE THICKNESS OR GAUGE .064 | .064 | .064 | .064 | .079 | .079 | .109 | .109 | R.C. PIPE CLASS III SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | ** " R.C. PIPE (CLASS V) | *** RC PIPE CULVERTS, CONTRACTOR DESIGN | **** RC PIPE CULVERTS, CONTRACTOR DESIGN | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0" THRU 5.0') | *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") LIN. FT. A 5.0' THRU 10.0' | B 10.0' AND ABOVE | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION | | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH GRATE STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | DRAINAGE PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

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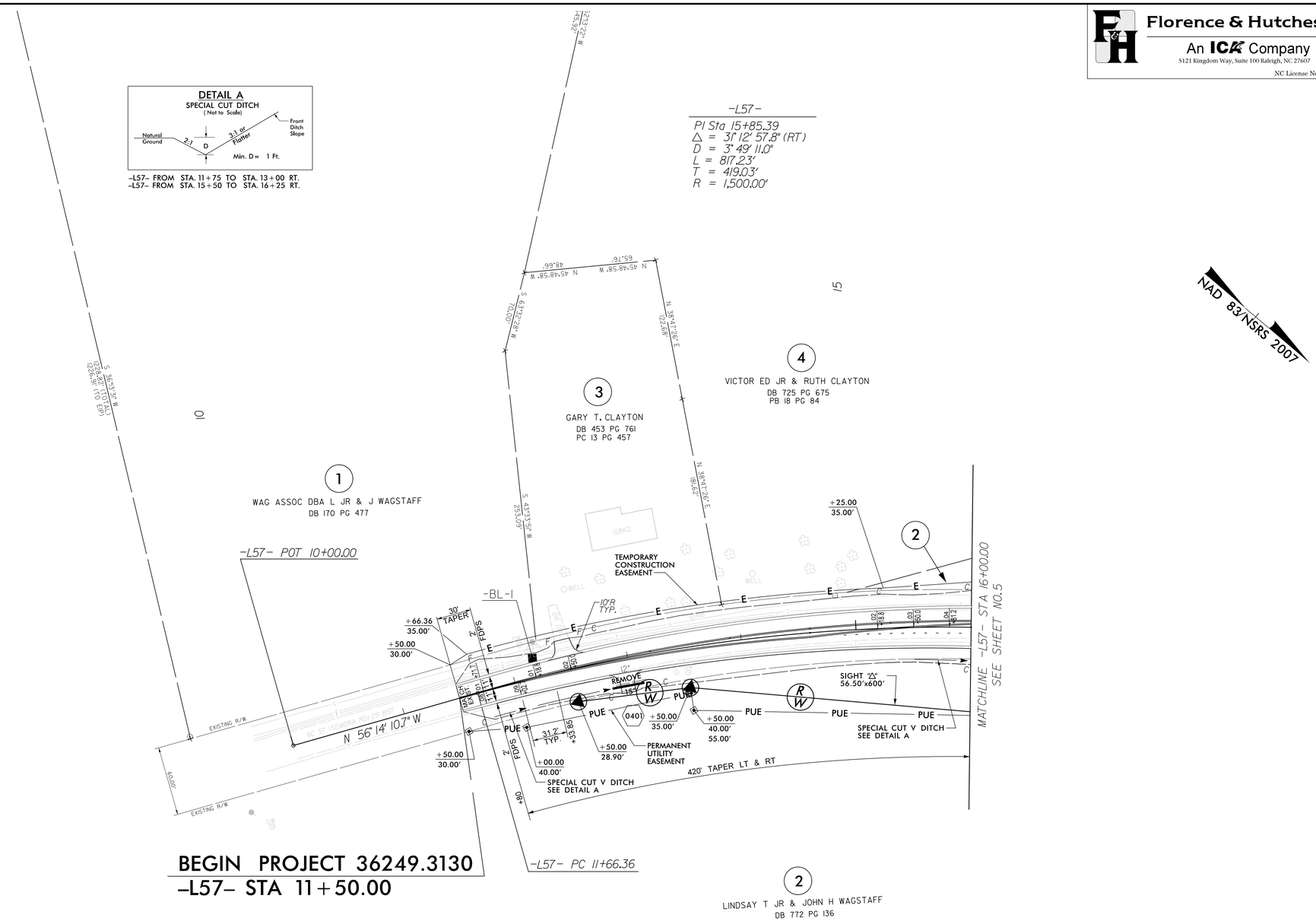
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG — 7-31-13

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER TRENTON J CORMIER — 7-31-13



FOR -L57- PROFILE, SEE SHEET 7.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "BL-2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 981345.904(ft) EASTING: 1980393.963(ft)
ELEVATION: 573.695(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00006768
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -L- STATION 11+50.00 IS
S 46° 11' 47" E 732.14'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	ALIGN/STATION	OFFSET
BL-1	980,864.8170	1,980,854.9060	581.95	-L57- 12+19.76	17.09' LT
BL-2	981,345.9040	1,980,393.9630	573.69	-L57- 18+77.82	42.66' LT
BL-3	982,074.5100	1,980,126.2710	548.96	-L57- 26+48.35	26.76' RT
BY-4	980,997.6480	1,980,197.5890	582.05	OUT OF PROJECT LIMITS	
BY-2	981,345.9040	1,980,393.9630	573.69	-Y57- 13+80.00	72.22' LT
BY-5	981,581.2450	1,980,721.8170	565.62	OUT OF PROJECT LIMITS	

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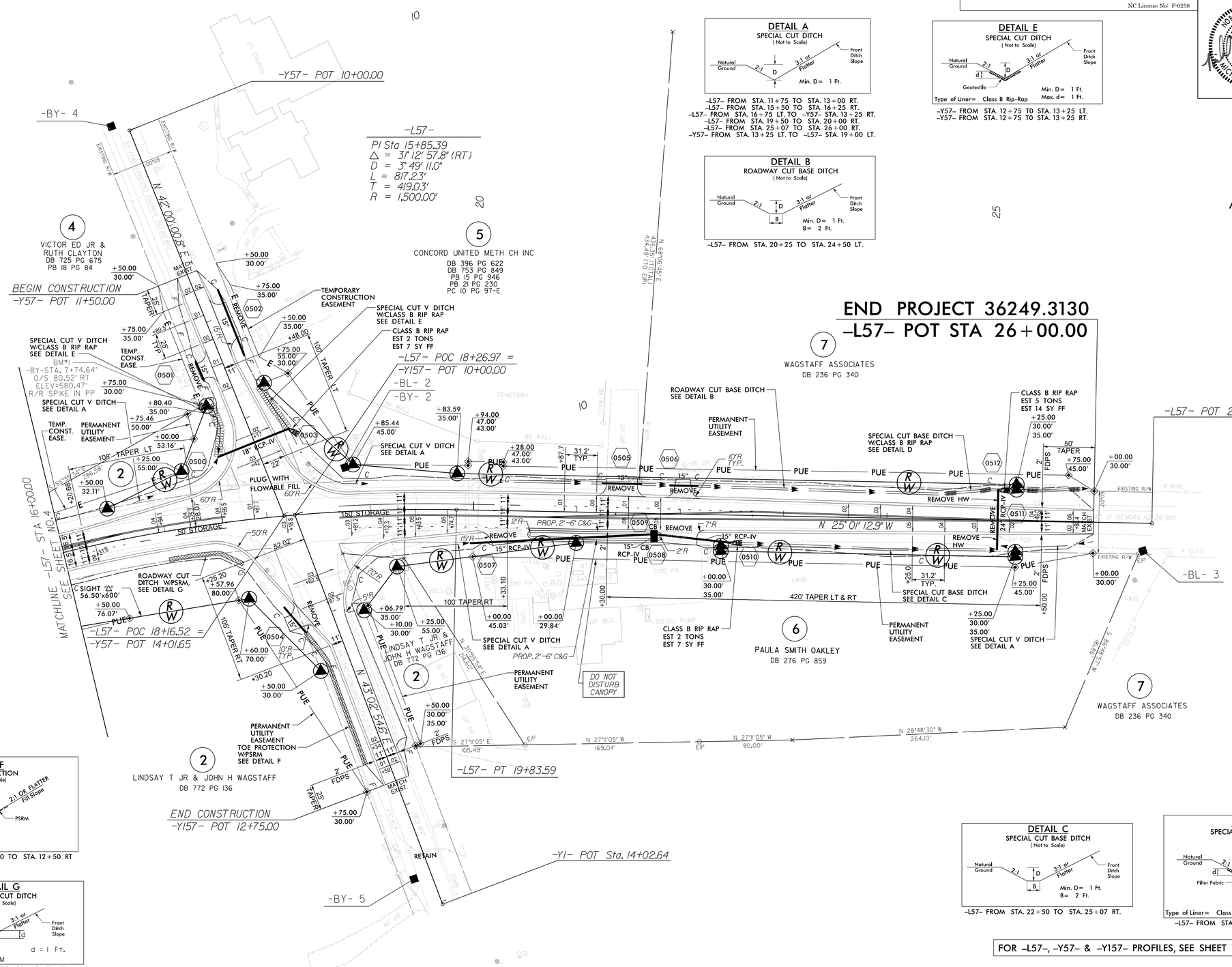
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG 7-31-13	NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER HUNTON L. COMBS 7-31-13



DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

-L57- FROM STA. 11+75 TO STA. 13+00 RT.
-L57- FROM STA. 15+50 TO STA. 16+25 RT.
-L57- FROM STA. 16+75 LT. TO -Y57- STA. 13+25 RT.
-L57- FROM STA. 19+50 TO STA. 20+00 RT.
-L57- FROM STA. 25+07 TO STA. 26+00 RT.
-Y57- FROM STA. 13+25 LT. TO -L57- STA. 19+00 LT.

DETAIL E
SPECIAL CUT DITCH
(Not to Scale)

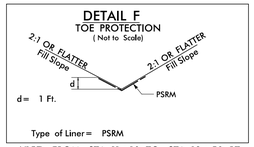
Type of Liner = Class B Rip-Rap

-Y57- FROM STA. 12+75 TO STA. 13+25 LT.
-Y57- FROM STA. 12+75 TO STA. 13+25 RT.

DETAIL B
ROADWAY CUT BASE DITCH
(Not to Scale)

-L57- FROM STA. 20+25 TO STA. 24+50 LT.

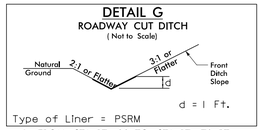
DETAIL F
TOE PROTECTION
(Not to Scale)



Type of Liner = PSRM

-Y157- FROM STA. 11+10 TO STA. 12+50 RT

DETAIL G
ROADWAY CUT DITCH
(Not to Scale)



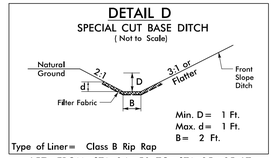
Type of Liner = PSRM

-L- FROM STA. 17+00 TO STA. 17+70 RT.

DETAIL C
SPECIAL CUT BASE DITCH
(Not to Scale)

-L57- FROM STA. 22+50 TO STA. 25+07 RT.

DETAIL D
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner = Class B Rip Rap

-L57- FROM STA. 24+50 TO STA. 25+95 LT.

FOR -L57-, -Y57- & -Y157- PROFILES, SEE SHEET 7.

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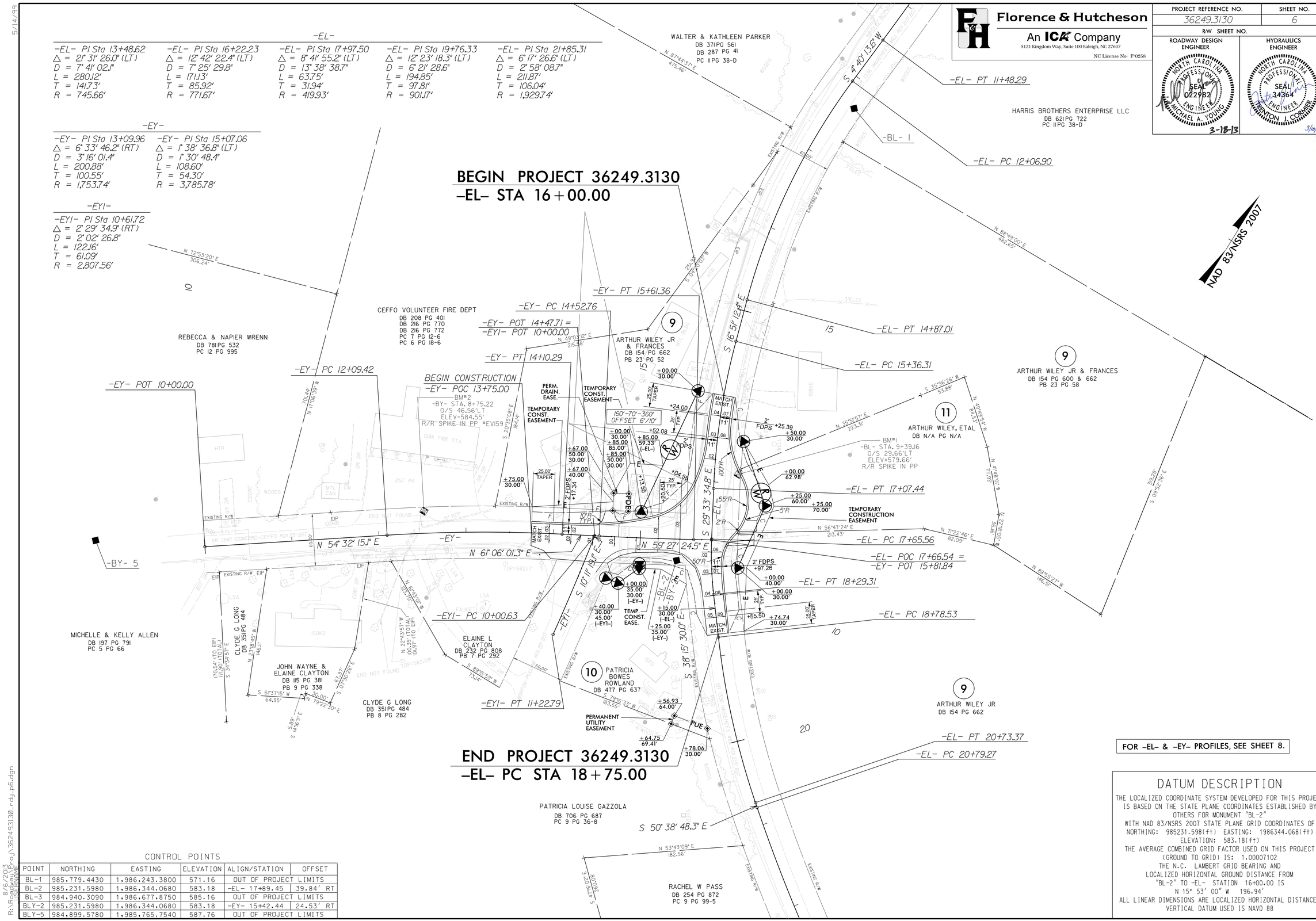
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG — 3-18-13

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER TRENTON J. COMMER — 3/18/13



FOR -EL- & -EY- PROFILES, SEE SHEET 8.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "BL-2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 985231.598(ft) EASTING: 1986344.068(ft)
ELEVATION: 583.18(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00007102
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -EL- STATION 16+00.00 IS
N 15° 53' 00" W 196.94'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	ALIGN/STATION	OFFSET
BL-1	985,779.4430	1,986,243.3800	571.16	OUT OF PROJECT LIMITS	
BL-2	985,231.5980	1,986,344.0680	583.18	-EL- 17+89.45	39.84' RT
BL-3	984,940.3090	1,986,677.8750	585.16	OUT OF PROJECT LIMITS	
BLY-2	985,231.5980	1,986,344.0680	583.18	-EY- 15+42.44	24.53' RT
BLY-5	984,899.5780	1,985,765.7540	587.76	OUT OF PROJECT LIMITS	

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BM # 1
-L57- STA. 17+52.98, 112.84' LT.
RR SPIKE IN POWER POLE
EL. 580.47

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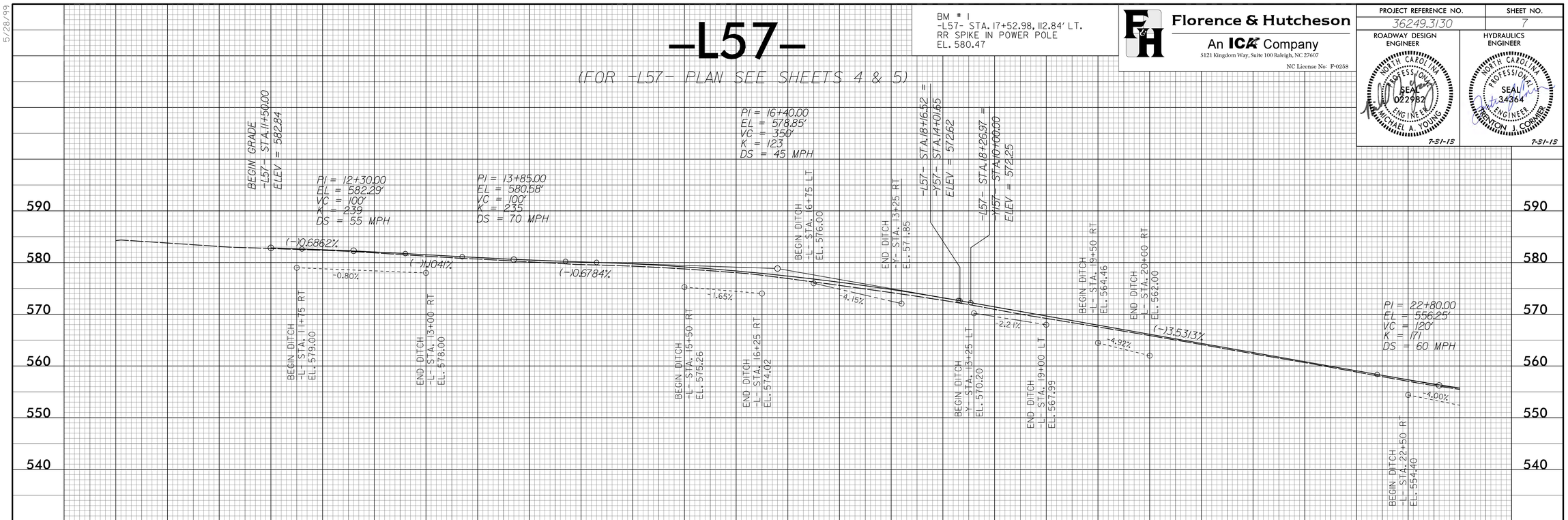
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	7

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG
7-31-13

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER TRENTON J. COMMER
7-31-13

-L57-

(FOR -L57- PLAN SEE SHEETS 4 & 5)



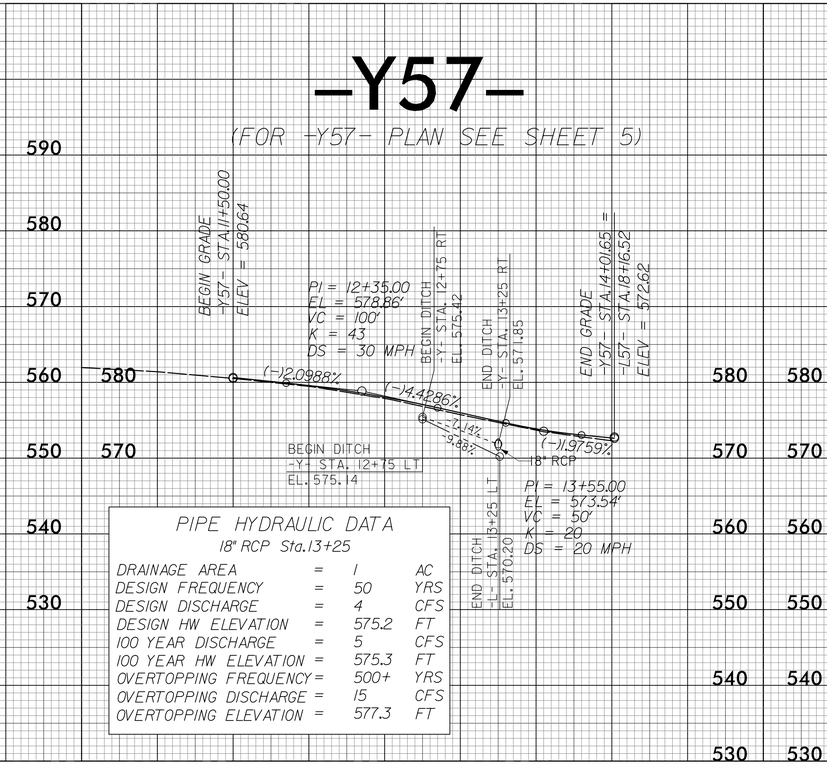
PIPE HYDRAULIC DATA

24" RCP Sta.25+07

DRAINAGE AREA	=	3	AC
DESIGN FREQUENCY	=	50	YRS
DESIGN DISCHARGE	=	15	CFS
DESIGN HW ELEVATION	=	548.8	FT
100 YEAR DISCHARGE	=	17	CFS
100 YEAR HW ELEVATION	=	549.0	FT
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING DISCHARGE	=	29	CFS
OVERTOPPING ELEVATION	=	550.8	FT

-Y57-

(FOR -Y57- PLAN SEE SHEET 5)



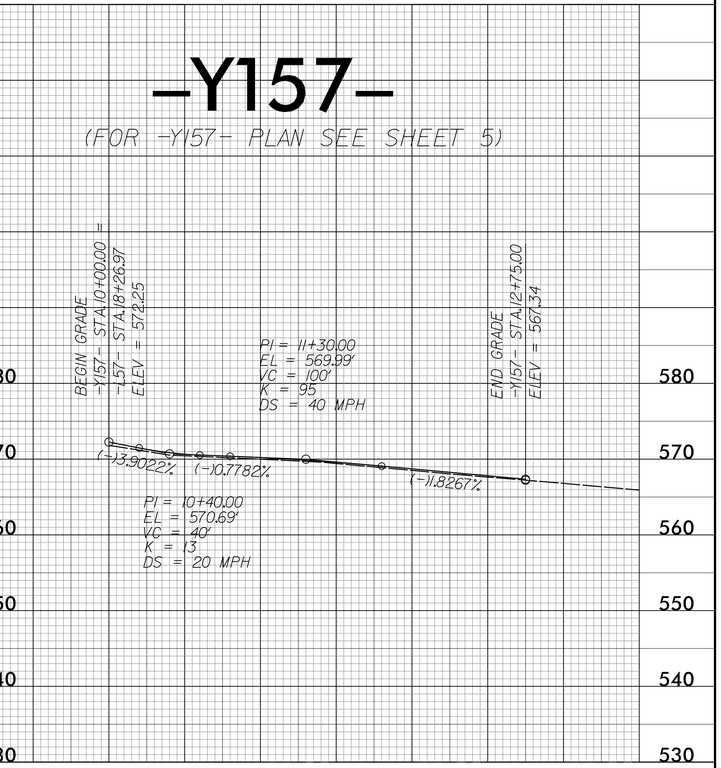
PIPE HYDRAULIC DATA

18" RCP Sta.13+25

DRAINAGE AREA	=	1	AC
DESIGN FREQUENCY	=	50	YRS
DESIGN DISCHARGE	=	4	CFS
DESIGN HW ELEVATION	=	575.2	FT
100 YEAR DISCHARGE	=	5	CFS
100 YEAR HW ELEVATION	=	575.3	FT
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING DISCHARGE	=	15	CFS
OVERTOPPING ELEVATION	=	577.3	FT

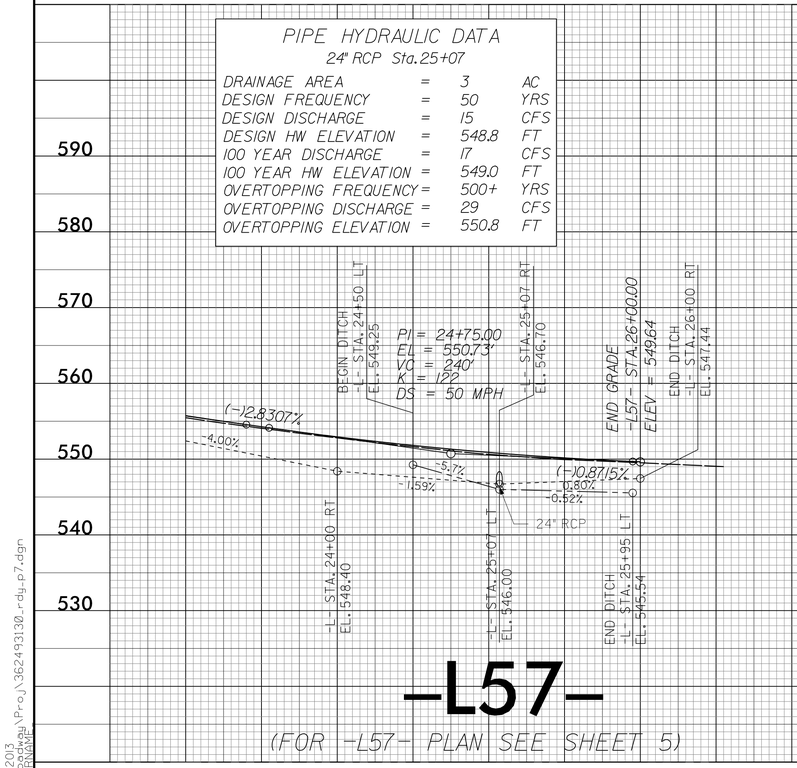
-Y157-

(FOR -Y157- PLAN SEE SHEET 5)



-L57-

(FOR -L57- PLAN SEE SHEET 5)



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BM # 2
-EL- STA. 12+52.71, 25.38' LT.
RR SPIKE IN POWER POLE #EV159
EL. 584.55

BM # 1
-EL- STA. 16+89.45, 27.38' LT.
RR SPIKE IN POWER POLE
EL. 579.66

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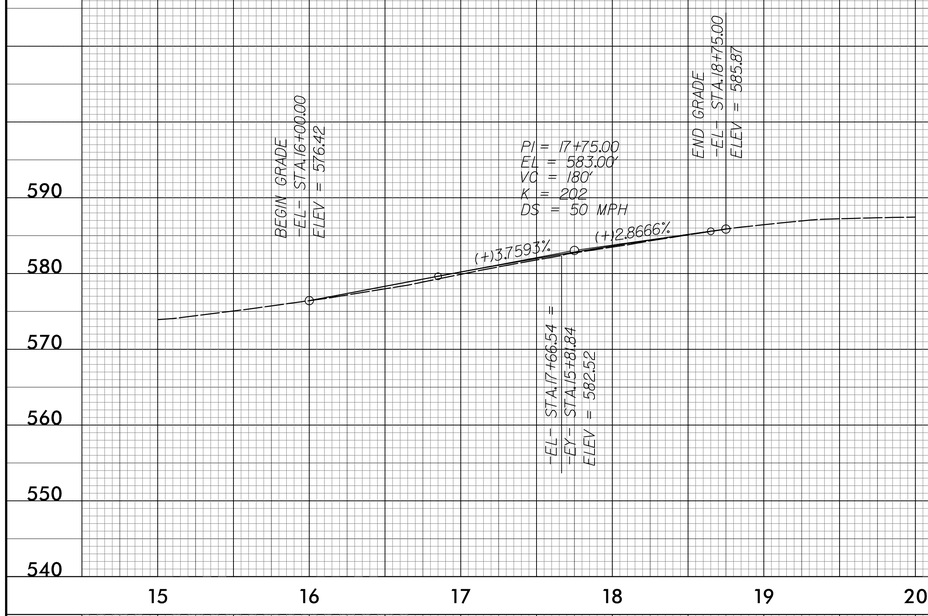
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	8

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022982 ENGINEER MICHAEL A. YOUNG
3-18-13

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER TRENTON J. COMMER
3/18/13

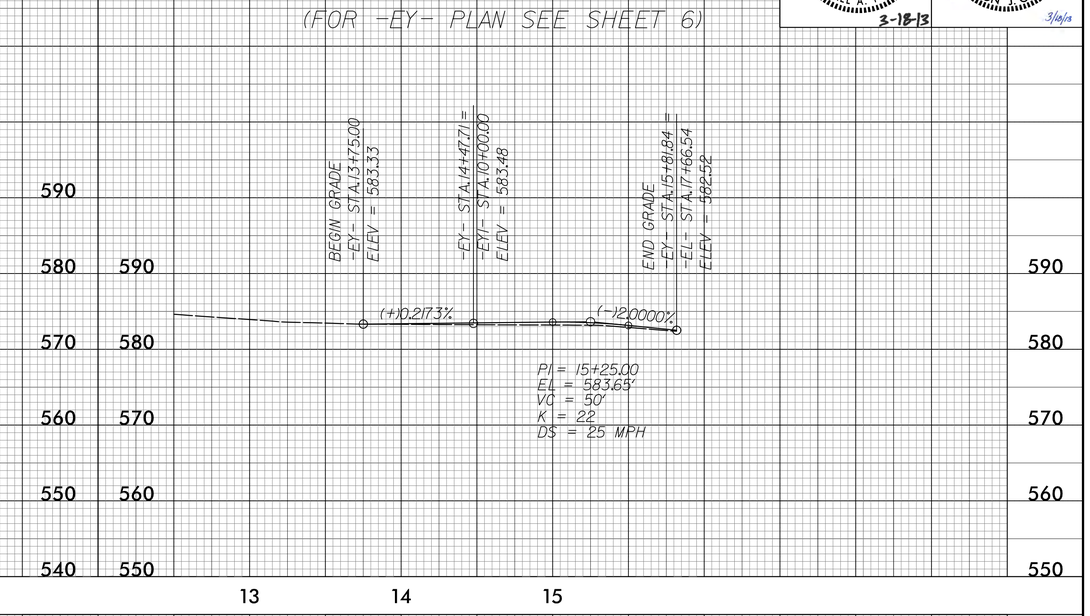
-EL-

(FOR -EL- PLAN SEE SHEET 6)



-EY-

(FOR -EY- PLAN SEE SHEET 6)



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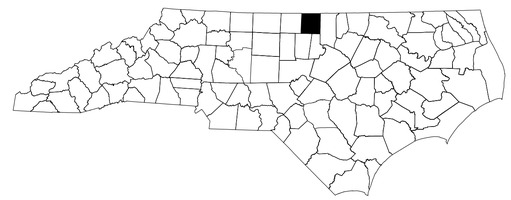
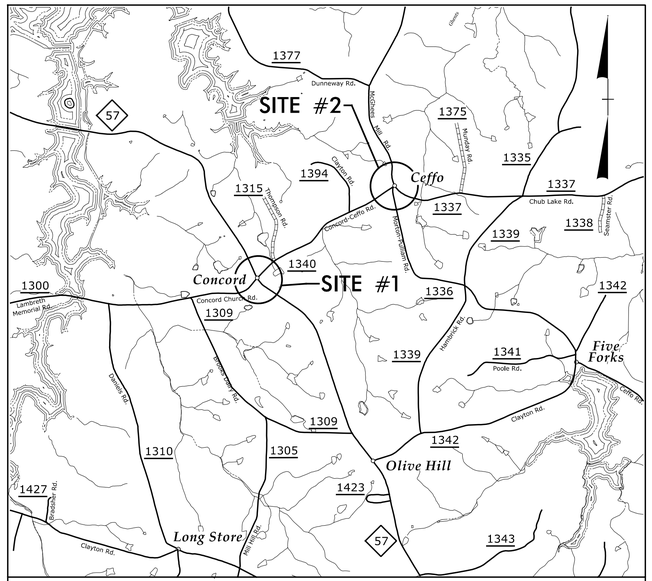
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

PERSON COUNTY





SKETCH MAP SHOWING THE VICINITY OF STATE PROJECT 362493130

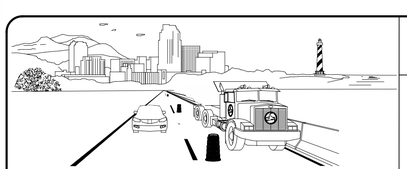
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND & TEMPORARY PAVEMENT MARKING SCHEDULE
TMP-1B	TRANSPORTATION OPERATIONS PLAN: GENERAL NOTES
TMP-2	PHASE I DETAIL & PHASING (SITE #1)
TMP-3	PHASE I DETAIL & PHASING (SITE #2)

SHEET NO.
TMP-1

36249.3130

PROJECT:



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

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

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER

TRAFFIC CONTROL PROJECT ENGINEER

TRAFFIC CONTROL PROJECT DESIGN ENGINEER

TRAFFIC CONTROL DESIGN ENGINEER

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

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

APPROVED: Michael T Rzepka
DATE: 3-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

3/18/2013
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PROJ. REFERENCE NO.	SHEET NO.
362493130	TMP-1A

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ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- CONTINUING CONSTRUCTION
- REMOVAL

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	PAINT (4")
PA	WHITE EDGELINE
PI	DOUBLE YELLOW CENTERLINE
	PAINT (24")
P2	WHITE STOP BAR

APPROVED: Michael T. Rizzuto DATE: 3-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RIZZUTO

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

ROADWAY STANDARD DRAWINGS, LEGEND & TEMPORARY PAVEMENT MARKING SCHEDULE

3/18/2013
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GENERAL NOTES

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	36249.3130	TMP-1B

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

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

TIME RESTRICTIONS

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

ROAD NAME

ALL ROUTES

HOLIDAY

1. FOR UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 4 p.m. DECEMBER 31st AND 9 a.m. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9 a.m. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 4 p.m. THURSDAY AND 9 a.m. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4 p.m. FRIDAY TO 9 a.m. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 4 p.m. THE DAY BEFORE INDEPENDENCE DAY AND 9 a.m. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 4 p.m. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9 a.m. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 4 p.m. FRIDAY AND 9 a.m. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 4 p.m. TUESDAY AND 9 a.m. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 4 p.m. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9 a.m. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FOR EVENTS THAT ARE SIGNIFICANT TRAFFIC GENERATORS FROM ONE (1) HOUR BEFORE THE EVENT TO ONE (1) HOUR AFTER THE END OF THE EVENT, AS DIRECTED BY THE ENGINEER.

HOLIDAYS AND HOLIDAY WEEKENDS SHALL INCLUDE NEW YEAR'S, EASTER, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING AND CHRISTMAS. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT LANE CLOSURES ARE NOT REQUIRED DURING THESE PERIODS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE TIME OF AVAILABILITY FOR THIS INTERMEDIATE CONTRACT WORK SHALL BE THE TIME THE CONTRACTOR BEGINS TO INSTALL ALL TRAFFIC CONTROL DEVICES FOR LANE CLOSURES ACCORDING TO THE TIME RESTRICTIONS LISTED HEREIN.

THE COMPLETION TIME FOR THIS INTERMEDIATE CONTRACT WORK SHALL BE THE TIME THE CONTRACTOR IS REQUIRED TO COMPLETE THE REMOVAL OF ALL TRAFFIC CONTROL DEVICES FOR LANE CLOSURES ACCORDING TO THE TIME RESTRICTIONS STATED HEREIN AND PLACE TRAFFIC IN THE EXISTING PATERN.

THE LIQUIDATION DAMAGES ARE TWO HUNDRED FIFTY DOLLARS ($250.00) PER FIFTEEN MINUTES OR PORTION THEREOF.

B) DO NOT STOP TRAFFIC EXCEPT AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
ALL ROUTES	MONDAY THRU FRIDAY 9:00 AM TO 4:00 PM	15 MIN., TIE-IN

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) 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.

E) 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.

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

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

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

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

I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON NC 57 (SEMORA RD.), McGHEES MILL RD. & CONCORD-CEFFO RD.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

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

TRAFFIC CONTROL DEVICES

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

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

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	

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

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

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

MISCELLANEOUS

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

APPROVED: Michael T. Rzepka DATE: 7-31-13

SEAL

TRANSPORTATION OPERATIONS PLAN

SCALE:	NONE
DATE:	MAR '13
DWG. BY:	YTM
DESIGN BY:	TAG
REVIEWED BY:	MTR

REVISIONS

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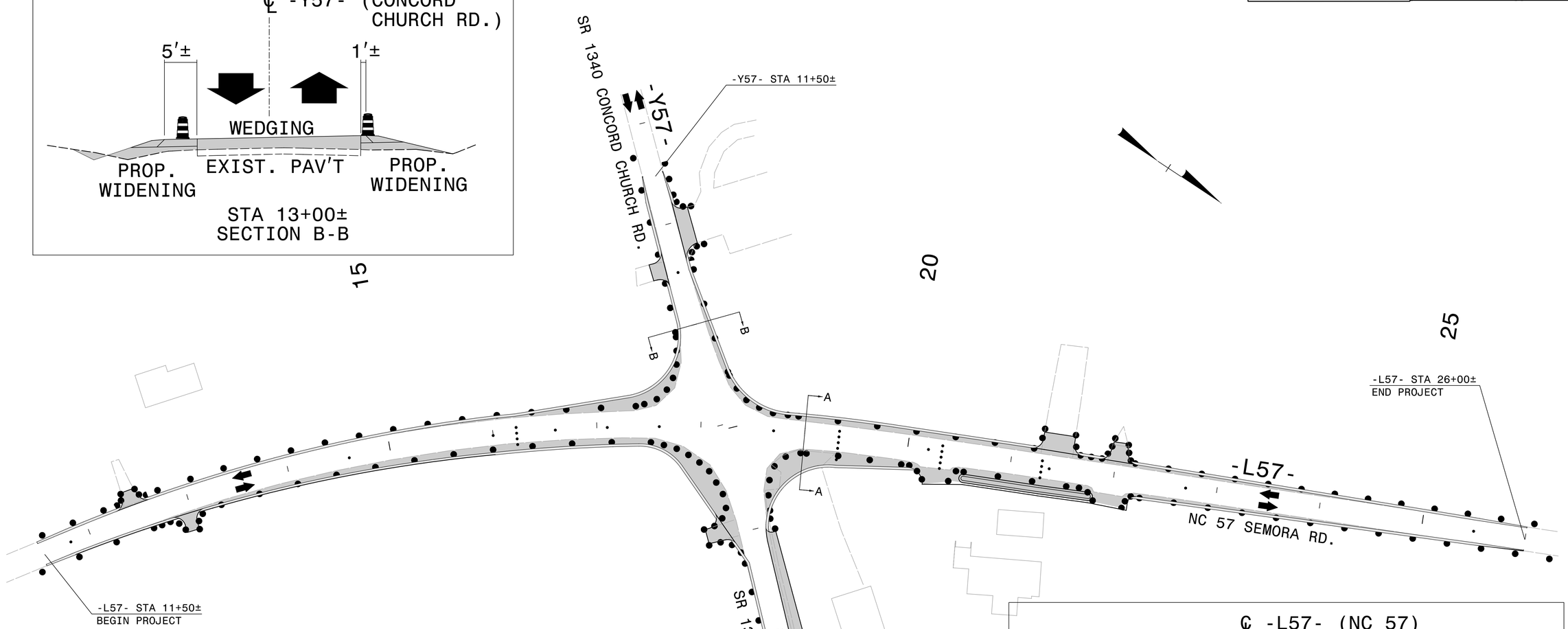

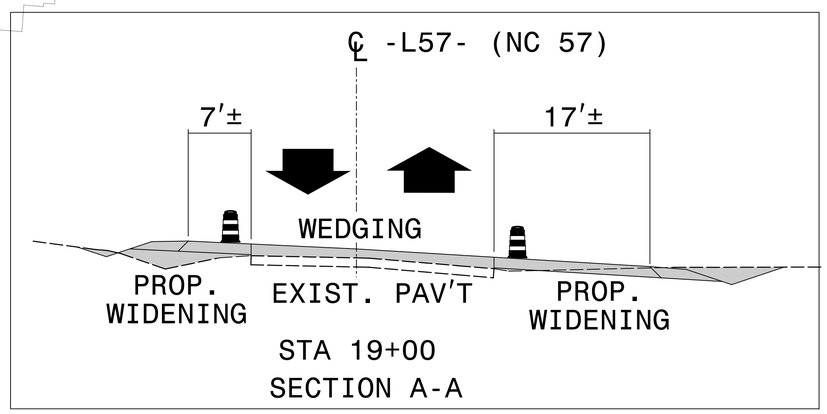

PHASE I

NOTES: - IN PHASING BELOW "RSD" REFERS TO NCDOT ROADWAY STANDARD DRAWING.
- IN PHASE I, PAVING TO BE DONE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 1

USING RSD 1101.04,INSTALL ADVANCE WARNING SIGNS ON NC 57, CONCORD CHURCH RD. & CONCORD-CEFFO RD. (SEE ROADWAY STANDARD DRAWING NUMBER 1101.01).

STEP 2

USING RSD 1101.02 (SHEET 1 OF 15), INSTALL PROPOSED SIGNAL POLES AND SIGNALS AND ACTIVATE. DEACTIVATE EXISTING SIGNAL.

USING RSD 1101.02 (SHEET 1 OF 15), COMPLETE PROPOSED UTILITY AND DRAINAGE WORK.

USING RSD 1101.02 (SHEET 1 OF 15), CONSTRUCT PROPOSED WEDGING AND WIDENING AT THE FOLLOWING LOCATIONS. REPLACE TEMPORARY PAVEMENT MARKINGS AND SAFE UP SHOULDER AT END OF EACH DAY'S PAVING.

-L57- STA 11+50± TO STA 26+00±
-Y57- STA 11+50± TO -L57-
-Y157- FROM -L57- TO -Y157- STA 12+75±

PHASE II

USING RSD 1101.02 (SHEET 1 OF 15), PLACE FINAL LAYER OF SURFACE COURSE AND PLACE FINAL PAVEMENT MARKINGS AND MARKERS ON -L57-, -Y57- AND -Y157-.

APPROVED: Michael T. Rzepka DATE: 3-18-13

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

PHASE I DETAIL SITE #1

SCALE:	NONE
DATE:	MAR '13
DWG. BY:	YTM
DESIGN BY:	TAG
REVIEWED BY:	MTR

DIVISION OF HIGHWAYS — STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION

REVISIONS

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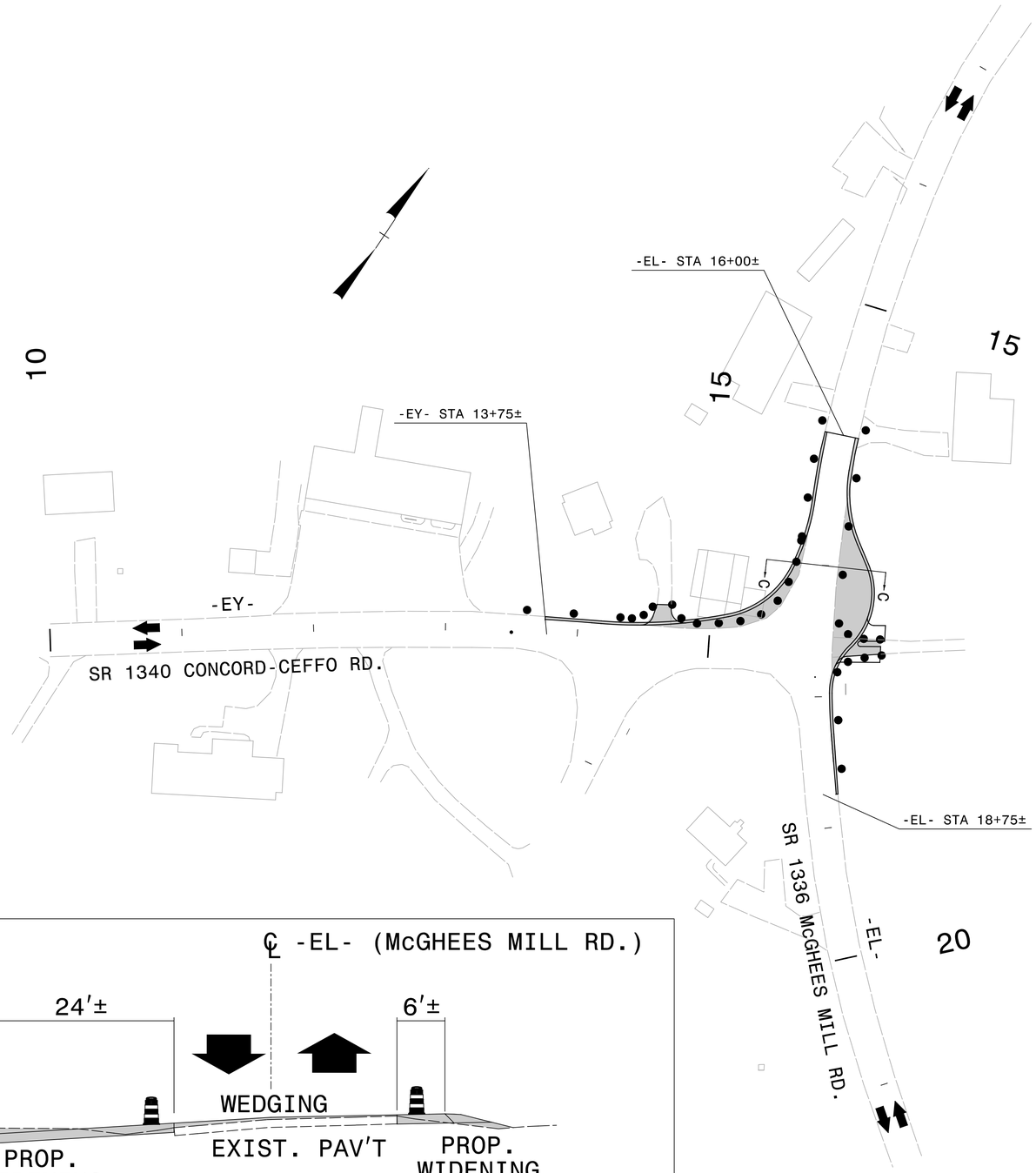

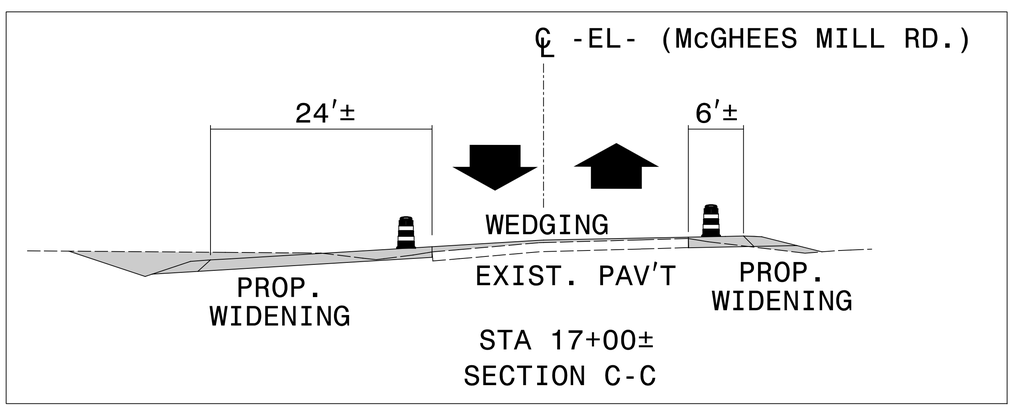

PHASE I

NOTES: - IN PHASING BELOW "RSD" REFERS TO NCDOT ROADWAY STANDARD DRAWING.
- IN PHASE I, PAVING TO BE DONE UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE.

STEP 1

USING RSD 1101.04,INSTALL ADVANCE WARNING SIGNS ON CONCORD-CEFFO RD. AND McGHEES MILL RD. (SEE ROADWAY STANDARD DRAWING NUMBER 1101.01).

STEP 2

USING RSD 1101.02 (SHEET 1 OF 15), COMPLETE PROPOSED UTILITY AND DRAINAGE WORK.

USING RSD 1101.02 (SHEET 1 OF 15), CONSTRUCT PROPOSED WEDGING AND WIDENING AT THE FOLLOWING LOCATIONS. REPLACE TEMPORARY PAVEMENT MARKINGS AND SAFE UP SHOULDER AT END OF EACH DAY'S PAVING.

-EL- STA 16+00± TO STA 18+75±
-EY- STA 13+75± TO -EL-

PHASE II

USING RSD 1101.02 (SHEET 1 OF 15), PLACE FINAL LAYER OF SURFACE COURSE AND PLACE FINAL PAVEMENT MARKINGS AND MARKERS ON -EL- AND -EY-.

APPROVED: Michael T. Rzepka DATE: 3-18-13

SEAL

PHASE I DETAIL SITE #2

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DWG. BY:	YTM
DESIGN BY:	TAG
REVIEWED BY:	MTR

REVISIONS

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PROJECT: 36249.3130

CONTRACT:

TIP NO.	SHEET NO.
36249.3130	PMP-1

APPROVED:

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

3-18-13

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
PERSON COUNTY

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN COVER SHEET ROADWAY STANDARD DRAWINGS, GENERAL NOTES & FINAL PAVEMENT MARKING SCHEDULE
PMP-2 & 3	PAVEMENT MARKING DETAILS

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	PERMANENT RAISED

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

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

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

E) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

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

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM
TA	WHITE EDGELINE	THERMOPLASTIC (4", 90 mils)
TD	3 FT- 9 FT WHITE MINISKIP	THERMOPLASTIC (4", 120 mils)
TE	WHITE SOLID LANE LINE	THERMOPLASTIC (4", 120 mils)
TI	DOUBLE YELLOW CENTER LINE	THERMOPLASTIC (4", 120 mils)
TO	WHITE DIAGONAL	THERMOPLASTIC (8", 90 mils)
TP	YELLOW DIAGONAL	THERMOPLASTIC (8", 90 mils)
T2	WHITE STOPBAR	THERMOPLASTIC (24", 120 mils)
T8	2 FT- 6 FT WHITE MINISKIP	THERMOPLASTIC (4", 120 mils)
UA	LEFT TURN ARROW	THERMOPLASTIC (90 mils)
MA	YELLOW & YELLOW	PERMANENT RAISED
MB	CRYSTAL & RED	PERMANENT RAISED

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

CHRIS HOWARD — SIGNING & DELINEATION STANDARDS ENGINEER

MARK MANRIQUEZ — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

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

PLAN PREPARED BY: Florence & Hutcheson, Inc.

Gary Parker — Designer

Michael T. Rzepka, PE — Project Engineer

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

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Florence & Hutcheson

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

TIP NO.	SHEET NO.
362493130	PMP-2

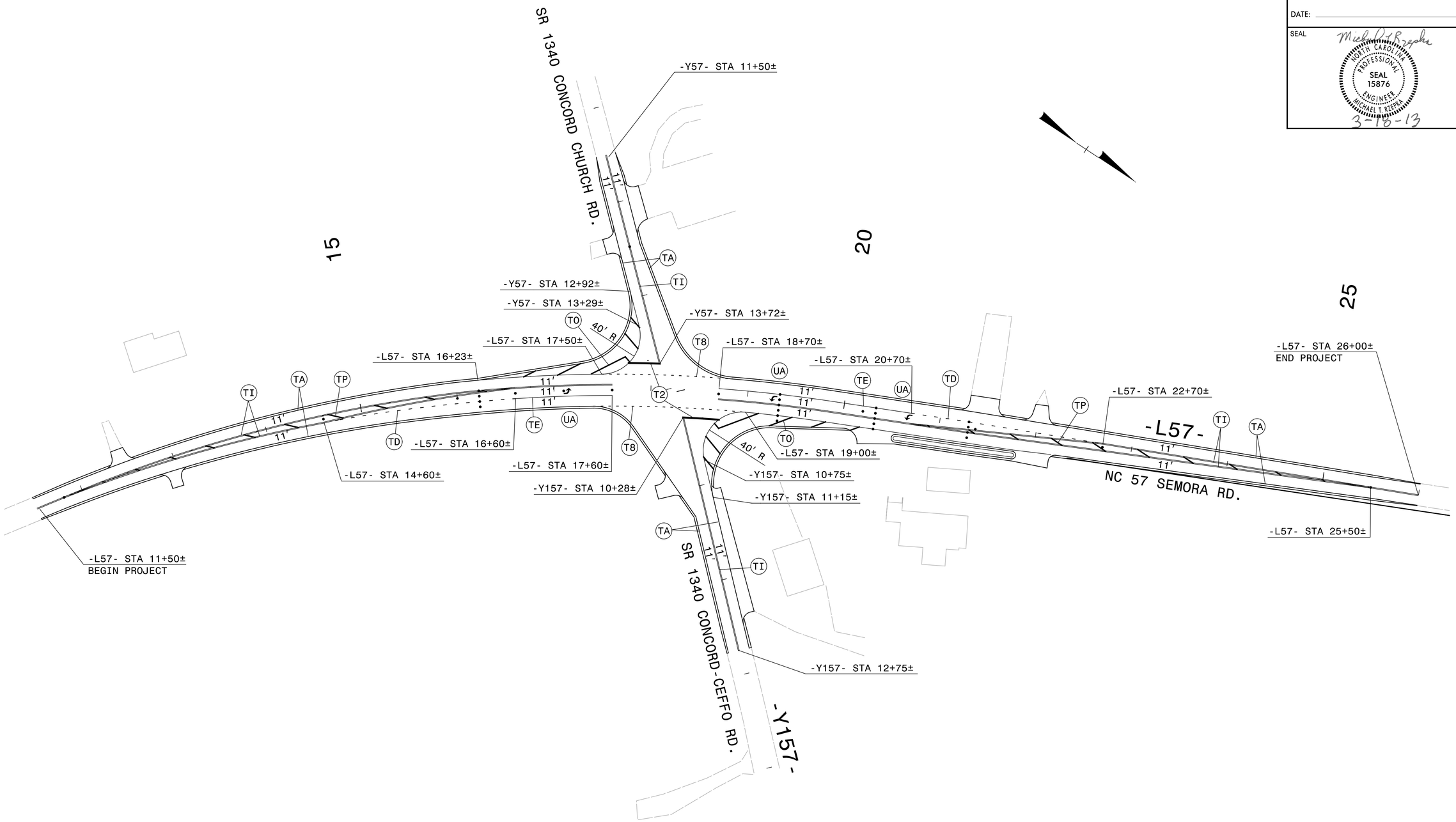
APPROVED:

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

3-18-13



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SITE #1

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Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

TIP NO.	SHEET NO.
362493130	PMP-3

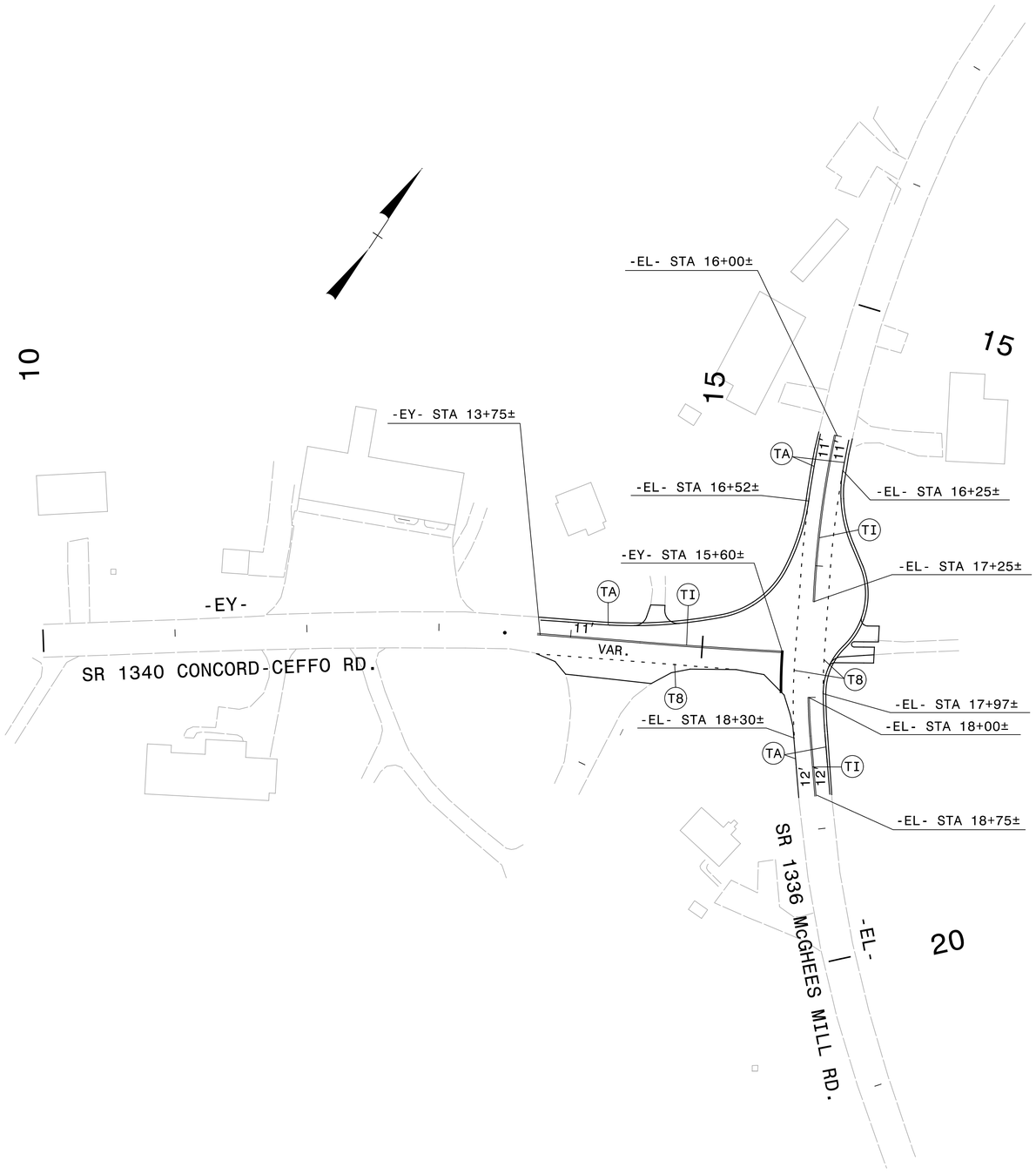
APPROVED:

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

3-18-13



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PAVEMENT MARKING DETAIL
SITE #2

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	36249.3130	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
41731		PE,R/W,CONST

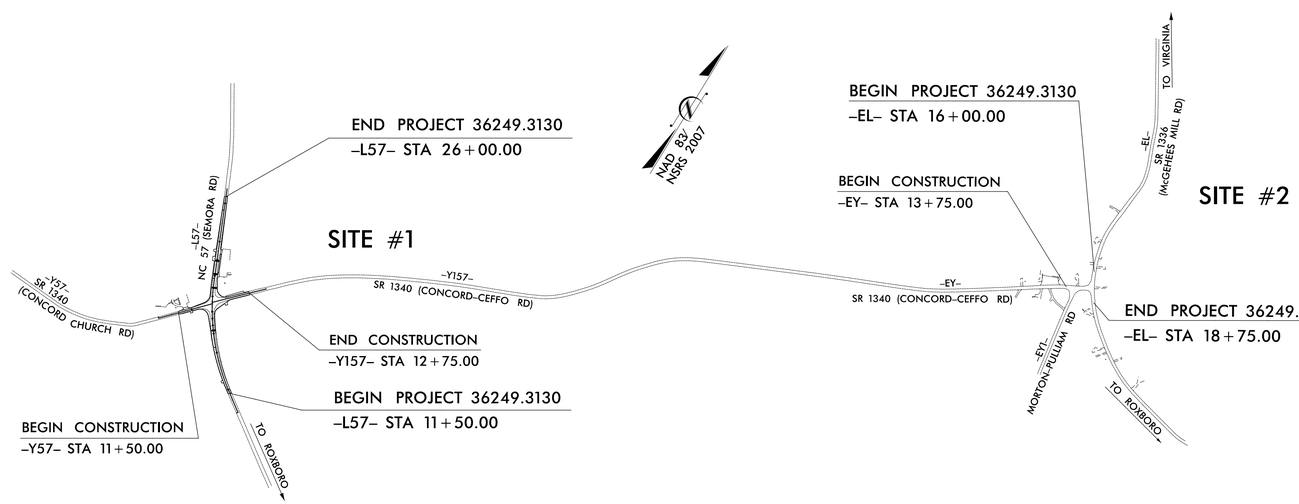
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

PERSON COUNTY

LOCATION: INTERSECTION FOR SR 1340 (CONCORD–CEFFO RD) AT SITE #1: NC 57 (SEMORA RD), AND AT SITE #2: SR 1336 (McGEHEES MILL RD)

WBS: 36249.3130



EROSION AND SEDIMENT CONTROL MEASURES

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

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

ALEXANDER SNIDER, E.I.
ROADSIDE ENVIRONMENTAL ENGINEER
3064
LEVEL III CERTIFICATION NUMBER

TRENTON J. CORMIER, P.E.
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER
3377
LEVEL III CERTIFICATION NUMBER

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

GRAPHIC SCALE

250 0 500
PLANS

250 0 500
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, EI
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG–010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

FLORENCE & HUTCHESON
5121 KINGDOM WAY, SUITE 100
RALEIGH NC 27607
NC License No: F–0258

2012 STANDARD SPECIFICATIONS

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 July 18, 2006 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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

7/29/2013
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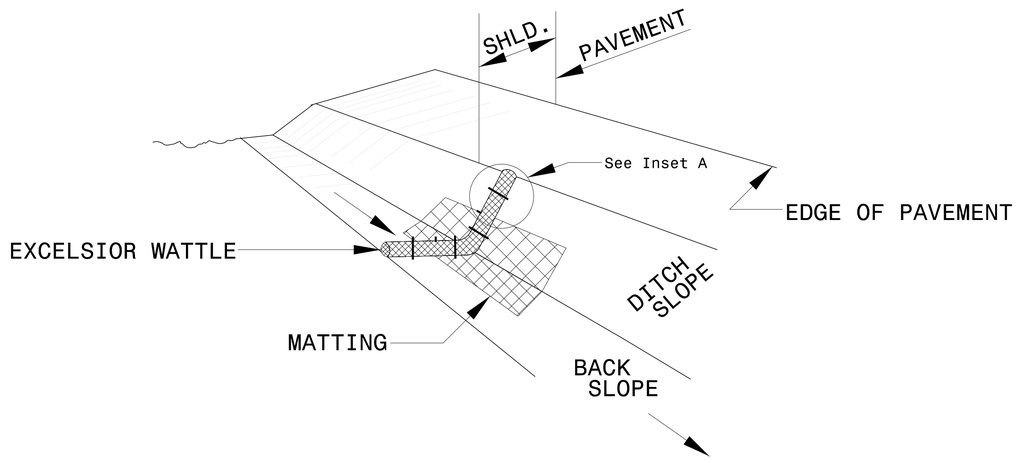
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC-2
R/W SHEET NO.	

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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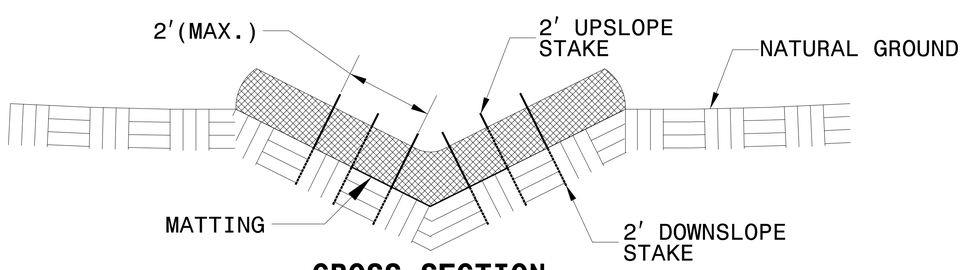
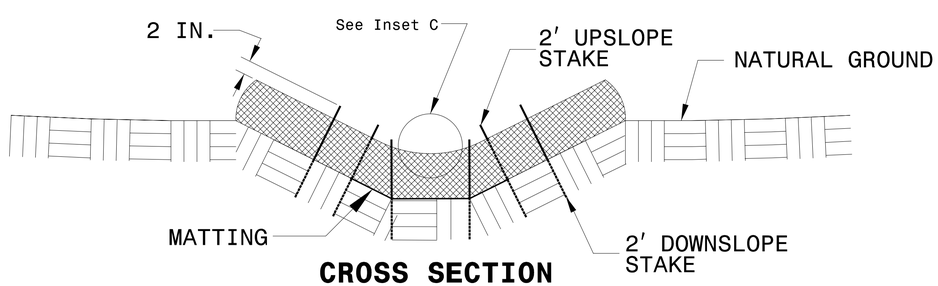


CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

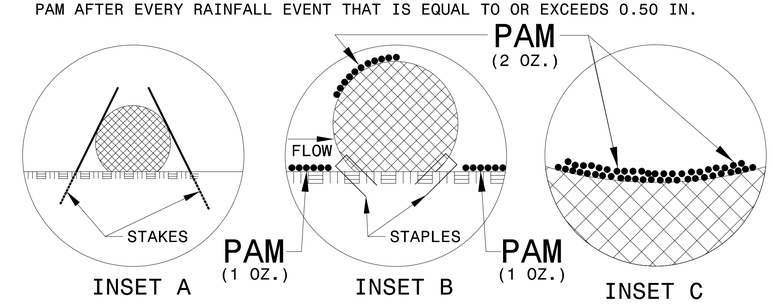
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

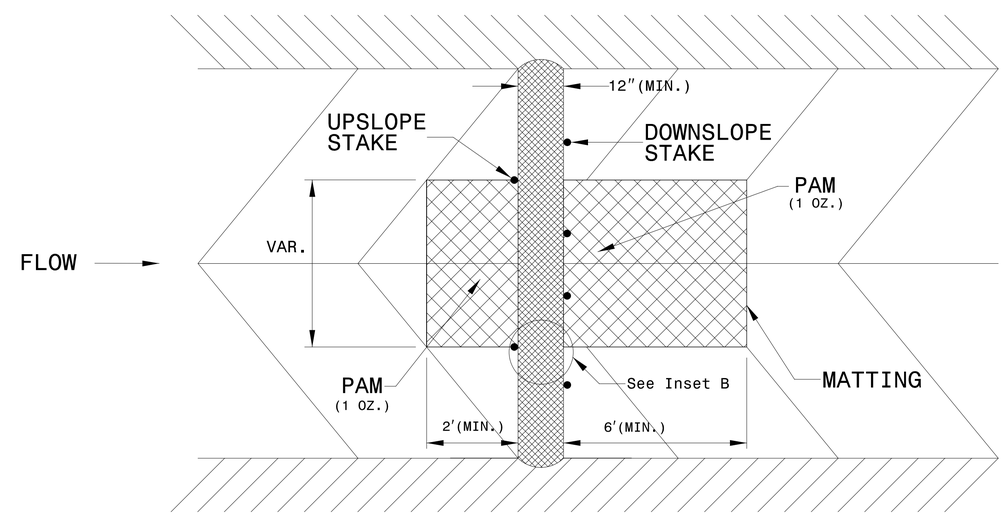
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.





TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC-2A

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L57-	16+25	17+00	RT	55
5	-L57-	16+00	16+75	LT	55
5	-L57-	18+30	19+00	LT	60
5	-L57-	19+00	20+25	LT	65
5	-L57-	20+25	24+50	LT	390
5	-L57-	22+50	24+00	RT	125
5	-L57-	24+00	25+07	RT	90
5	-Y157-	10+25	10+80	RT	40
6	-EL-	16+50	18+75	LT	160
6	-EL-	18+00	18+50	RT	35
				SUBTOTAL	1075
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					7500
				TOTAL	8575
				SAY	8575

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L57-	19+00	20+00	RT	65
5	-L57-	16+75	17+60	LT	60
				SUBTOTAL	125
		ADDITIONAL	PSRM TO BE	INSTALLED	0
				TOTAL	125
				SAY	125

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC-3

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

5/14/99

GRAPHIC SCALE

50 0 50 100

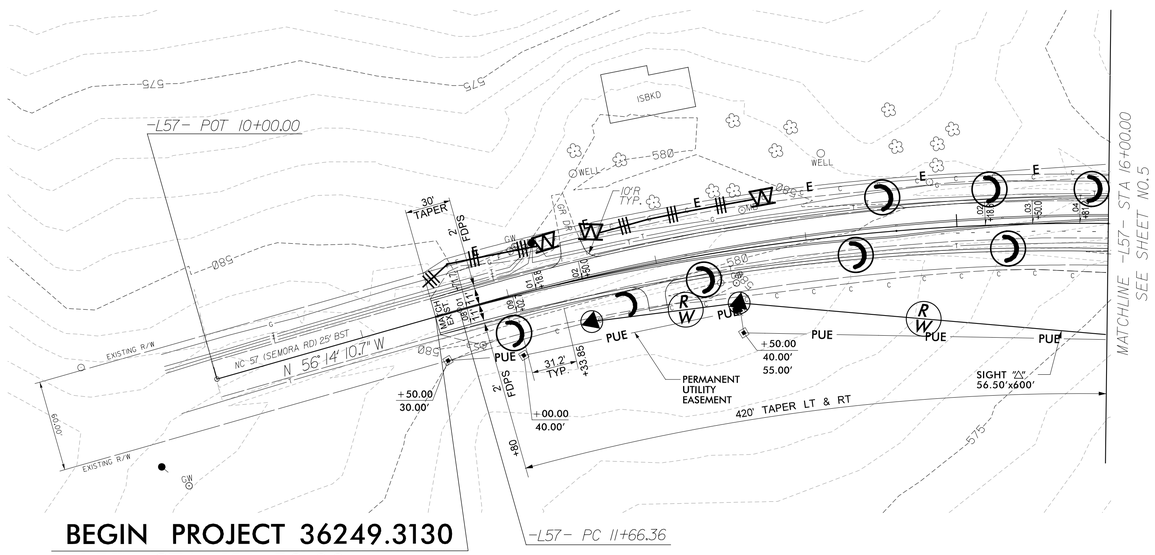
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC4/CONST.4

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, E.I.
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NAD 83/NSRS 2007



BEGIN PROJECT 36249.3130
–L57– STA 11+50.00

NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: F-0258

7/29/2013
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Kc & Associates, P.C.

GRAPHIC SCALE

50 0 50 100

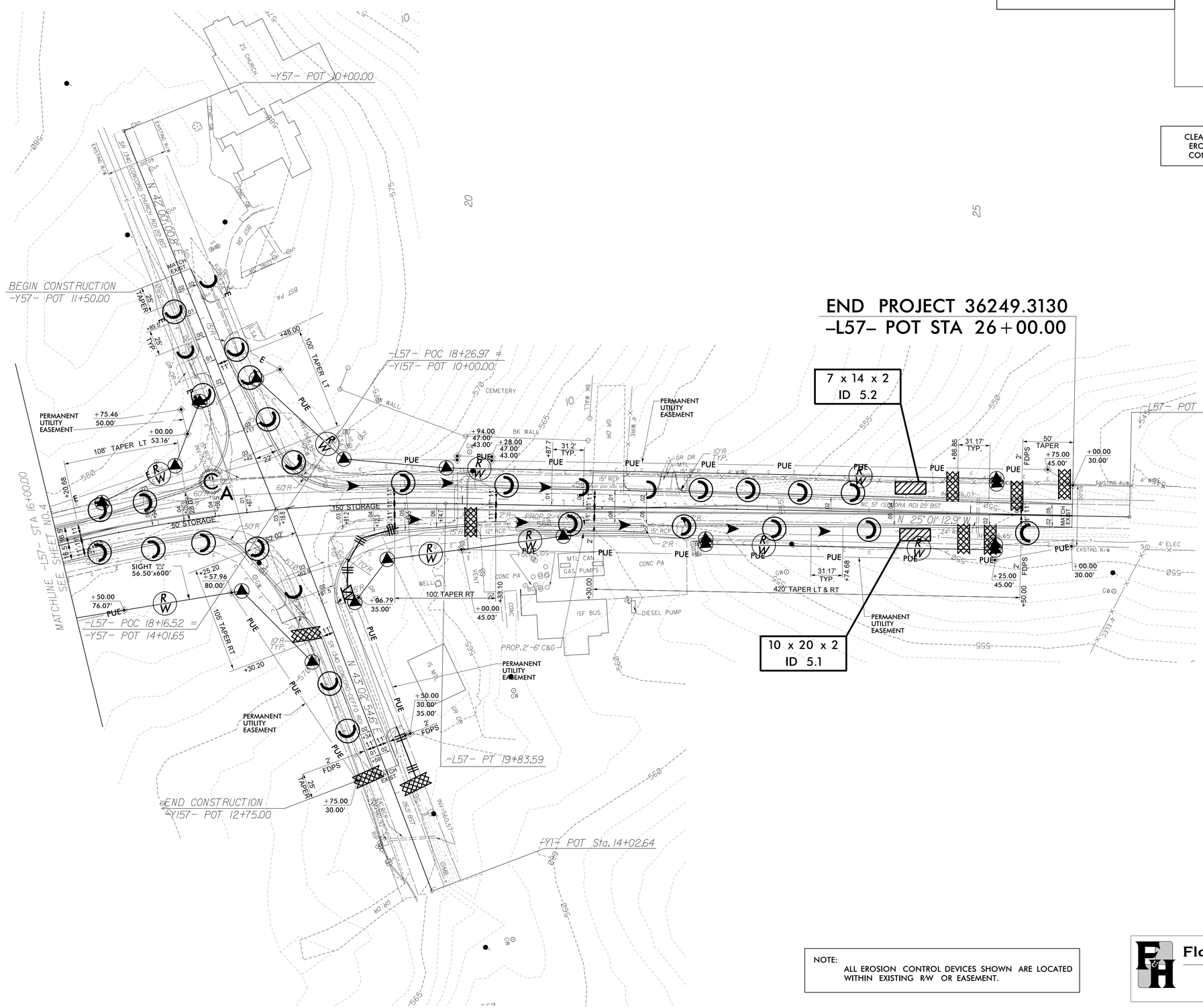
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC5/CONST.5

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, E.I.
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

NAD 83/NSRS 2007



NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

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NC License No: F-0258

5/14/99

7/29/2013
Paulics\Erosion Control\cadd\36249.3130_EC_psh05_CG.dgn
Ko & Associates, P.C.

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC6/CONST.6

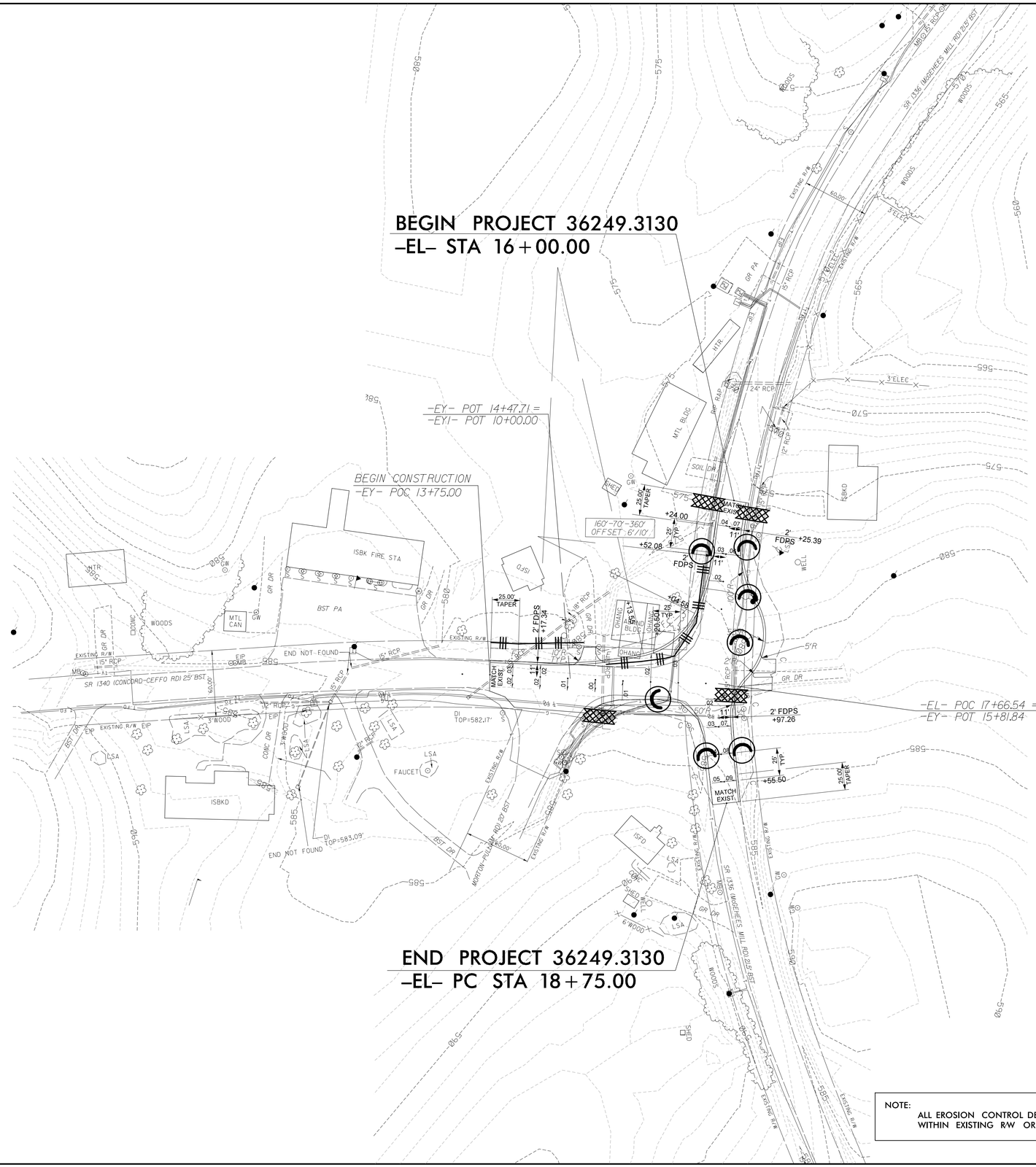
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, E.I.
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

GRAPHIC SCALE
50 0 50 100

NAD 83/NSRS 2007

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6



NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

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Ko & Associates, P.C.

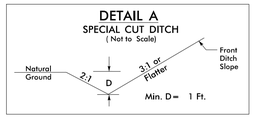
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC7/CONST.4

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

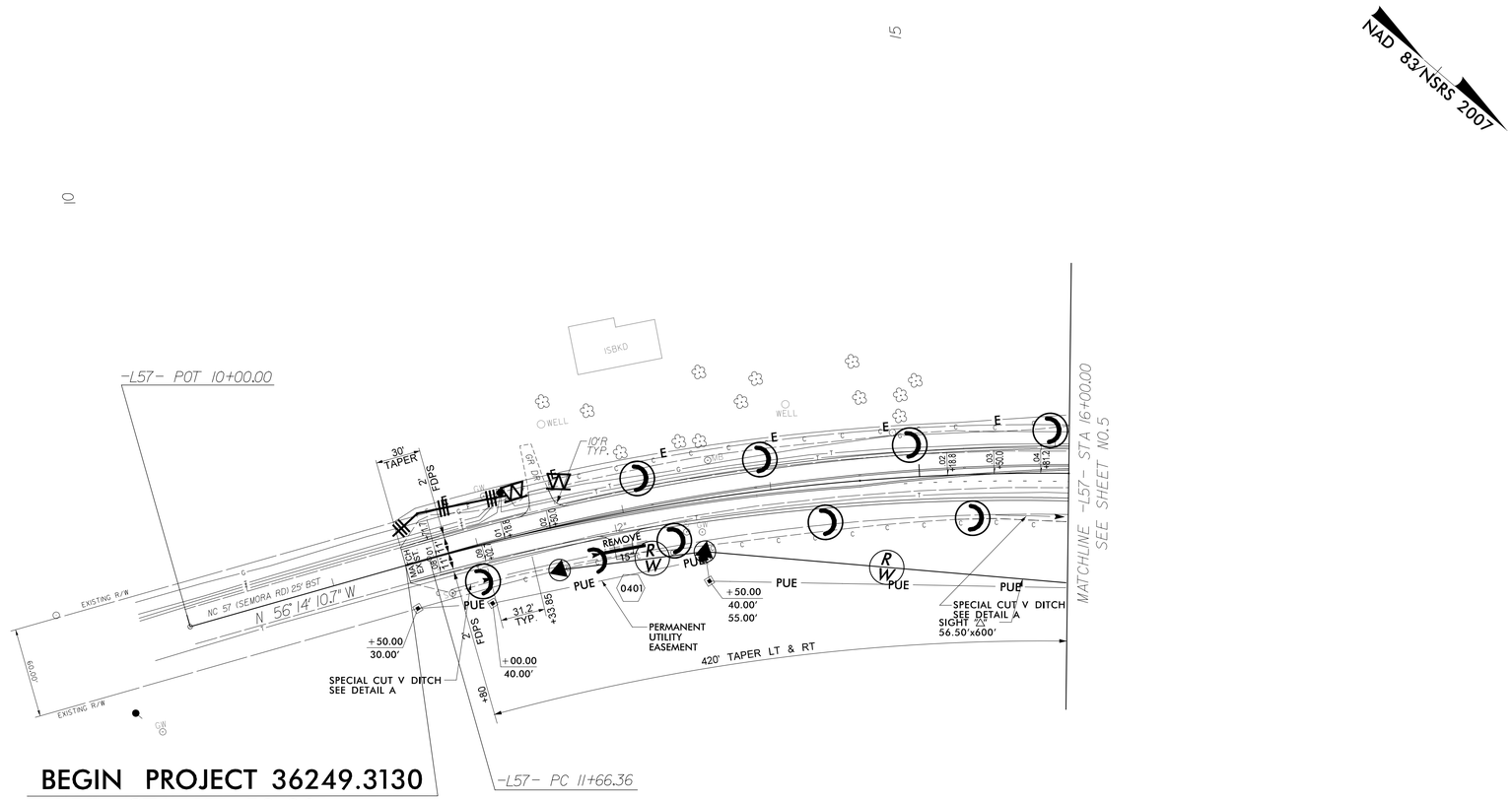
LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, E.I.
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

GRAPHIC SCALE
50 0 50 100

FINAL GRADE EROSION CONTROL
FOR ONSTRUCTION SHEET 4



-L57- FROM STA. 11+75 TO STA. 13+00 RT.
-L57- FROM STA. 15+50 TO STA. 16+25 RT.



BEGIN PROJECT 36249.3130
-L57- STA 11+50.00

NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

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NC License No: F-0258

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Ko & Associates, P.C.

5/14/99

GRAPHIC SCALE
50 0 50 100

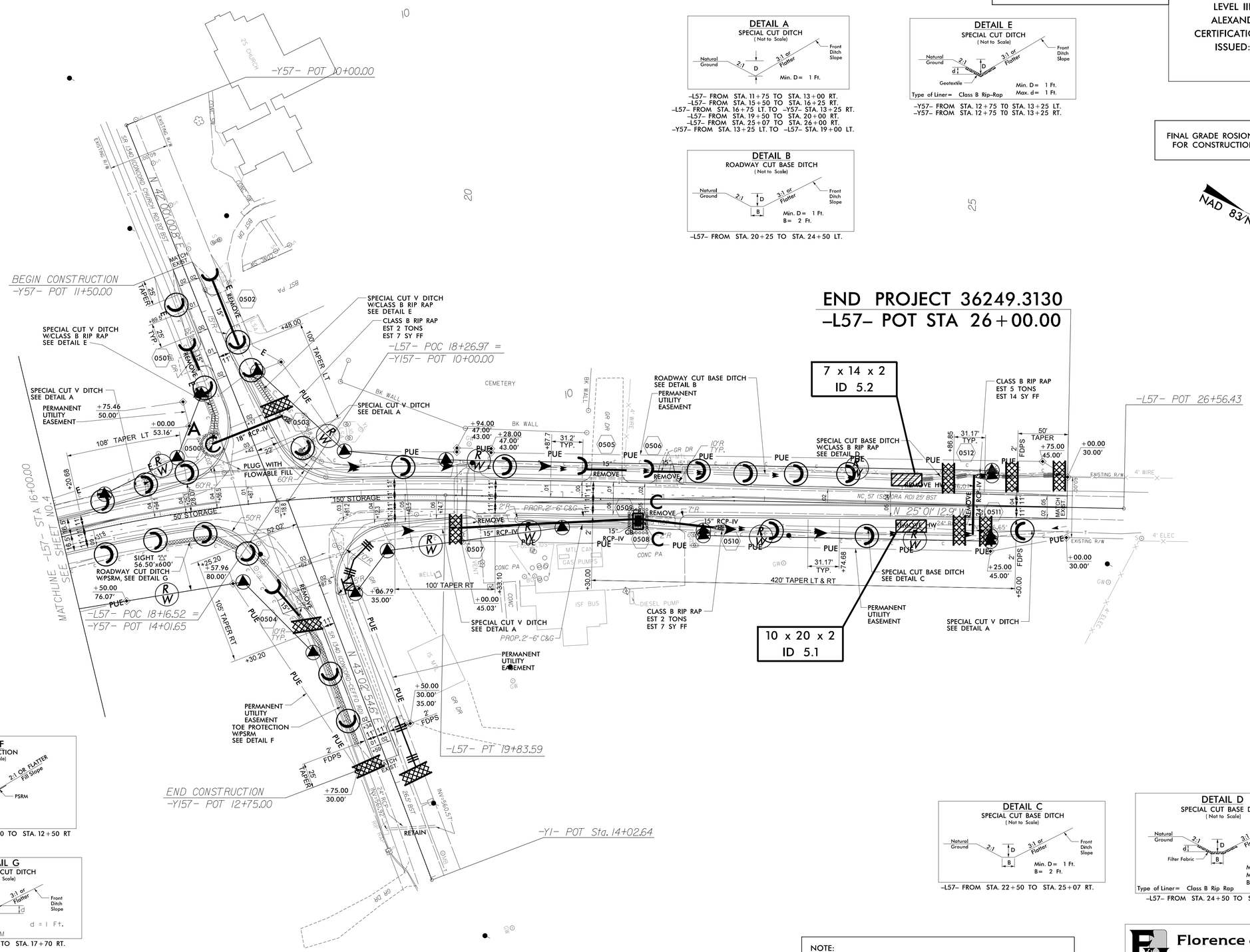
PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC8/CONST.5

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, E.I.
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

FINAL GRADE ROSION CONTROL
FOR CONSTRUCTION SHEET 5

NAD 83/NSRS 2007



DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.

-L57- FROM STA. 11+75 TO STA. 13+00 RT.
-L57- FROM STA. 15+50 TO STA. 16+25 RT.
-L57- FROM STA. 16+75 LT. TO -Y57- STA. 13+25 RT.
-L57- FROM STA. 19+50 TO STA. 20+00 RT.
-L57- FROM STA. 25+07 TO STA. 26+00 RT.
-Y57- FROM STA. 13+25 LT. TO -L57- STA. 19+00 LT.

DETAIL E
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.
Max. d = 1 Ft.
Type of Liner = Class B Rip-Rap

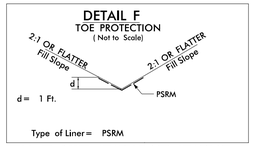
-Y57- FROM STA. 12+75 TO STA. 13+25 LT.
-Y57- FROM STA. 12+75 TO STA. 13+25 RT.

DETAIL B
ROADWAY CUT BASE DITCH
(Not to Scale)

Min. D = 1 Ft.
B = 2 Ft.

-L57- FROM STA. 20+25 TO STA. 24+50 LT.

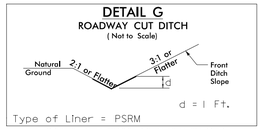
DETAIL F
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
Type of Liner = PSRM

-Y157- FROM STA. 11+10 TO STA. 12+50 RT

DETAIL G
ROADWAY CUT DITCH
(Not to Scale)



d = 1 Ft.
Type of Liner = PSRM

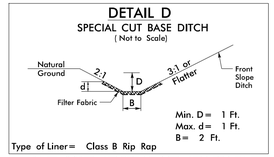
-L- FROM STA. 17+00 TO STA. 17+70 RT.

DETAIL C
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D = 1 Ft.
B = 2 Ft.

-L57- FROM STA. 22+50 TO STA. 25+07 RT.

DETAIL D
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
B = 2 Ft.
Type of Liner = Class B Rip Rap

-L57- FROM STA. 24+50 TO STA. 25+95 LT.

NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

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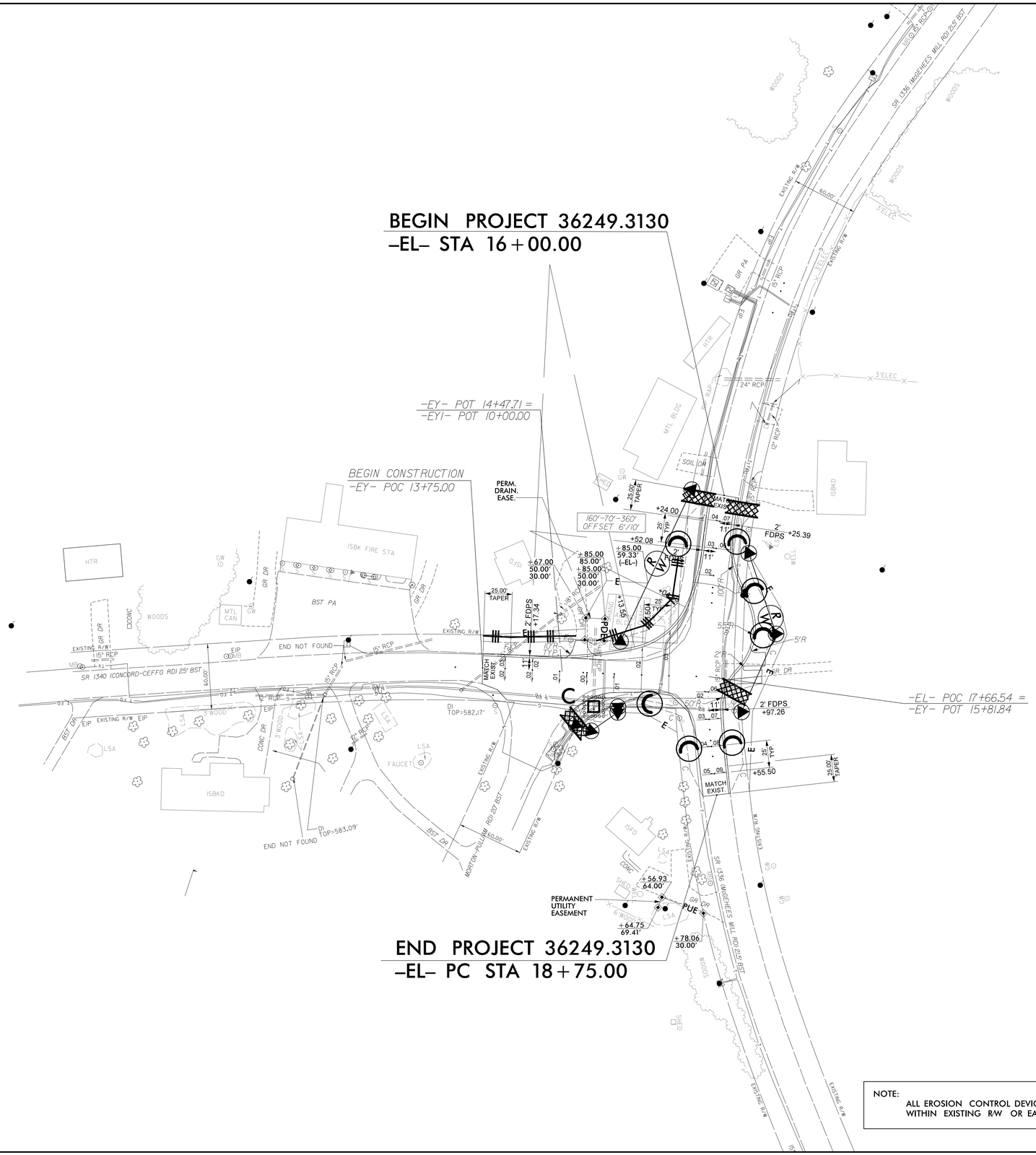
F & Associates, P.A.

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	EC9/CONST.6

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, E.I.
CERTIFICATION NUMBER: 3064
ISSUED: JULY 29, 2013

FINAL GRADE EROSION CONTROL
FOR CONSTRUCTION SHEET 6



NOTE:
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NC License No: F-0258

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7/29/2013
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Ko & Associates, P.C.

PROJECT: 36249.3130

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
36249.3130	SIGN-1

APPROVED: Tyson A. Graves

DATE: 3-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21080 ENGINEER TYSON A. GRAVES

SIGNING PLAN
PERSON COUNTY

LOCATION: SITE #1 – INTERSECTION OF NC 57 AND SR 1340 NEAR ROXBORO
SITE #2 – INTERSECTION OF SR 1336 AND SR 1340 NEAR ROXBORO

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.30	SUPPLEMENTAL SIGN MOUNTING
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

- SIGNS FURNISHED BY STATE
- 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.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4102000000	904	SIGN ERECTION, TYPE E	8	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	6	EA.
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	132	L.F.

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	E SHEET
SIGN-3-4	SIGN DETAIL SHEETS

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

_____ SIGNING & DELINEATION REGIONAL ENGINEER

_____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Florence & Hutcheson
An ICA Company
5121 Kingsdown Way, Raleigh, NC 27607
NC License No: F-0258

3/18/2013
P:\Roadway\DDC\Div05\Person_Co_intersections\Traffic\Signing\CADD\Signing_Layout_Plans\36249313O_sign_title.dgn
Florence & Hutcheson

TIP NO.	SHEET NO.
36249.3130	SIGN-2

APPROVED: Tyson A. Graves

DATE: 3-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21080 ENGINEER TYSON A. GRAVES

(401) QUANTITY REQ'D 2

49 X 48
R1-1

TWO "U" POSTS PER SIGN

(402) QUANTITY REQ'D 2

36 X 36
W2-1

ONE "U" POSTS PER SIGN

(403) QUANTITY REQ'D 2

24 X 24
W13-1

MOUNT BELOW SIGN 402
IN 2 INSTALLATIONS

(404) QUANTITY REQ'D 2

36 X 36
R1-1

ONE "U" POST PER SIGN

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An ICA Company
3121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

TYPE "E" SIGNS

3/18/2013
P:\Roadway\DDC\Div05\Person_Co_intersections\Traffic\Signing\CADD\Signing_Layout_Plans\36249313O_sign_ESheet.dgn
Florence & Hutcheson

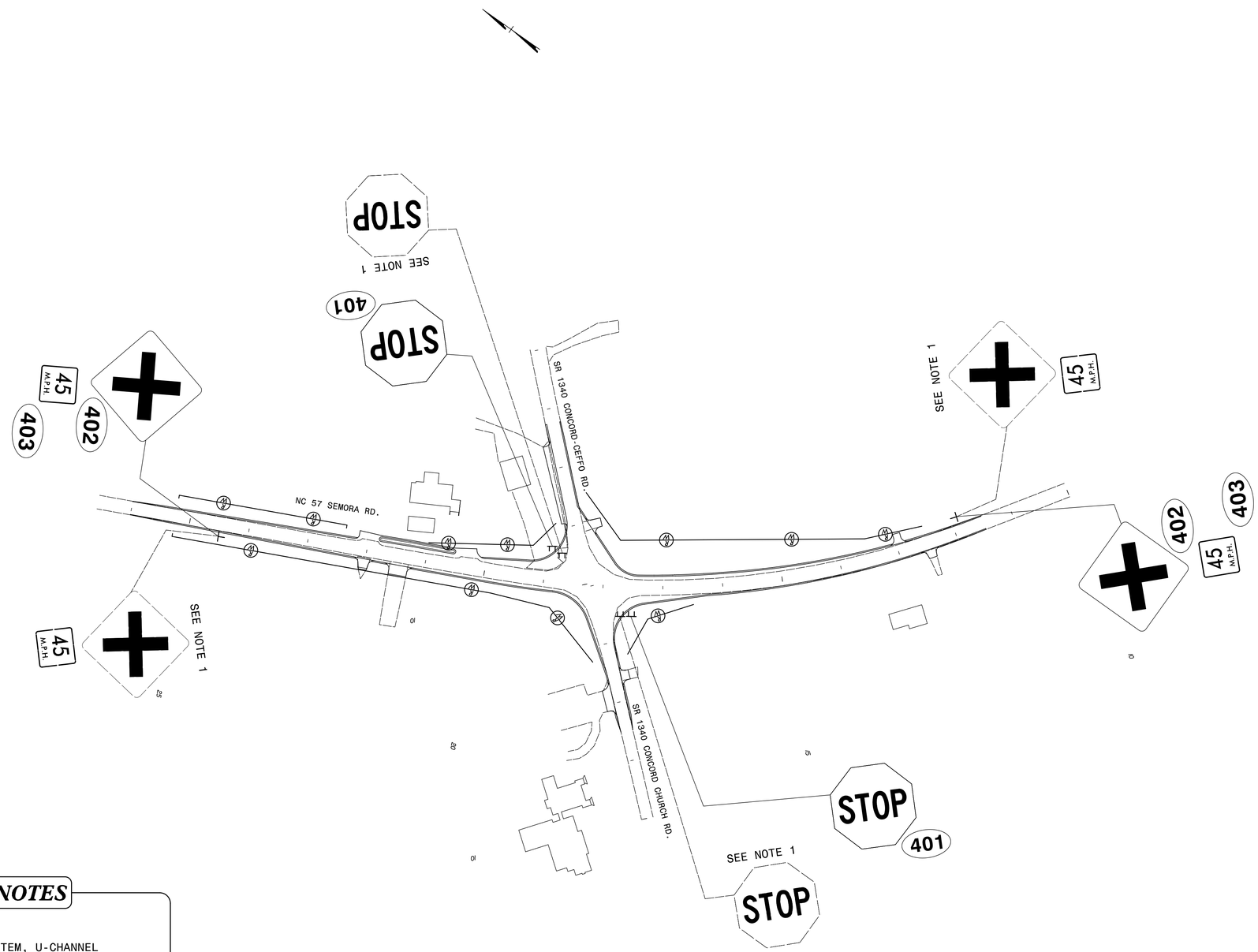
TIP NO.	SHEET NO.
36249.3130	SIGN-3

APPROVED: Tyson A. Grues

DATE: 3-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21080 ENGINEER TYSON A. GRUES



PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

SITE #1 DETAIL

3/18/2013
P:\Roadway\DDC\Div05\Person_Co_intersections\Traffic\Signing\CADD\Signing_Layout_Plans\36249313O_sign_dtl1.dgn
Florence & Hutcheson

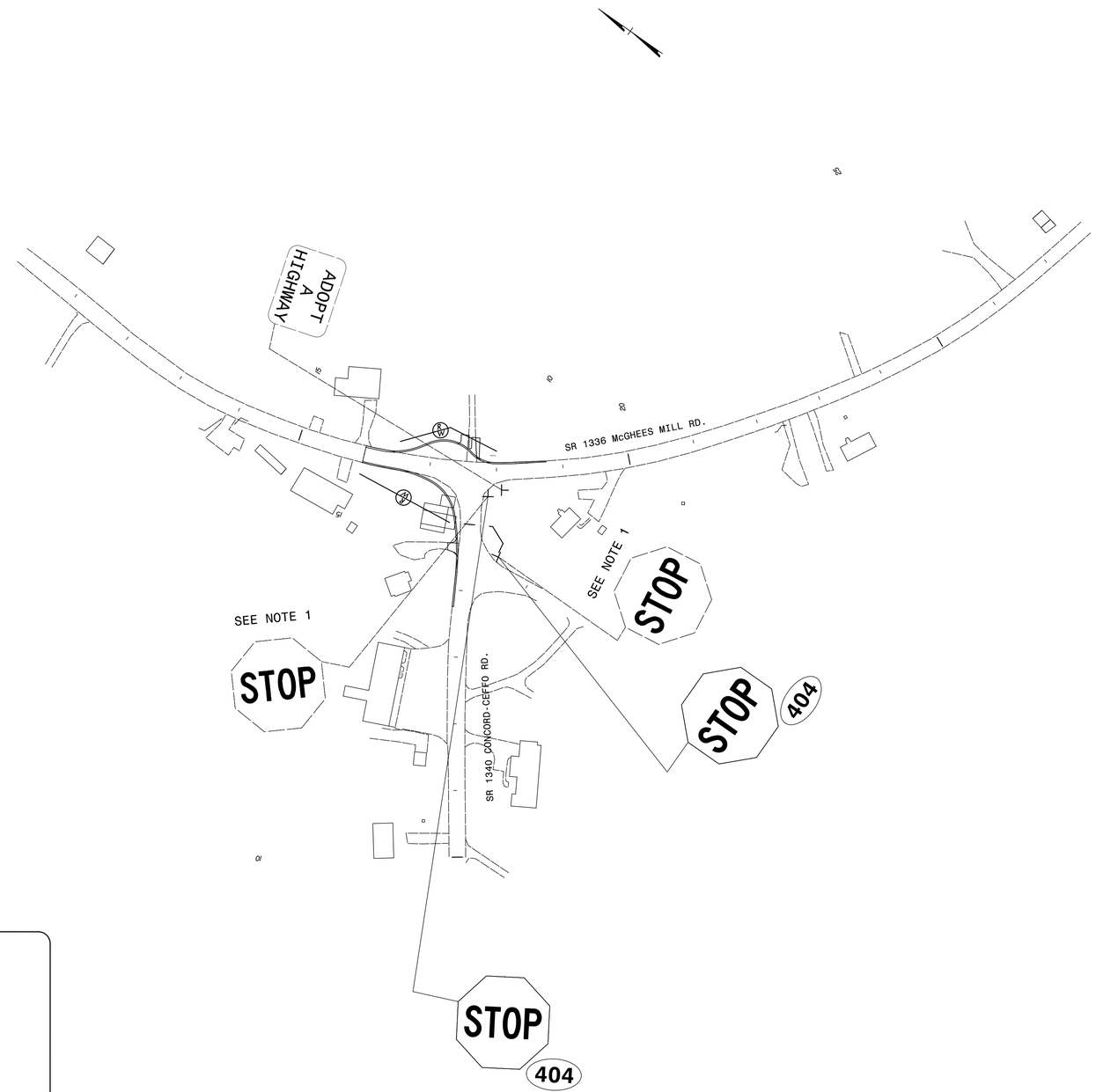
TIP NO.	SHEET NO.
36249.3130	SIGN-4

APPROVED: Tyson A. Grimes

DATE: 3-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21080 ENGINEER TYSON A. GRIMES



PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

Florence & Hutcheson
An ICA Company
5121 Kingdom Way, Raleigh, NC 27607
NC License No: F-0258

SITE #2 DETAIL

3/18/2013
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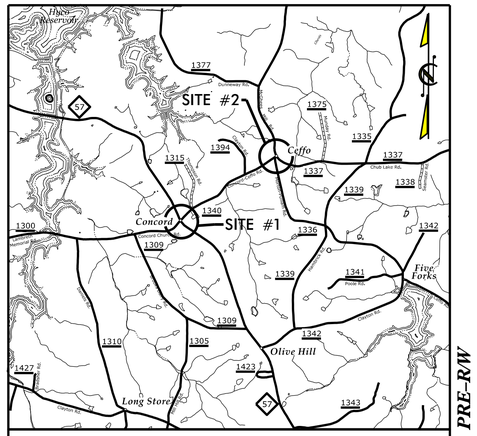
Florence & Hutcheson

PROJECT: 36249.3130

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

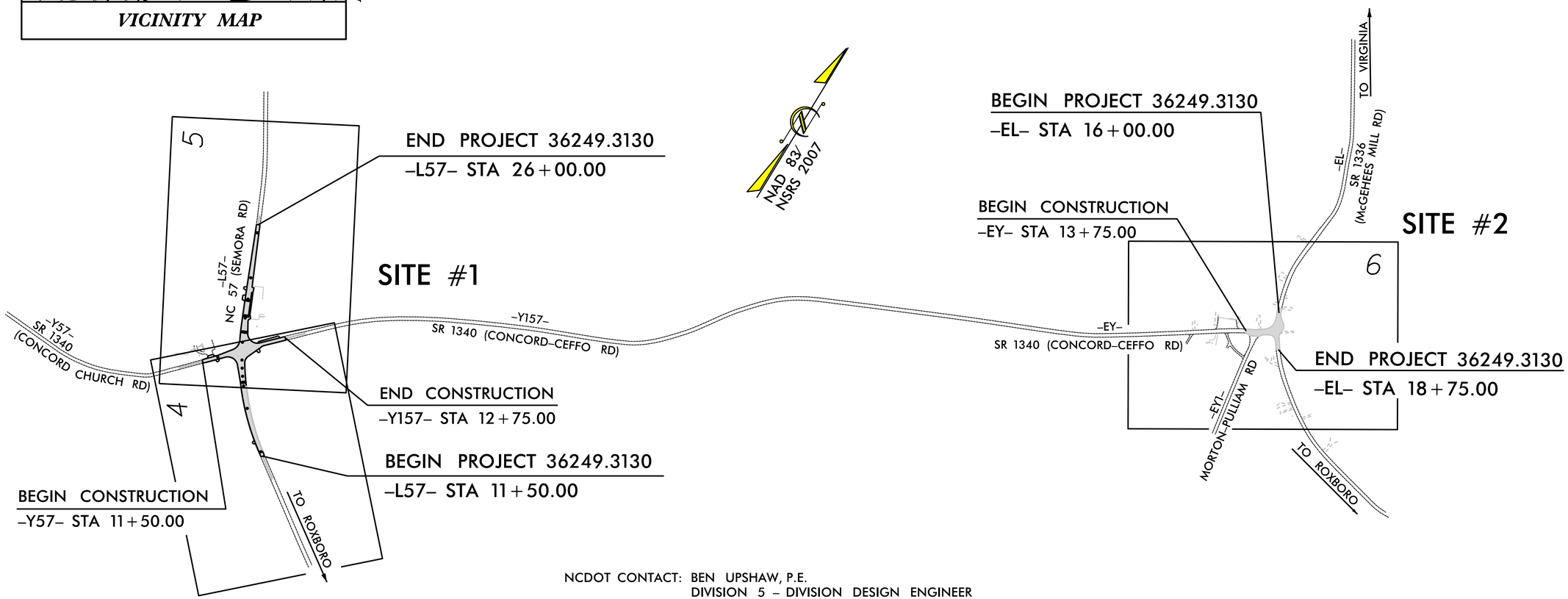
PERSON COUNTY

T.I.P. NO.	SHEET NO.
36249.3130	UO-1

LOCATION: SITE #1 – INTERSECTION OF NC 57 (SEMORA ROAD) AND SR 1340 (CONCORD CHURCH ROAD/CONCORD–CEFFO RD) NEAR ROXBORO

SITE #2 – INTERSECTION OF SR 1336 (MCGHEES MILL ROAD) AND SR 1340 (CONCORD–CEFFO RD) NEAR ROXBORO

TYPE OF WORK: UTILITY BY OTHERS



NCDOT CONTACT: BEN UPSHAW, P.E.
DIVISION 5 – DIVISION DESIGN ENGINEER

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-1A	GENERAL NOTES
UO-1B	CONVENTIONAL PLAN SHEET SYMBOLS
UO-04 THRU UO-06	UBO PLAN SHEETS

UTILITY OWNERS ON PROJECT

(A) PIEDMONT ELECTRIC – POWER DISTRIBUTION
(B) PROGRESS ENERGY OF NC – POWER DISTRIBUTION
(C) PSNC ENERGY – NATURAL GAS
(D) CENTURY LINK
(E) CHARTER COMMUNICTIONS

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4119

Roger Worthington, P.E. – UTILITIES SECTION ENGINEER
Steve McKee, P.E. – UTILITIES SQUAD LEADER PROJECT ENGINEER
John Nigro, P.E. – UTILITIES PROJECT DESIGNER

09/08/99
11:7:33 PM
36249313O_rdy_tsh-NC57-UBO.dgn
Joshua Barbour Division:P005 Power Emp

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
36249.3130	U01-B

Note: Not to Scale

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

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
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

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

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line
- Designated U/G Water Line (S.U.E.*)
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
U-2803	U0-1A

KCI ASSOCIATES OF N.C.
CIVIL ENGINEERS
ENVIRONMENTAL - CEI
LAND SURVEYING
SUBSURFACE UTILITY ENGINEERING
SUITE 220, LANDMARK CENTER II,
4601 SIX FORKS ROAD
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
WWW.KCI.COM

UTILITY CONTACTS

UTILITY	CONTACT NAME	CONTACT PHONE NUMBER
PIEDMONT ELECTRIC	BARRY BRADSHER	(336) 599-0151
PROGRESS ENERGY OF NC	TOM EDWARDS	(919) 882-5046
PSNC ENERGY (NATURAL GAS)	DUNCAN WARREN	(919) 367-2715
CENTURY LINK	JOE OLEJAR	(919) 563-8141
CHARTER COMMUNICATIONS	JON GRANT	(910) 803-0620

LEGEND

PROP O/H POW LINES	PROPOSED OVERHEAD POWER LINE (DUKE ENERGY)
PROP O/H POW TEL & FO LINES	PROPOSED OVERHEAD POWER/TELEPHONE/FIBER OPTIC LINES (DUKE ENERGY/NORTH STATE COMMUNICATIONS)
PROP O/H POW & TEL LINES	PROPOSED OVERHEAD POWER/TELEPHONE LINES (DUKE ENERGY/AT&T)
PROP U/G GAS LINE	PROPOSED GAS LINE
// //	EXISTING UTILITY TO BE ABANDONED IN PLACE (BY CORRESPONDING UTILITY COMPANY)
REM	EXISTING UTILITY POLE TO BE REMOVED (BY CORRESPONDING UTILITY COMPANY)
RENEW	EXISTING UTILITY POLE TO BE RENEWED (BY CORRESPONDING UTILITY COMPANY)

6/2/99
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Joshua Barbour Division:P005 Power Emp

PROJECT REFERENCE NO.	SHEET NO.
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R/W SHEET NO.	

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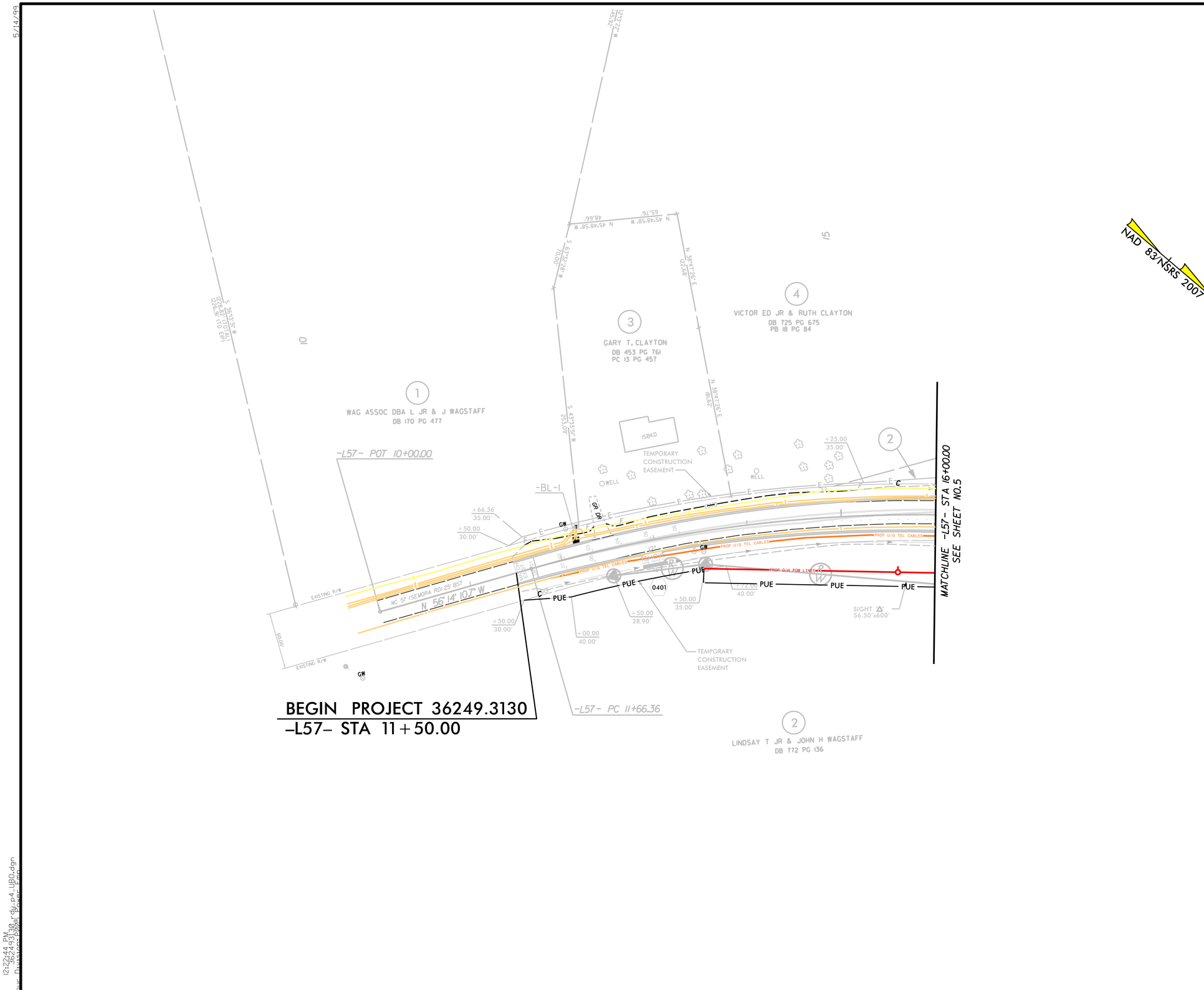
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
WWW.KCI.COM

UTILITY BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



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SUITE 220, LANDMARK CENTER II,
4601 SIX FORKS ROAD
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(919) 783-9214
WWW.KCI.COM

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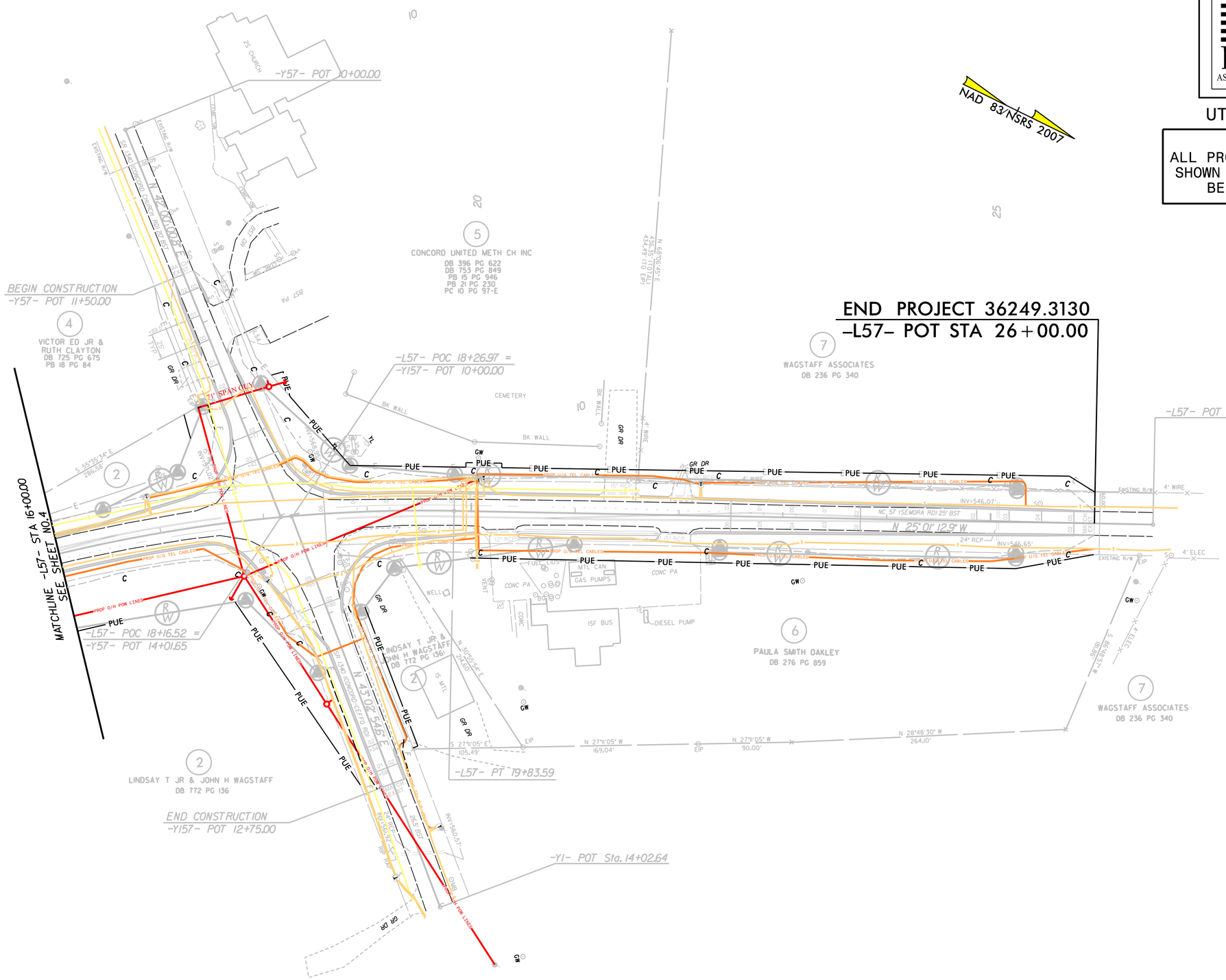

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Bernpur, Duwayne
Bowen, Eric

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R/W SHEET NO.	

KCI ASSOCIATES OF N.C.

CIVIL ENGINEERS
ENVIRONMENTAL - CEI
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SUBSURFACE UTILITY ENGINEERING

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(919) 783-9214
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UTILITY BY OTHERS

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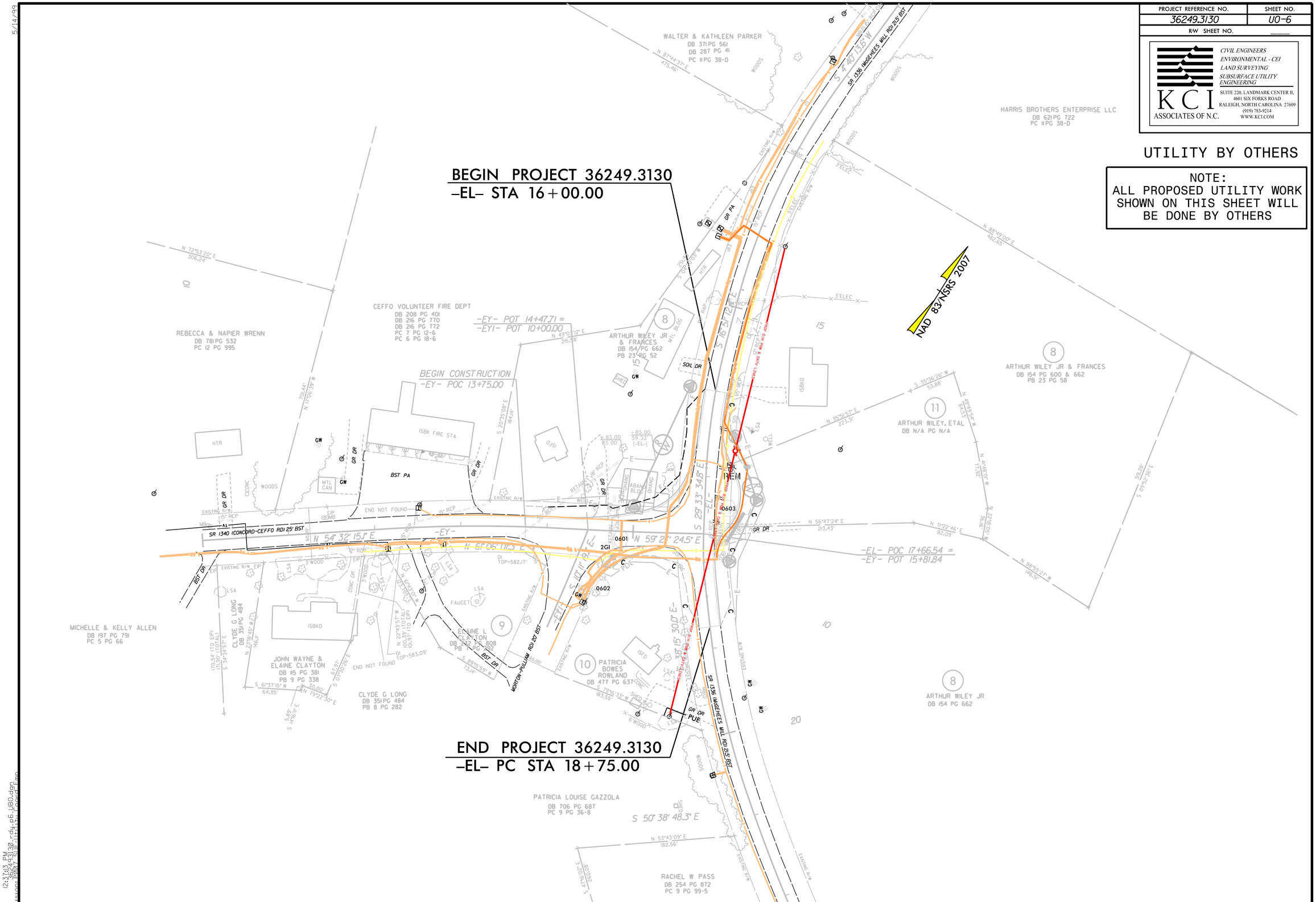

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Project: 36249.3130
Division: 9000 Site Utilities
Level: Level Emp

PROJ. REFERENCE NO.	SHEET NO.
36249.313	X-0

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

Approximate quantities only. Unclassified excavation, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDES BACKFILL FOR UNDERCUT

Station L57	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+50.00	0	2
11+66.36	2	2
11+75.00	2	4
12+00.00	9	3
12+25.00	10	1
12+50.00	12	1
12+75.00	16	0
13+00.00	20	0
13+25.00	25	0
13+50.00	31	0
13+75.00	33	0
14+00.00	32	0
14+25.00	30	0
14+50.00	26	0
14+75.00	21	1
15+00.00	17	2
15+25.00	15	3
15+50.00	12	3
15+75.00	12	4
16+00.00	15	4
16+25.00	16	3
16+50.00	15	4
16+75.00	13	5
17+00.00	12	9
17+25.00	10	13
17+50.00	11	18
17+75.00	13	20

Station L57	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
18+75.00	0	0
19+00.00	17	2
19+25.00	33	2
19+50.00	38	2
19+75.00	34	3
19+83.59	10	1
20+00.00	18	2
20+25.00	19	4
20+50.00	13	6
20+75.00	11	8
21+00.00	9	10
21+25.00	9	9
21+50.00	19	6
21+75.00	24	7
22+00.00	23	5
22+25.00	25	3
22+50.00	26	5
22+75.00	24	4
23+00.00	23	3
23+25.00	23	3
23+50.00	26	3
23+75.00	30	1

Station L57	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
24+00.00	36	0
24+25.00	40	0
24+50.00	36	0
24+75.00	32	1
25+00.00	32	2
25+25.00	26	3
25+50.00	18	3
25+75.00	15	2
26+00.00	6	0

Station Y57	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+50.00	0	0
11+75.00	6	0
12+00.00	15	0
12+25.00	18	0
12+50.00	15	0
12+75.00	8	0
13+00.00	15	0
13+25.00	43	1
13+50.00	44	1

Station Y157	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+75.00	39	4
11+00.00	35	2
11+25.00	13	2
11+50.00	1	4
11+75.00	1	4
12+00.00	2	3
12+25.00	2	4
12+50.00	2	3
12+75.00	1	1

Station EY	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+75.00	0	0
14+00.00	3	0
14+25.00	3	2
14+50.00	1	3
14+75.00	2	4
15+00.00	3	5
15+25.00	4	5

Station EL	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
16+00.00	0	0
16+25.00	2	3
16+50.00	5	6
16+75.00	12	4
17+00.00	34	3
17+25.00	61	1
17+50.00	72	0
17+75.00	44	0
18+00.00	14	0
18+25.00	12	0
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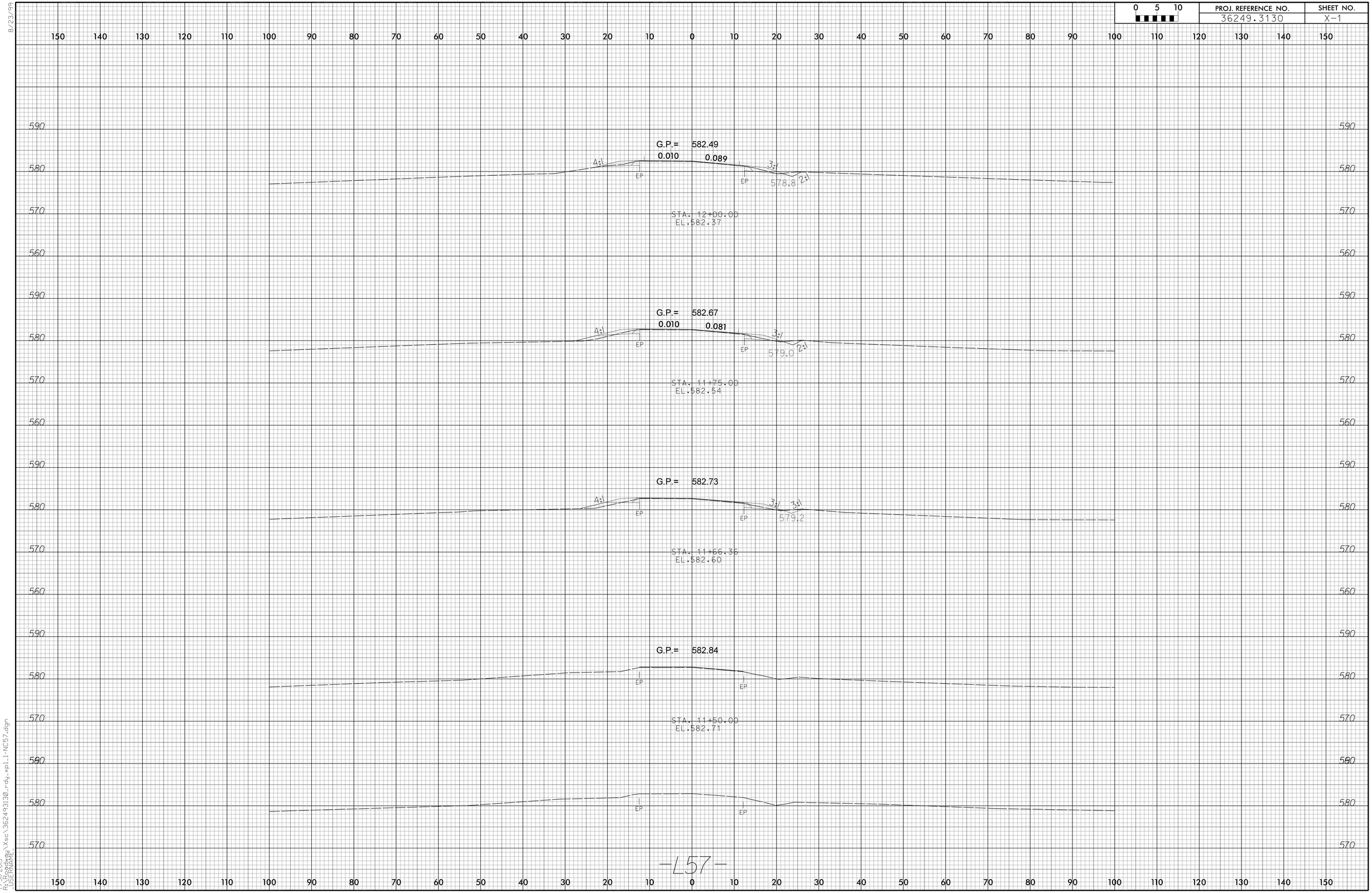

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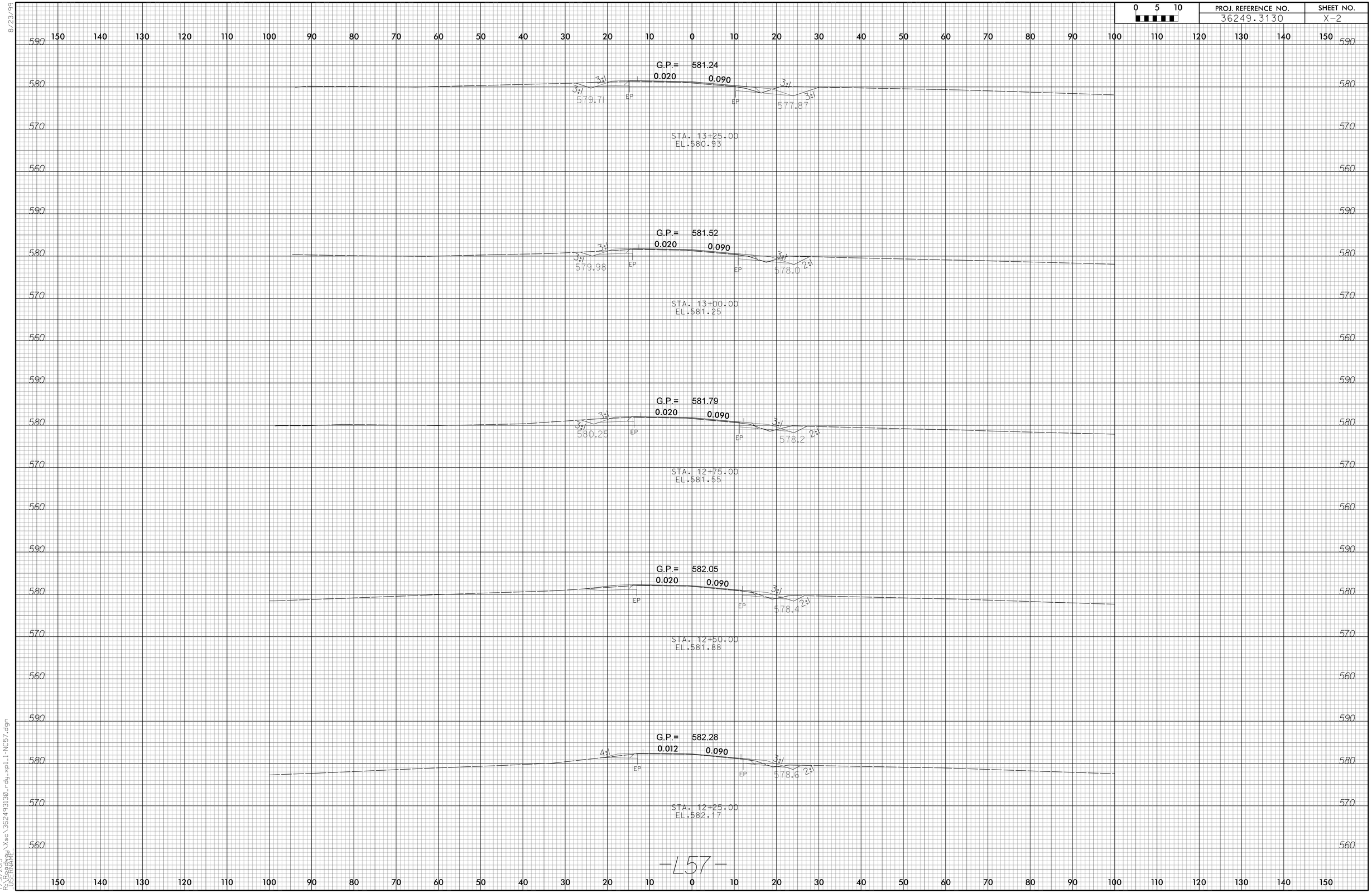

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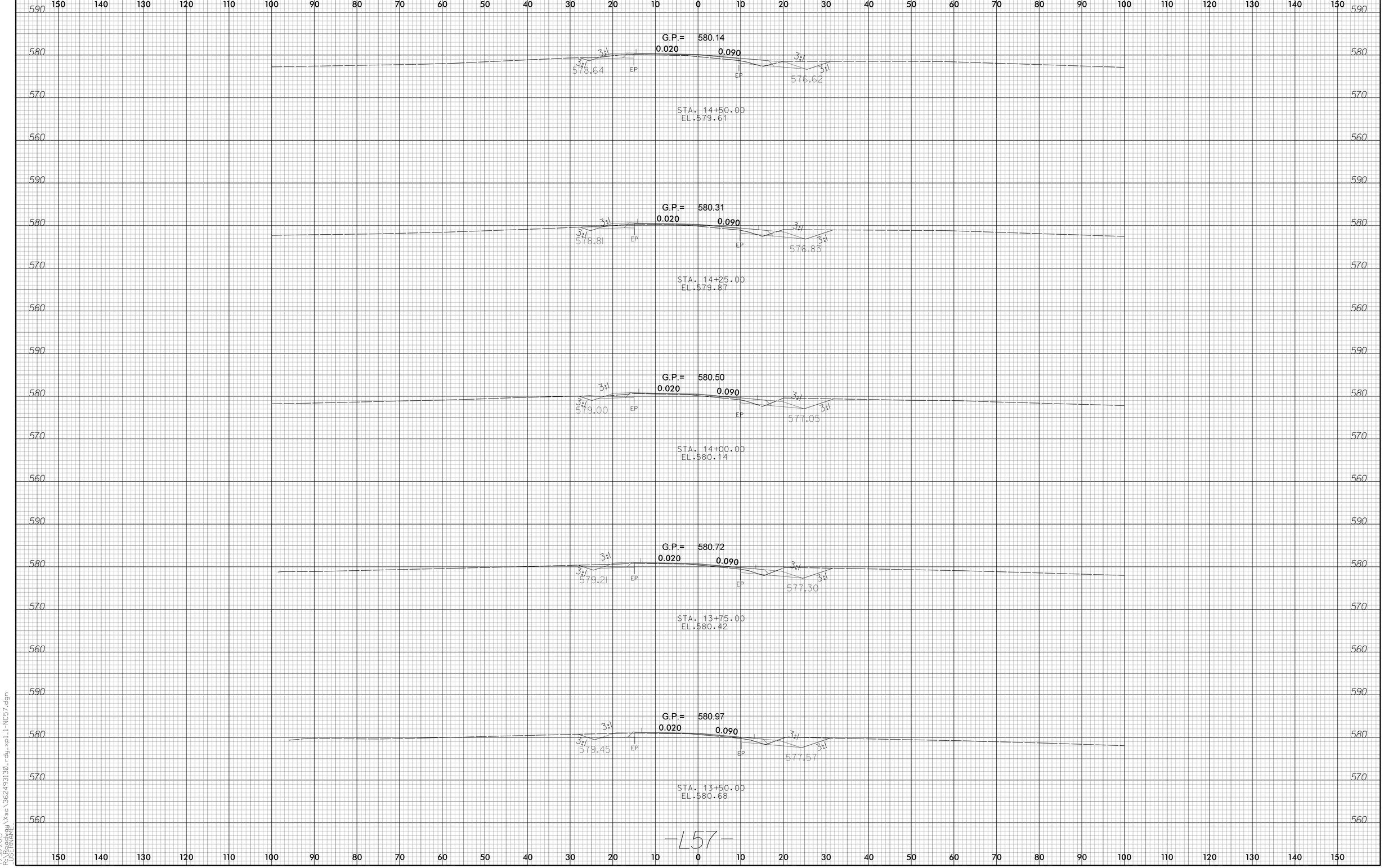

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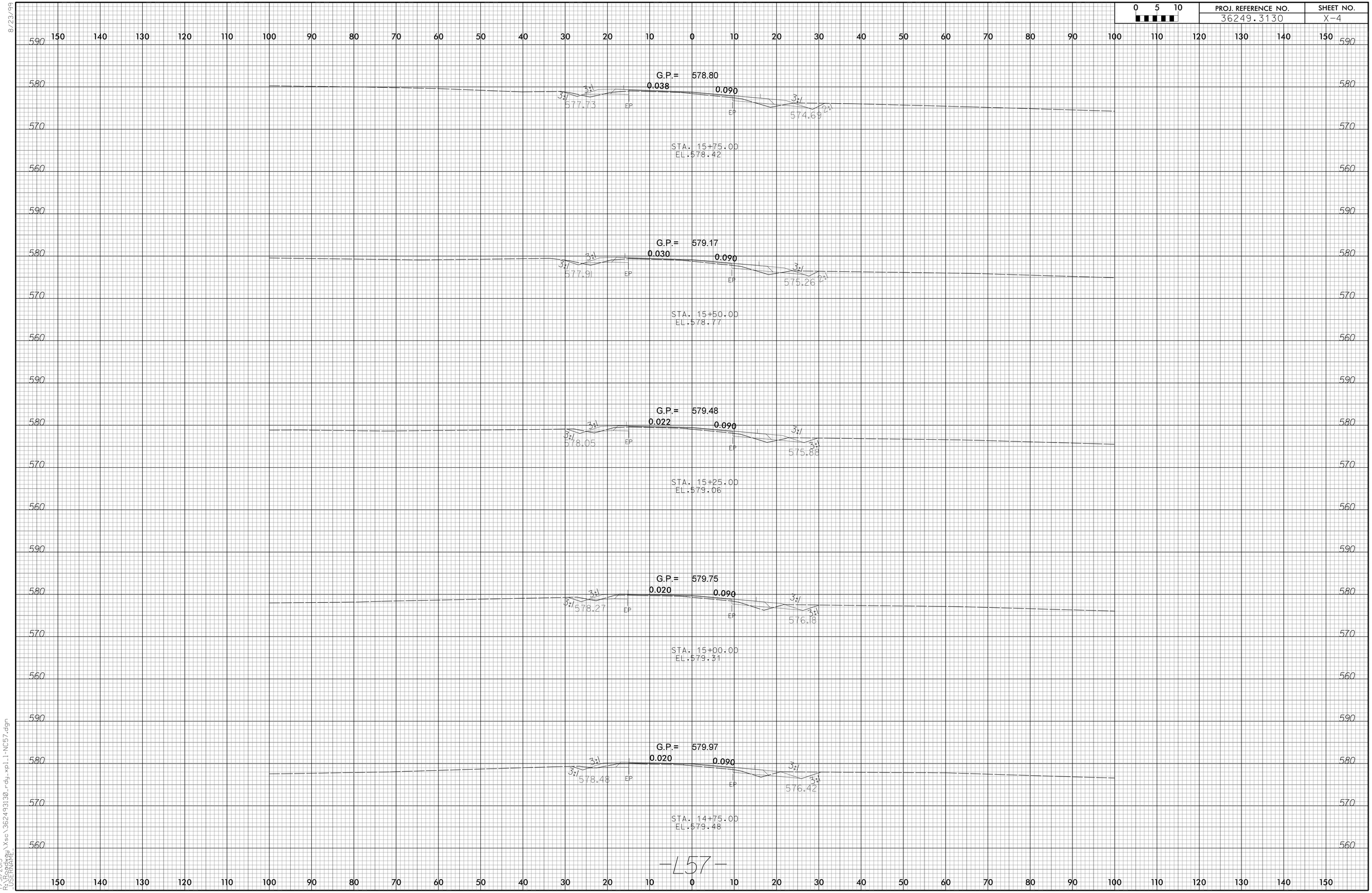

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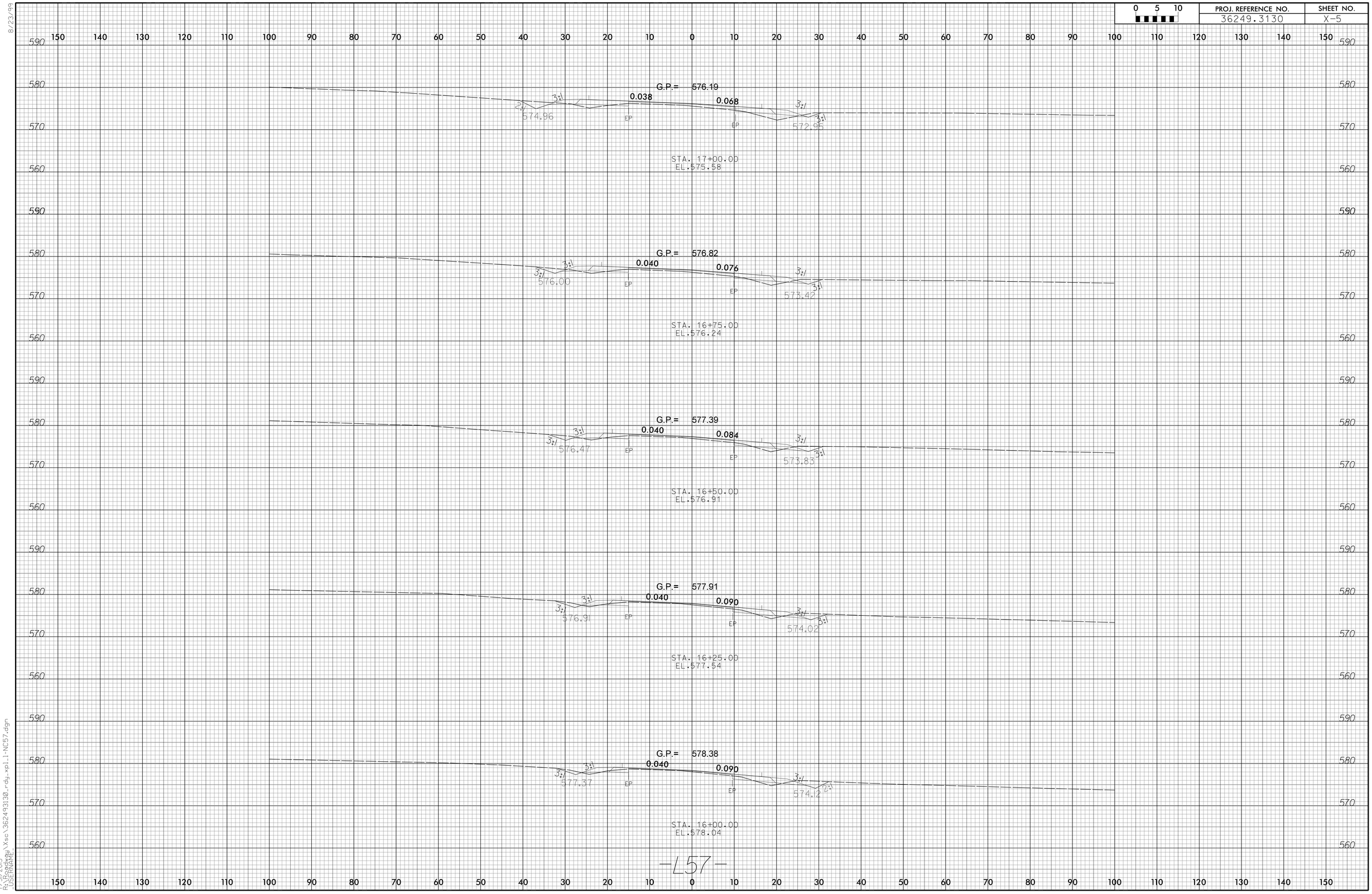

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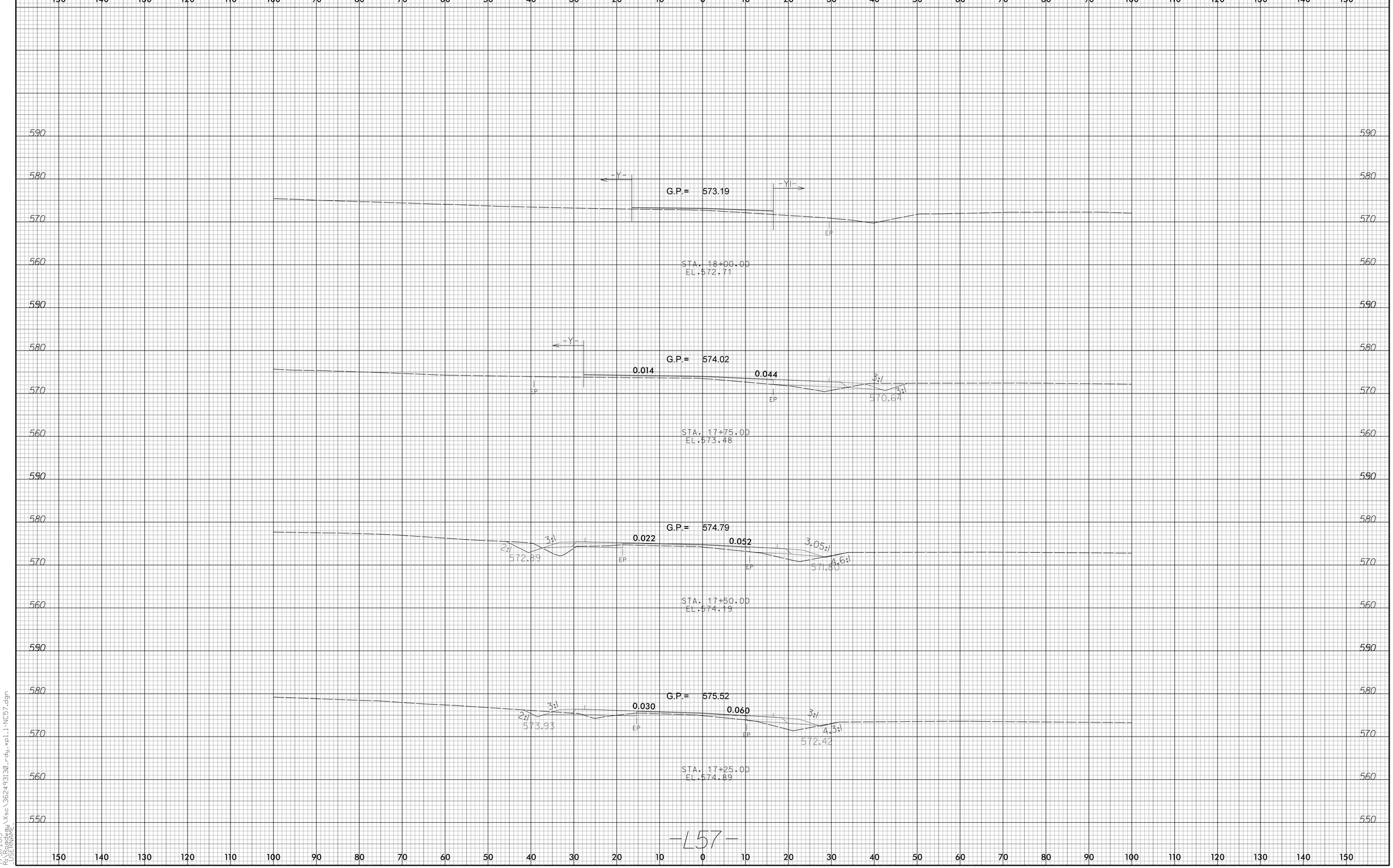

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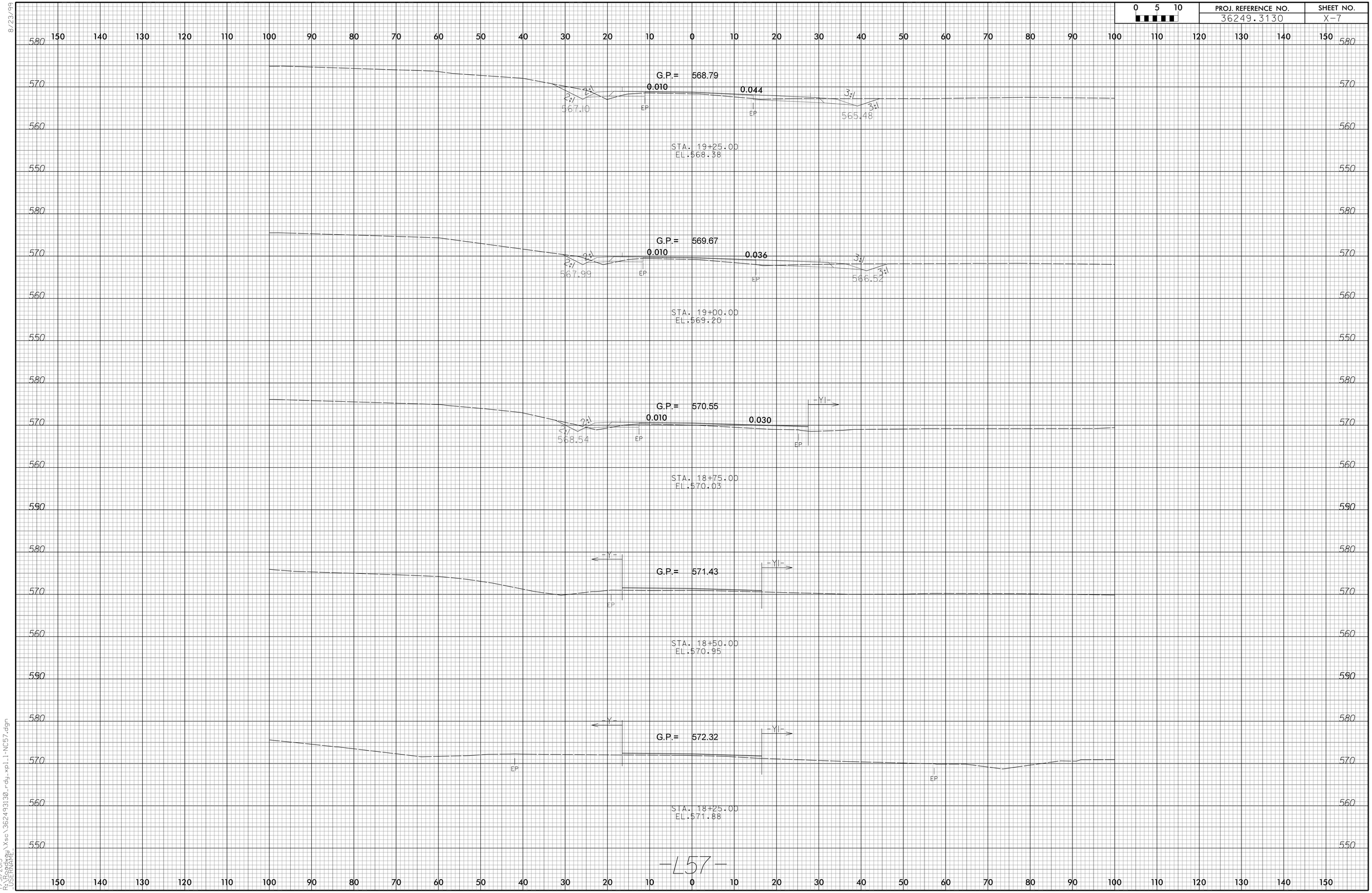

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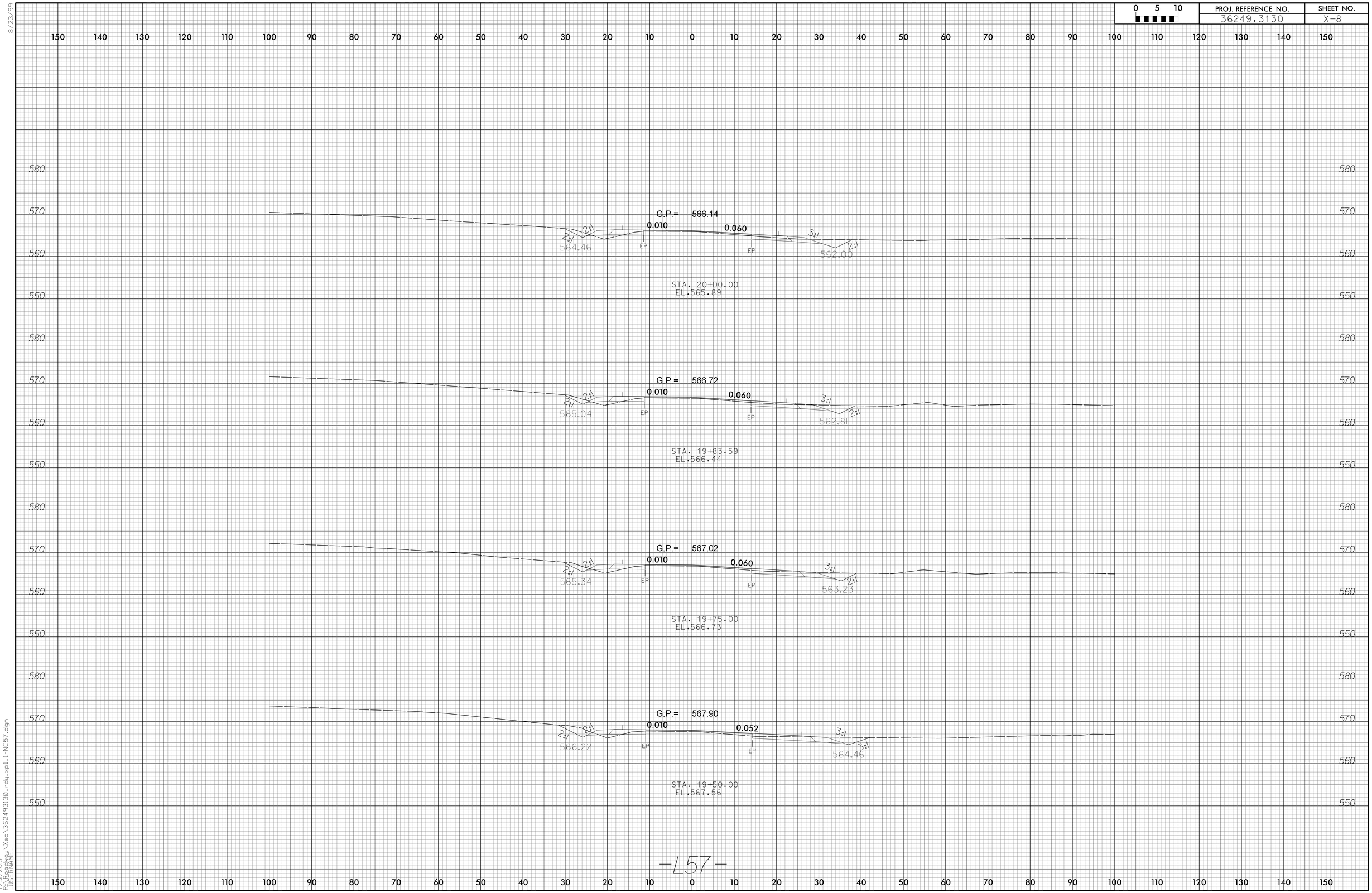

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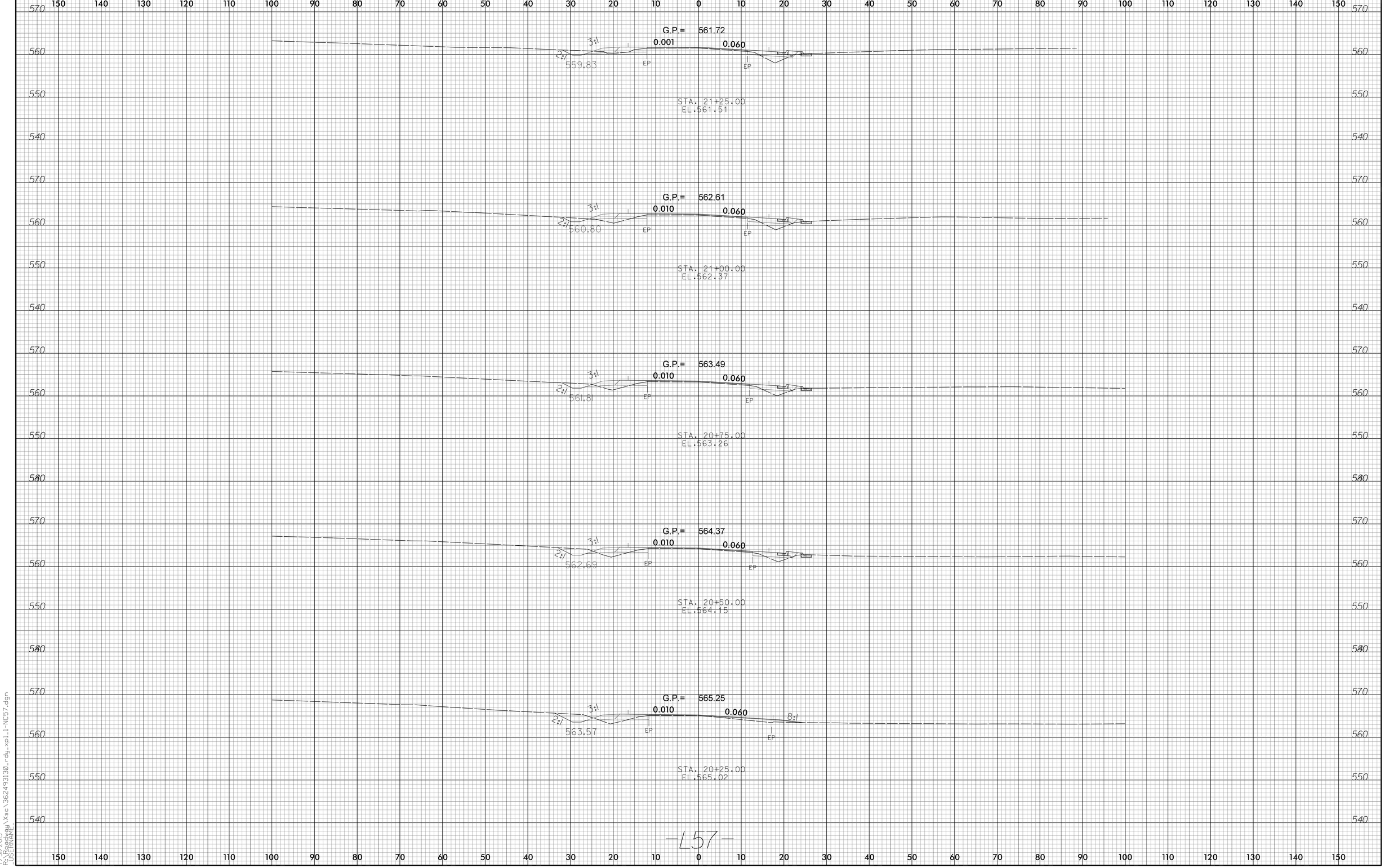

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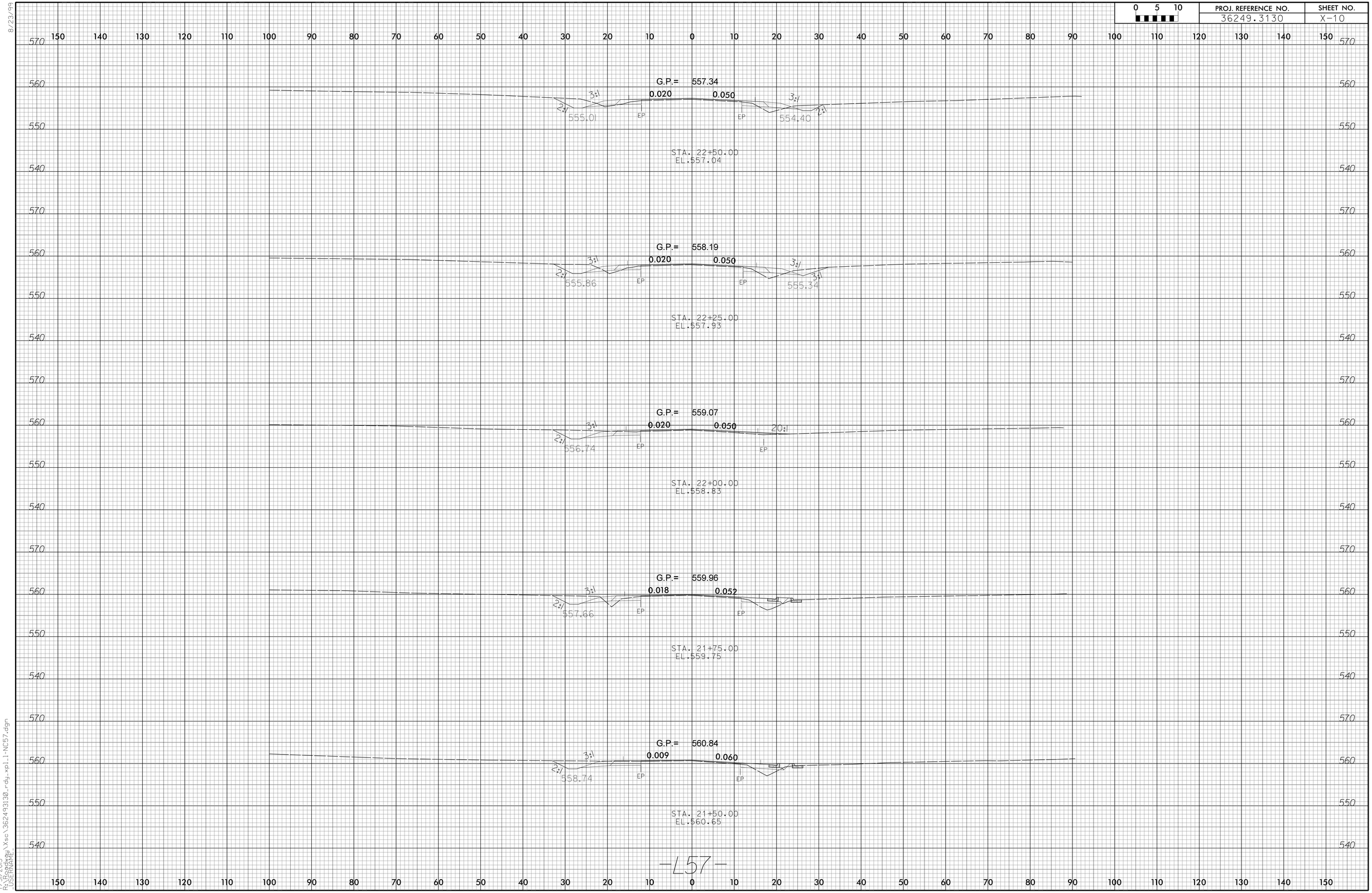

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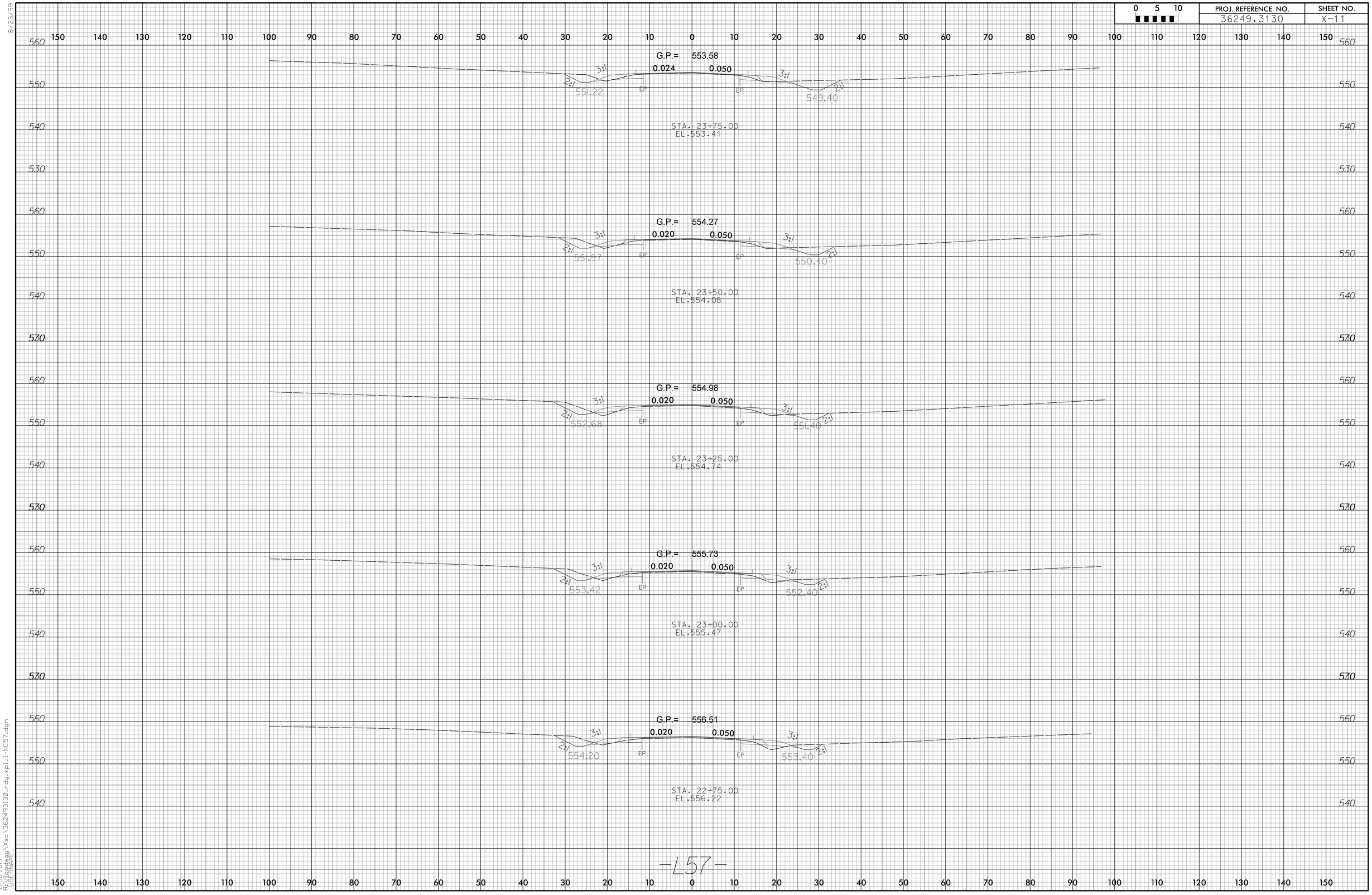

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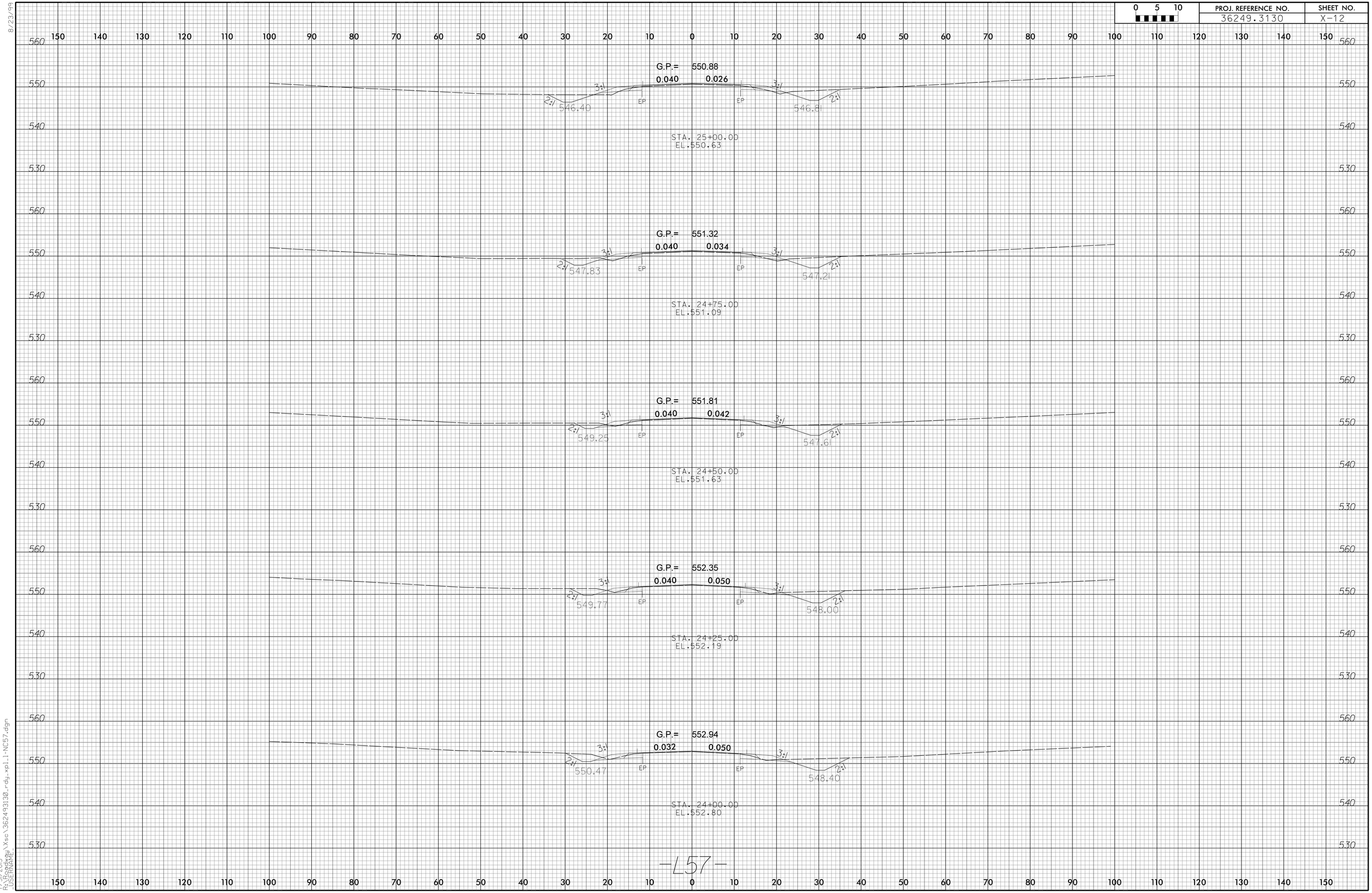

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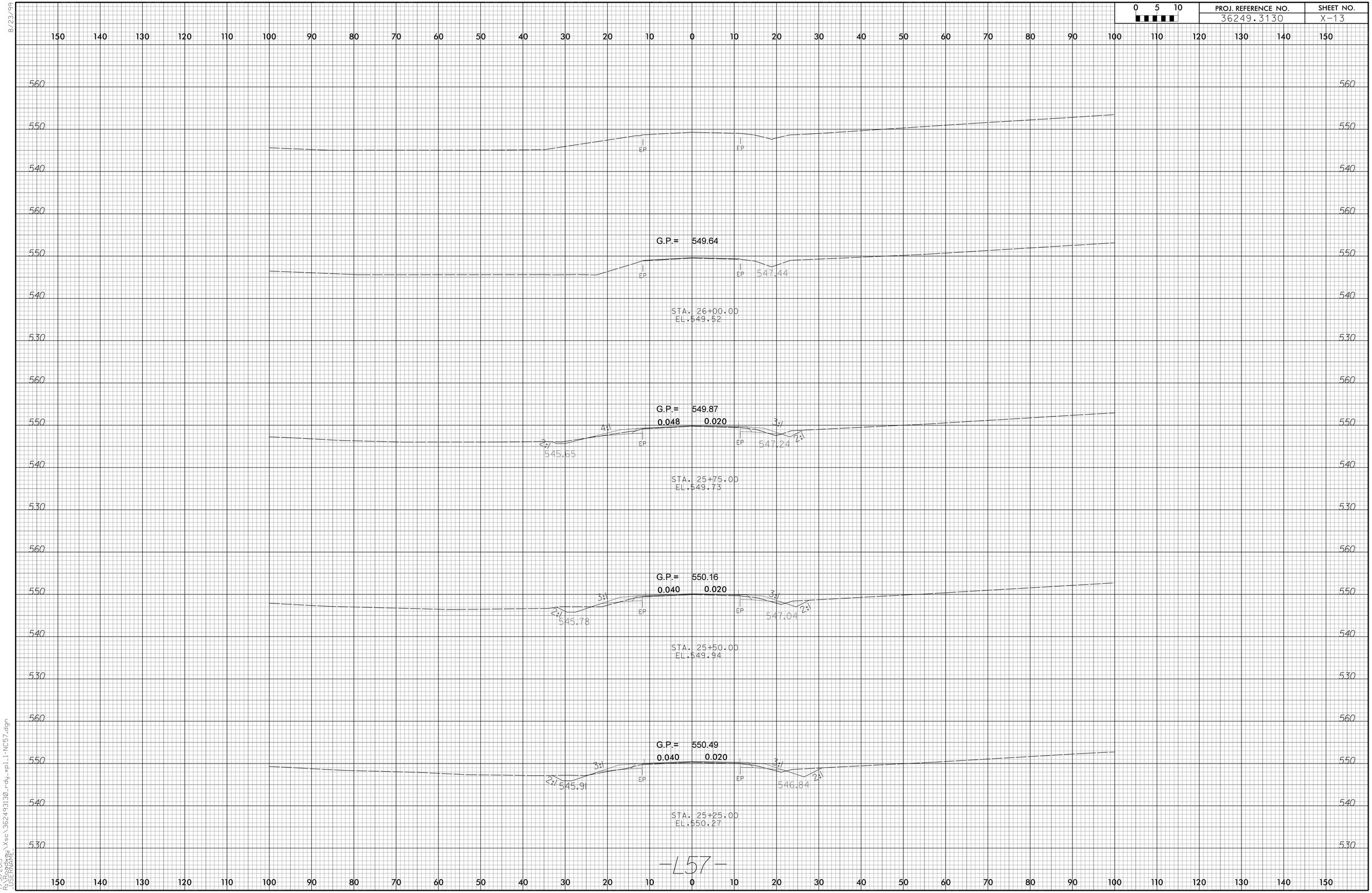

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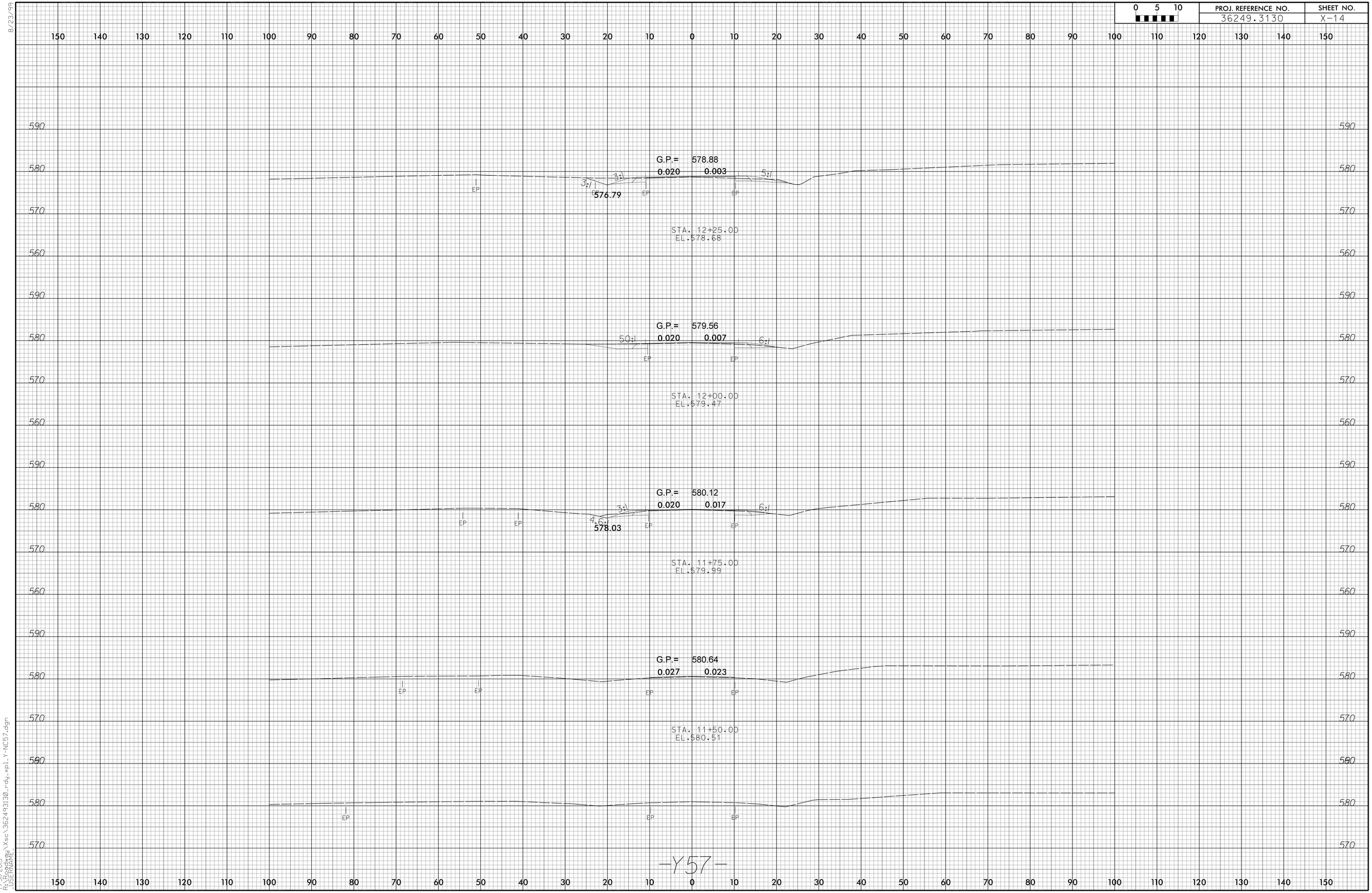

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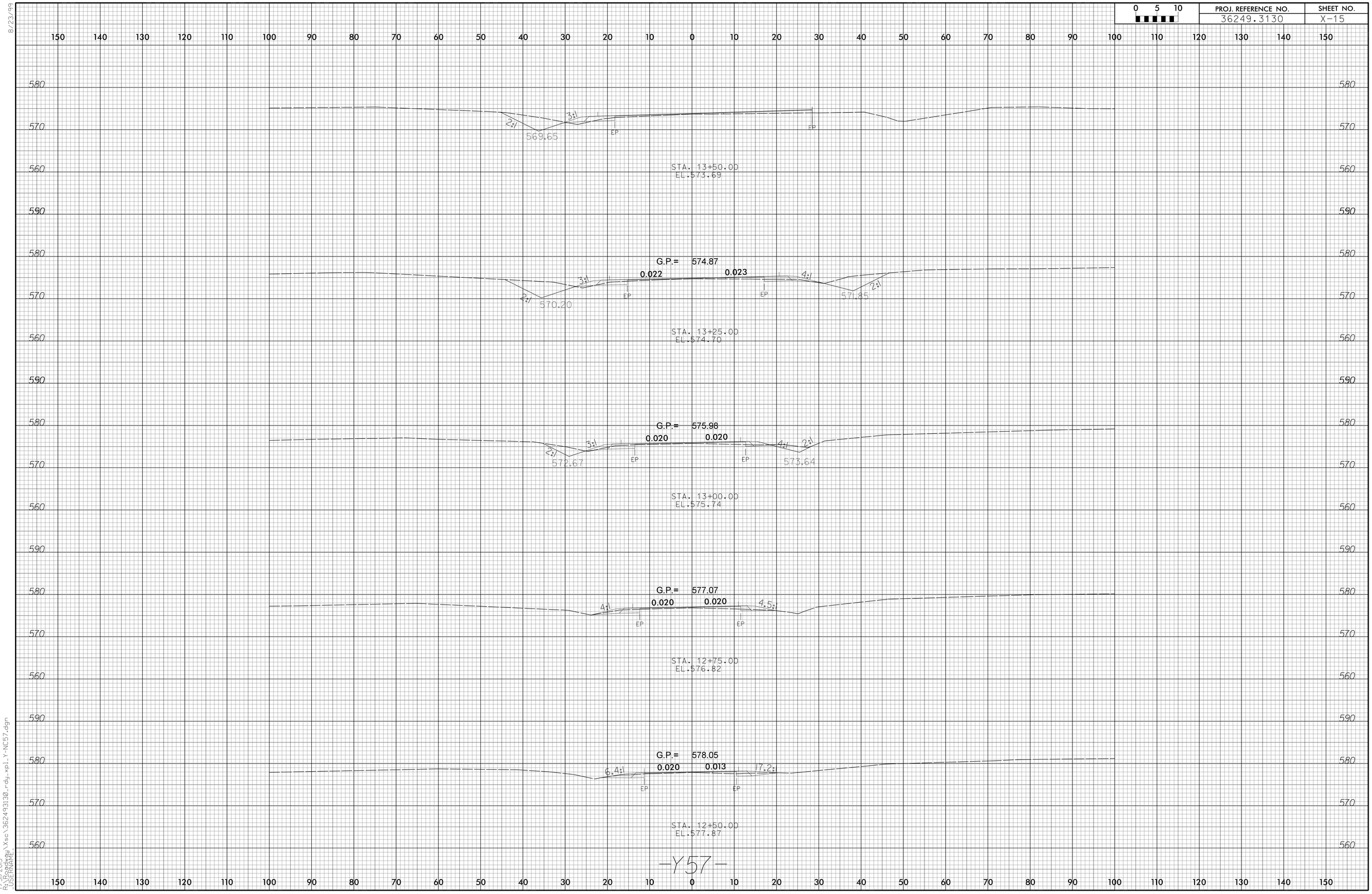

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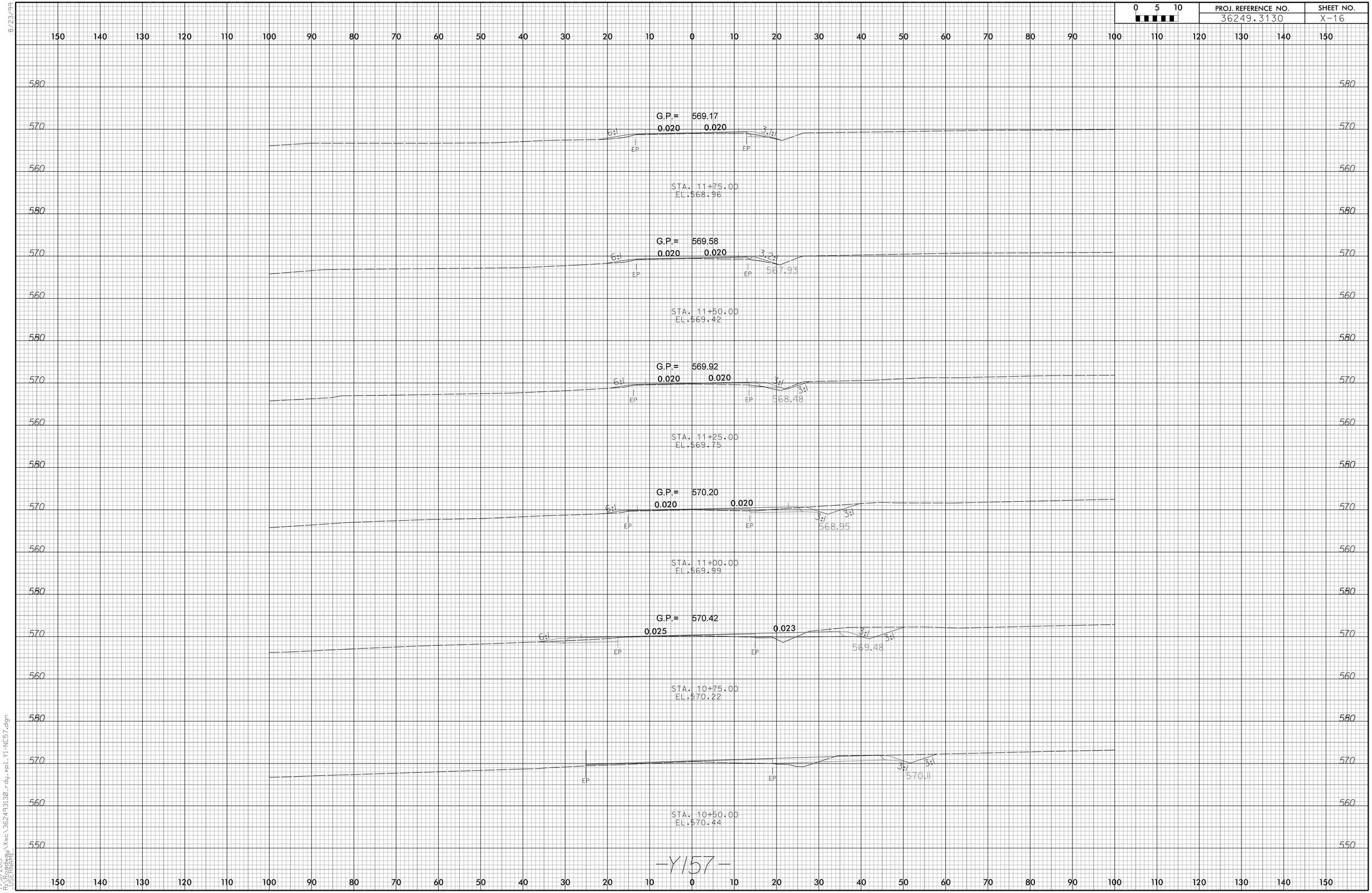

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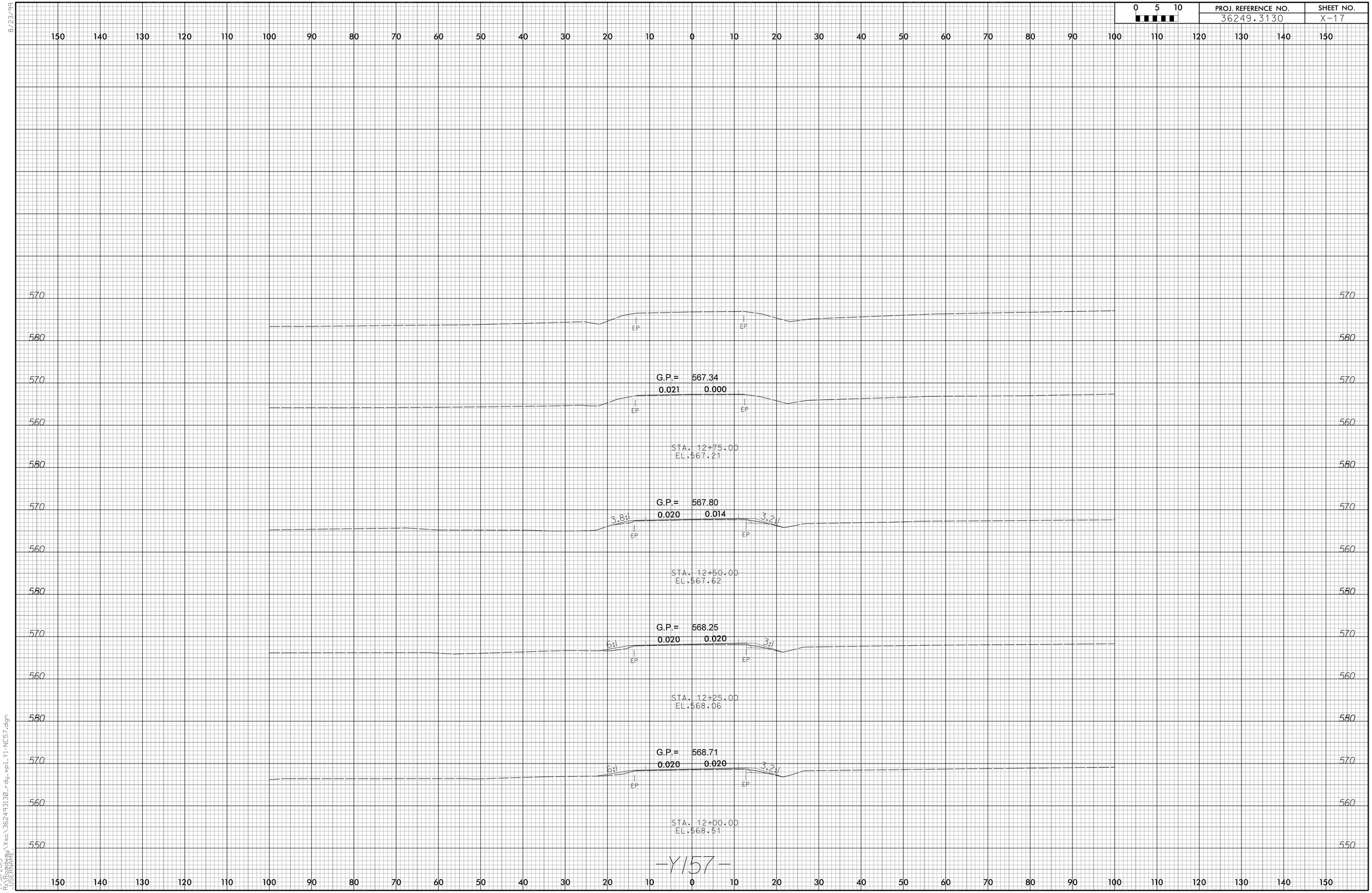

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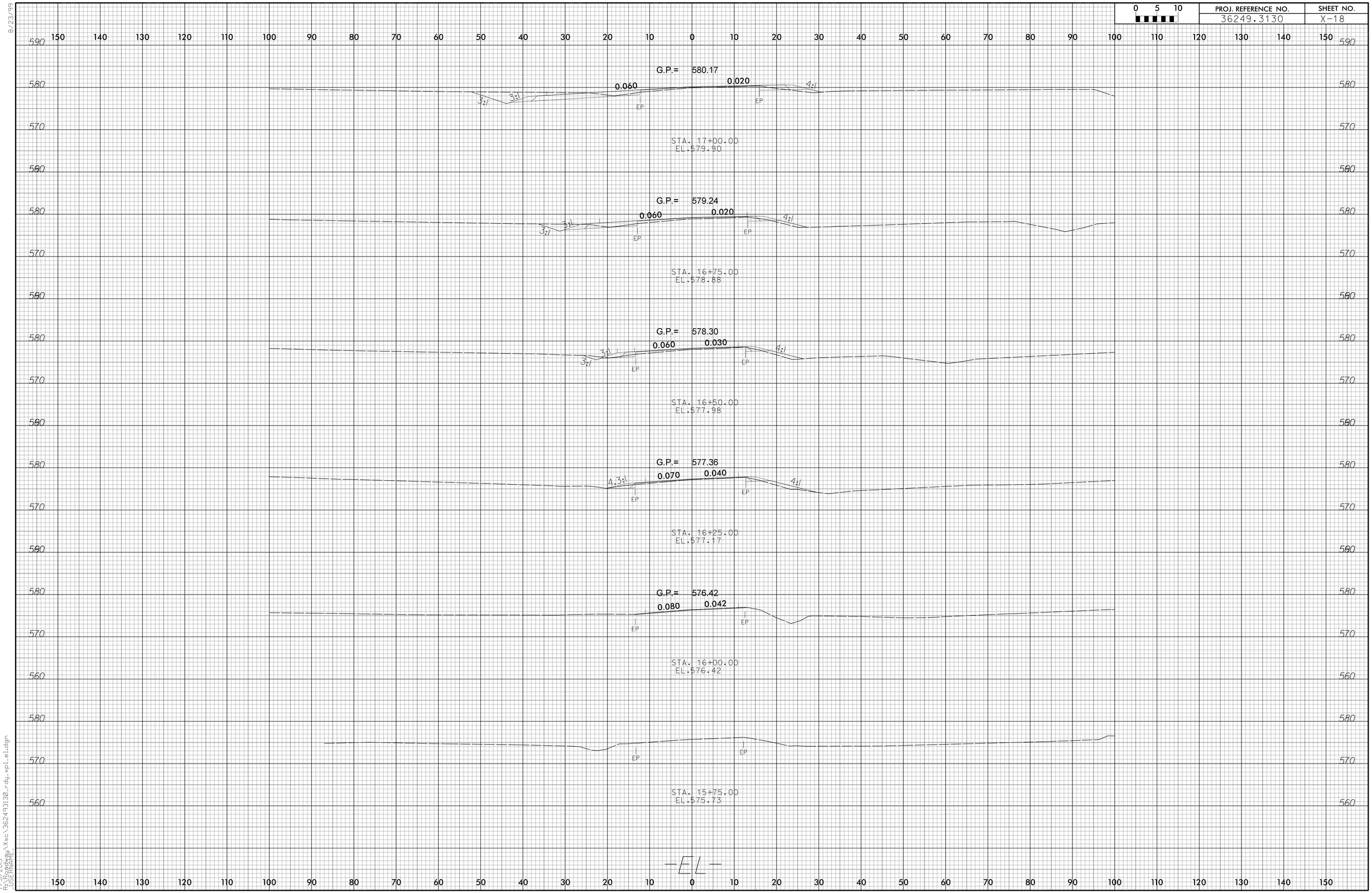

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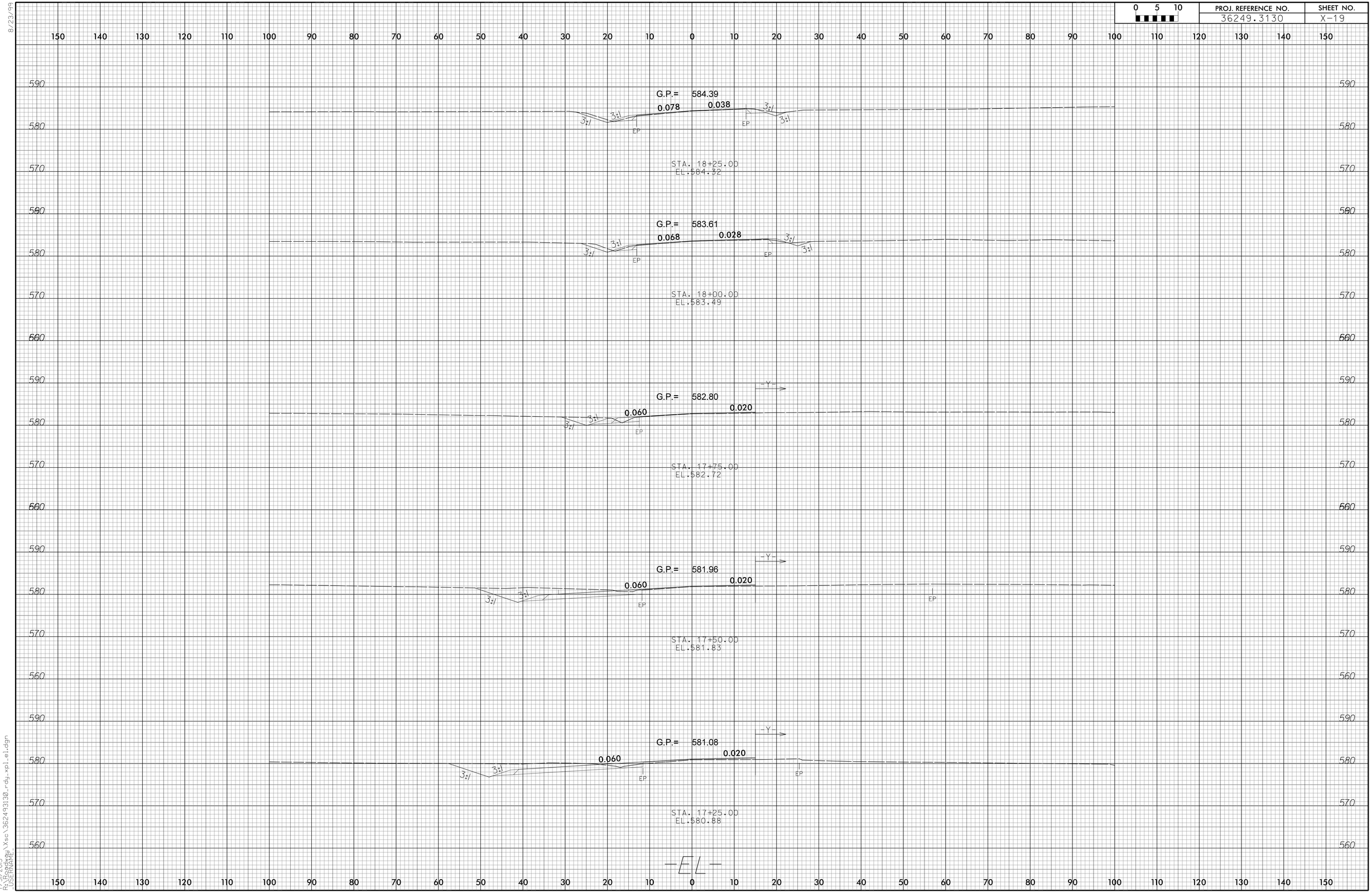

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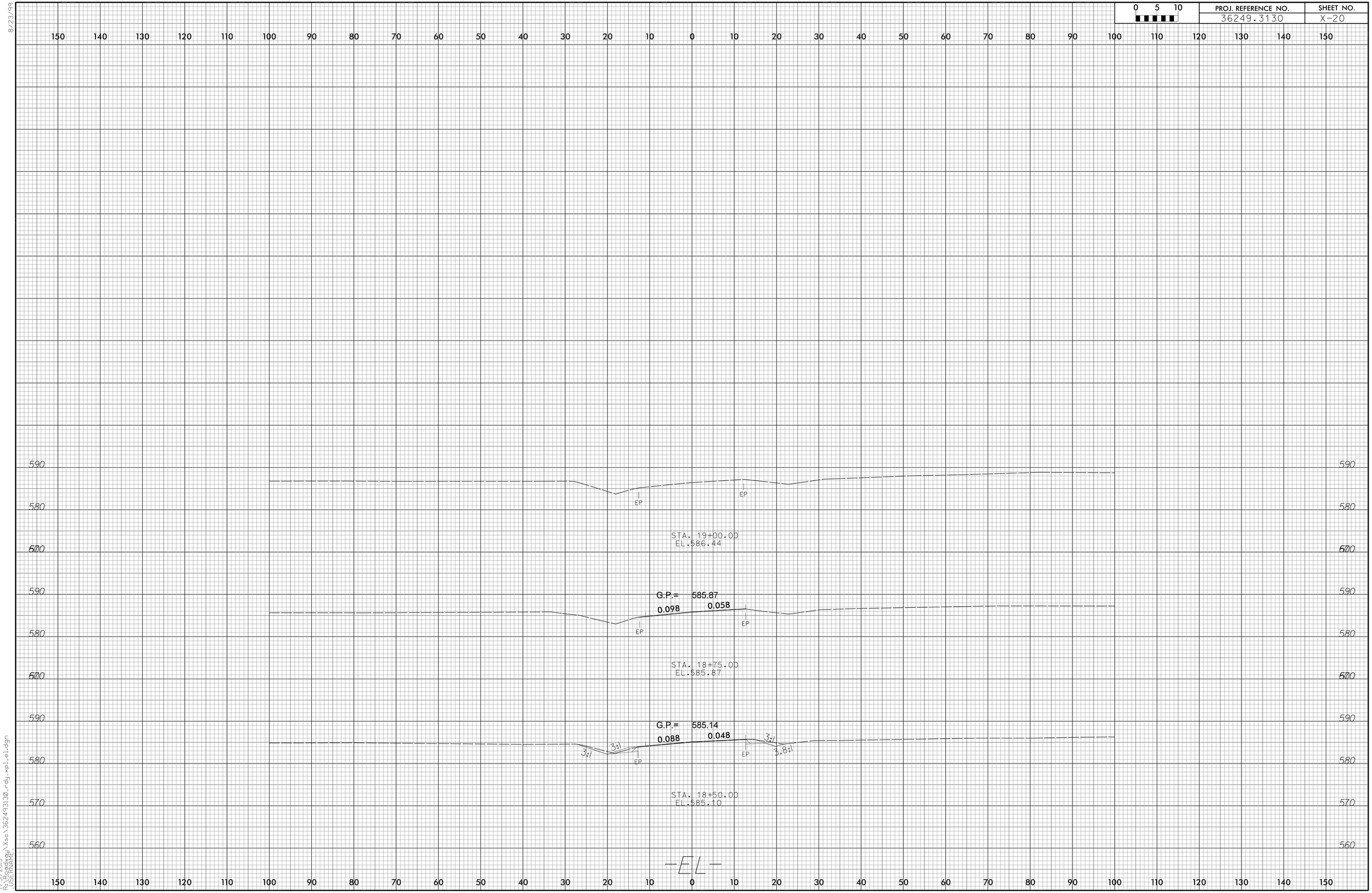

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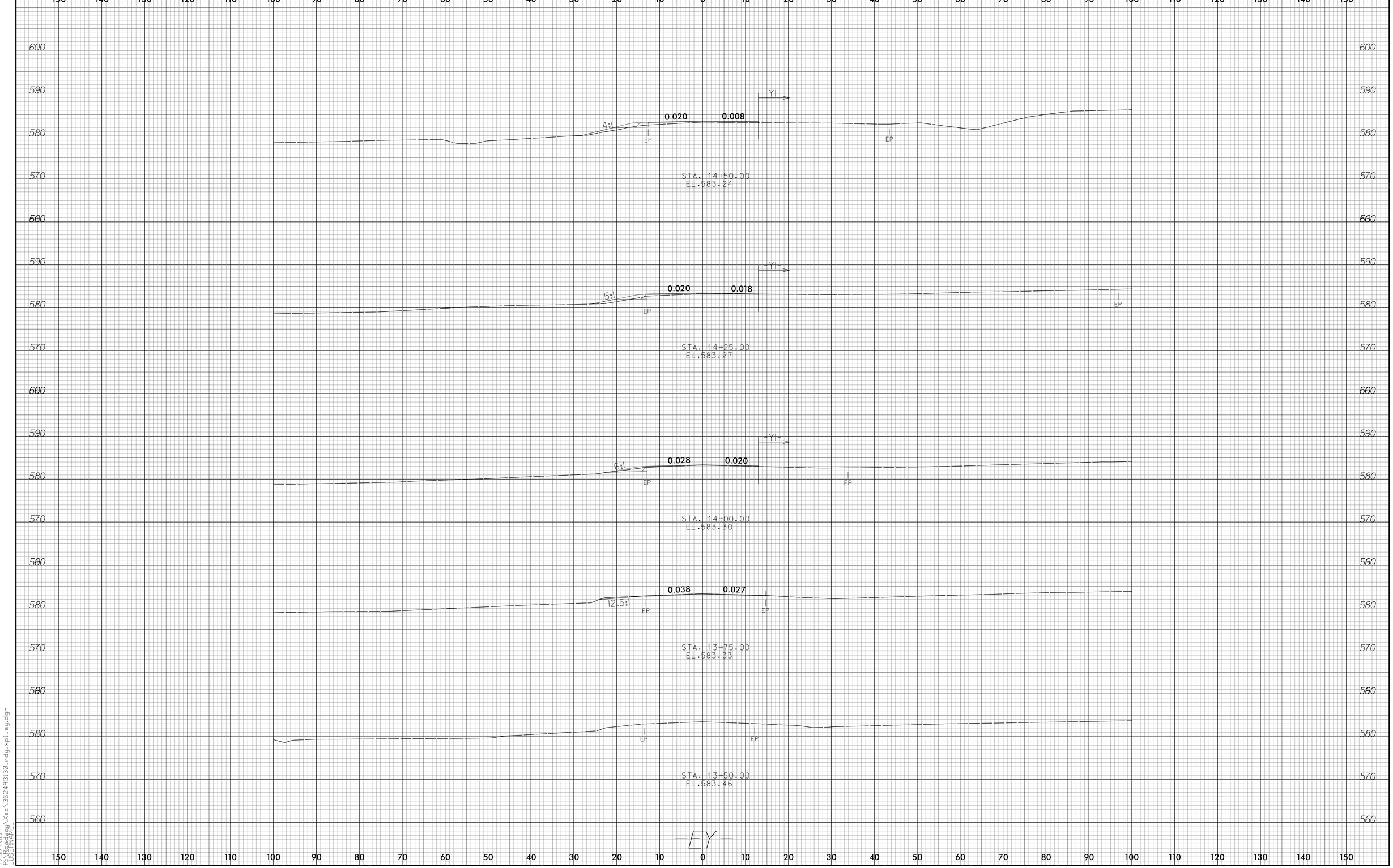

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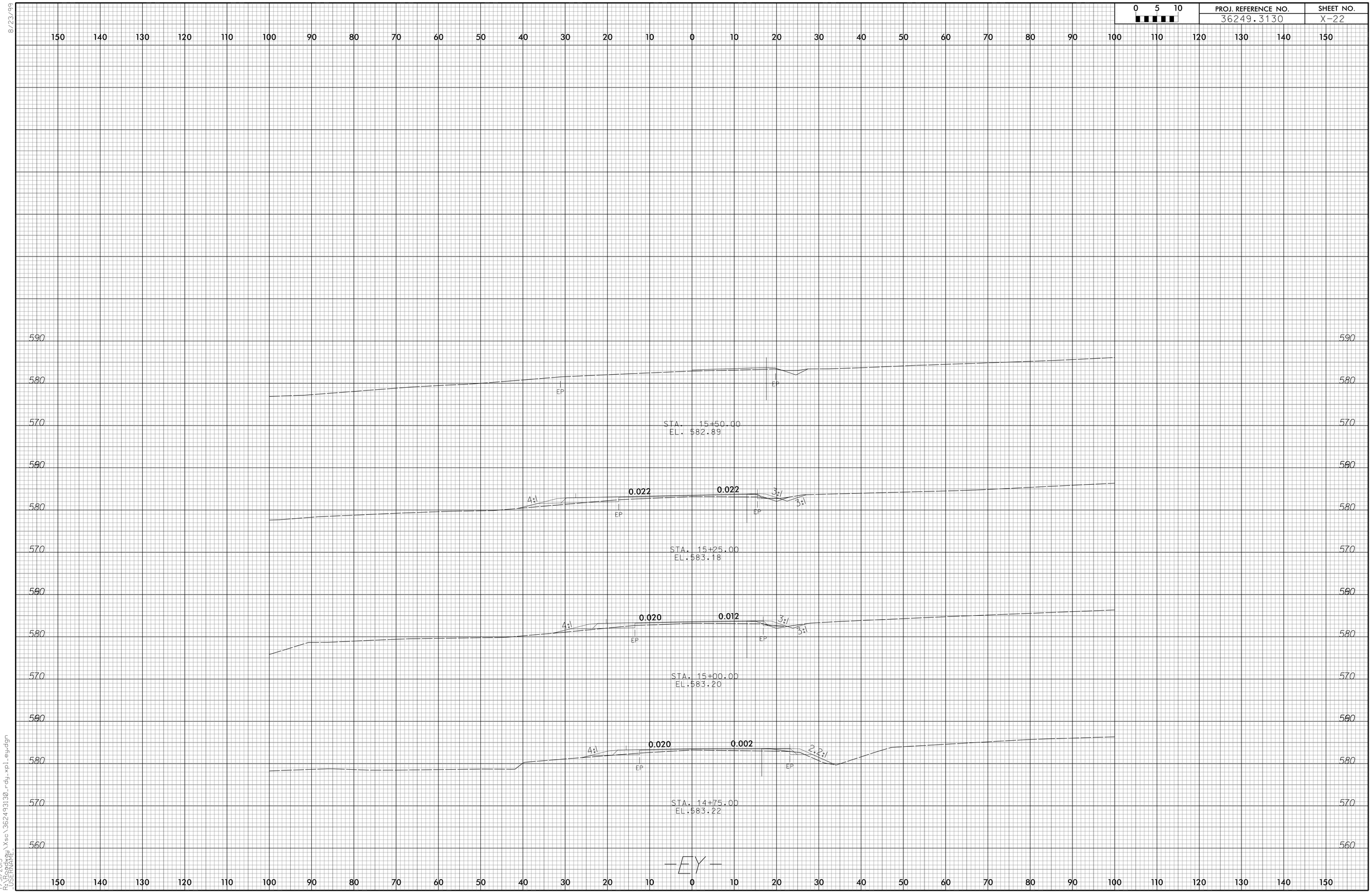

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