09/08/99

# TIP PROJECT: W-5602

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

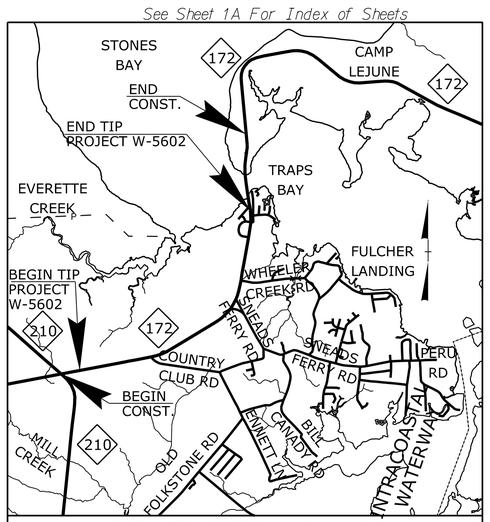
# ONSLOW COUNTY

PLFI PLANS

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | W-5602 | 1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 50139.1.FR1 | HSTIP-0172(13) | PE |
| 50139.2.1 | HSTIP-0172(13) | R/W, UTL. |
| 50139.3.1 | HSTIP-0172(13) | CONST. |

*LOCATION: NC 172 (SNEADS FERRY RD) FROM NC 210*
*TO BRIDGE #17*
*TYPE OF WORK: GRADING, DRAINAGE, PAVING*




*VICINITY MAP*

NAD 83/NA 2011

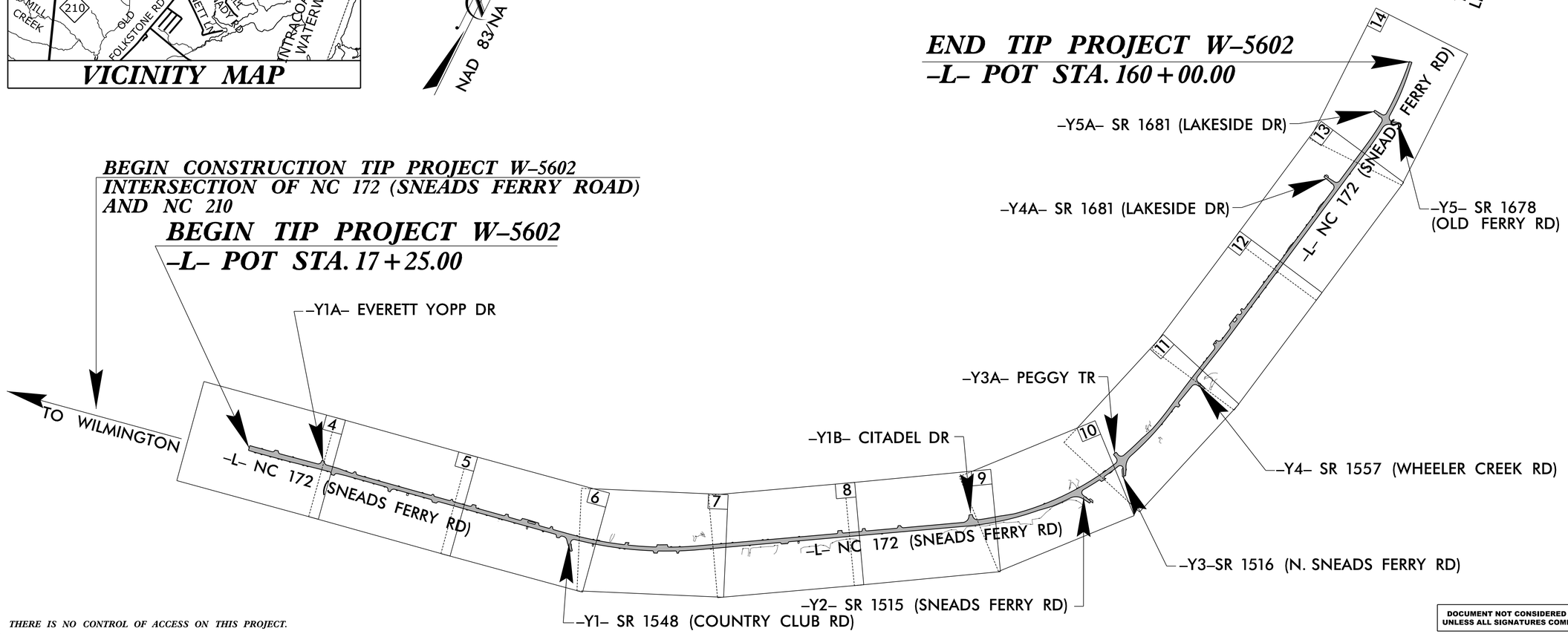
*END CONSTRUCTION TIP PROJECT W-5602*
*END OF GUARDRAIL PAST BRIDGE*
*NC 172 (SNEADS FERRY ROAD)*

TO CAMP LEJUNE

*END TIP PROJECT W-5602*
*-L- POT STA. 160 + 00.00*

*BEGIN CONSTRUCTION TIP PROJECT W-5602*
*INTERSECTION OF NC 172 (SNEADS FERRY ROAD)*
*AND NC 210*

*BEGIN TIP PROJECT W-5602*
*-L- POT STA. 17 + 25.00*




*THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.*

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

*GRAPHIC SCALES*

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

*DESIGN DATA*

ADT 2016 = 20,000

K = 10 %
D = 70 %
T = 5 % *
V = 45 MPH
* TTST = 3% DUAL 2%
FUNC CLASS =
MINOR ARTERIAL
REGIONAL TIER

*PROJECT LENGTH*

LENGTH OF ROADWAY TIP PROJECT W-5602 = 2.704 MILES

TOTAL LENGTH OF TIP PROJECT W-5602 = 2.704 MILES

Prepared for:
*HIGHWAY DIVISION 3*
5501 Barbados Blvd.
Castle Hayne, NC 28429

*2018 STANDARD SPECIFICATIONS*

*RIGHT OF WAY DATE:*
APRIL 5, 2018

*LETTING DATE:*
DECEMBER 18, 2018

Prepared In the Office of:
CALYX
ENGINEERS + CONSULTANTS

STEPHEN C. BROWDE, PE
*CALYX E & C PROJECT MANAGER*

JOHNNY BANKS
*CALYX E & C PROJECT DESIGN ENGINEER*

MICHAEL BASS
*NCDOT CONTACT*

*HYDRAULICS ENGINEER*

SIGNATURE: P.E.

*ROADWAY DESIGN ENGINEER*

SIGNATURE: P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

7/31/2018
R:\Roadway\Proj\W5602_Rdy_tsh.dgn
rharper

12/2/2016

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 1B |

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

*Note: Not to Scale*

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

## *BOUNDARIES AND PROPERTY:*

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

## *BUILDINGS AND OTHER CULTURE:*

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

## *HYDROLOGY:*

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

## *RAILROADS:*

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

## *RIGHT OF WAY & PROJECT CONTROL:*

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

## *ROADS AND RELATED FEATURES:*

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

## *VEGETATION:*

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

## *EXISTING STRUCTURES:*

MAJOR:

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

MINOR:

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

## *UTILITIES:*

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 2A-1 |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |

CALYX
ENGINEERS + CONSULTANTS
Formerly Mulkey Engineers & Consultants
6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333

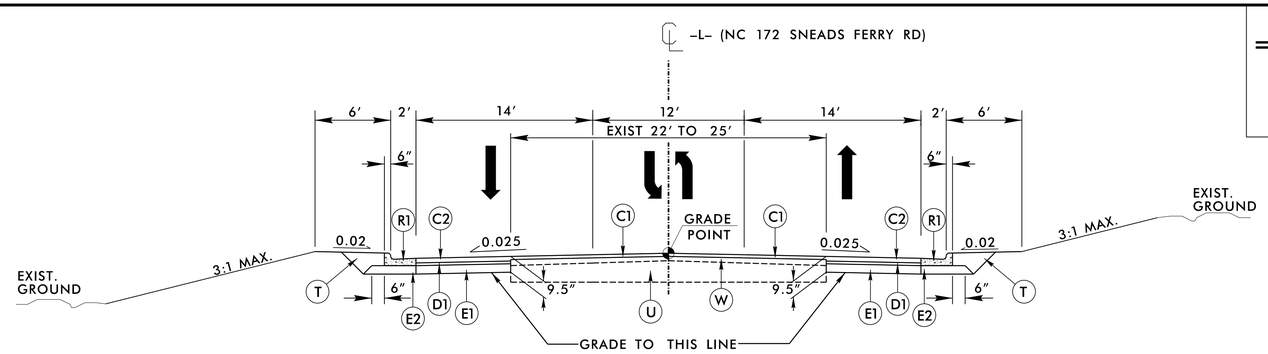
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

## PAVEMENT SCHEDULE

*(PRELIMINARY PAVEMENT DESIGN - 10/23/2015)*

| | |
|---|---|
| C1 | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| C2 | PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| 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 TO EXCEED 2" IN DEPTH. |
| D1 | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. |
| 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. |
| E1 | PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E2 | 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. |
| R1 | 2'-6" CONCRETE CURB AND GUTTER. |
| T | EARTH MATERIAL |
| U | EXISTING PAVEMENT |
| V | 1.5" MILLING |
| W | VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL) |

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




## TYPICAL SECTION NO. 1

## USE TYPICAL SECTION NO. 1

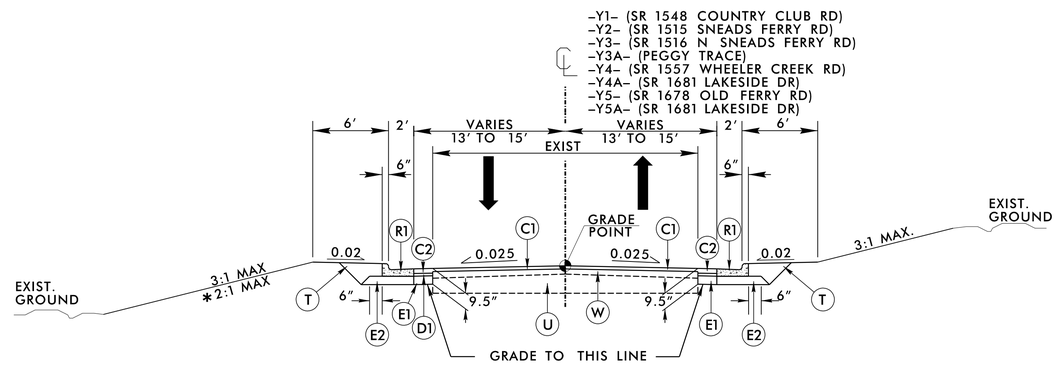
-L- STA. 17+25.00 TO -L- STA. 160+00.00

**NOTES:**

MILL AS NEEDED.

SEE PLANS FOR TURN LANES AND TAPERS.

BEGIN CONSTRUCTION AT NC 210 /NC 172 INTERSECTION FOR PAINT STRIPPING ONLY



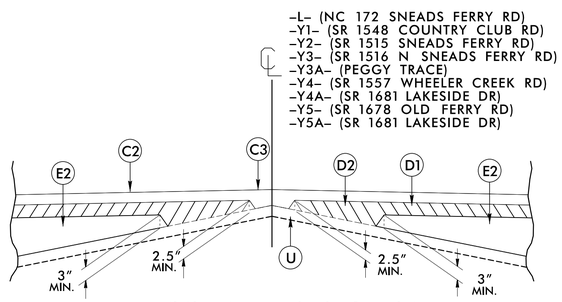

## TYPICAL SECTION NO. 2

## USE TYPICAL SECTION NO. 2

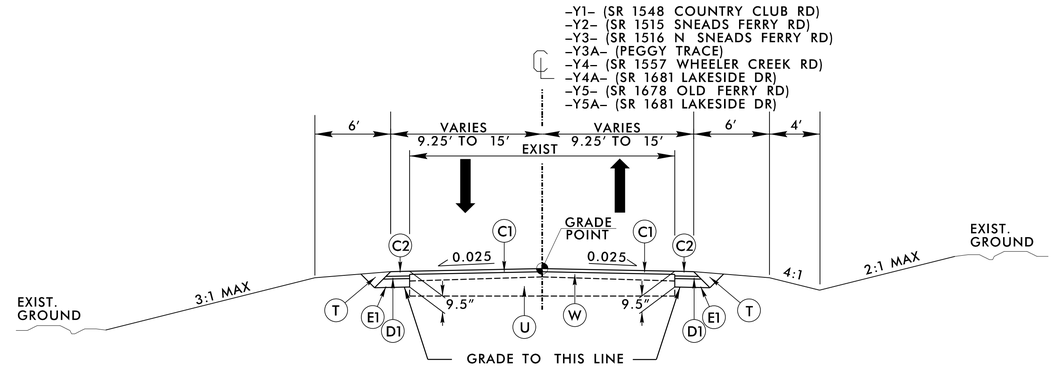
-Y1- STA. 16+79.77 TO -Y1- STA. 17+47.97
-Y2- STA. 15+21.27 TO -Y2- STA. 16+14.43
*-Y3- STA. 10+54.30 TO -Y3- STA. 11+35.76
-Y3A- STA. 10+00.00 TO -Y3A- STA. 10+86.00
*-Y4- STA. 12+75.00 TO -Y4- STA. 13+28.40
-Y4A- STA. 12+65.00 TO -Y4A- STA. 13+06.96
-Y5- STA. 13+98.00 TO -Y5- STA. 14+64.49
-Y5A- STA. 11+50.00 TO -Y5A- STA. 11+92.16

**NOTES:**

MILL AS NEEDED.
SEE PLANS FOR TAPERS.




Detail Showing Method of Wedging




## TYPICAL SECTION NO. 3

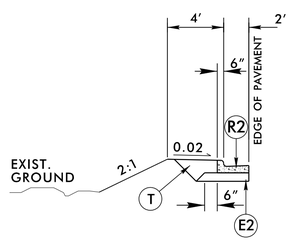
## USE TYPICAL SECTION NO. 3

-Y1- STA. 16+05.00 TO -Y1- STA. 16+79.77
-Y2- STA. 14+52.00 TO -Y2- STA. 15+21.27
-Y3- STA. 9+86.00 TO -Y3- STA. 10+54.30
-Y4- STA. 12+00.00 TO -Y4- STA. 12+75.00
-Y4A- STA. 11+55.00 TO -Y4A- STA. 12+65.00
-Y5- STA. 13+50.00 TO -Y5- STA. 13+98.00
-Y5A- STA. 10+70.00 TO -Y5A- STA. 11+50.00

**NOTES:**

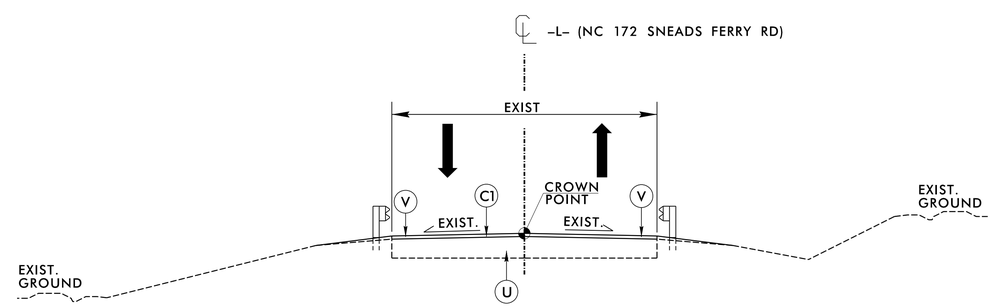
MILL AS NEEDED.
SEE PLANS FOR TAPERS.

## TYPICAL DETAIL NO. 1




## USE WITH TYPICAL SECTION NO. 1

-L- STA. 93+00.00 TO -L- STA. 95+50.00 LT




## TYPICAL SECTION NO. 4

## USE TYPICAL SECTION NO. 4

-L- STA. 160+00.00 TO BEGIN EXISTING BRIDGE NO. 17

END EXISTING BRIDGE NO. 17 TO END OF EXISTING GUARDRAIL

**NOTES:**

REMOVE AND RESET EXISTING GUARDRAIL

6/2/99
7/31/2018
R:\Roadway\Proj\W5602_Rdy_typ.dgn
thorper

| COMPUTED BY: RBH | DATE: 7/25/2018 |
|---|---|
| CHECKED BY: AEV | DATE: 7/25/2018 |

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 3B-1 |

## SUMMARY OF EARTHWORK (IN CUBIC YARDS)

| STATION | STATION | UNCL. EXCAV. | UNDERCUT EXCAVATION | EMBANK. +% | BORROW | WASTE |
|---|---|---|---|---|---|---|
| -L- 17+25.00 | -L- 47+00.00 | 917 | 120 | 3,721 | 2,824 | 140 |
| SUBTOTALS: | | 917 | 120 | 3,721 | 2,824 | 140 |
| | | | | | | |
| -L- 47+00.00 | -L- 77+00.00 | 1,642 | 0 | 5,726 | 4,117 | 33 |
| -Y1- 16+05.00 | -Y1- 17+47.97 | 74 | 0 | 75 | 1 | 0 |
| SUBTOTALS: | | 1,716 | 0 | 5,801 | 4,117 | 33 |
| | | | | | | |
| -L- 77+00.00 | -L- 107+00.00 | 1,174 | 580 | 7,383 | 6,317 | 688 |
| -Y2- 14+52.00 | -Y2- 16+14.43 | 69 | 0 | 290 | 221 | 0 |
| SUBTOTALS: | | 1,243 | 580 | 7,673 | 6,538 | 688 |
| | | | | | | |
| -L- 107+00.00 | -L- 137+00.00 | 2,112 | 0 | 5,919 | 3,807 | 0 |
| -Y3- 9+86.00 | -Y3- 11+35.76 | 123 | 0 | 56 | 0 | 67 |
| -Y3A- 10+00.00 | -Y3A- 10+86.00 | 17 | 0 | 20 | 3 | 0 |
| SUBTOTALS: | | 2,252 | 0 | 5,995 | 3,810 | 67 |
| | | | | | | |
| -L- 137+00.00 | -L- 160+00.00 | 230 | 0 | 5,914 | 5,684 | 0 |
| -Y4- 12+00.00 | -Y4- 13+28.40 | 17 | 0 | 115 | 98 | 0 |
| -Y4A- 11+55.00 | -Y4A- 13+06.96 | 60 | 0 | 31 | 0 | 29 |
| -Y5- 13+50.00 | -Y5- 14+64.49 | 12 | 0 | 319 | 307 | 0 |
| -Y5A- 10+70.00 | -Y5A- 11+92.16 | 33 | 0 | 56 | 23 | 0 |
| SUBTOTALS: | | 352 | 0 | 6,435 | 6,113 | 29 |
| | | | | | | |
| TOTAL: | | 6,480 | 700 | 29,625 | 23,402 | 952 |
| WASTE IN LIEU OF BORROW | | 0 | 0 | 0 | -96 | -96 |
| PROJECT TOTALS: | | 6,480 | 700 | 29,625 | 23,306 | 861 |
| EST. 5% TO REPLACE TOP SOIL ON BORROW PIT | | | | | 1,165 | |
| GRAND TOTAL: | | 6,480 | 700 | | 24,471 | |
| SAY: | | 6,500 | 700 | | 24,500 | |

DDE = 690 CY

## PAVEMENT REMOVAL SUMMARY

| SURVEY LINE | STATION | STATION | LOCATION LT/RT/CL | AREA (SF) |
|---|---|---|---|---|
| -L- | 19+25.00 | 26+90.00 | RT | 1,889.86 |
| -L- | 86+36.17 | 91+87.06 | LT | 3,401.55 |
| -L- | 93+07.00 | 96+64.00 | LT | 1,200.32 |
| -L- | 109+95.00 | 117+88.00 | RT | 1,226.11 |
| -L- | 120+89.44 | 121+36.47 | RT | 35.32 |
| -L- | 126+00.00 | 126+91.50 | LT | 24.03 |
| -L- | 127+73.36 | 128+16.53 | LT | 169.29 |
| -L- | 128+68.21 | 128+98.00 | LT | 91.42 |
| -L- | 129+38.40 | 134+64.67 | LT | 164.92 |
| -L- | 143+27.17 | 144+71.00 | LT | 34.85 |
| -L- | 145+71.00 | 152+59.27 | LT | 618.34 |
| | | | TOTAL (SF) | 8,856.01 |
| | | | TOTAL (SY) | 774.02 |
| | | | SAY: | 780 |

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

## GUARDRAIL SUMMARY

| SURVEY LINE | BEG. STA. | END STA. | LOCATION | LENGTH (LF) | | | WARRANT POINT | | "N" DIST. FROM E.O.L. | TOTAL SHOUL. WIDTH | FLARE LENGTH | | W | | ANCHORS (EACH) | | | | | | | | | IMPACT ATTENUATOR TYPE 350 | | | SINGLE FACED BARRIER | REMOVE EXISTING GUARDRAIL | REMOVE AND RESET EXISTING GUARDRAIL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | STRAIGHT | SHOP CURVED | DOUBLE FACED | APPROACH END | TRAILING END | | | APPROACH END | TRAILING END | APPROACH END | TRAILING END | XI MOD | GREU TL-2 | GREU TL-3 | TEMP. W-BEAM | | CAT-1 | TYPE III | B-77 | AT-1 | EA | G | NG | | | | |
| -L- | 160+00.00 | BEGIN EXISTING BRIDGE NO. 17 | LT | | | | | | | | | | | | | | | | | | | | | | | | | | 400 | |
| -L- | 160+00.00 | BEGIN EXISTING BRIDGE NO. 17 | RT | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 400 | |
| -L- | END EXISTING BRIDGE NO. 17 | END OF EXISTING GUARDRAIL | LT | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 250 | |
| -L- | END EXISTING BRIDGE NO. 17 | END OF EXISTING GUARDRAIL | RT | | | | | | | | | | | | | | | | | | | | | | | | | | 237.50 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | PROJECT TOTALS | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1,287.50 | |
| | | ANCHOR DEDUCTIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | GREU TL-3 @ 50' EACH = | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | CAT-1 @ 6.25' EACH = | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | B-77 @ 22.875' EACH = | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | TYPE III @ 18.75' EACH = | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | GRAND TOTALS | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1,287.50 | |
| | | | SAY | | | | | | | | | | | | | | 2 | | | | | | | | | | | | 1,300 | |

COMPUTED BY: RBH DATE: 07/25/2018
CHECKED BY: AEV DATE: 07/25/2018

| PROJECT NO. | SHEET NO. |
|---|---|
| W-5602 | 3G-1 |

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

## SUMMARY OF SUBSURFACE DRAINAGE

| LINE | Station | Station | Location LT/RT/CL | Drain Type* UD/BD/SD | LF |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| CONTINGENCY | | | | SD | 2000 |
| | | | | | |
| | | | | TOTAL LF: | 2000 |
| | | | | | |

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

## SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

| LINE | Station | Station | Aggregate Type ASU/AST | Aggregate Thickness INCHES | Shallow Undercut CY | Class IV Subgrade Stabilization TONS | Geotextile for Soil Stabilization SY | Stabilizer Aggregate TONS | Class IV Aggregate Stabilization TONS |
|---|---|---|---|---|---|---|---|---|---|
| CONTINGENCY | | | AST | | | | 1000 | | |
| CONTINGENCY | | | ASU | | 100 | | | | |
| CONTINGENCY | | | ASU | | | 190 | | | |
| CONTINGENCY | | | AST | | | | | | 750 |
| | | | | | | | | | |
| | | | TOTAL CY/TONS/SY: | | 100 | 190 | 1000* | 0 | 750 |
| | | | | | | | | | |

ASU = Aggregate Subgrade, AST = Aggregate Stabilization

*Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 3P-1 |

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

## *PARCEL INDEX SHEET*

| PARCEL No. | SHEET No. | PROPERTY OWNER NAME |
|---|---|---|
| 1 | 4 | MARION D. COSTON, ET UX |
| 2 | 4 | RHONDA S. BLIZZARD |
| 3 | 4 & 5 | EVERETT D. YOPP, ET UX |
| 4 | 6 & 7 | ANGELA LOFTON, ET ALS |
| 5 | 7 | VISTA DEL MAR, LLC |
| 6 | 7 | RONALD A YOPP |
| 7 | 7 & 8 | MACK N. YOPP |
| 8 | 8 | DONALD C. THOMPSON, ET AL |
| 9 | 8, 9 & 10 | JAMES H. LEWIS, ET AL |
| 10 | 9 & 10 | RAIFORD TRASK, JR., ET AL |
| 11 | 10 & 11 | RAIFORD G. TRASK JR., TRUST |
| 12 | 10 & 11 | MARY JO FULCHER |
| 13 | 11 | RAIFORD G. TRASK JR., TRUST |
| 14 | 11 & 12 | FAITH COVENANT CHURCH OF SNEADS FERRY |
| 15 | 12 & 13 | CAROLINE S. BALDWIN, ET AL |
| 16 | 13 | DEBRA W. WUFF, ET AL |
| 17 | 13 & 14 | FIRST UNITED METHODIST CHURCH OF SNEADS FERRY, TRUSTEES |
| 18 | 13 & 14 | WILLIAM T. DAVIS, ET UX |
| 19 | 14 | JON M. TEWKSBURY |

| PARCEL No. | SHEET No. | PROPERTY OWNER NAME |
|---|---|---|

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 4 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |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CARY, NC 27518
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NC License # F-1333


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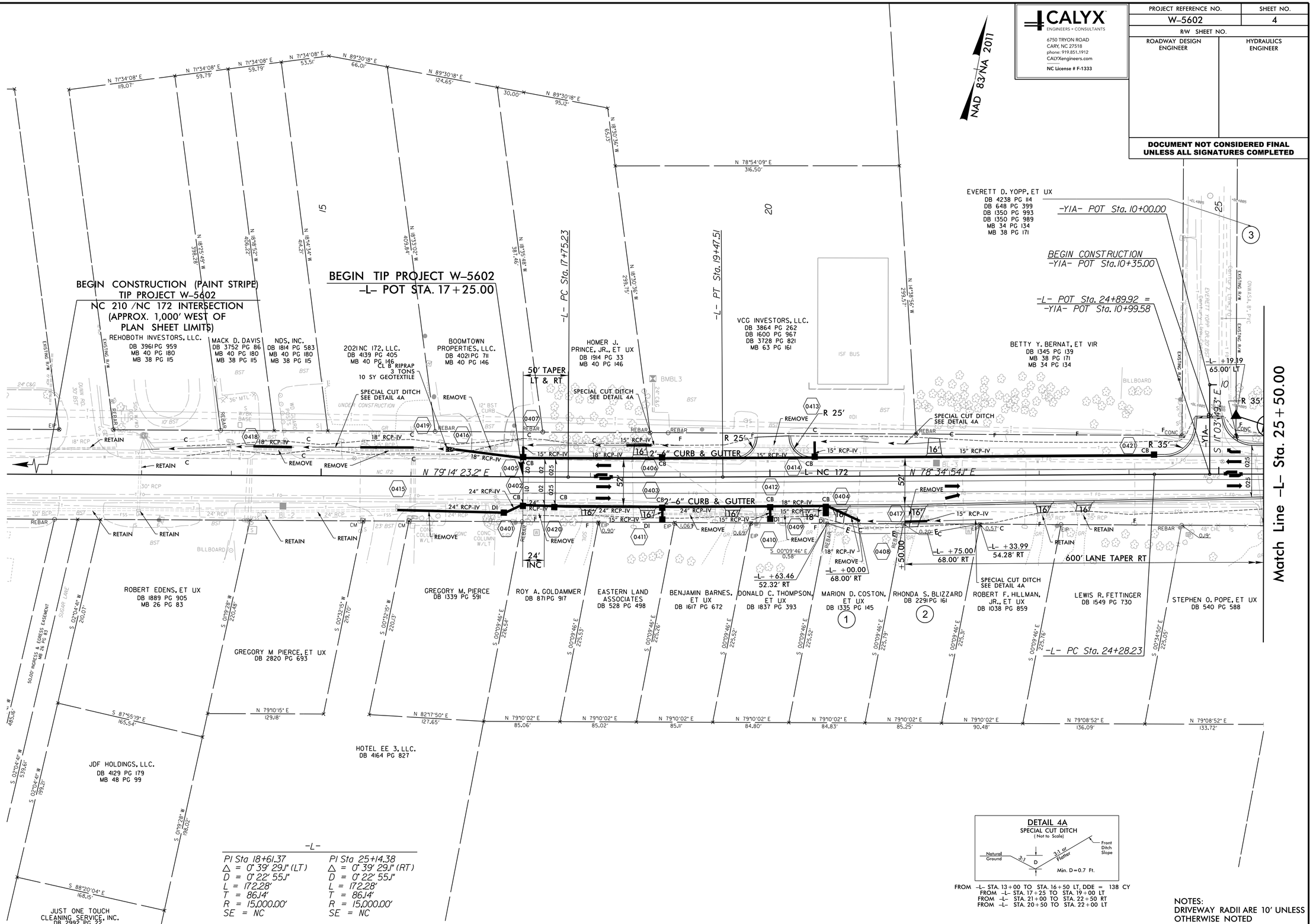


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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 5 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |


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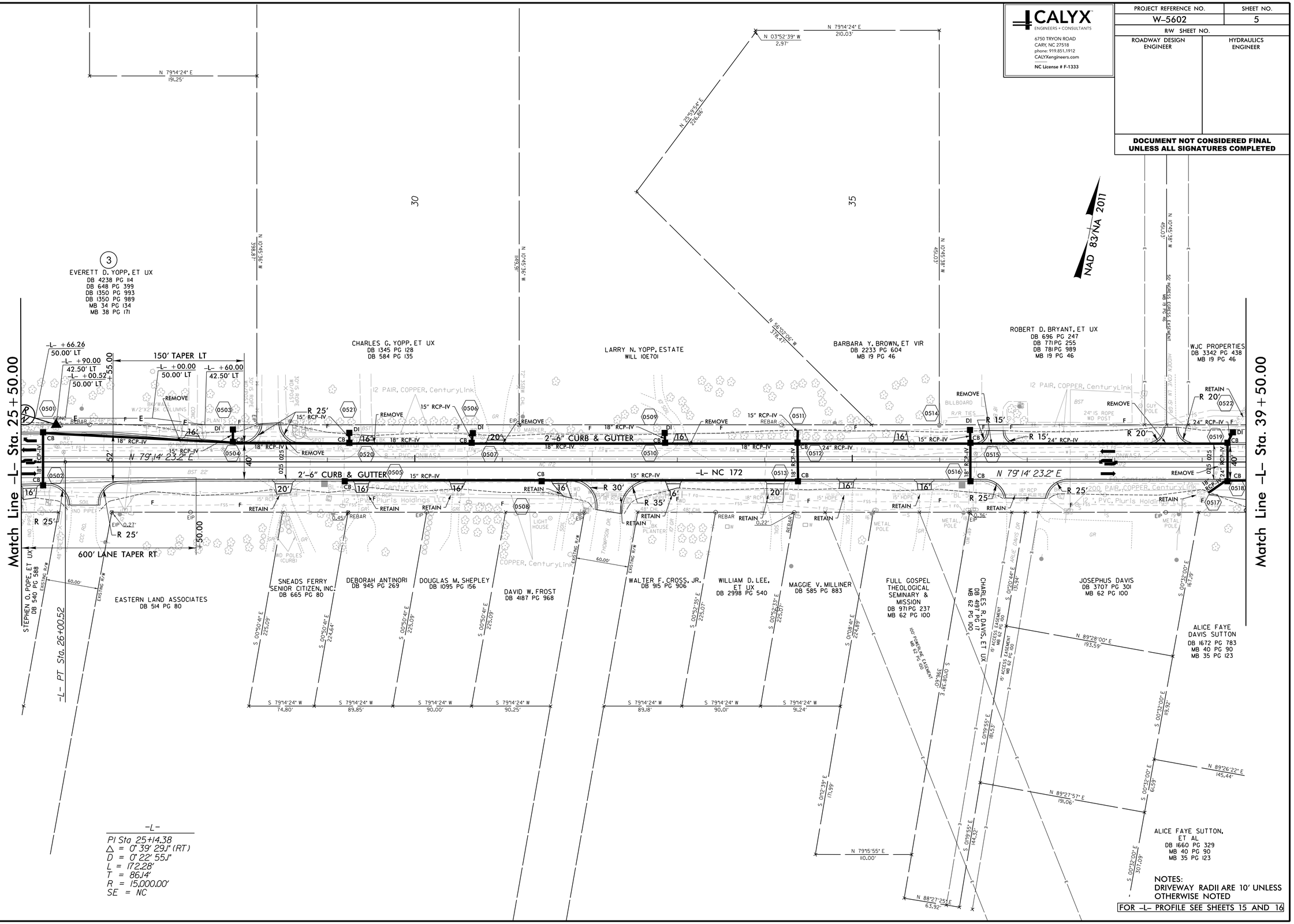


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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 6 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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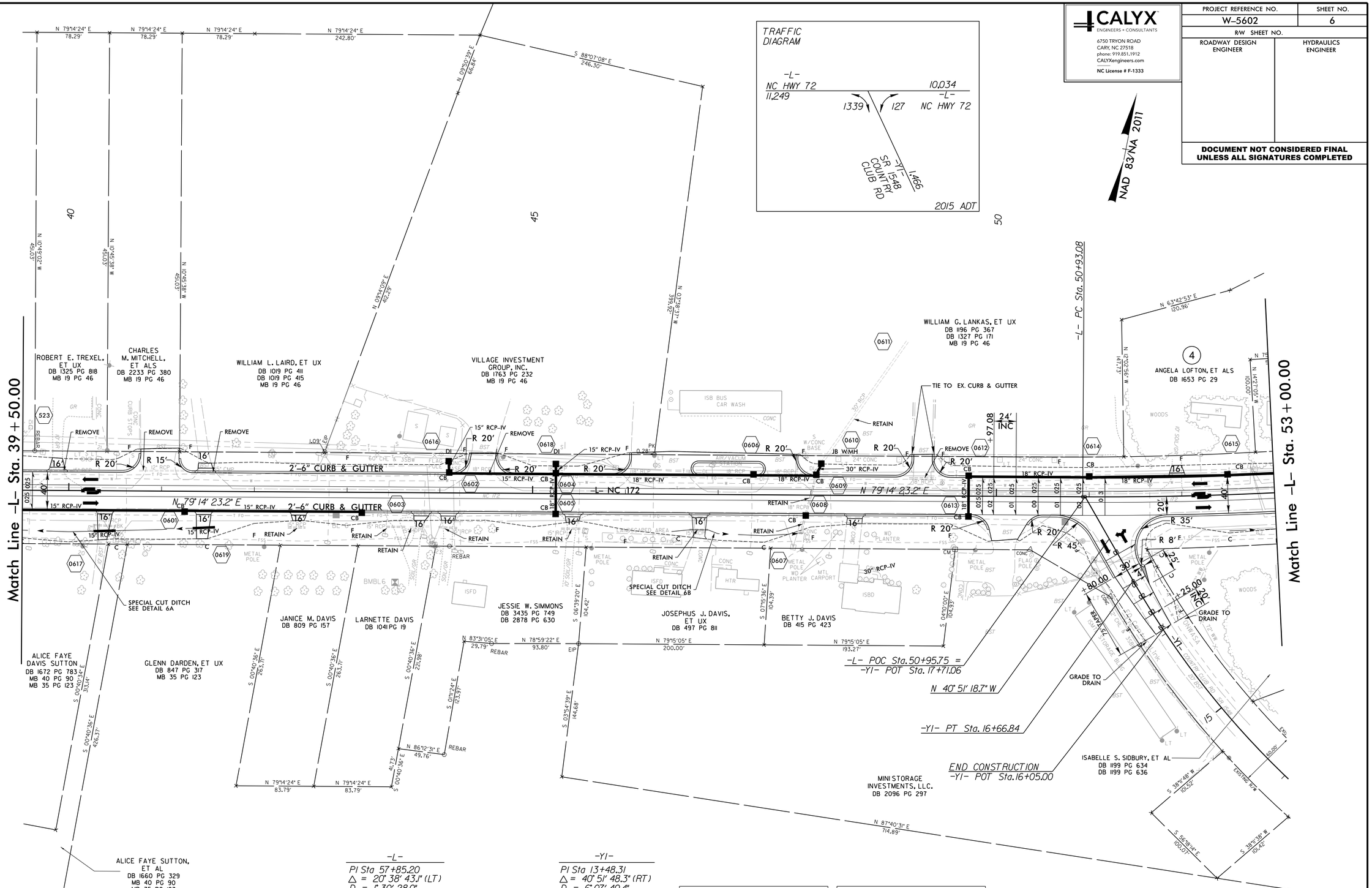


**-L-**

PI Sta 57+85.20
△ = 20° 38' 43.1" (LT)
D = 1° 30' 28.0"
L = 1,369.25'
T = 692.13'
R = 3,800.00'
SE = 3%
RO = 72'

**-Y1-**

PI Sta 13+48.31
△ = 40° 51' 48.3" (RT)
D = 6° 07' 40.4"
L = 666.84'
T = 348.31'
R = 935.00'
SE = EX.

**DETAIL 6A**
SPECIAL CUT DITCH
( Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D=2.0 Ft.
FROM -L- STA. 39+06 TO STA. 41+50 RT

**DETAIL 6B**
SPECIAL CUT DITCH
( Not to Scale)
Natural Ground, 3:1, D, 3:1 or Flatter, Front Ditch Slope
Min. D=1.0 Ft.
FROM -L- STA. 46+50 TO STA. 47+89 RT

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

PAVED SHOULDER

FOR -L- PROFILE SEE SHEET 16

FOR -Y1- PROFILE SEE SHEET 20

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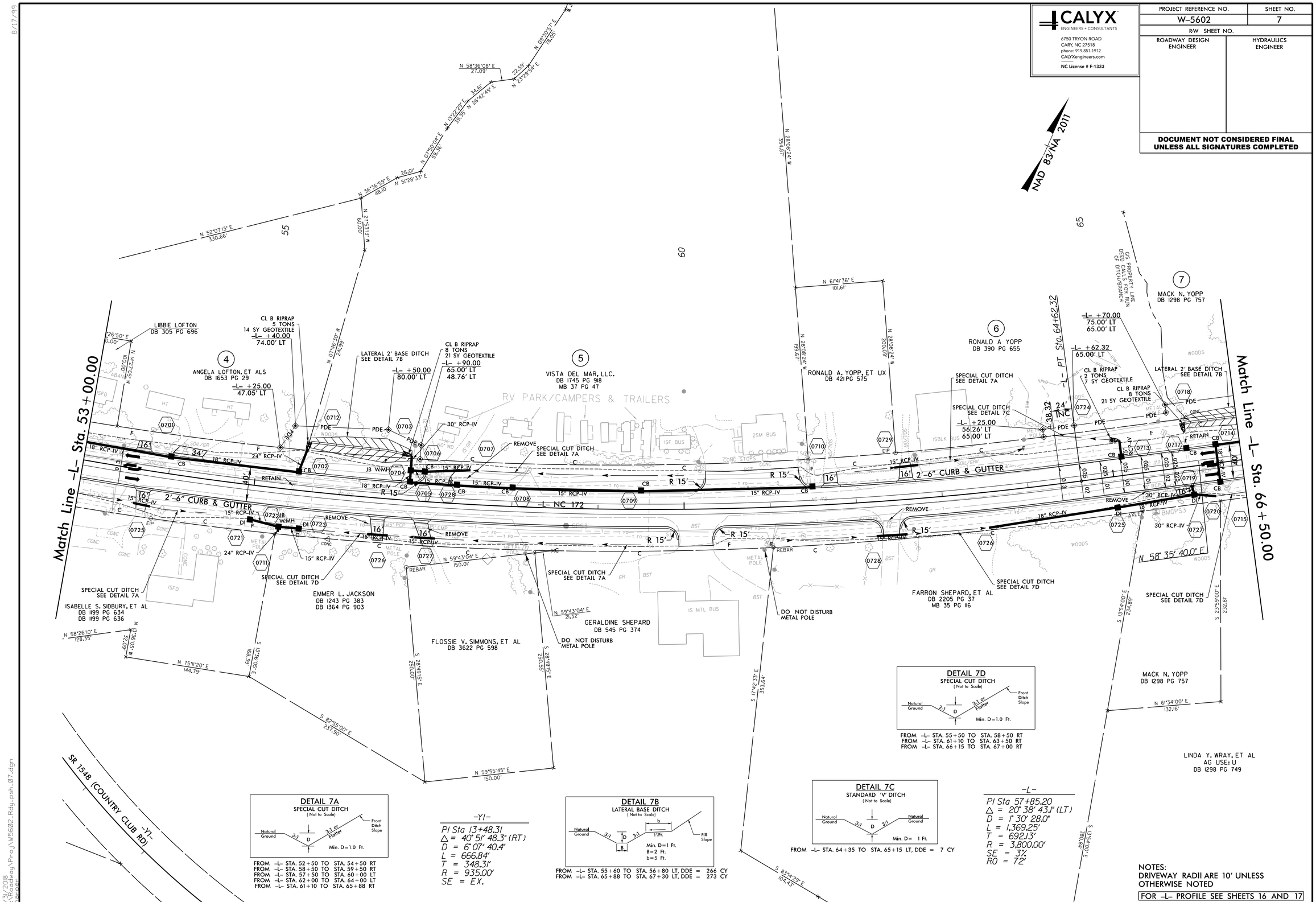
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 7 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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




NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEETS 16 AND 17

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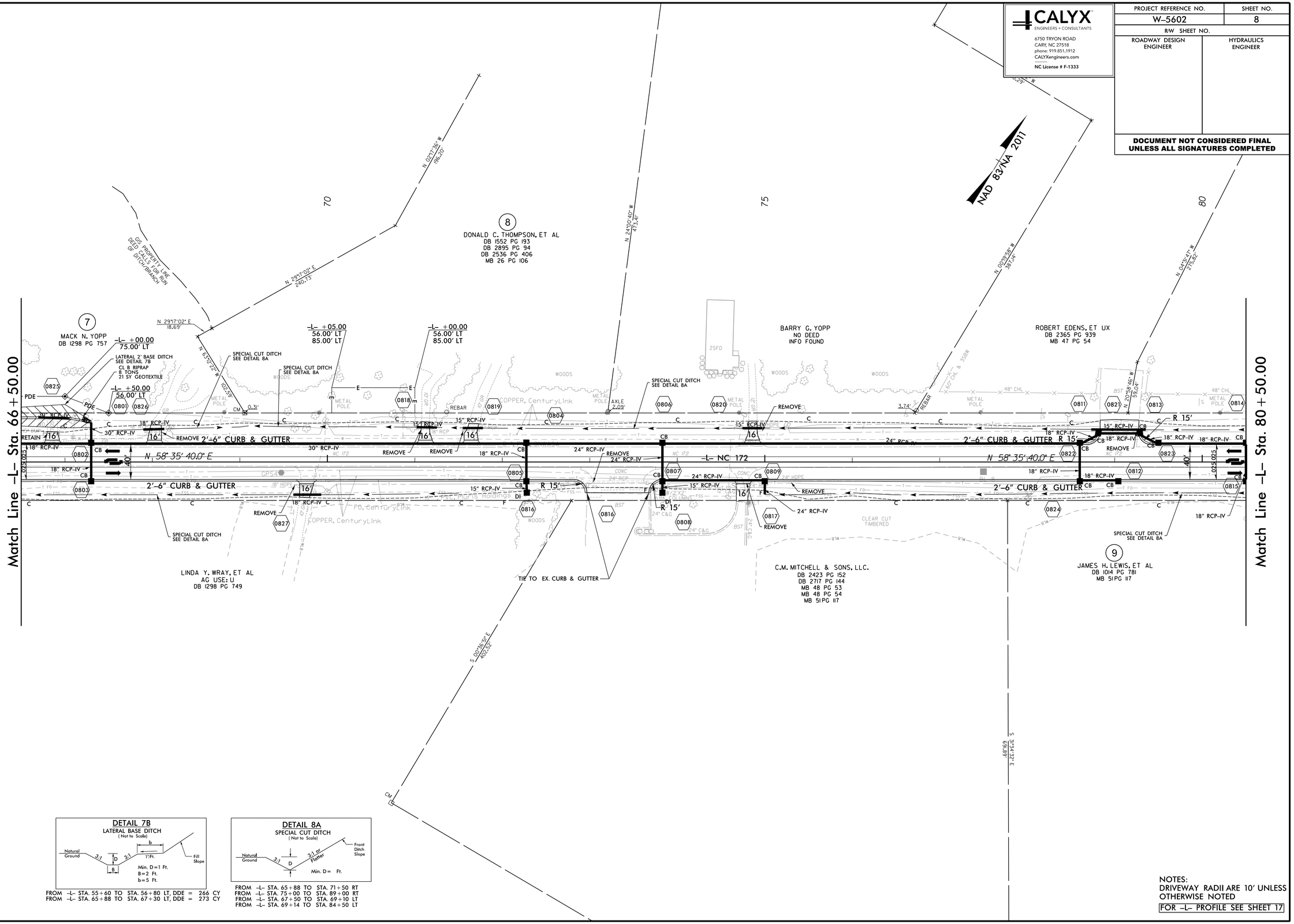
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 8 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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




FROM -L- STA. 55+60 TO STA. 56+80 LT, DDE = 266 CY
FROM -L- STA. 65+88 TO STA. 67+30 LT, DDE = 273 CY

FROM -L- STA. 65+88 TO STA. 71+50 RT
FROM -L- STA. 75+00 TO STA. 89+00 RT
FROM -L- STA. 67+50 TO STA. 69+10 LT
FROM -L- STA. 69+14 TO STA. 84+50 LT

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEET 17

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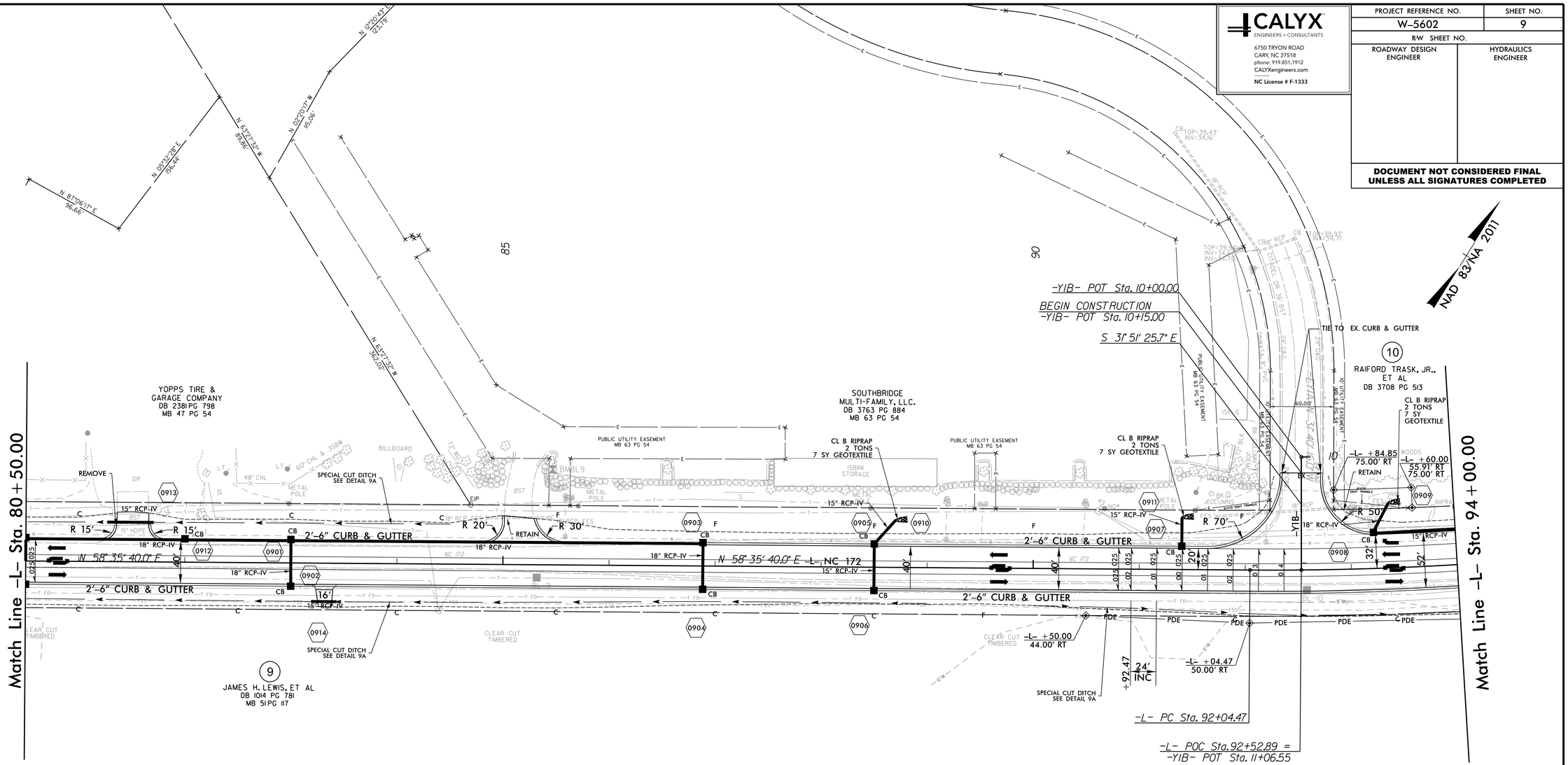
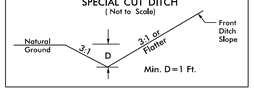
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 9 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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




## DETAIL 9A
SPECIAL CUT DITCH
( Not to Scale)




FROM -L- STA. 69+14 TO STA. 84+50 LT
FROM -L- STA. 74+00 TO STA. 89+00 RT
FROM -L- STA. 90+00 TO STA. 103+04 RT

-L-
PI Sta 105+08.09
Δ = 48° 24' 36.7" (LT)
D = 1° 58' 32.6"
L = 2,450.26'
T = 1,303.62'
R = 2,900.00'
SE = 4%
RO = 96'

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEETS 17

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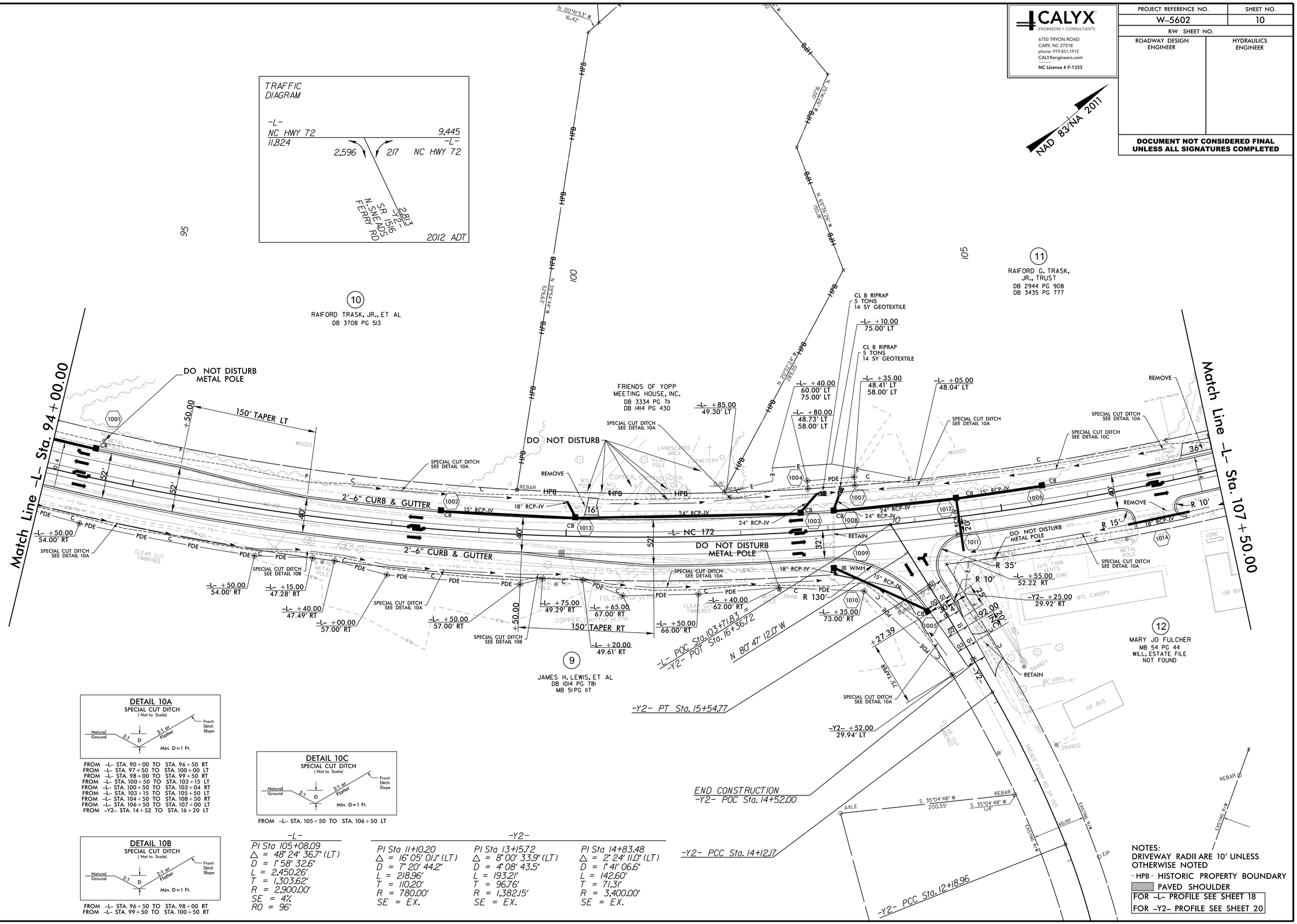
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 10 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

NAD 83/NA 2011




## DETAIL 10A
SPECIAL CUT DITCH
( Not to Scale)




FROM -L- STA. 90+00 TO STA. 96+50 RT
FROM -L- STA. 97+50 TO STA. 100+00 LT
FROM -L- STA. 98+00 TO STA. 99+50 RT
FROM -L- STA. 100+50 TO STA. 103+15 LT
FROM -L- STA. 100+50 TO STA. 103+04 RT
FROM -L- STA. 103+15 TO STA. 105+50 LT
FROM -L- STA. 104+50 TO STA. 108+50 RT
FROM -L- STA. 106+50 TO STA. 107+00 LT
FROM -Y2- STA. 14+52 TO STA. 16+20 LT

## DETAIL 10C
SPECIAL CUT DITCH
( Not to Scale)




FROM -L- STA. 105+50 TO STA. 106+50 LT

## DETAIL 10B
SPECIAL CUT DITCH
( Not to Scale)




FROM -L- STA. 96+50 TO STA. 98+00 RT
FROM -L- STA. 99+50 TO STA. 100+50 RT

| -L- | -Y2- | |
|---|---|---|
| PI Sta 105+08.09 | PI Sta 11+10.20 | PI Sta 13+15.72 | PI Sta 14+83.48 |
| Δ = 48° 24' 36.7" (LT) | Δ = 16° 05' 01.1" (LT) | Δ = 8° 00' 33.9" (LT) | Δ = 2° 24' 11.0" (LT) |
| D = 1° 58' 32.6" | D = 7° 20' 44.2" | D = 4° 08' 43.5" | D = 1° 41' 06.6" |
| L = 2,450.26' | L = 218.96' | L = 193.21' | L = 142.60' |
| T = 1,303.62' | T = 110.20' | T = 96.76' | T = 71.31' |
| R = 2,900.00' | R = 780.00' | R = 1,382.15' | R = 3,400.00' |
| SE = 4% | SE = EX. | SE = EX. | SE = EX. |
| RO = 96' | | | |

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
- HPB - HISTORIC PROPERTY BOUNDARY
PAVED SHOULDER
FOR -L- PROFILE SEE SHEET 18
FOR -Y2- PROFILE SEE SHEET 20

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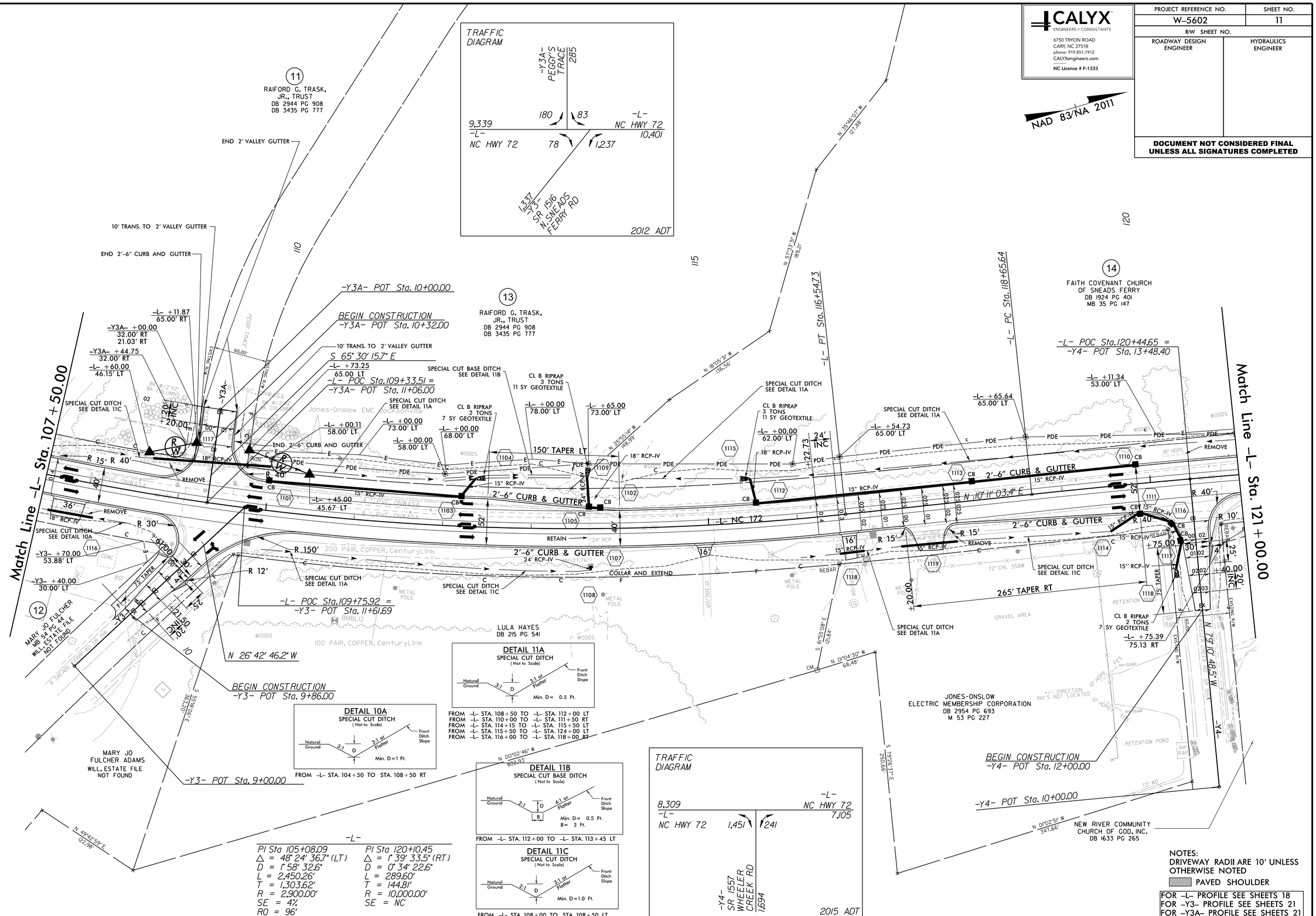
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 11 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

NAD 83/NA 2011




NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

PAVED SHOULDER

FOR -L- PROFILE SEE SHEETS 18
FOR -Y3- PROFILE SEE SHEETS 21
FOR -Y3A- PROFILE SEE SHEETS 21
FOR -Y4- PROFILE SEE SHEETS 21

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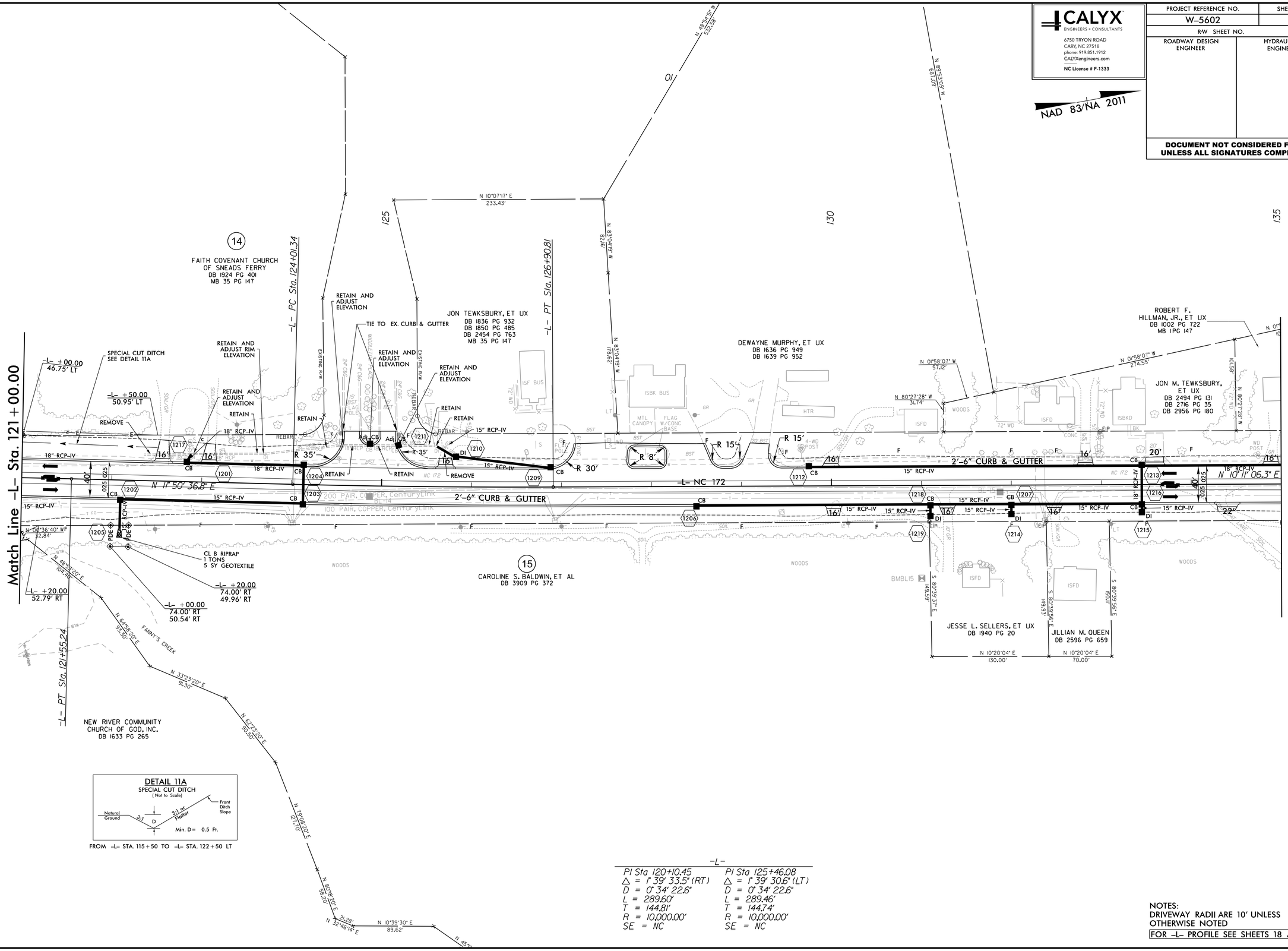
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 12 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

NAD 83/NA 2011




| -L- | |
|---|---|
| PI Sta 120+10.45 | PI Sta 125+46.08 |
| Δ = 1° 39' 33.5" (RT) | Δ = 1° 39' 30.6" (LT) |
| D = 0° 34' 22.6" | D = 0° 34' 22.6" |
| L = 289.60' | L = 289.46' |
| T = 144.81' | T = 144.74' |
| R = 10,000.00' | R = 10,000.00' |
| SE = NC | SE = NC |

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEETS 18 AND 19

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cbarber

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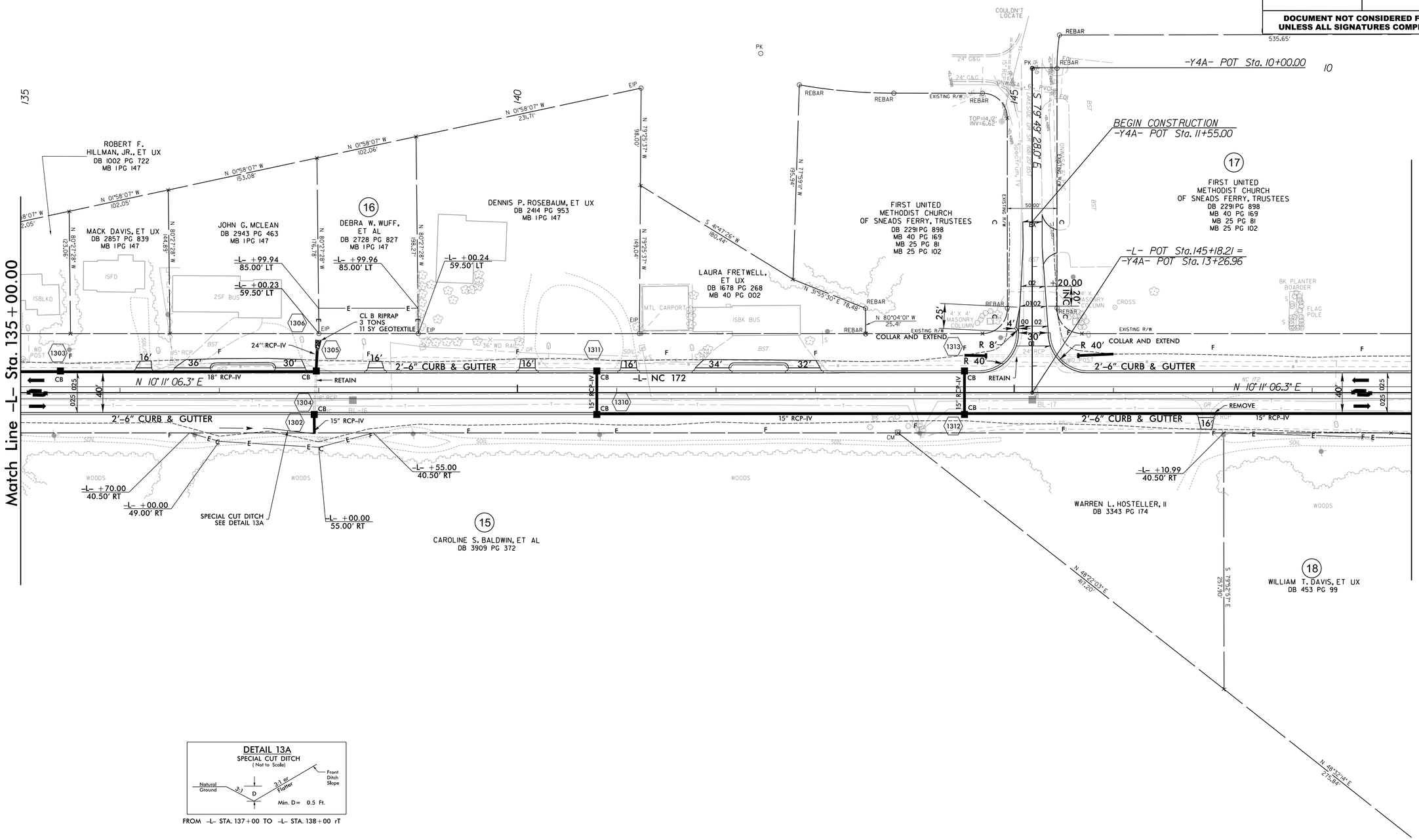
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 13 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

NAD 83/NA 2011




## DETAIL 13A
SPECIAL CUT DITCH
( Not to Scale)




FROM -L- STA. 137+00 TO -L- STA. 138+00 rT

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHEET 19
FOR -Y4A- PROFILE SEE SHEET 22

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 14 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

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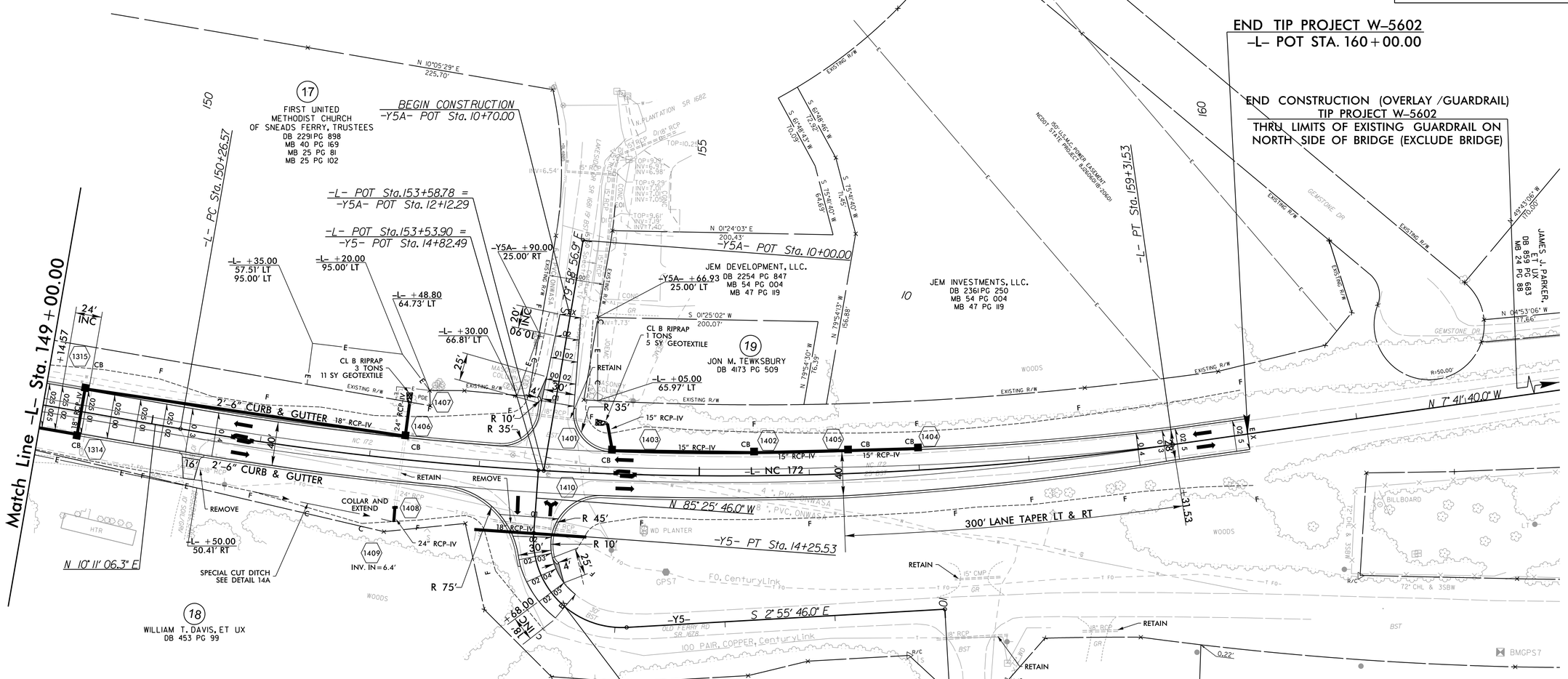
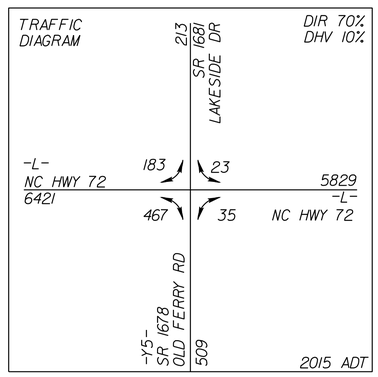
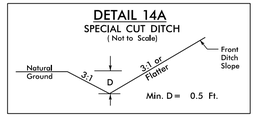



-L-
PI Sta 154+82.76
△ = 17° 52' 46.3" (LT)
D = 1° 58' 32.6"
L = 904.96'
T = 456.19'
R = 2,900.00'
SE = 4%
RO = 96'

-Y5-
PI Sta 13+80.62
△ = 97° 30' 00.0" (RT)
D = 71° 37' 18.1"
L = 136.13'
T = 91.22'
R = 80.00'
SE = EX.

**DETAIL 14A**
SPECIAL CUT DITCH
( Not to Scale)




FROM -L- STA. 151+00 TO -L- STA. 152+28 RT

NOTES:
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

PAVED SHOULDER

FOR -L- PROFILE SEE SHEETS 19 & 20
FOR -Y5- PROFILE SEE SHEET 22
FOR -Y5A- PROFILE SEE SHEET 22

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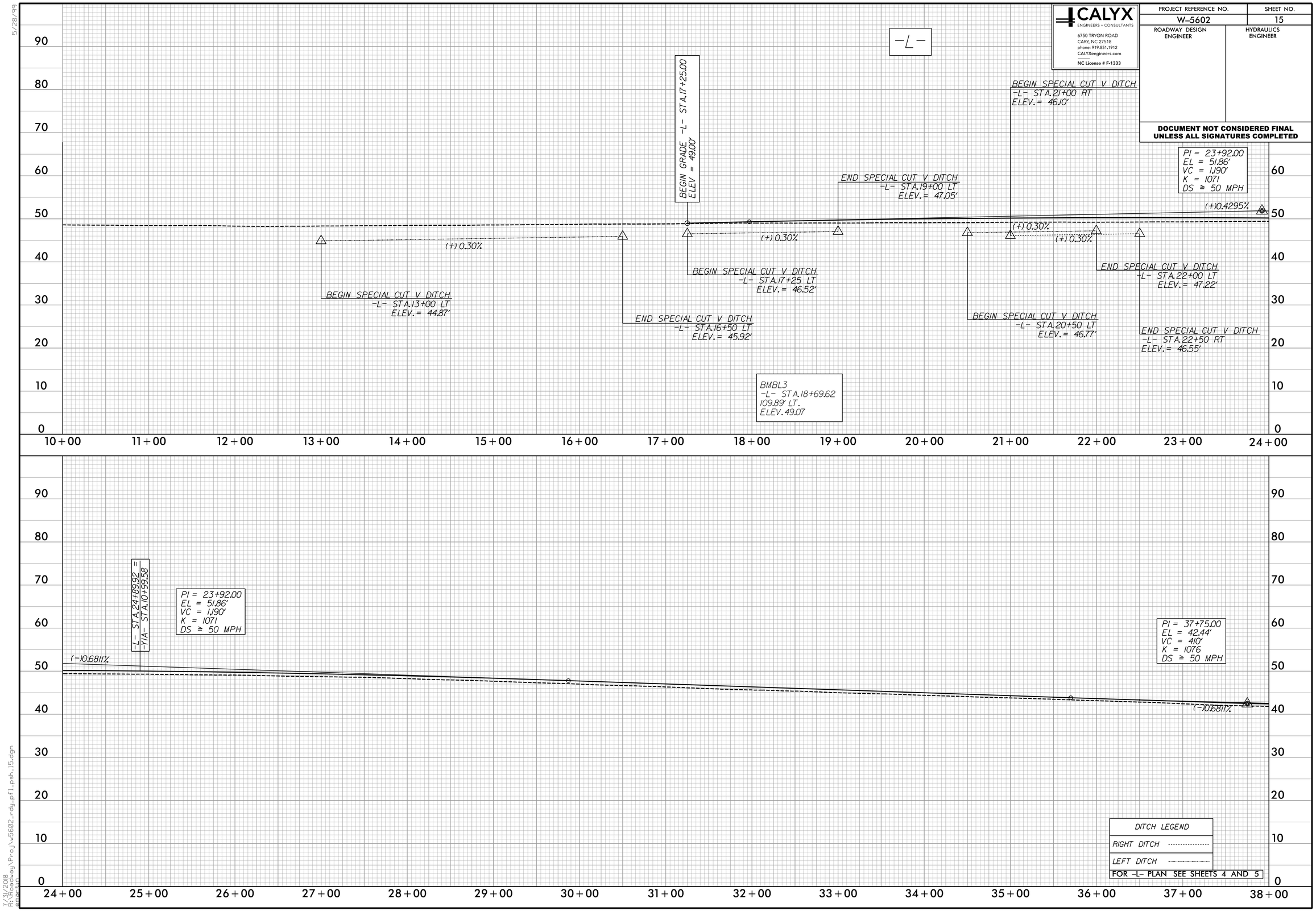
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 15 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 16 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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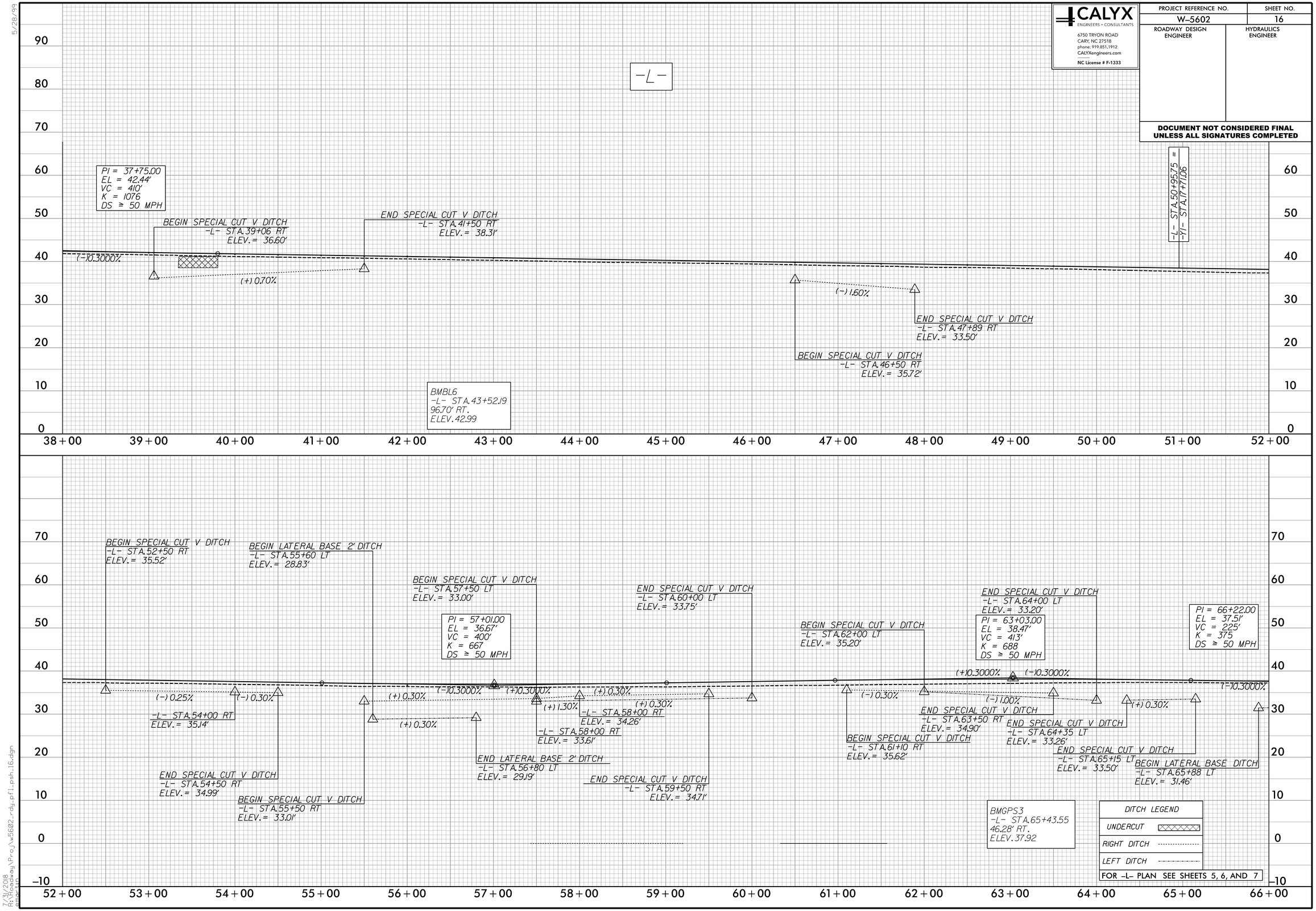


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7/31/2018
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mmcintyre

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5602 | 17 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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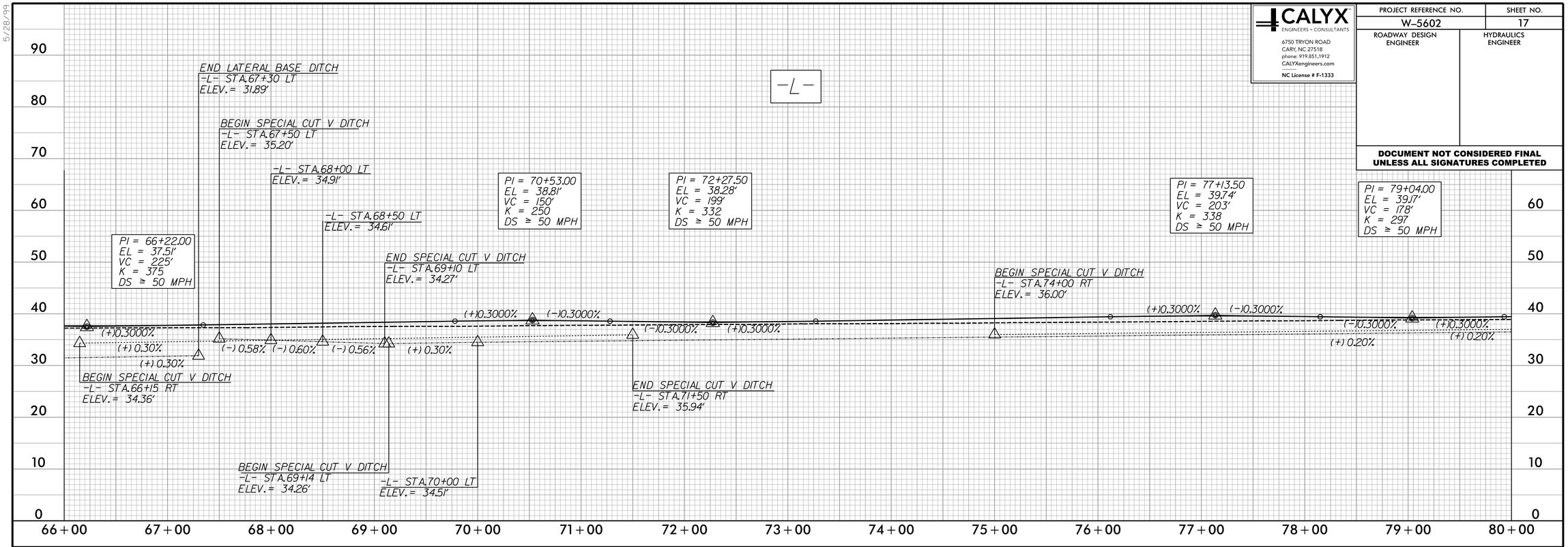


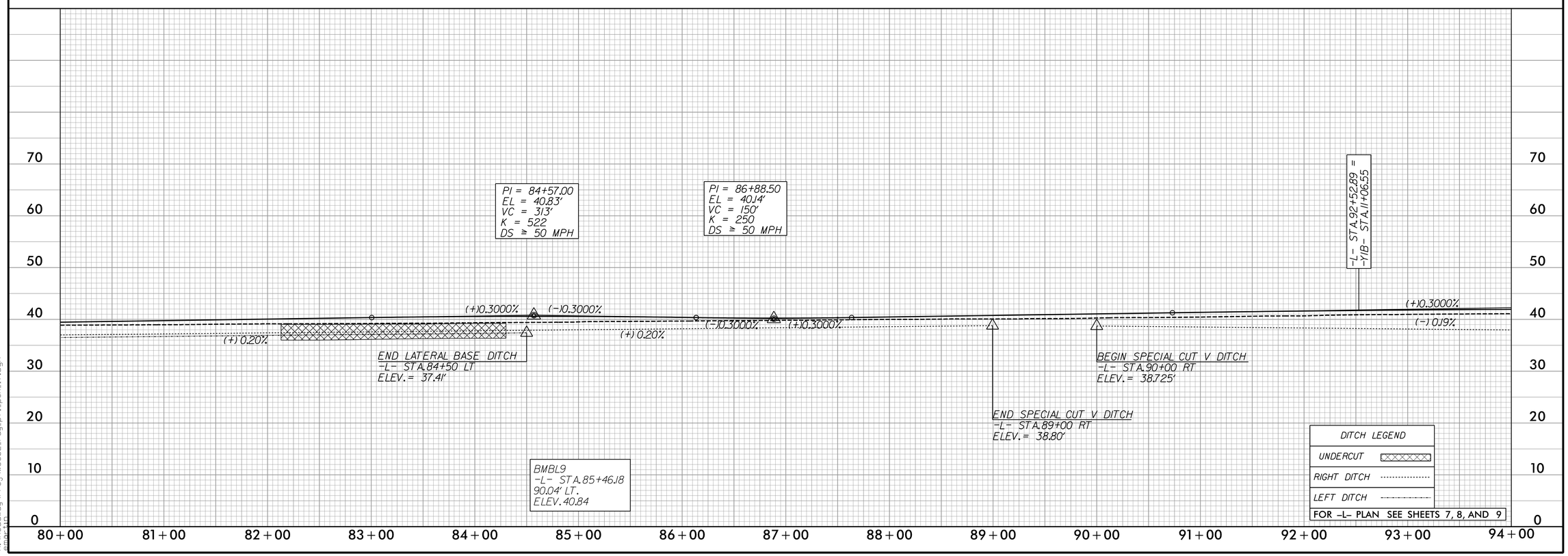


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|---|---|
| W-5602 | 18 |
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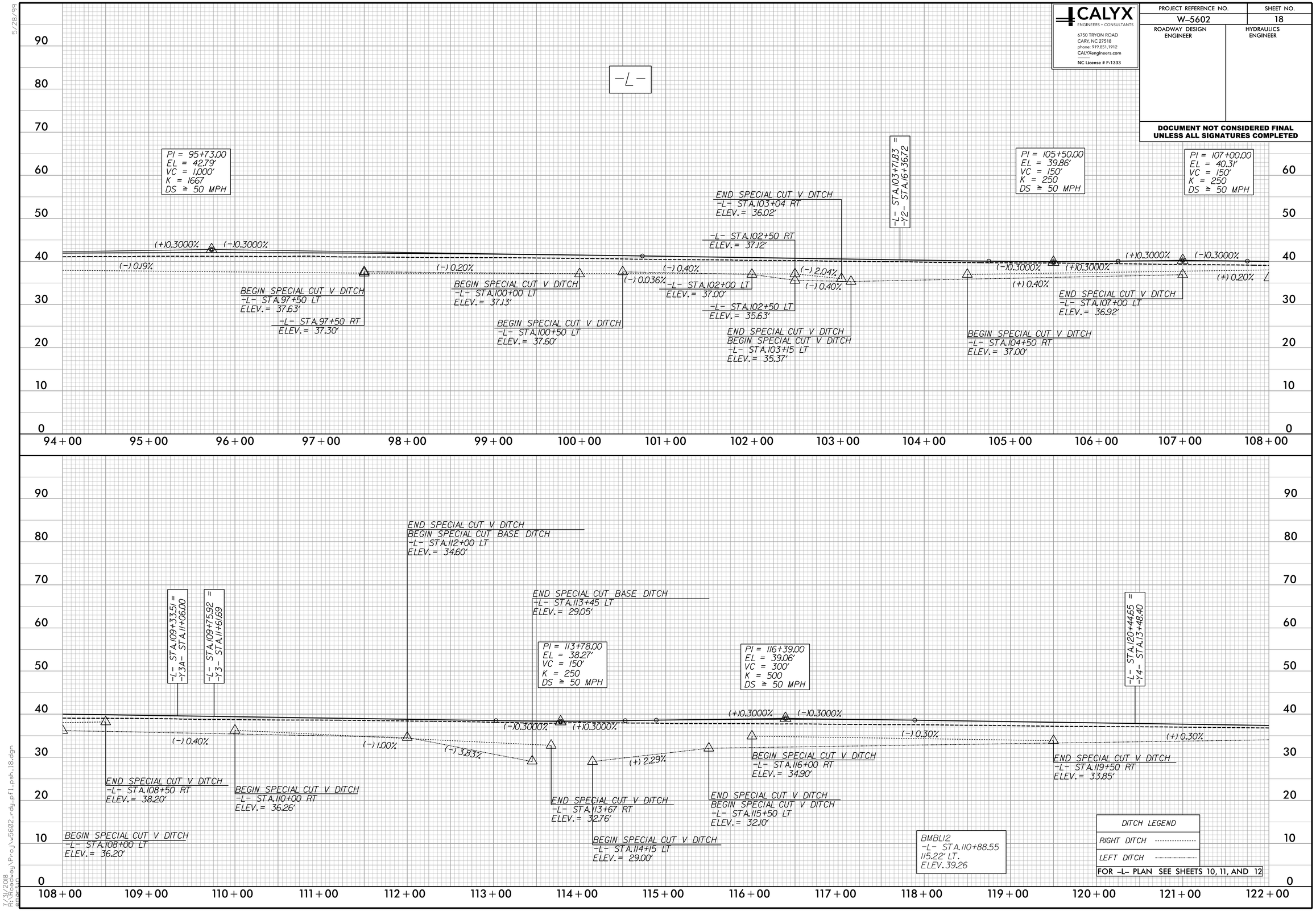


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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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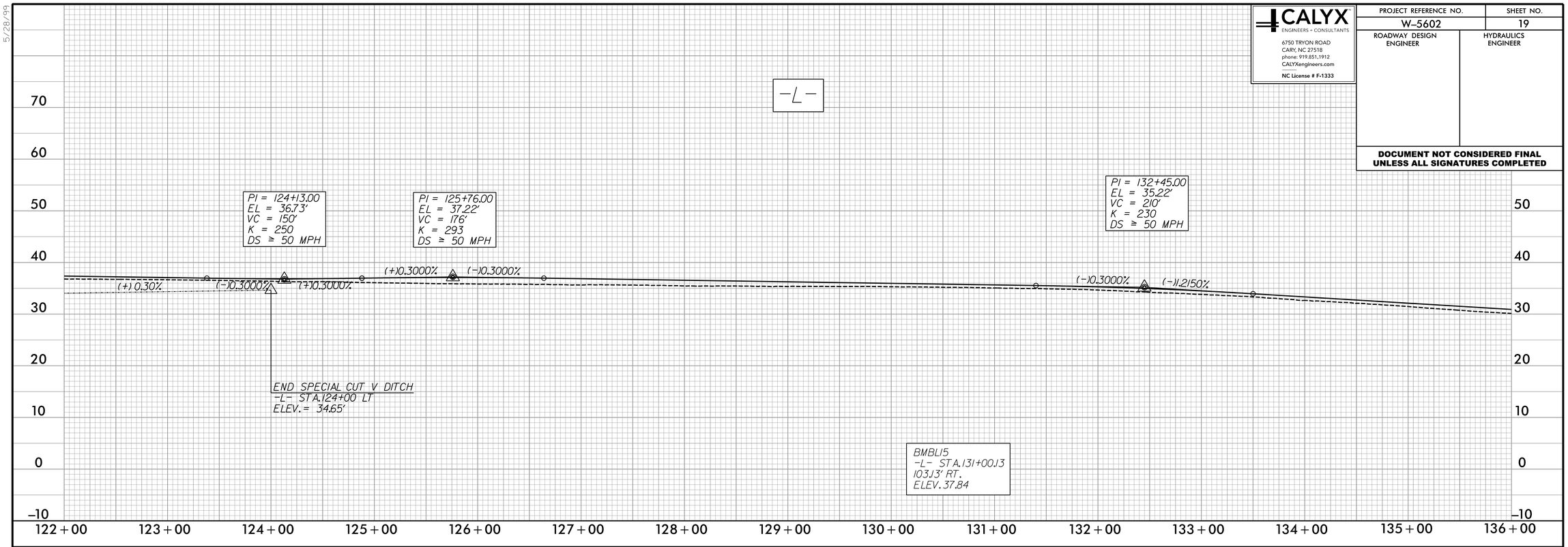


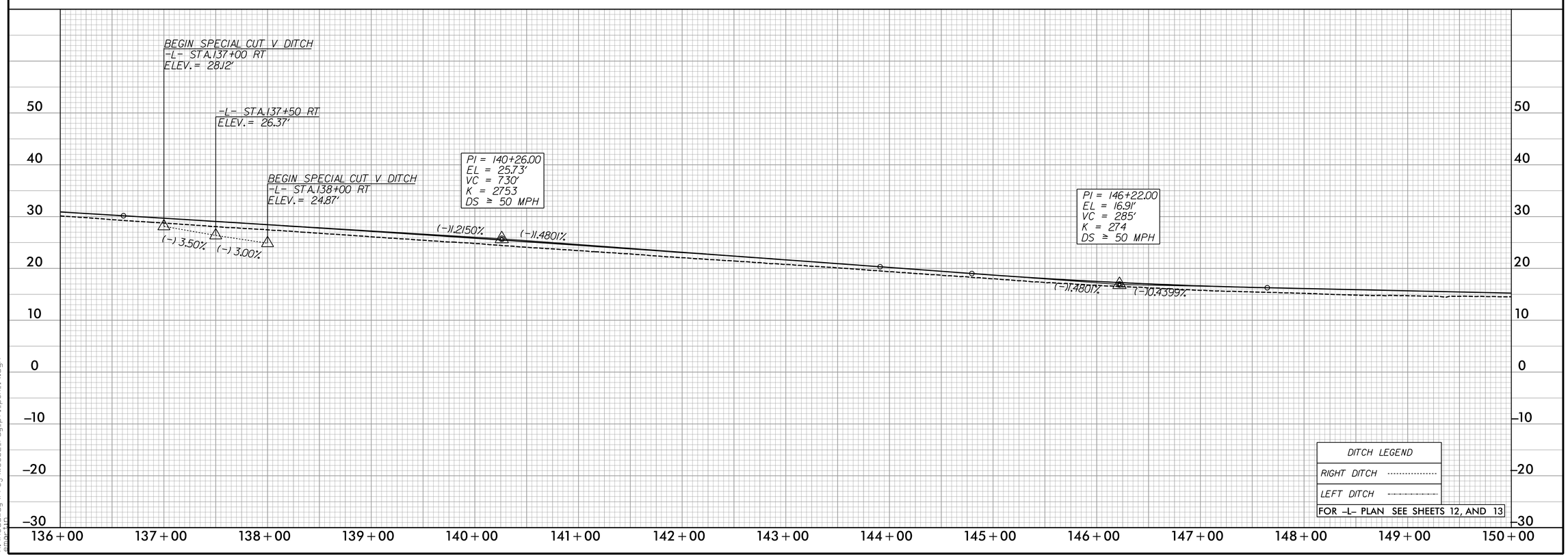


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| W-5602 | 20 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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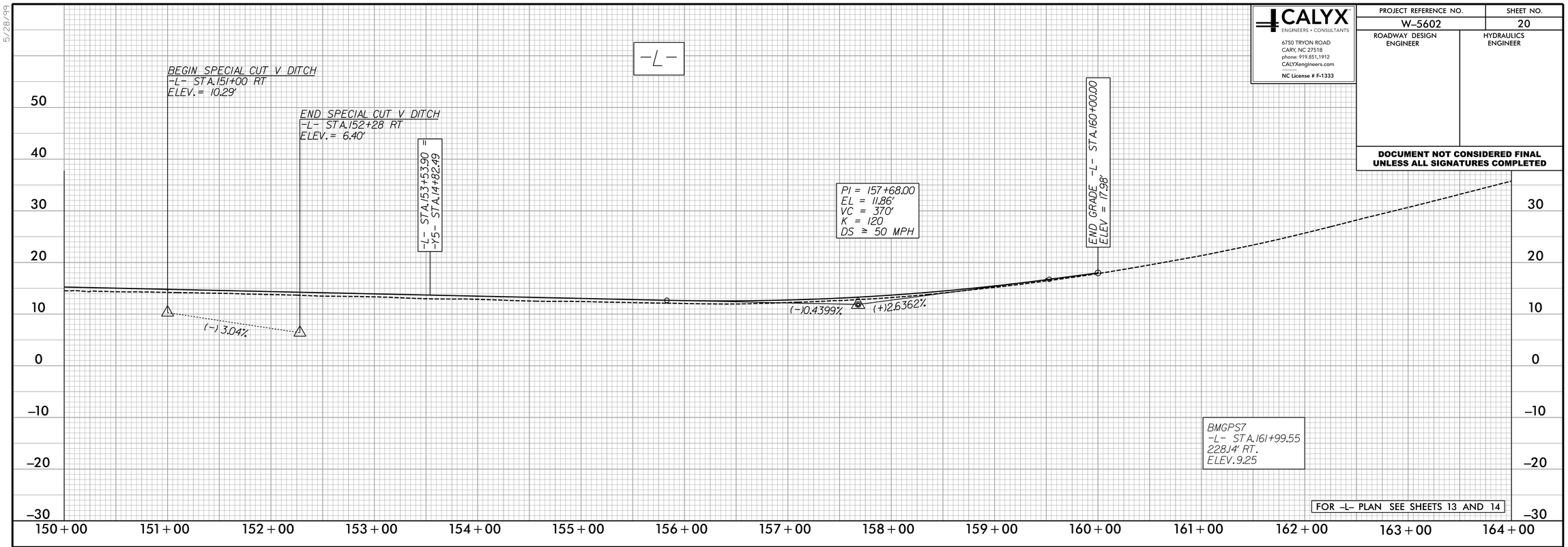


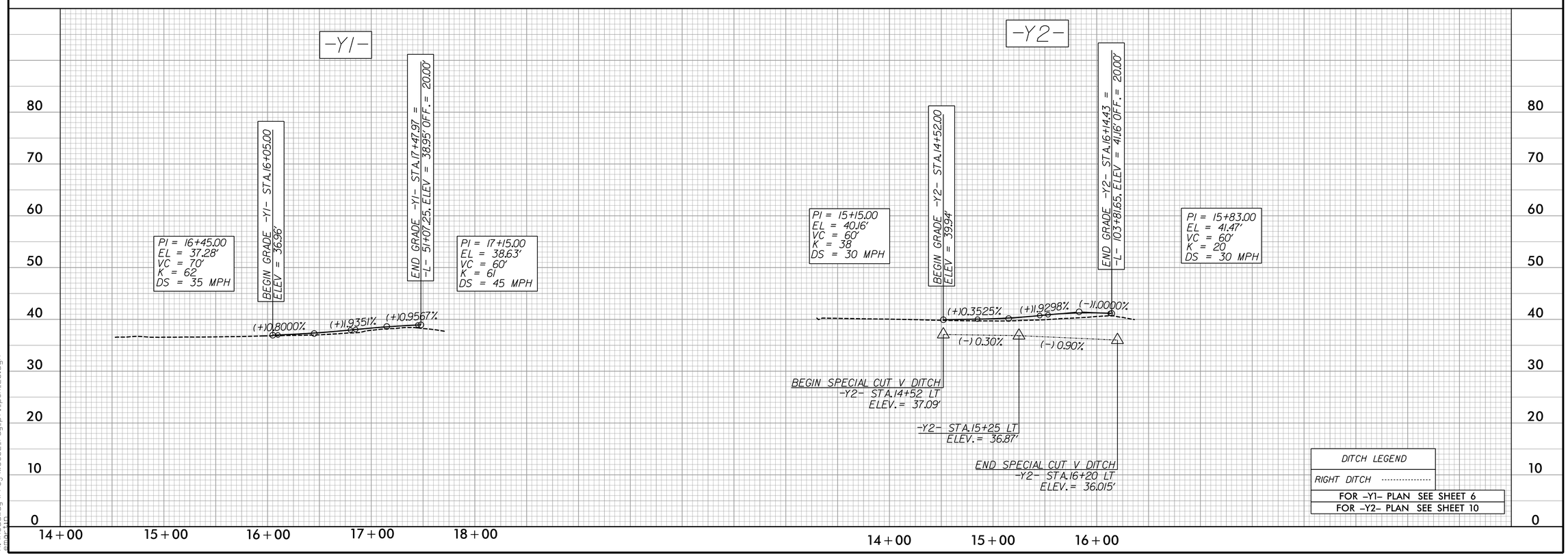


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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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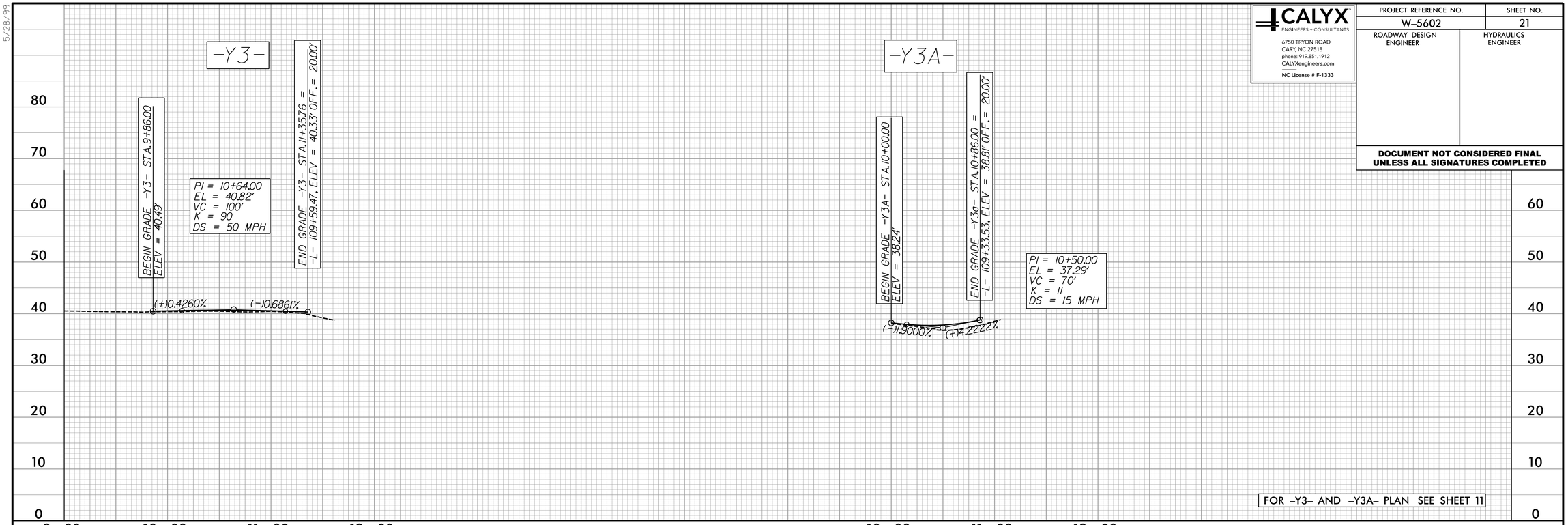
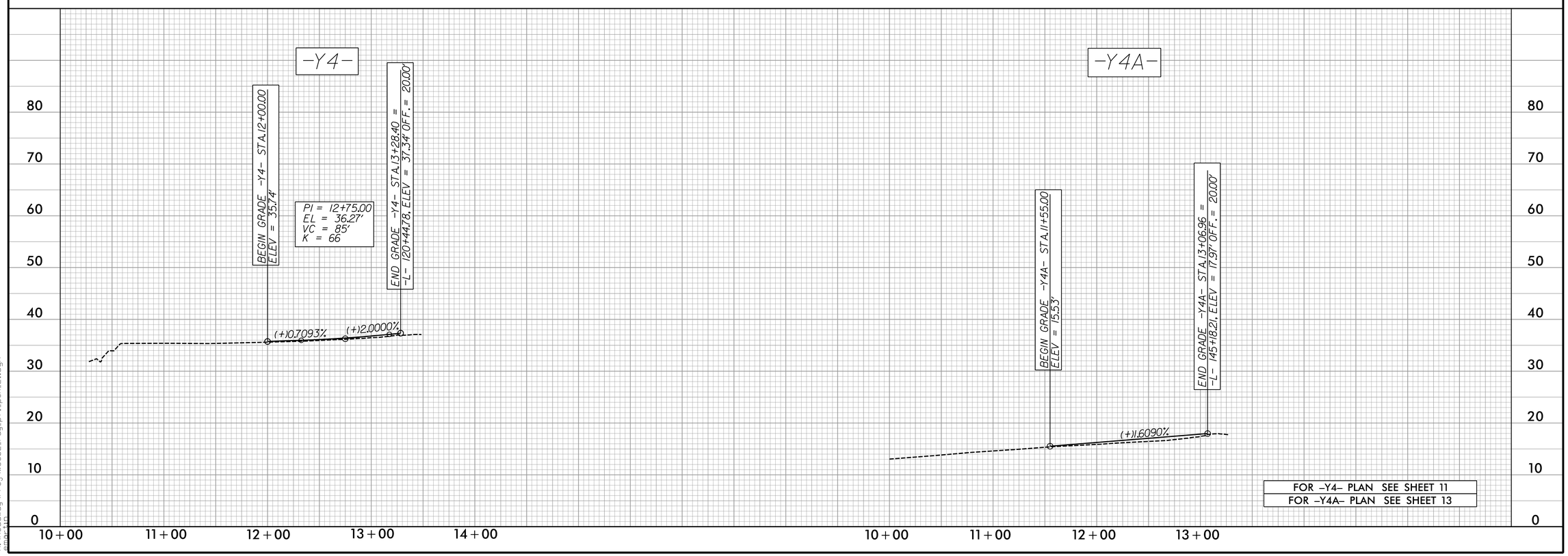



FOR -Y3- AND -Y3A- PLAN SEE SHEET 11

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FOR -Y4A- PLAN SEE SHEET 13

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| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

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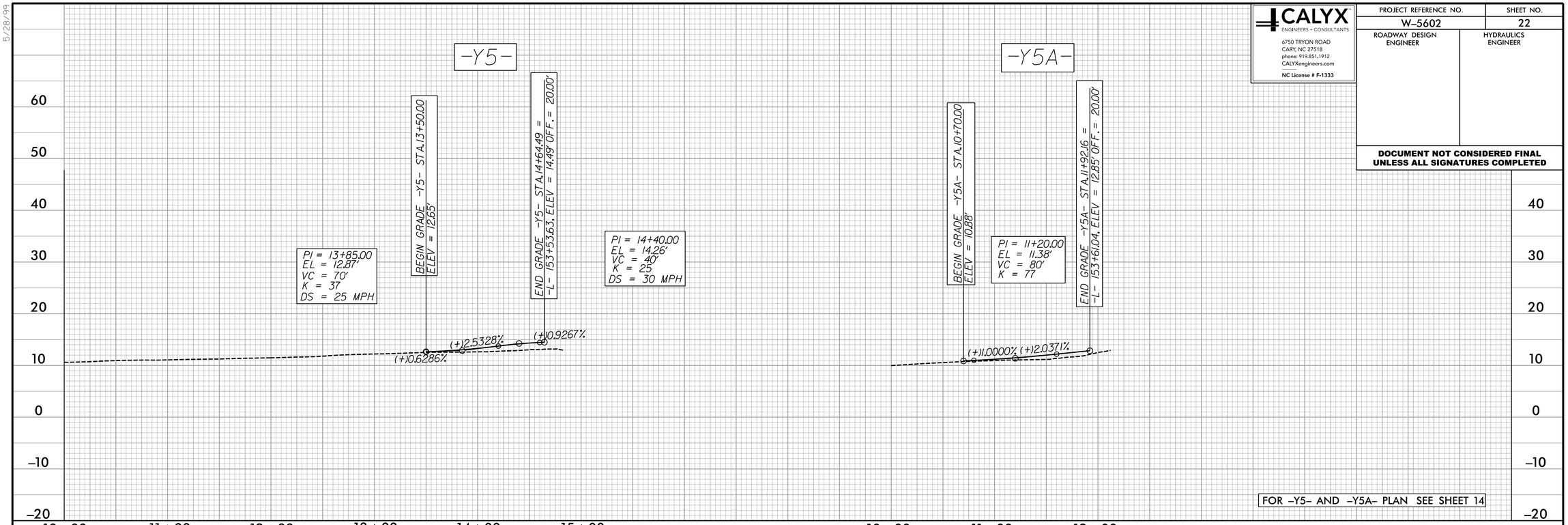


FOR -Y5- AND -Y5A- PLAN SEE SHEET 14

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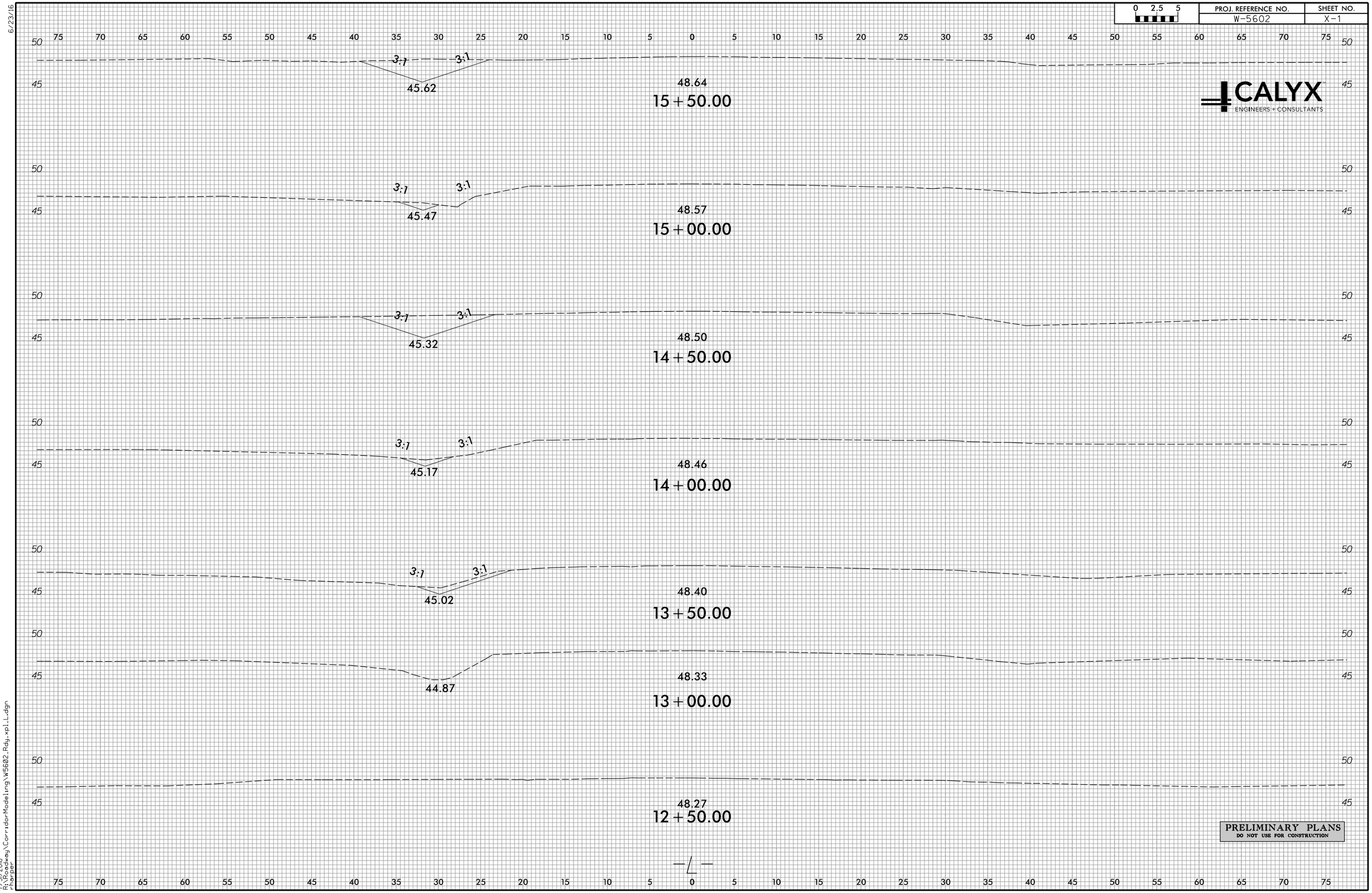


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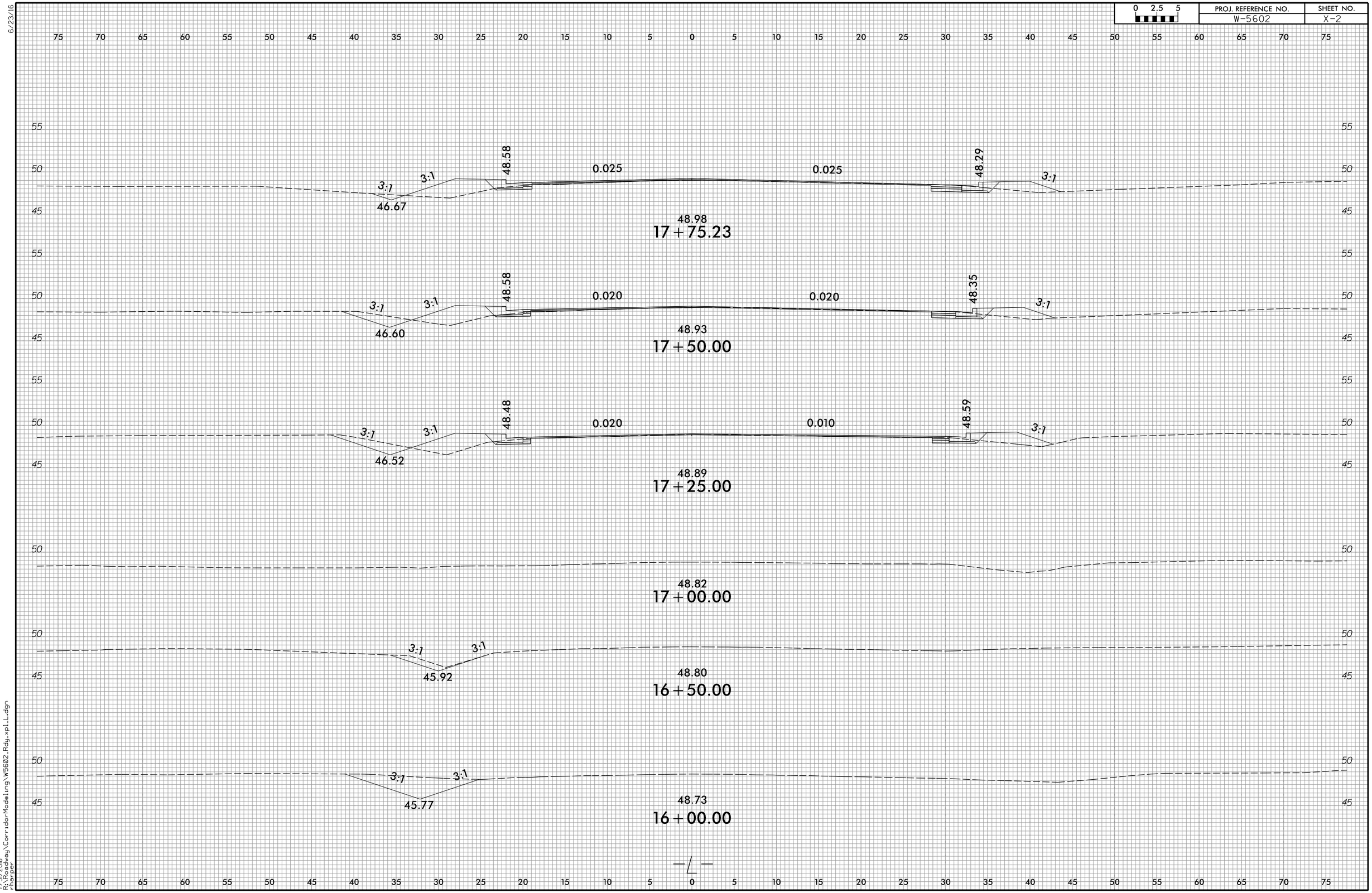


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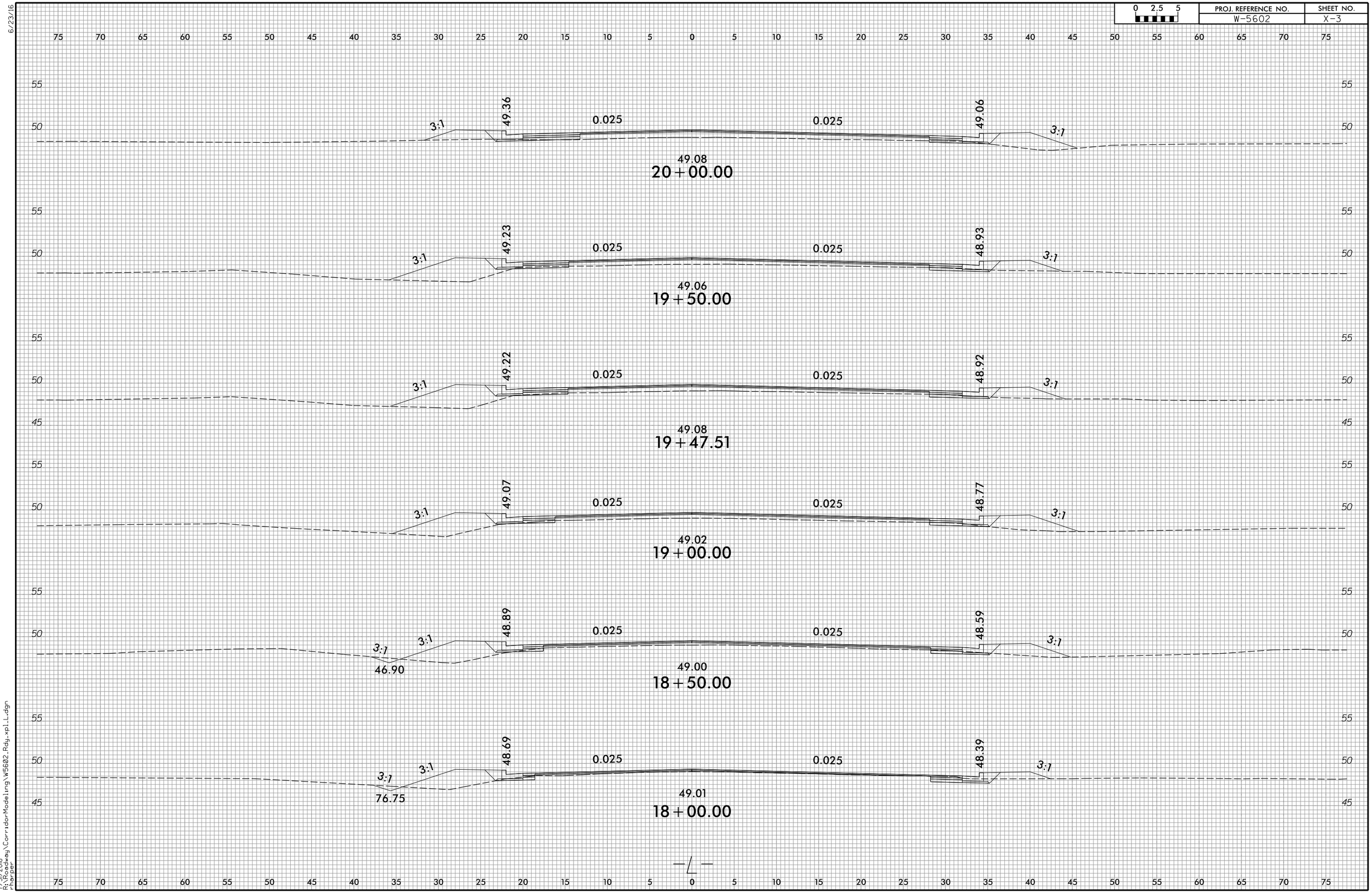


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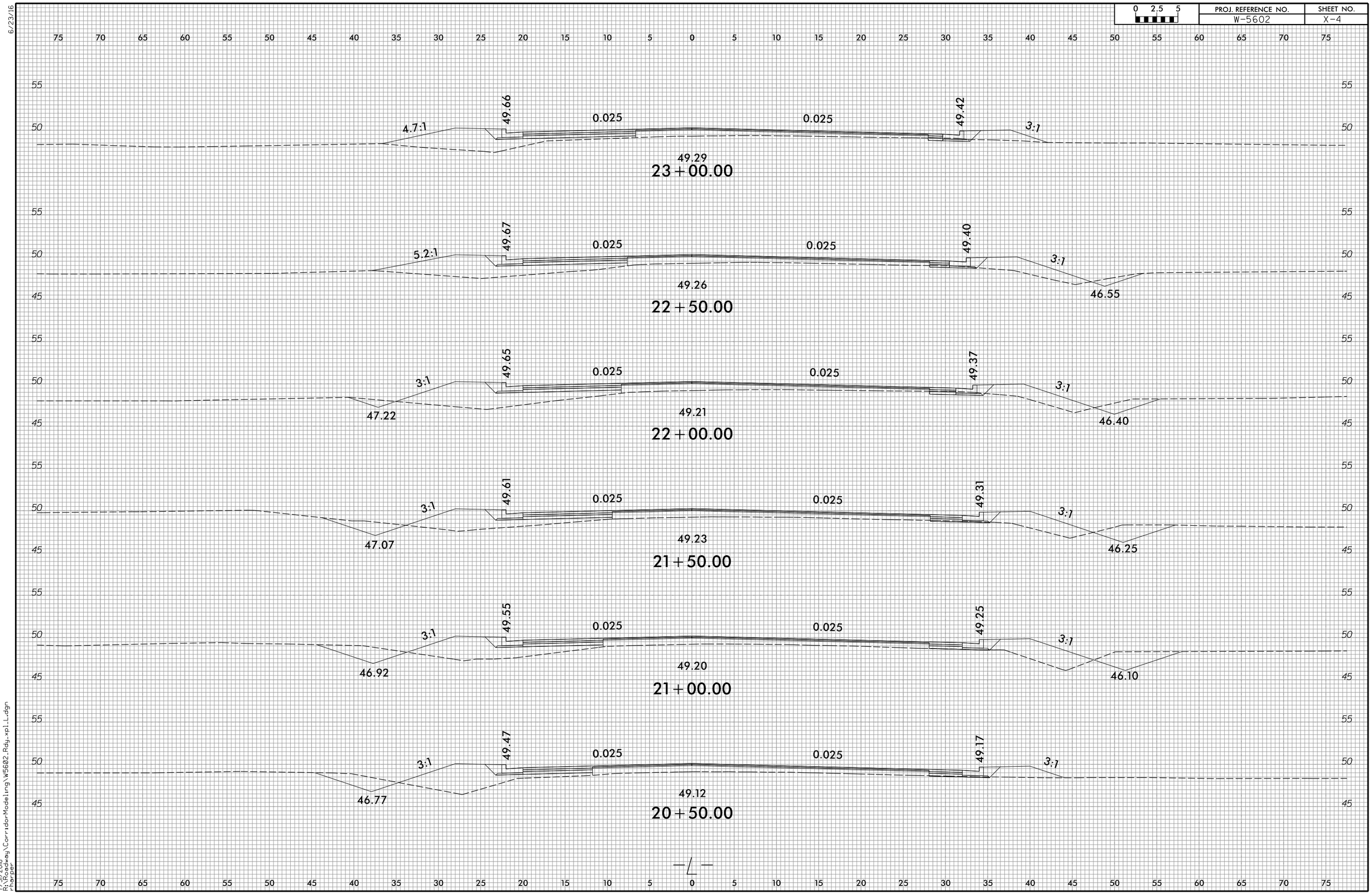


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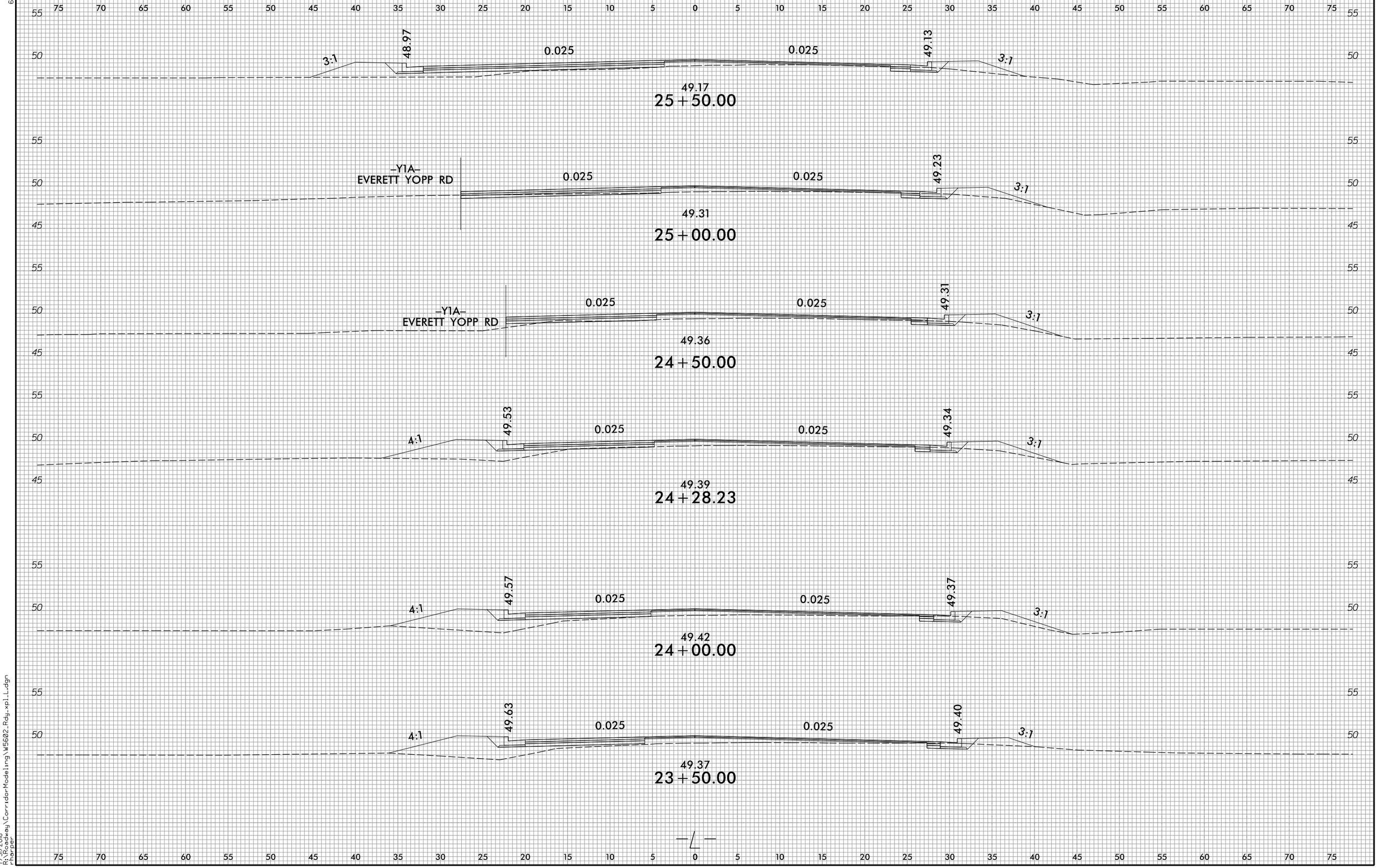


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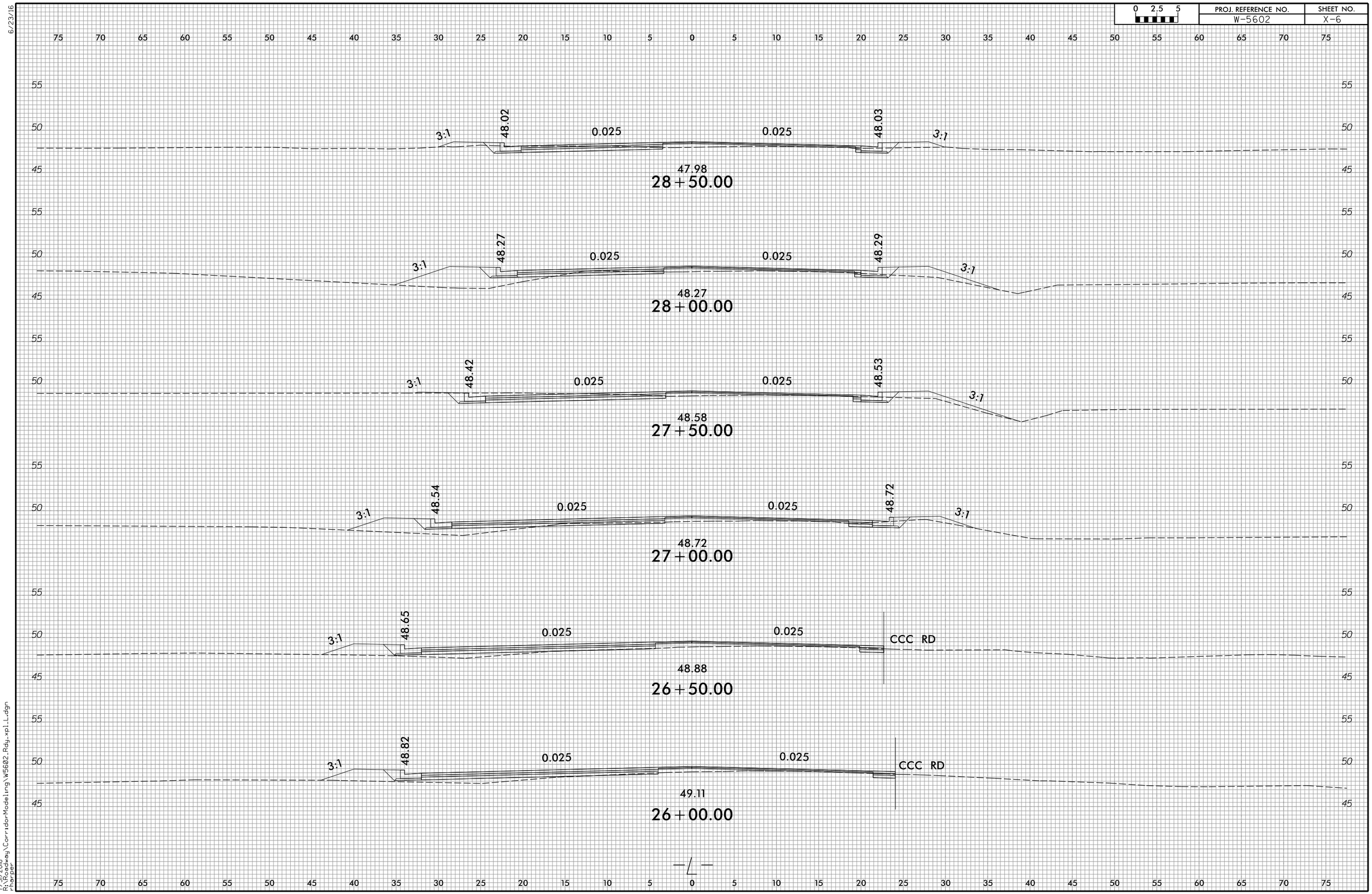


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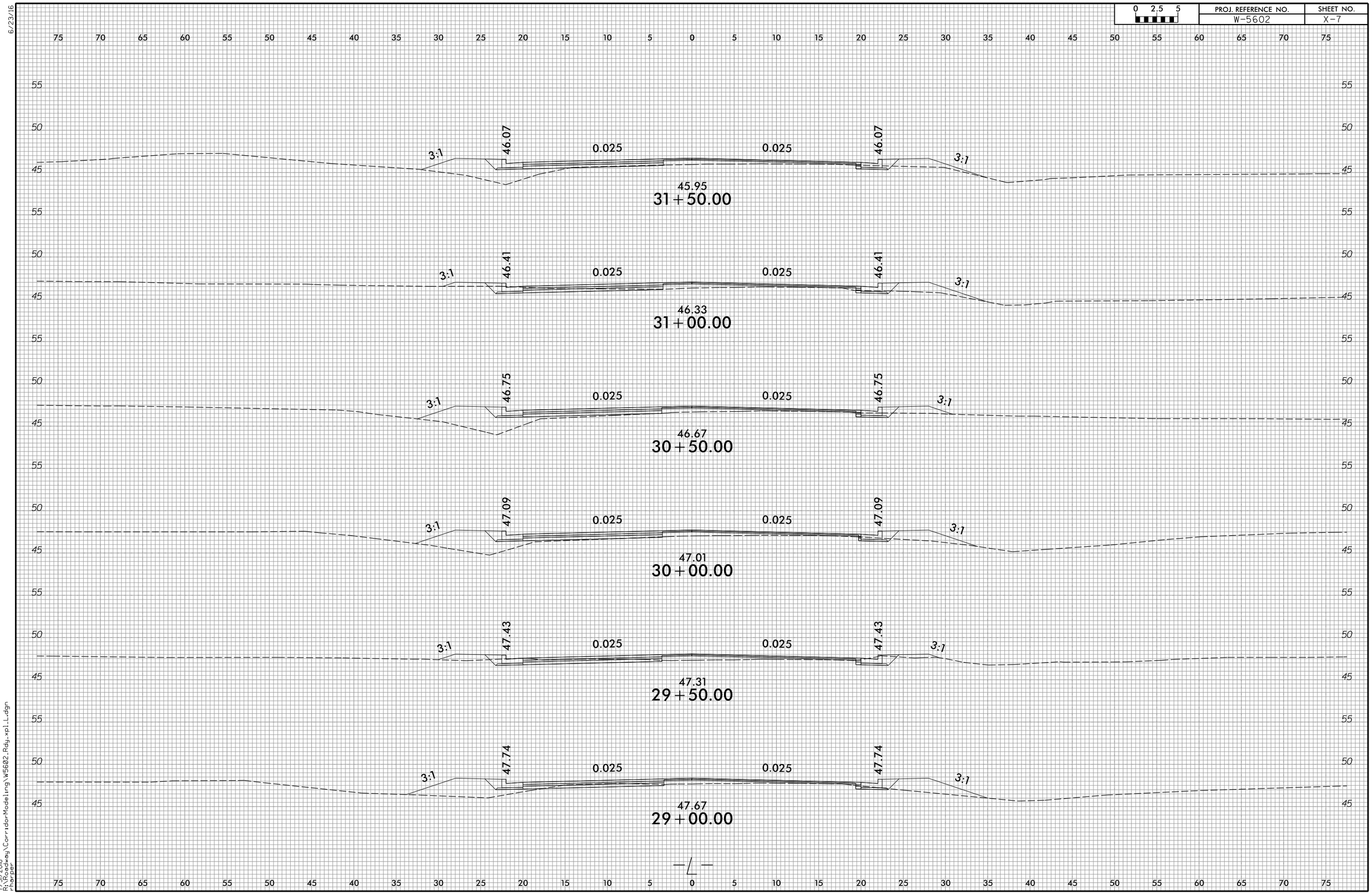


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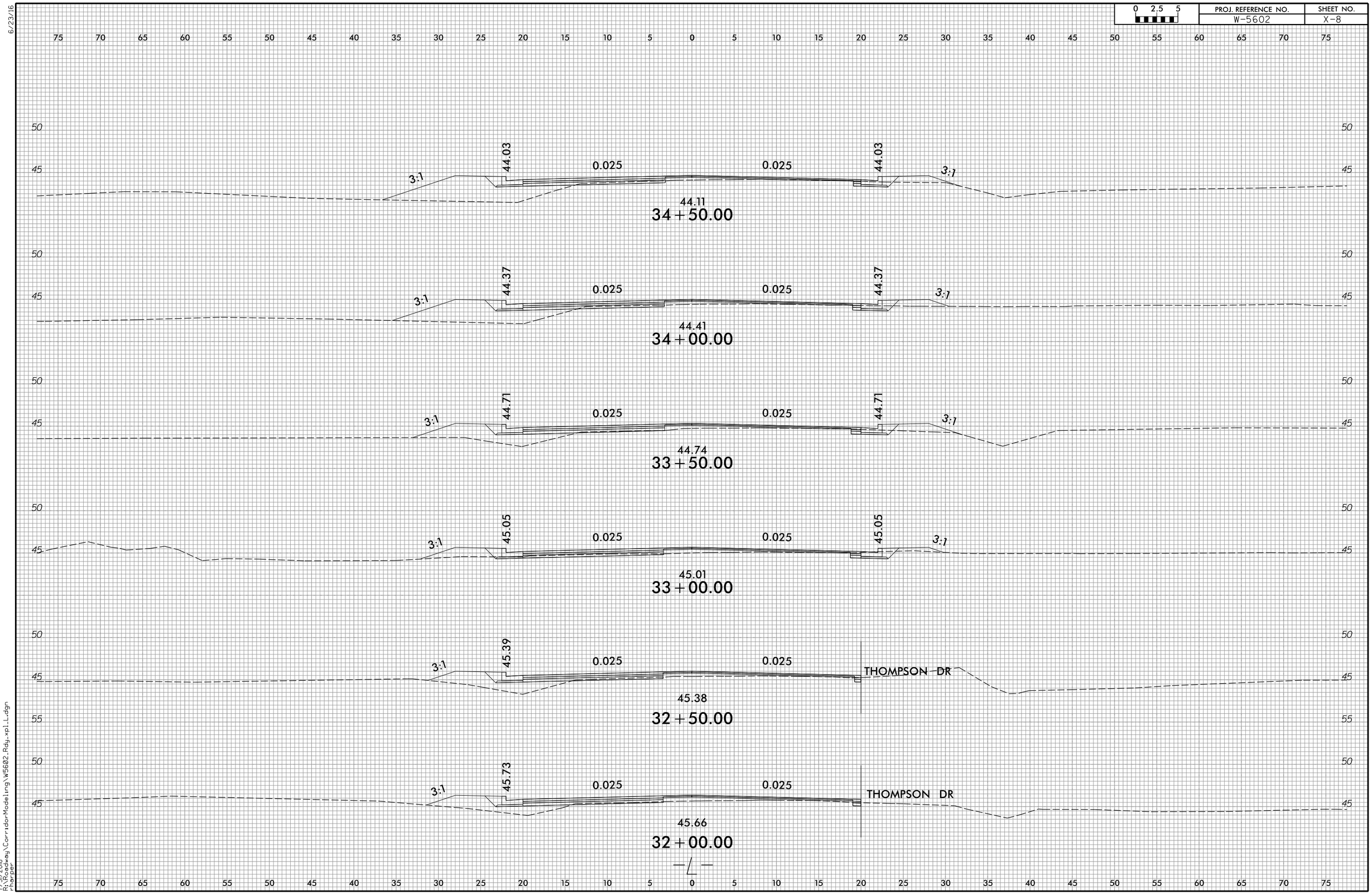


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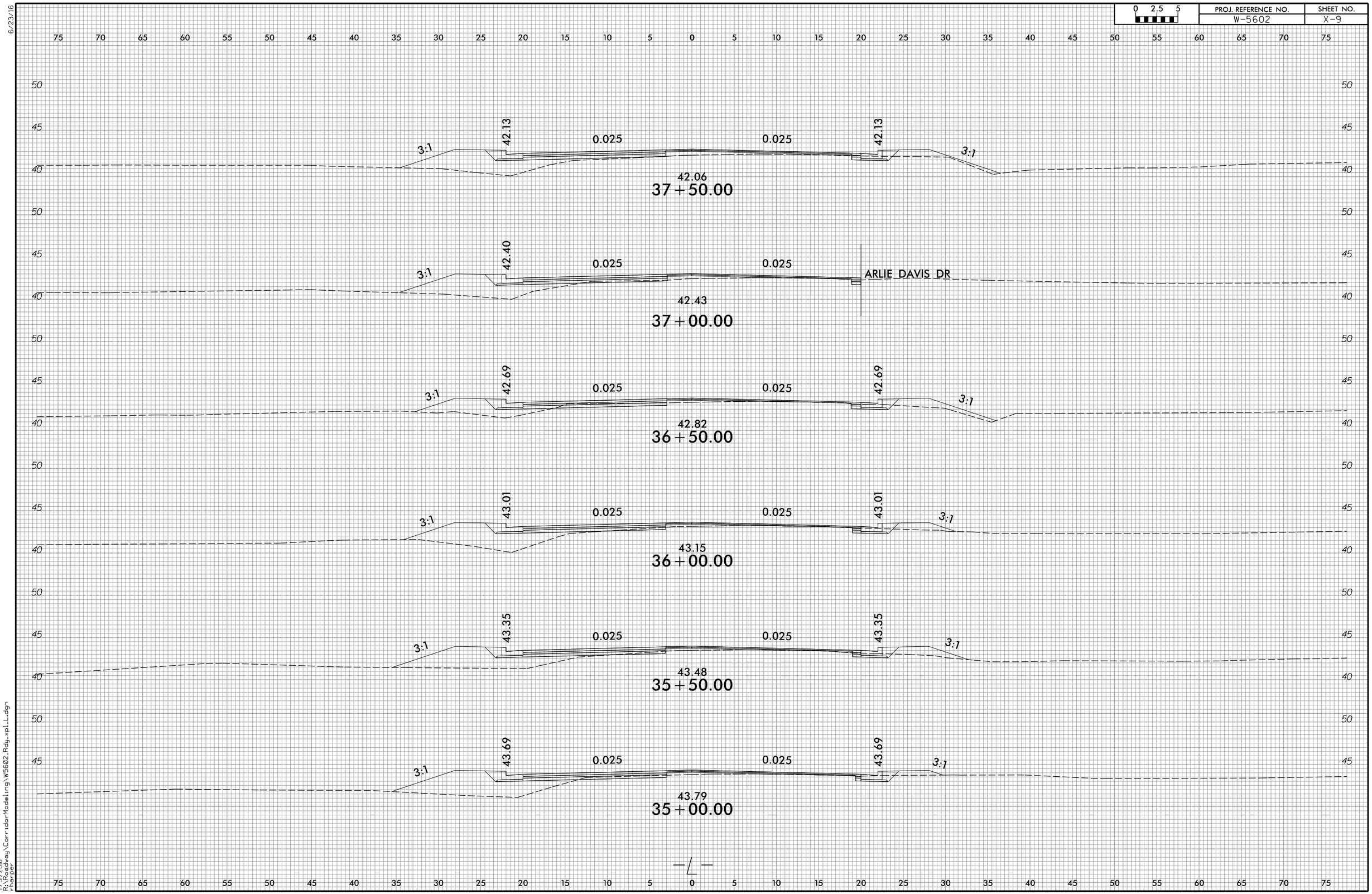


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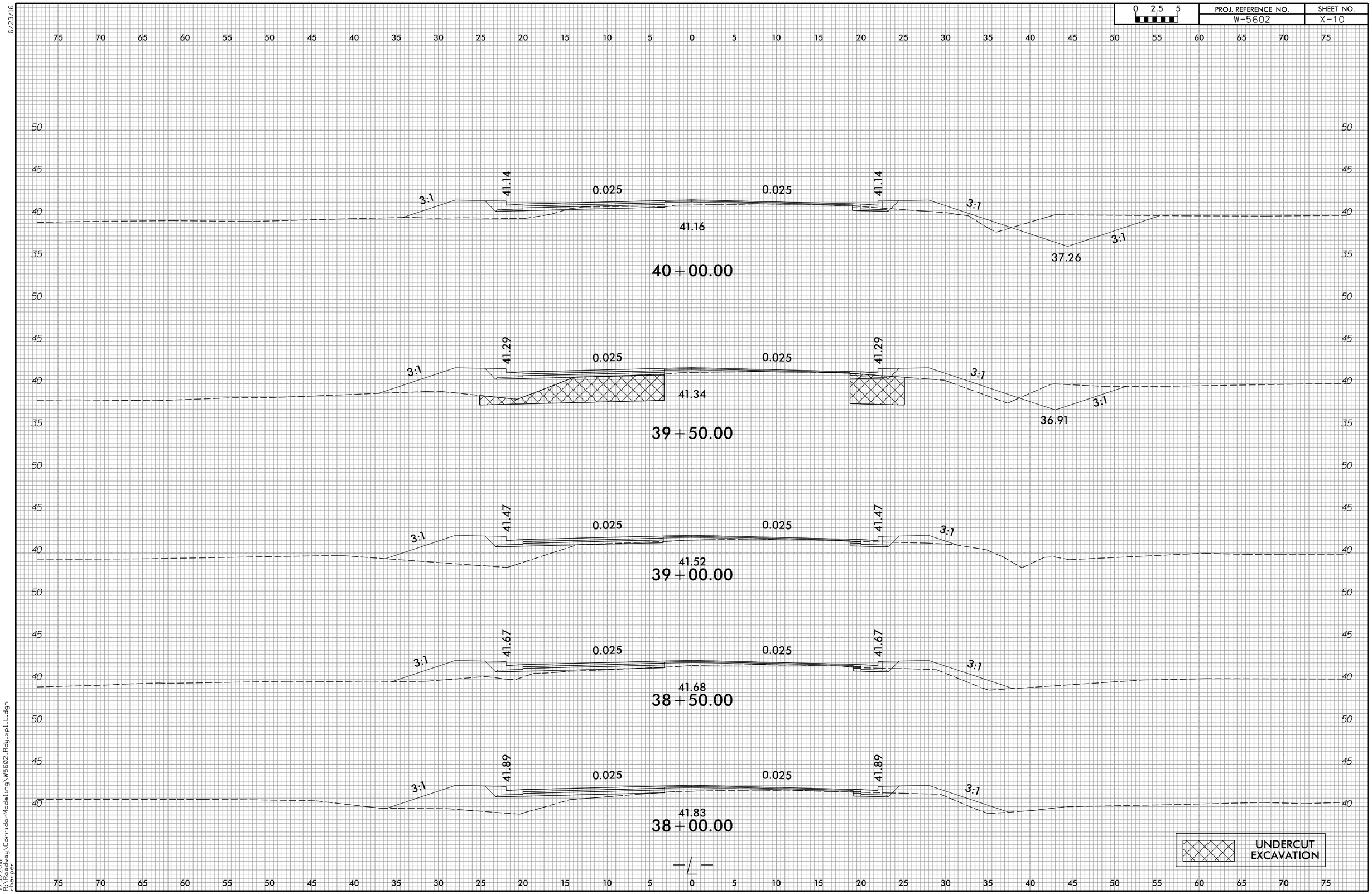


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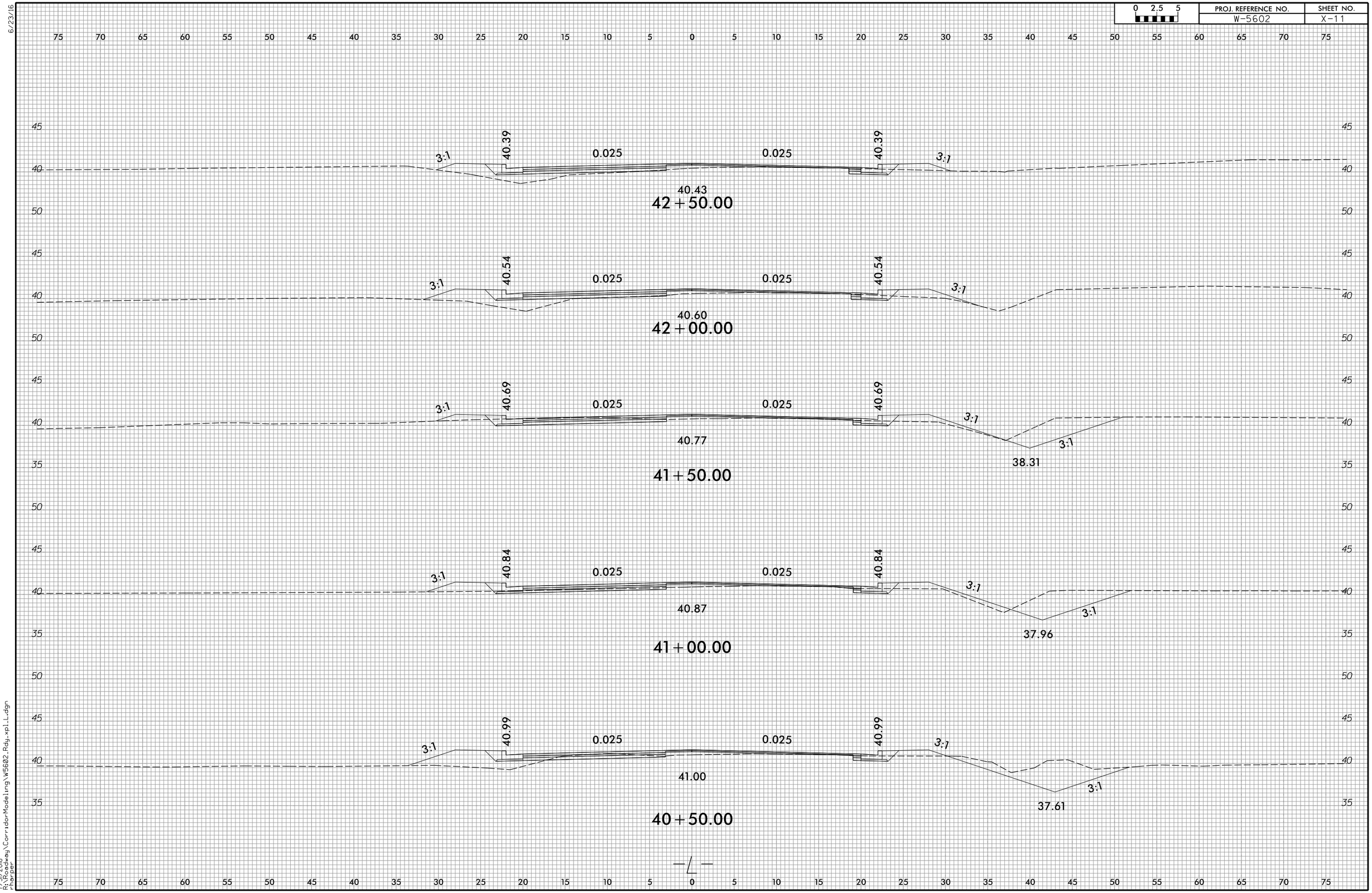


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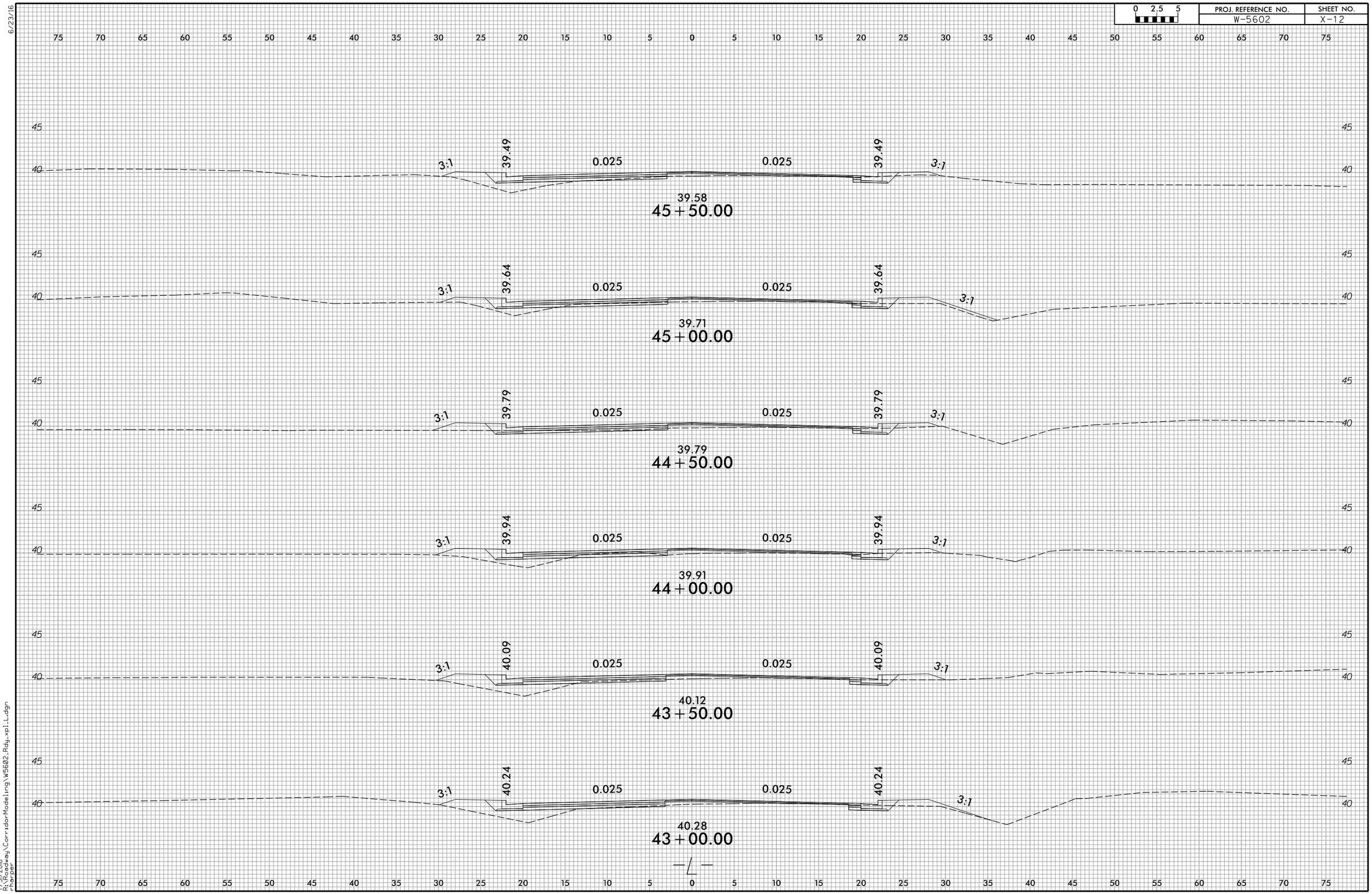


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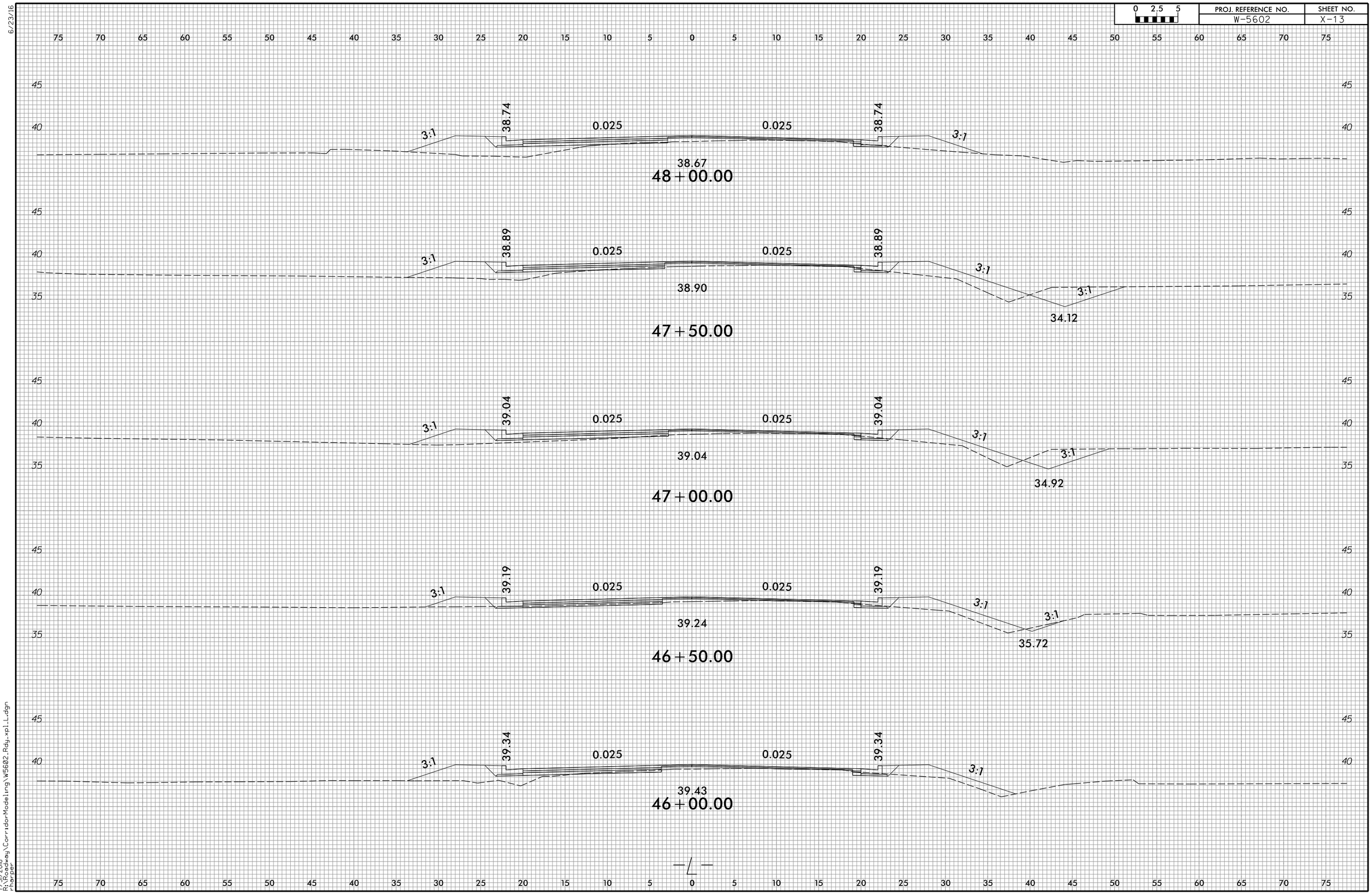


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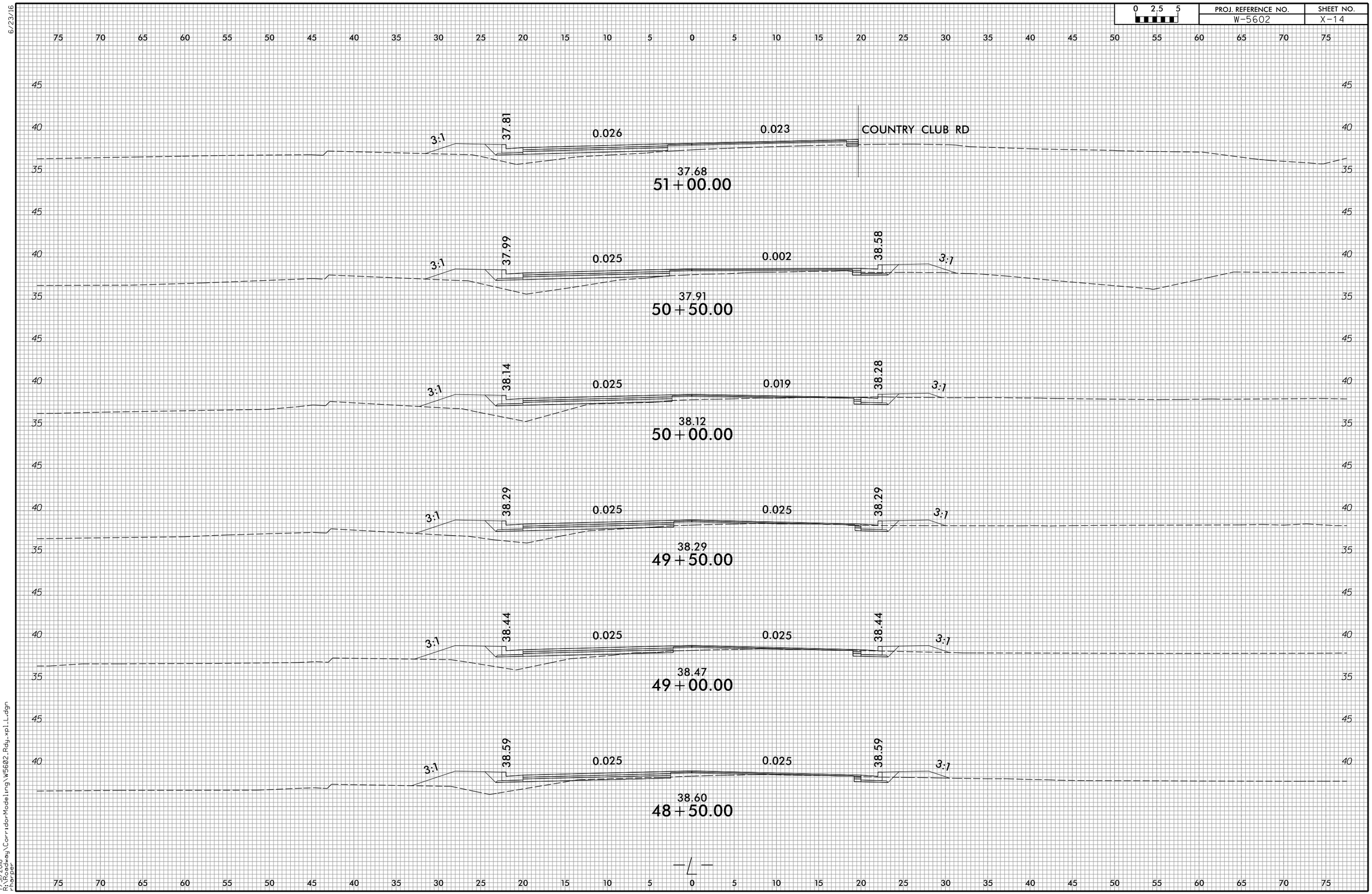


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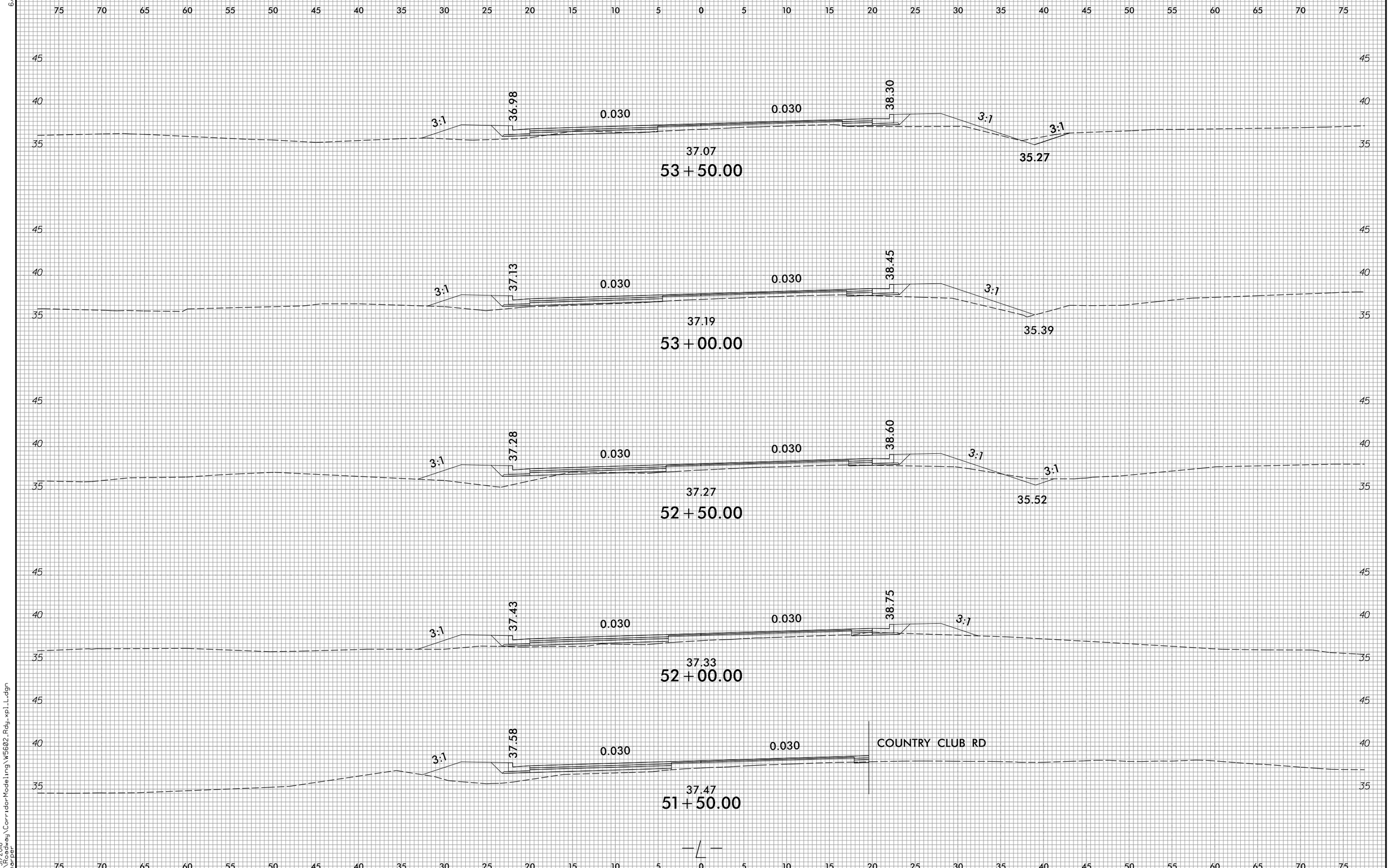


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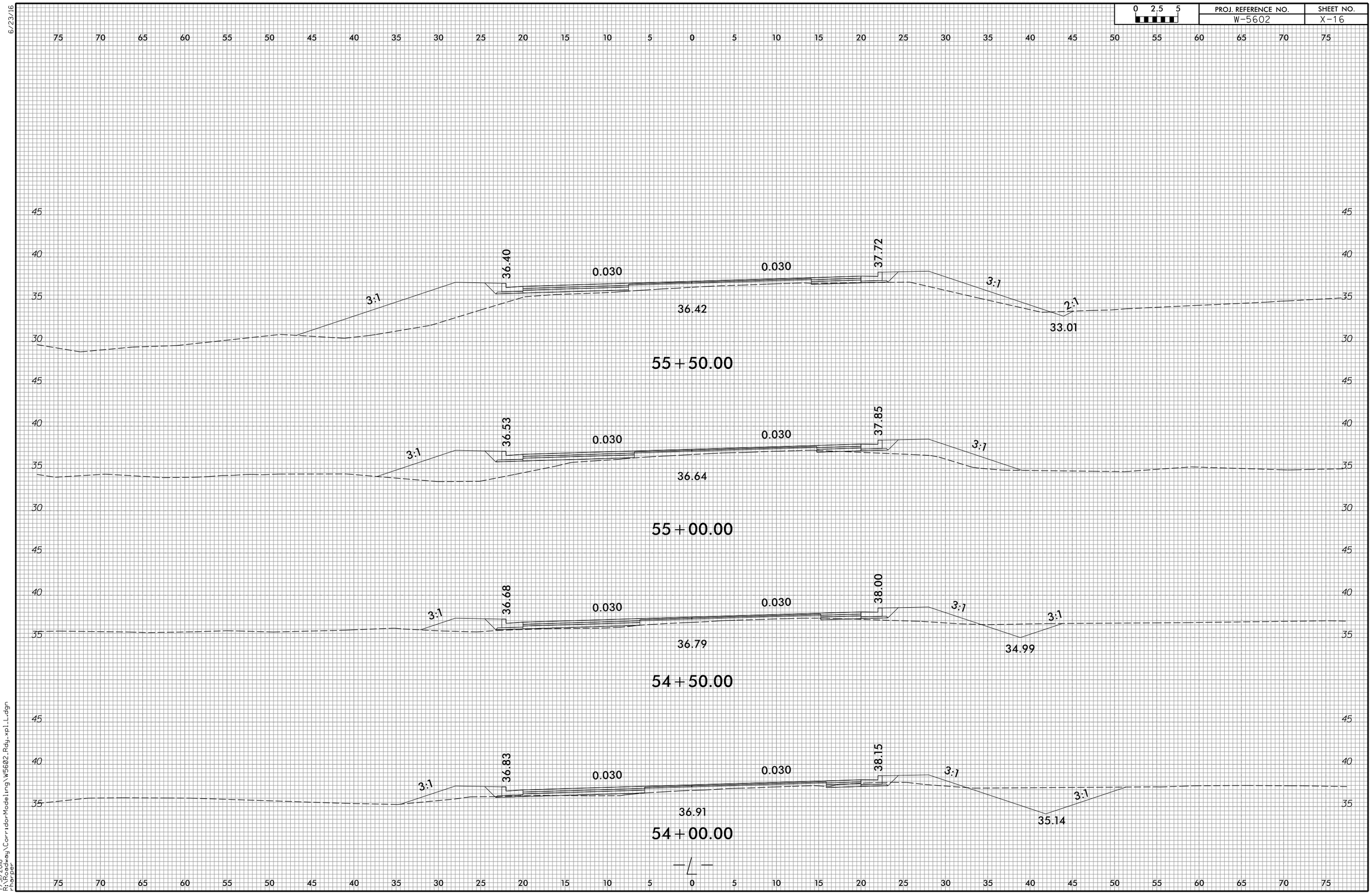


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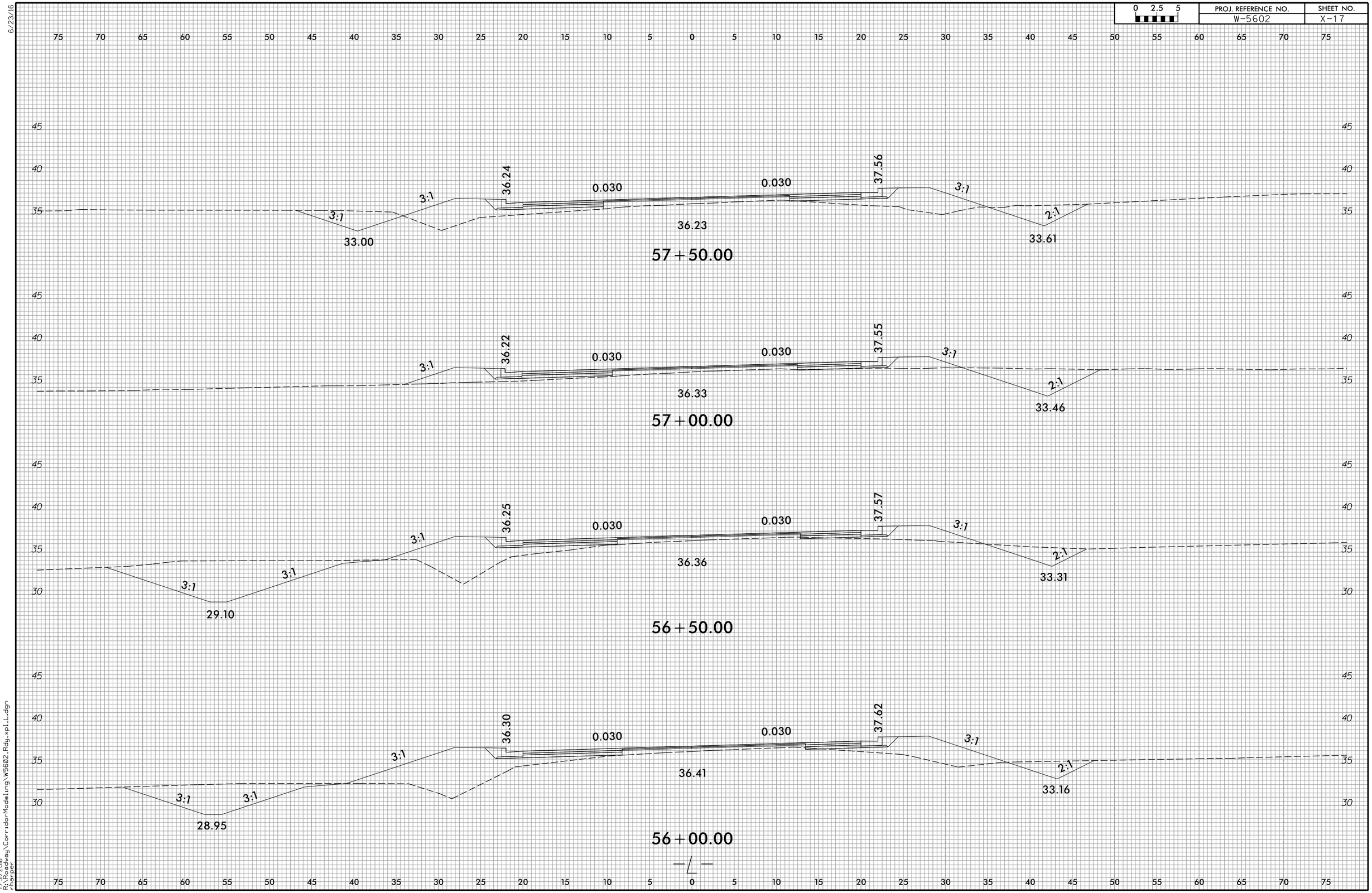


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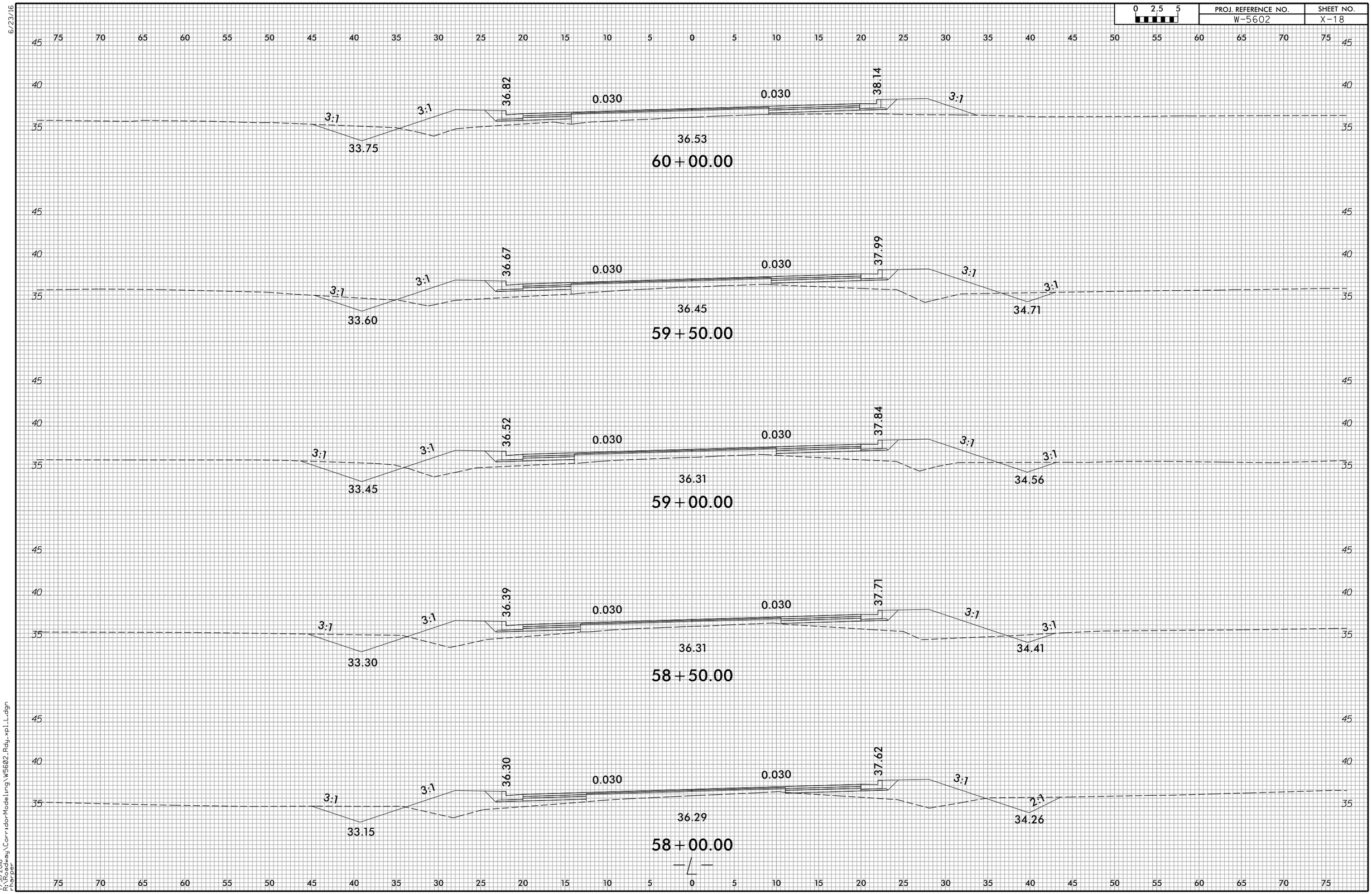


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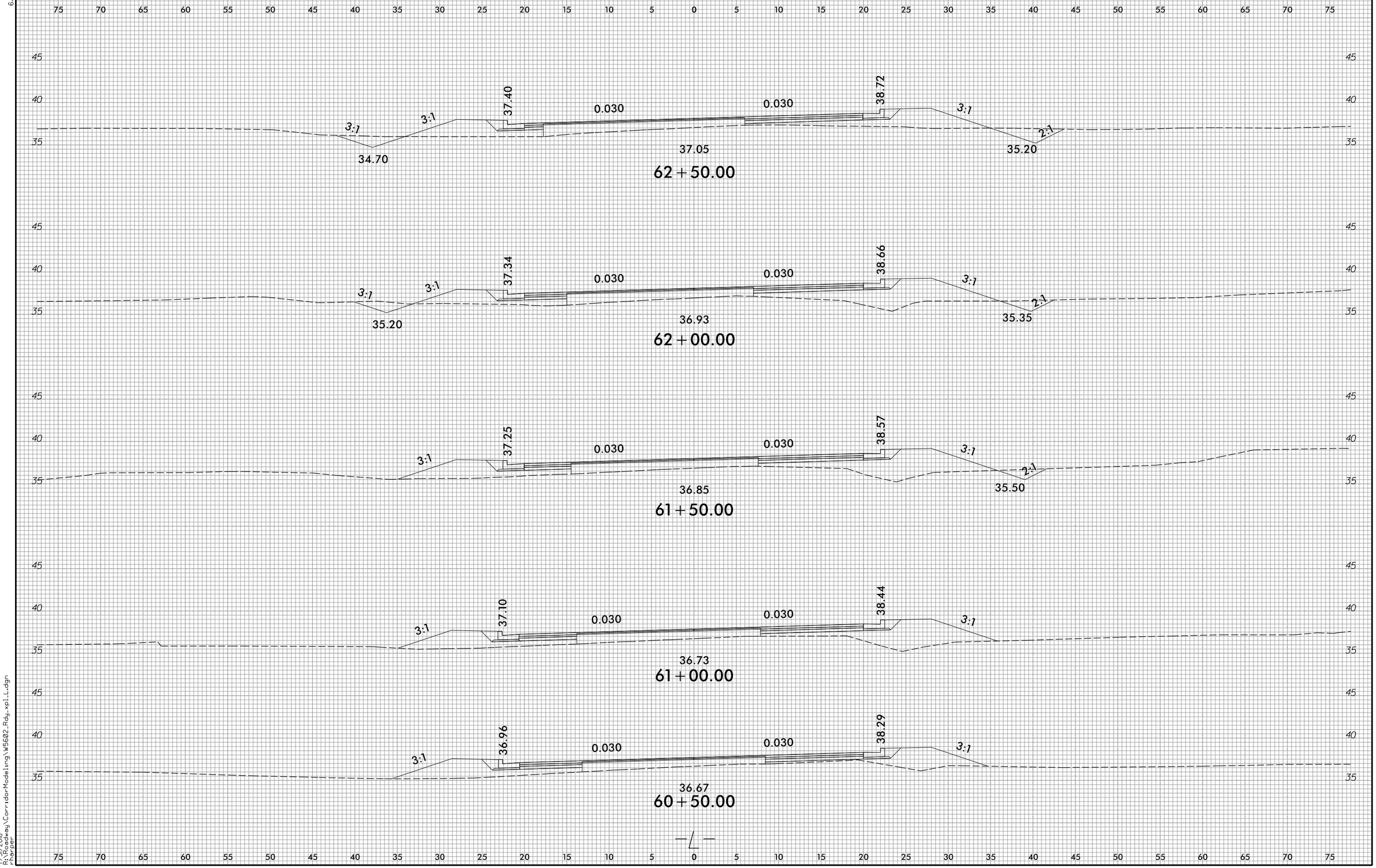


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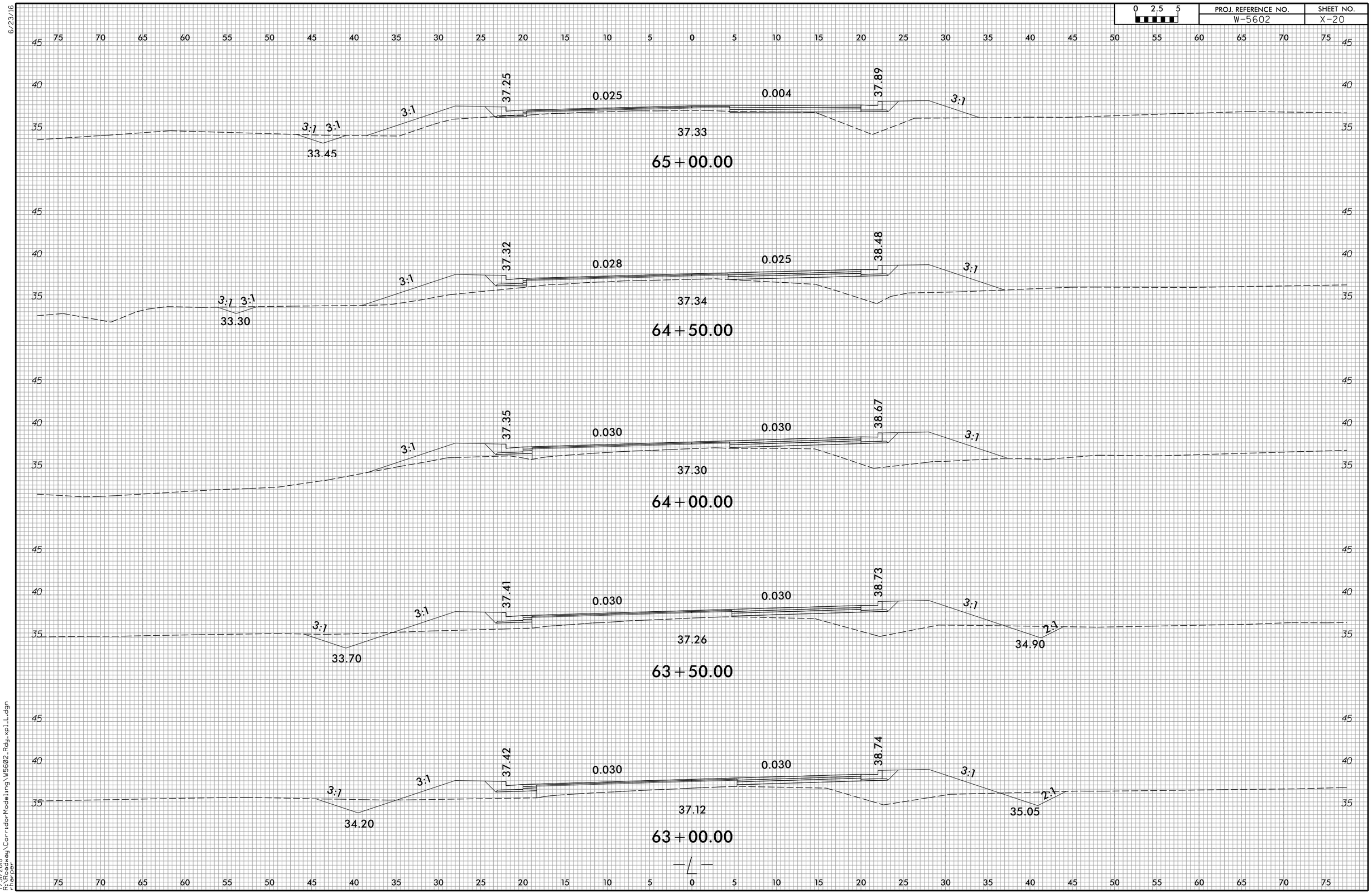


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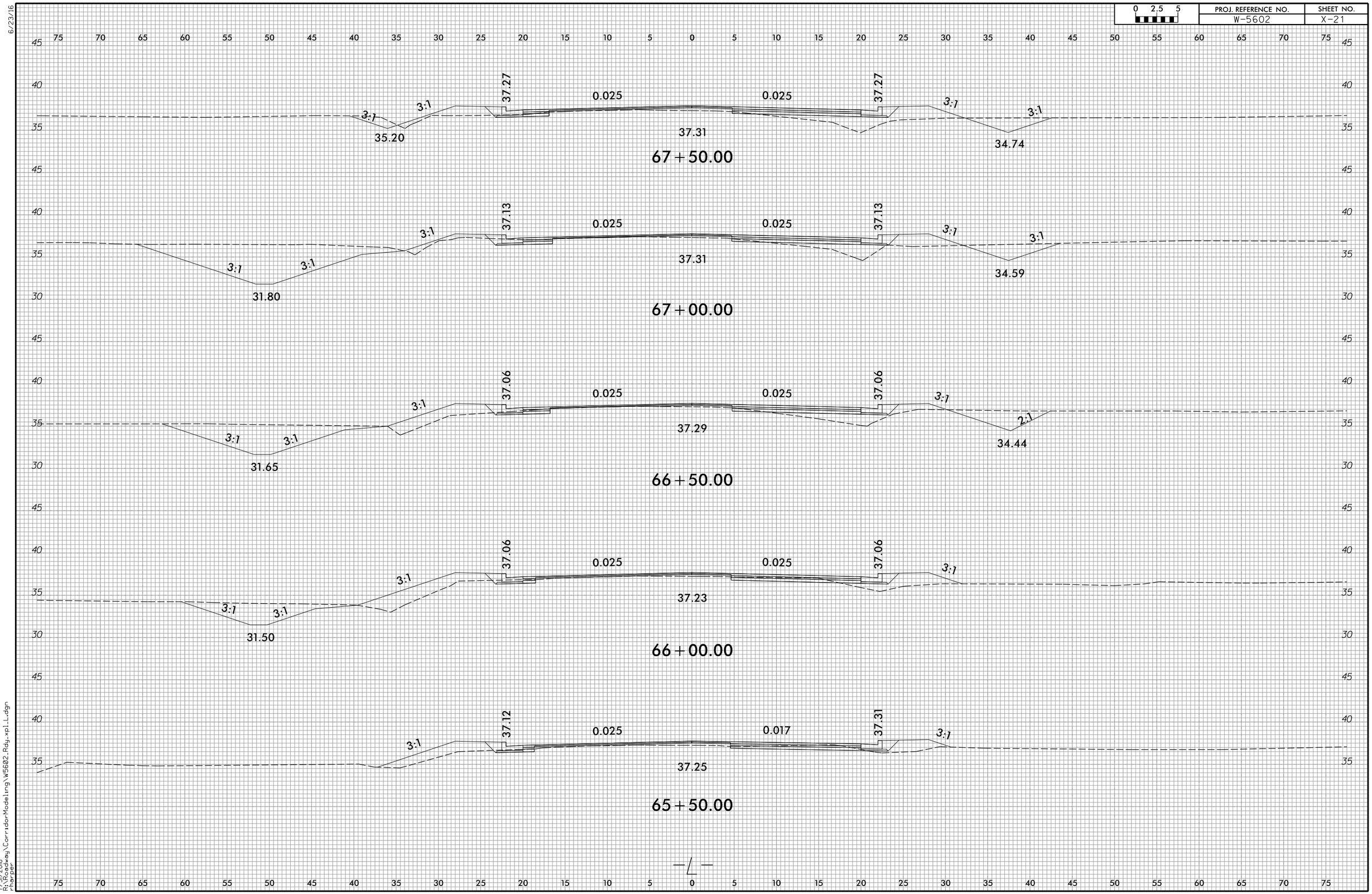


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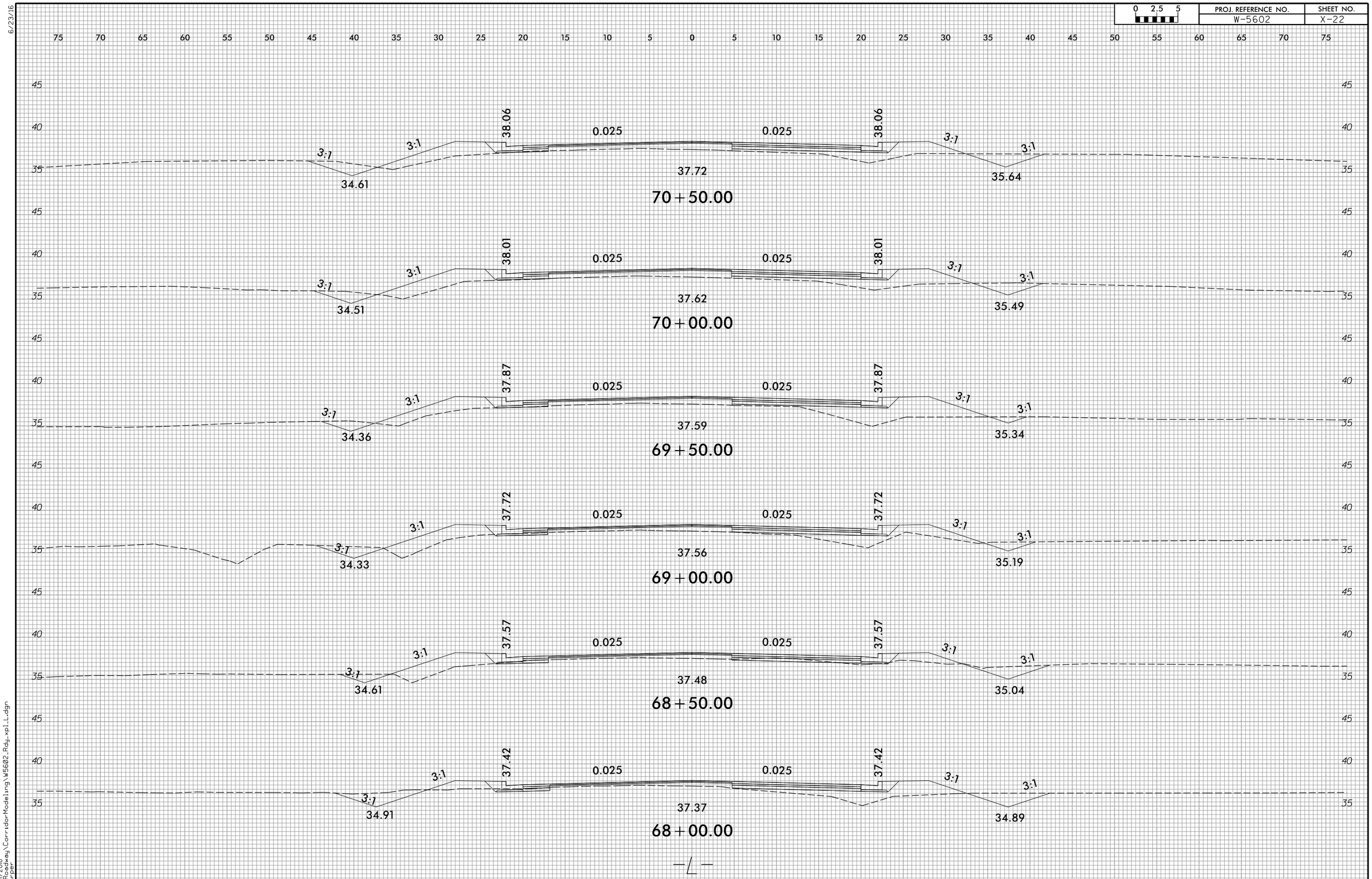


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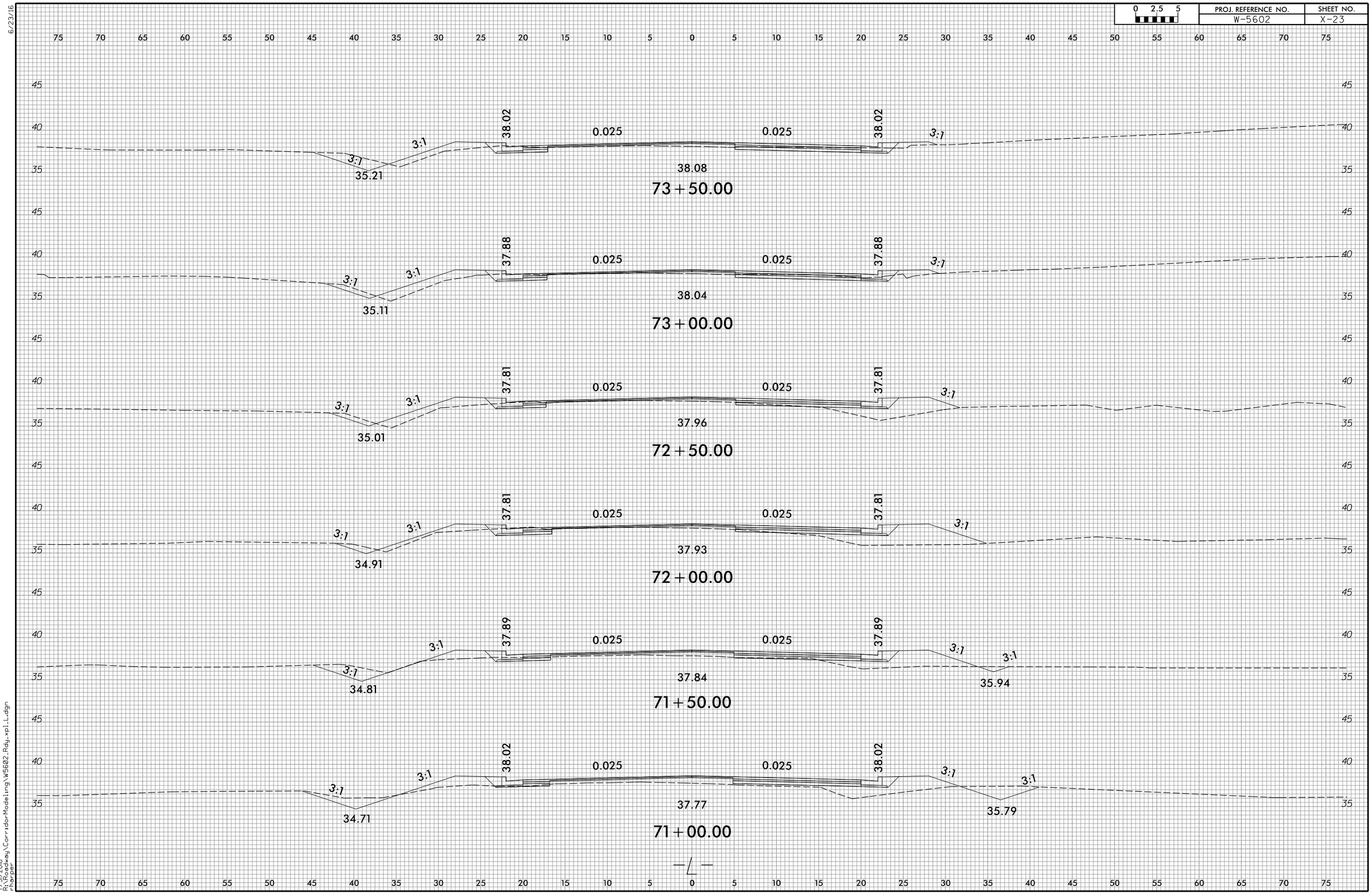


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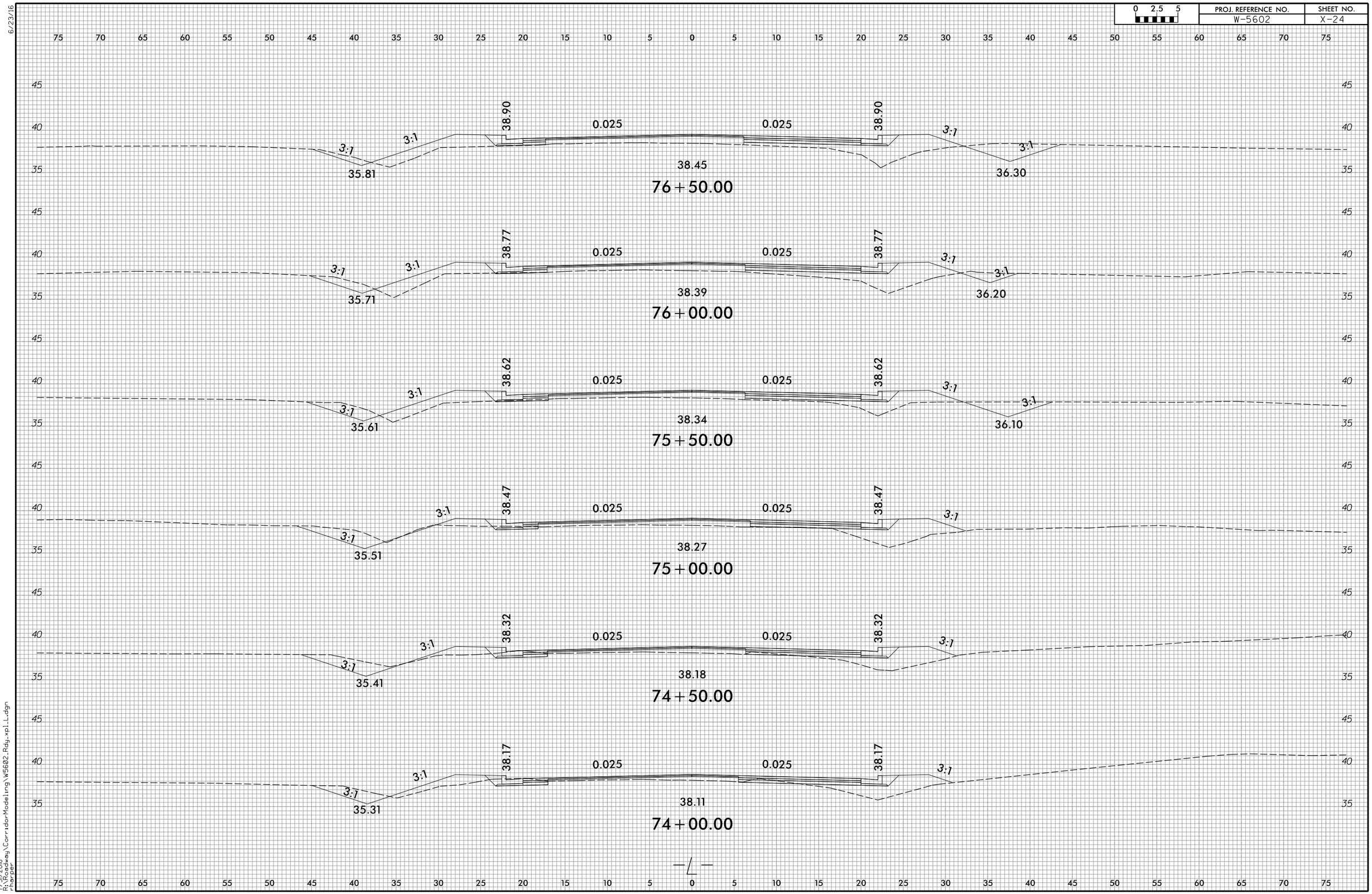


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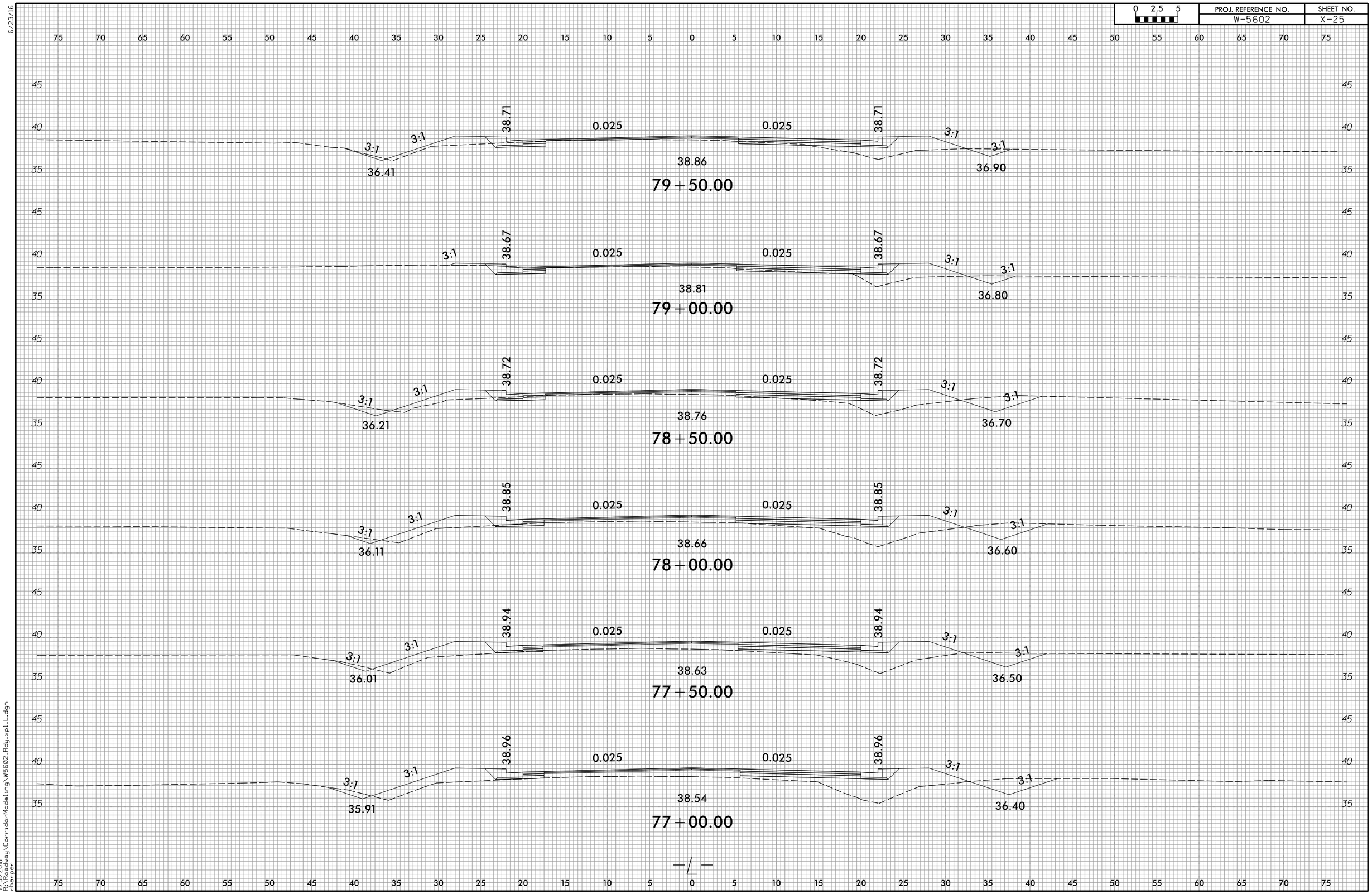
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-25 |

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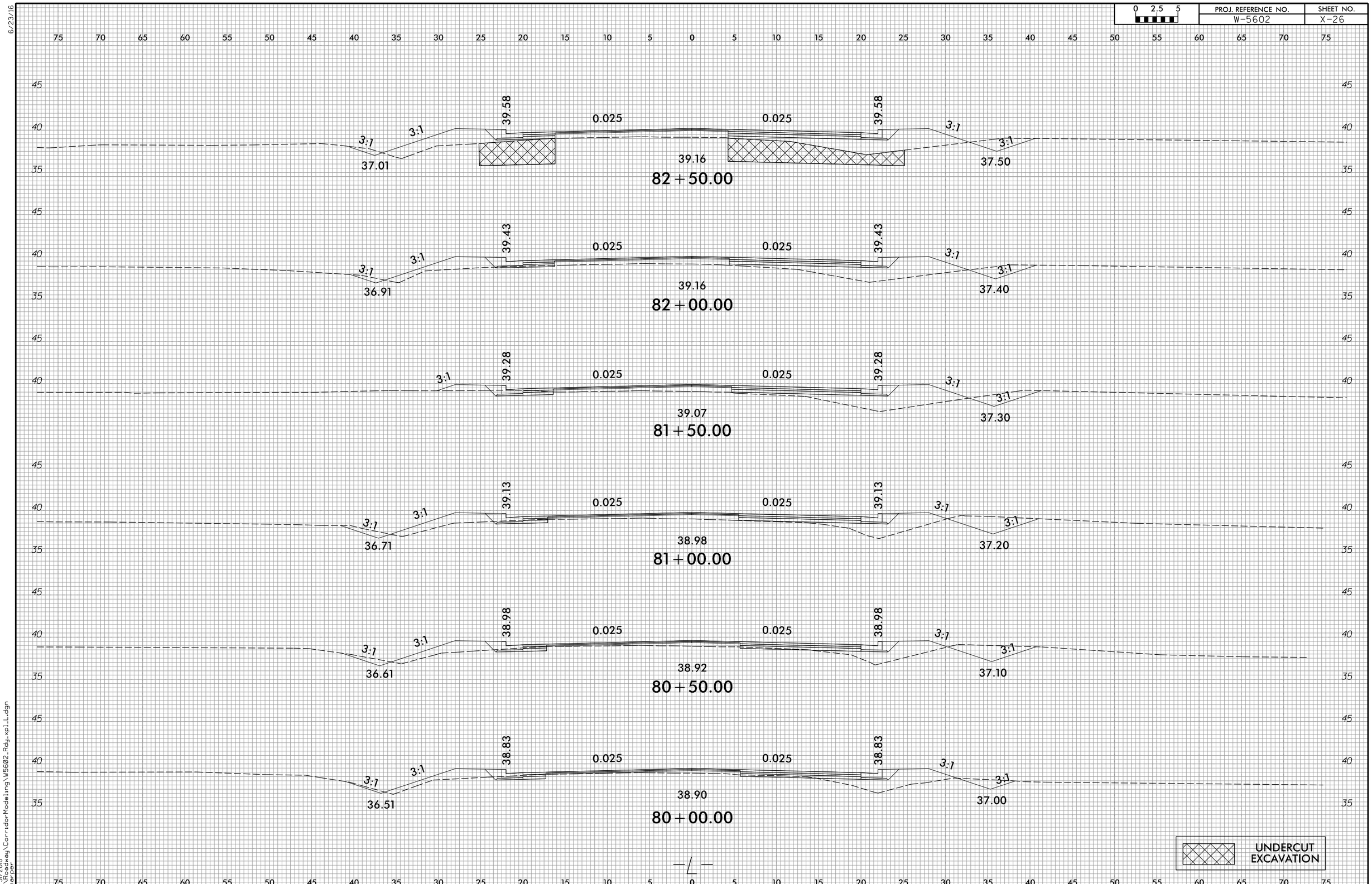
|---|---|---|
| | W-5602 | X-26 |

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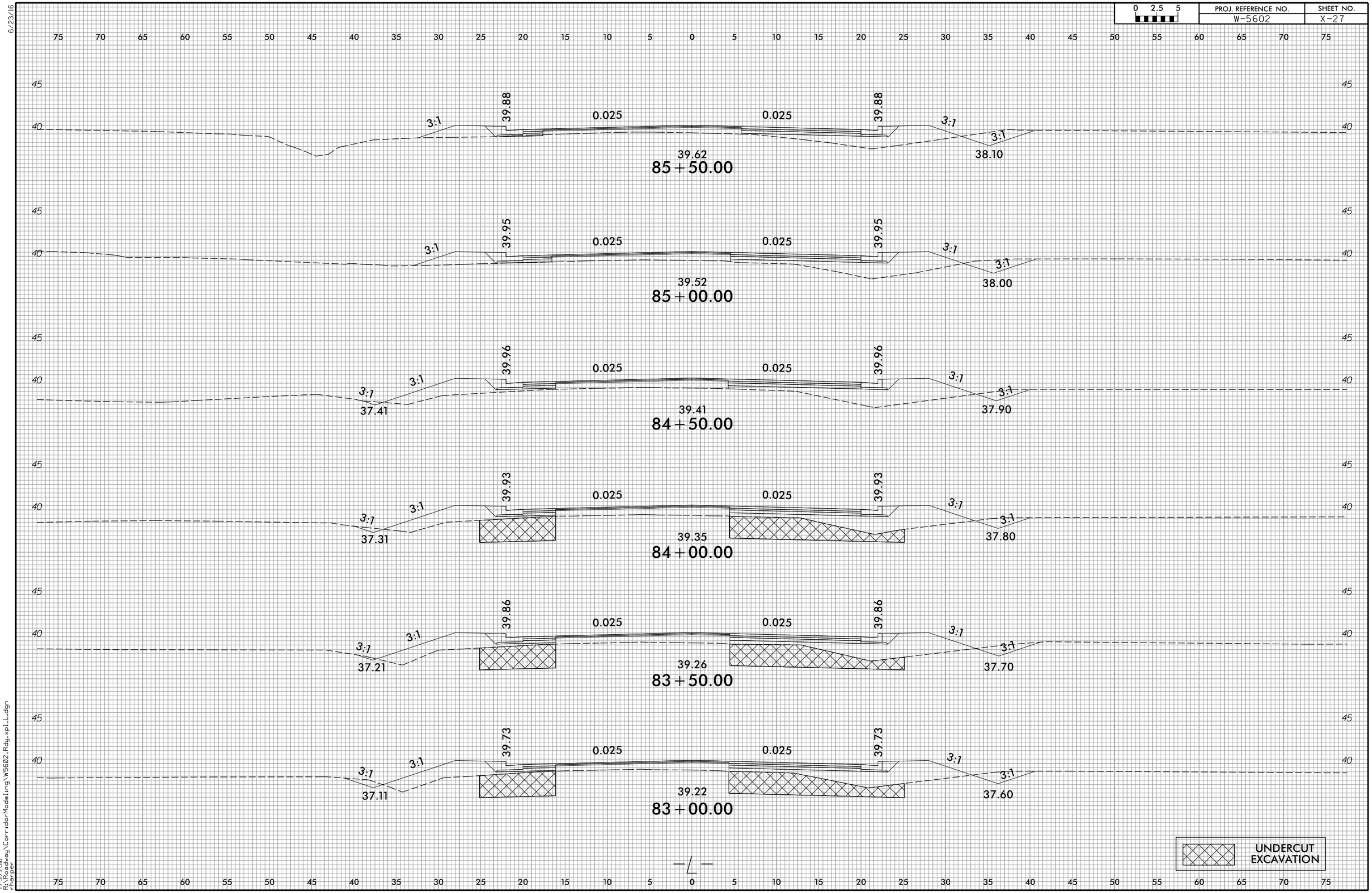
|---|---|---|
| | W-5602 | X-27 |

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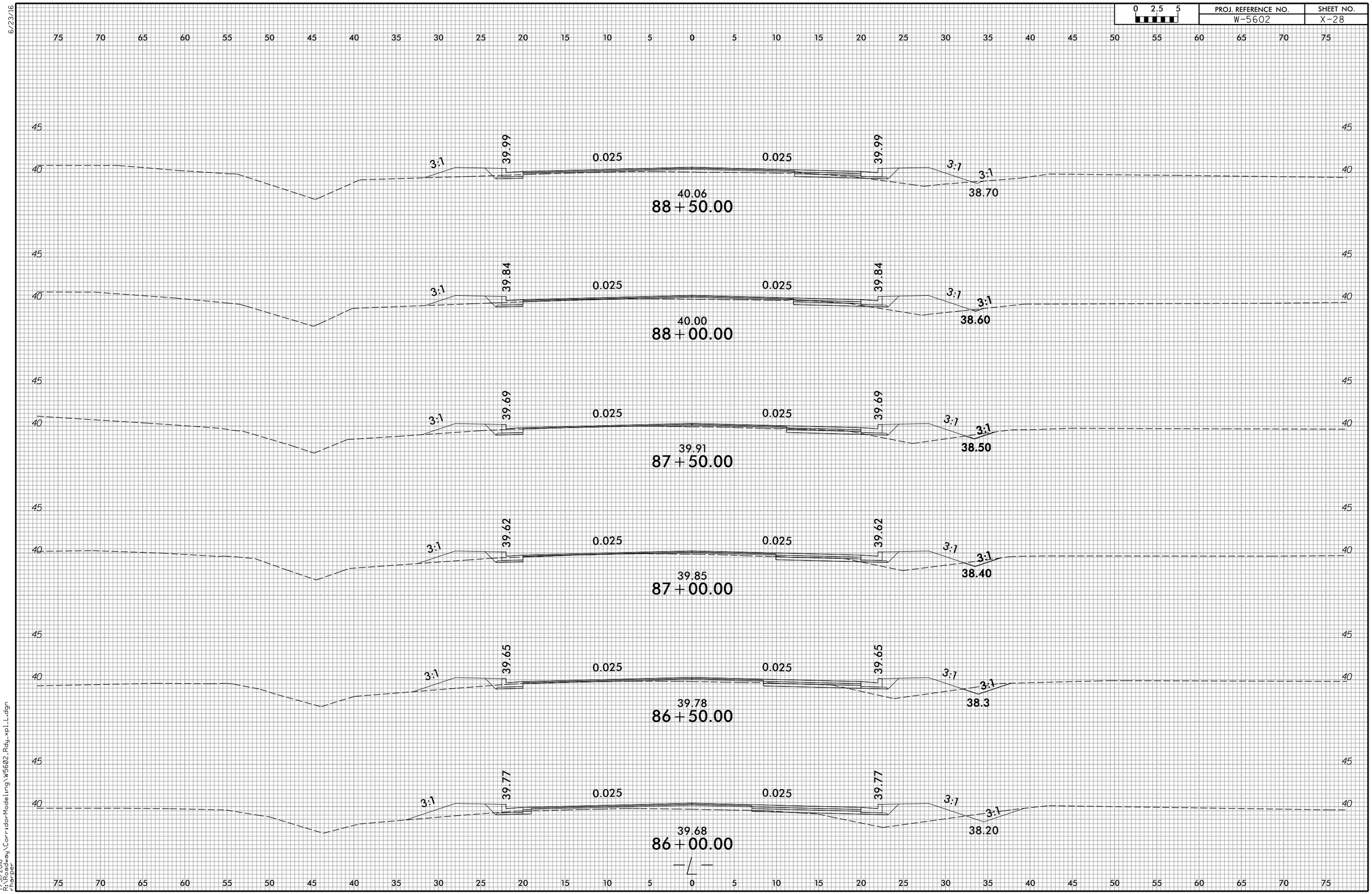
| | W-5602 | X-28 |

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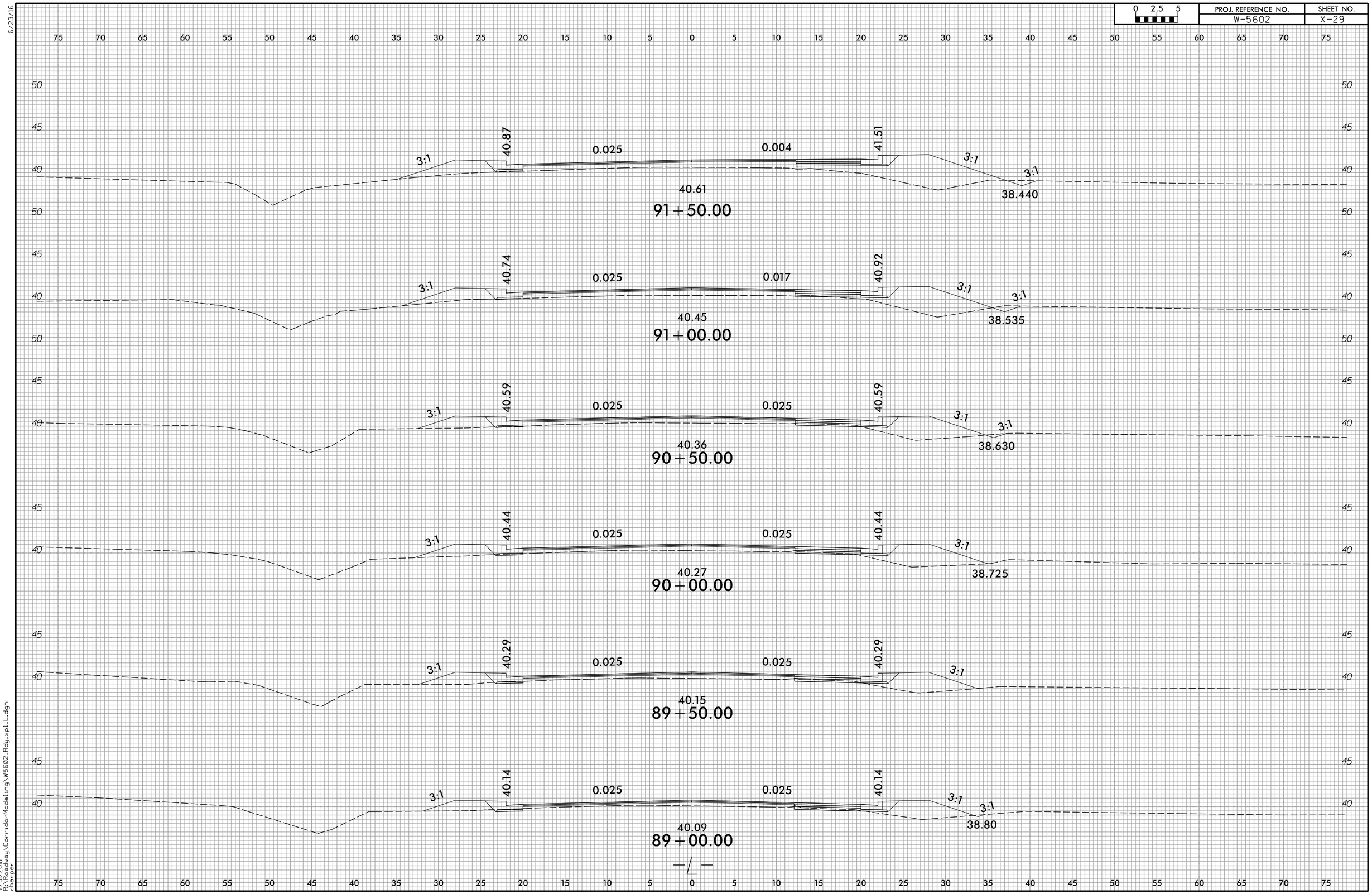
|---|---|---|
| | W-5602 | X-29 |

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| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
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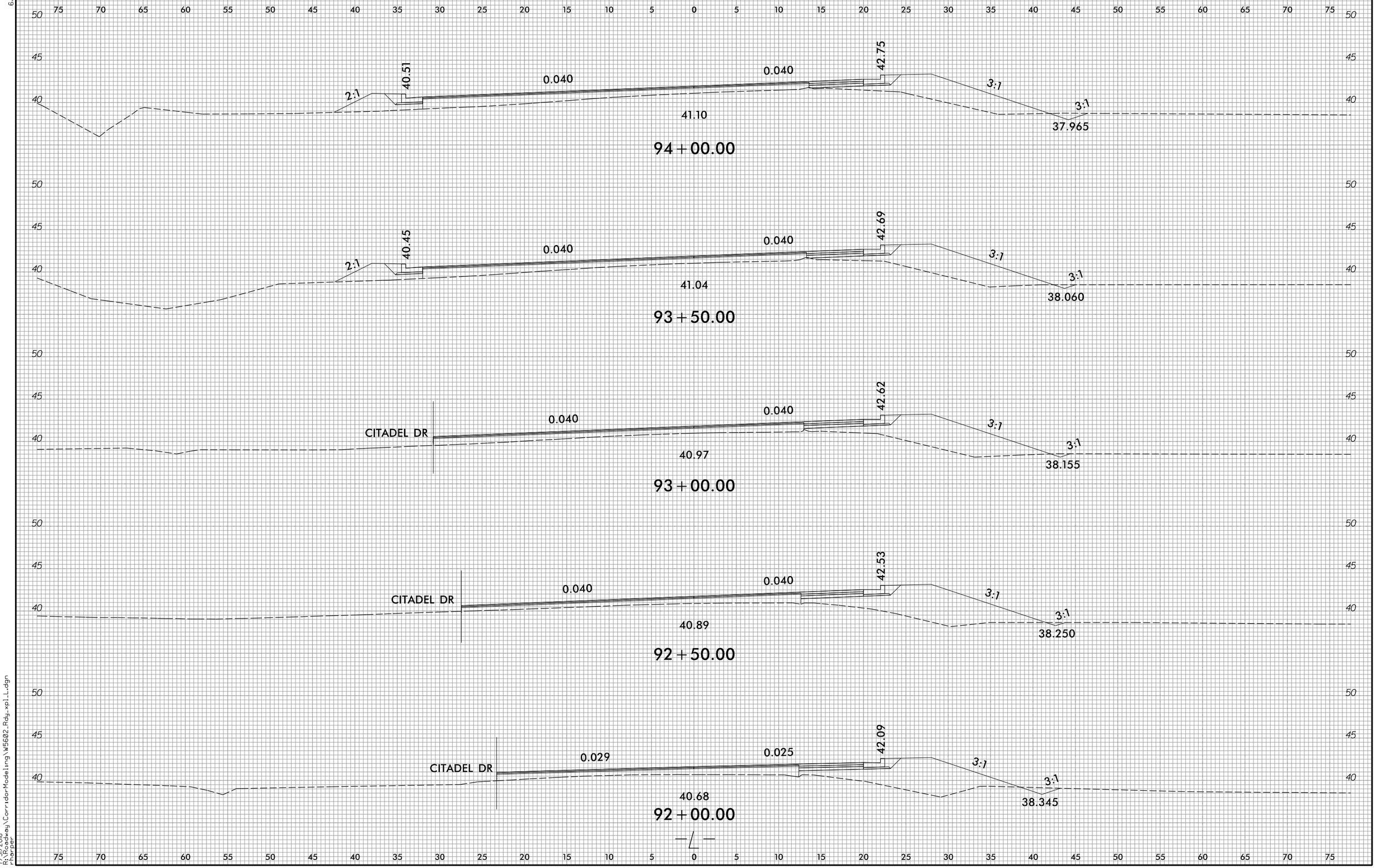
| | W-5602 | X-30 |

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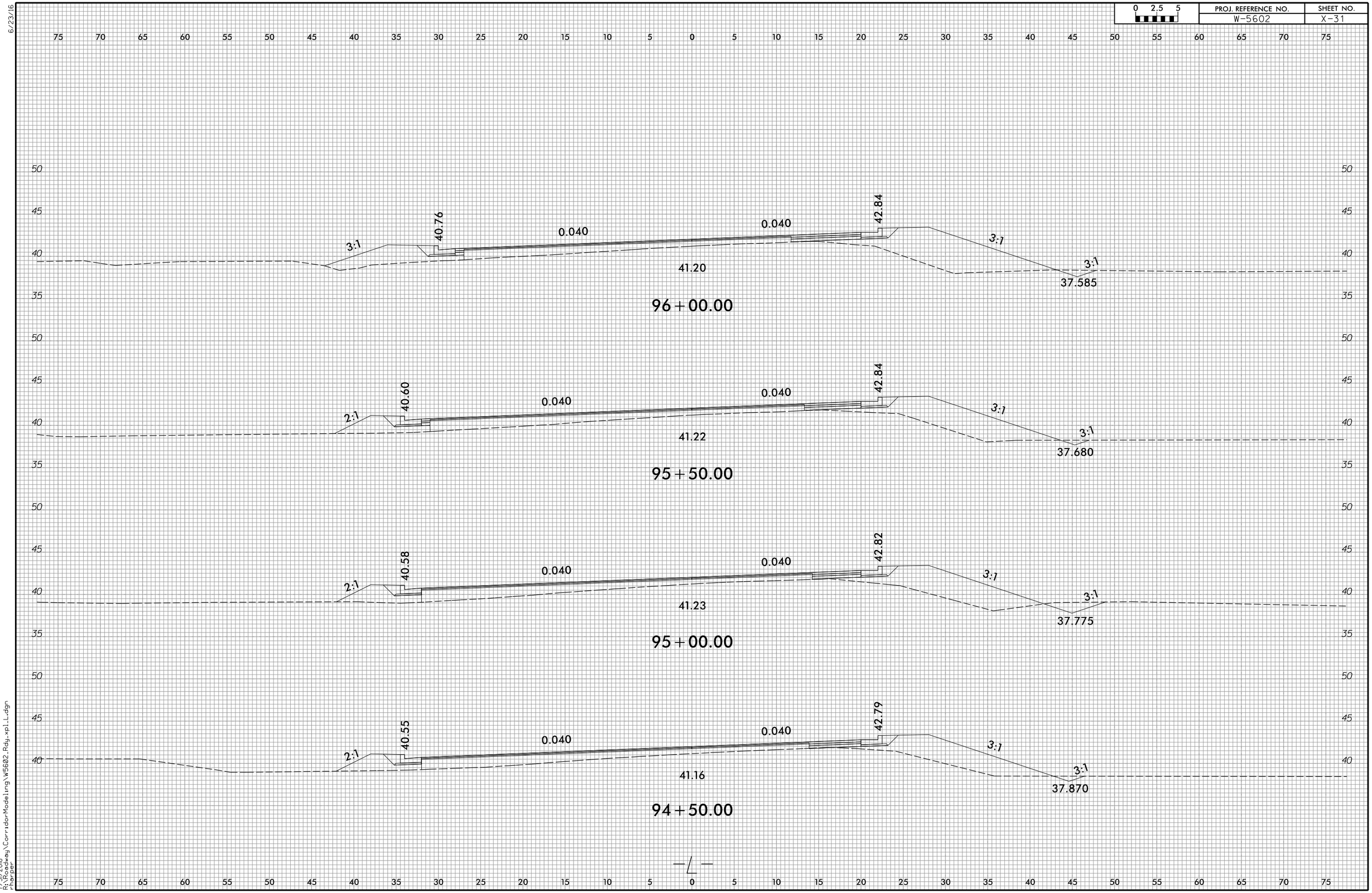
| | W-5602 | X-31 |

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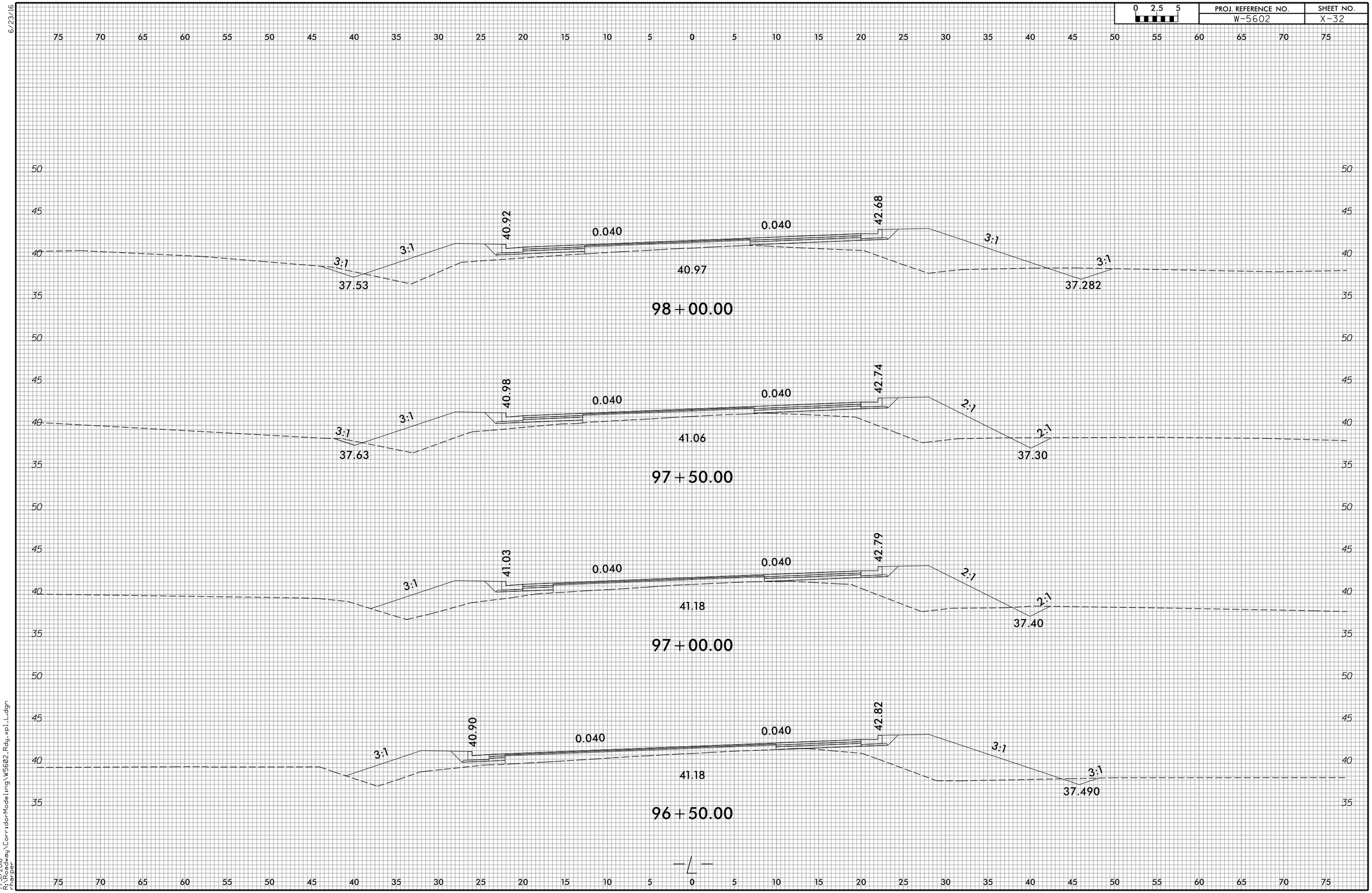
| | W-5602 | X-32 |

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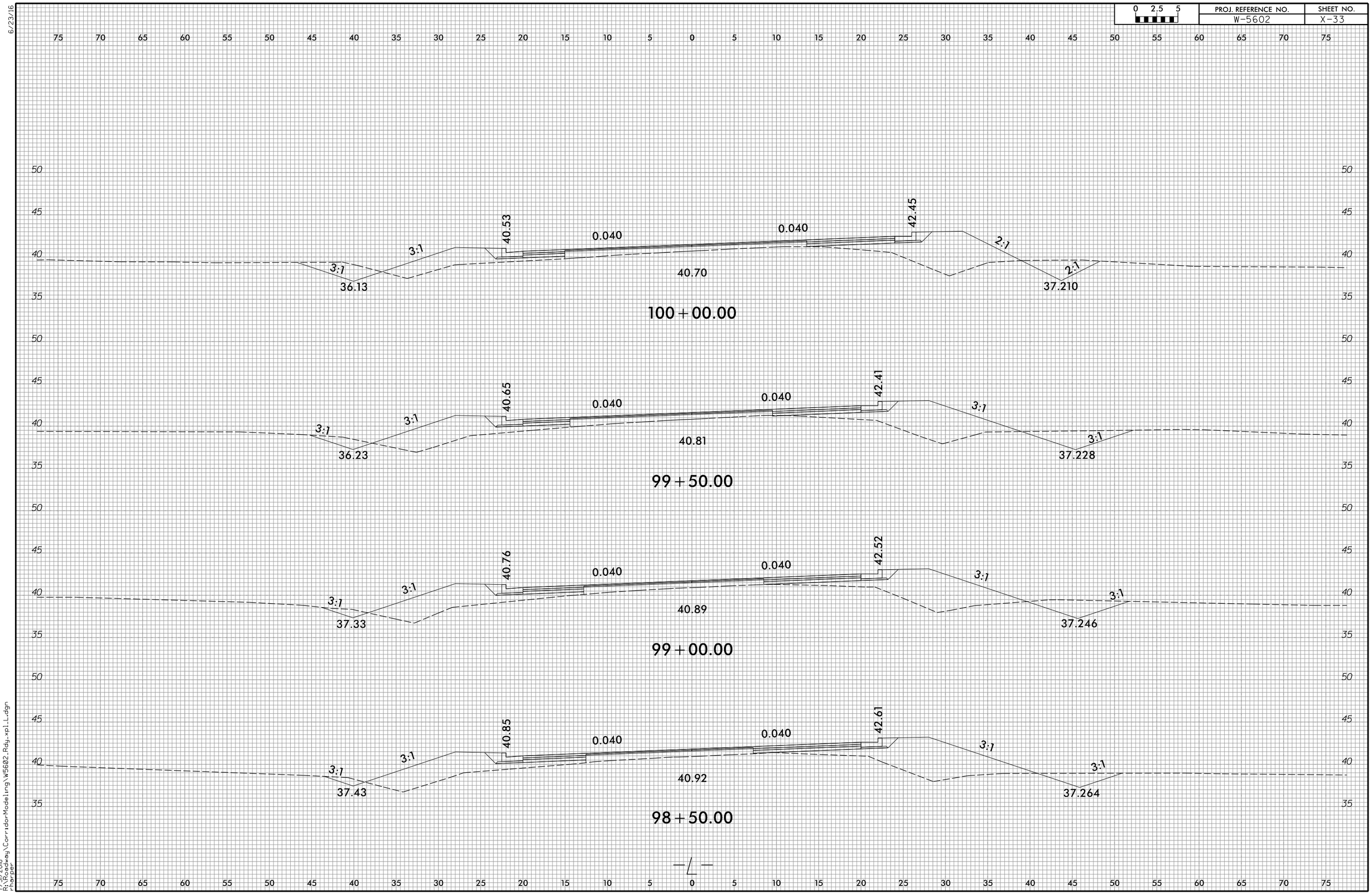
|---|---|---|
| | W-5602 | X-33 |

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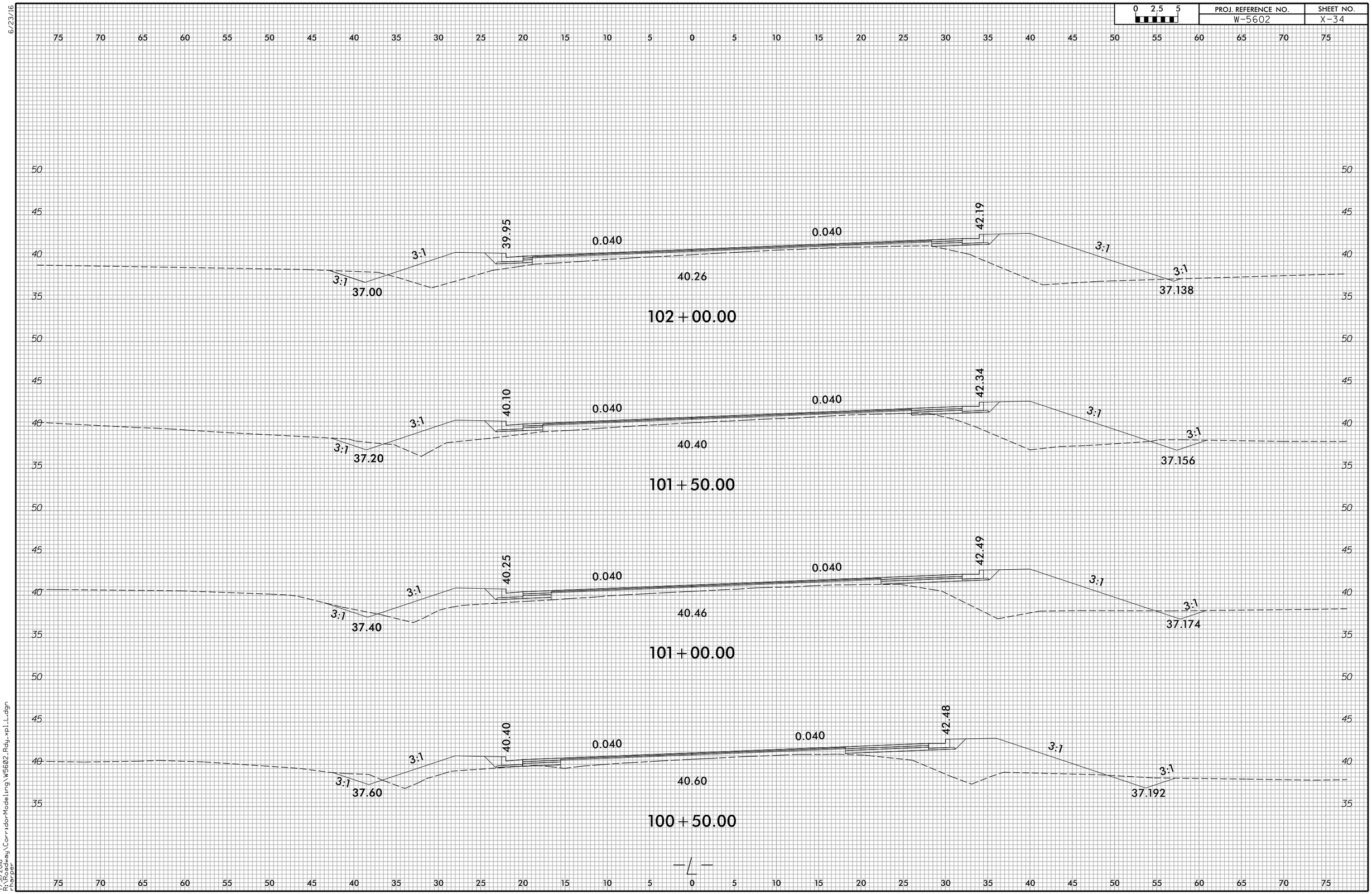
|---|---|---|
| | W-5602 | X-34 |

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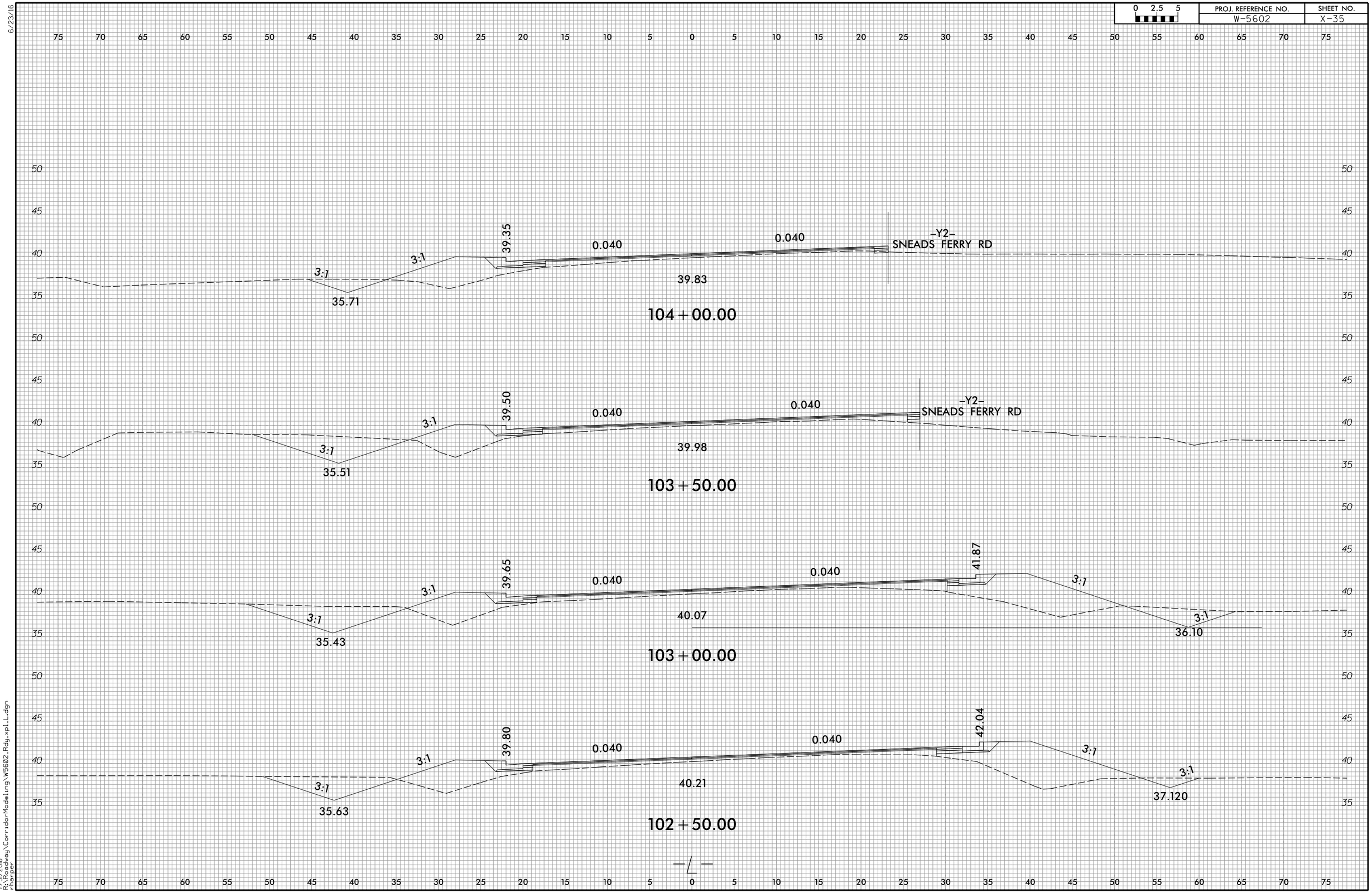
|---|---|---|
| | W-5602 | X-35 |

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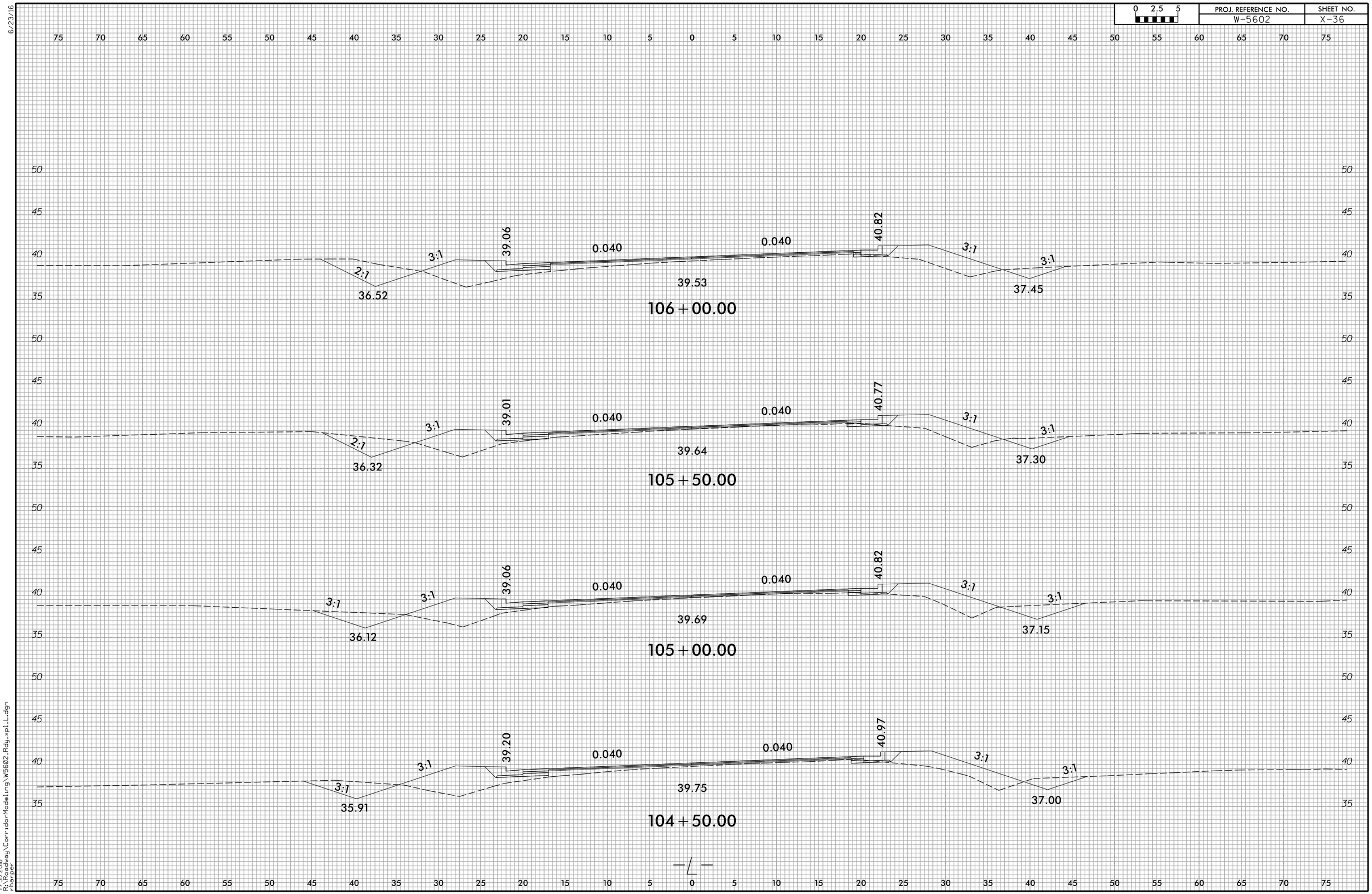
|---|---|---|
| | W-5602 | X-36 |

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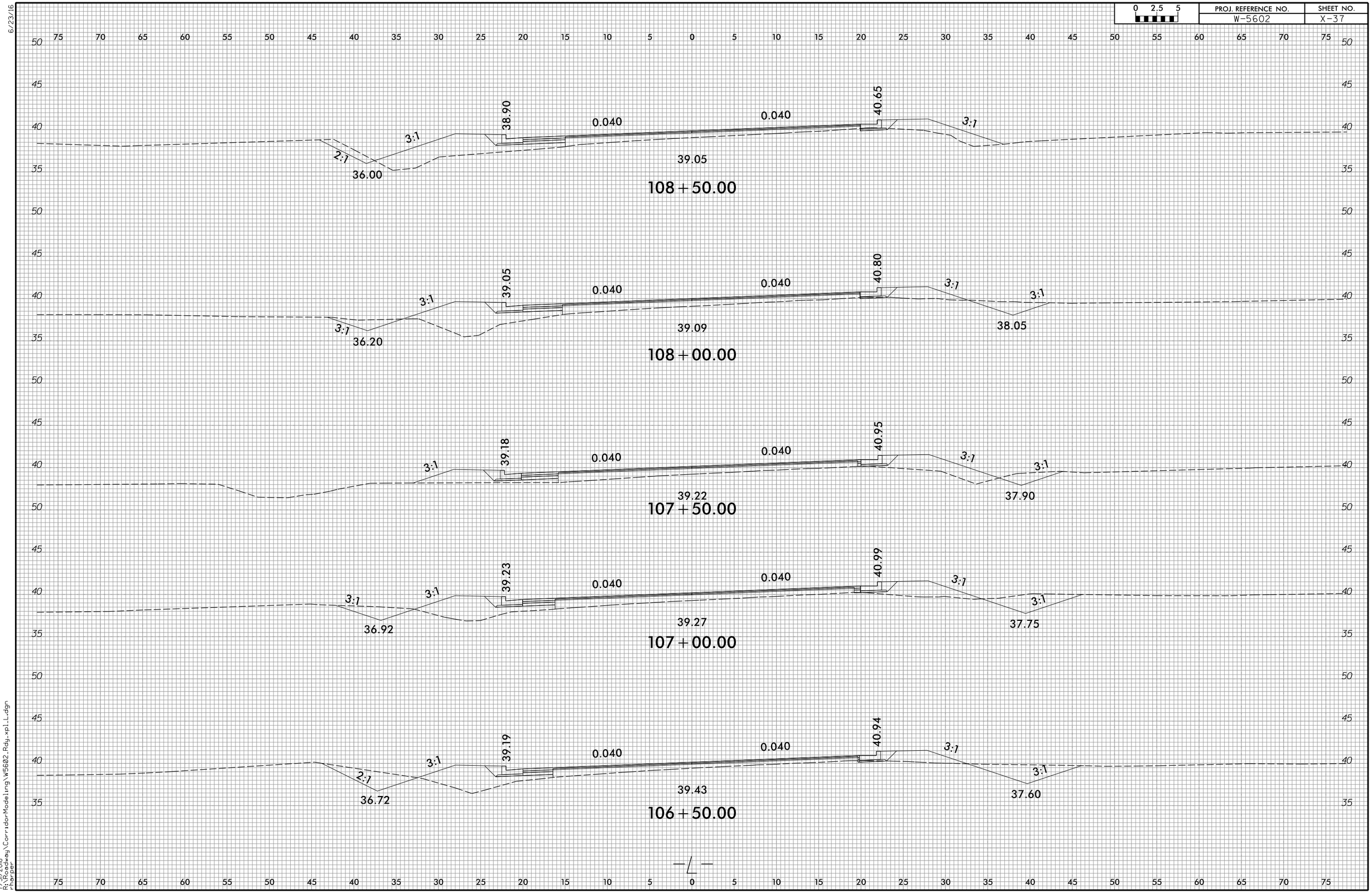
|---|---|---|
| | W-5602 | X-37 |

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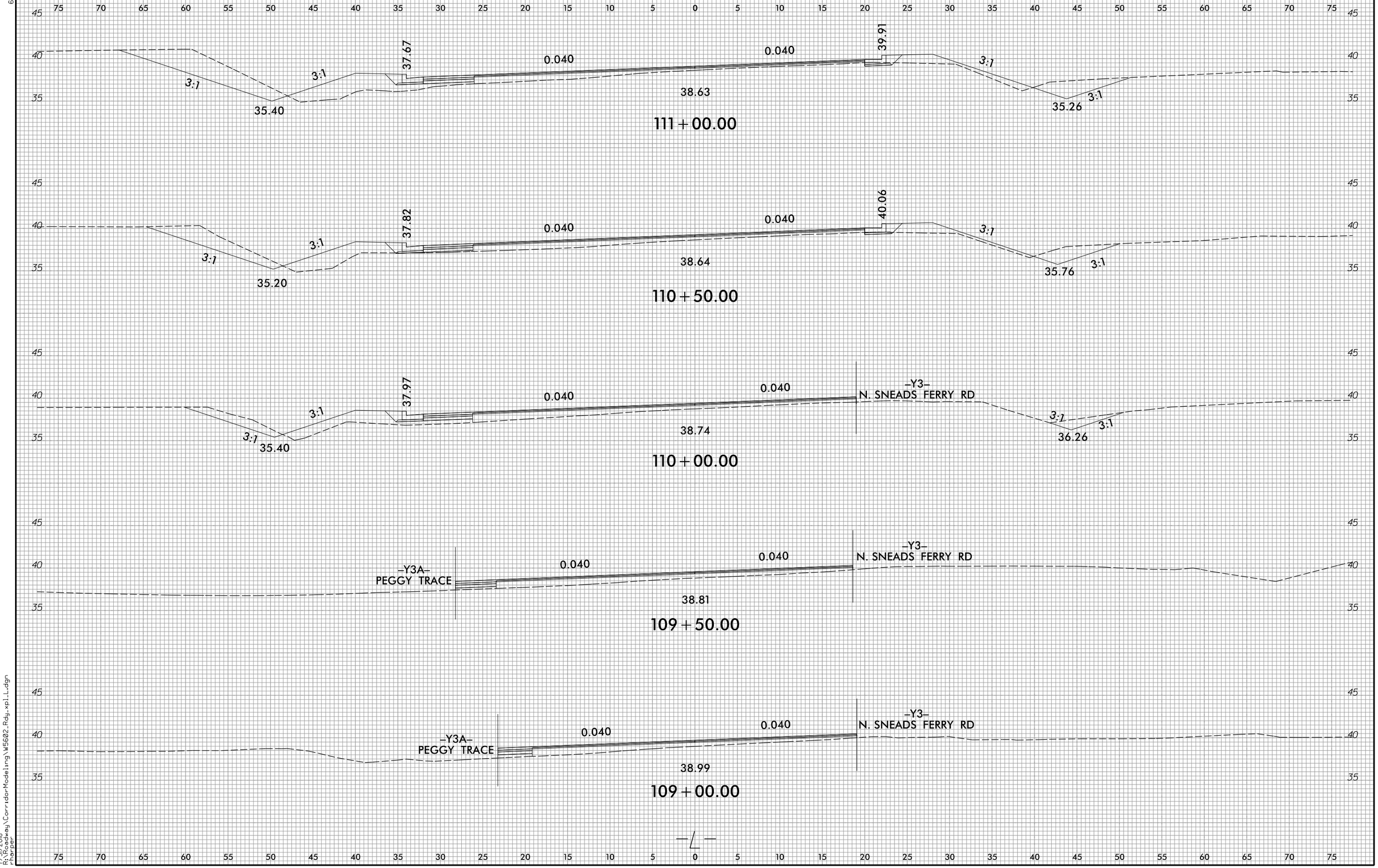
|---|---|---|
| | W-5602 | X-38 |

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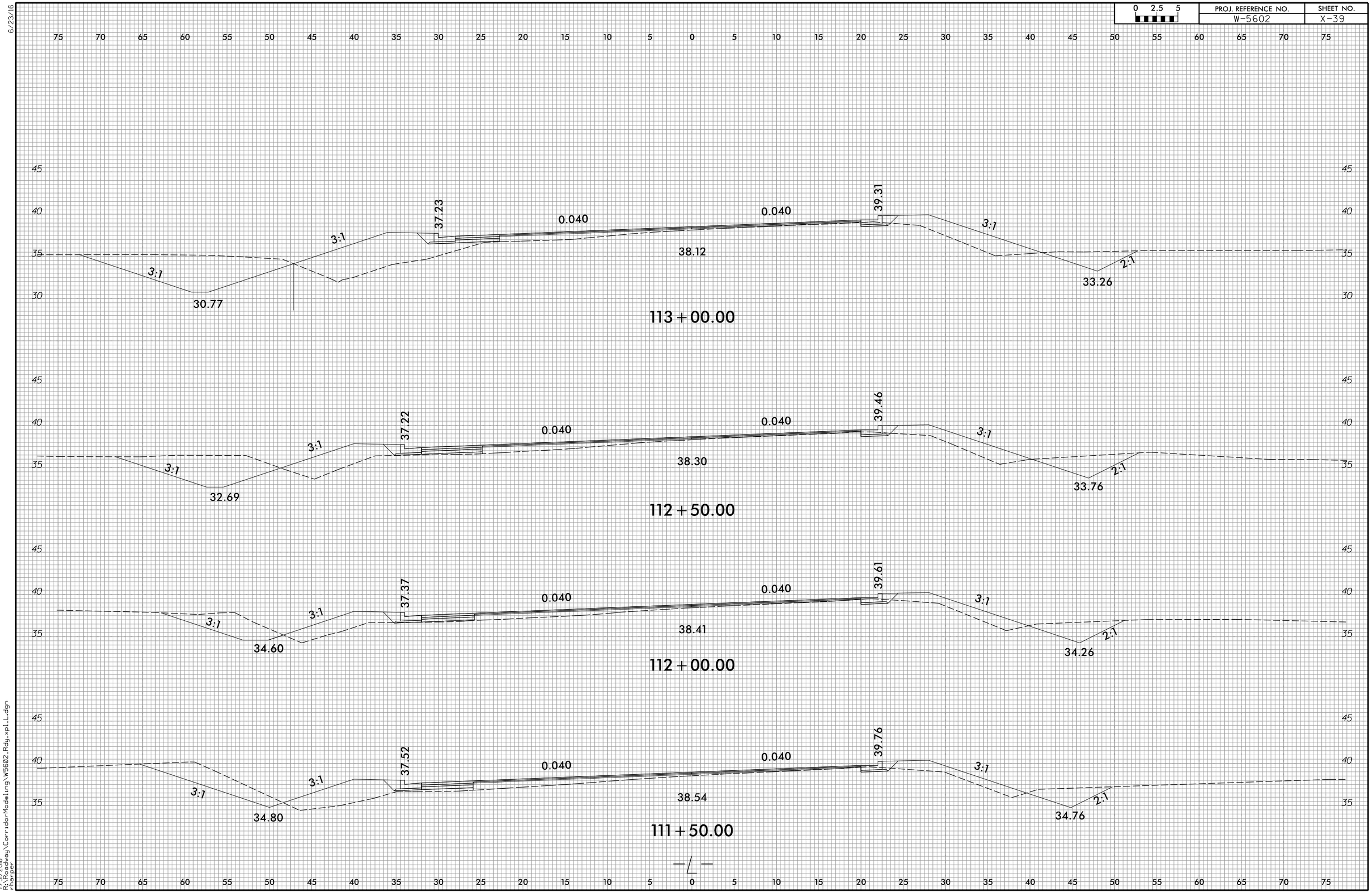
|---|---|---|
| | W-5602 | X-39 |

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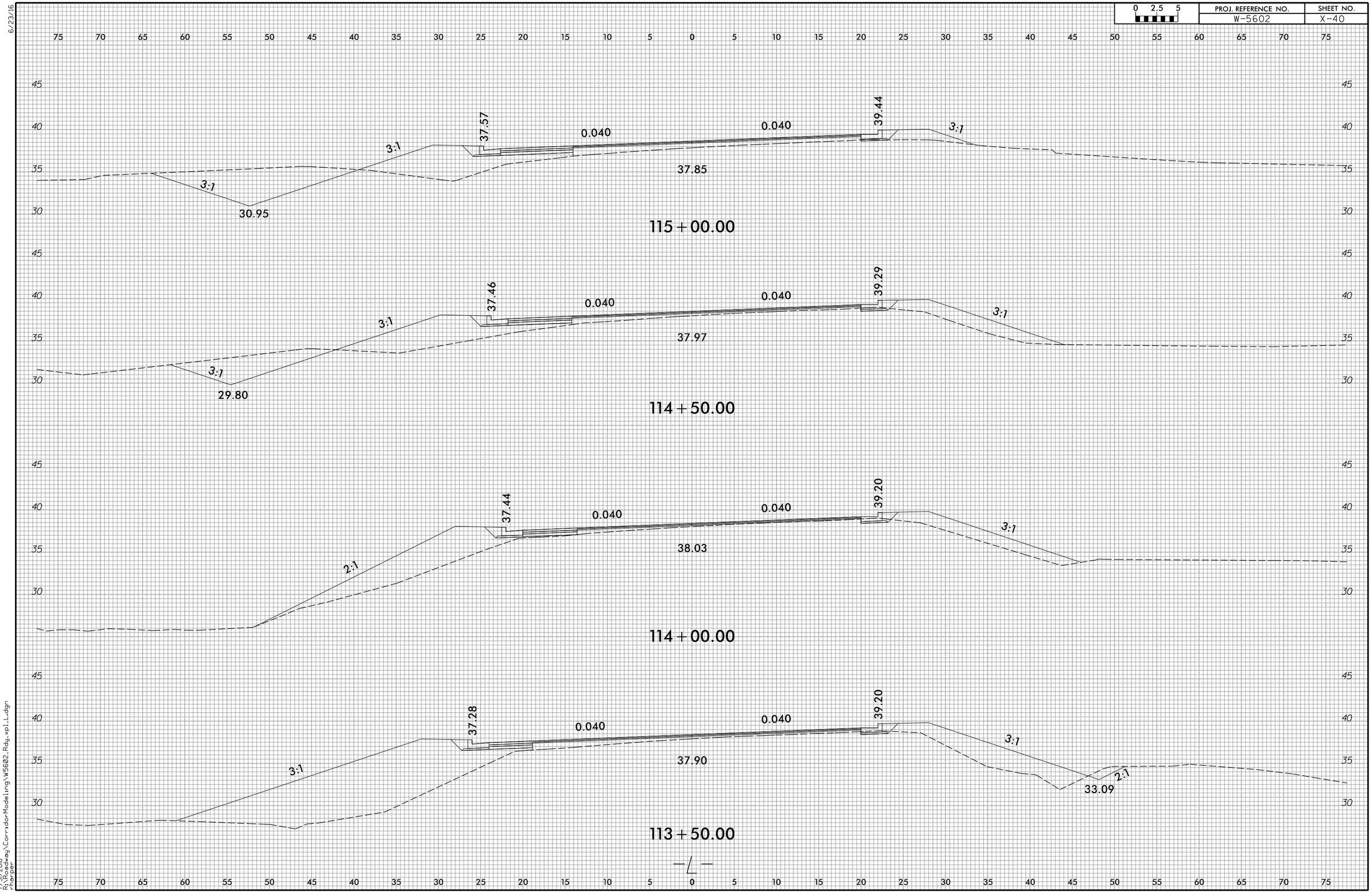
|---|---|---|
| | W-5602 | X-40 |

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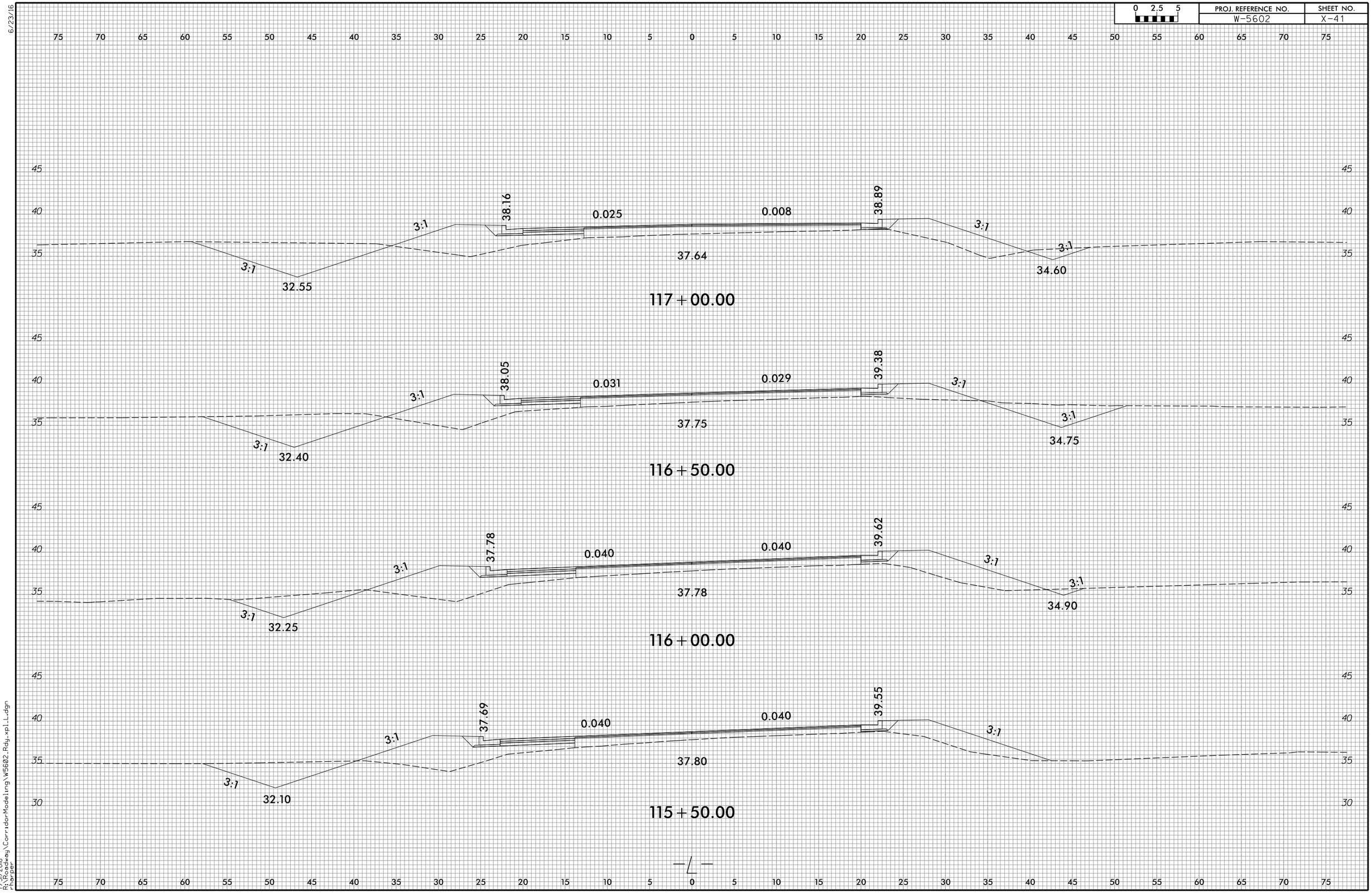
|---|---|---|
| | W-5602 | X-41 |

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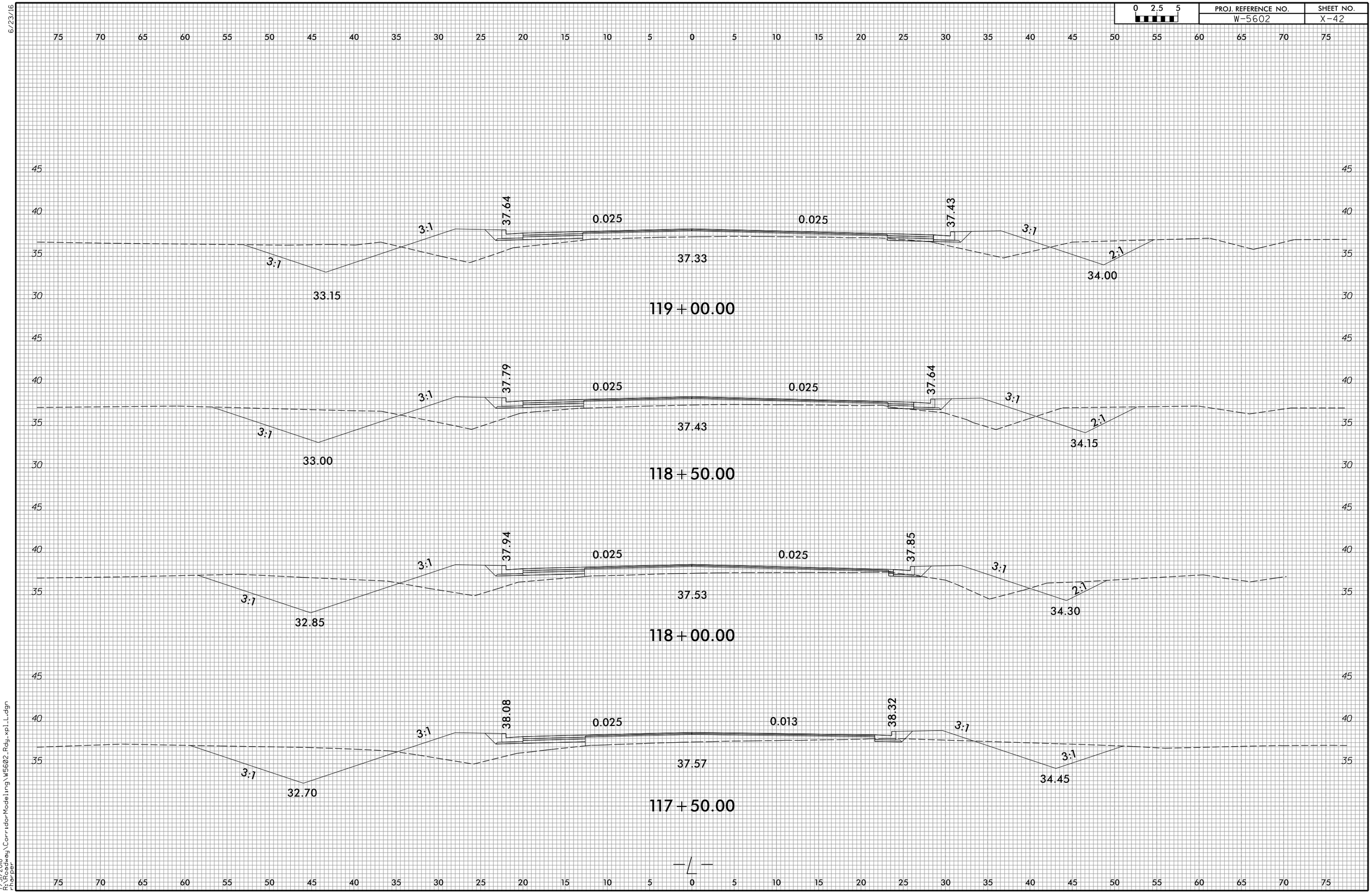
|---|---|---|
| | W-5602 | X-42 |

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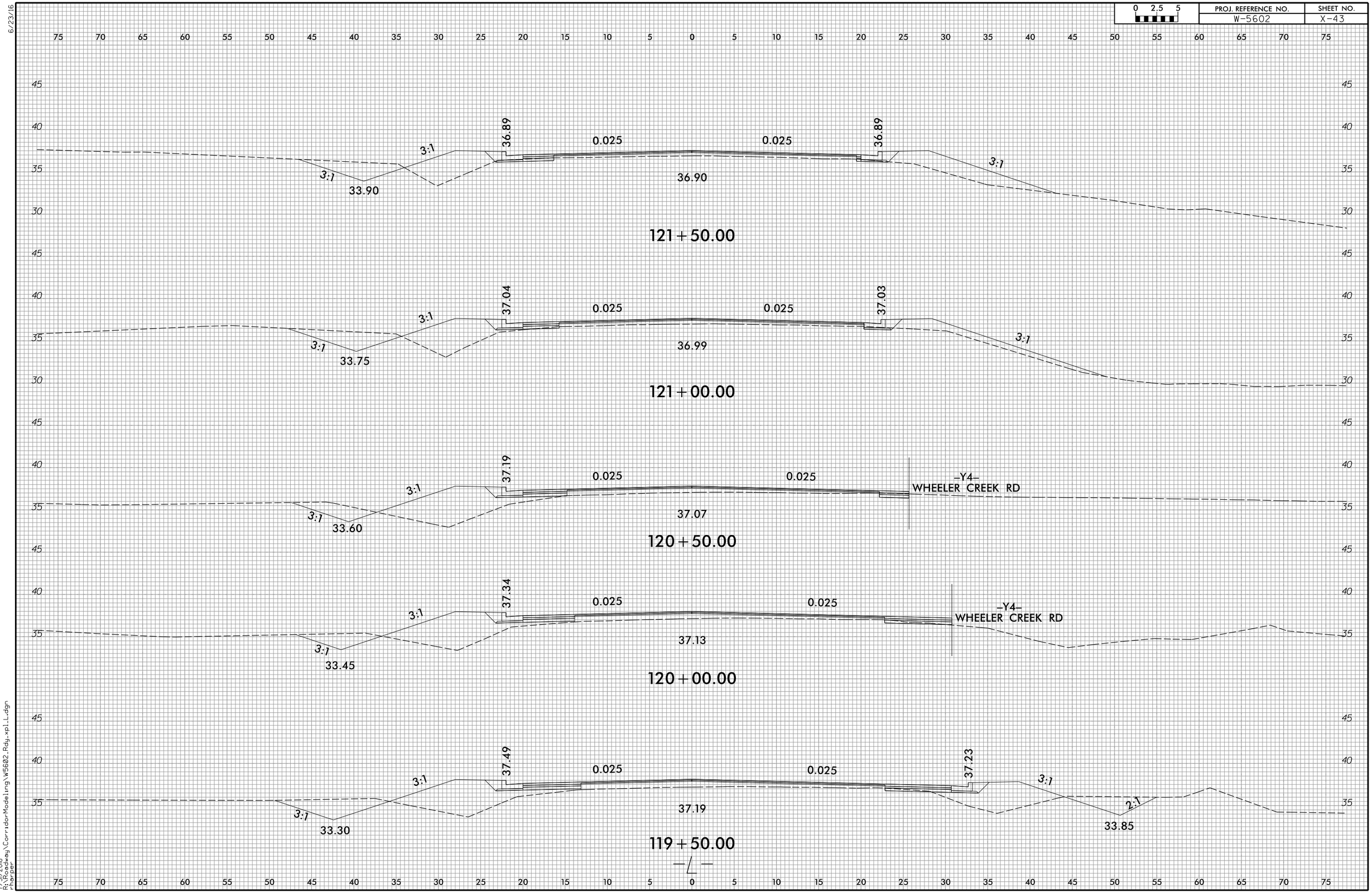
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-43 |

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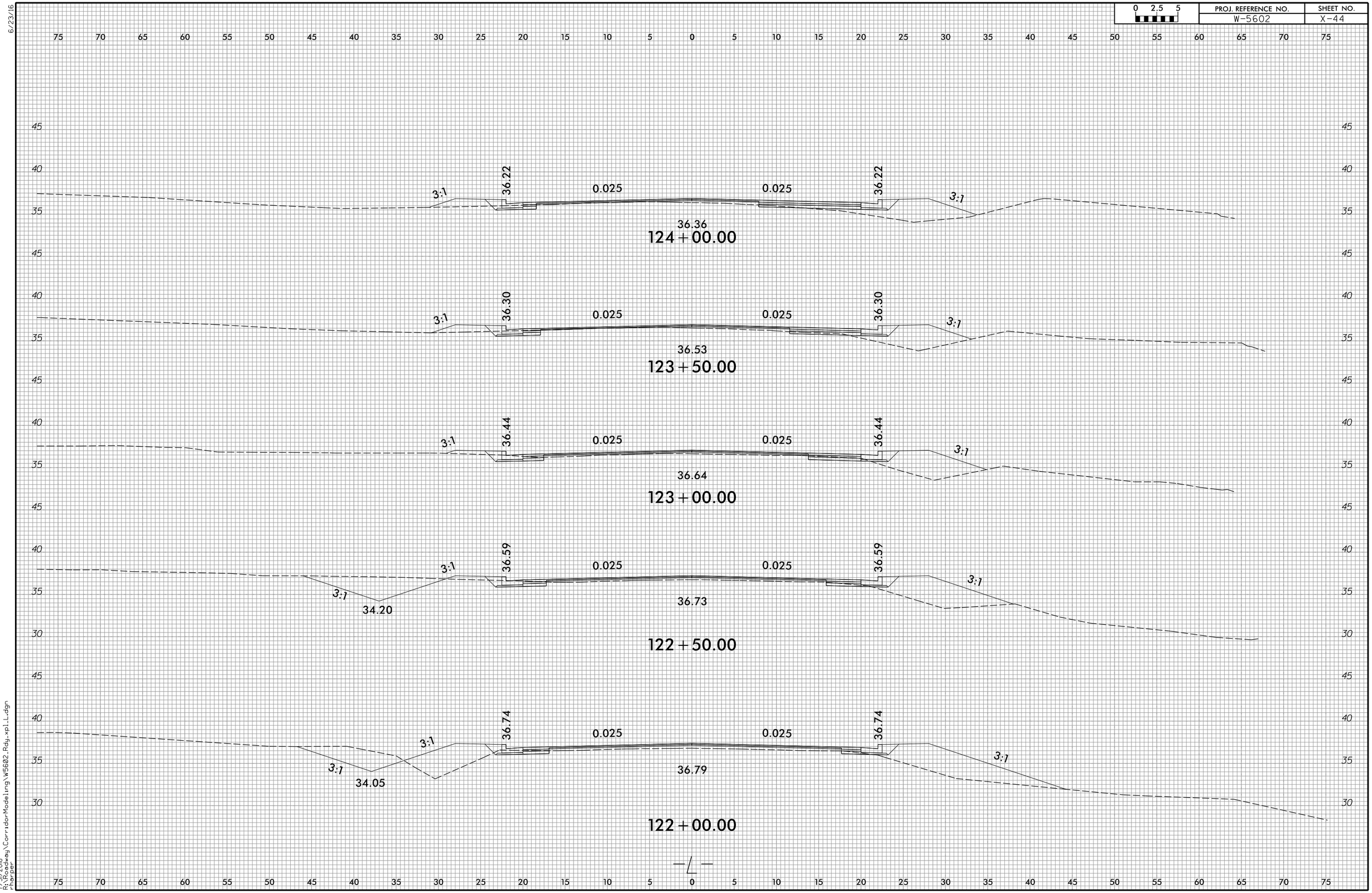
|---|---|---|
| | W-5602 | X-44 |

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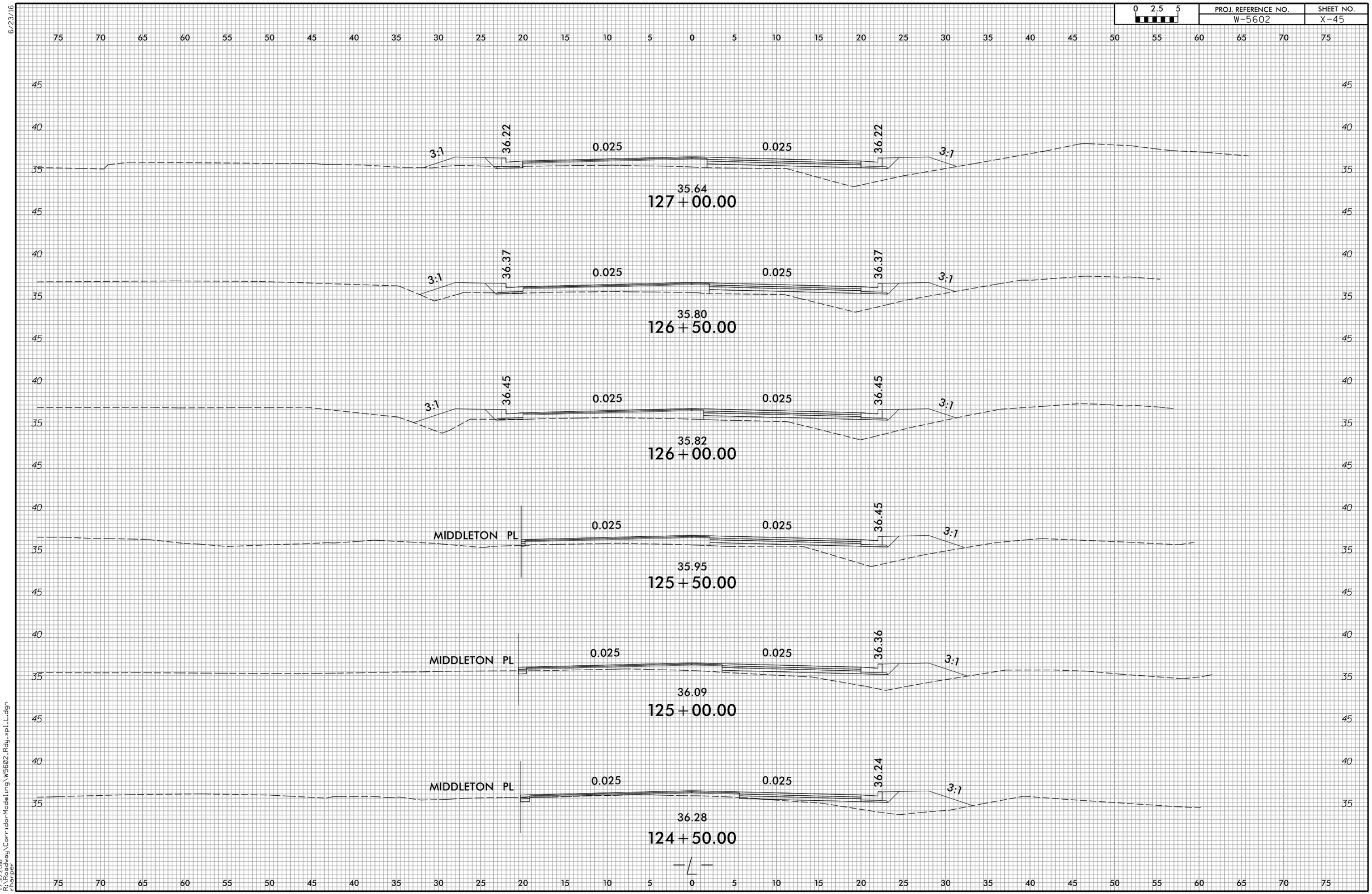
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-45 |

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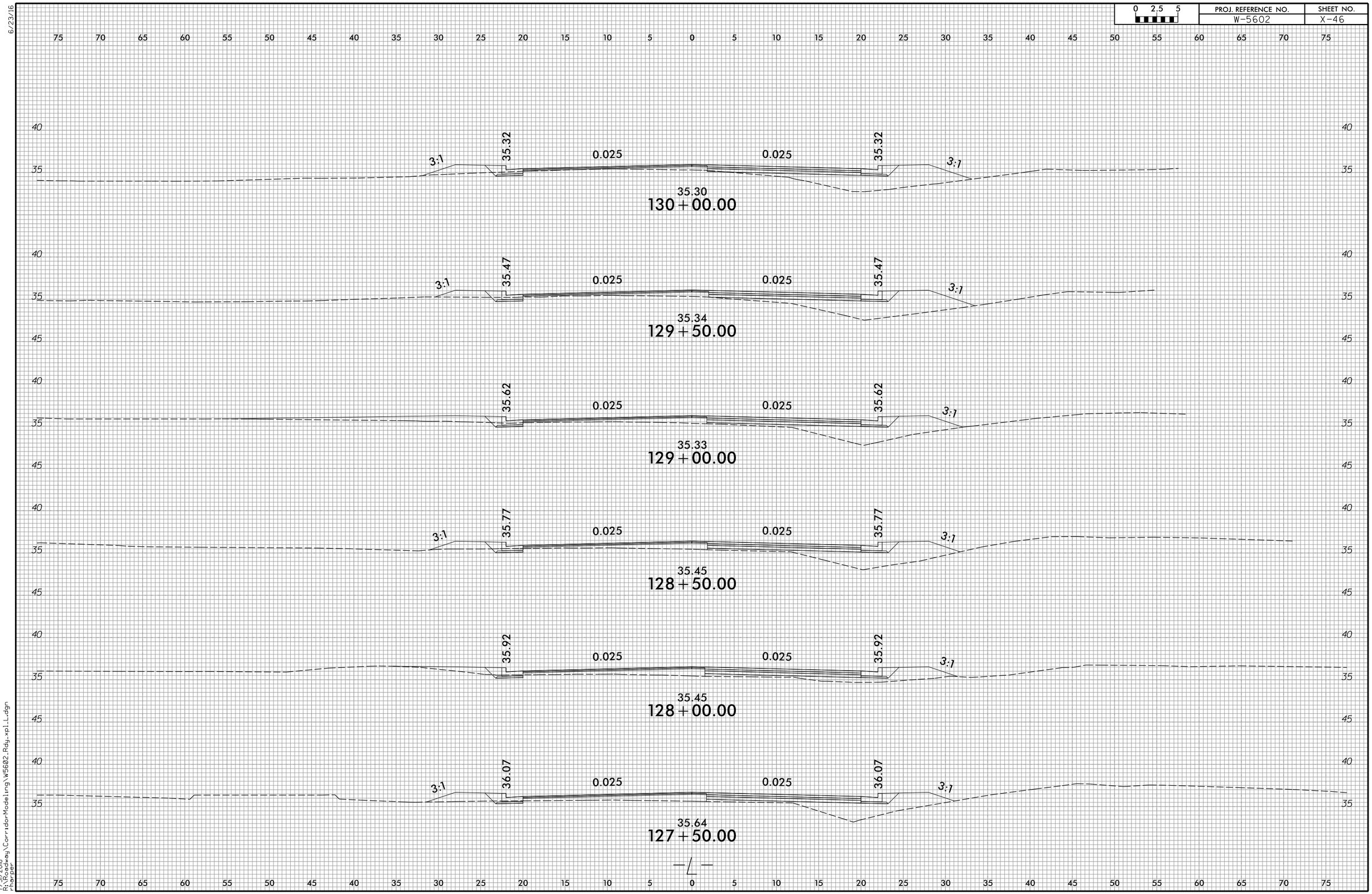
|---|---|---|
| | W-5602 | X-46 |

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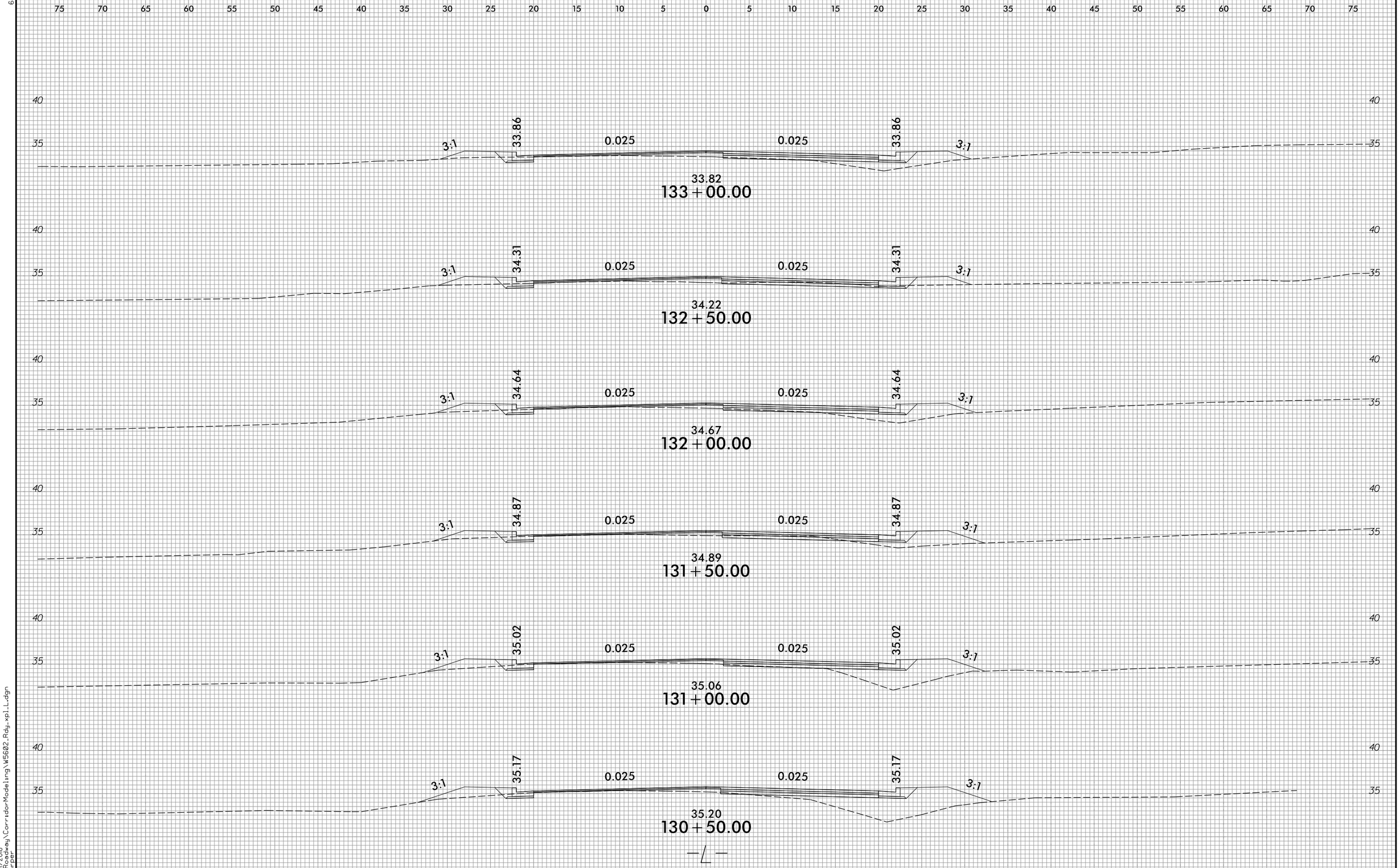
|---|---|---|
| | W-5602 | X-47 |

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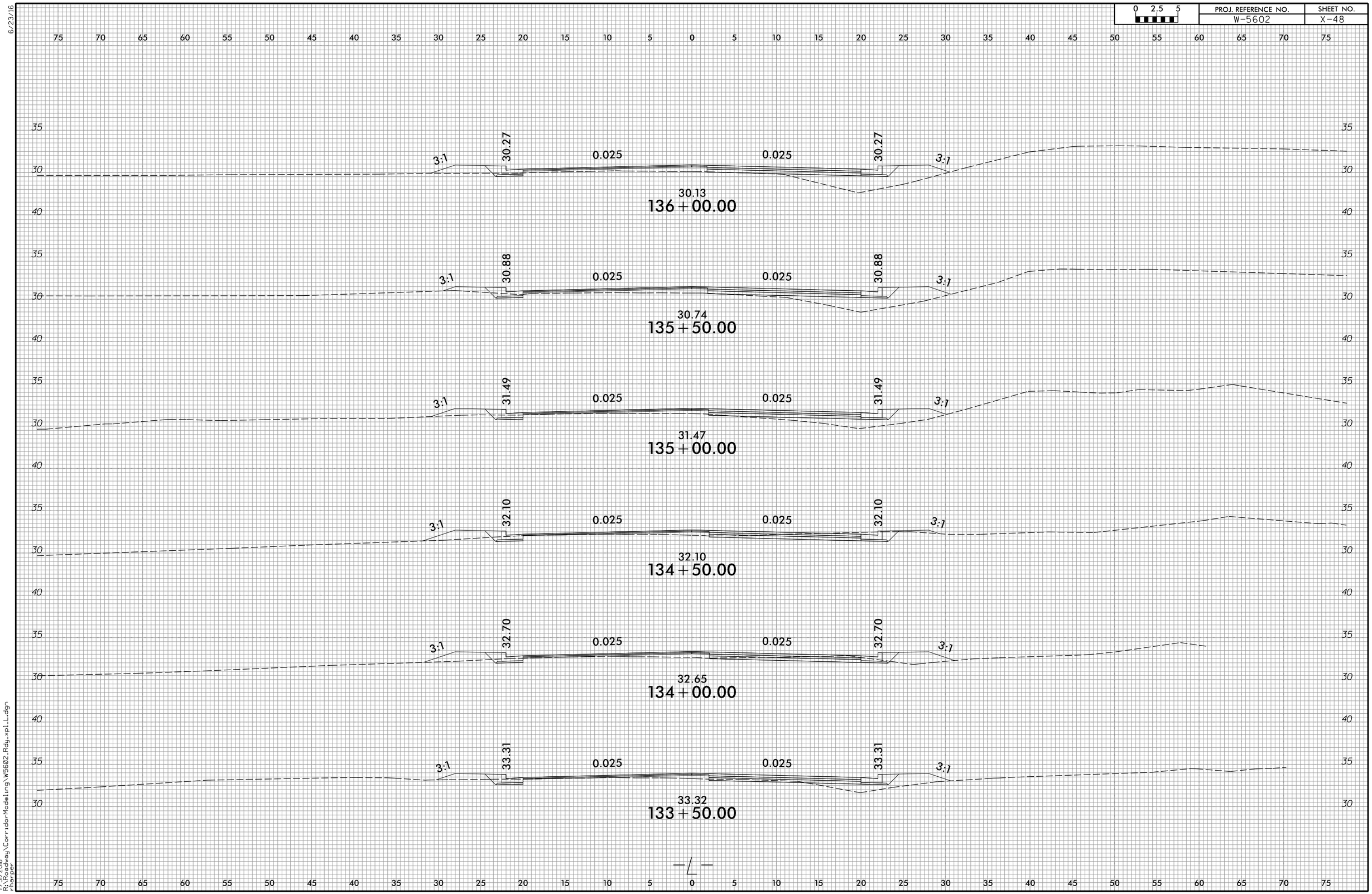
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-48 |

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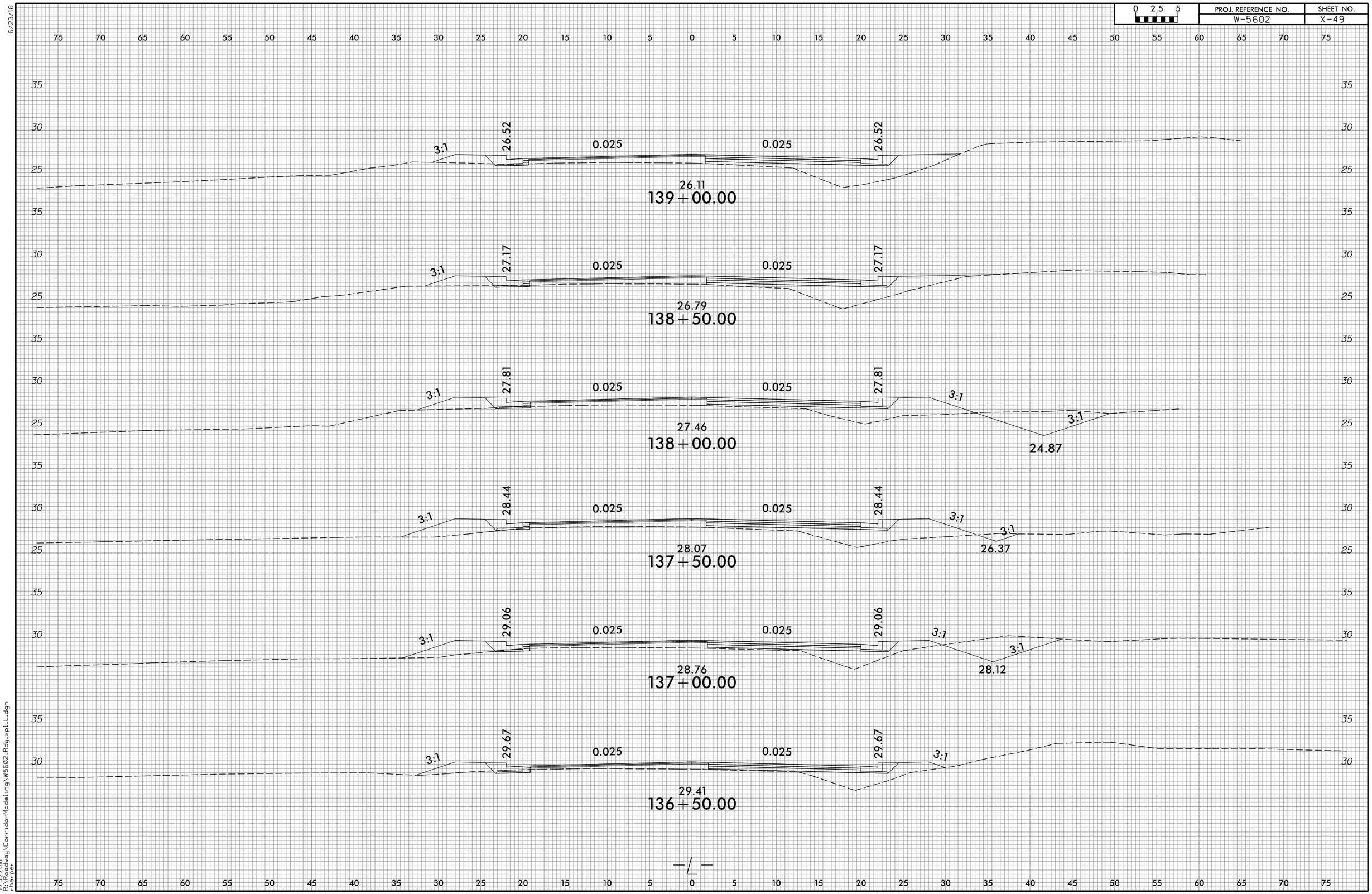
|---|---|---|
| | W-5602 | X-49 |

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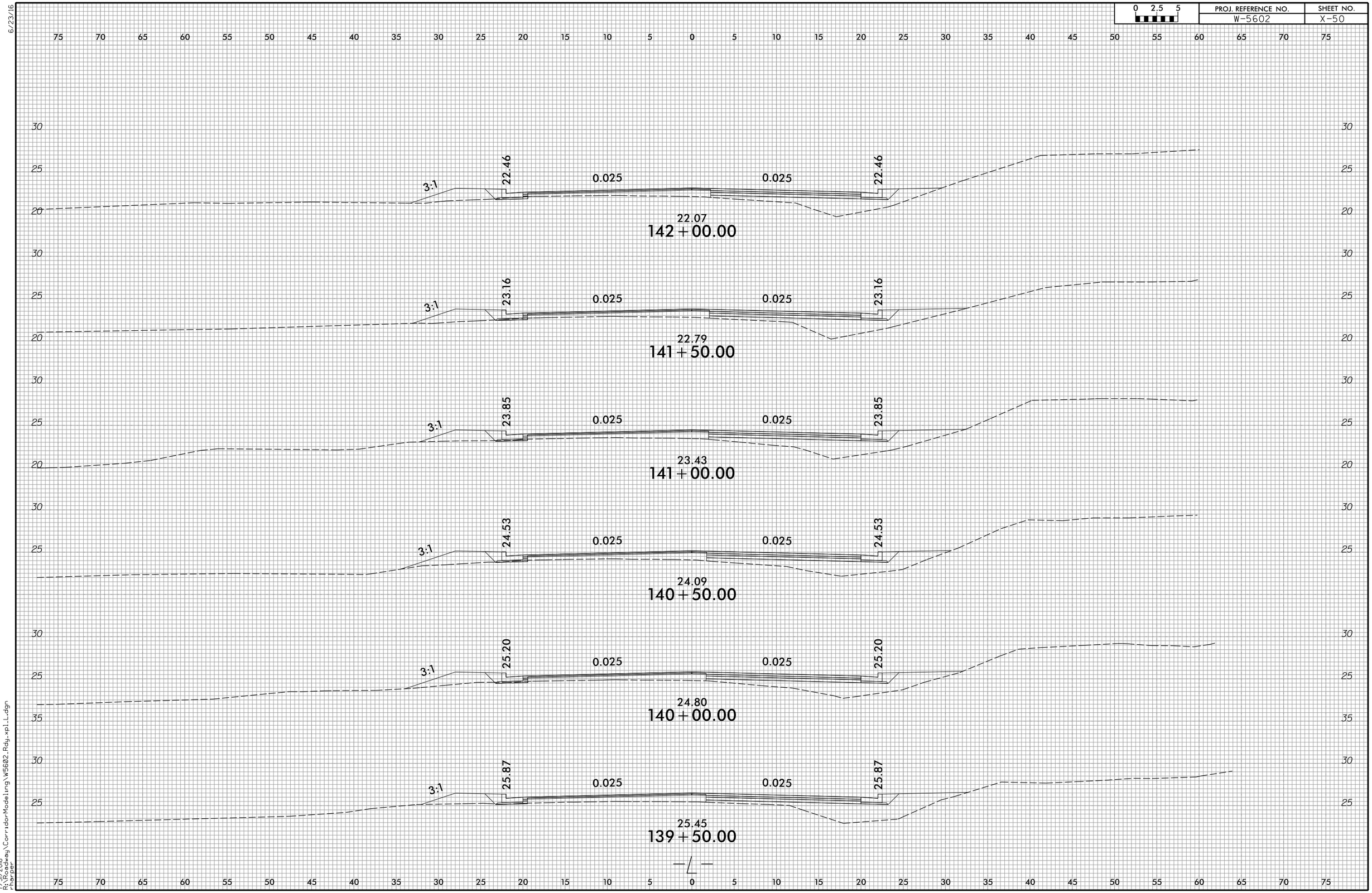
| | W-5602 | X-50 |

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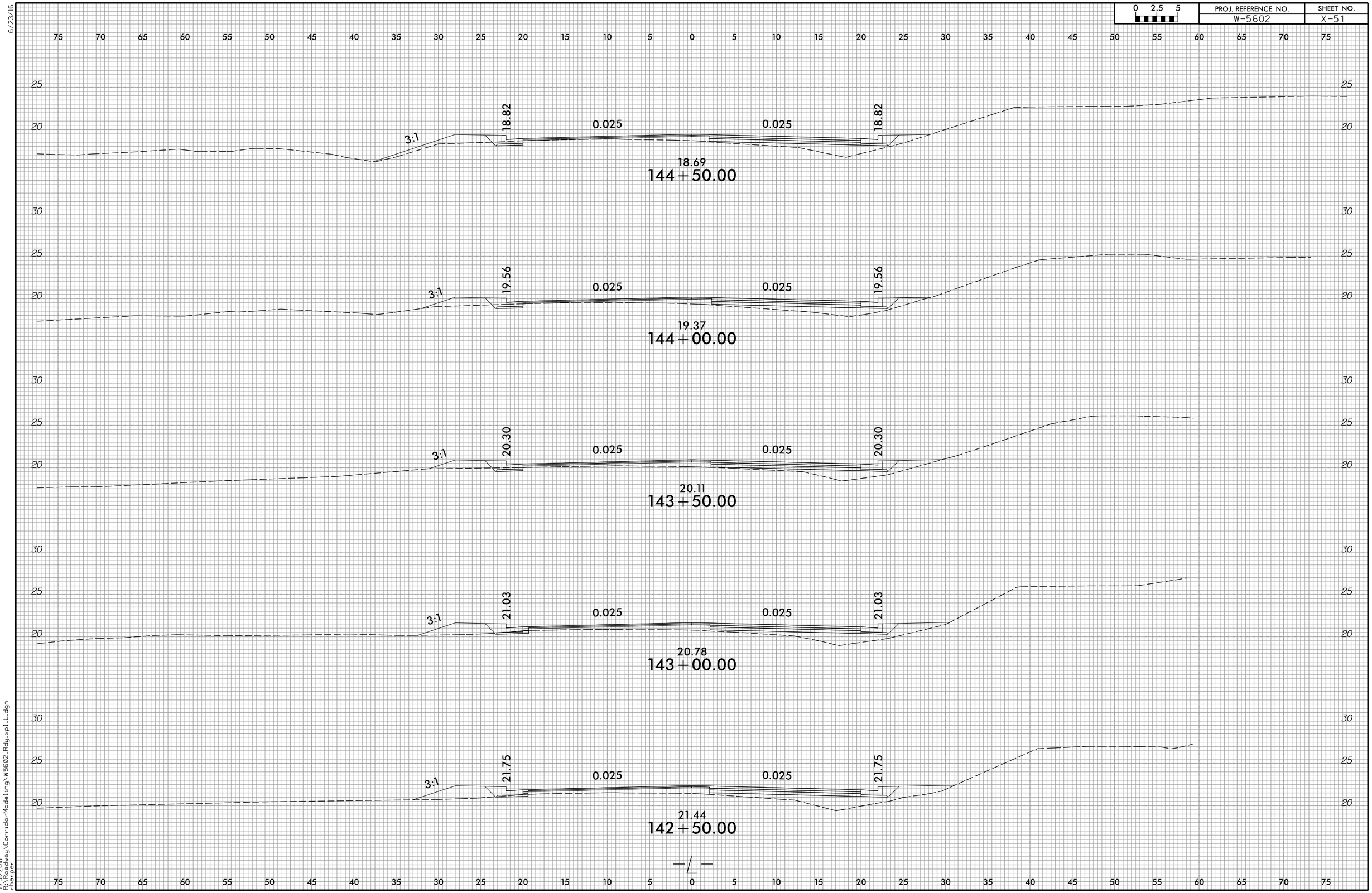
| | W-5602 | X-51 |

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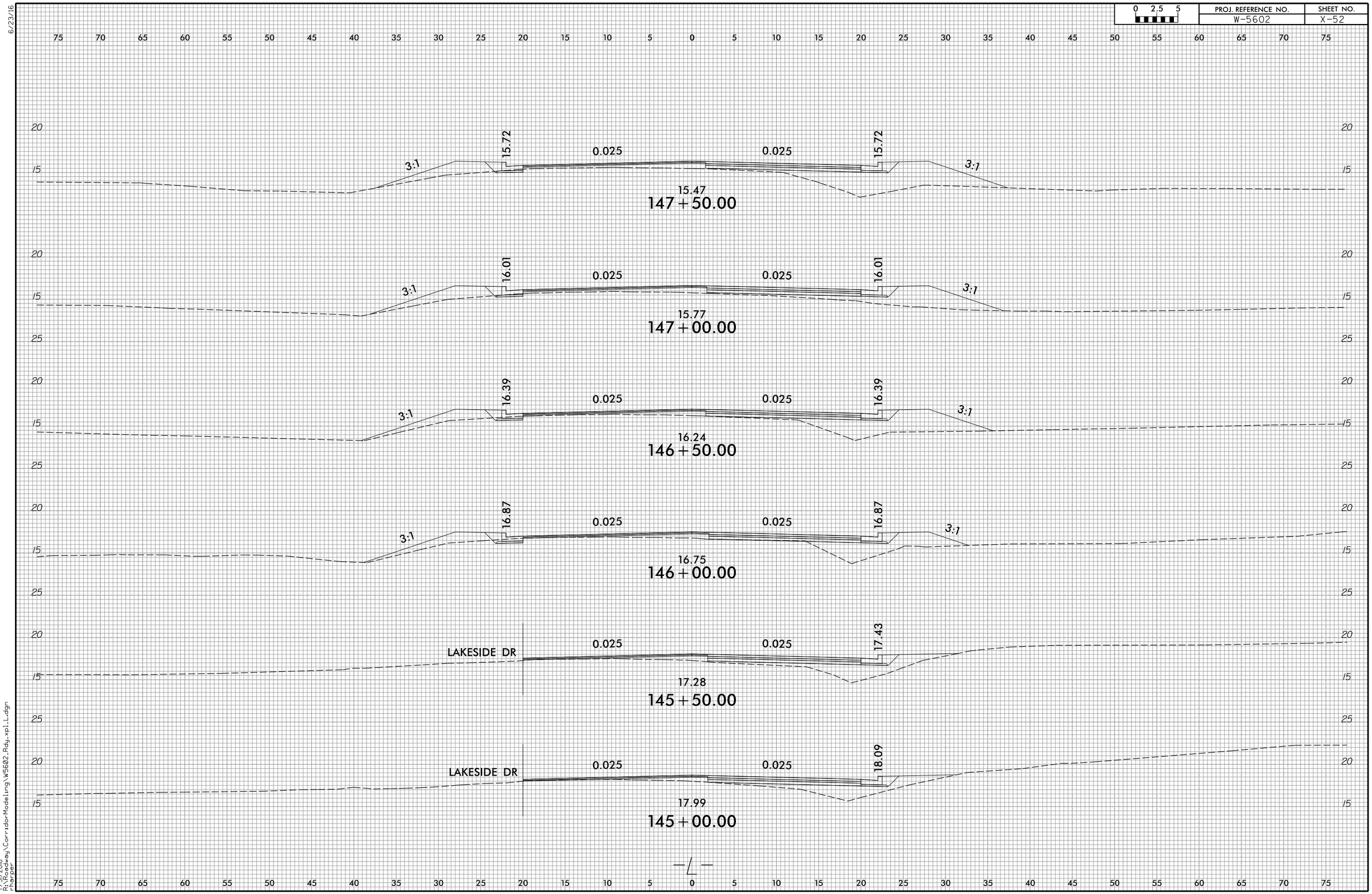
|---|---|---|
| | W-5602 | X-52 |

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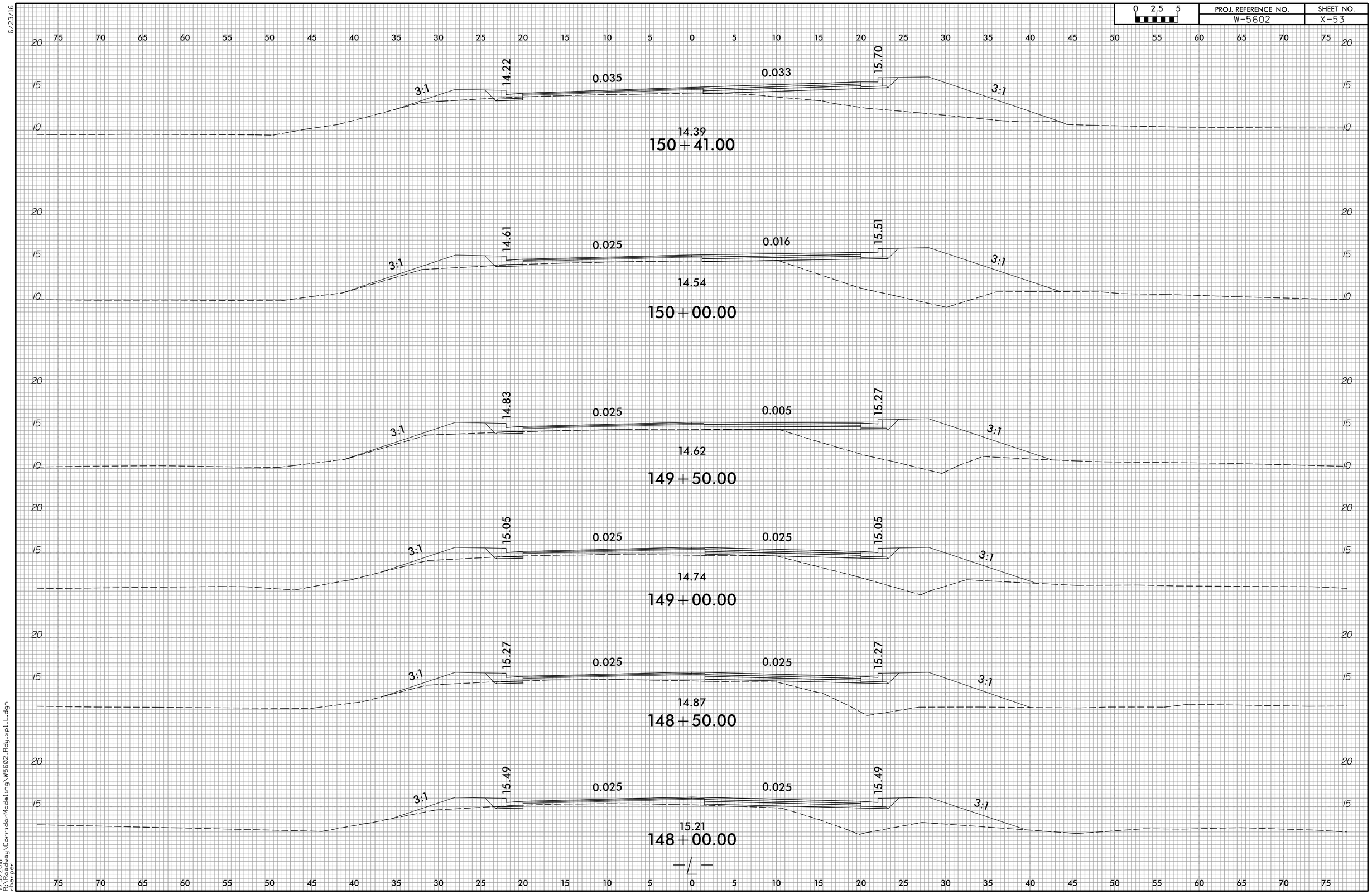
|---|---|---|
| | W-5602 | X-53 |

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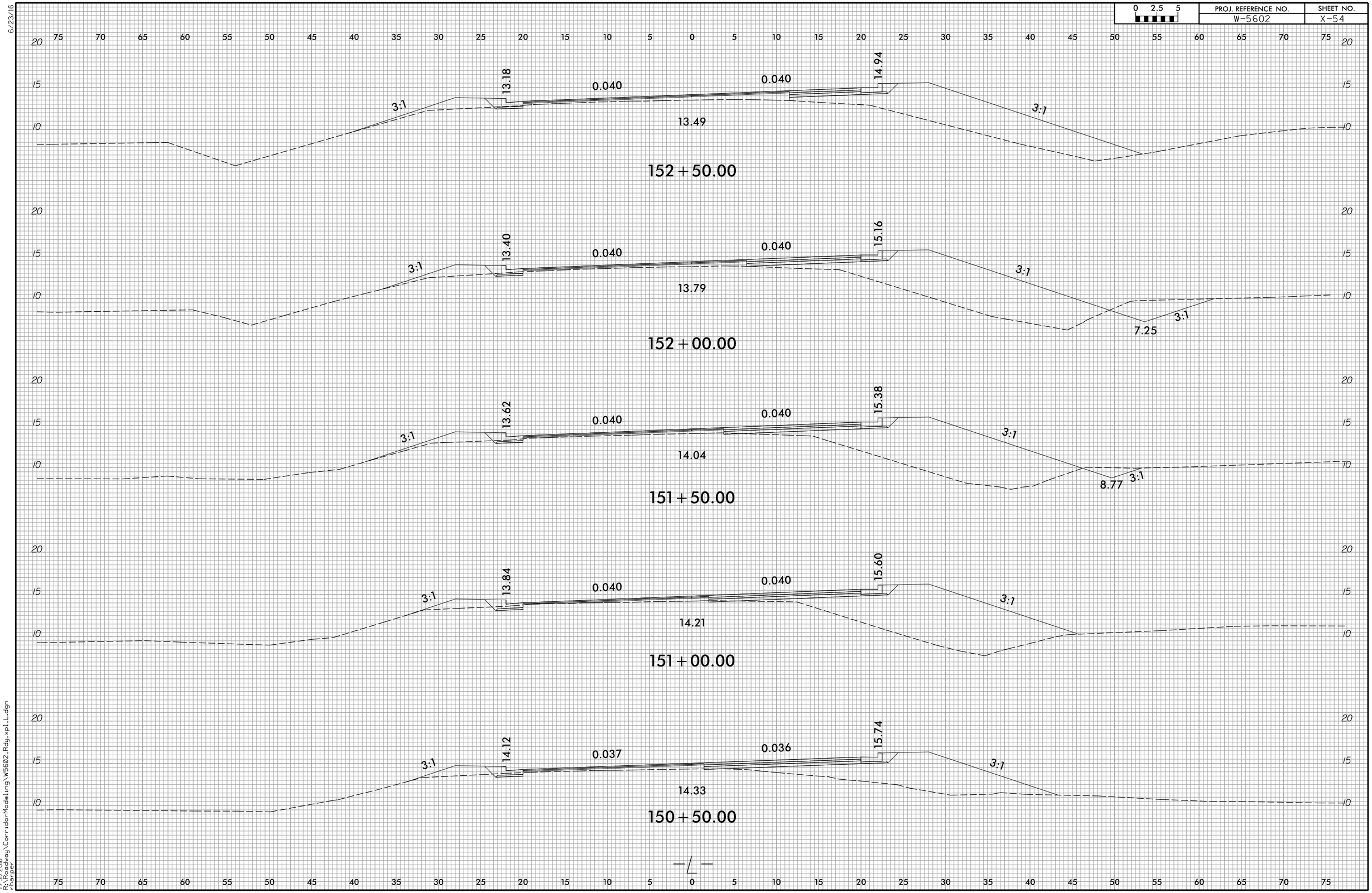
|---|---|---|
| | W-5602 | X-54 |

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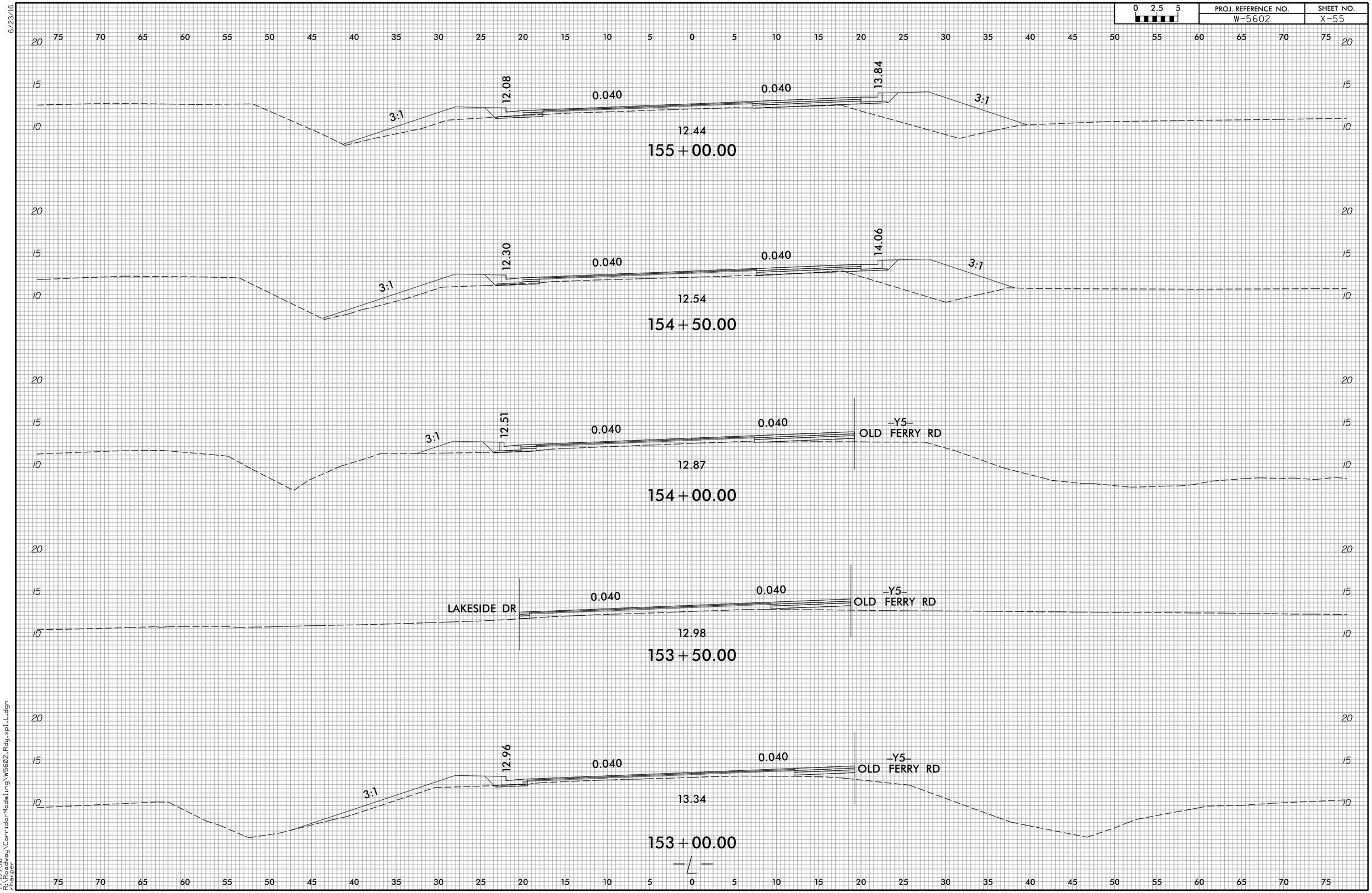
|---|---|---|
| | W-5602 | X-55 |

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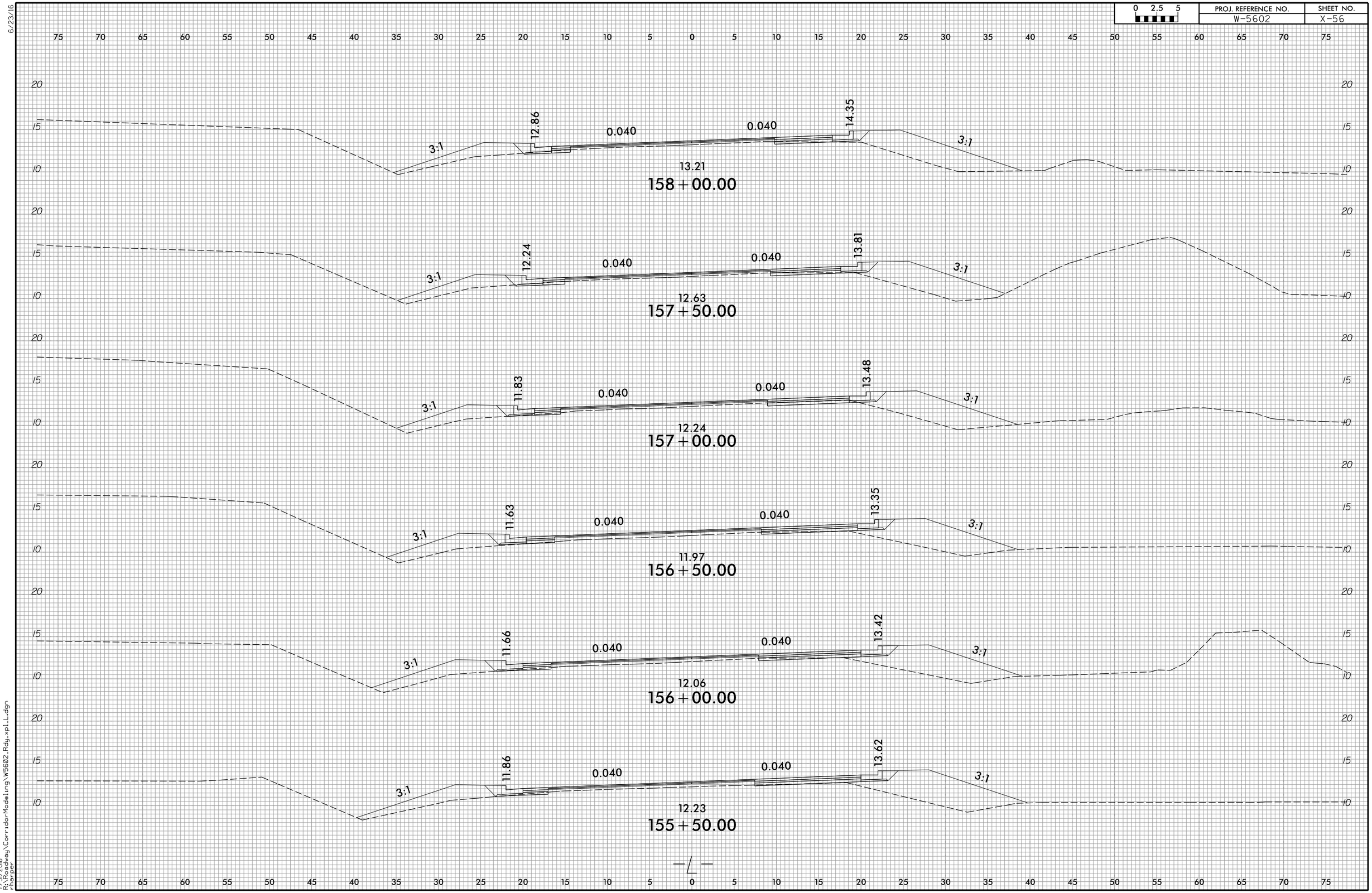
|---|---|---|
| | W-5602 | X-56 |

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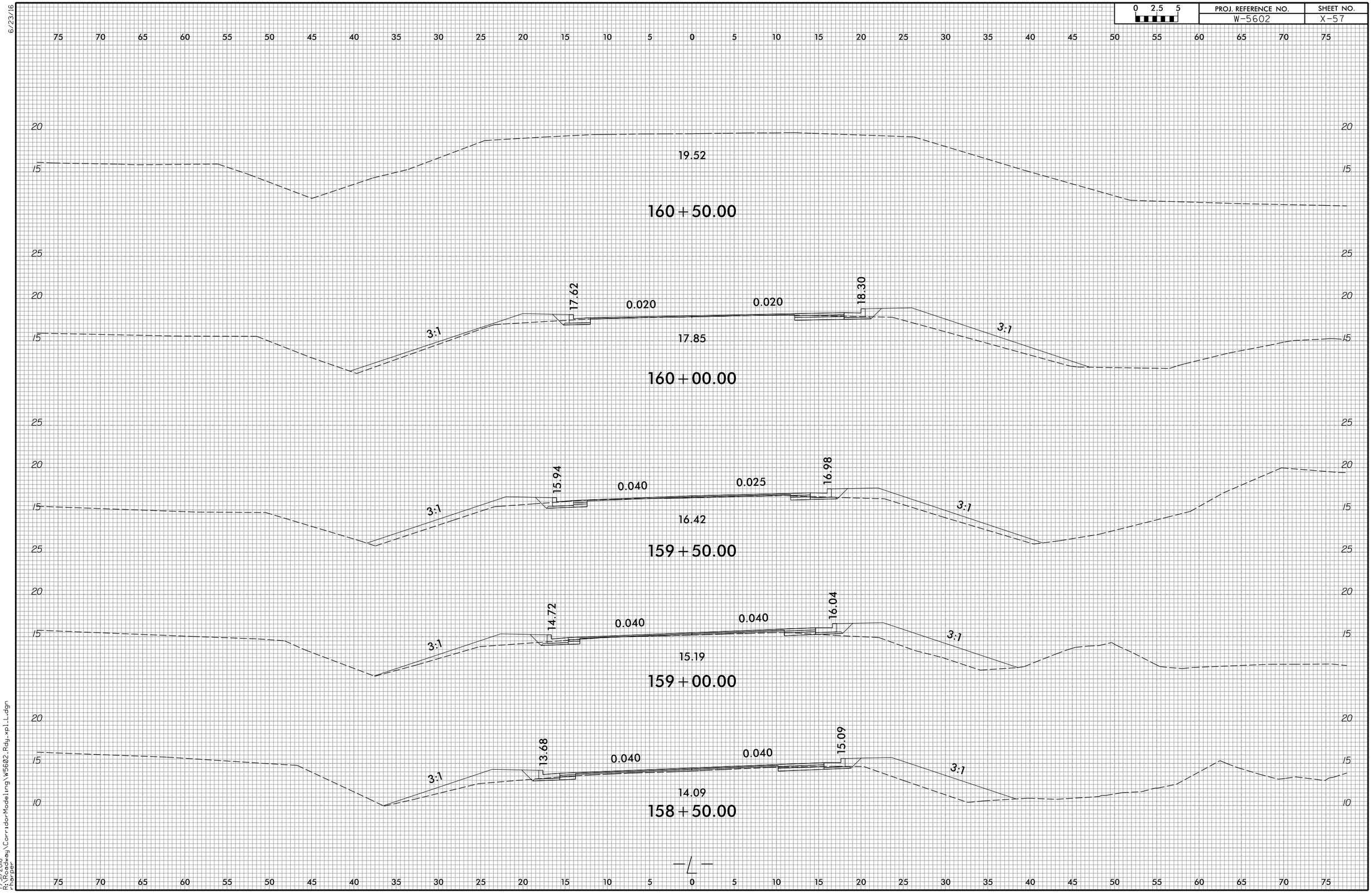
|---|---|---|
| | W-5602 | X-57 |

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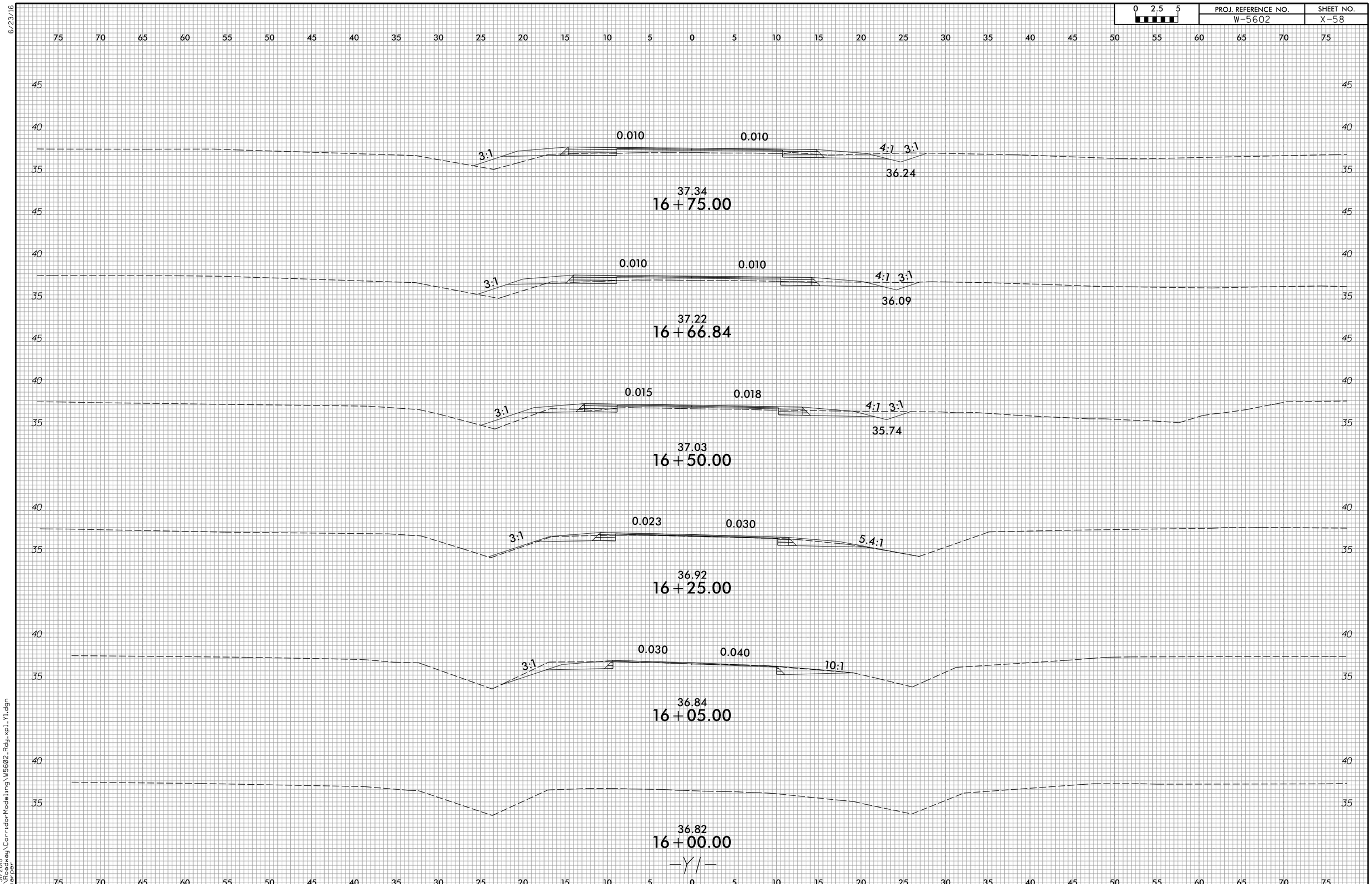
| | W-5602 | X-58 |

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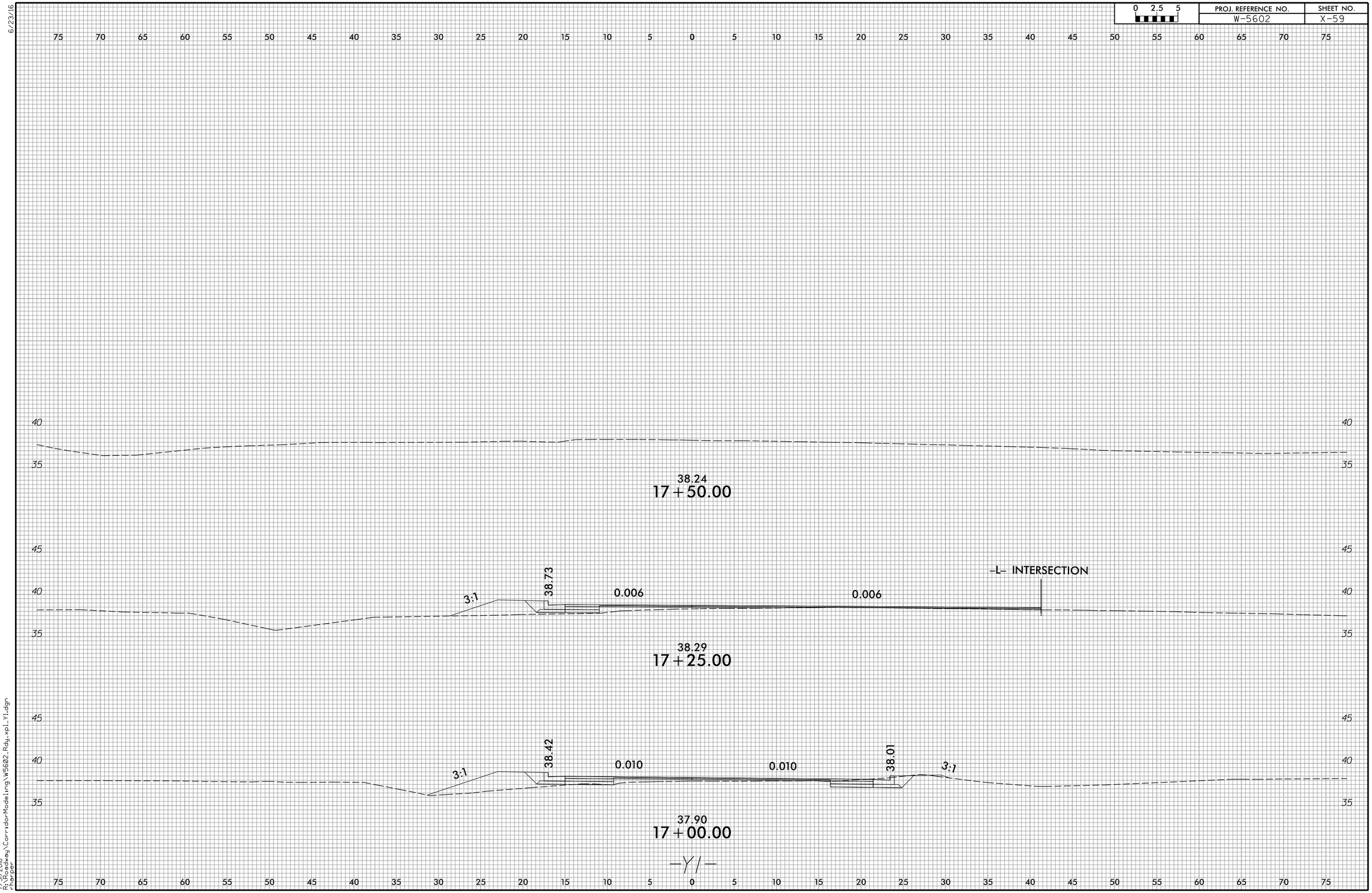
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-59 |

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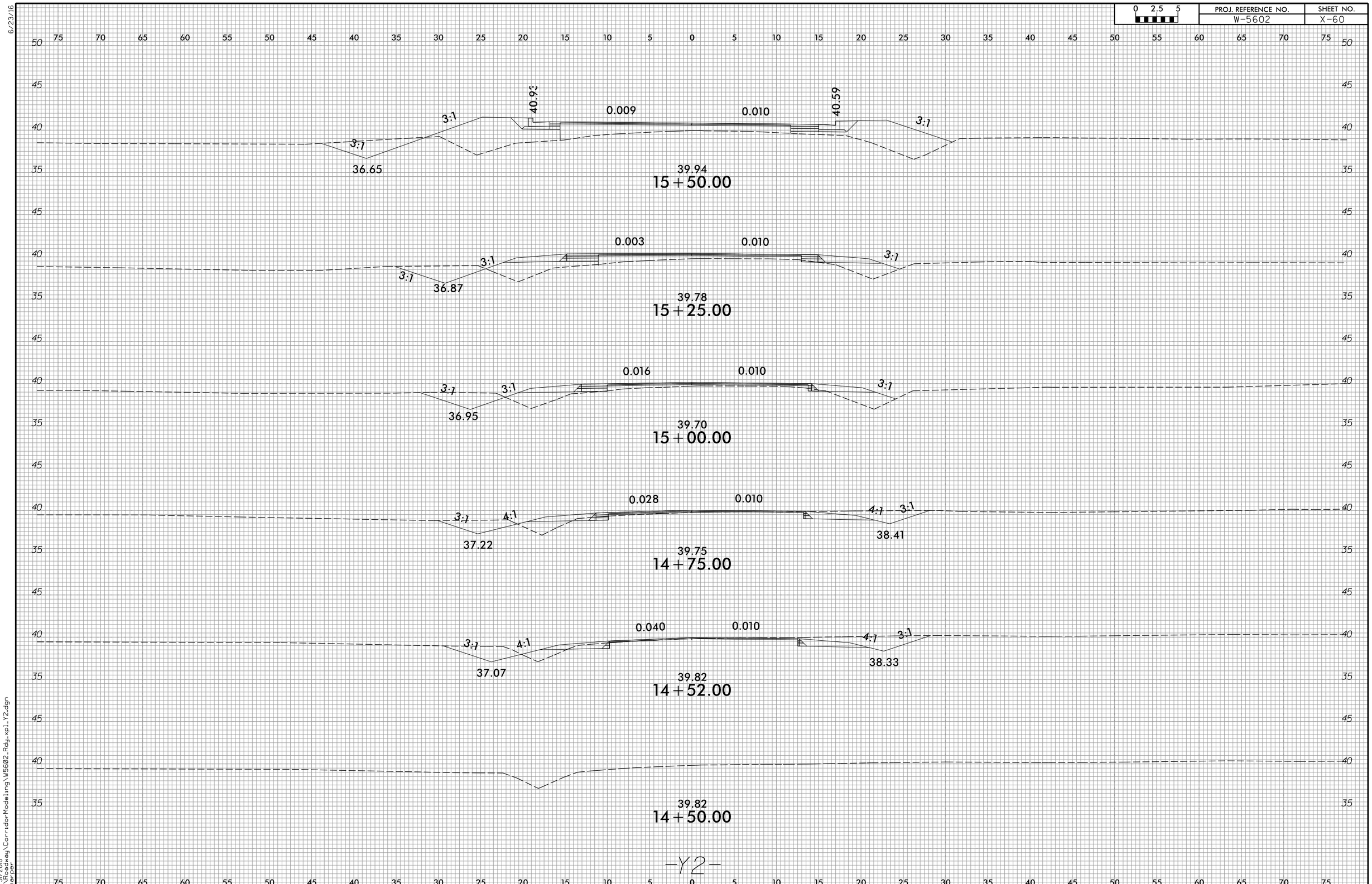
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-60 |

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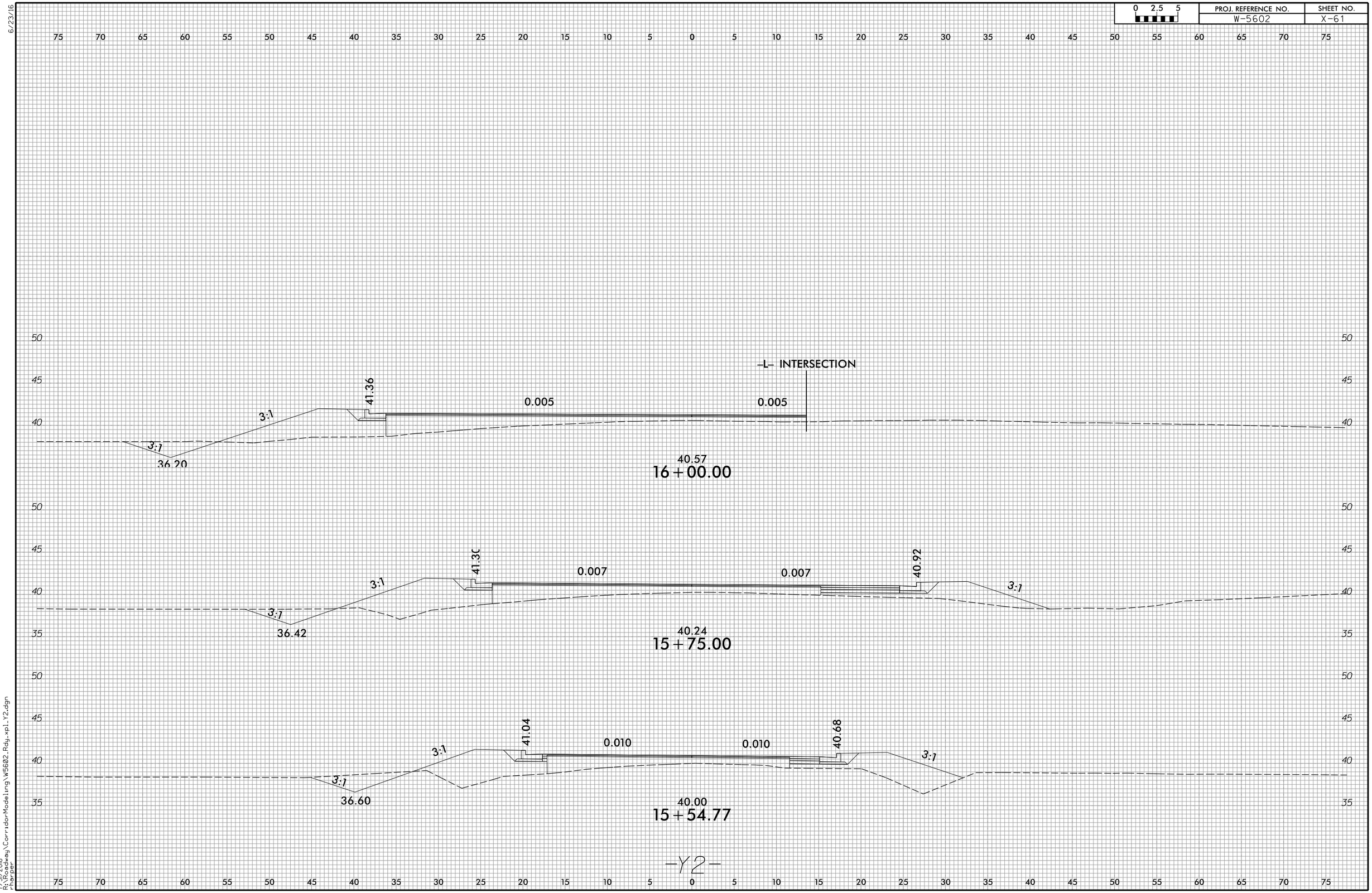
|---|---|---|
| | W-5602 | X-61 |

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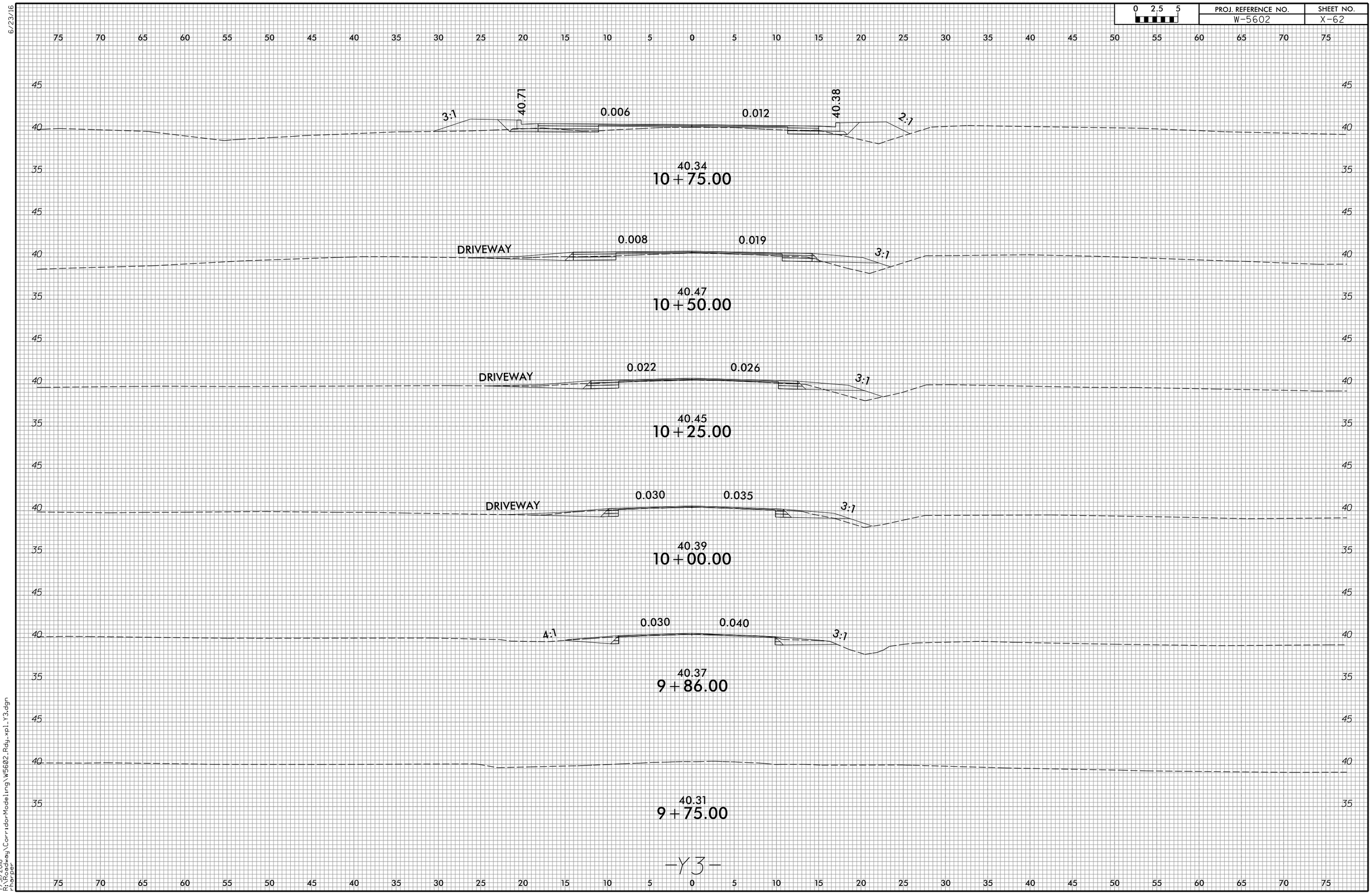
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-62 |

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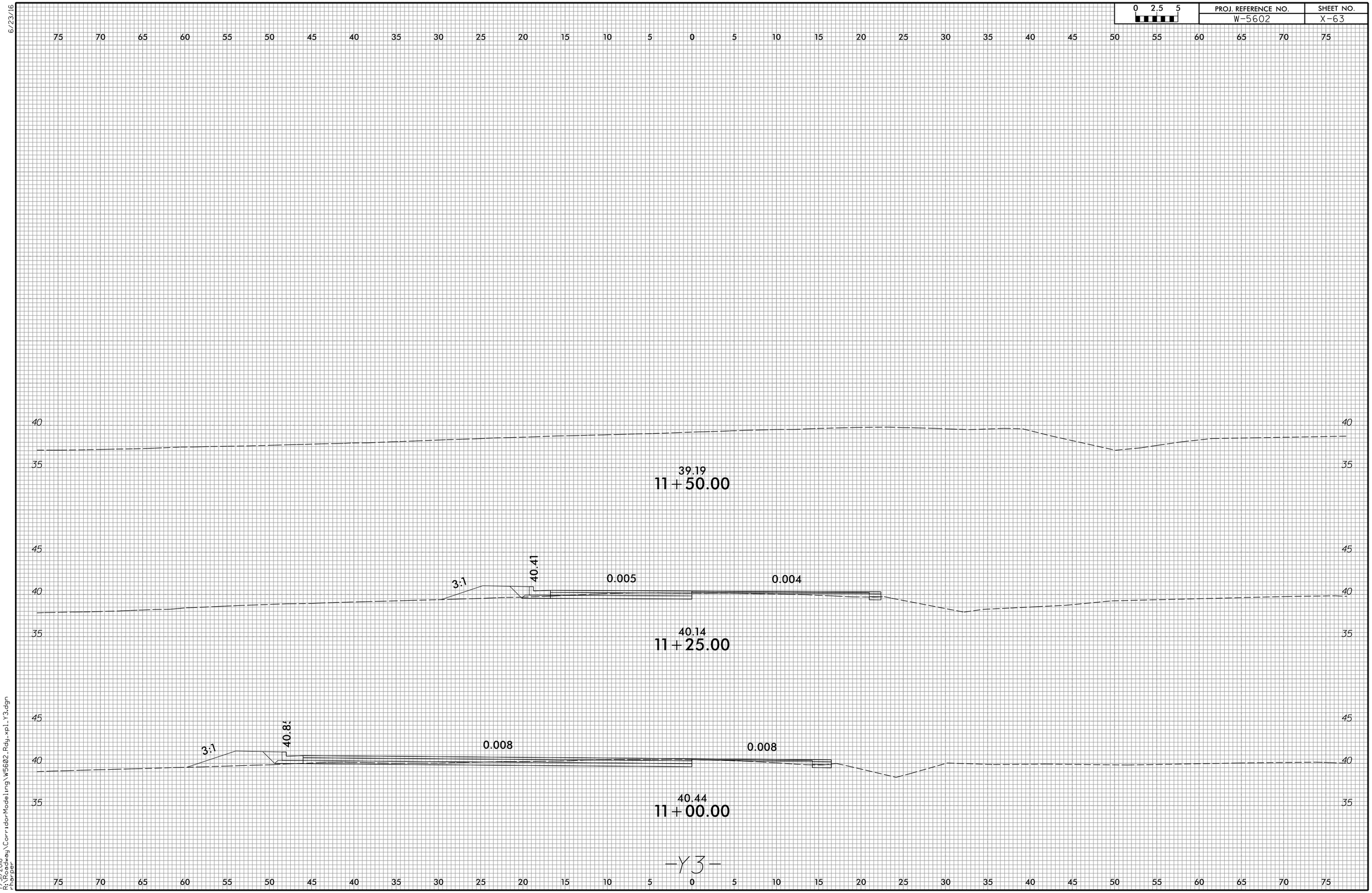
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-63 |

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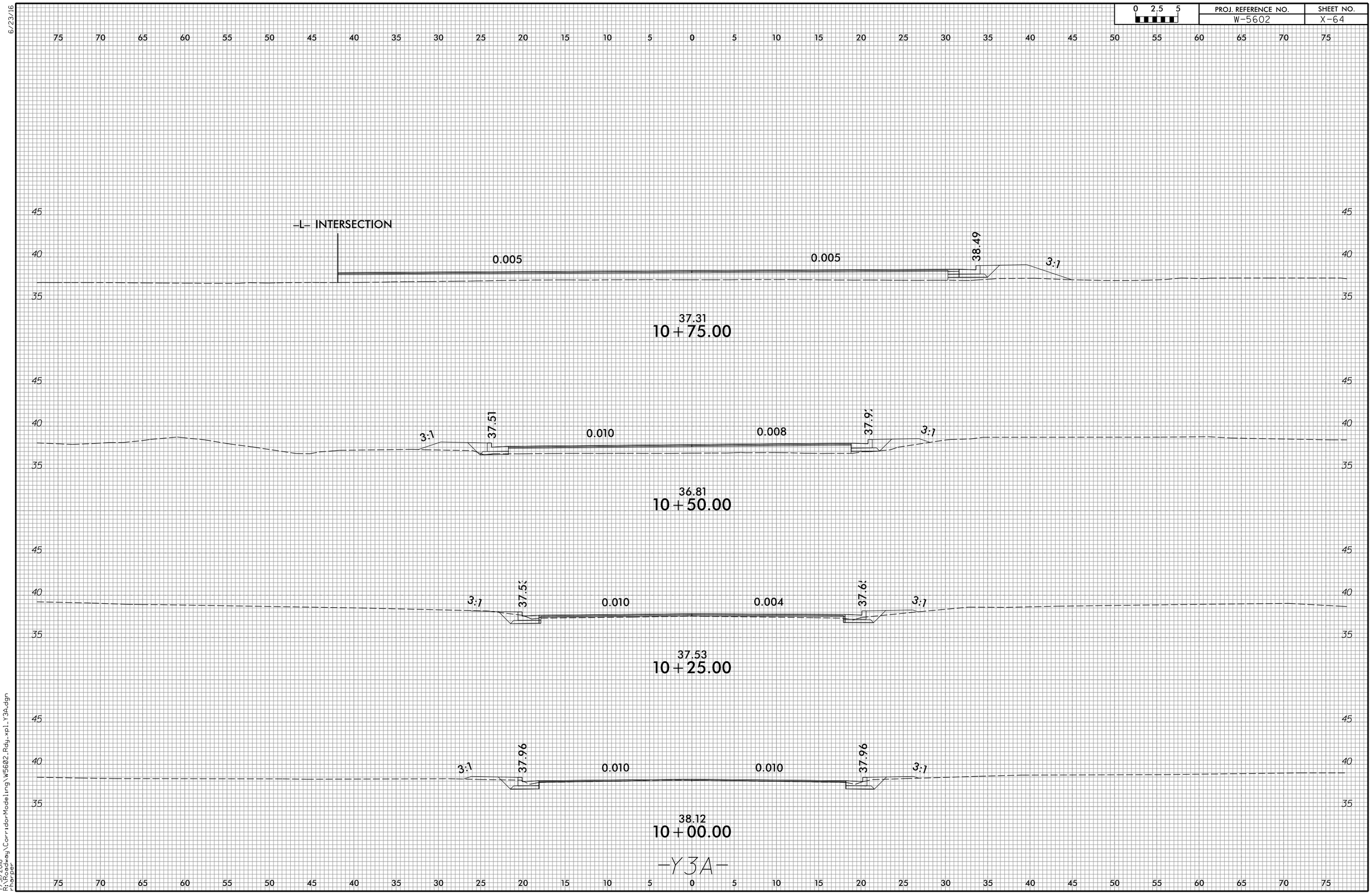
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-64 |

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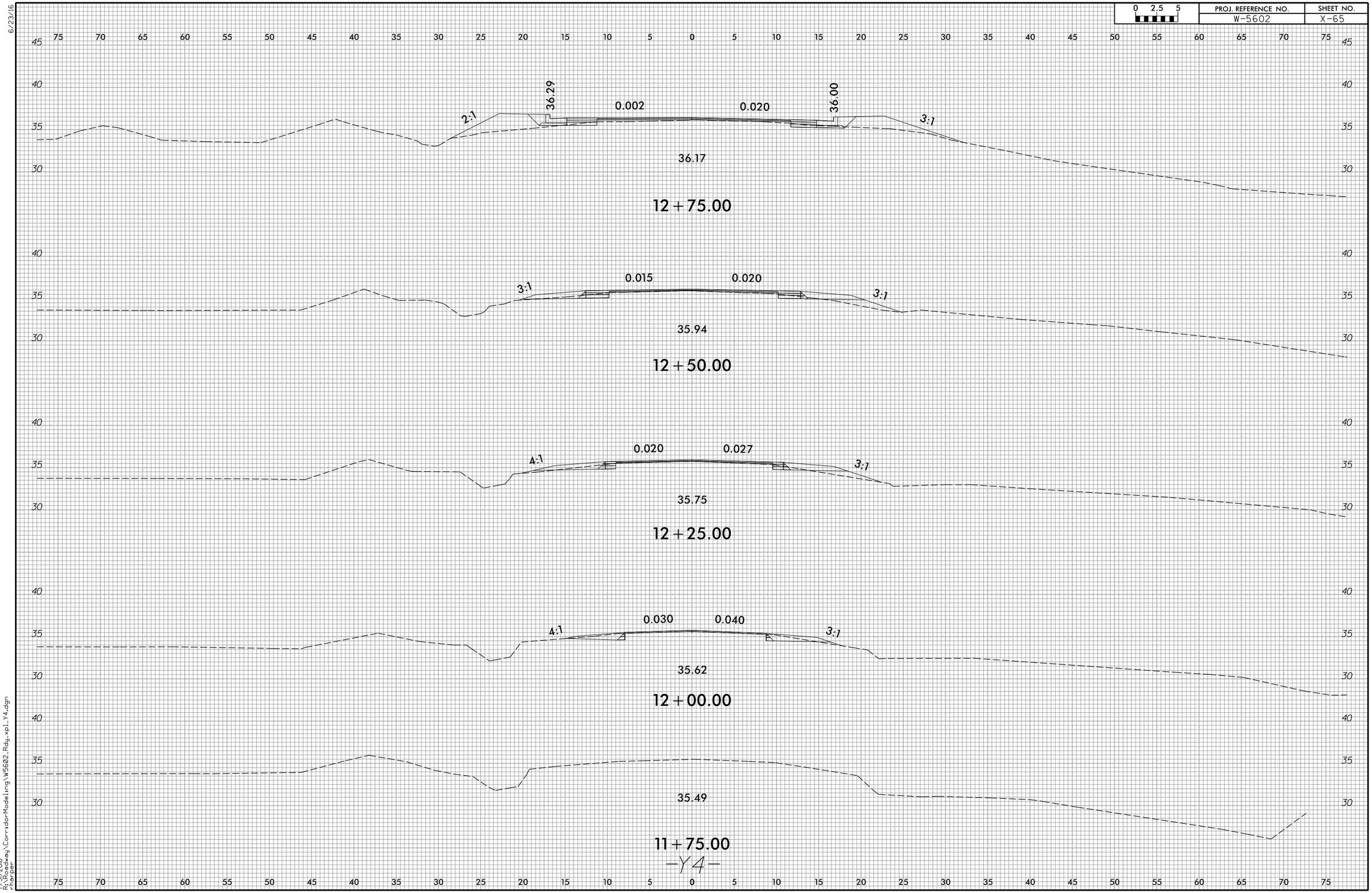
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-65 |

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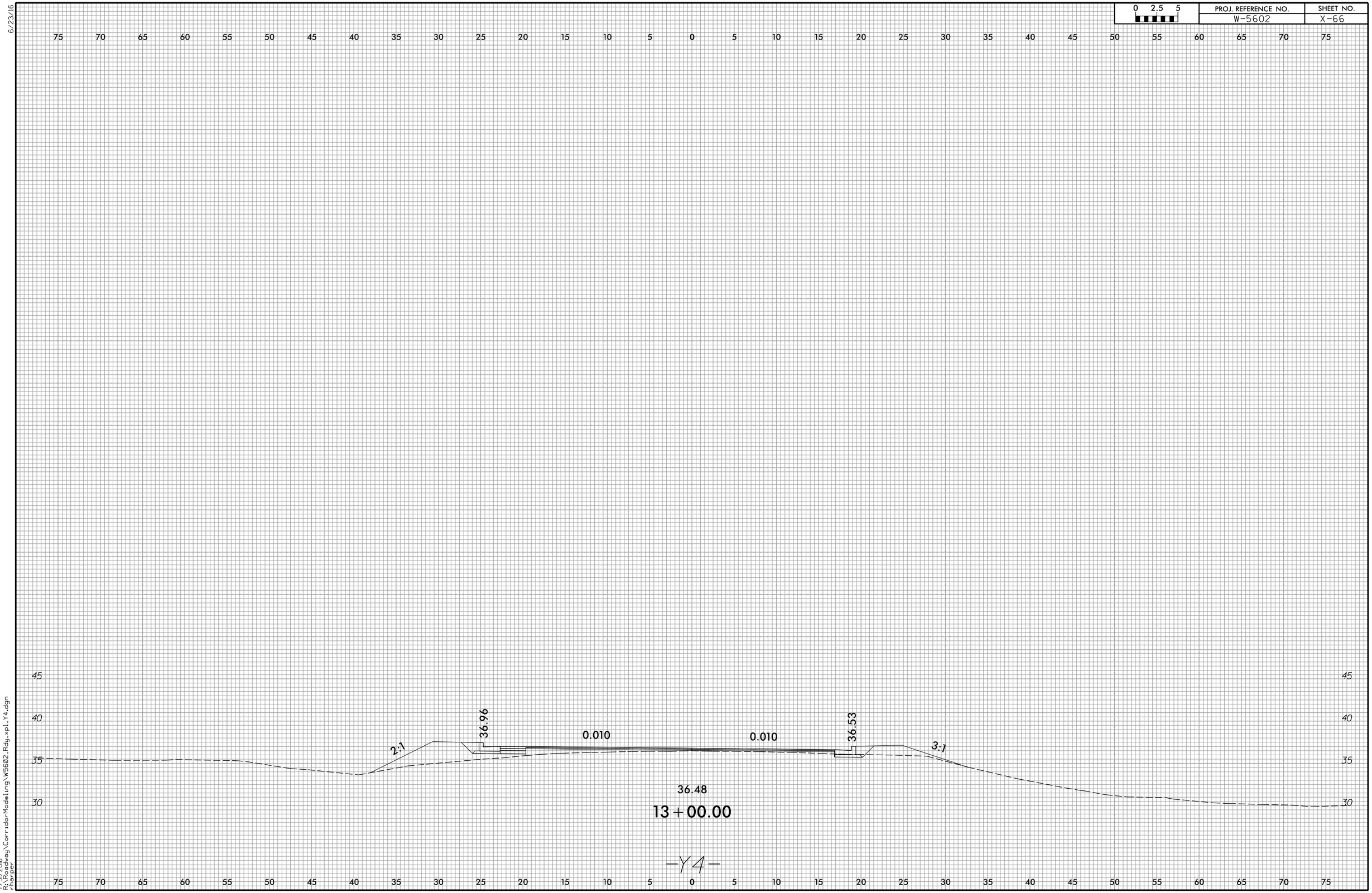
|---|---|---|
| | W-5602 | X-66 |

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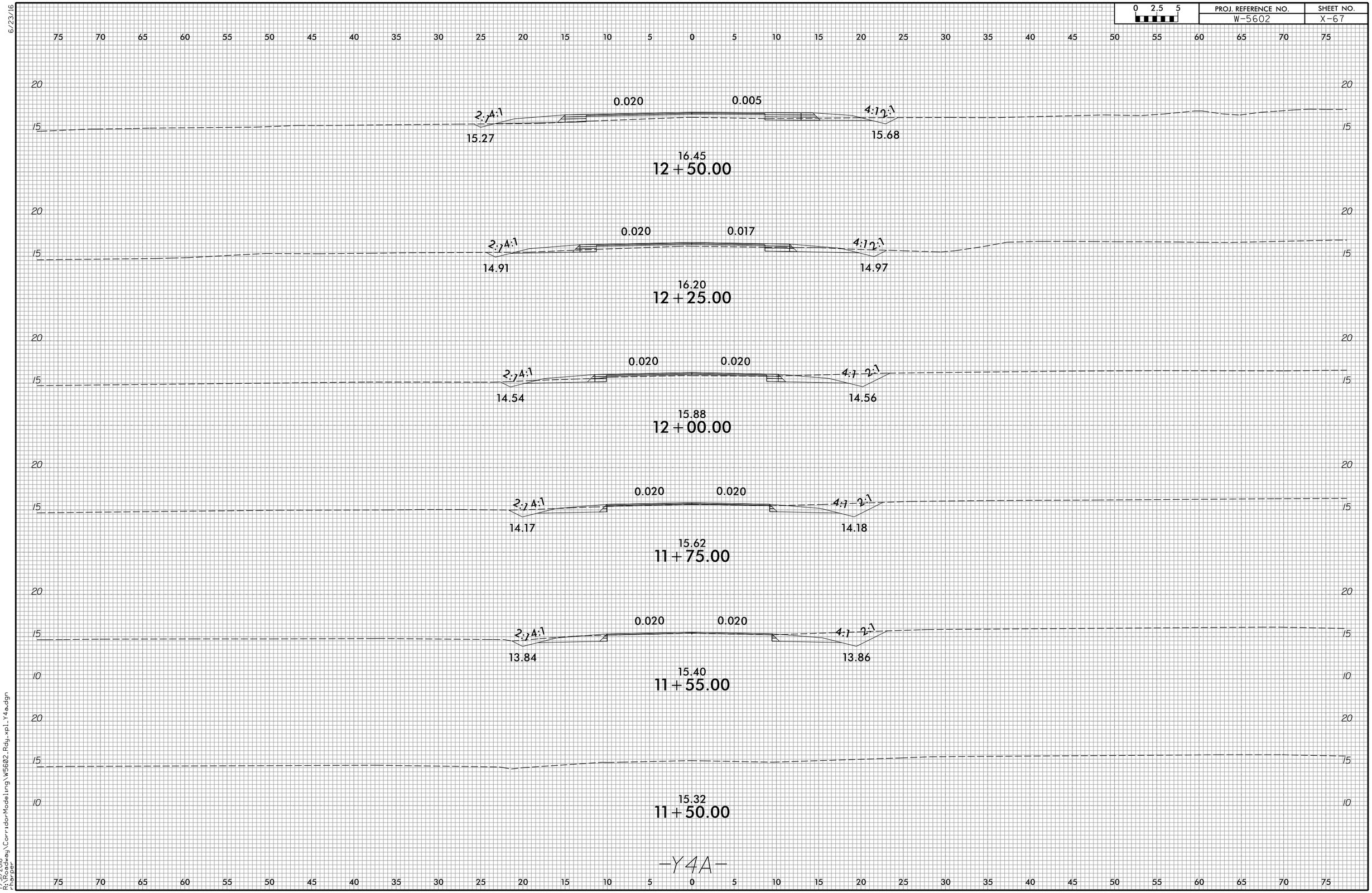
|---|---|---|
| | W-5602 | X-67 |

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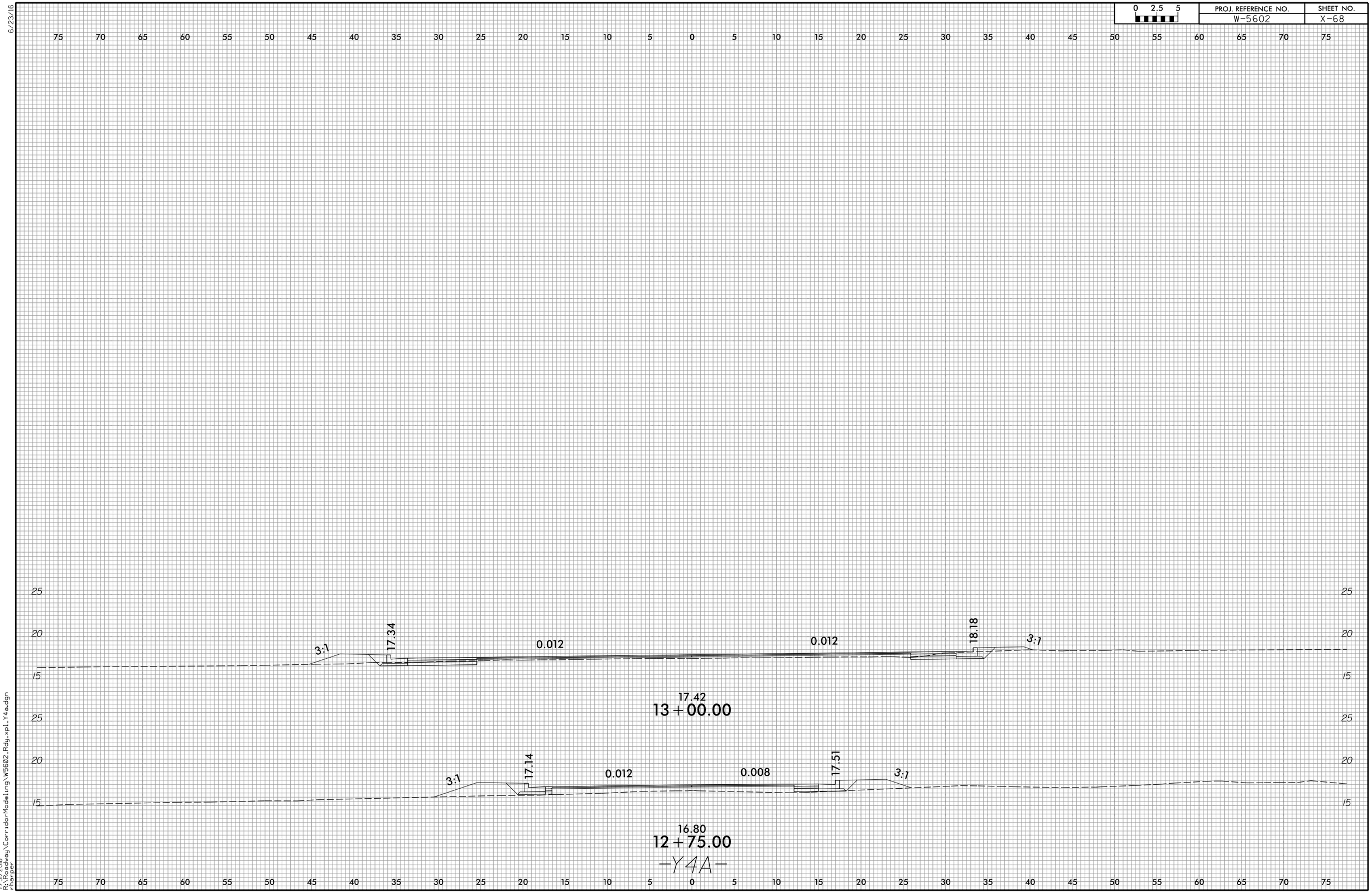
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-68 |

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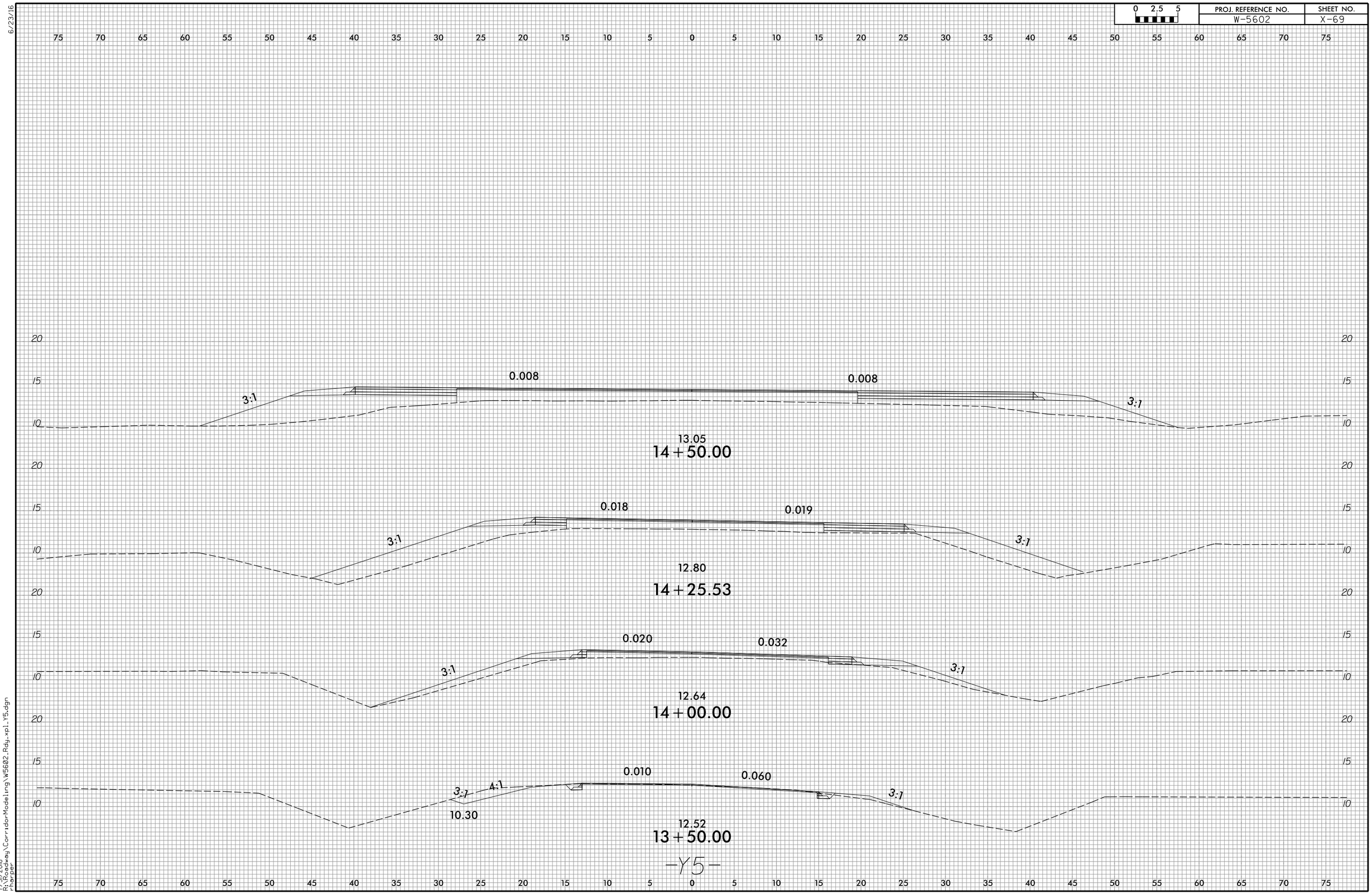
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-69 |

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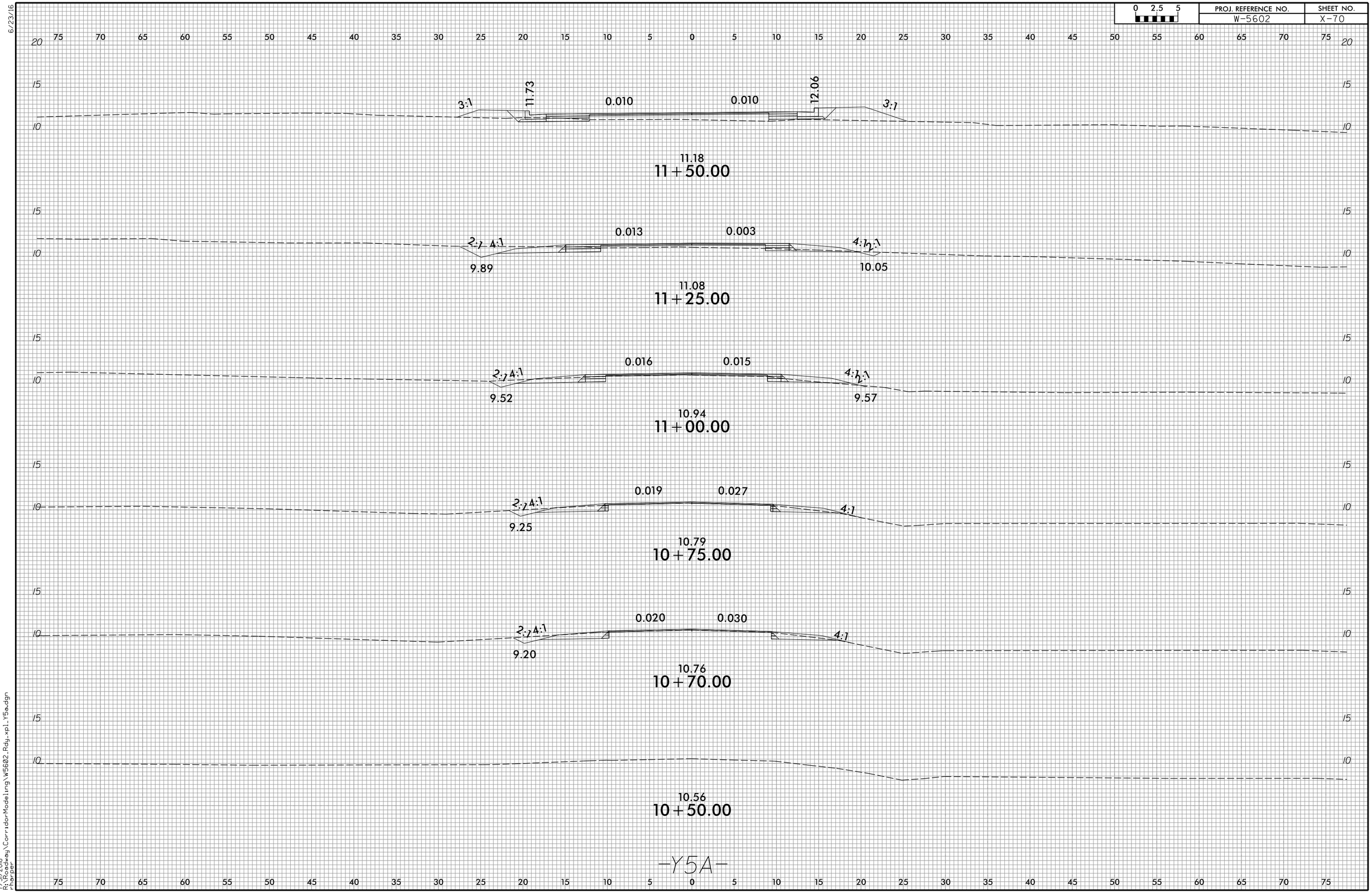
| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5602 | X-70 |

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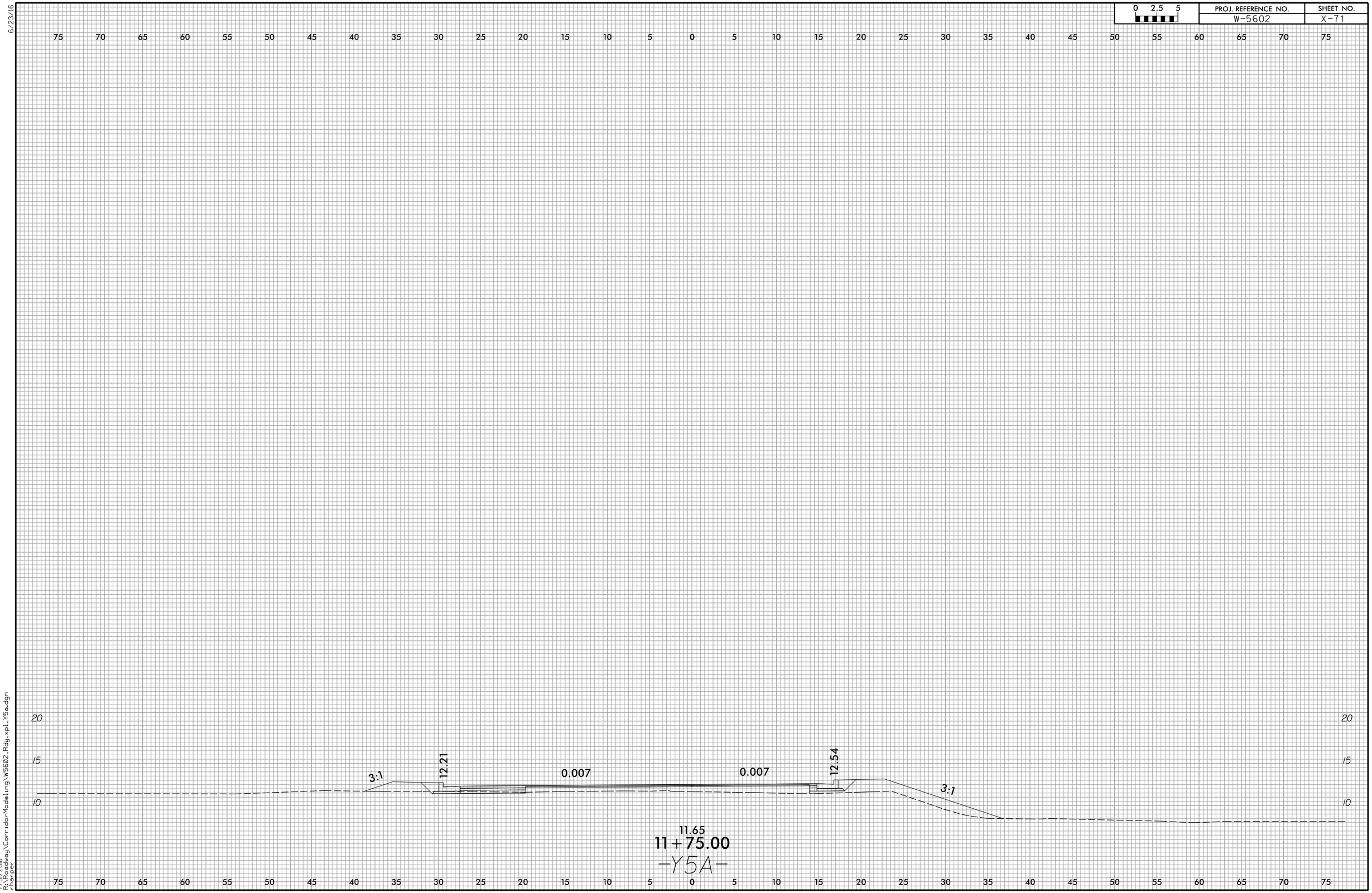
|---|---|---|
| | W-5602 | X-71 |

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