

HAS-22-18.75

US 22 4-Lane Widening Study

PID 115278
Harrison County



Submitted to ODOT District 11
April 2022

Project Summary

ODOT District 11 requested Engineering Associates complete a Preliminary Engineering Study (PES) to widen US 22 in Harrison County, Ohio, between approximate SLM 18.75 and SLM 21.70, to a four-lane divided section of roadway. This section of roadway is currently a two-lane roadway, but adjacent sections to the north and south are four-lane divided. The PES developed construction limits for the proposed work, evaluated right of way needs for the project, and determined a construction cost estimate for future budgeting purposes.

Design Approach

The original HAS-22-18.97 construction plans from the early 1960s constructed this portion of the roadway as a 2-lane road; however, the right of way plans acquired adequate right of way for a 4-lane divided median roadway. The original design constructed the two-lane roadway in the location where the eastbound lanes of the future 4-lane roadway would be. The PES completed the conceptual level design of the westbound half of this roadway to verify whether adequate right of way is available for the project. Aerial images and lidar mapping were downloaded from the OGRIP website to be used as the basemapping for the study. The horizontal and vertical alignments were set to closely match existing from record plans so the existing 2-lane roadway could be resurfaced and become the proposed eastbound lanes. New full depth pavement will be constructed for the westbound lanes. Existing at-grade intersections will be maintained, and left turn lanes will be provided at each intersection. The proposed roadway was designed to meet 70 mph design criteria in case speed limits are increased in the future.

Typical Section

The existing US 22 typical section consists of one 12-foot lane in each direction with eight-foot paved shoulders. The proposed typical section includes two 12-foot lanes in each direction with 8-foot wide outside shoulders, 4-foot wide median shoulders, and a 40-foot grass median. The proposed typical section will utilize the existing two-lane roadway as the eastbound lanes of the proposed four-lane divided highway. The existing pavement will be planed ($\pm 3\frac{3}{4}$ "') and resurfaced. Four feet of pavement will be removed for the median shoulder. New full depth pavement will be provided for the westbound lanes. The pavement build-up and typical sections (US 22 and side roads) are included in Appendix A. The proposed typical section matches the existing US 22 typical section at the eastern and western project limits. No subgrade stabilization was included on the project since the existing 2-lane road will be resurfaced, and a significant portion of the proposed westbound lanes will be constructed on new fill material. The pavement design was developed based on 8700 ADT with 30% trucks.

ROW

The proposed construction limits generally stay within the existing right of way except at several locations. Near Sta 1130+00 just west of TR 177, the 2:1 cut backslope extends beyond the right of way and construction limits and gets close to an existing building. The grading lines near Sta

1143+00 stay within existing right of way, however, construction limits do not. Finally, construction limits at Sta 1058+50 cut across the corner of the existing right of way. At each of these locations, we anticipate that slightly revised grading slopes, storm sewers, adjusting the ditch profile, or adjusting the westbound roadway profile grade would all be options that could be investigated during final design to eliminate the need for additional right of way on this project.

Utilities

Utility impacts appear to be minimal along the corridor. Overhead power lines generally cross perpendicular to the roadway and poles are typically beyond the existing right of way.

Maintenance of Traffic

Traffic will be maintained on the existing two-lane roadway during earthwork and paving operations for the proposed westbound lanes. The work zone will be protected with portable barrier and construction access points with impact attenuators were assumed at ½ mile intervals along the project. Traffic will be shifted to the newly constructed westbound lanes while the eastbound lanes are planed and resurfaced. The majority of project work can be completed in two main phases of construction.

Embankment/Excavation

Earthwork will be the most significant cost driver for this project. Cross sections were analyzed every 100 feet to determine accurate earthwork quantities. The existing plans and soil borings show predominantly shale and limestone in the original borings. Rock excavation was assumed where the existing plans showed 1:1 cut slopes. Proposed grading with 1:1 slopes, similar to existing, was provided in these areas for the westbound lanes. Rock excavation volumes were calculated and itemized separately in the cost estimate. Custom benching into the existing slopes was also factored into both the excavation and embankment quantities. ODOT bid tabs, summary of contracts awarded, and Estimator prices were analyzed to determine unit prices for the cost estimate.

Post Construction BMPs

We anticipate the post construction BMPs utilized on this project will be vegetated filter strips along the 4:1 grass median foreslopes. The treatment percentage is 20% and the estimated EDA is approximately 55 acres. The filter strips will need to be approximately 7500 feet in length. The vegetated filter strips added approximately 3000 cubic yds of Item 659 Topsoil and 27,000 square feet of Item 670 Slope Erosion Protection.

Median Drainage

Median catch basins were assumed at the low point of each sag vertical curve, the high side of each intersection, and the high side of the bridge. Additional catch basins were spaced at

approximately 1000' intervals which results in an average median ditch flow depth of approximately four inches. Final median catch basin spacing must be updated with final design. Each median catch basin outlets to the toe of slope with 24" conduit using broken back, Type F conduit when on high fills. Median catch basins within major rock cut sections will be connected via a median trunkline storm sewer until a suitable outlet is found. This resulted in additional Type C conduit and CB-4 catch basins.

Culverts

All culverts will be replaced to ensure drainage is functioning properly along the corridor. Proposed culverts will be jacked and bored under the existing embankment and then extended via traditional open cut methods before completing the proposed embankment for the westbound lanes. Existing culverts will be plugged and filled due to the high fill after completion of the proposed culverts.

Traffic Control

New thermoplastic pavement markings were included for the mainline and sideroads. Miscellaneous signing for the side road stop control and intersection signing was also included in the estimate.

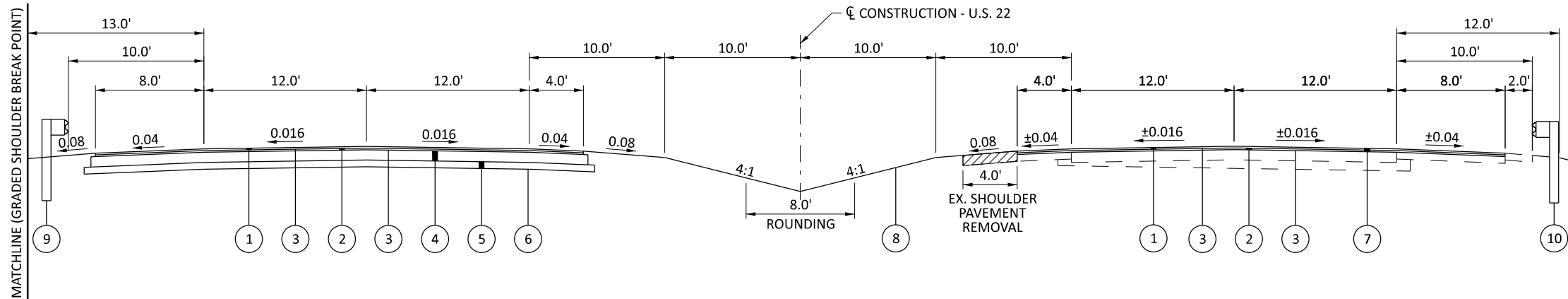
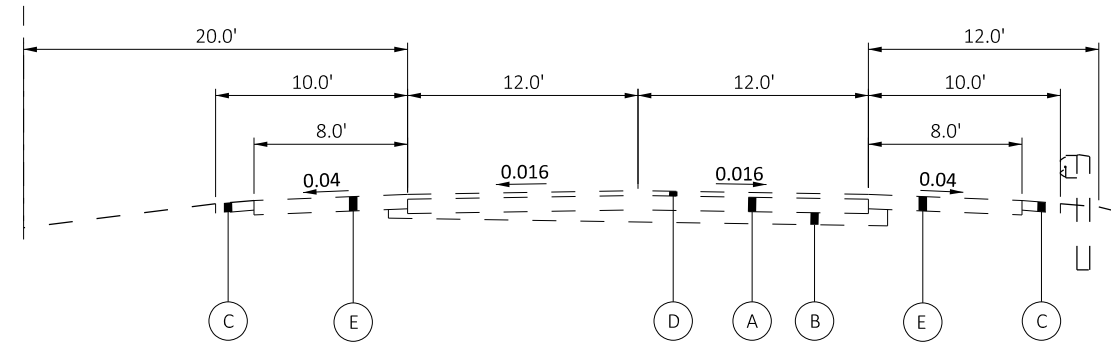
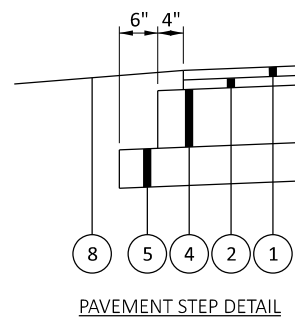
Construction Cost Estimate

The construction cost estimate of \$34,200,000 is based on **current 2022 dollars**. No inflation factor has been added since a proposed construction date has not been determined at this time. A design contingency of 20% was included to account for miscellaneous items that will not be determined until final design is completed. Nearly 70% of the project cost is from excavation/embankment and pavement. Current inflation for diesel fuel and asphalt products will have a significant impact on the cost of this project and could vary dramatically in the future.

Appendices

- Appendix A – Typical Sections
 - US 22
 - Side Roads
- Appendix B – Plan & Profile Sheets
 - US 22
 - Side Roads
- Appendix C – Cross Section Sheets
 - US 22
- Appendix D – Preliminary Construction Cost Estimate

Appendix A – Typical Sections

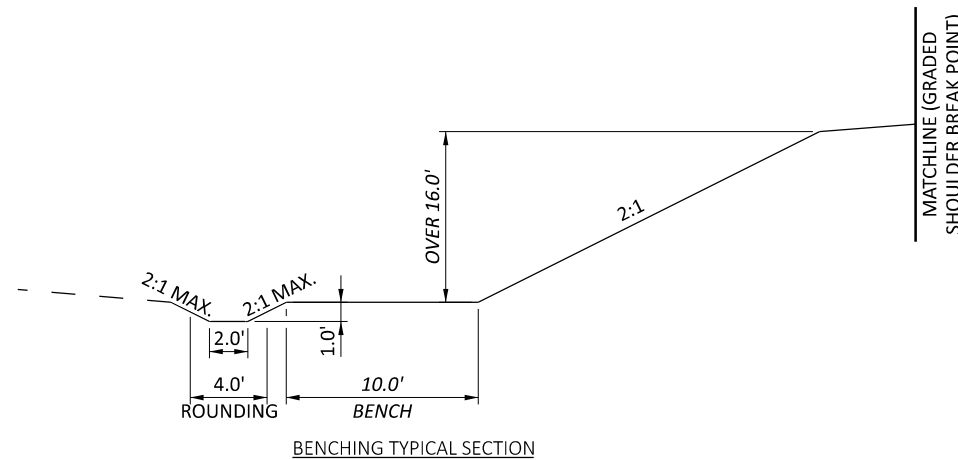
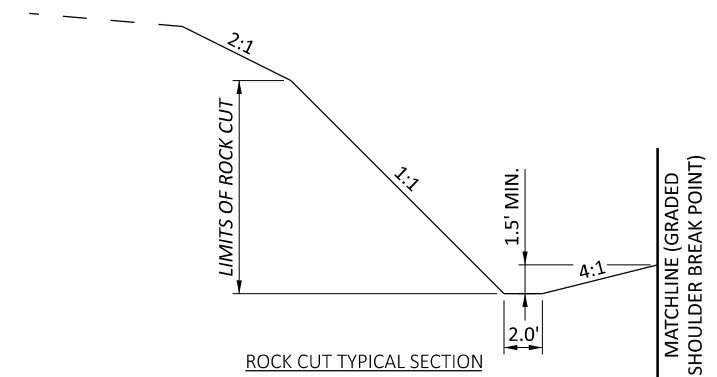
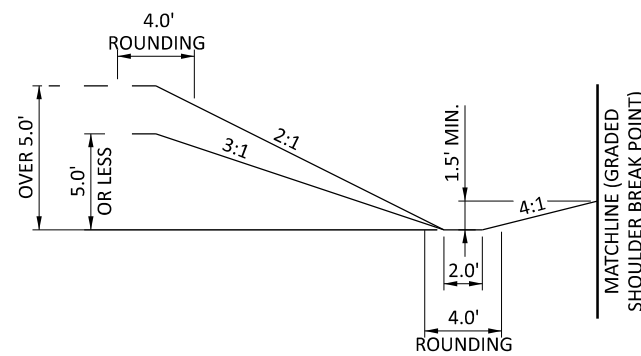


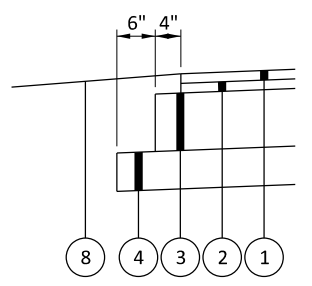
EXISTING ITEM LEGEND

- (A) 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (B) SUBBASE
- (C) AGGREGATE SHOULDERS
- (D) ASPHALT OVERLAY
- (E) ASPHALT SHOULDER

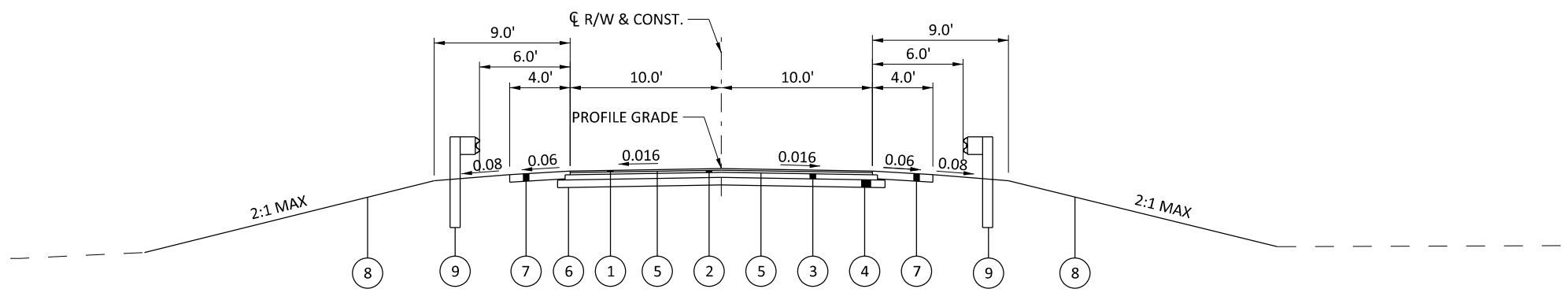
PROPOSED LEGEND - U.S. 22

- (1) ITEM 442 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
- (2) ITEM 442 - 2 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19.0 MM, TYPE A (446)
- (3) ITEM 407 - TACK COAT
- (4) ITEM 301 - 8" ASPHALT CONCRETE BASE
- (5) ITEM 304 - 6" AGGREGATE BASE
- (6) ITEM 204 - SUBGRADE COMPACTION
- (7) ITEM 254 - PAVEMENT PLANING (3 3/4" DEPTH)
- (8) ITEM 659 - SEEDING AND MULCHING
- (9) ITEM 606 - GUARDRAIL, TYPE MGS
- (10) ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS

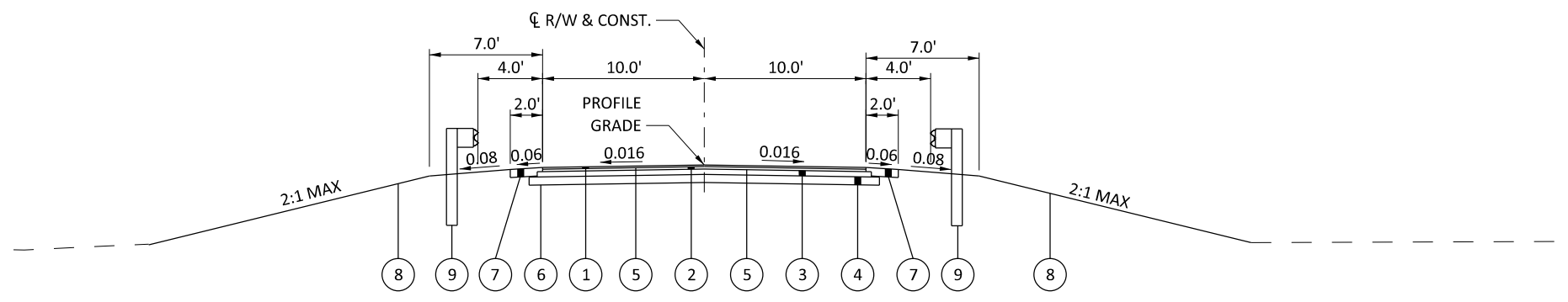




PAVEMENT STEP DETAIL



NORMAL TYPICAL SECTION - C.R. 51 (BAKERS RIDGE RD.)



NORMAL TYPICAL SECTION

PROPOSED LEGEND - SIDEROADS

- ① ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (449), PG 64-22
- ② ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (449), PG 64-22
- ③ ITEM 301 - 4" ASPHALT CONCRETE BASE, (449), PG 64-22
- ④ ITEM 304 - 6" AGGREGATE BASE
- ⑤ ITEM 407 - TACK COAT
- ⑥ ITEM 204 - SUBGRADE COMPACTION
- ⑦ ITEM 617 - 6" COMPACTED AGGREGATE
- ⑧ ITEM 659 - SEEDING AND MULCHING
- ⑨ ITEM 606 - GUARDRAIL, TYPE MGS

HAS-22-18.75

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TYPICAL SECTIONS - SIDE ROADS

DESIGN AGENCY



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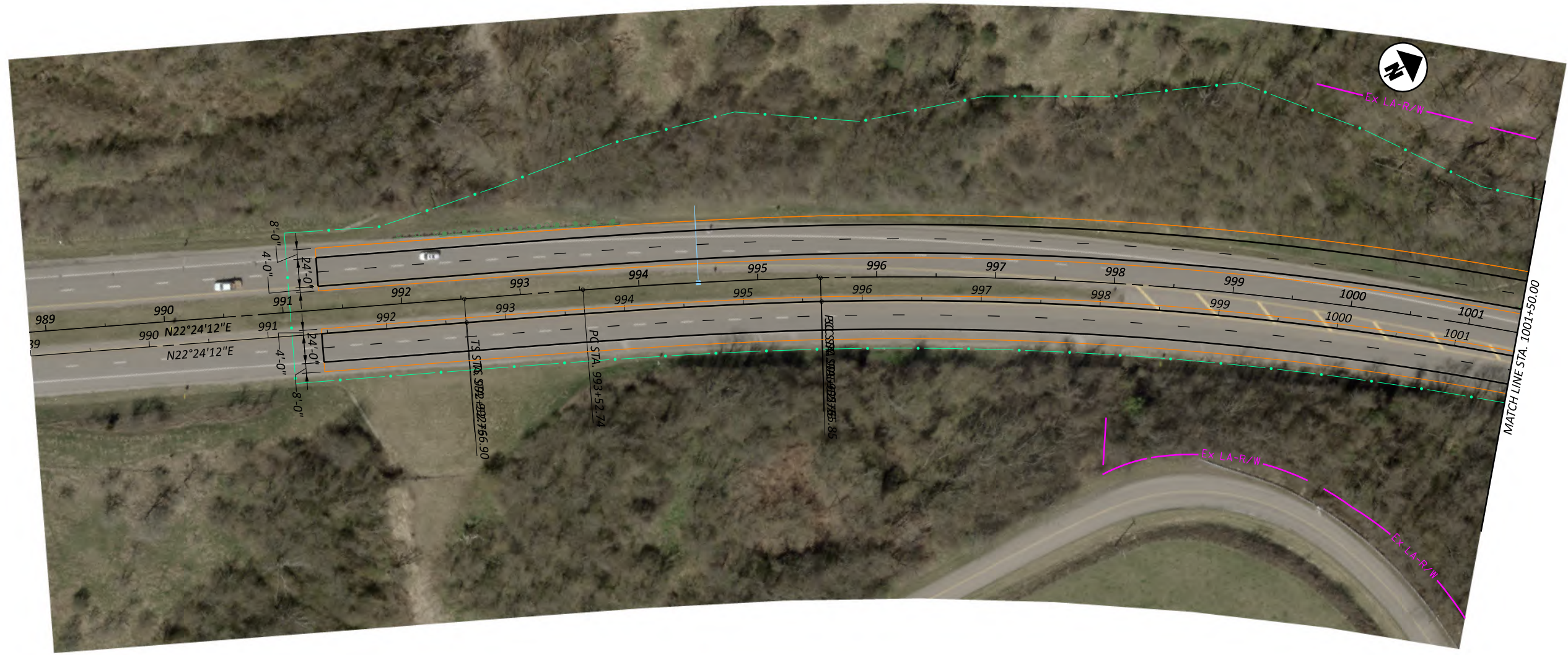
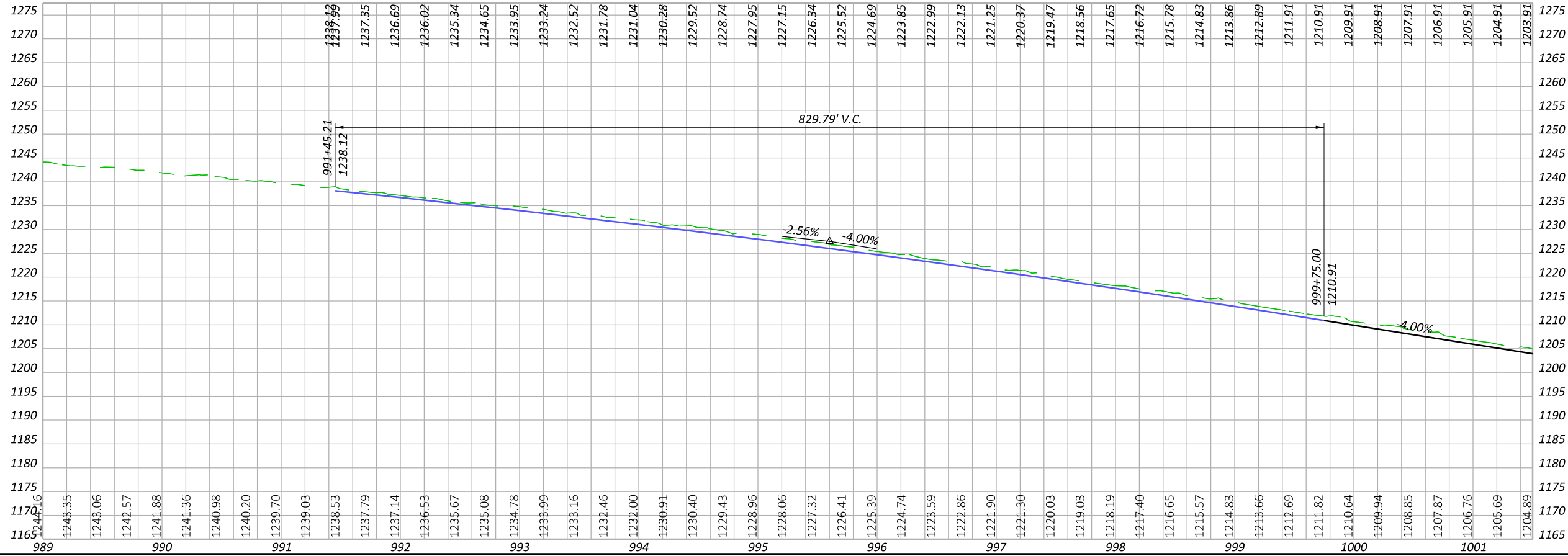
DESIGNER
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REVIEWER
 SDS 4/20/22

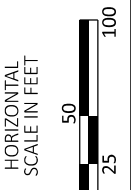
PROJECT ID
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Appendix B – Plan & Profile Sheets

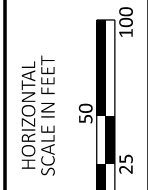
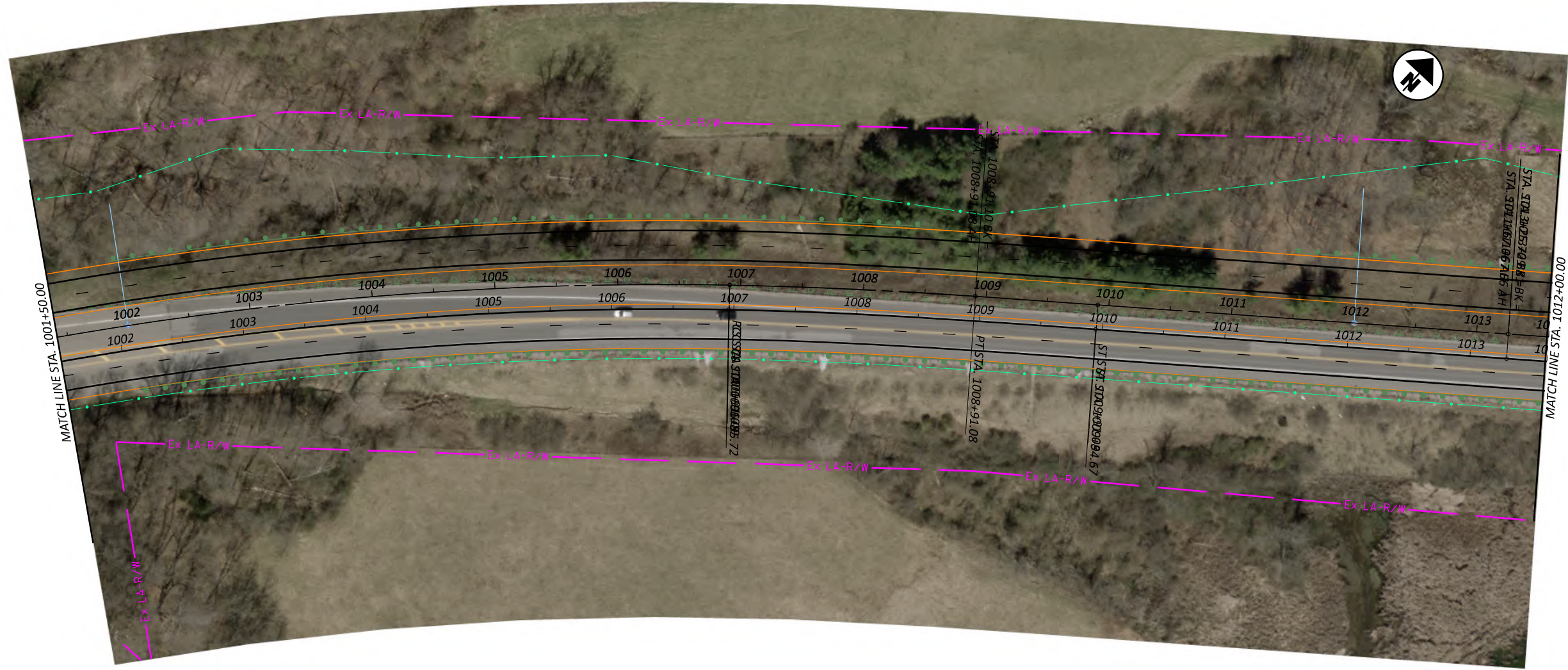
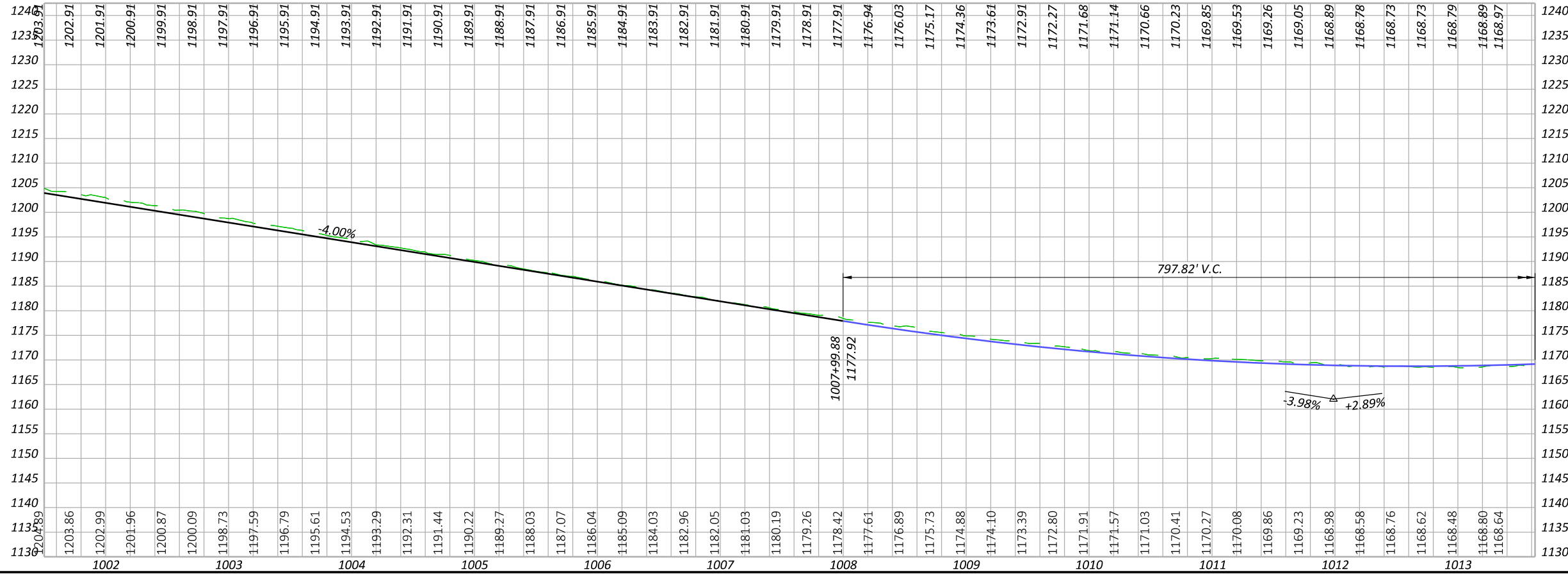


PLAN AND PROFILE - U.S. 22
STA 989+00 TO STA 1001+50



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DESIGNER	JGL
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PROJECT ID	115278
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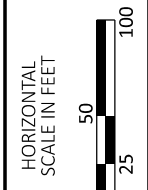
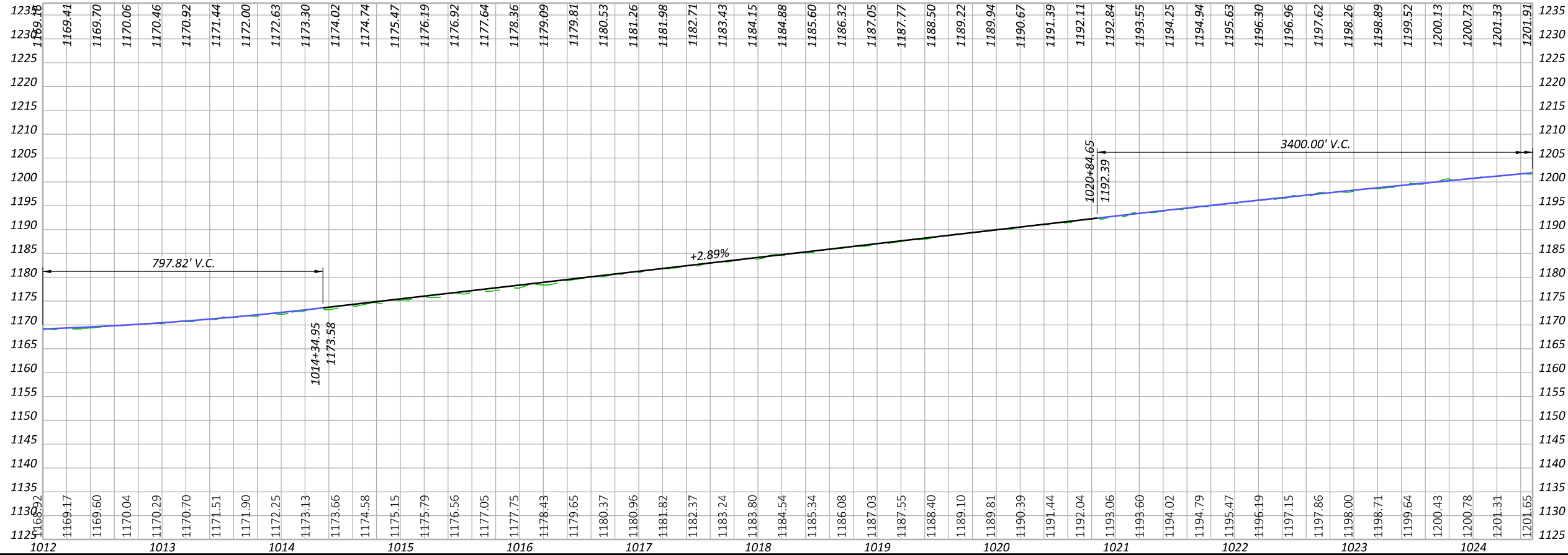
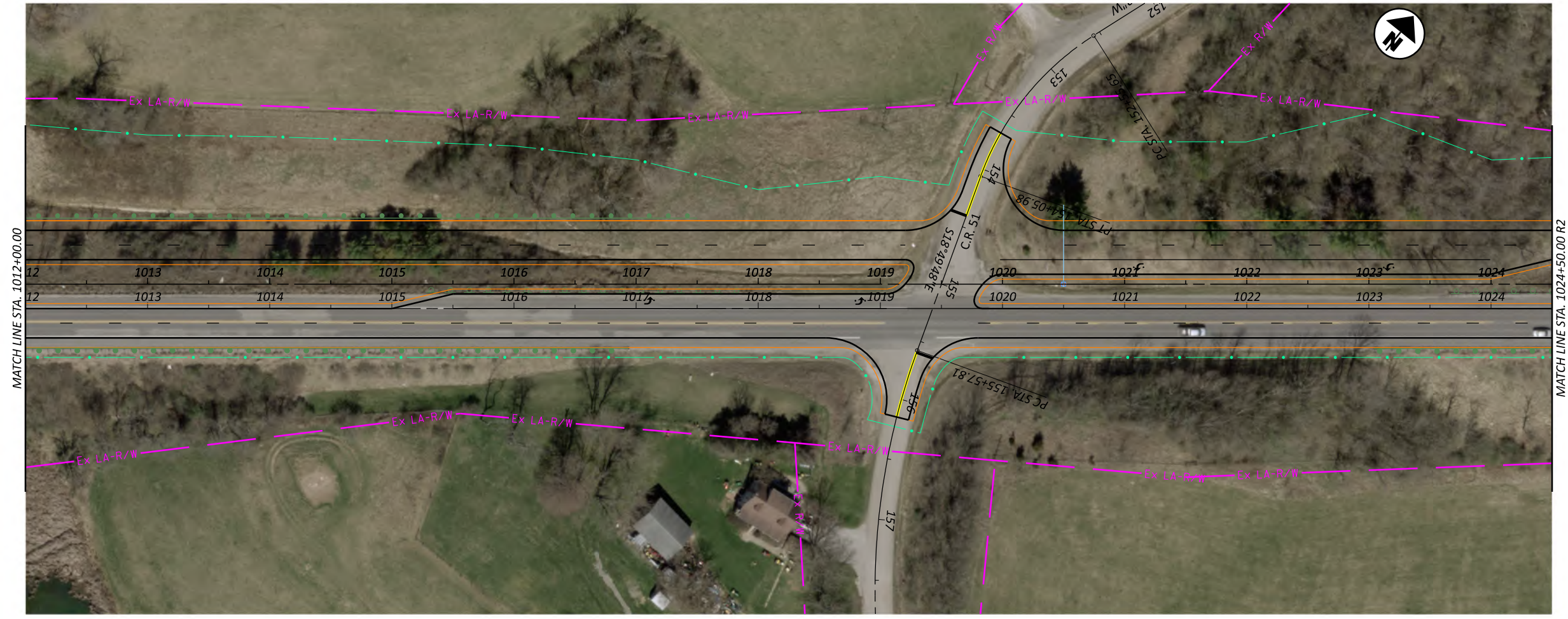


PLAN AND PROFILE - U.S. 22
STA 1001+50 TO STA 1012+00

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DESIGNER	JGL
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DATE	4/20/22
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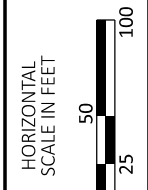
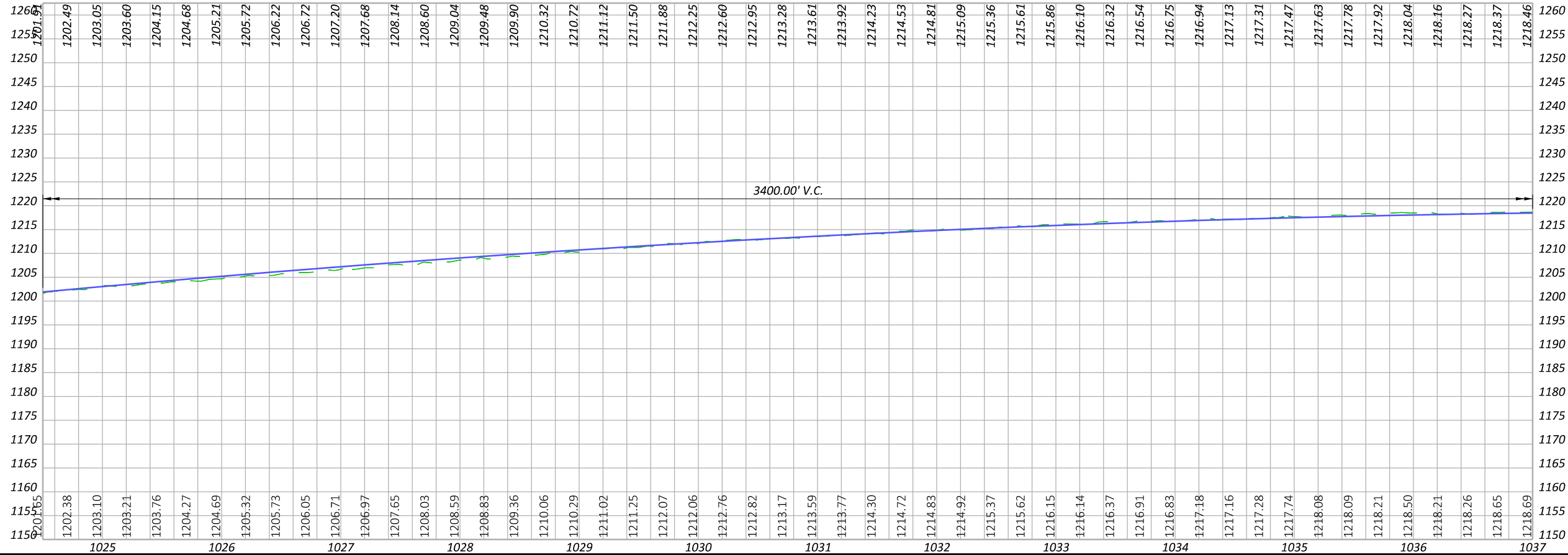
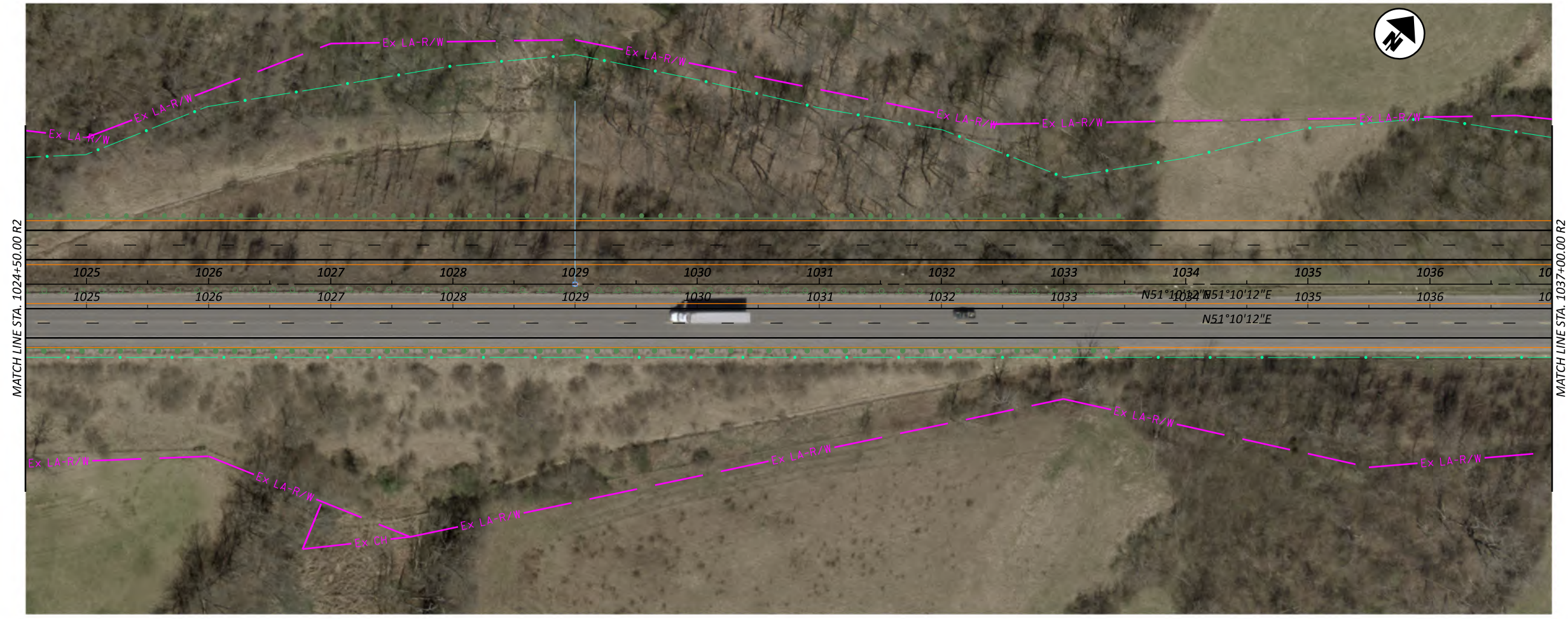


PLAN AND PROFILE - U.S. 22
 STA 1012+00 TO STA 1024+50

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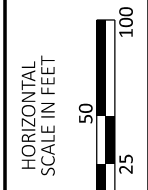
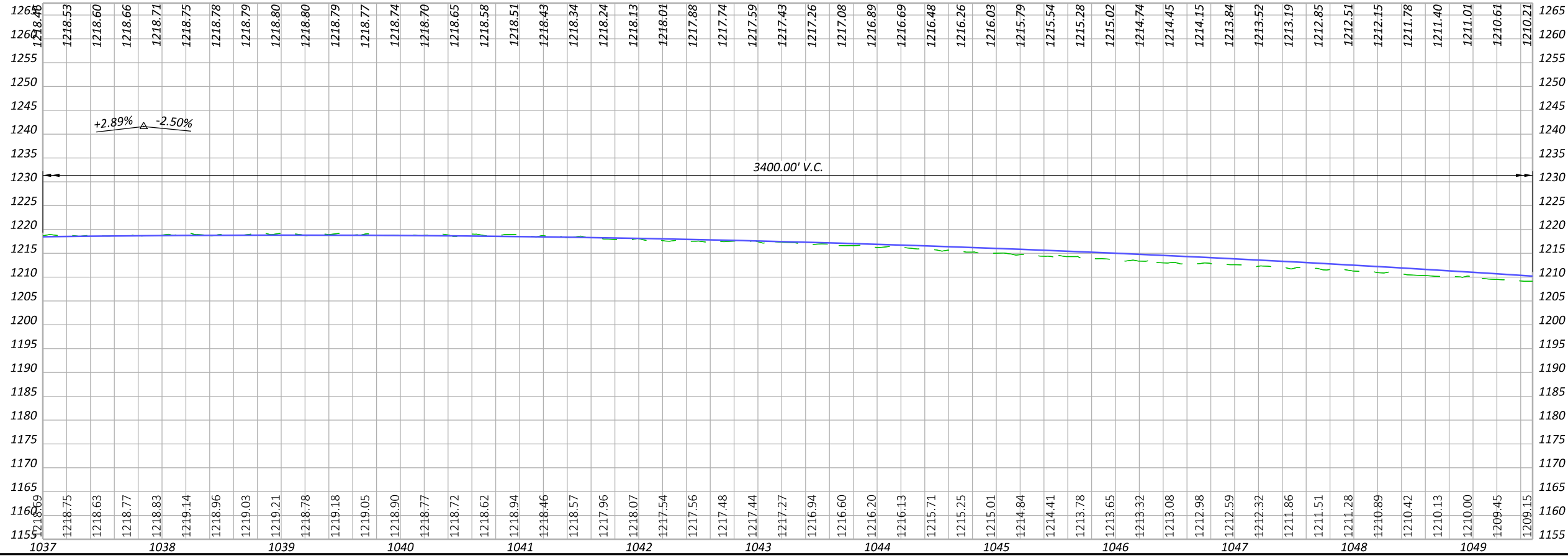
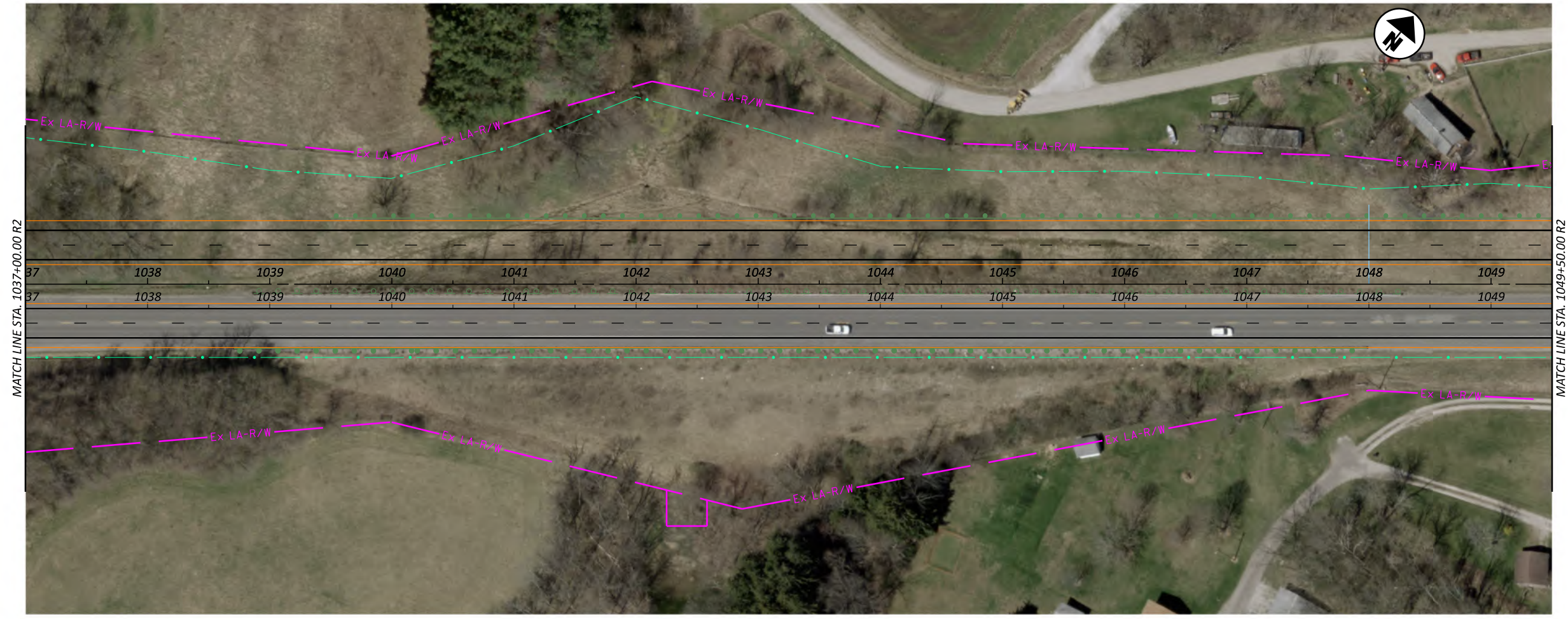


PLAN AND PROFILE - U.S. 22
 STA 1024+50 TO STA 1037+00

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DESIGNER	JGL
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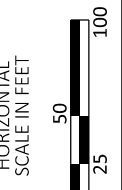
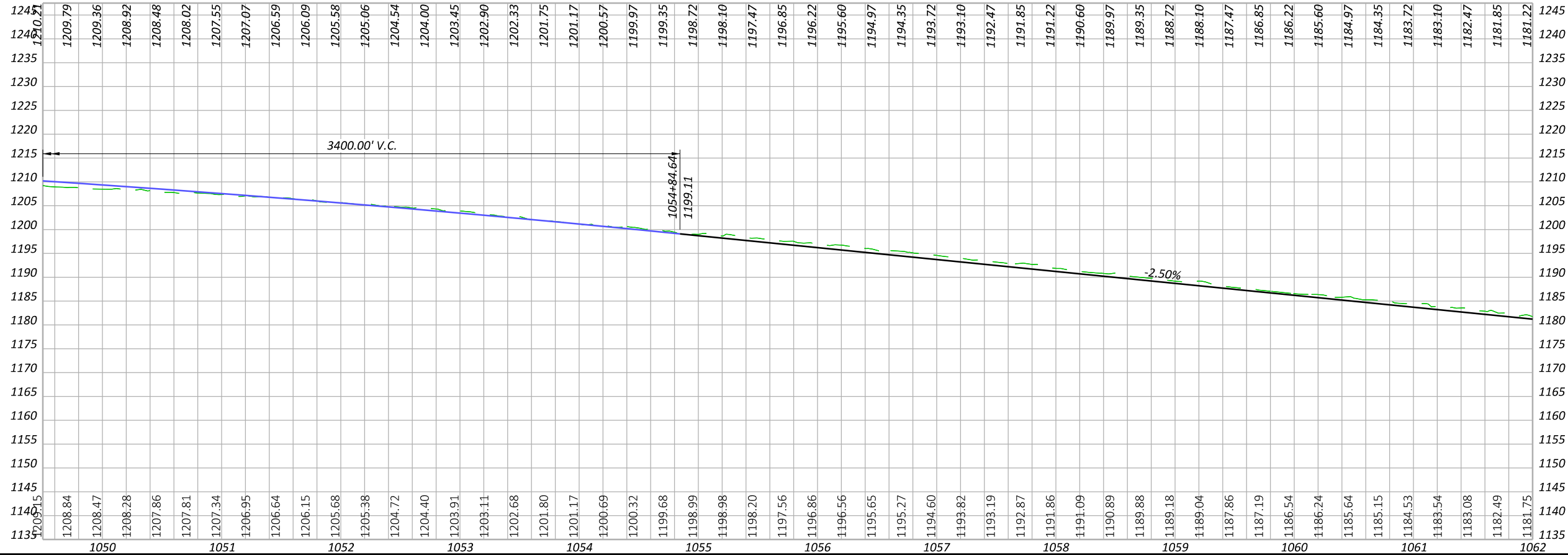


PLAN AND PROFILE - U.S. 22
STA 1037+00 TO STA 1049+50

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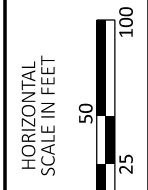
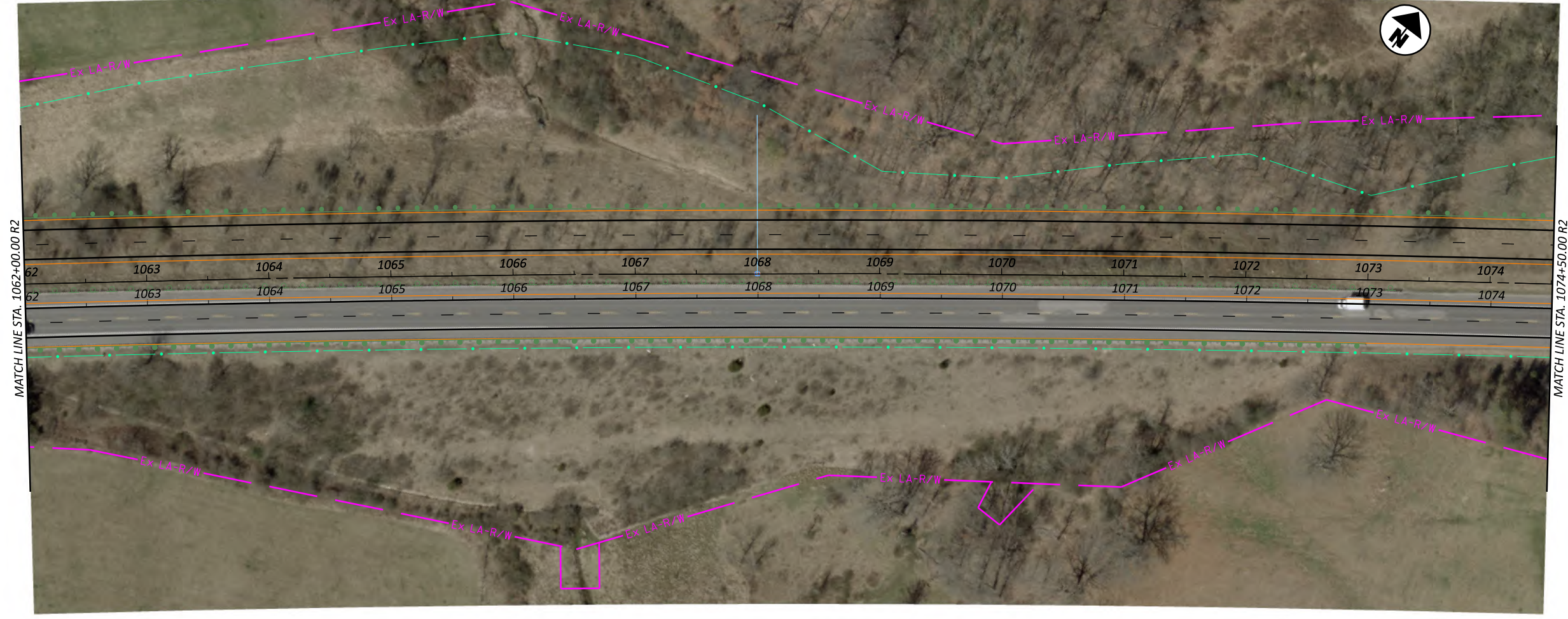
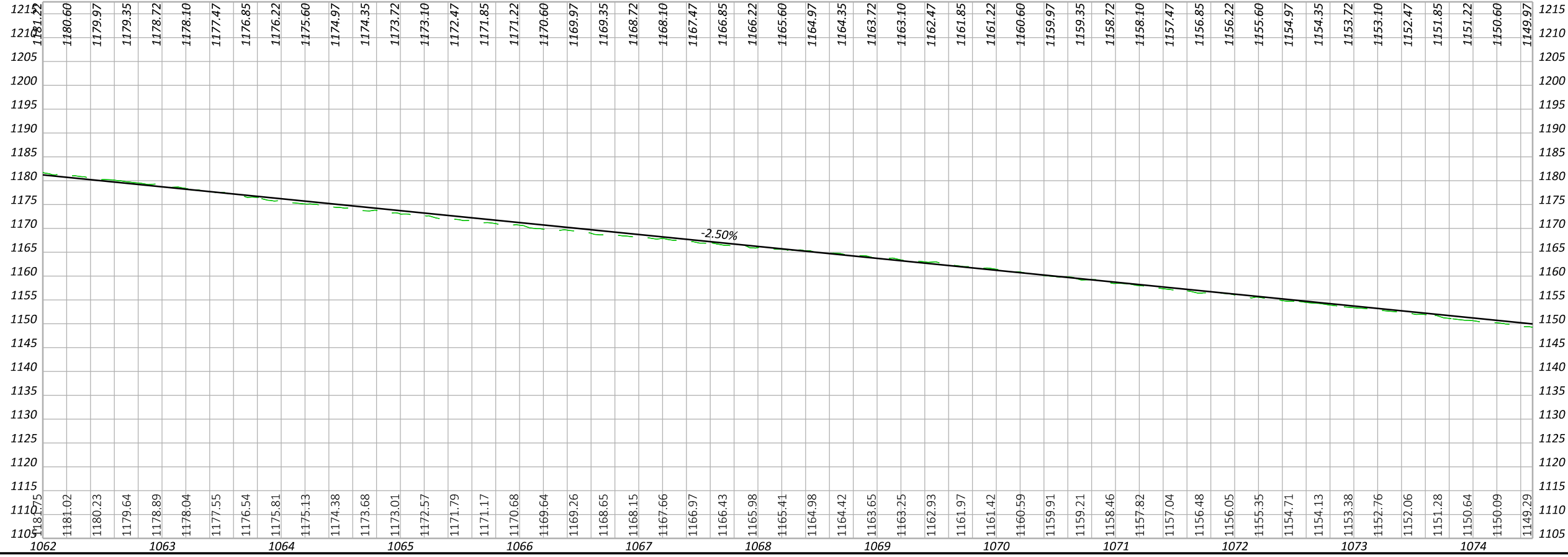
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PLAN AND PROFILE - U.S. 22
 STA 1049+50 TO STA 1062+00

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DESIGNER	JGL
REVIEWER	SDS
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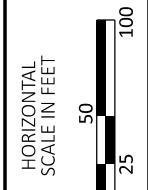
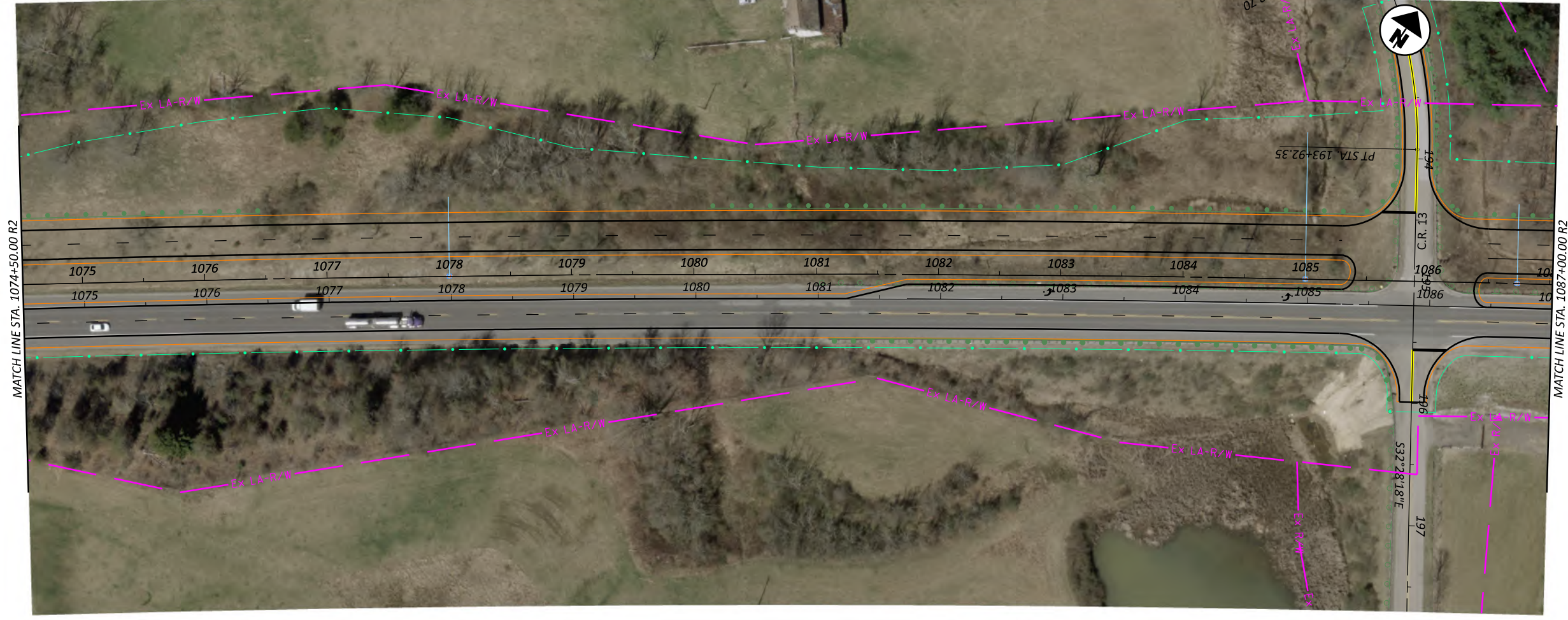
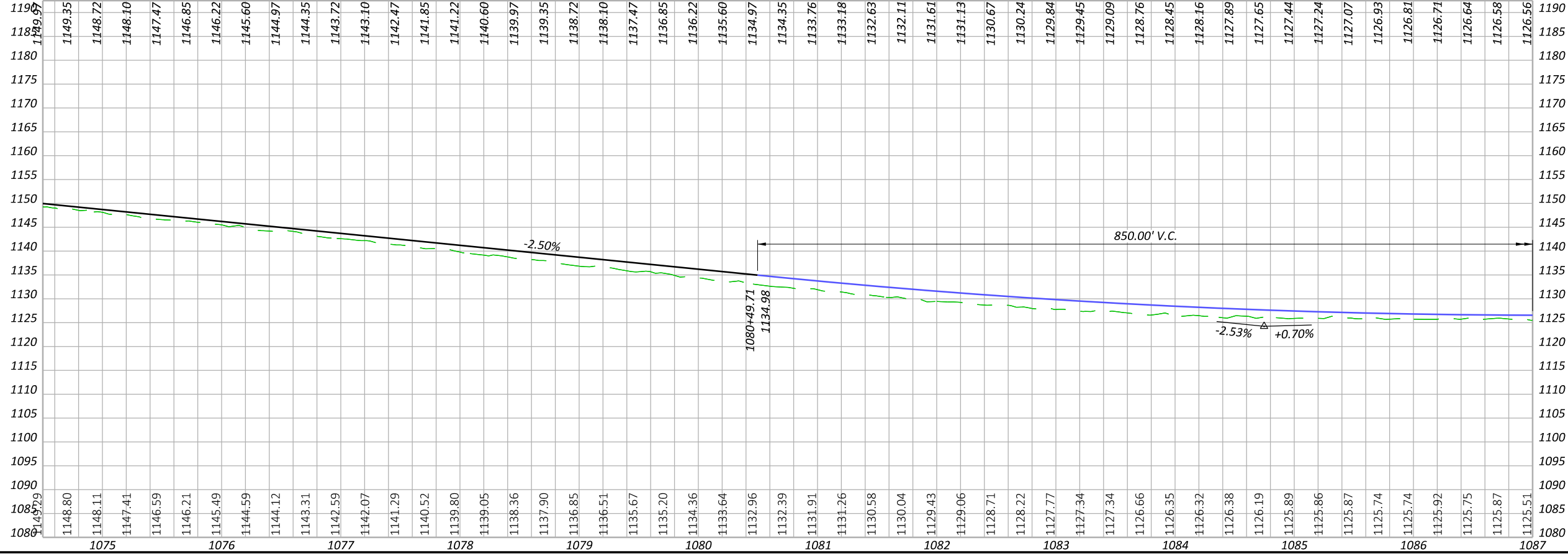


PLAN AND PROFILE - U.S. 22
STA 1062+00 TO STA 1074+50

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REVIEWER	SDS
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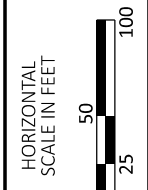
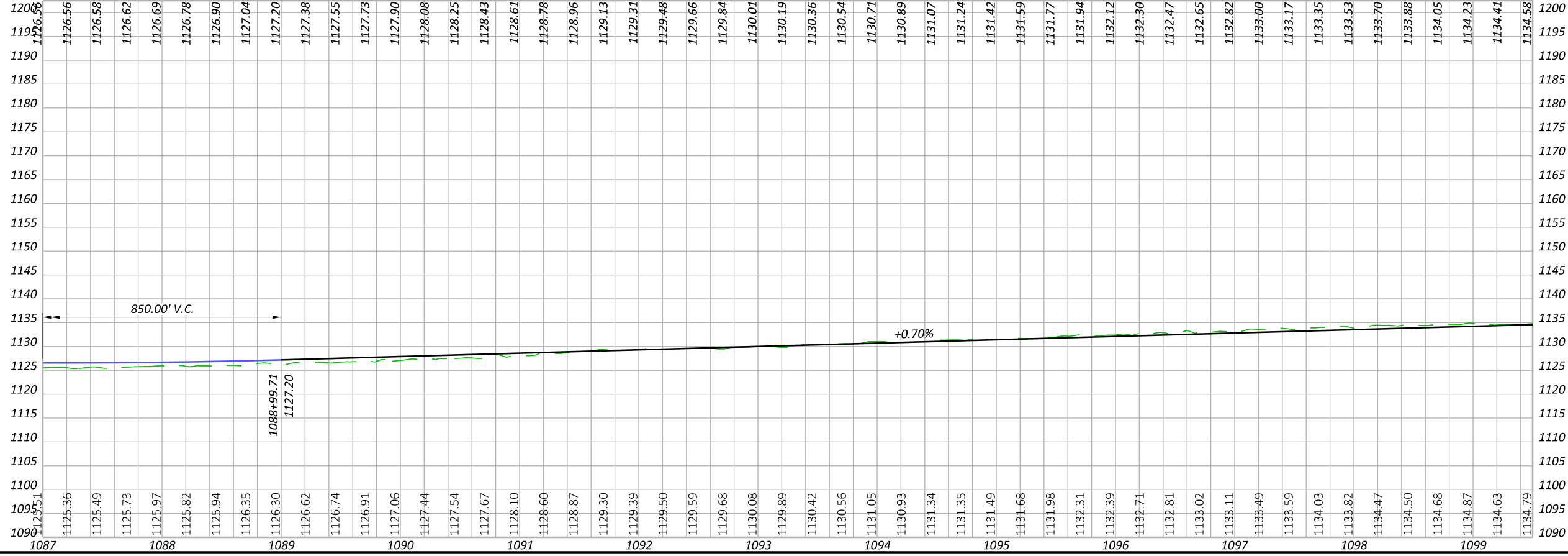


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STA 1074+50 TO STA 1087+00

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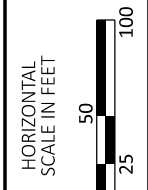
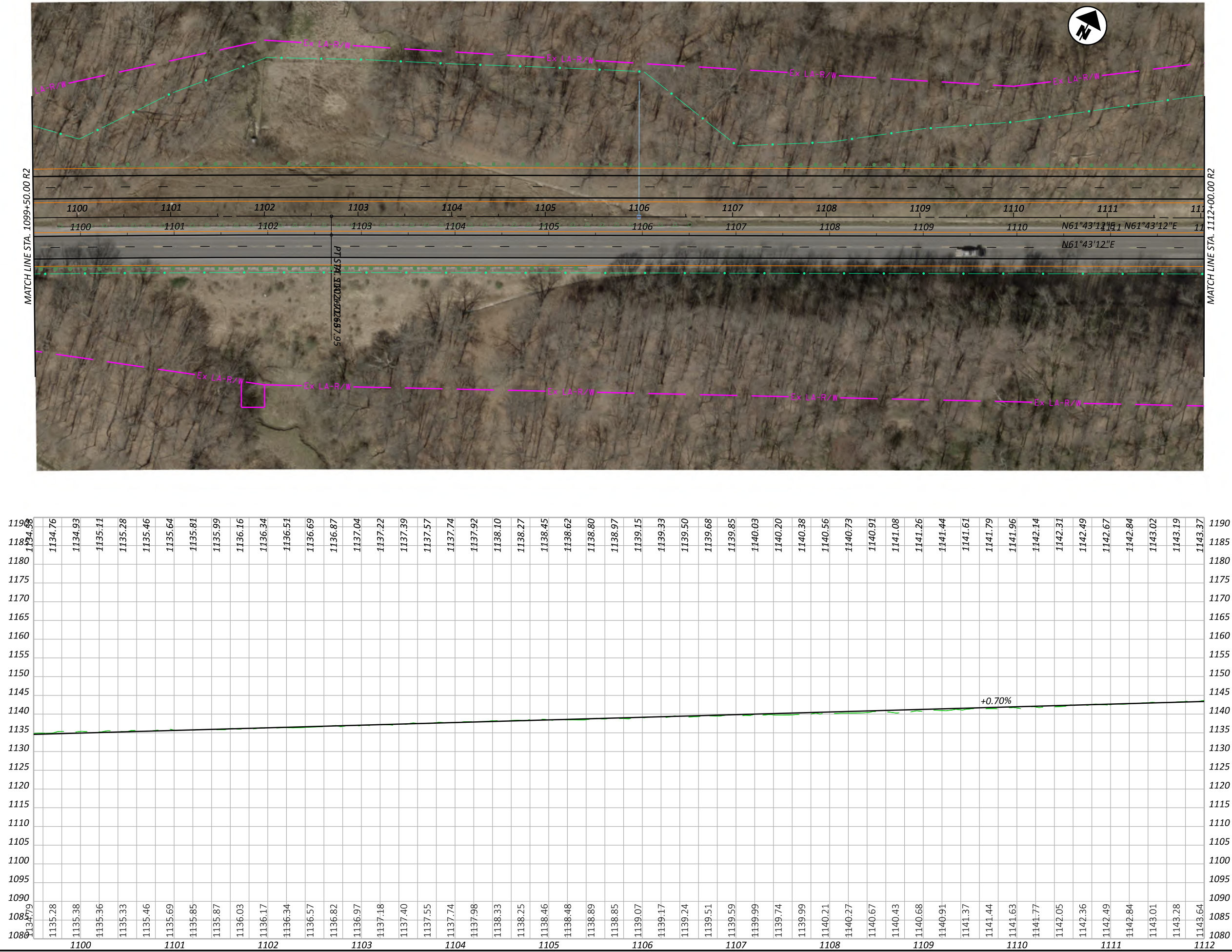
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REVIEWER	SDS
PROJECT ID	115278
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TOTAL	17



PLAN AND PROFILE - U.S. 22
 STA 1087+00 TO STA 1099+50

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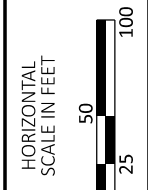
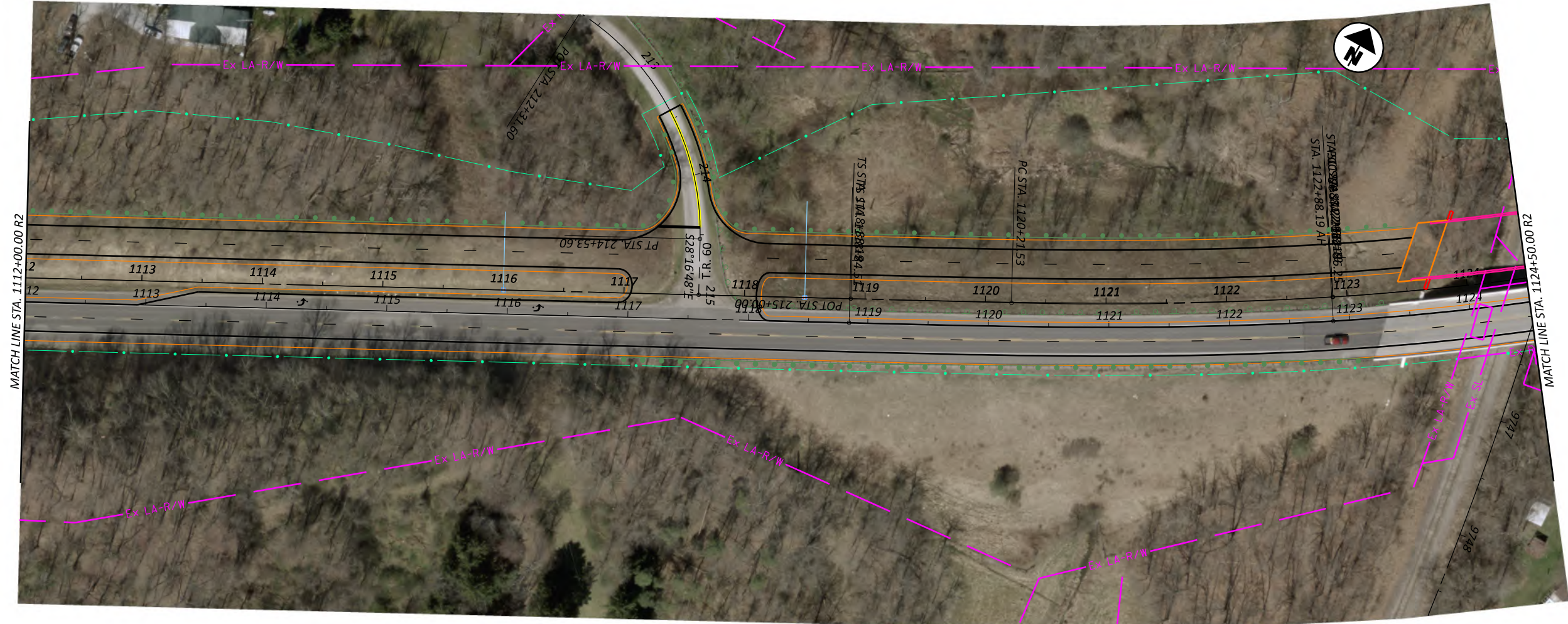
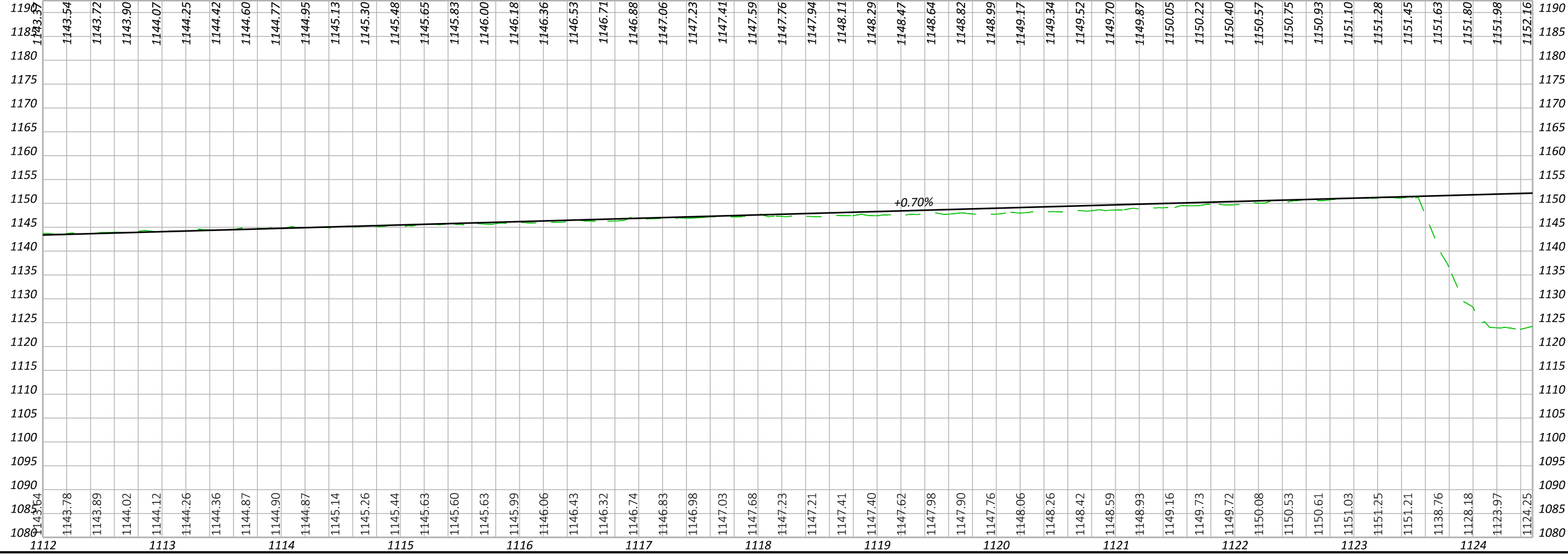
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REVIEWER	SDS
PROJECT ID	115278
SHEET	9
TOTAL	17



PLAN AND PROFILE - U.S. 22
STA 1099+50 TO STA 1112+00

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SDS 4/20/22
PROJECT ID
115278
SHEET TOTAL
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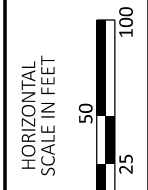
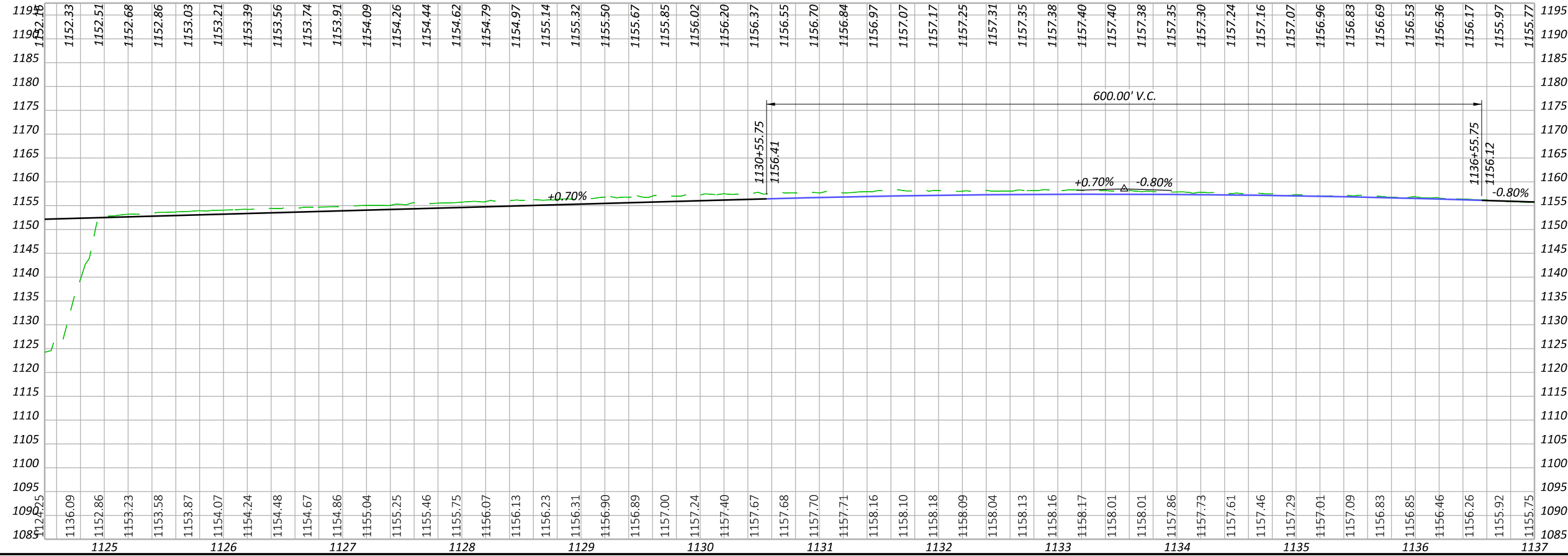
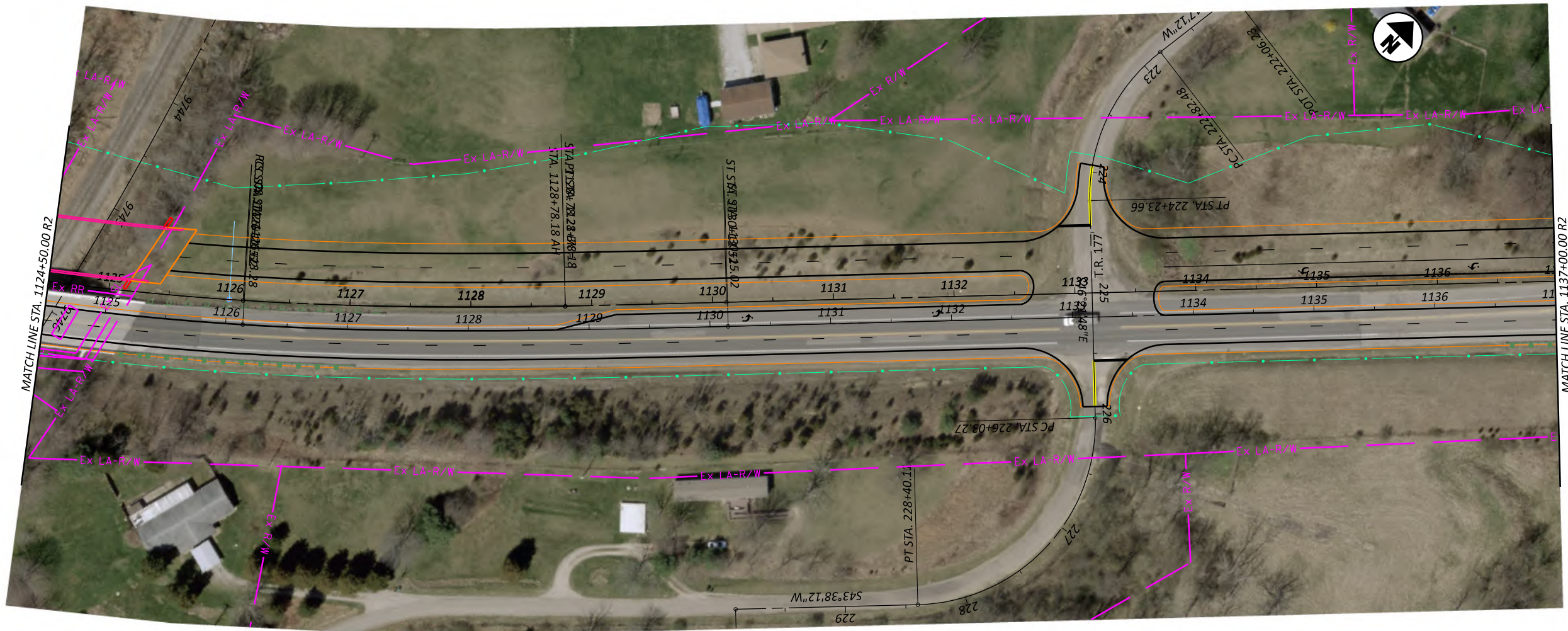


PLAN AND PROFILE - U.S. 22
STA 1112+00 TO STA 1124+50

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PROJECT ID	115278
SHEET	11
TOTAL	17

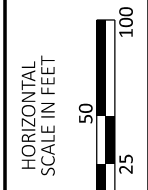
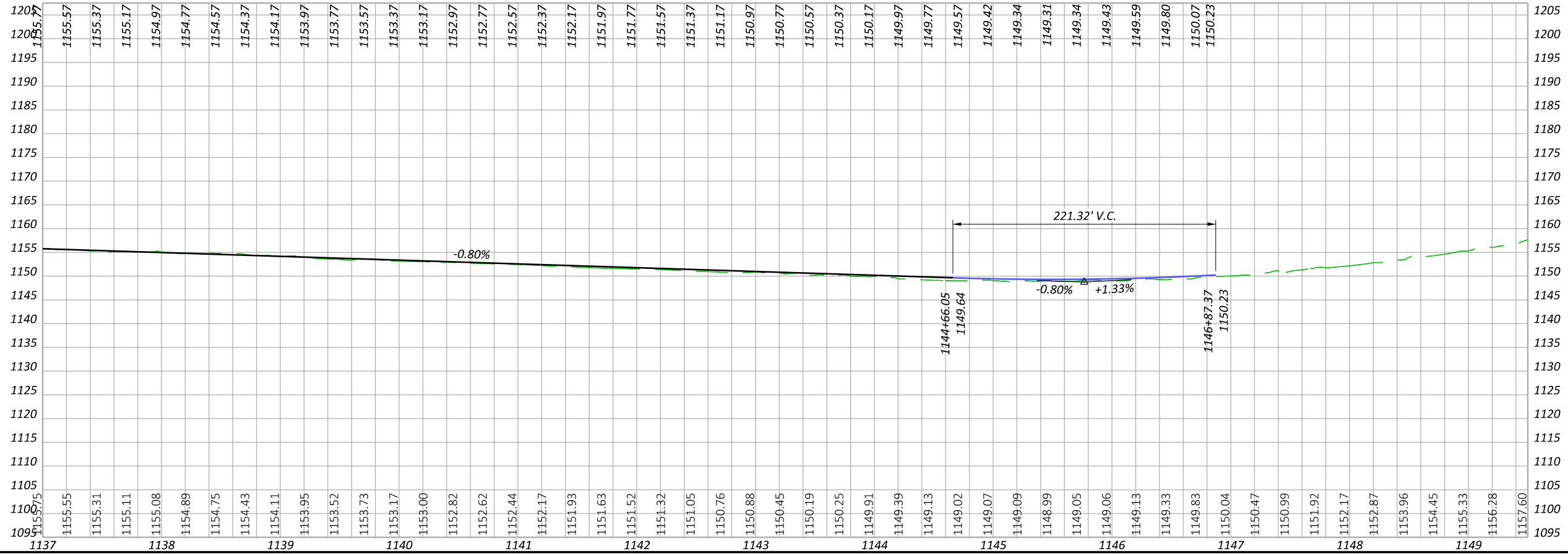
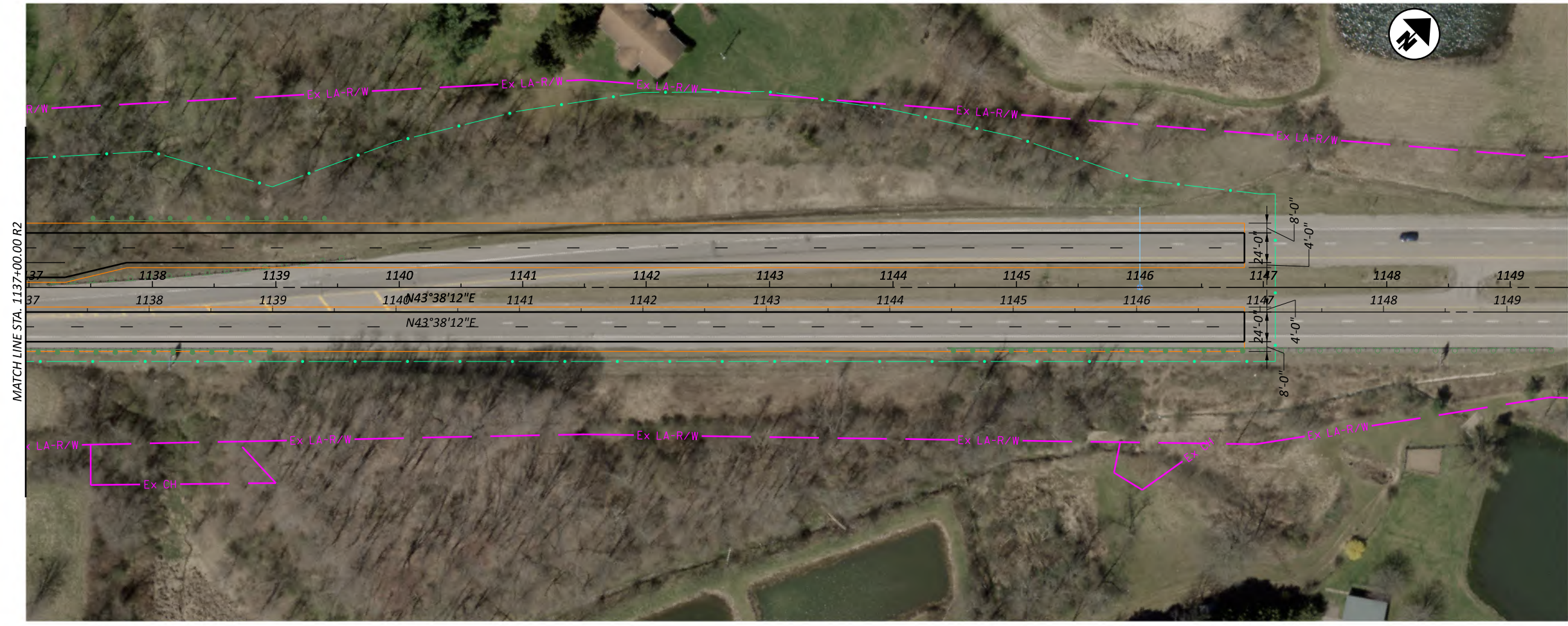


PLAN AND PROFILE - U.S. 22
STA 1124+50 TO STA 1137+00

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REVIEWER	4/20/22
PROJECT ID	115278
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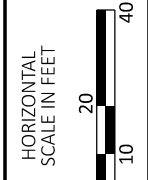
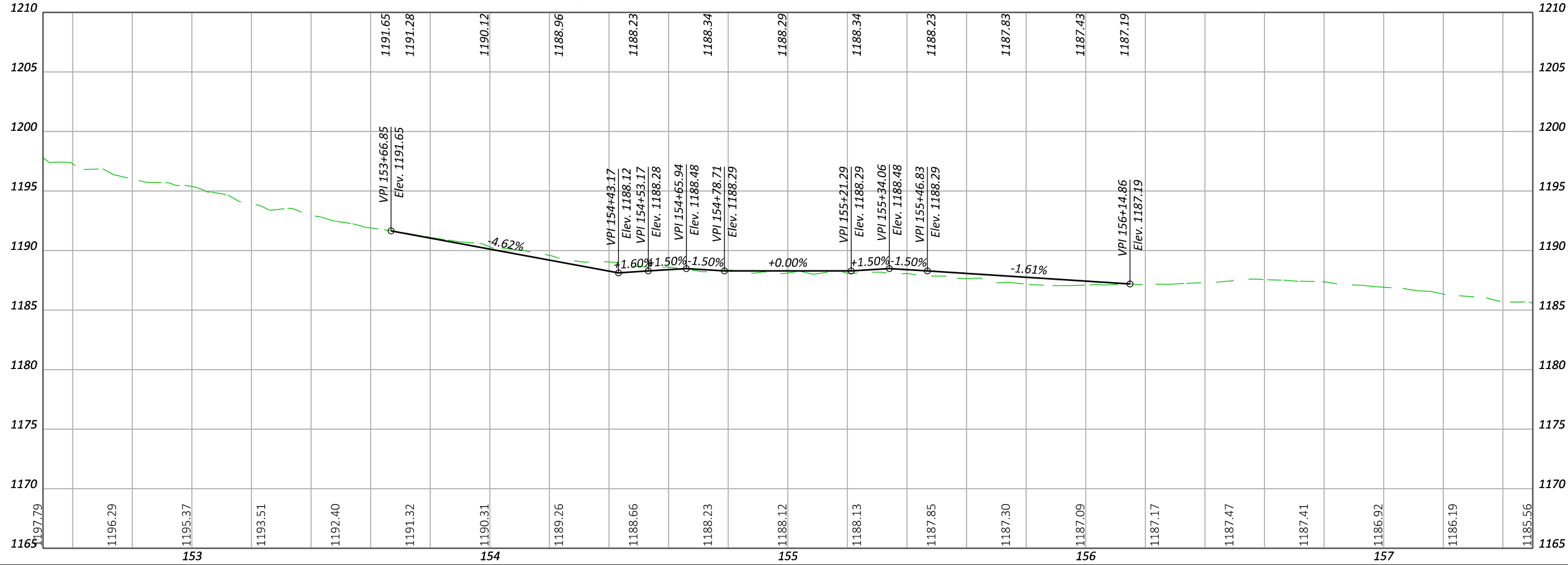
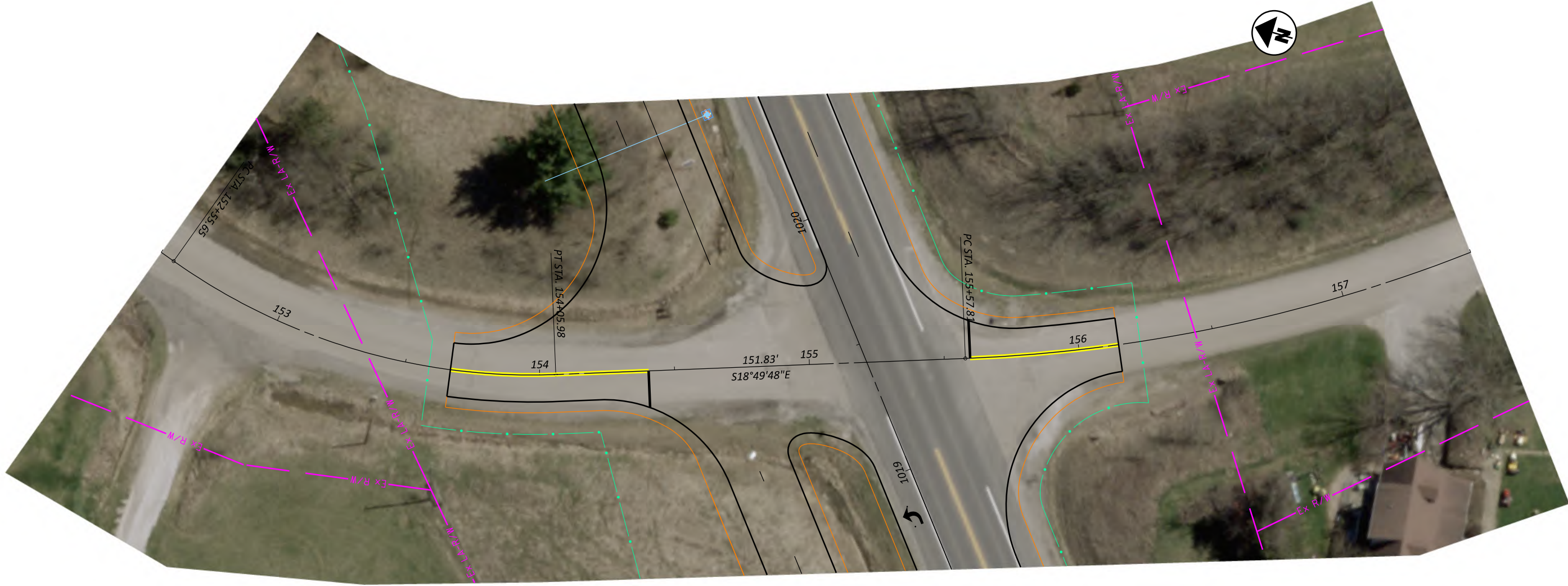


PLAN AND PROFILE - U.S. 22
STA 1137+00 TO STA 1149+50

DESIGN AGENCY

ENGINEERING ASSOCIATES
 INC.
 1035 EAGLE PASS
 WOODRIDGE, CHICAGO, IL 60519
 PHONE: (708) 345-6556
 www.eaortho.com

DESIGNER	JGL
REVIEWER	SDS
PROJECT ID	115278
SHEET	13
TOTAL	17

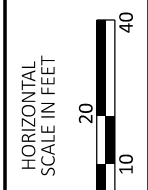
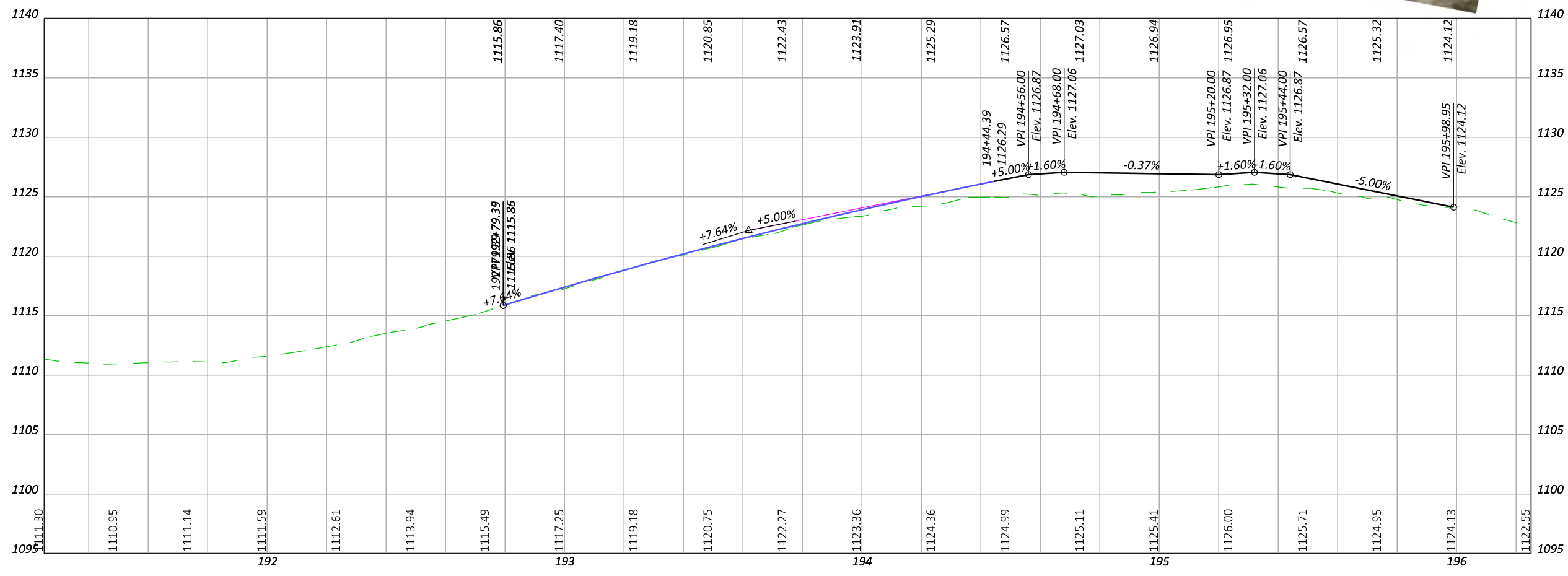


PLAN AND PROFILE - C.R. 51
 STA 152+50 TO STA 157+50

DESIGN AGENCY

 ENGINEERING ASSOCIATES
 INC.
 1935 EAGLE PASS
 WESTER, CHIO 41691
 PHONE : (232) 345-6556
 www.eaohio.com

DESIGNER	JJM
REVIEWER	SDS
PROJECT ID	115278
SHEET	14
TOTAL	17

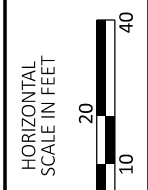
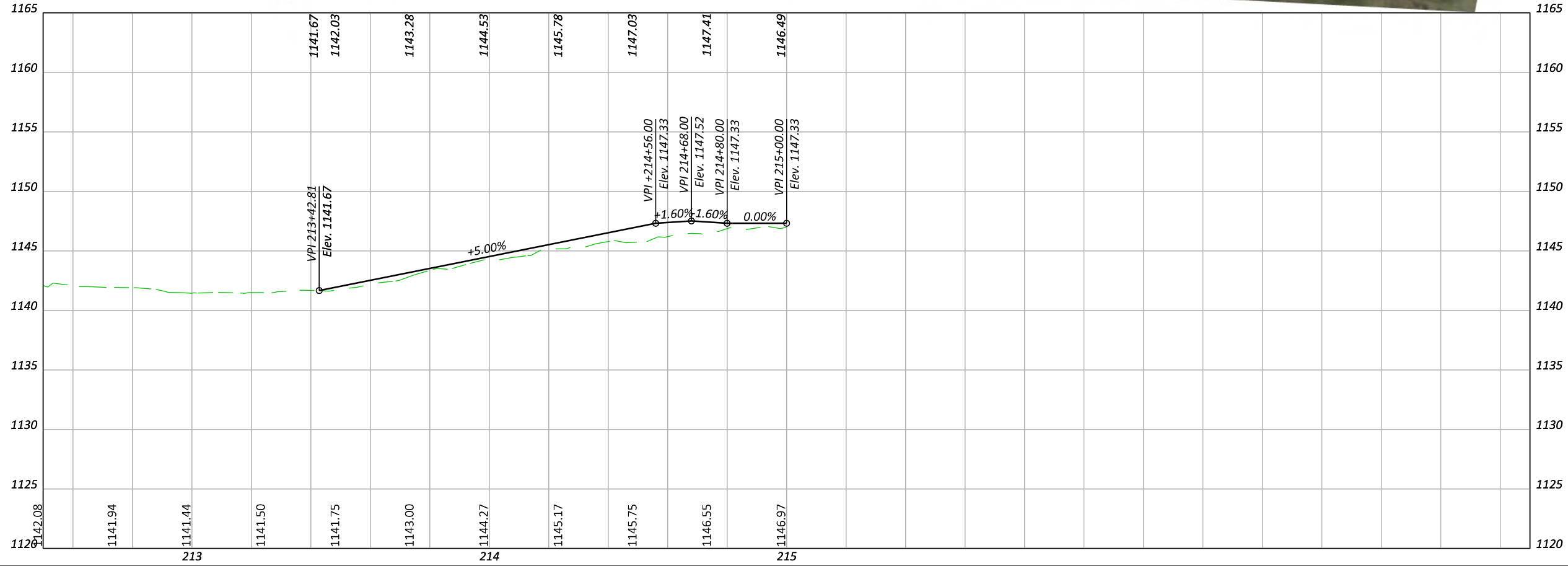


PLAN AND PROFILE - C.R. 13
 STA 191+00 TO STA 196+25

DESIGN AGENCY

 ENGINEERING ASSOCIATES
 INC.
 1035 EAGLE PASS
 WOODRIF, CHICAGO, ILLINOIS 60067
 PHONE: (708) 345-6556
 WWW.EA-CHICAGO.COM

DESIGNER	JJM
REVIEWER	JJM
SDS	4/20/22
PROJECT ID	115278
SHEET	15
TOTAL	17

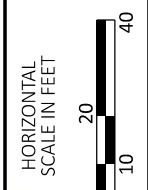
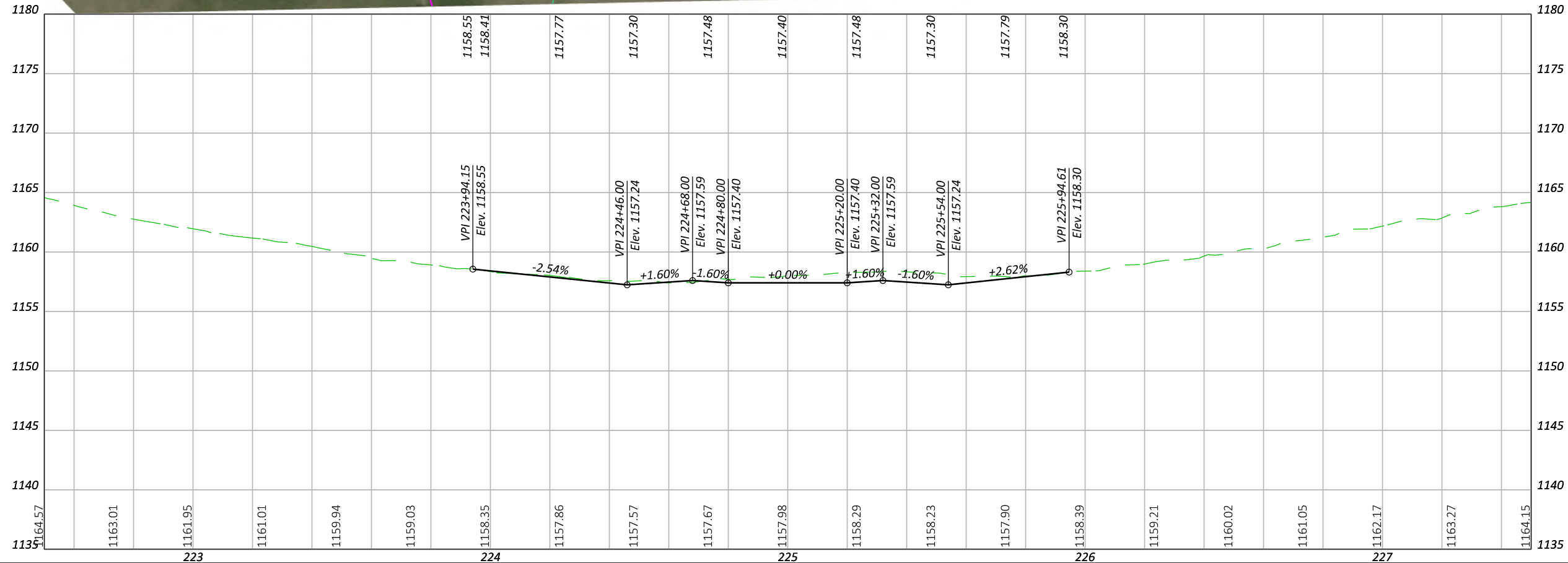
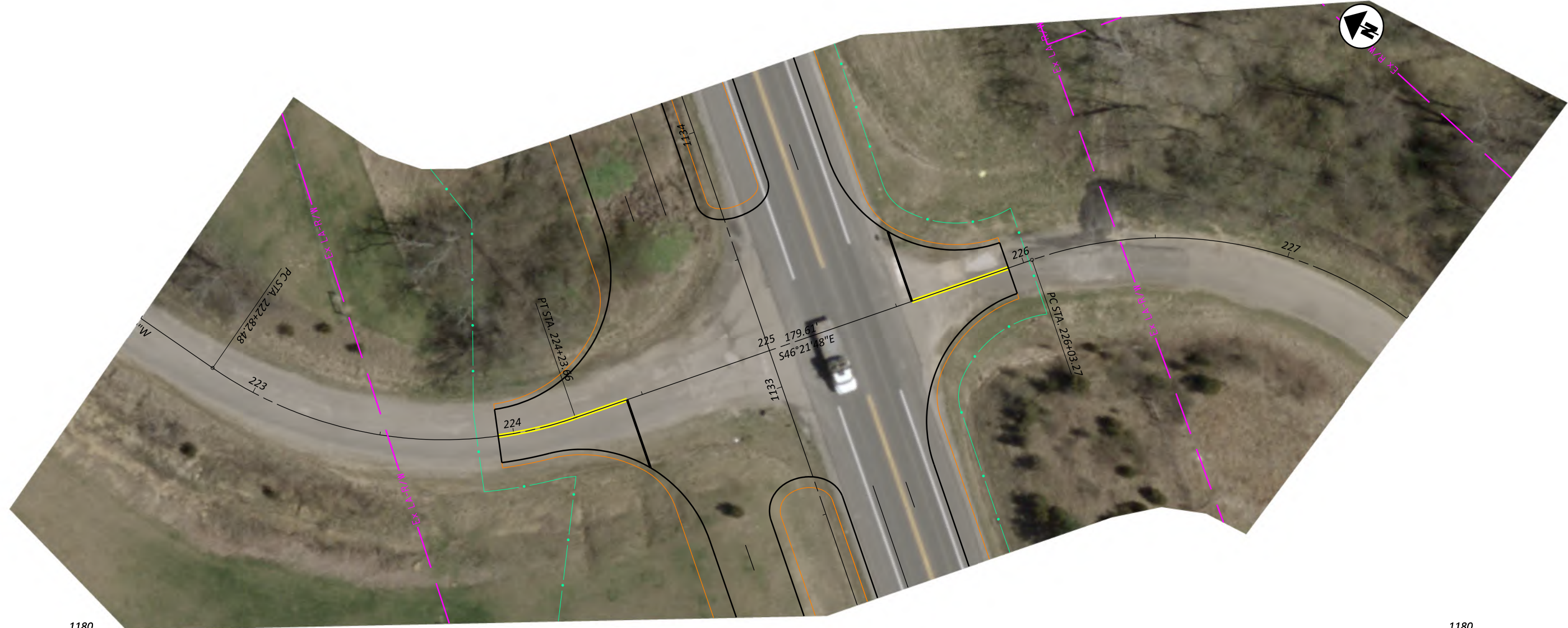


PLAN AND PROFILE - T.R. 60
 STA 212+50 TO STA 215+00

DESIGN AGENCY

ENGINEERING ASSOCIATES
 INC.
 1035 EAGLE PASS
 WOODSTOCK, OHIO 44691
 PHONE : (232) 345-6556
 www.eaohio.com

DESIGNER	JJM
REVIEWER	JJM
SDS	4/20/22
PROJECT ID	115278
SHEET	TOTAL
16	17



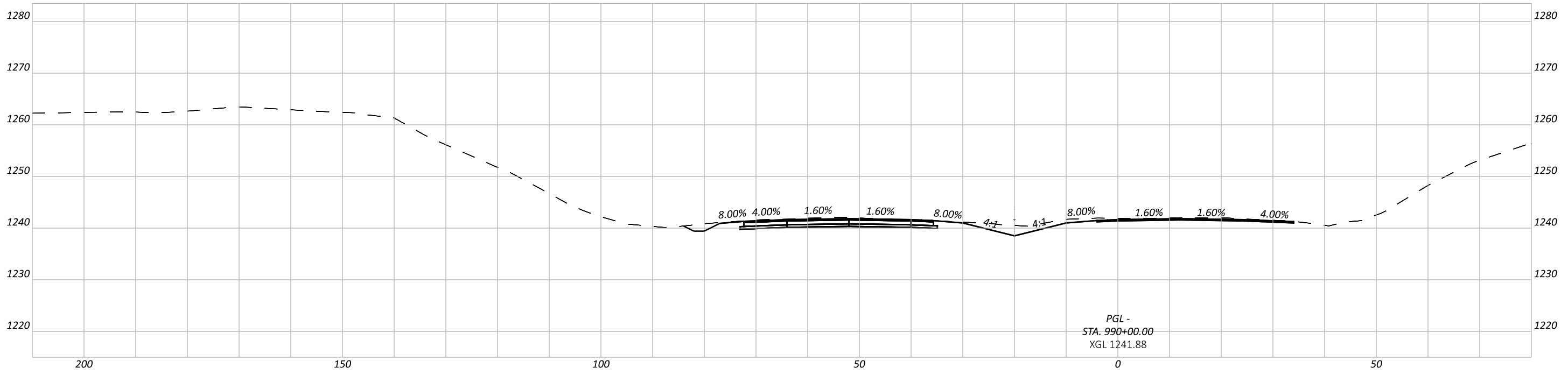
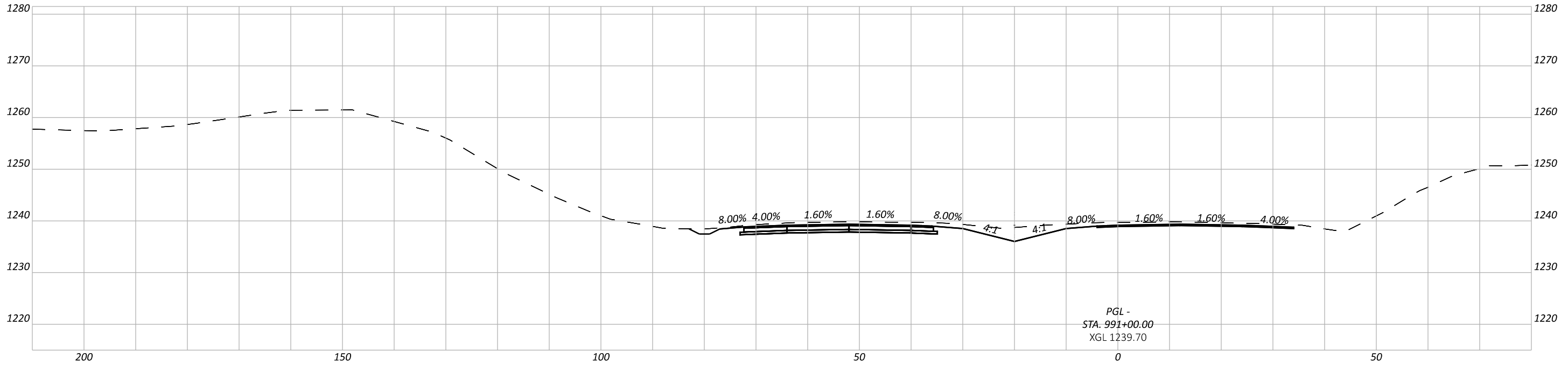
PLAN AND PROFILE - T.R. 177
 STA 222+50 TO STA 227+50

DESIGN AGENCY

ENGINEERING ASSOCIATES
 INC.
 1035 EAGLE PASS
 WOODSTOCK, OHIO 44691
 PHONE : (232) 345-6556
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DESIGNER	JJM
REVIEWER	SDS
PROJECT ID	115278
SHEET	17
TOTAL	17

Appendix C – Cross Section Sheets



CROSS SECTIONS - U.S. 22
STA 990+00 TO STA 991+00

DESIGN AGENCY

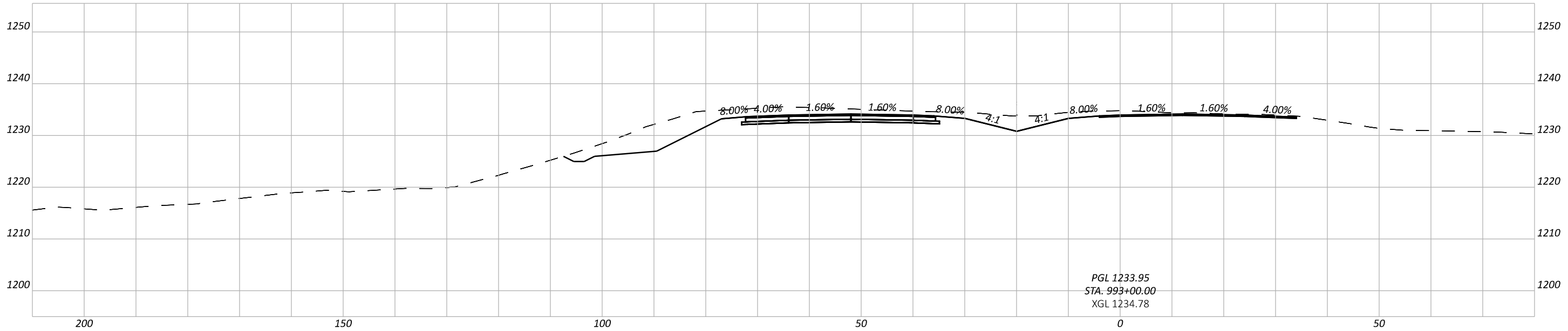
ENGINEERING ASSOCIATES
 INC
 1935 EAGLE PASS
 WOODBURY, OHIO 44691
 PHONE : (330) 345-6556
 WWW.EAENGINEERING.COM

DESIGNER
MDG

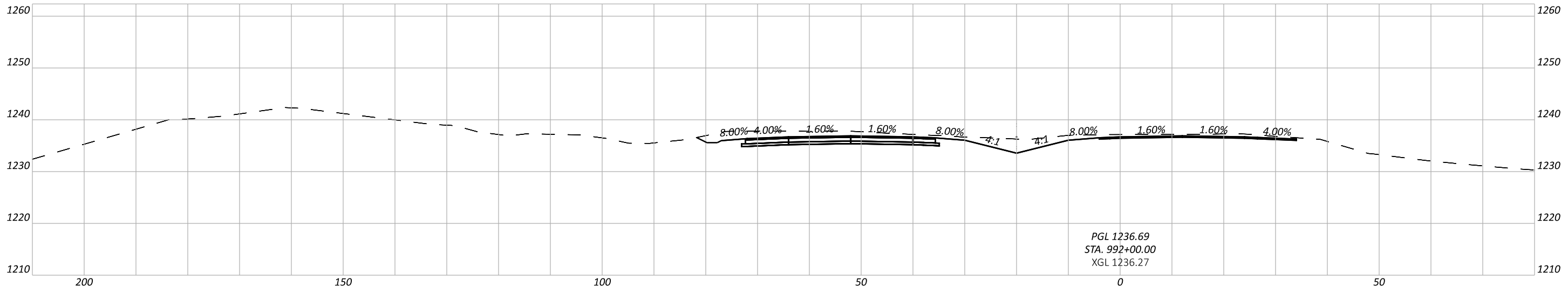
REVIEWER
SDS 4-20-2022

PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1233.95
STA. 993+00.00
XGL 1234.78



PGL 1236.69
STA. 992+00.00
XGL 1236.27

CROSS SECTIONS - U.S. 22
STA 992+00 TO STA 993+00

DESIGN AGENCY

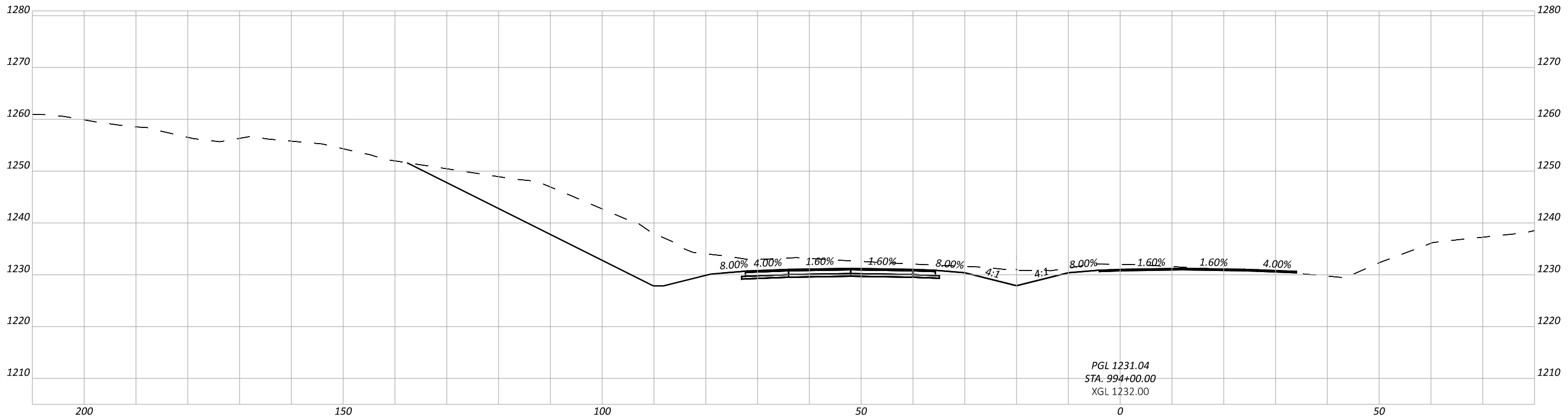
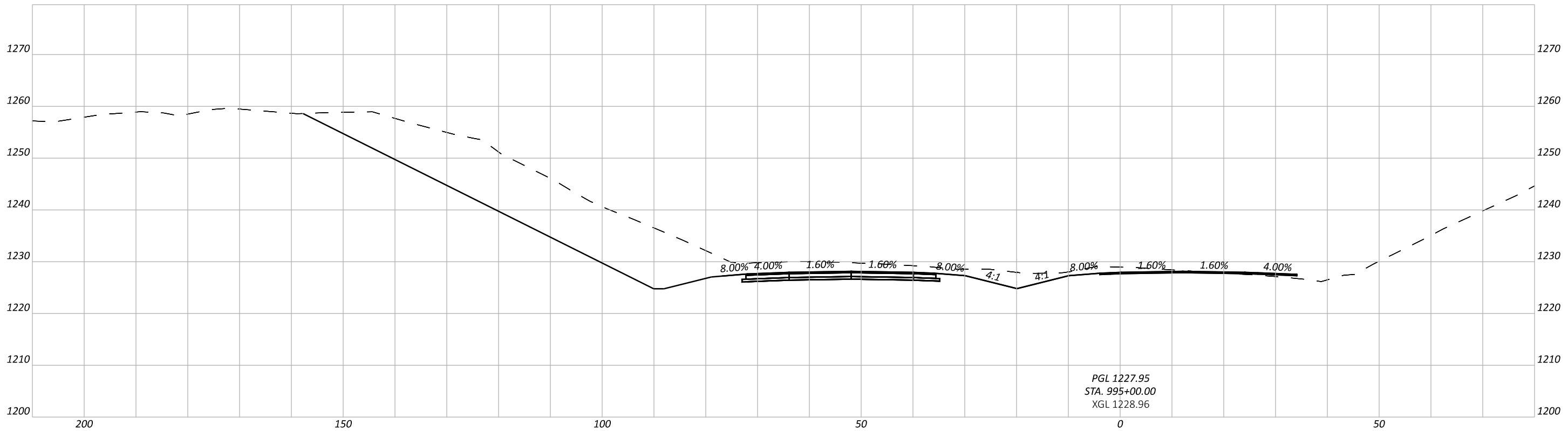
EAGLE ASSOCIATES
INC.
1935 EAGLE PASS
WOODSTER, OHIO 44691
PHONE : (330) 345-6556
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DESIGNER
MDG

REVIEWER
SDS

PROJECT ID
115278

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	2	88



CROSS SECTIONS - U.S. 22
 STA 994+00 TO STA 995+00

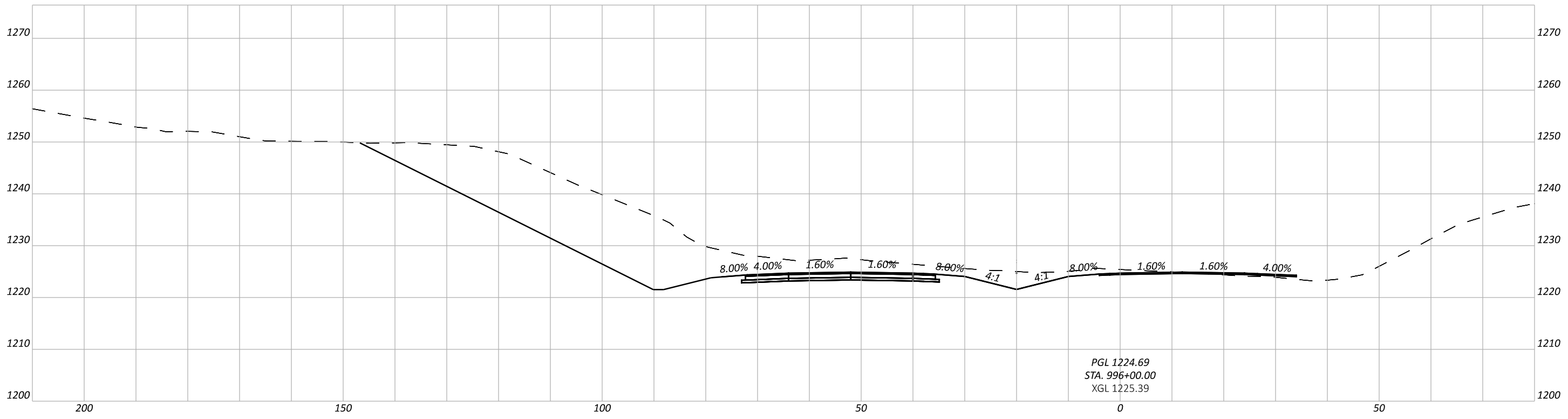
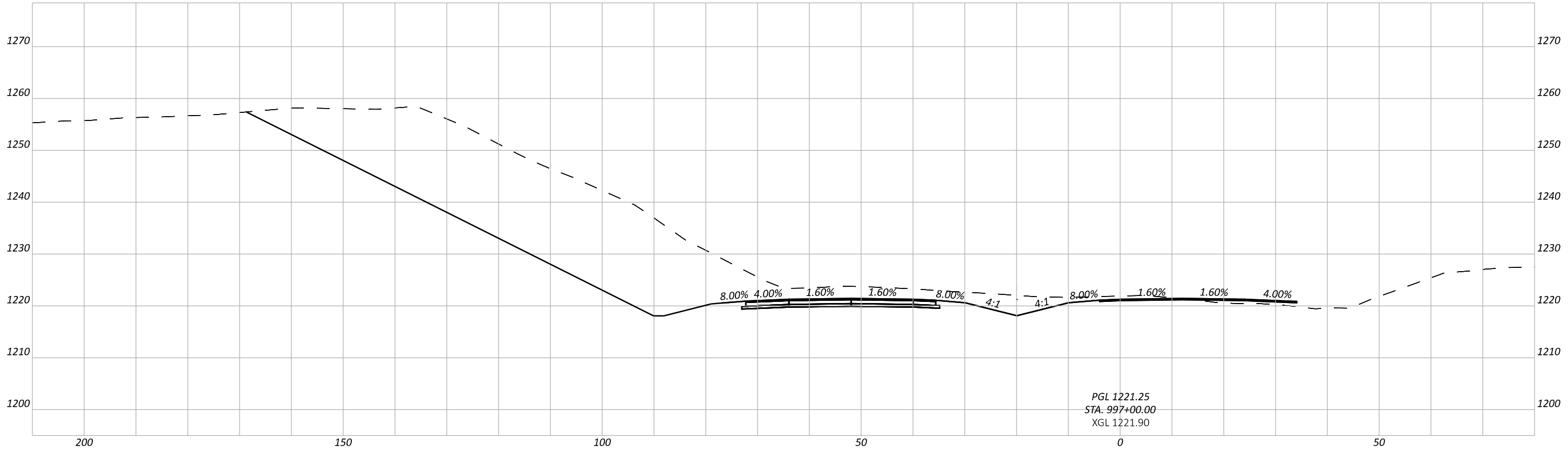
DESIGN AGENCY
ea
 ENGINEERING
 ASSOCIATES
 INC.
 1935 EAGLE PASS
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DESIGNER
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REVIEWER
 SDS 4-20-2022

PROJECT ID
 115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	3	88



CROSS SECTIONS - U.S. 22
 STA 996+00 TO STA 997+00

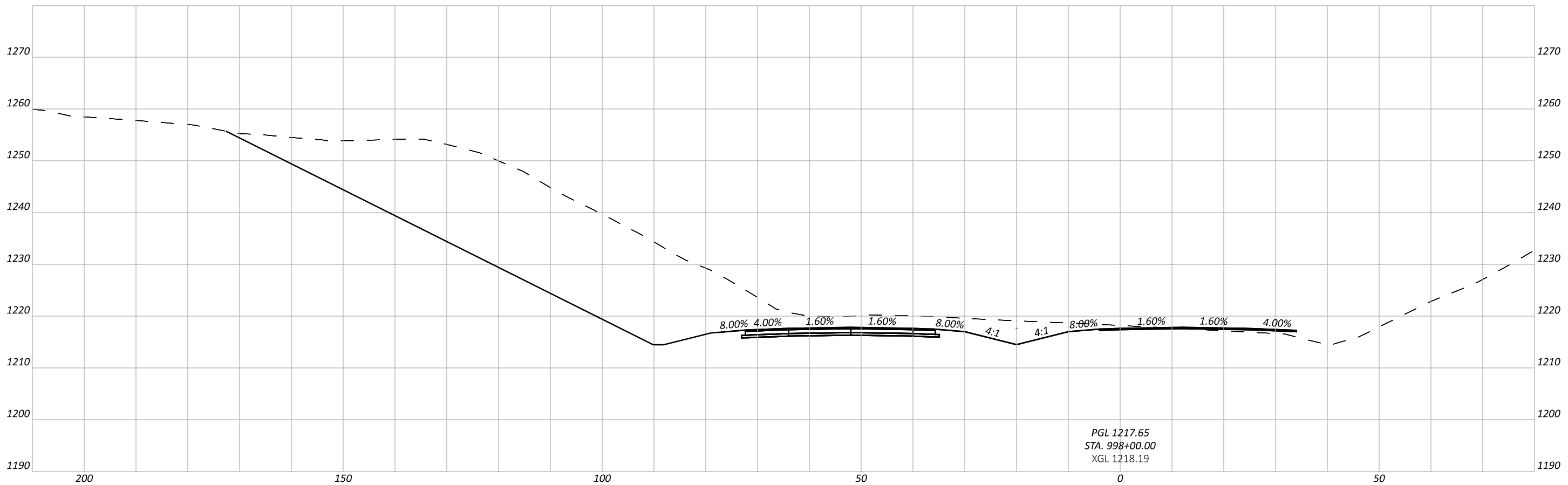
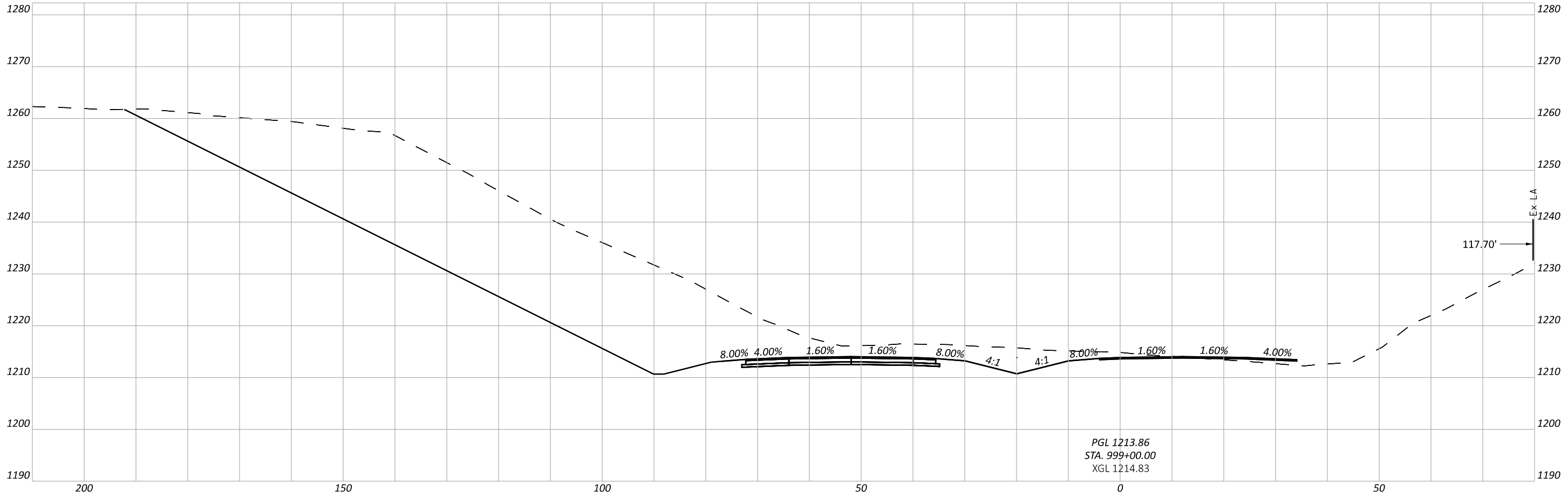
DESIGN AGENCY

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PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	4	88



CROSS SECTIONS - U.S. 22
STA 998+00 TO STA 999+00

DESIGN AGENCY

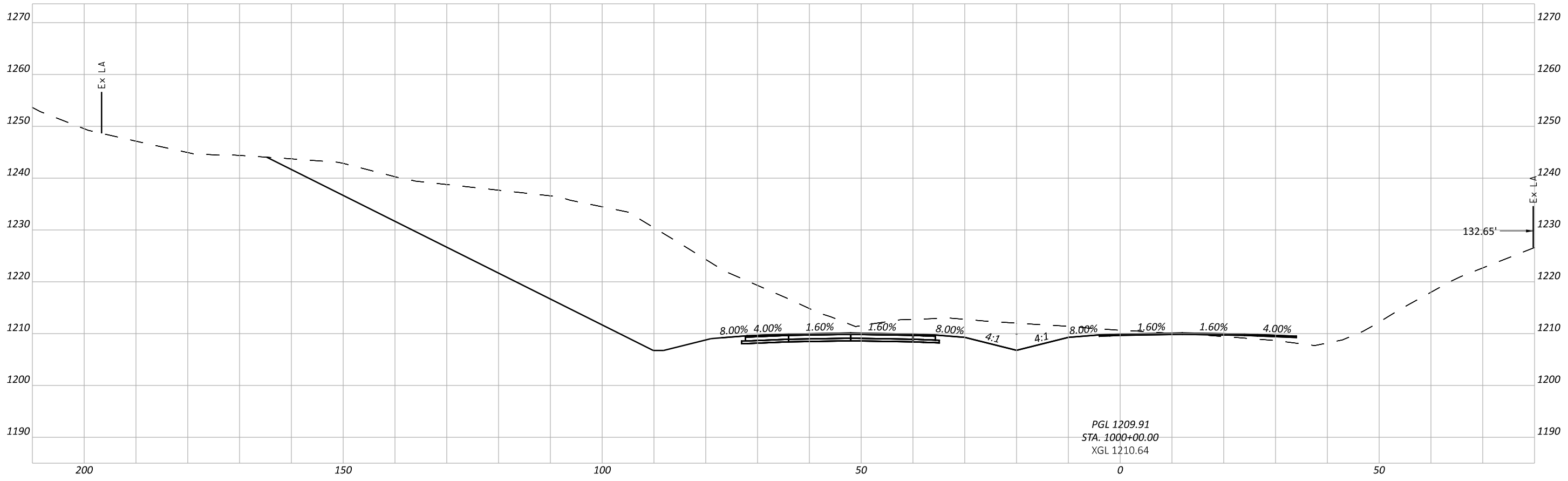
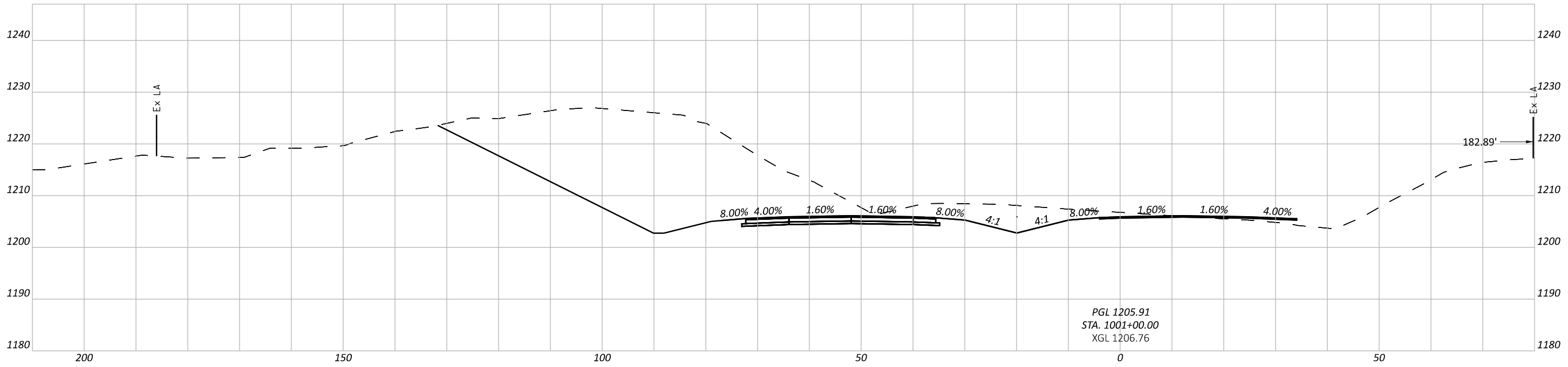
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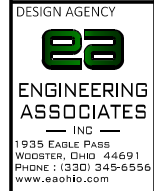
REVIEWER
SDS 4-20-2022

PROJECT ID
115278

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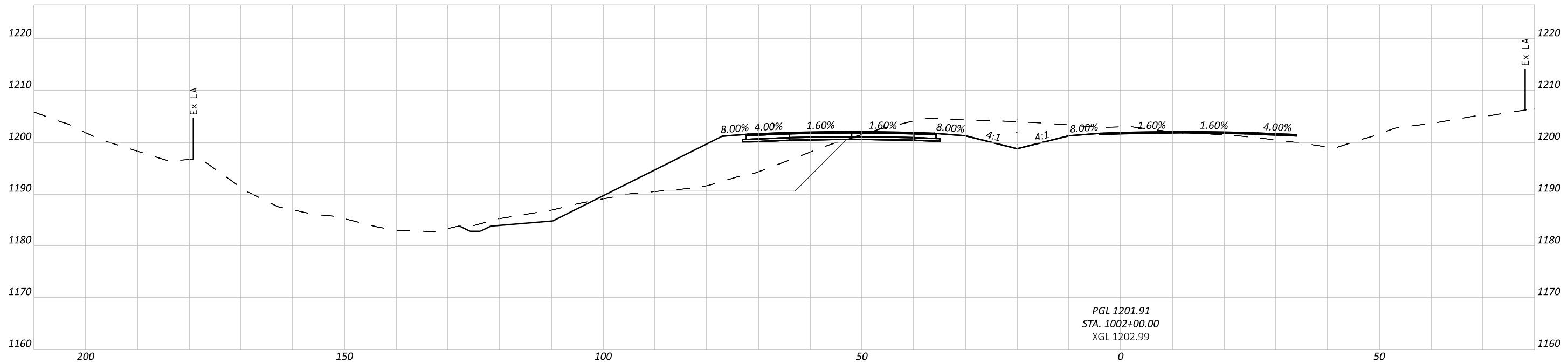
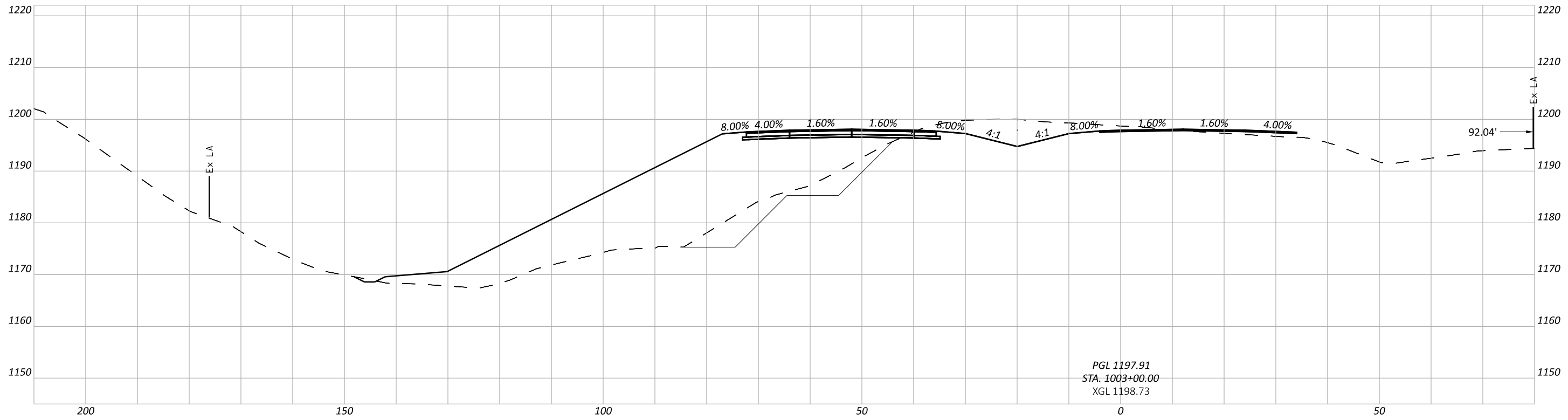


CROSS SECTIONS - U.S. 22
 STA 1000+00 TO STA 1001+00




DESIGNER: MDG
 REVIEWER: SDS 4-20-2022

Sheet Totals			115278	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1002+00 TO STA 1003+00

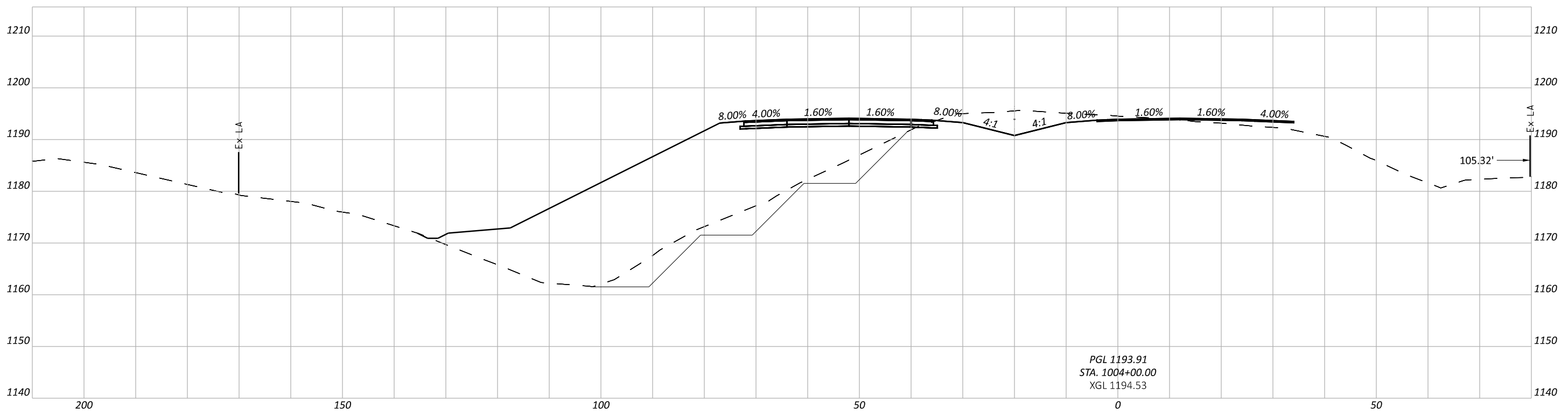
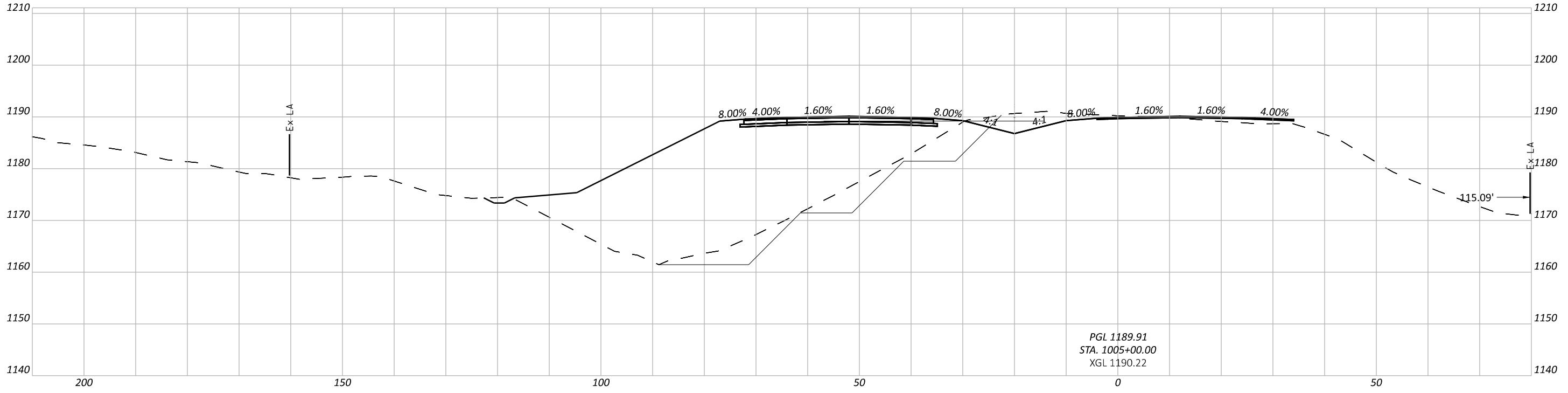
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PHONE : (330) 345-6556
www.eaohio.com

DESIGNER
MDG

REVIEWER
SDS

PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1004+00 TO STA 1005+00

DESIGN AGENCY

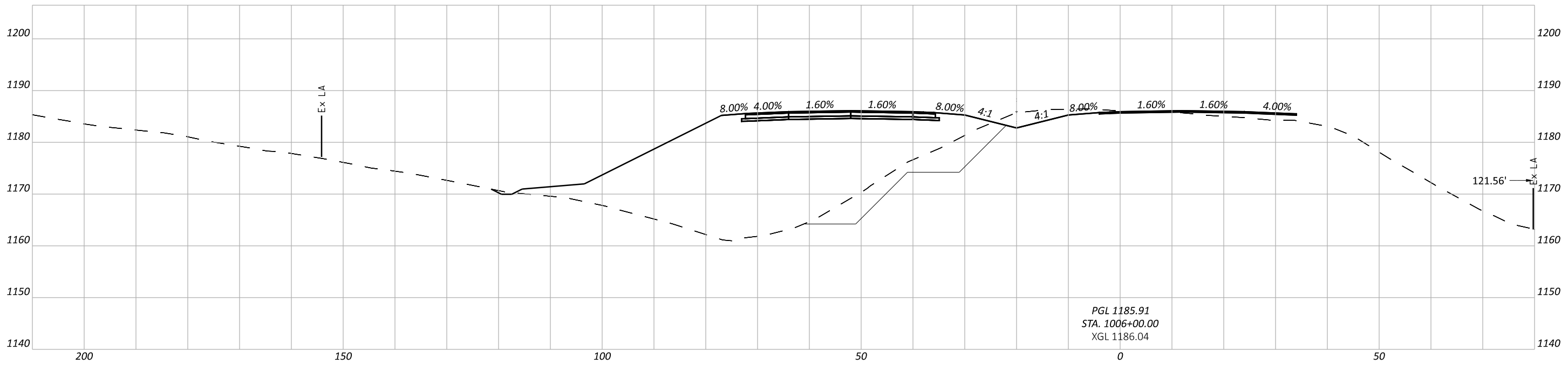
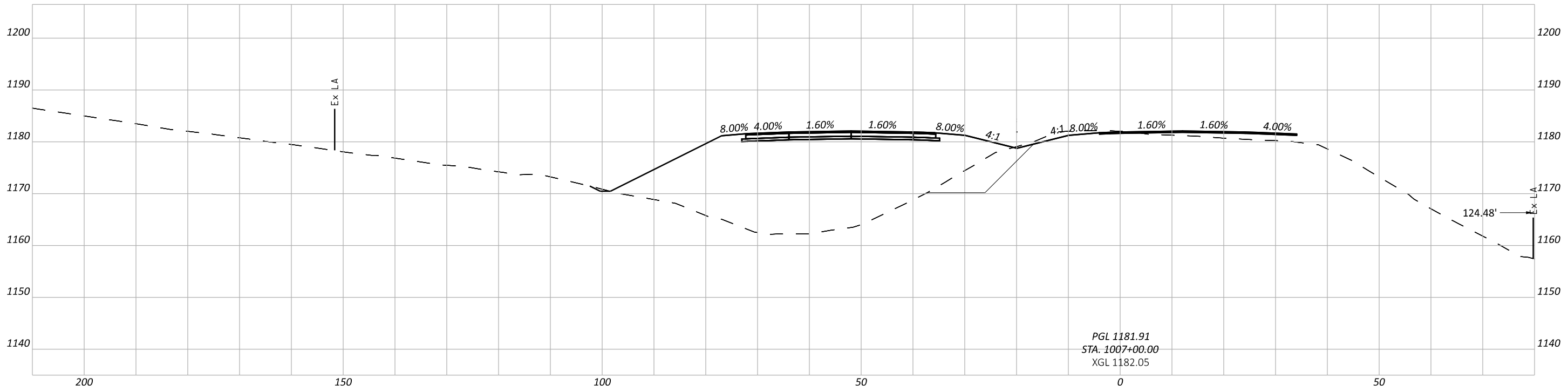
ENGINEERING ASSOCIATES
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DESIGNER
MDG
 REVIEWER
 SDS 4-20-2022

PROJECT ID
115278

Sheet Totals		
Seeding	Cut	Fill
.	.	.

SHEET	TOTAL
8	88



CROSS SECTIONS - U.S. 22
STA 1006+00 TO STA 1007+00

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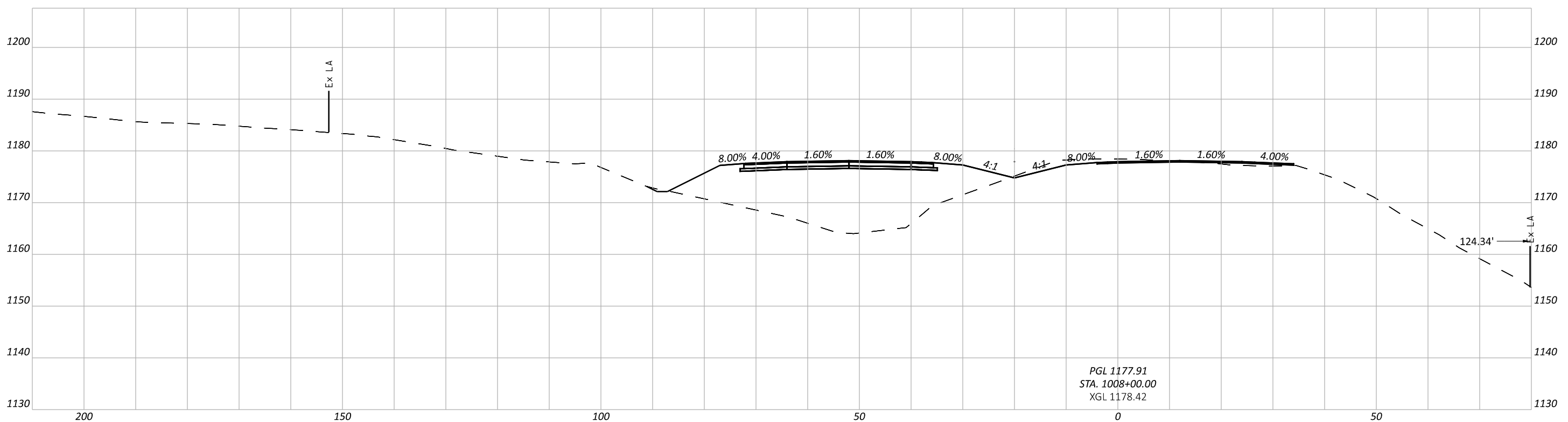
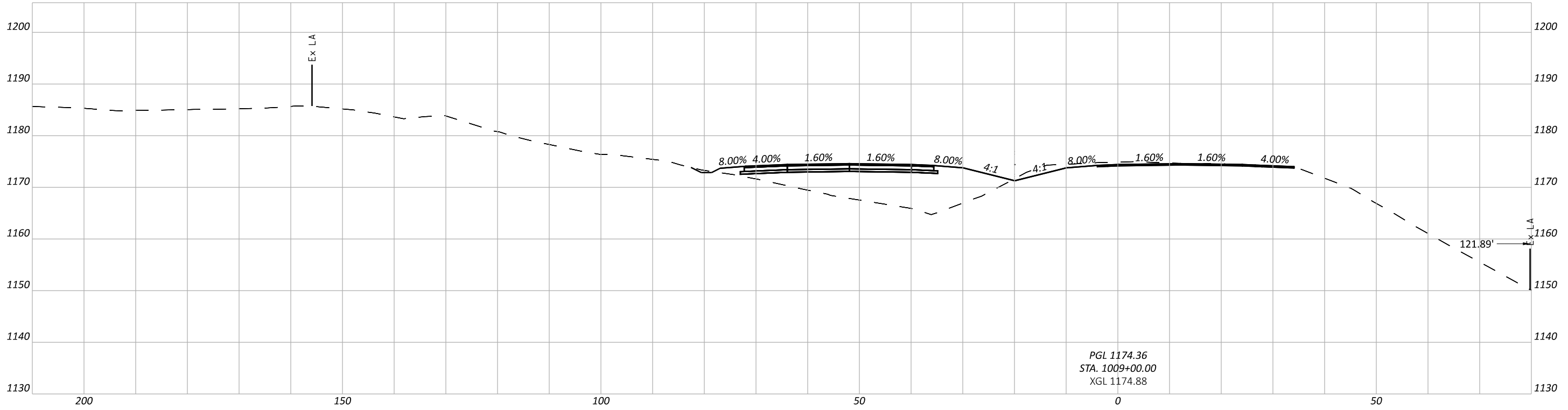
SDS 4-20-2022

PROJECT ID

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Sheet Totals		
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SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1008+00 TO STA 1009+00

DESIGN AGENCY

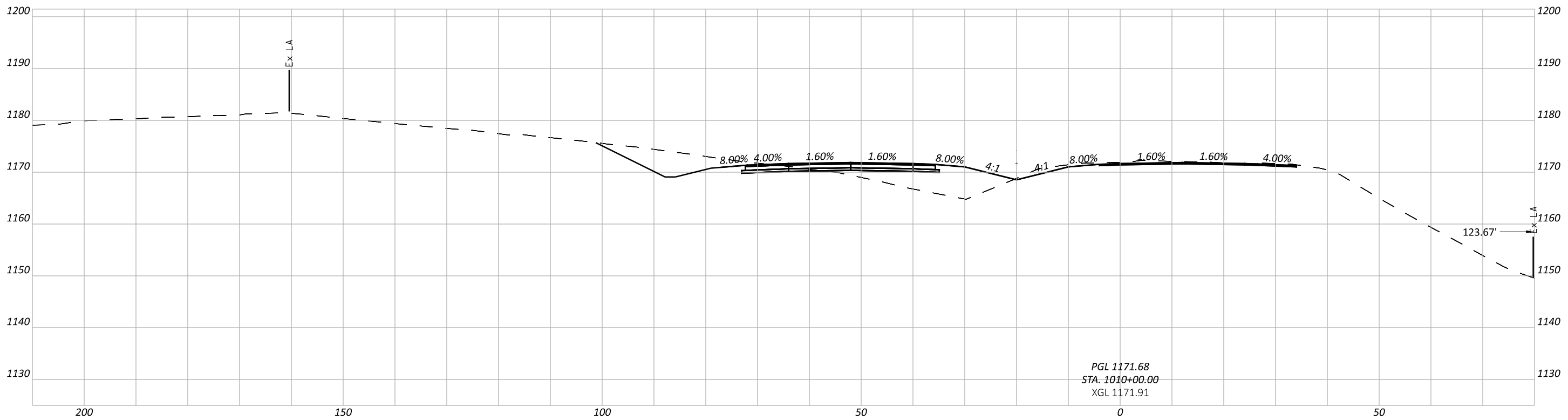
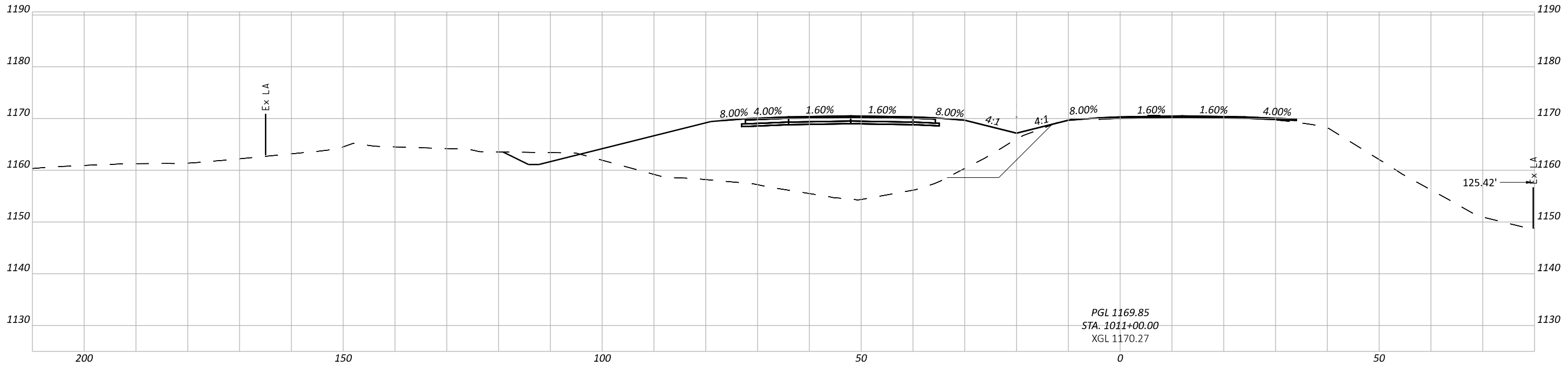
ENGINEERING ASSOCIATES
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REVIEWER
SDS

PROJECT ID
115278

Sheet Totals			TOTAL	
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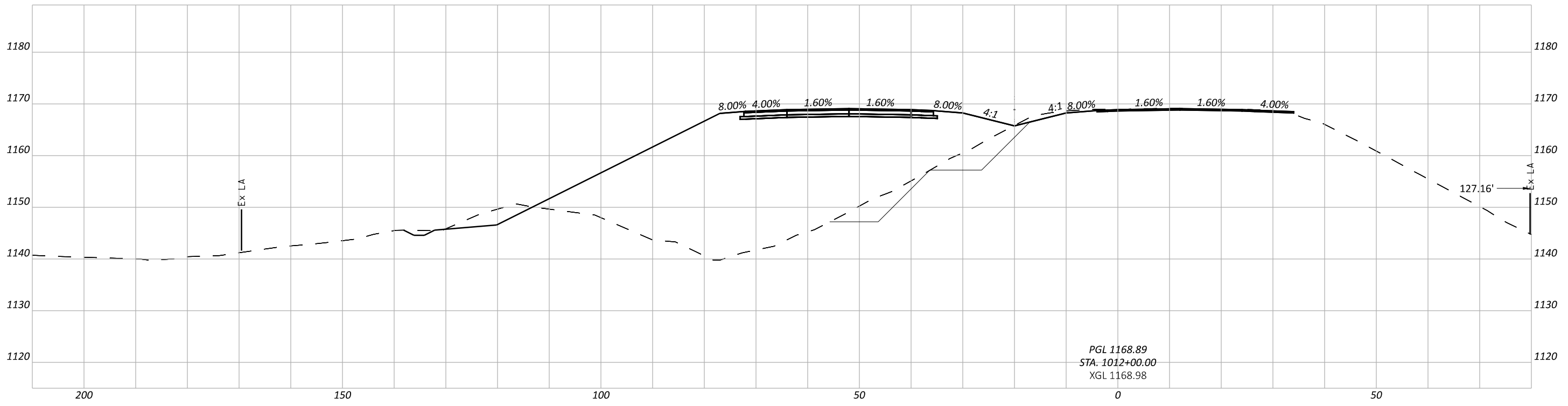
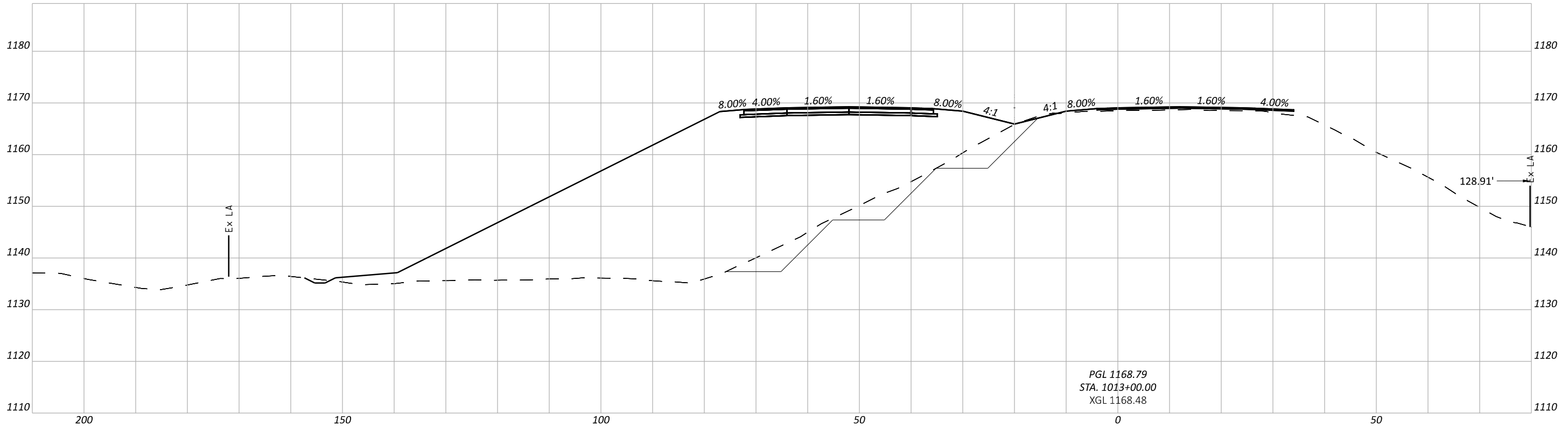


CROSS SECTIONS - U.S. 22
 STA 1010+00 TO STA 1011+00



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MDG
 REVIEWER
 SDS 4-22-2022
 PROJECT ID
 115278

Sheet Totals			115278	
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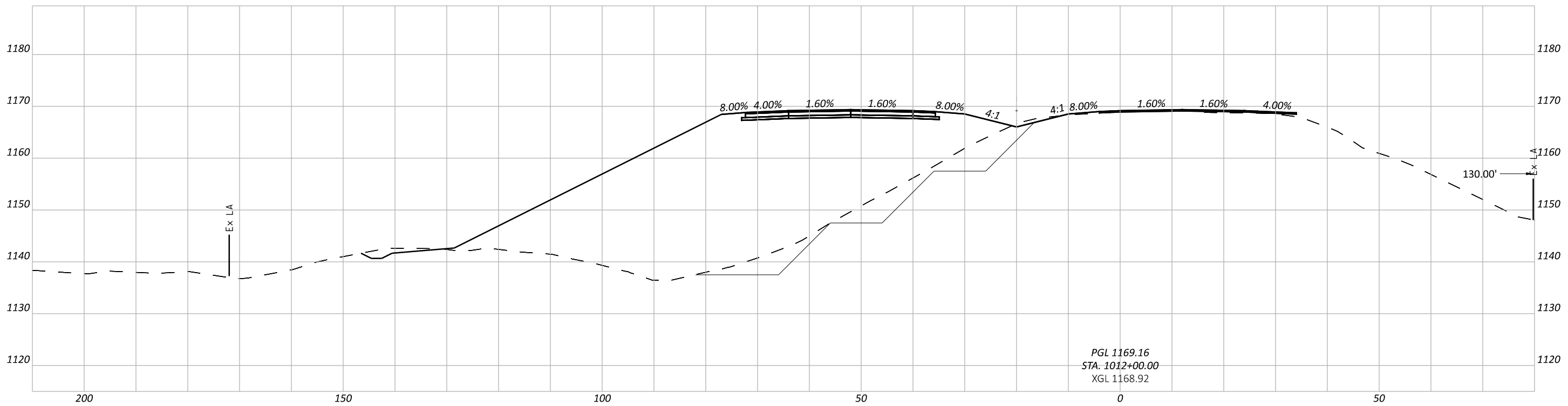
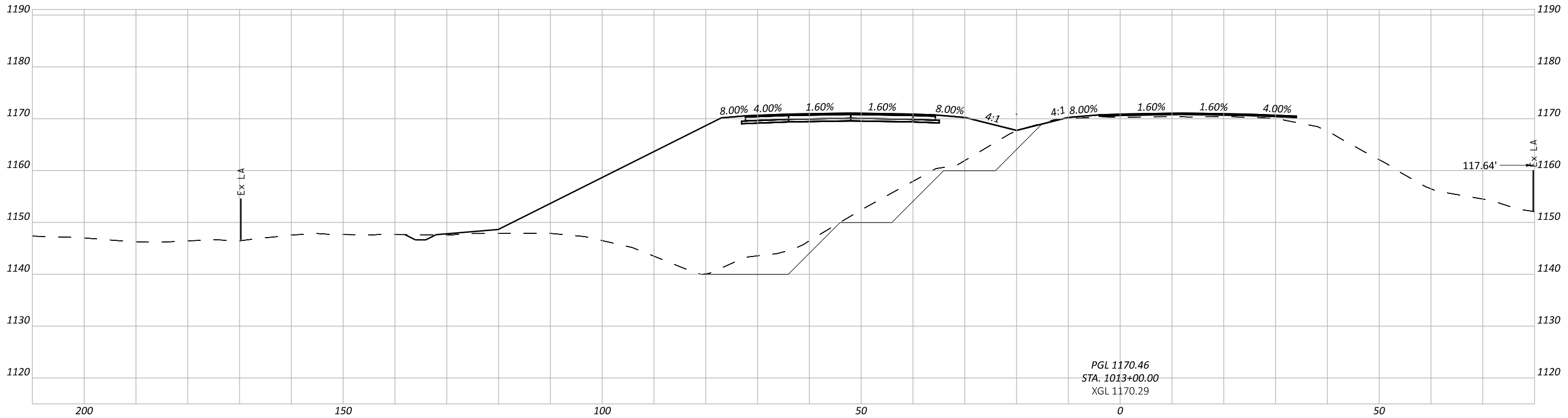


CROSS SECTIONS - U.S. 22
 STA 1012+00 TO STA 1013+00



DESIGNER
MDG
 REVIEWER
 SDS 4-20-2022

Sheet Totals			PROJECT ID	
Seeding	Cut	Fill	SHEET	TOTAL
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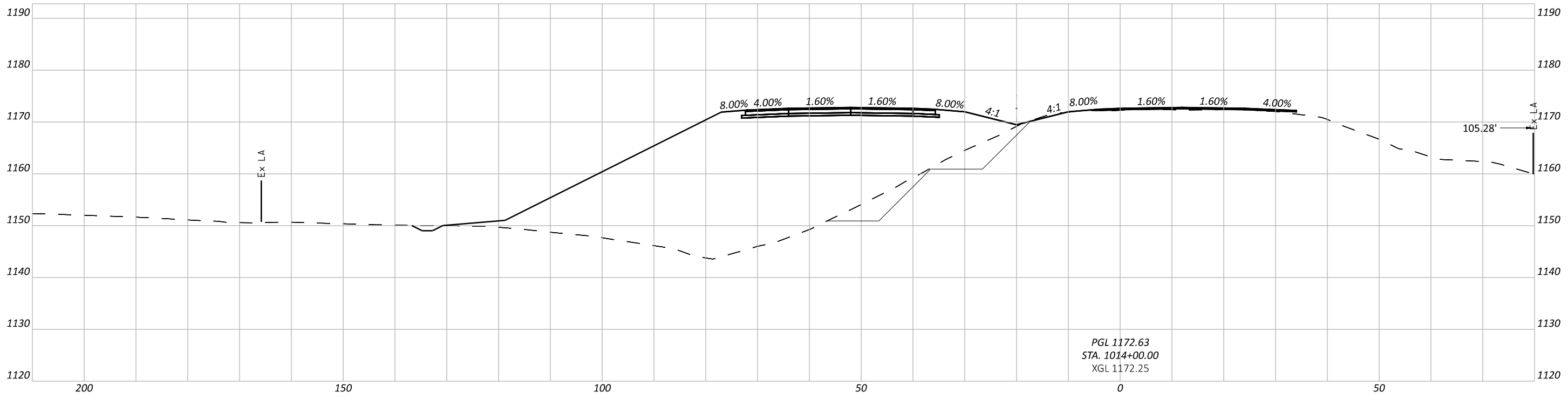
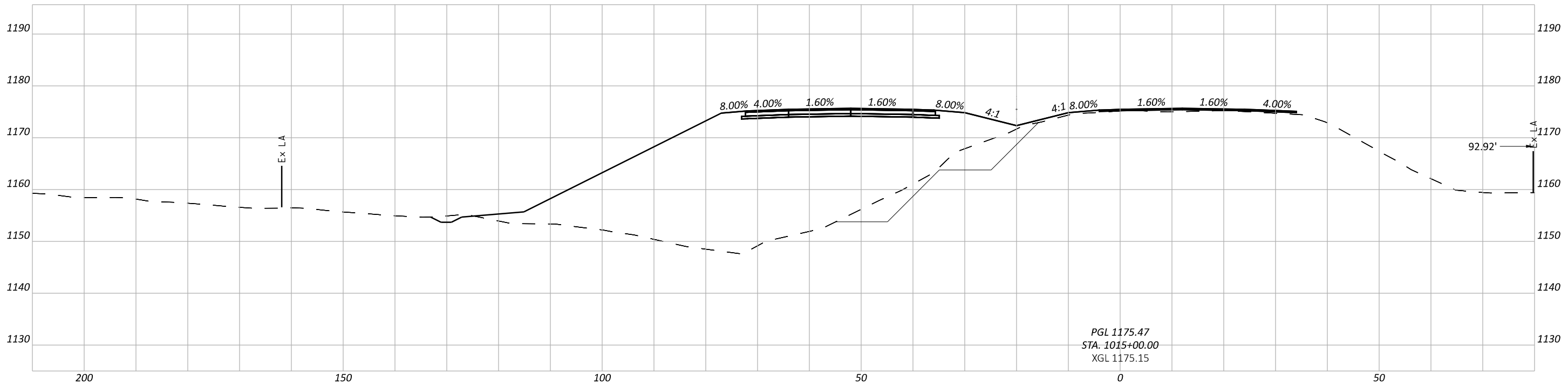
CROSS SECTIONS - U.S. 22
 STA 1012+00 TO STA 1013+00 (2)



DESIGNER
MDG
 REVIEWER
 SDS 4-20-2022

PROJECT ID		115278
SHEET TOTAL		13 88

Sheet Totals		
Seeding	Cut	Fill
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CROSS SECTIONS - U.S. 22
STA 1014+00 TO STA 1015+00

DESIGN AGENCY

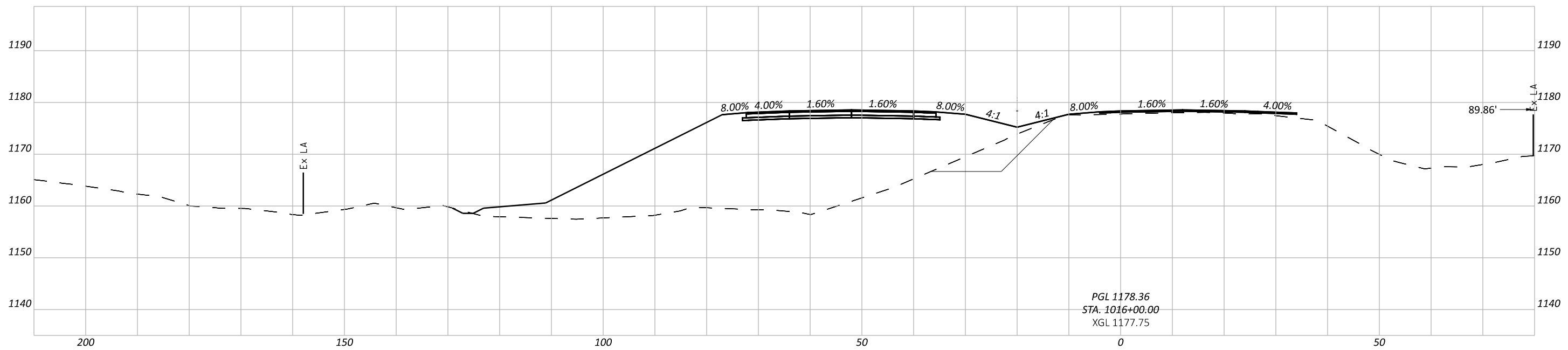
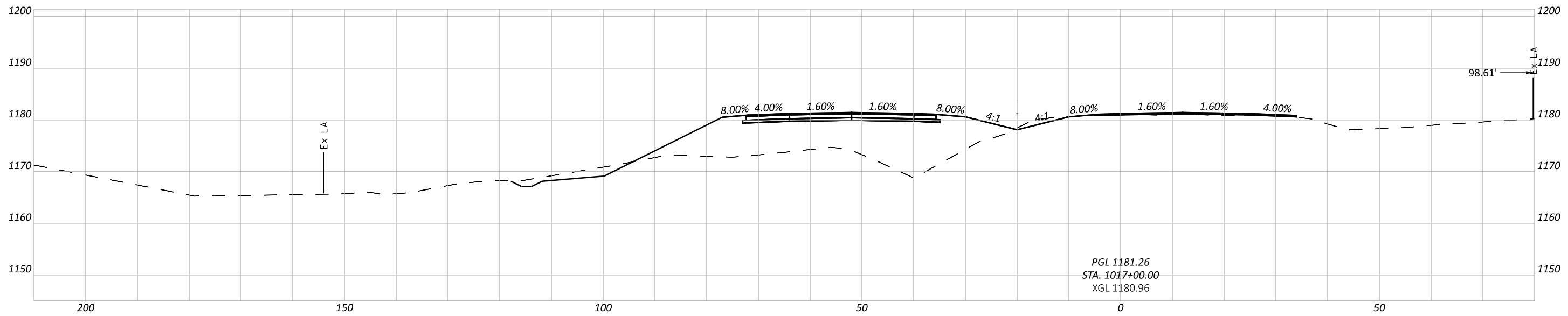
ENGINEERING ASSOCIATES
INC
1935 EAGLE PASS
WOODSTER, OHIO 44691
PHONE : (330) 345-6556
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DESIGNER
MDG

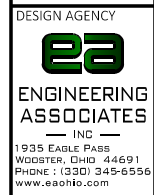
REVIEWER
SDS 4-20-2022

PROJECT ID
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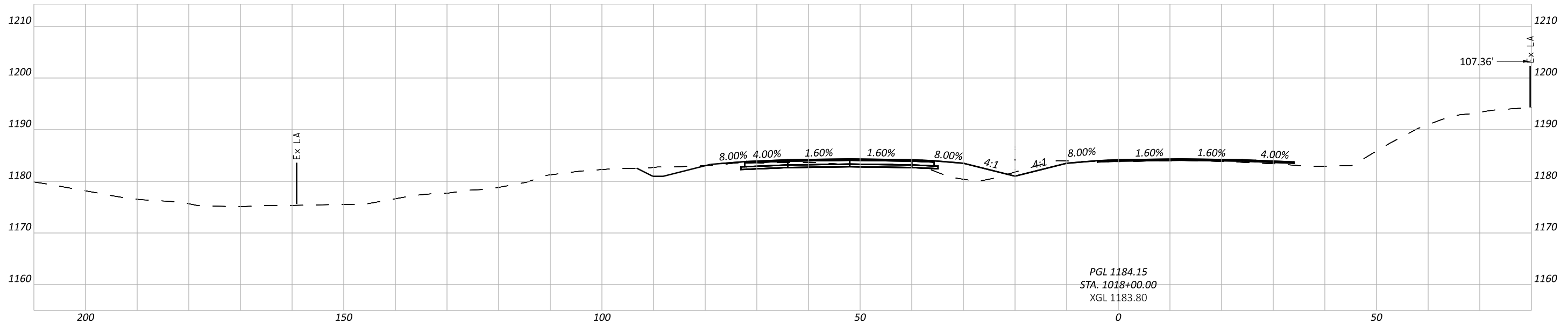
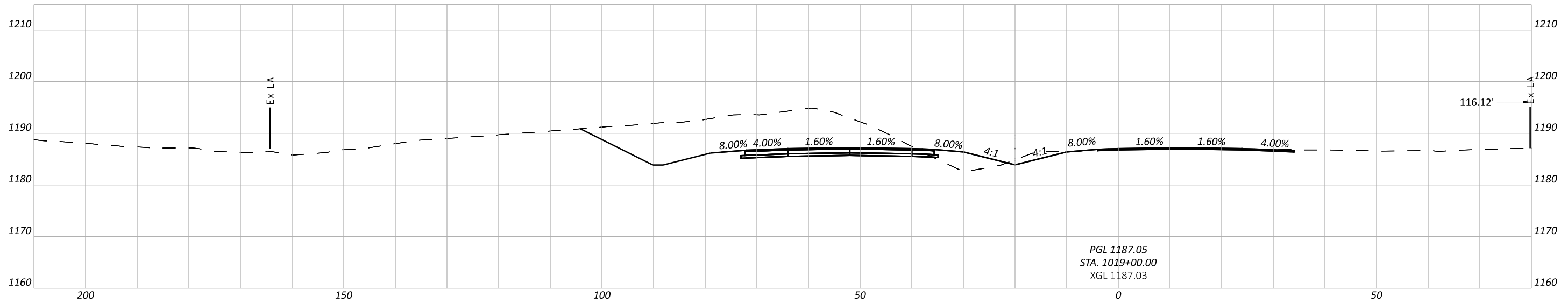
CROSS SECTIONS - U.S. 22
STA 1016+00 TO STA 1017+00



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SDS 4-20-2022
PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	15	88



CROSS SECTIONS - U.S. 22
STA 1018+00 TO STA 1019+00

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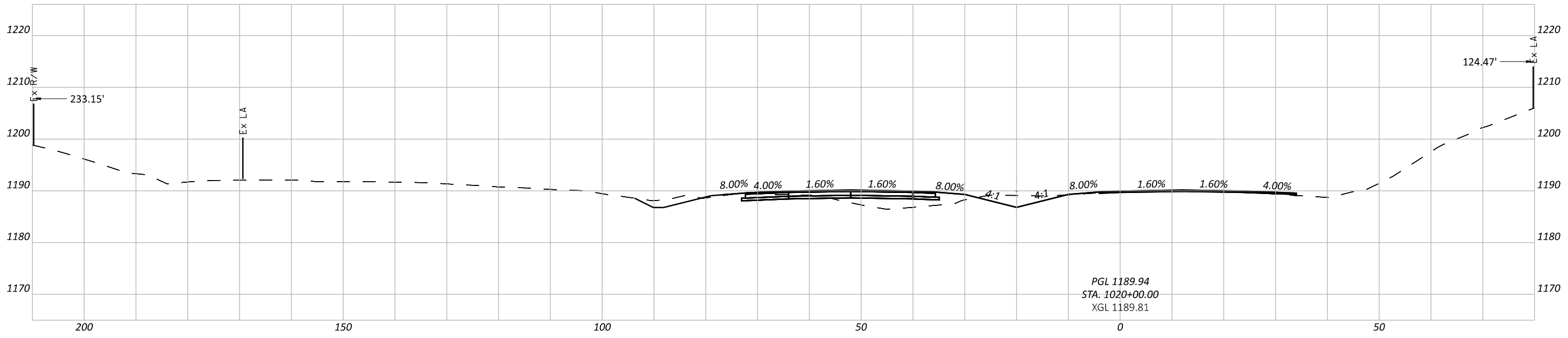
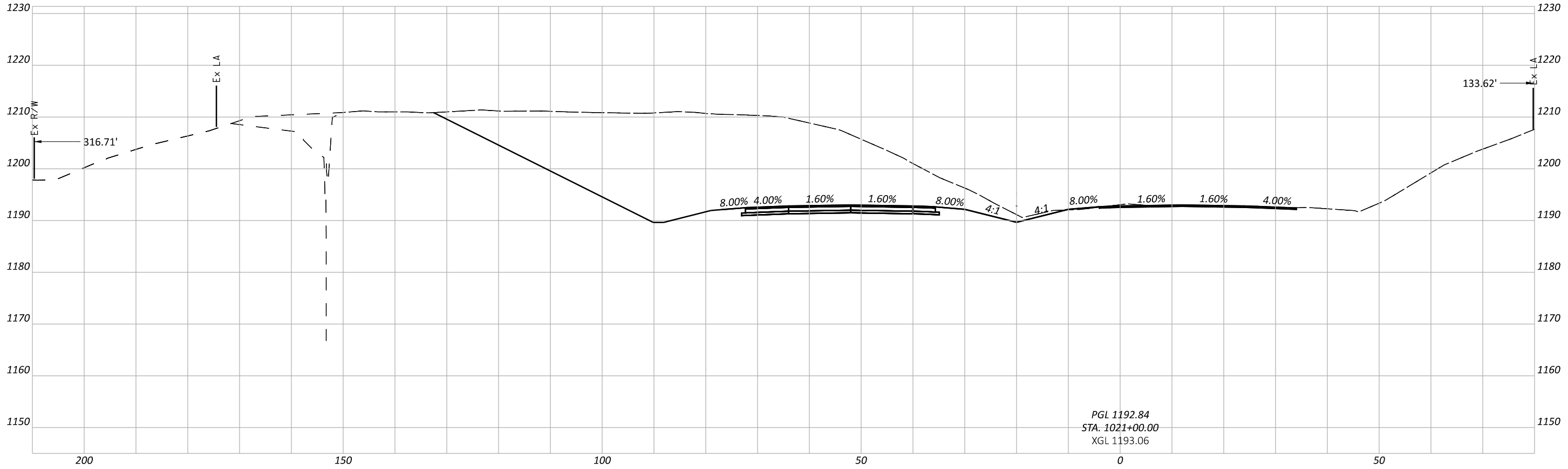
SDS 4-20-2022

PROJECT ID

115278

Sheet Totals		
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SHEET	TOTAL
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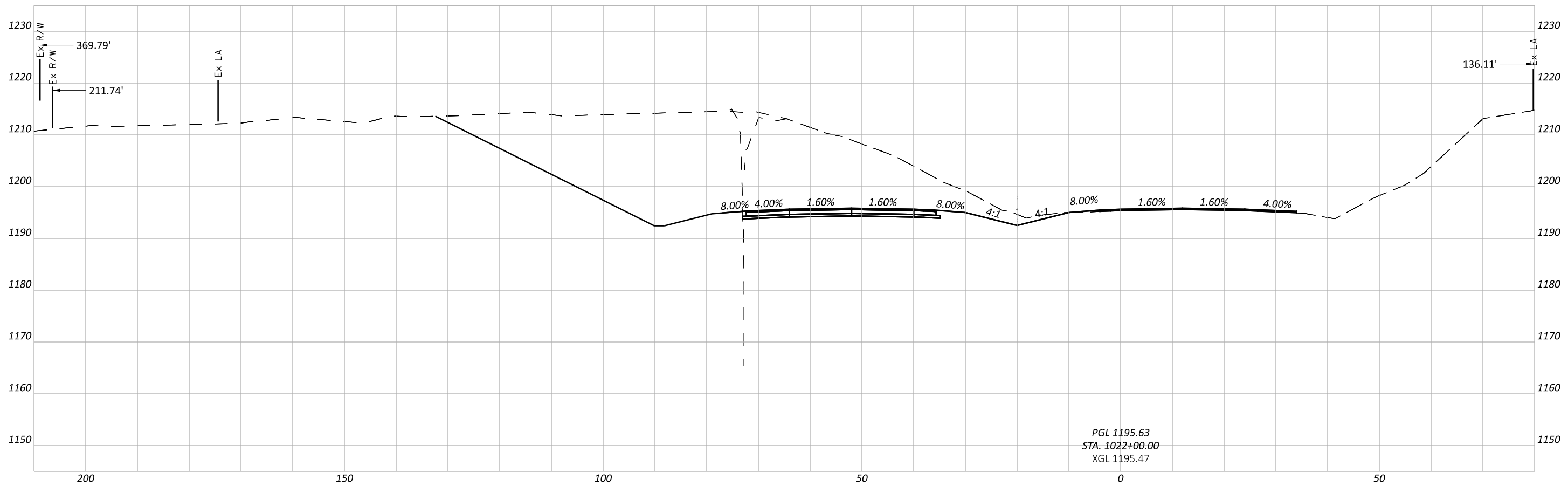


CROSS SECTIONS - U.S. 22
 STA 1020+00 TO STA 1021+00



DESIGNER: MDG
 REVIEWER: SDS
 PROJECT ID: 115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1022+00

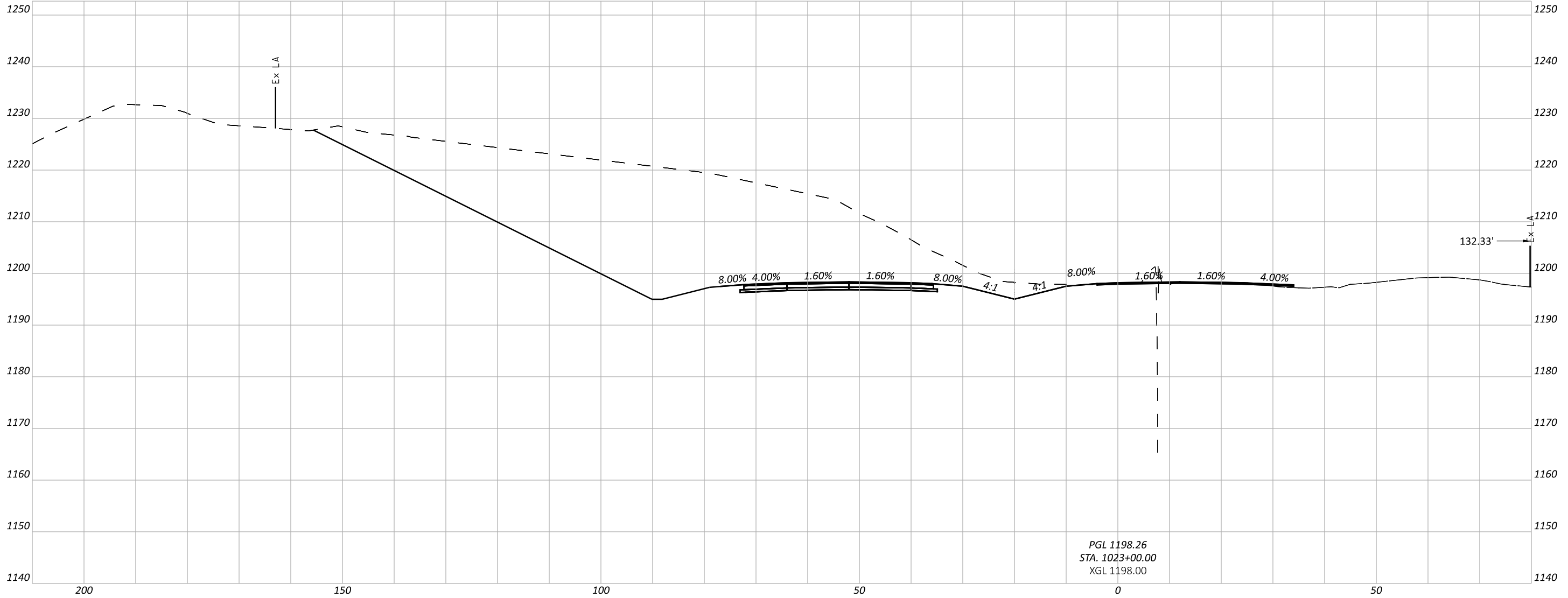
DESIGN AGENCY
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1935 EAGLE PASS
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PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	18	88



CROSS SECTIONS - U.S. 22
 STA 1023+00

DESIGN AGENCY

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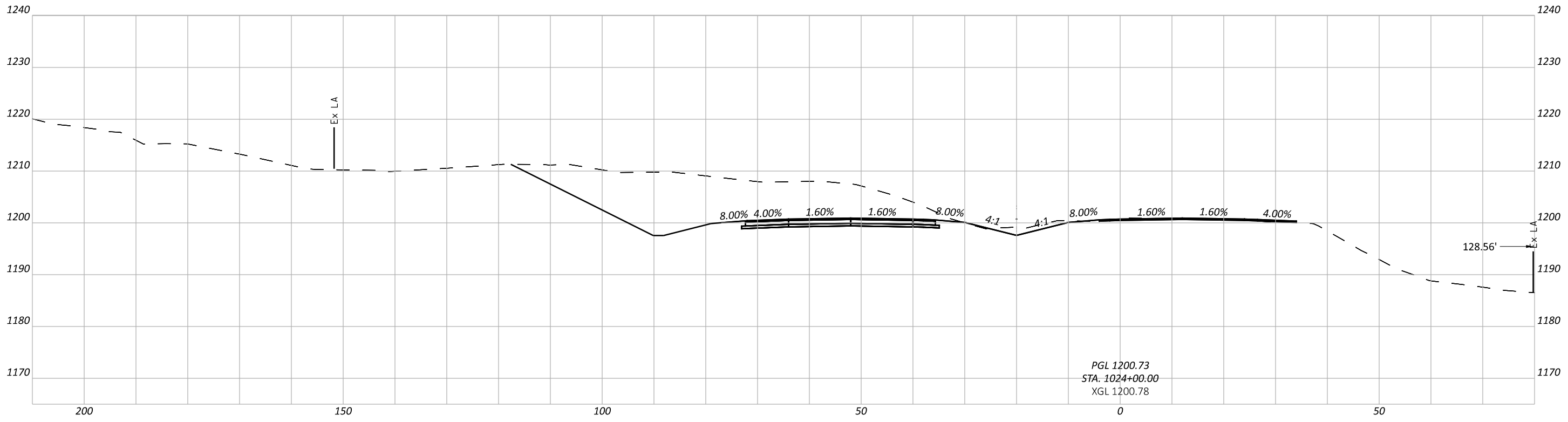
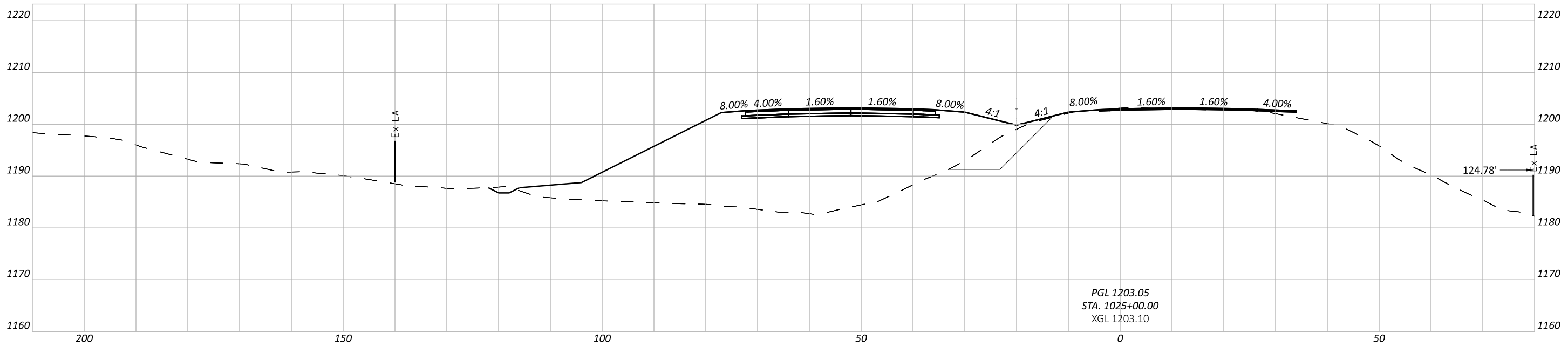
DESIGNER
MDG

REVIEWER
SDS

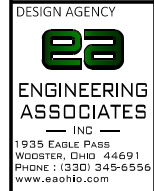
DATE
4-20-2022

PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1024+00 TO STA 1025+00



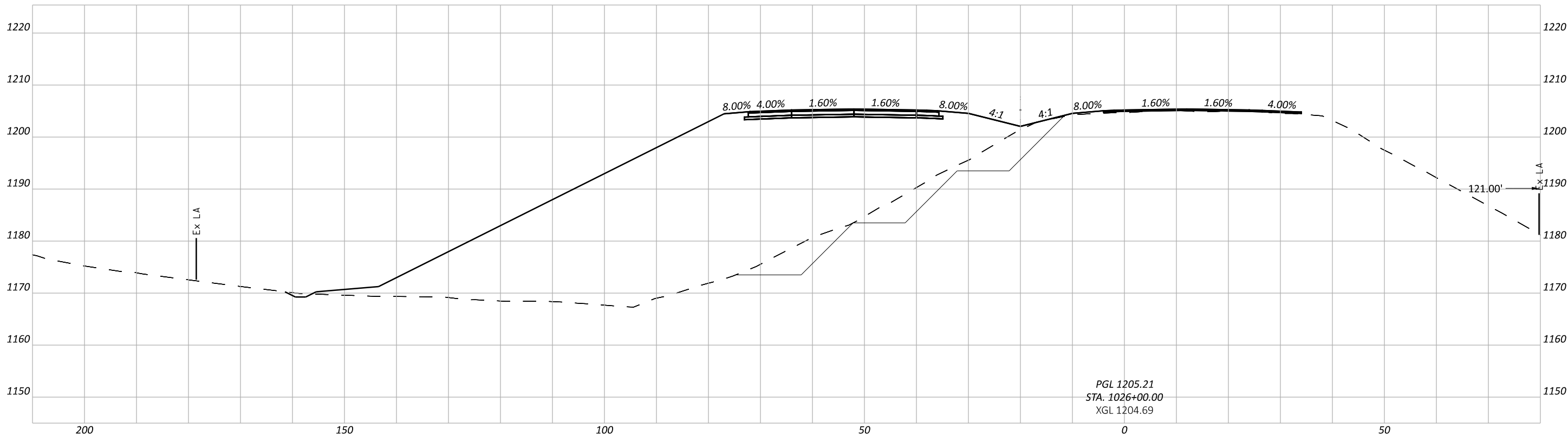
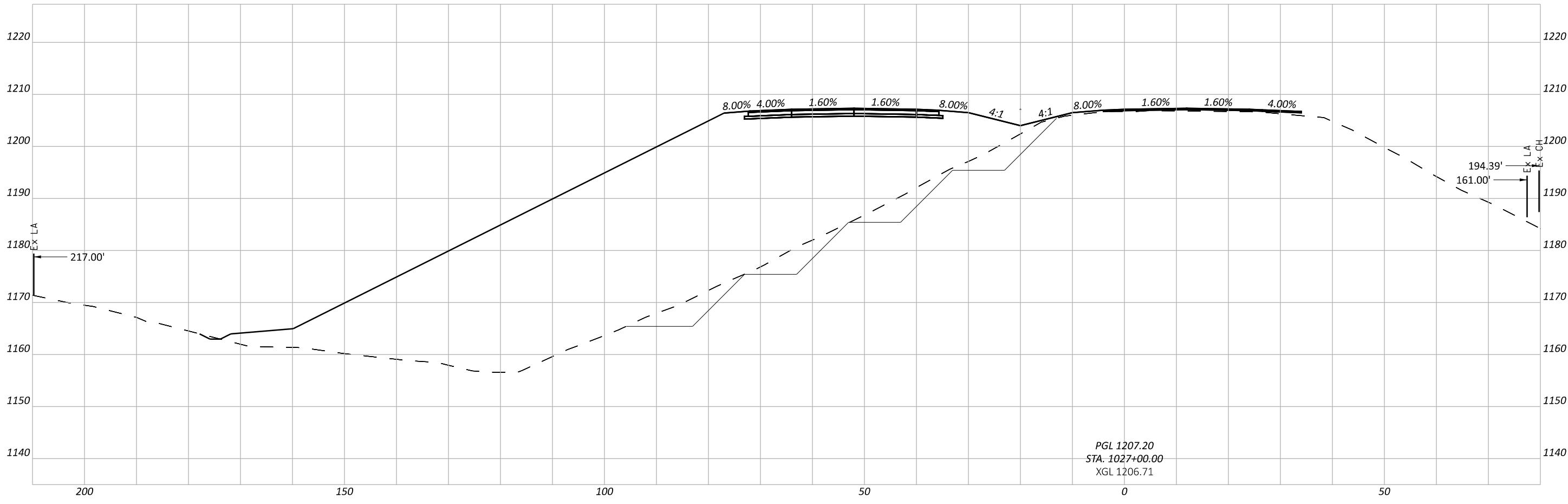
ENGINEERING ASSOCIATES
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PHONE : (330) 345-6556
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DESIGNER
MDG

REVIEWER
SDS 4-20-2022

PROJECT ID
115278

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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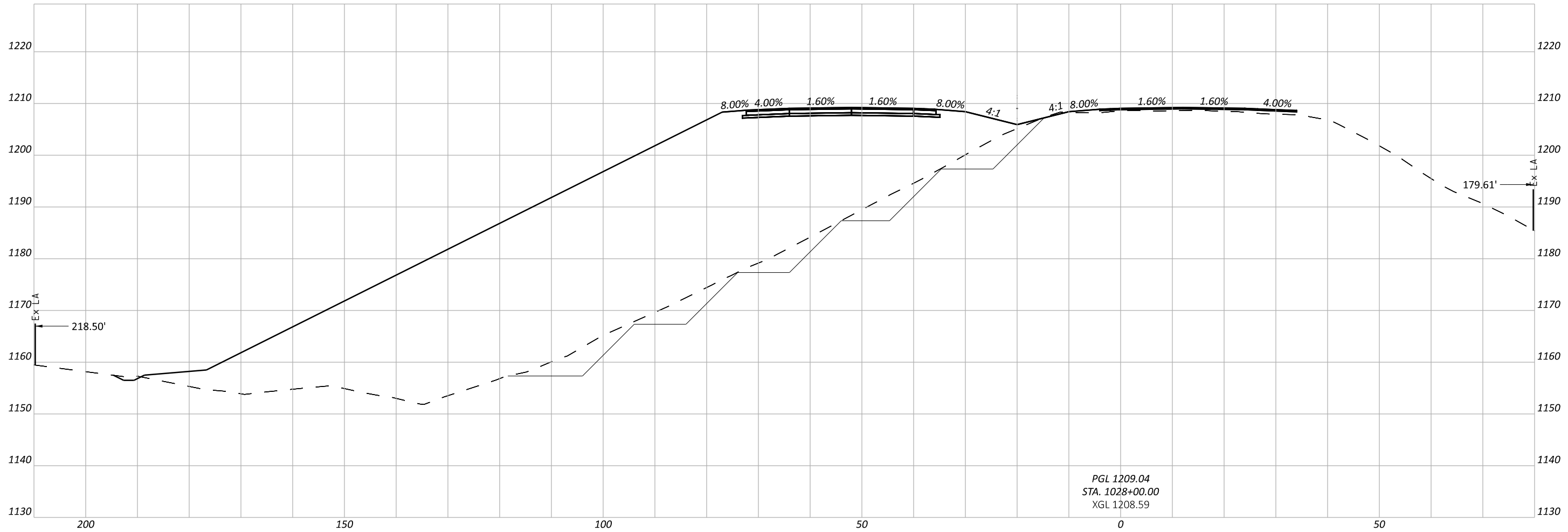
CROSS SECTIONS - U.S. 22
STA 1026+00 TO STA 1027+00



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MDG
REVIEWER
SDS 4-20-2022
PROJECT ID
115278

Sheet Totals			115278	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	21	88



PGL 1209.04
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 XGL 1208.59

CROSS SECTIONS - U.S. 22
 STA 1028+00

DESIGN AGENCY

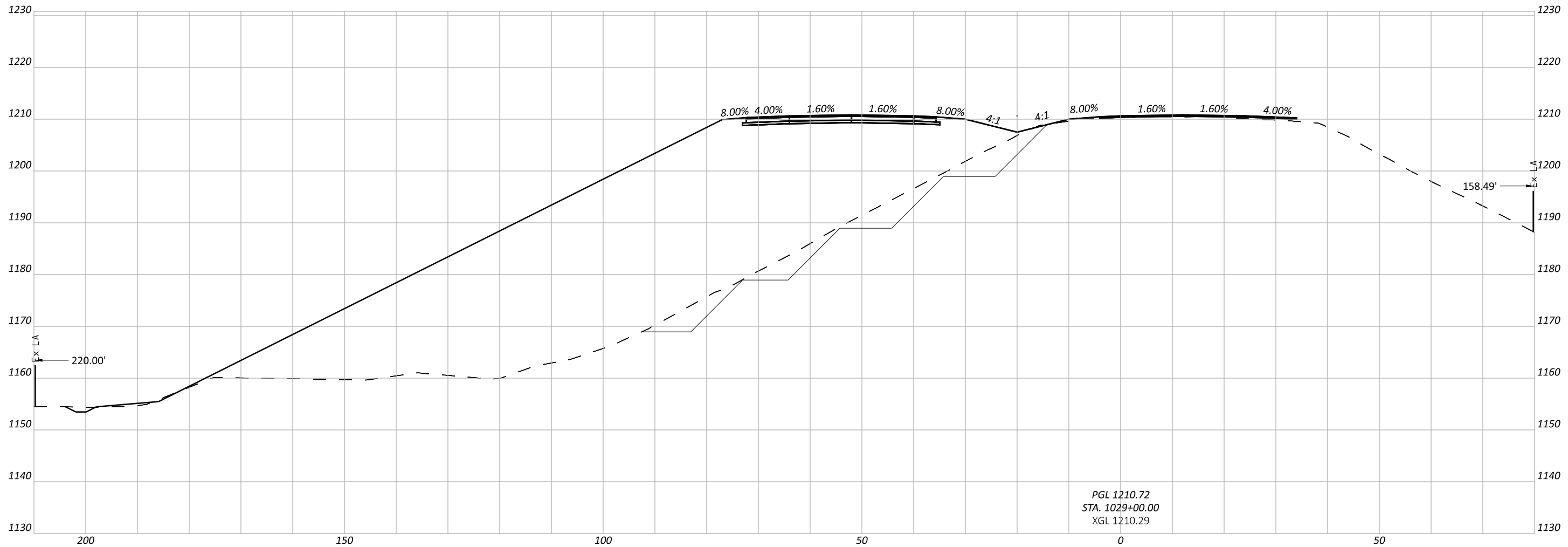
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
.	.	.	22	88



CROSS SECTIONS - U.S. 22
 STA 1029+00

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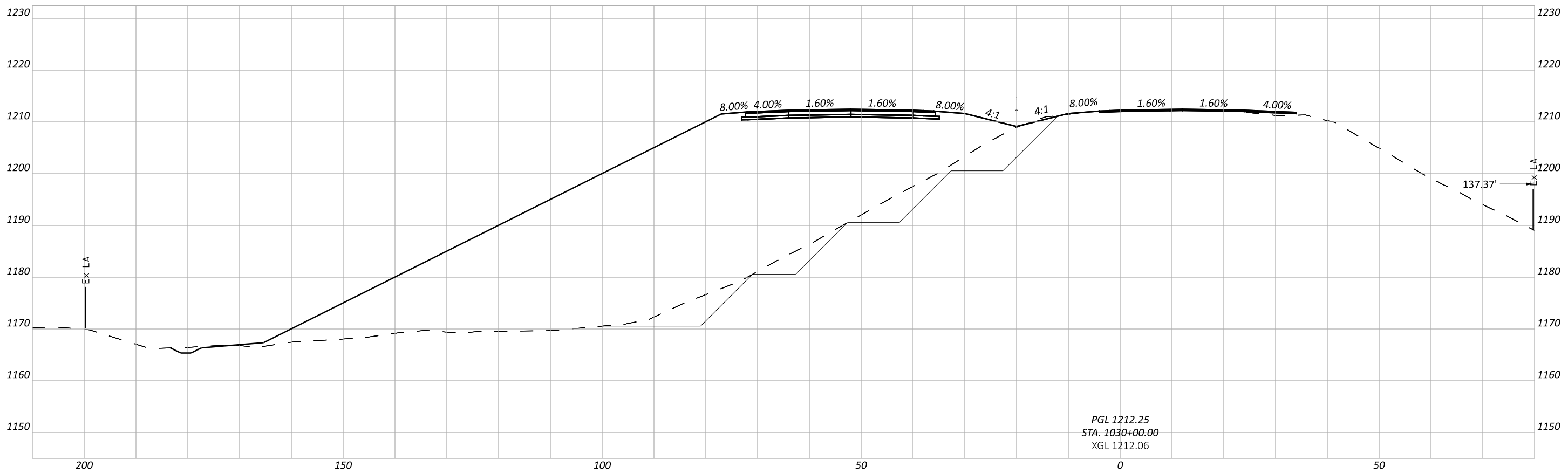
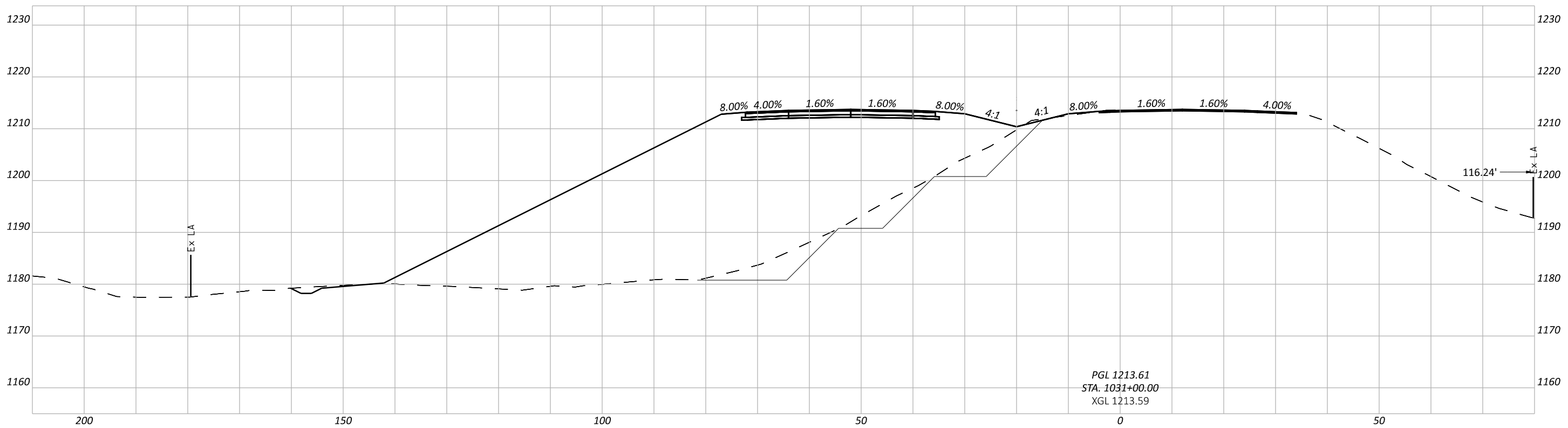
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PROJECT ID
115278

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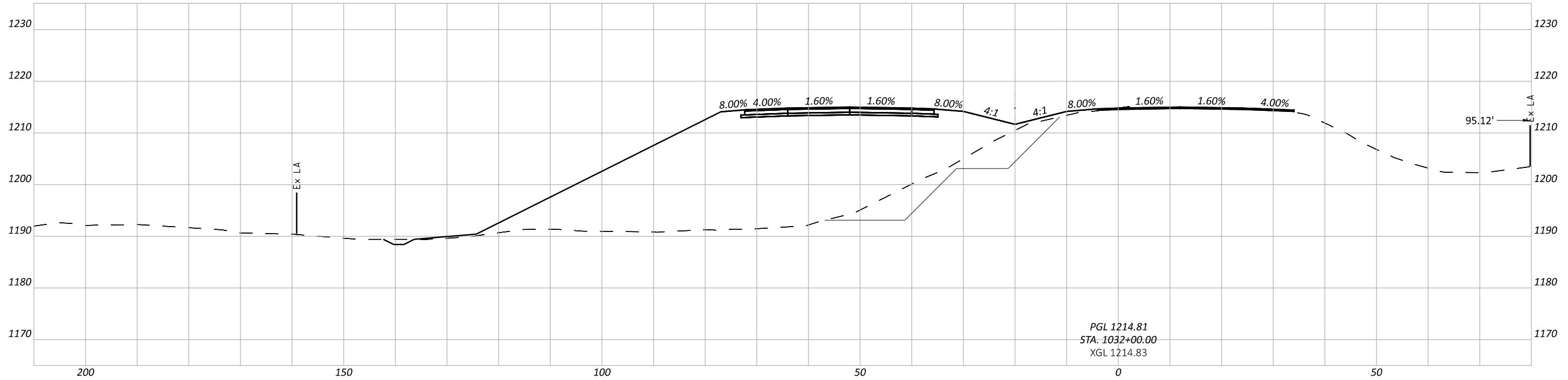
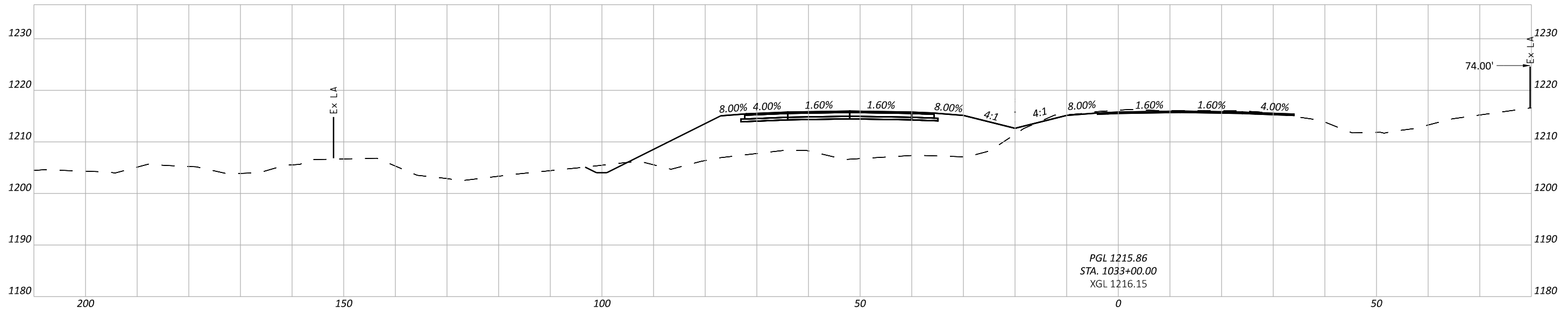


CROSS SECTIONS - U.S. 22
 STA 1030+00 TO STA 1031+00



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Sheet Totals	Seeding	Cut
SHEET	24	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1032+00 TO STA 1033+00

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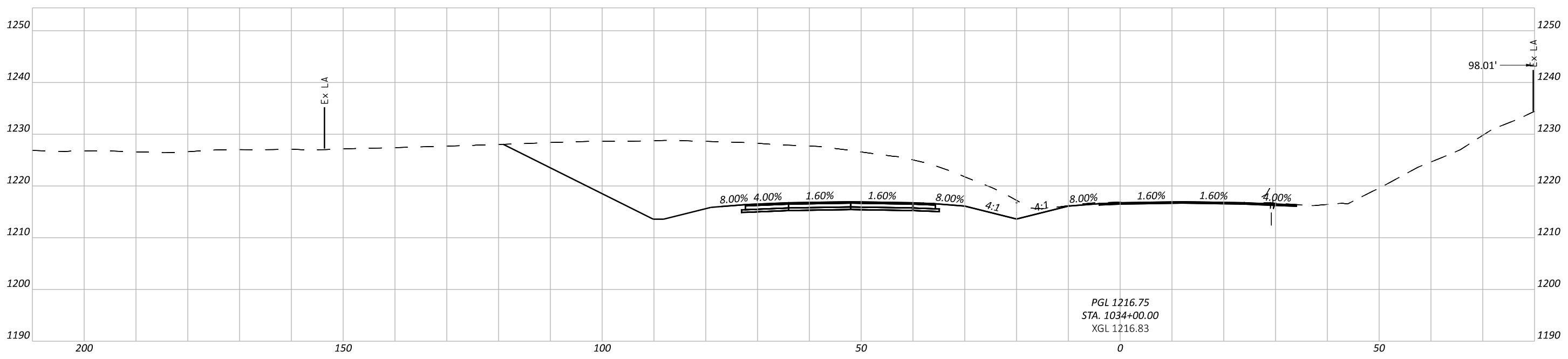
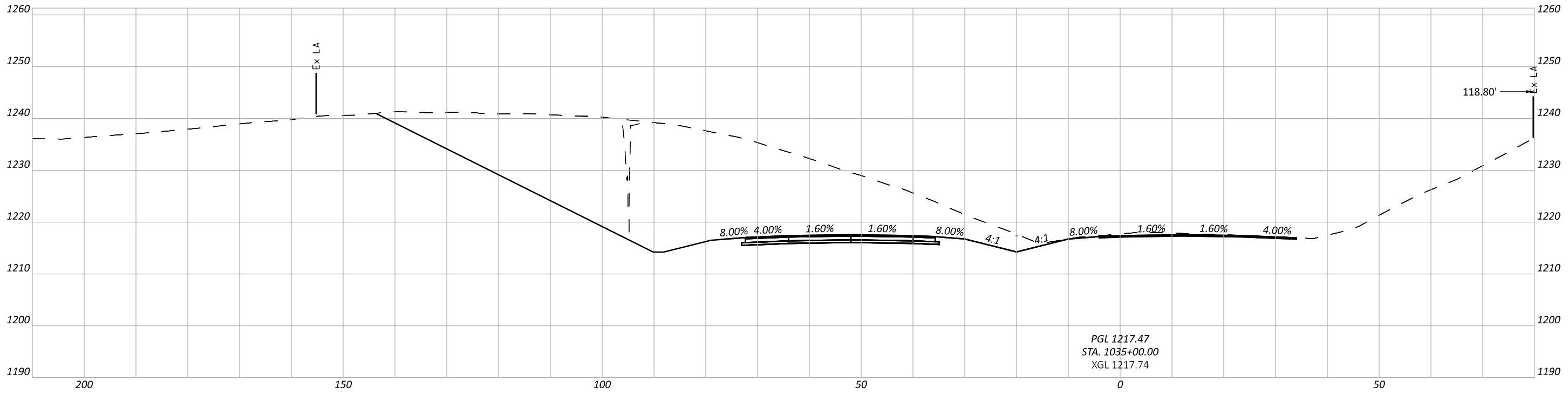
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SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1034+00 TO STA 1035+00

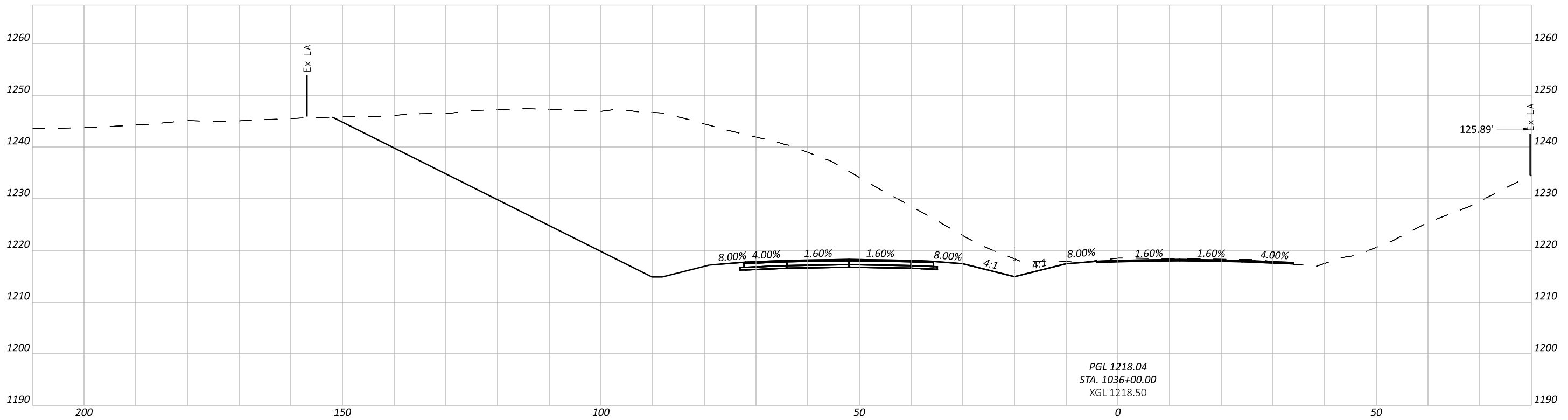
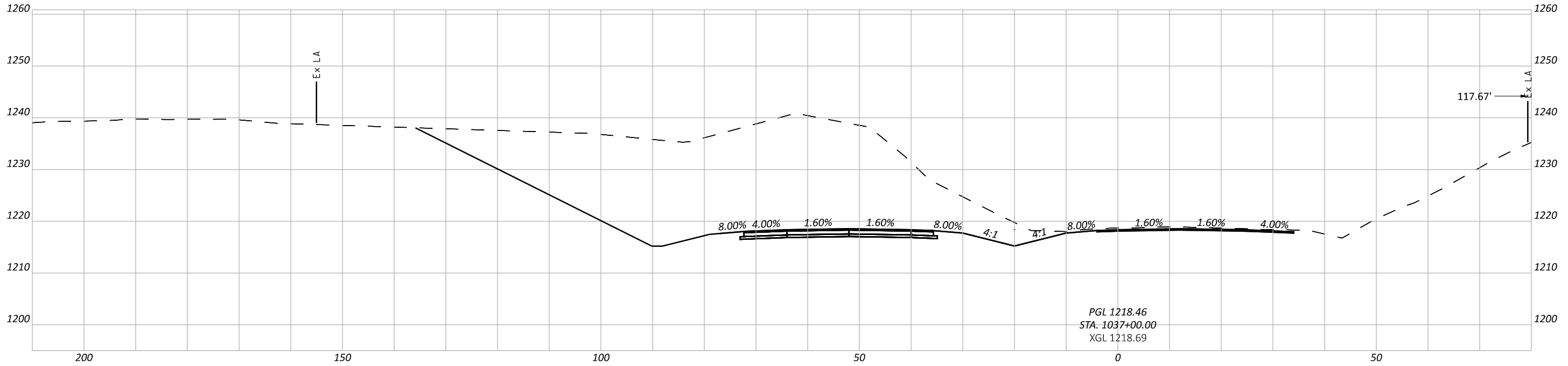
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Sheet Totals			115278	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1036+00 TO STA 1037+00

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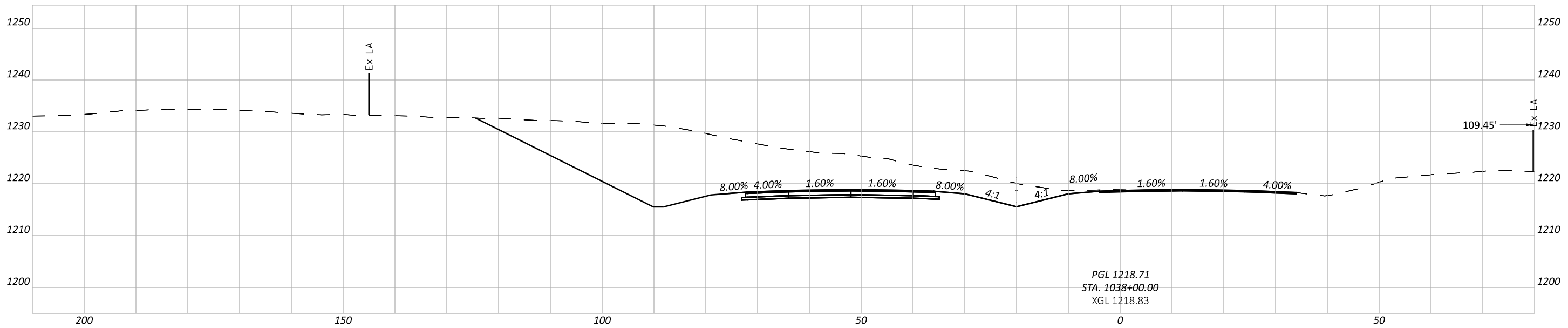
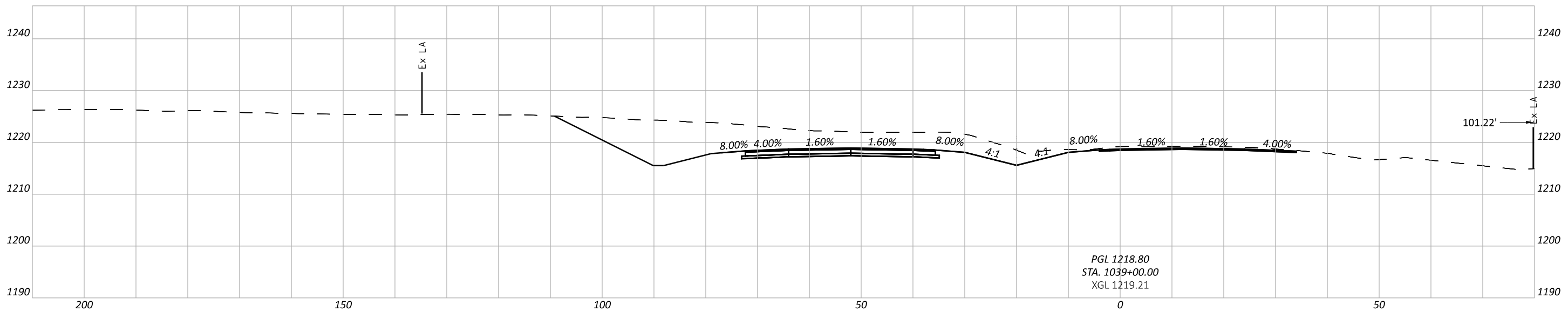
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PROJECT ID


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SHEET	TOTAL
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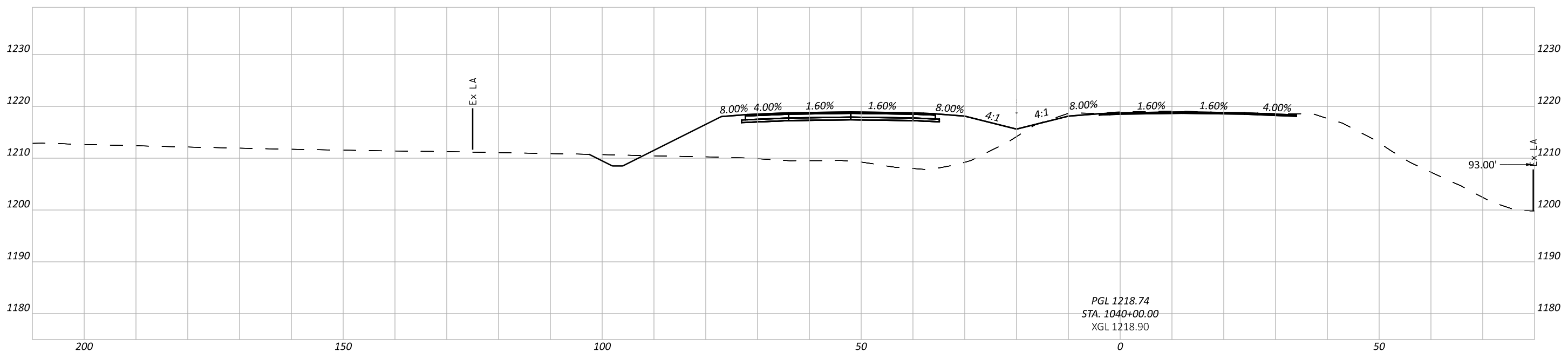
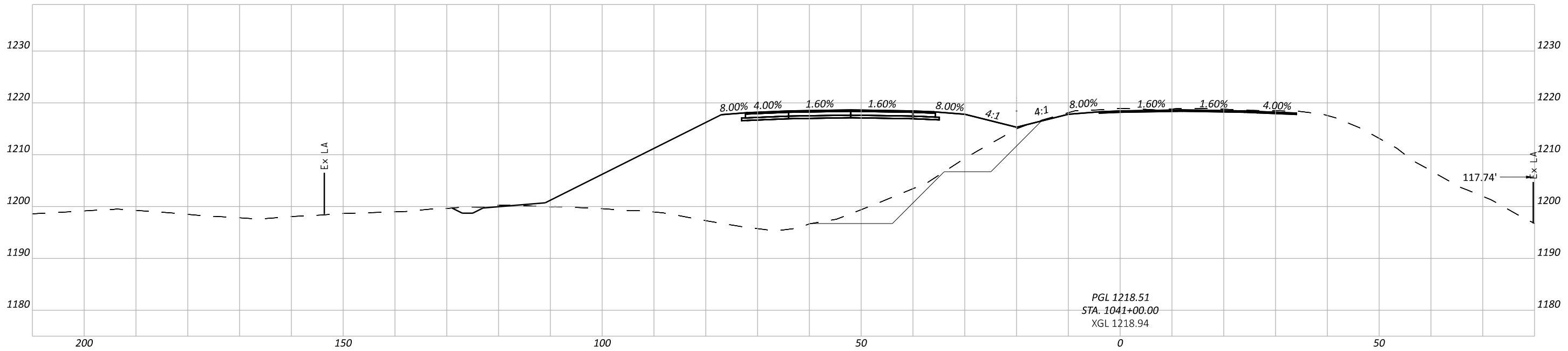
CROSS SECTIONS - U.S. 22
 STA 1038+00 TO STA 1039+00

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Seeding	Cut	Fill	SHEET	TOTAL
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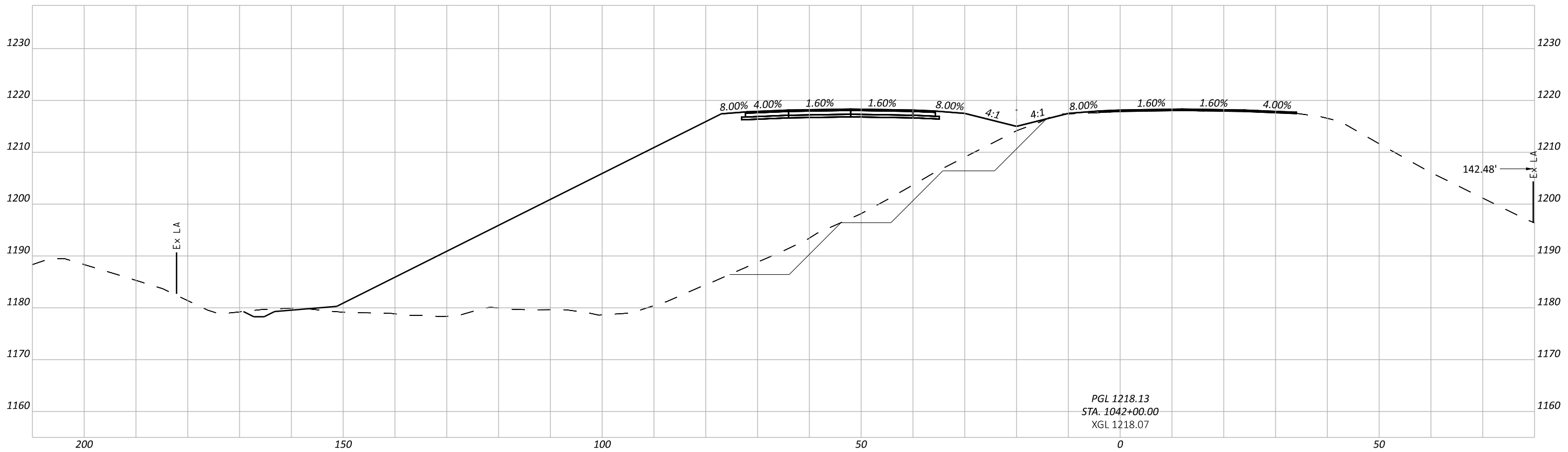
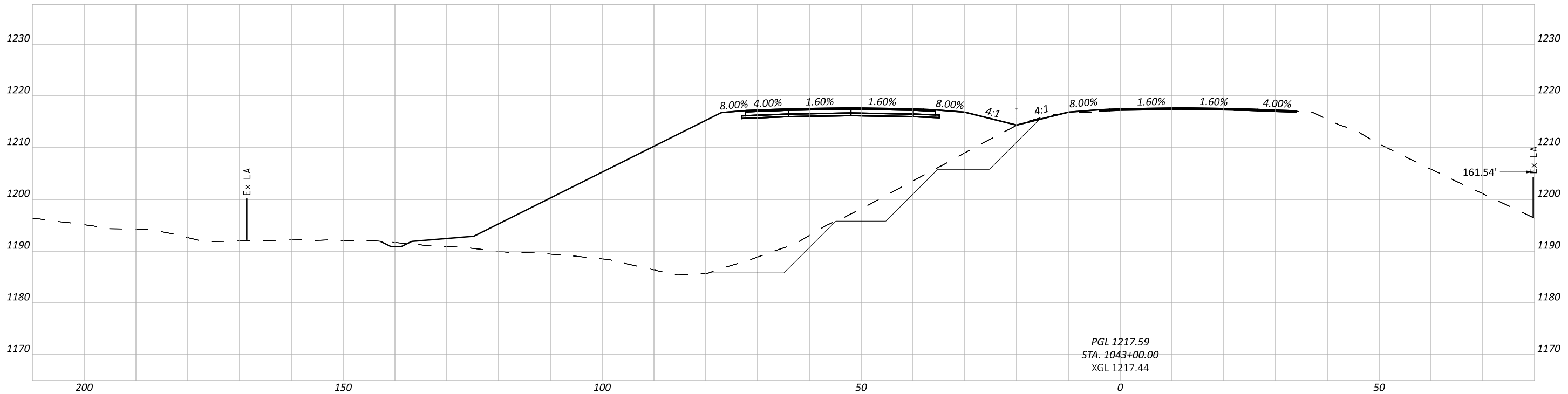
CROSS SECTIONS - U.S. 22
STA 1040+00 TO STA 1041+00



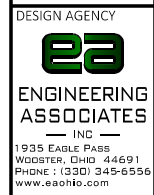
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Seeding	Cut	Fill	SHEET	TOTAL
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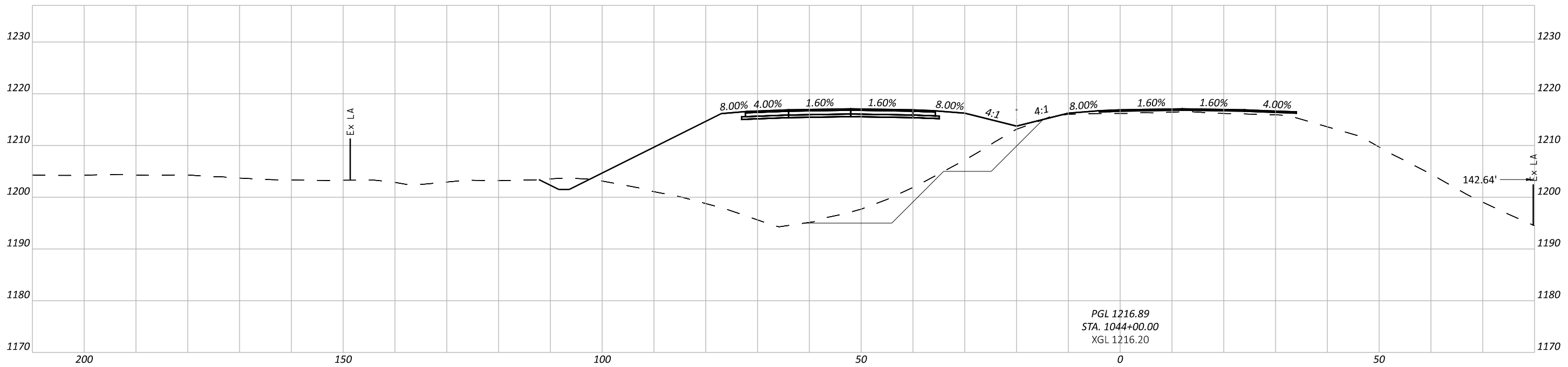
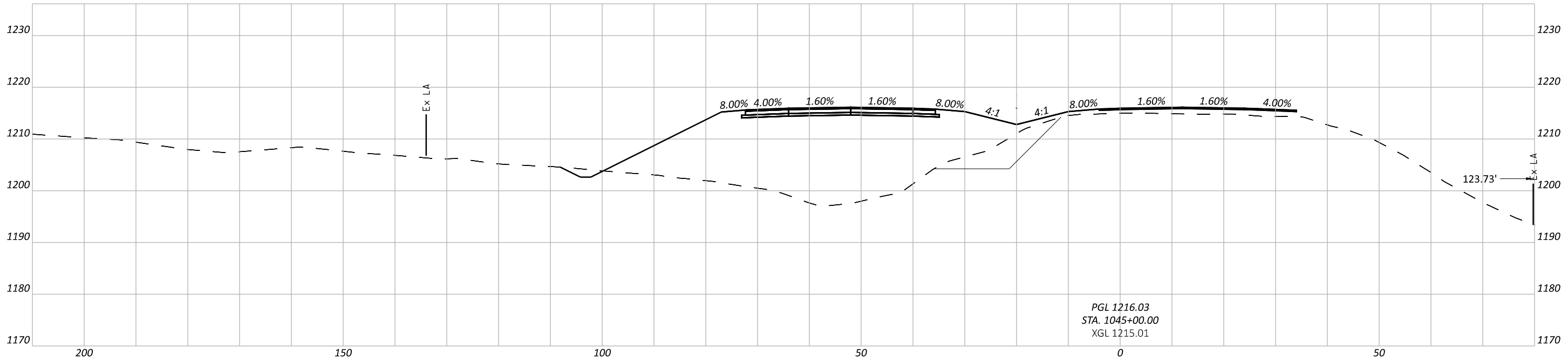
CROSS SECTIONS - U.S. 22
STA 1042+00 TO STA 1043+00



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PROJECT ID	115278
SHEET TOTAL	30 / 88

Sheet Totals		
Seeding	Cut	Fill
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CROSS SECTIONS - U.S. 22
STA 1044+00 TO STA 1045+00

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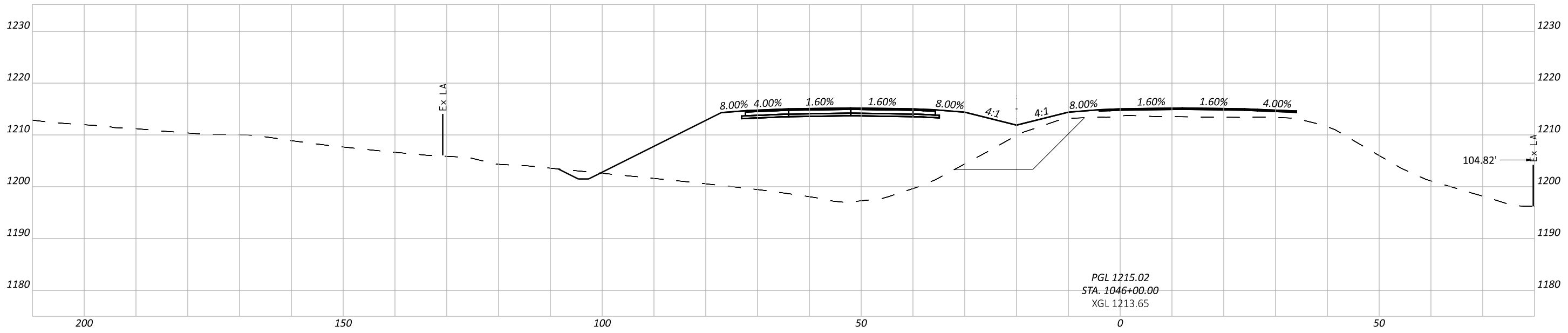
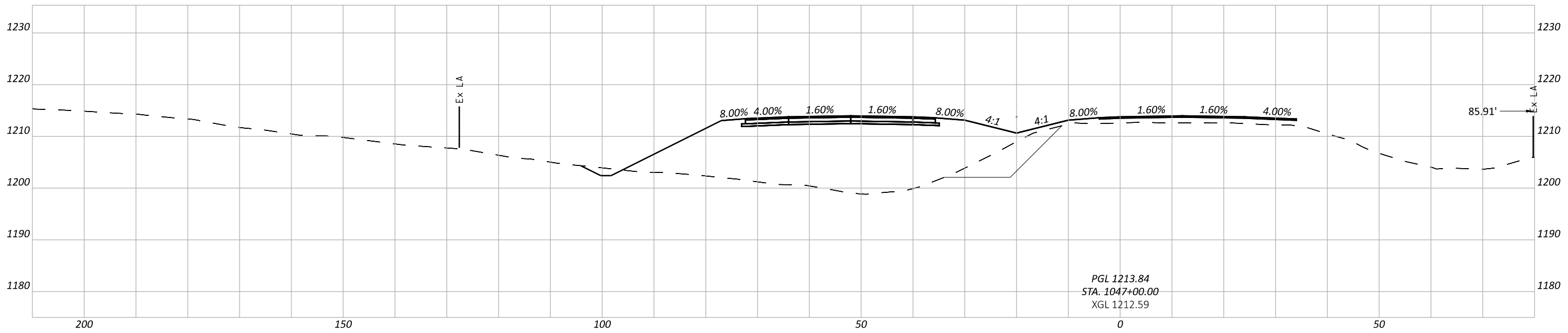
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Sheet Totals		
Seeding	Cut	Fill
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SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1046+00 TO STA 1047+00

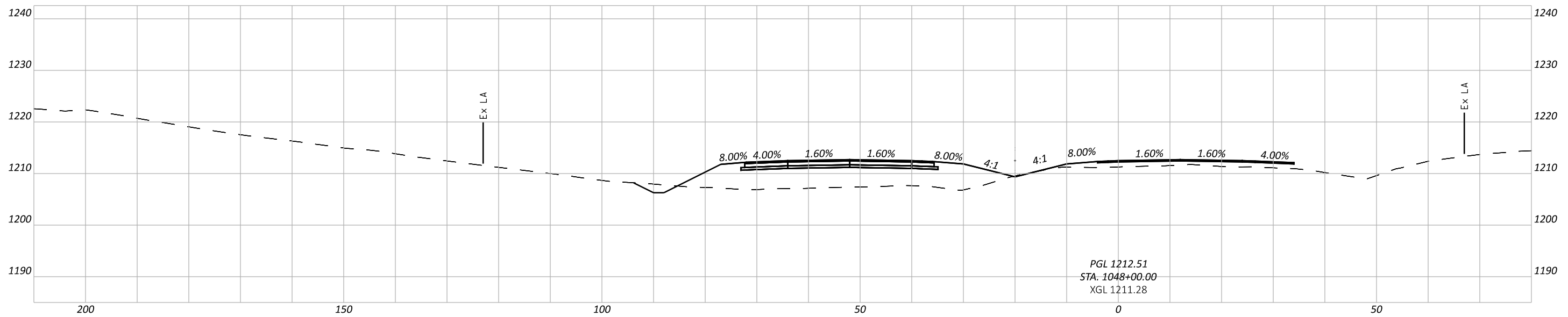
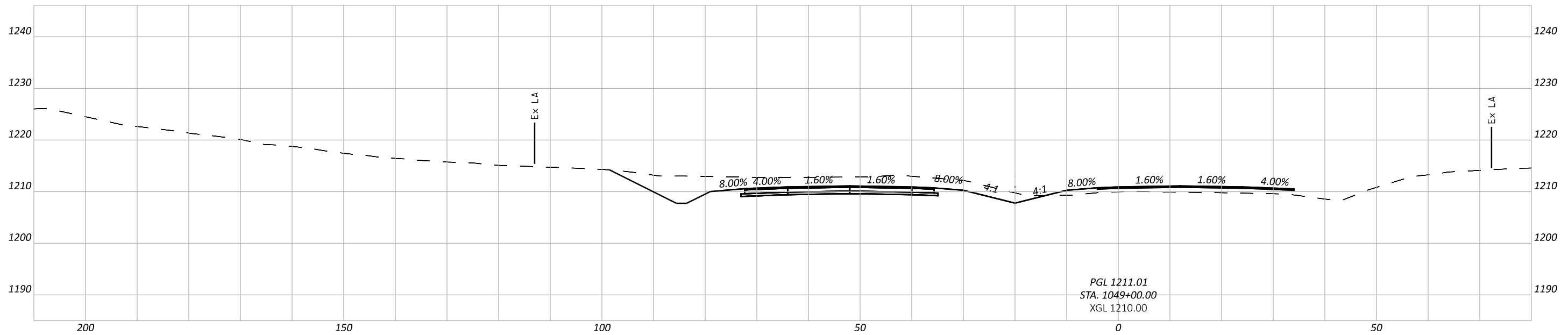
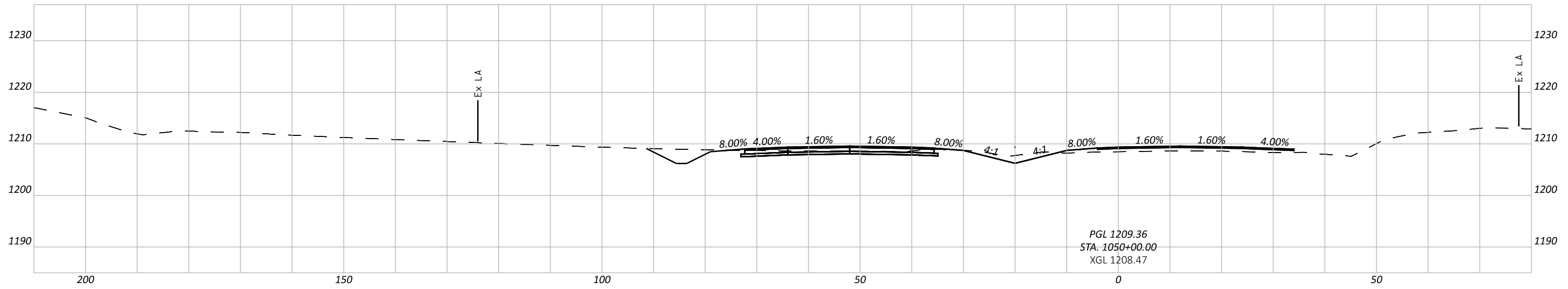


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PROJECT ID
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Sheet Totals			TOTAL	
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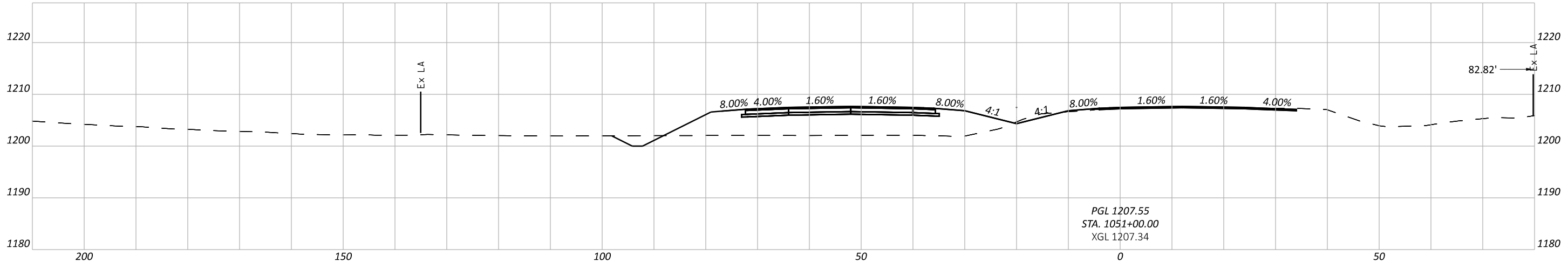
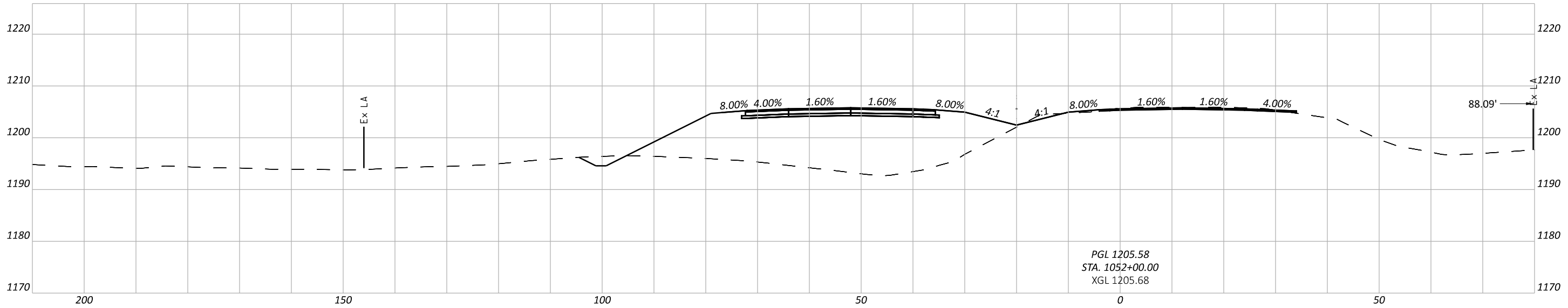
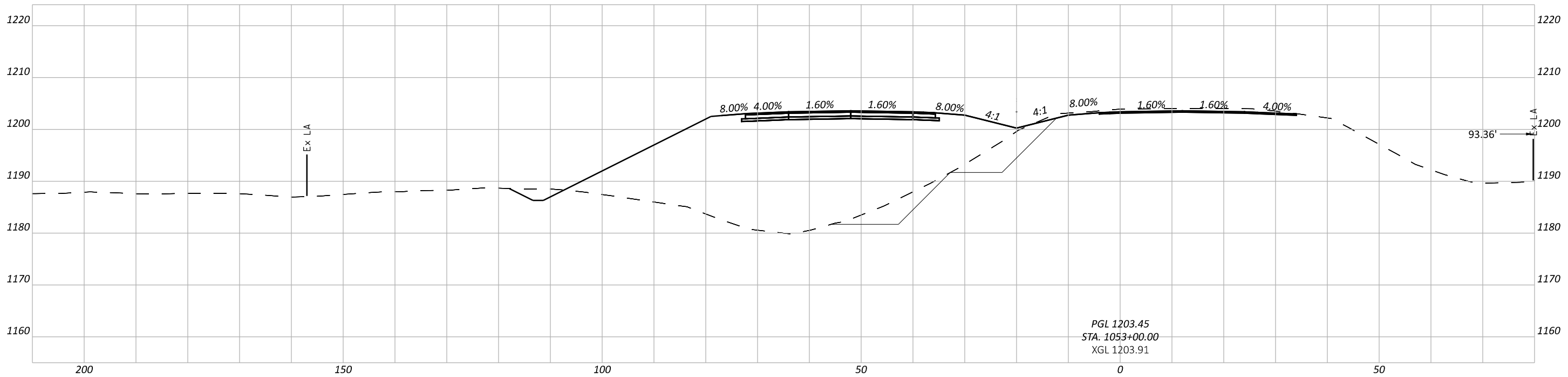


CROSS SECTIONS - U.S. 22
STA 1048+00 TO STA 1050+00



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Sheet Totals			PROJECT ID	
Seeding	Cut	Fill	SHEET	TOTAL
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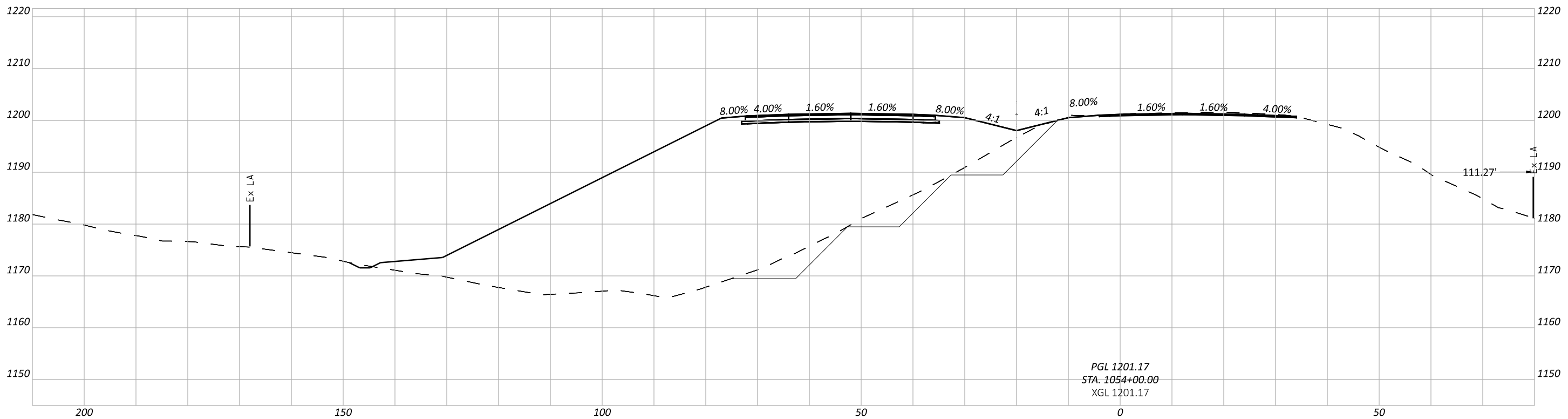
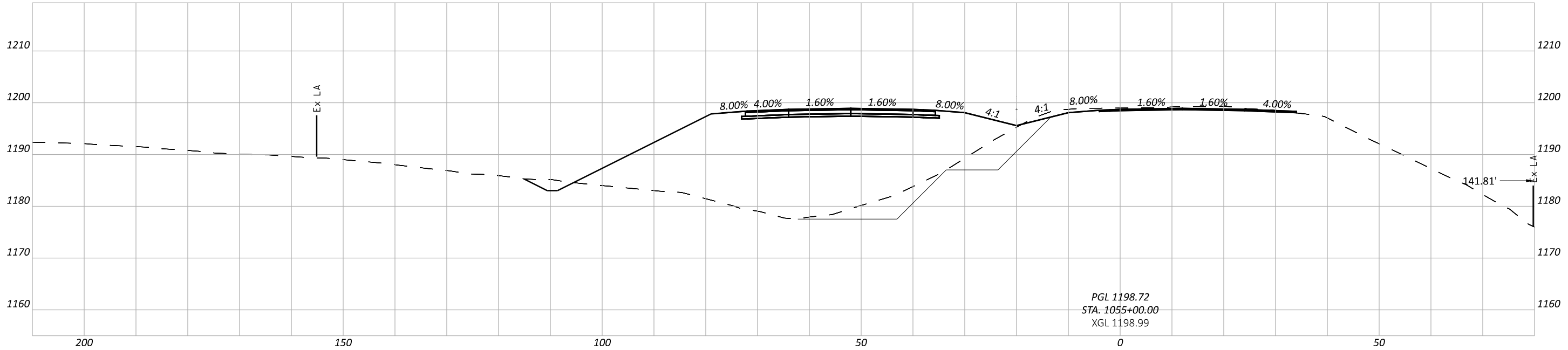
CROSS SECTIONS - U.S. 22
STA 1051+00 TO STA 1053+00



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Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1054+00 TO STA 1055+00

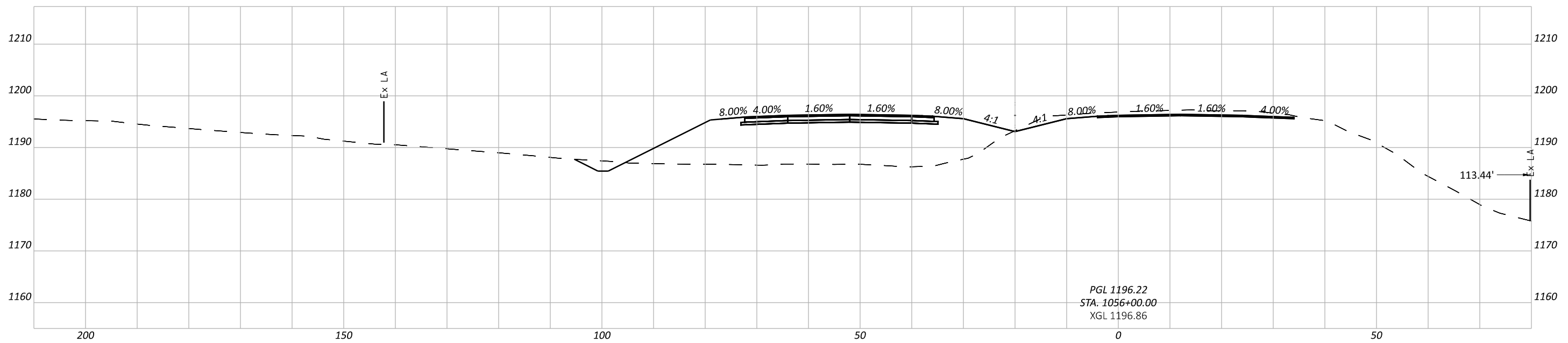
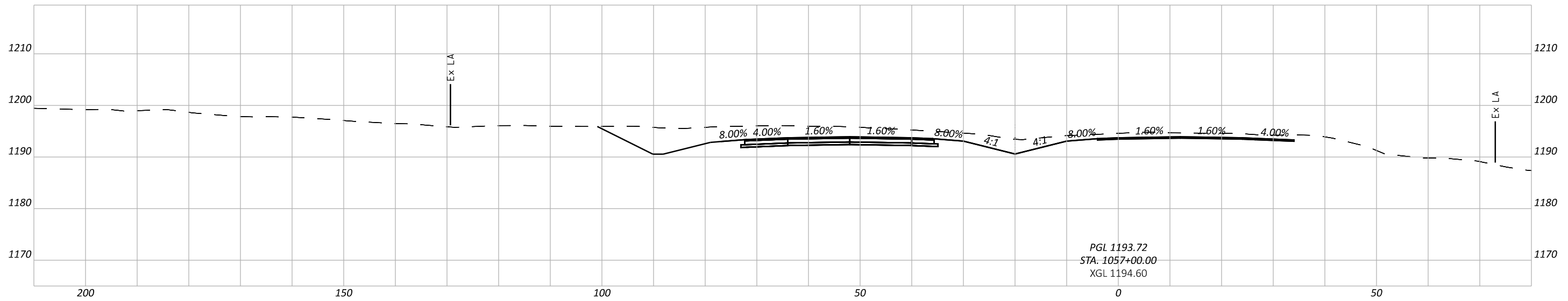
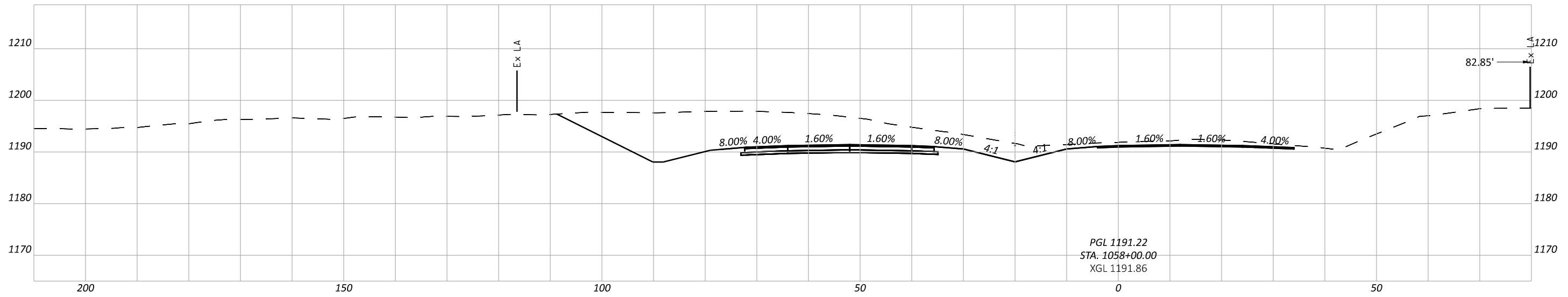


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115278

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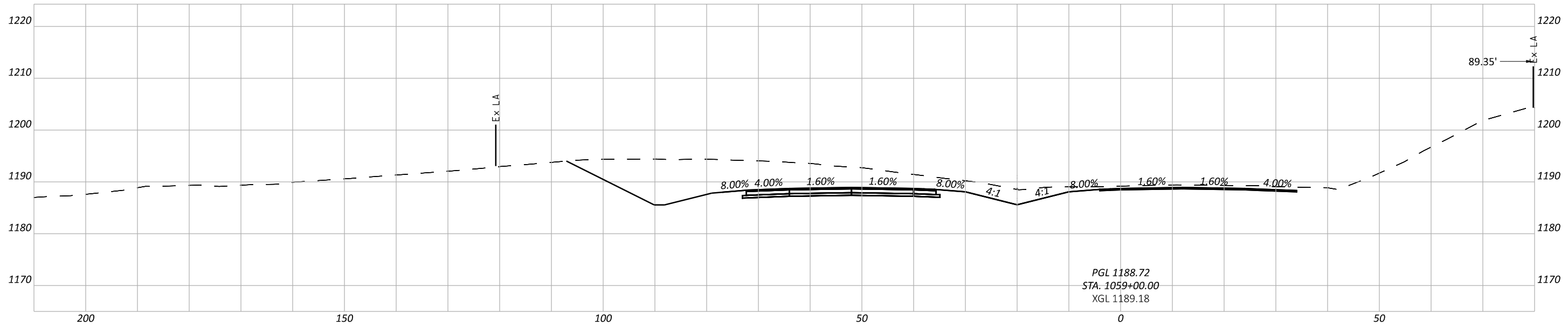
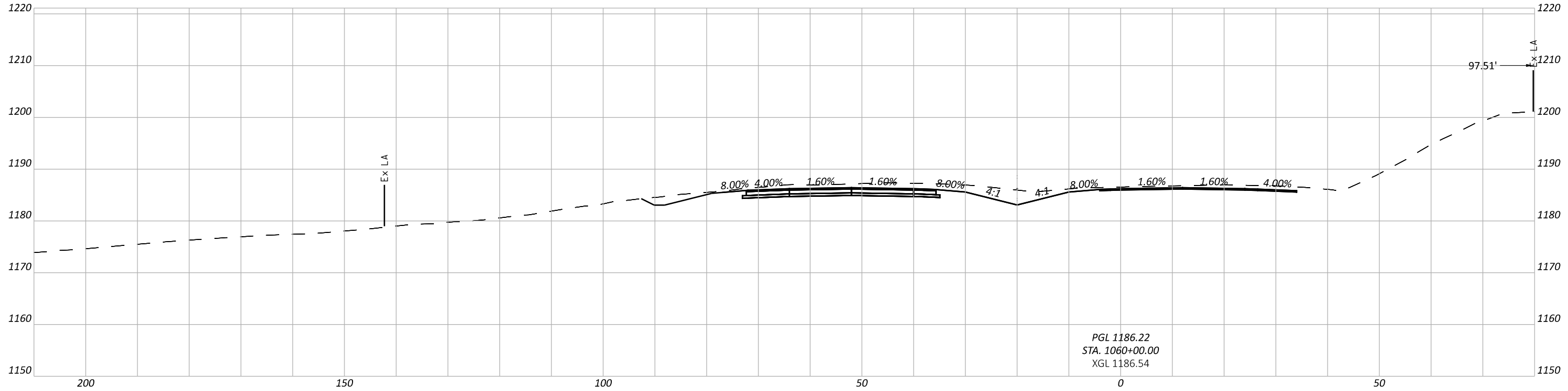


CROSS SECTIONS - U.S. 22
STA 1056+00 TO STA 1058+00



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REVIEWER: SDS
DATE: 4-20-2022

Sheet Totals			115278	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1059+00 TO STA 1060+00

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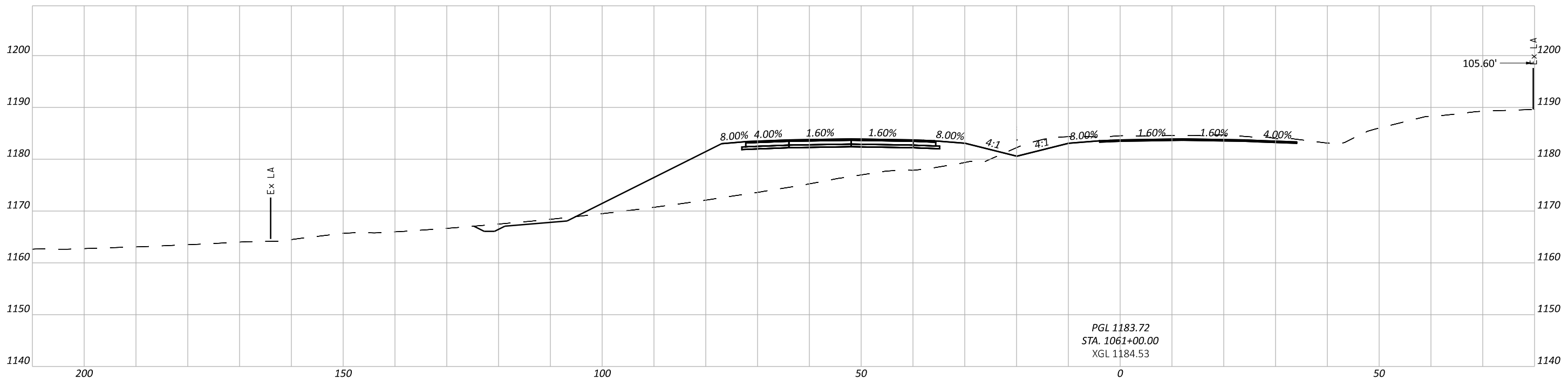
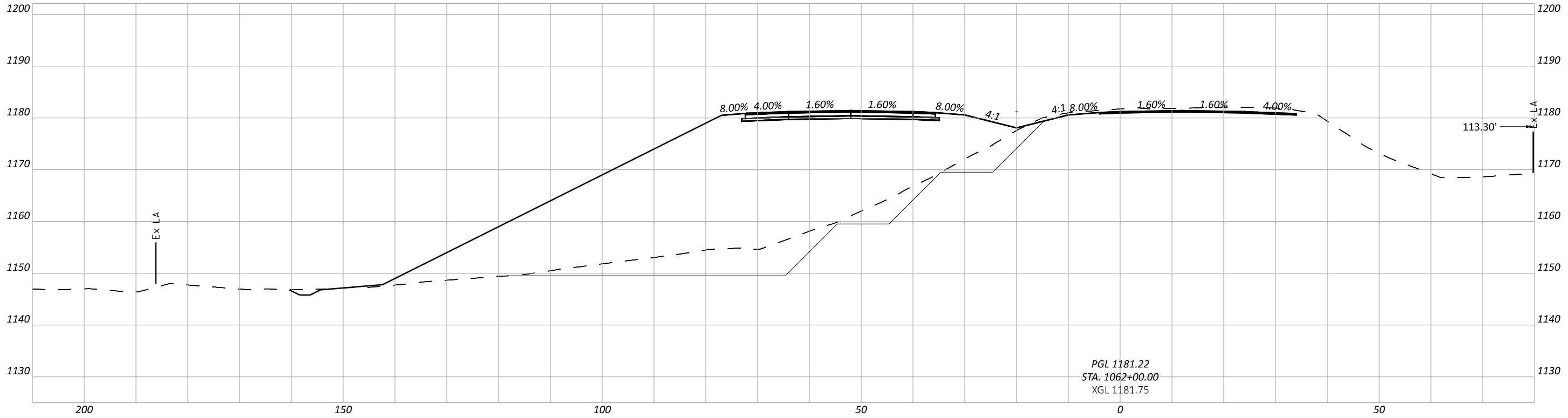
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Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1061+00 TO STA 1062+00

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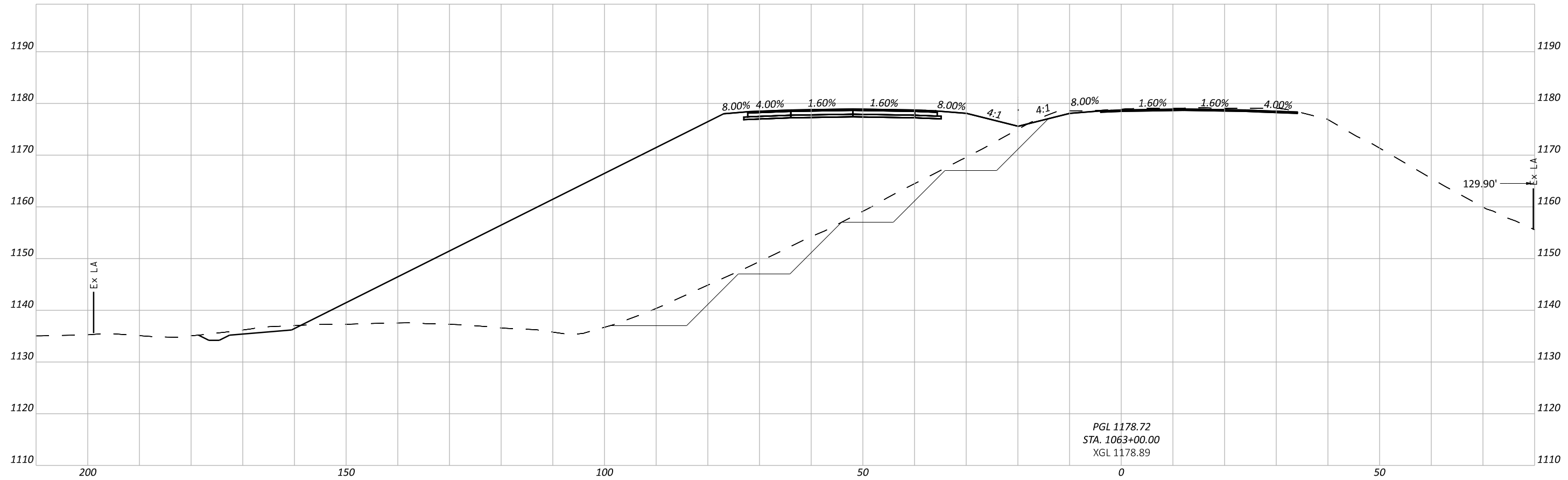
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CROSS SECTIONS - U.S. 22
 STA 1063+00

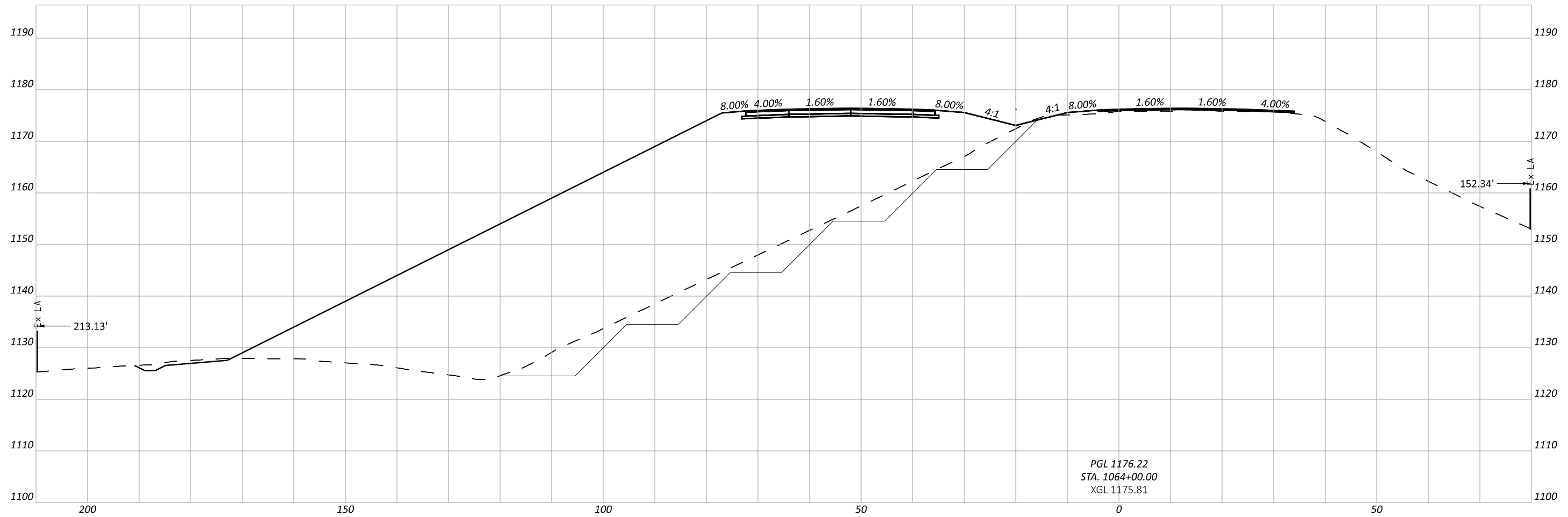
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1176.22
STA. 1064+00.00
XGL 1175.81

CROSS SECTIONS - U.S. 22
STA 1064+00

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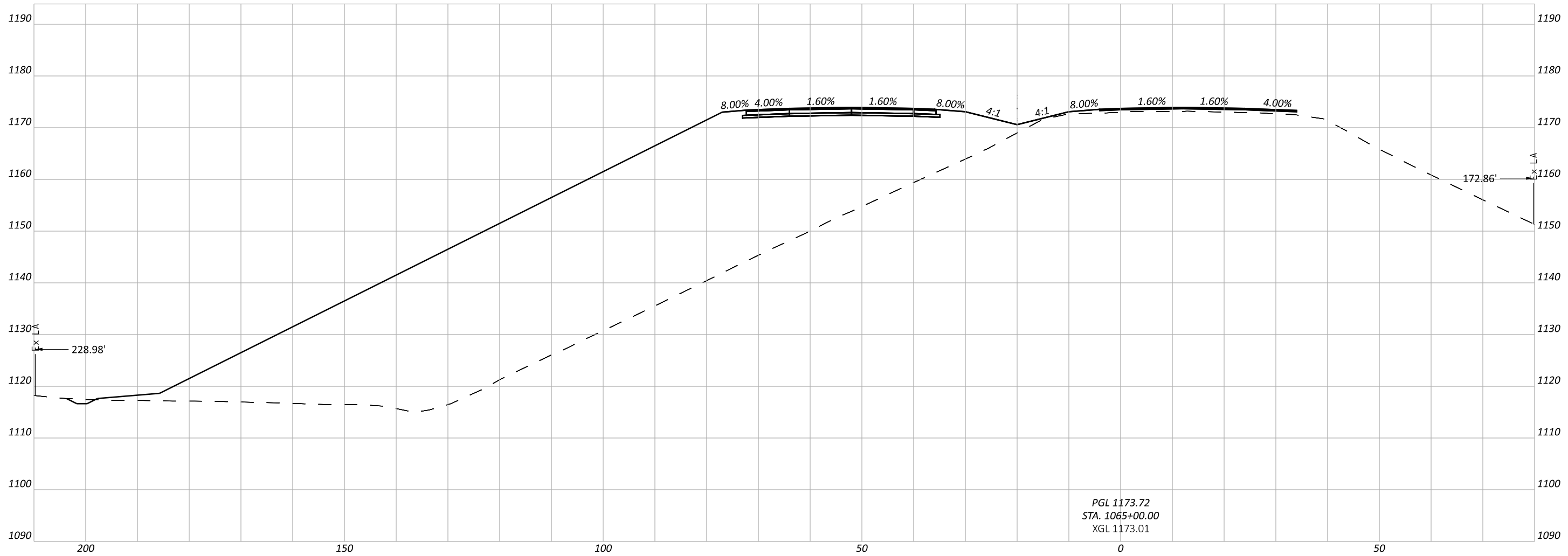
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PGL 1173.72
STA. 1065+00.00
XGL 1173.01

CROSS SECTIONS - U.S. 22
STA 1065+00

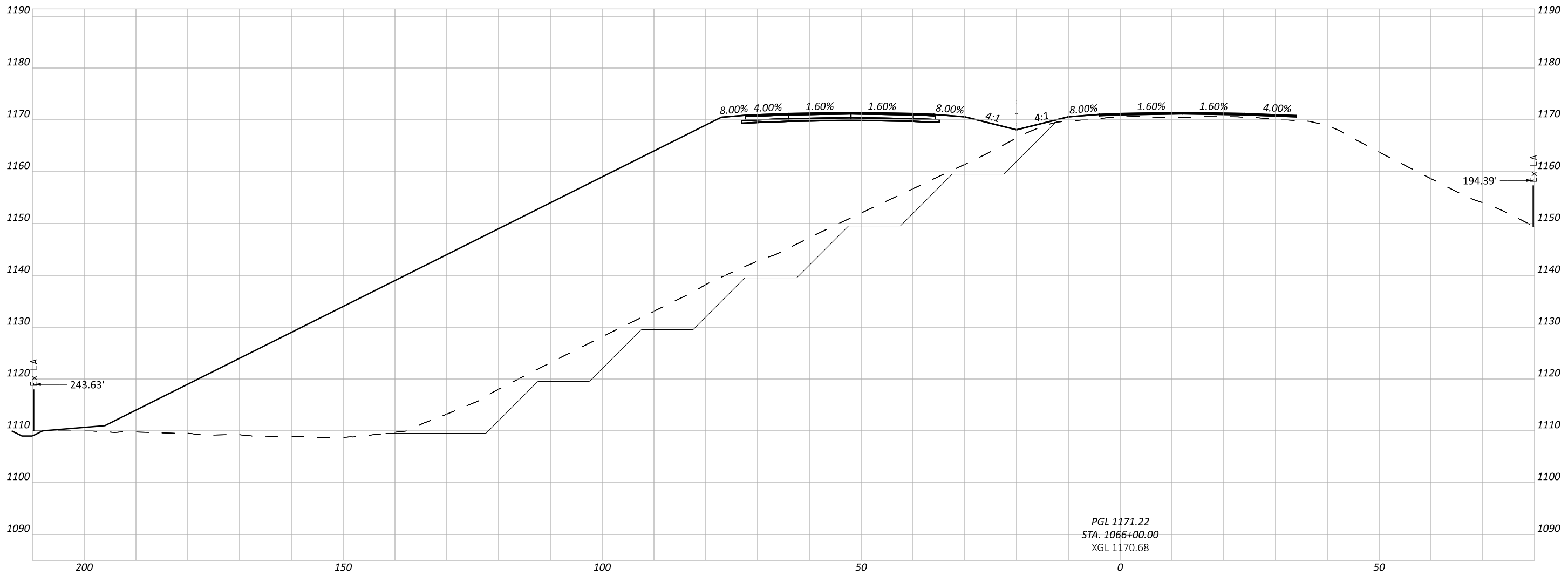
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1171.22
STA. 1066+00.00
XGL 1170.68

CROSS SECTIONS - U.S. 22
STA 1066+00

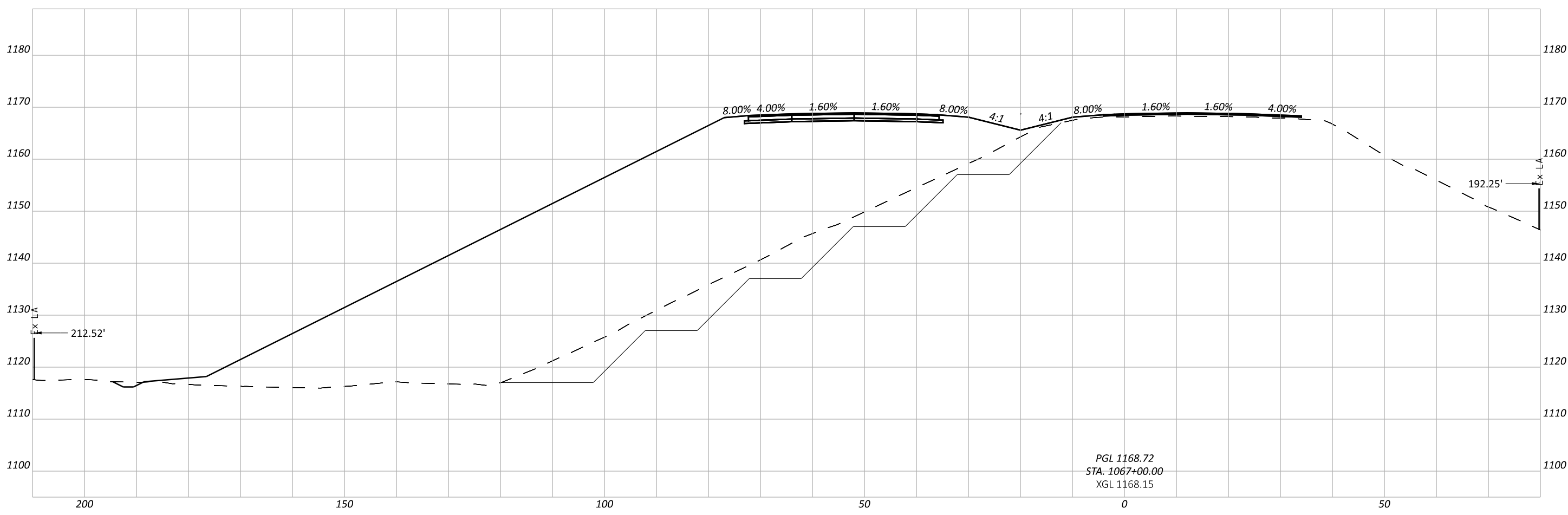
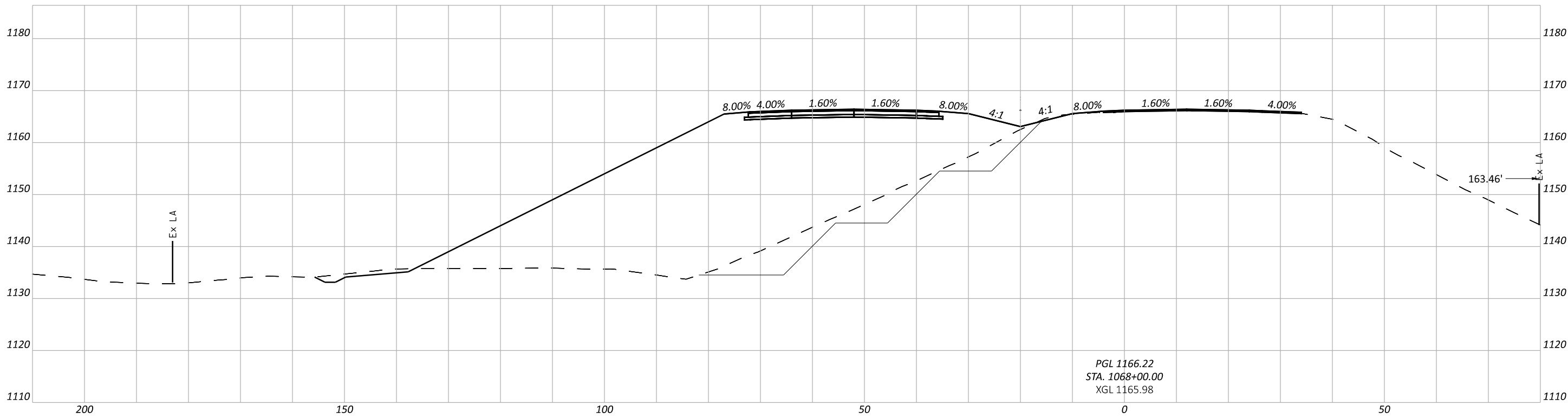
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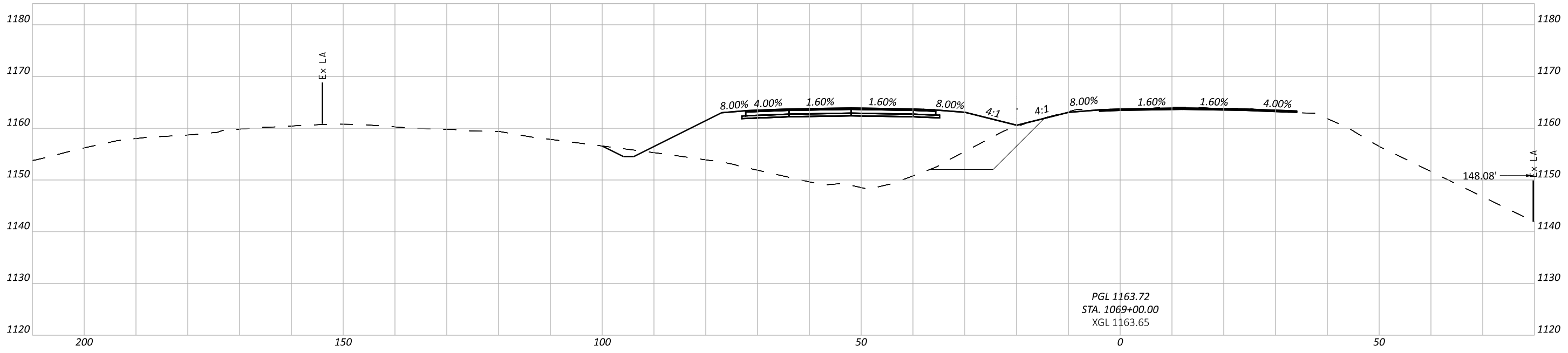
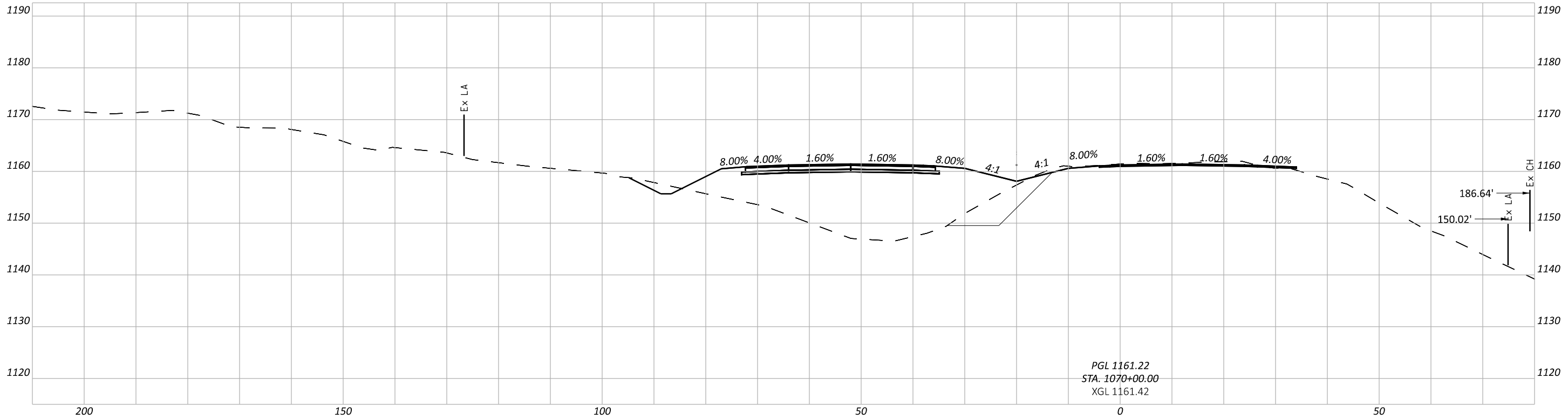


CROSS SECTIONS - U.S. 22
 STA 1067+00 TO STA 1068+00


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Sheet Totals			TOTAL	
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CROSS SECTIONS - U.S. 22
STA 1069+00 TO STA 1070+00

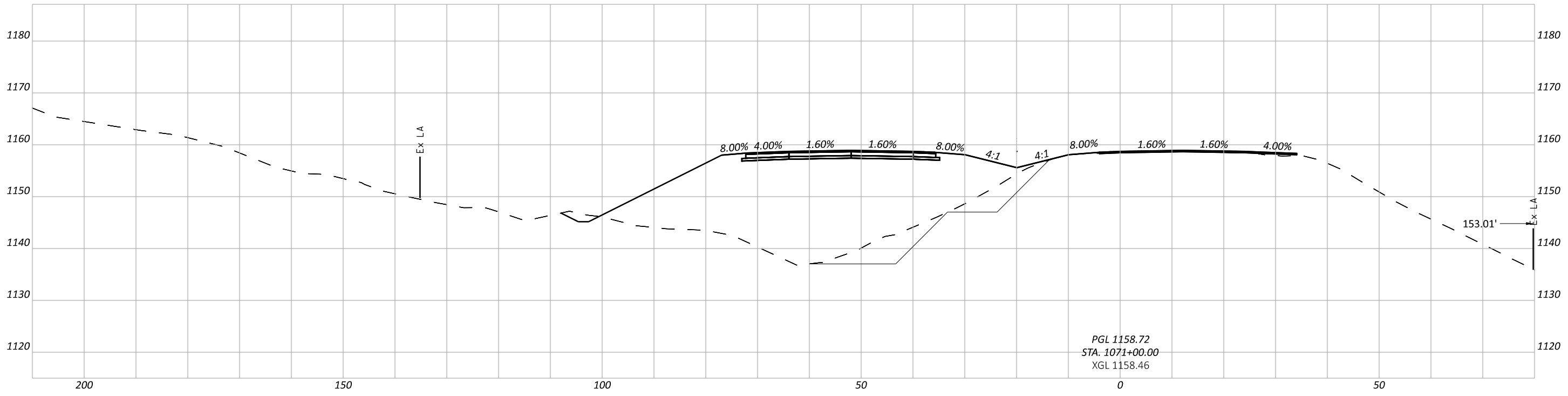
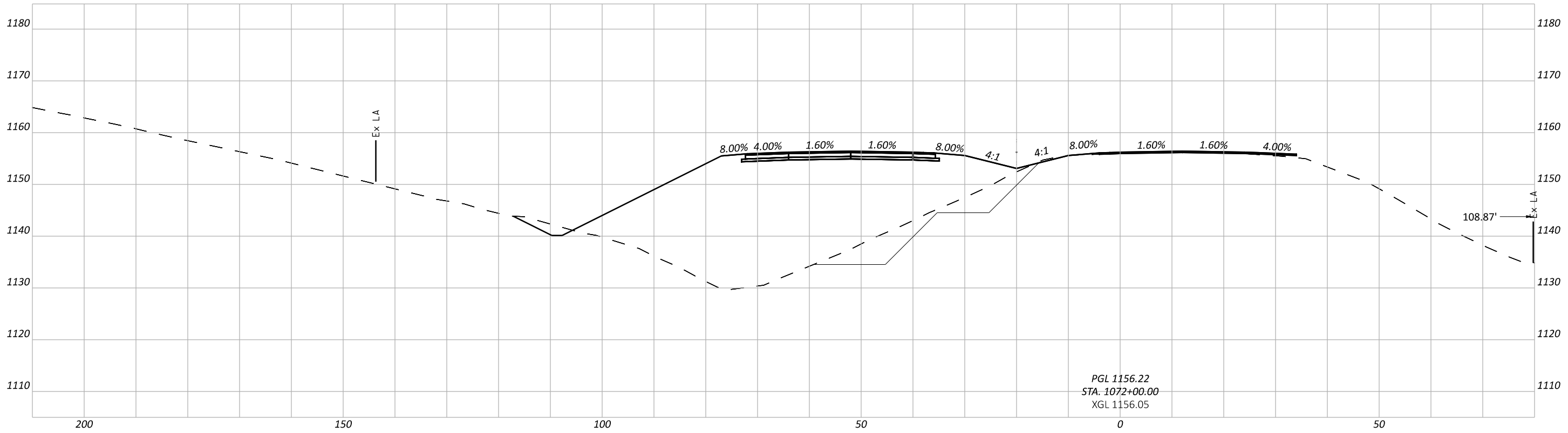
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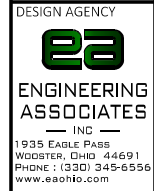
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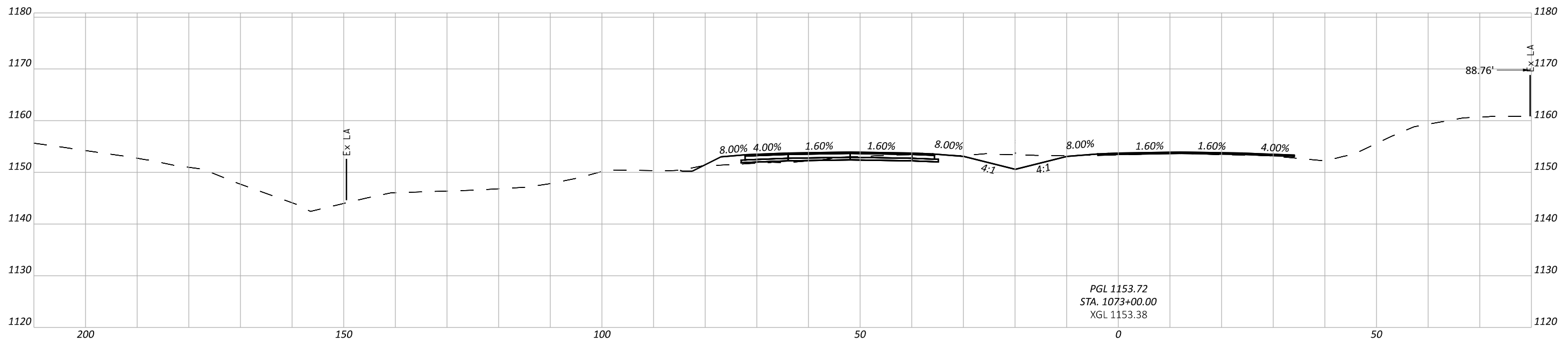
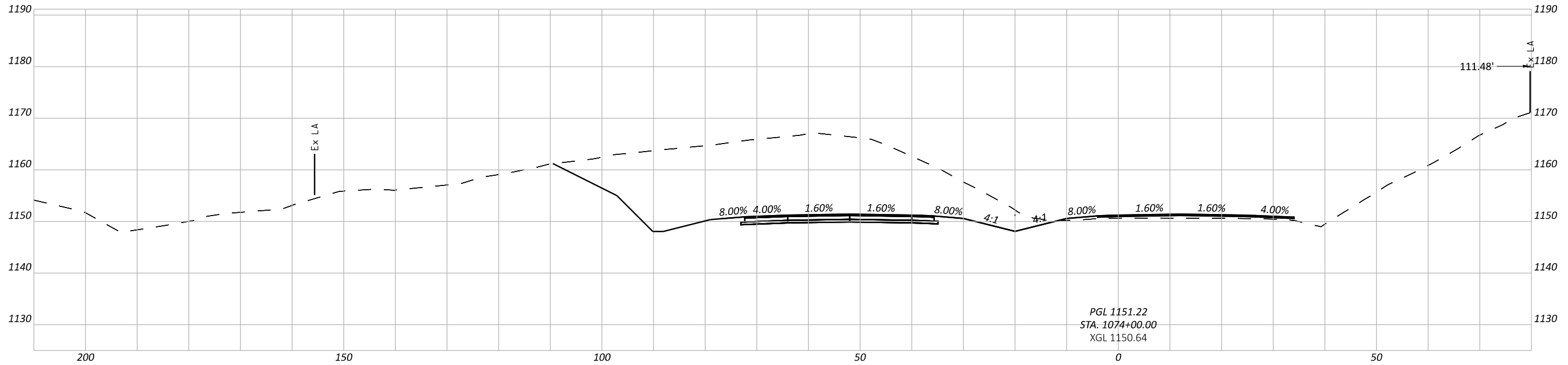
CROSS SECTIONS - U.S. 22
 STA 1071+00 TO STA 1072+00



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CROSS SECTIONS - U.S. 22
 STA 1073+00 TO STA 1074+00

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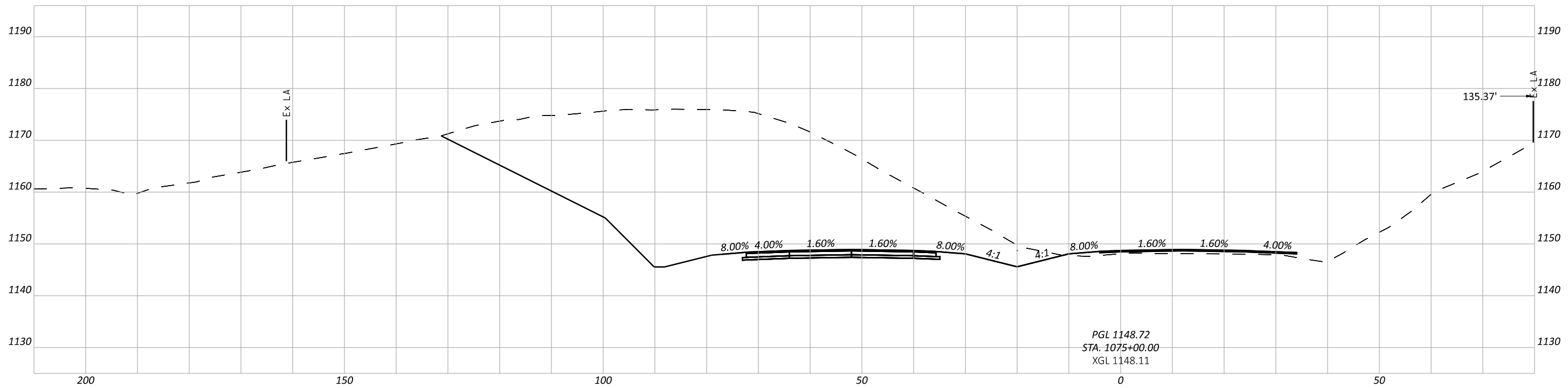
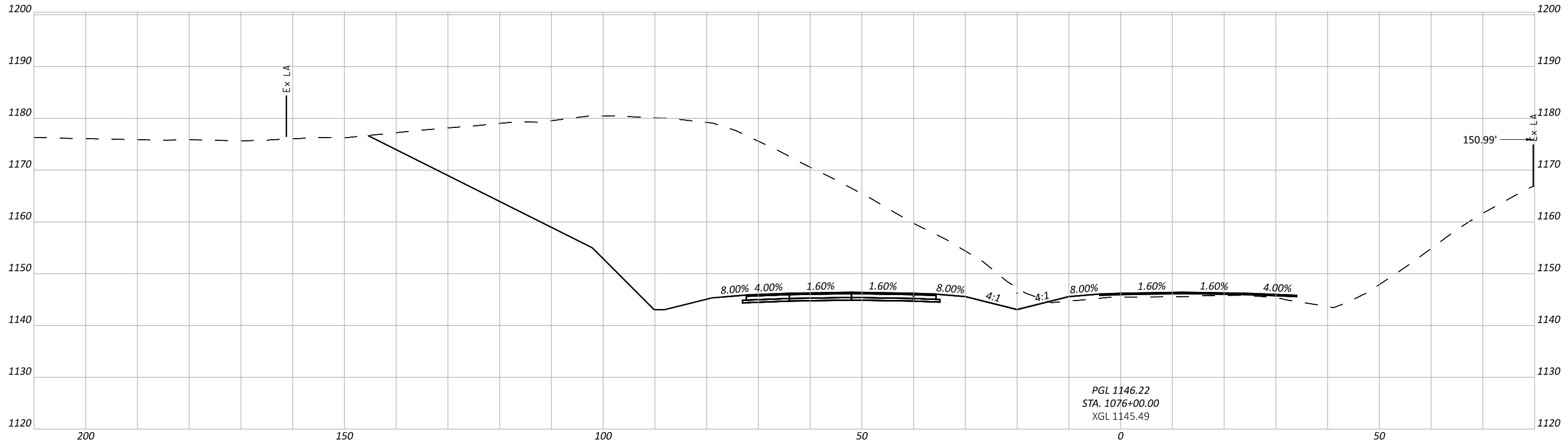
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Sheet Totals			115278	
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CROSS SECTIONS - U.S. 22
STA 1075+00 TO STA 1076+00

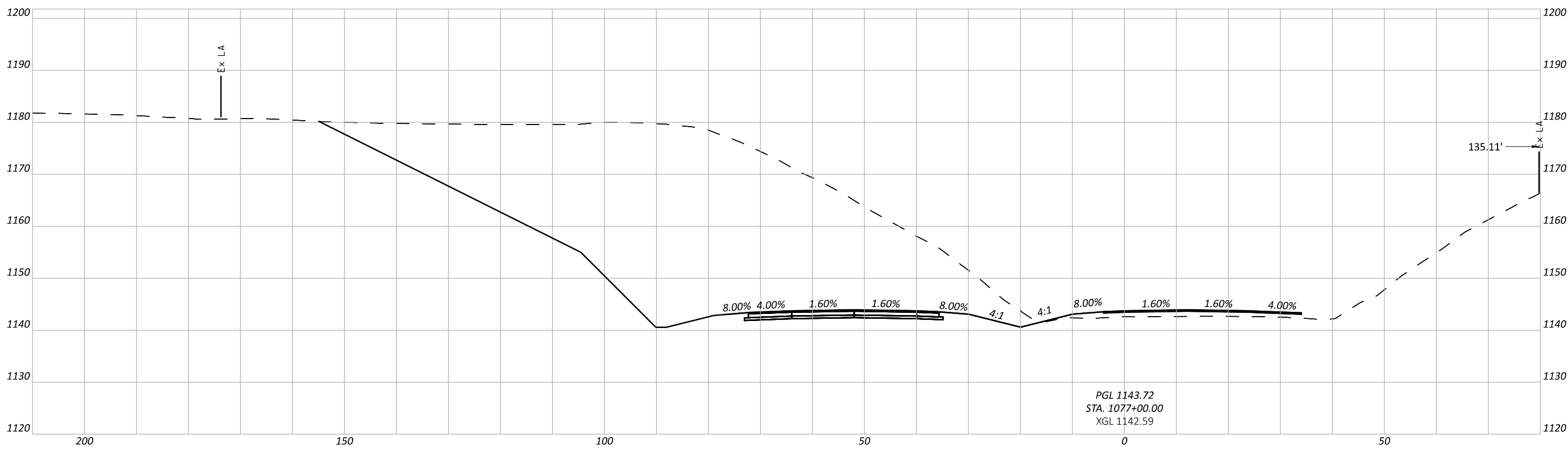
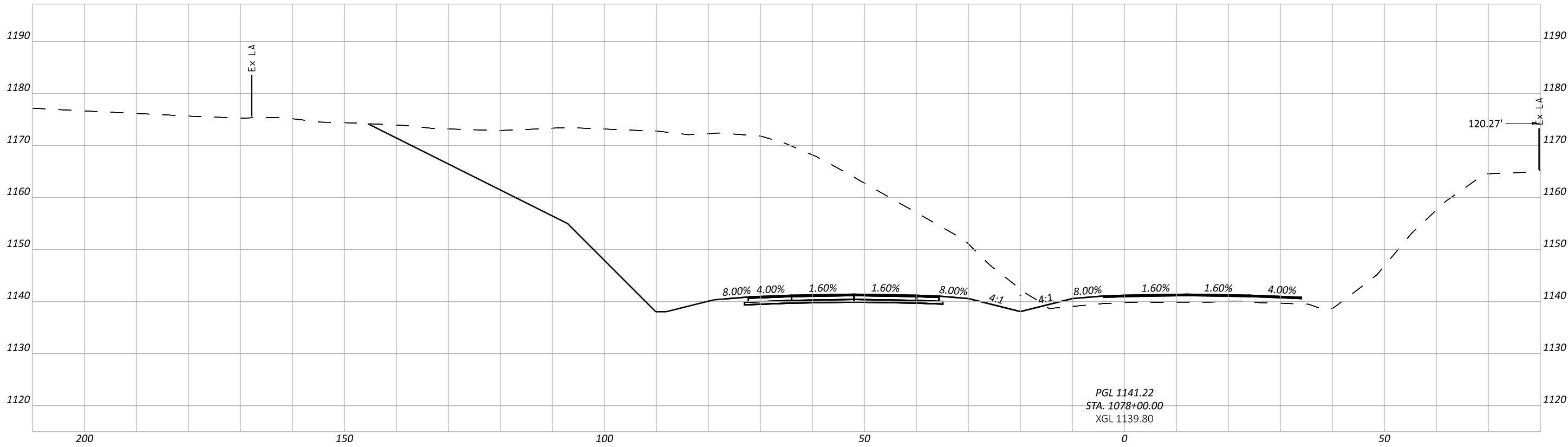
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CROSS SECTIONS - U.S. 22
STA 1077+00 TO STA 1078+00

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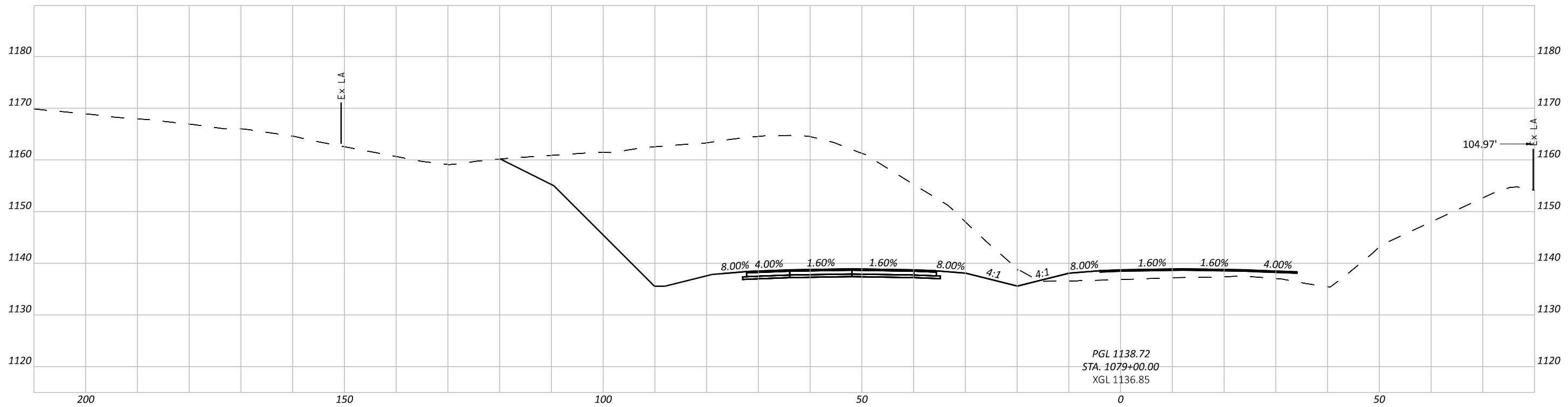
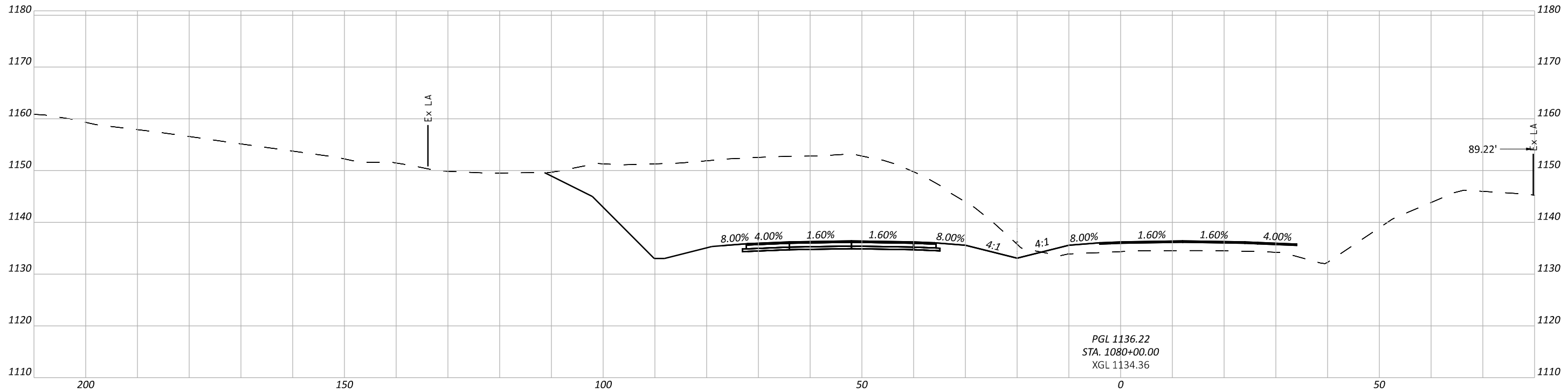
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CROSS SECTIONS - U.S. 22
 STA 1079+00 TO STA 1080+00

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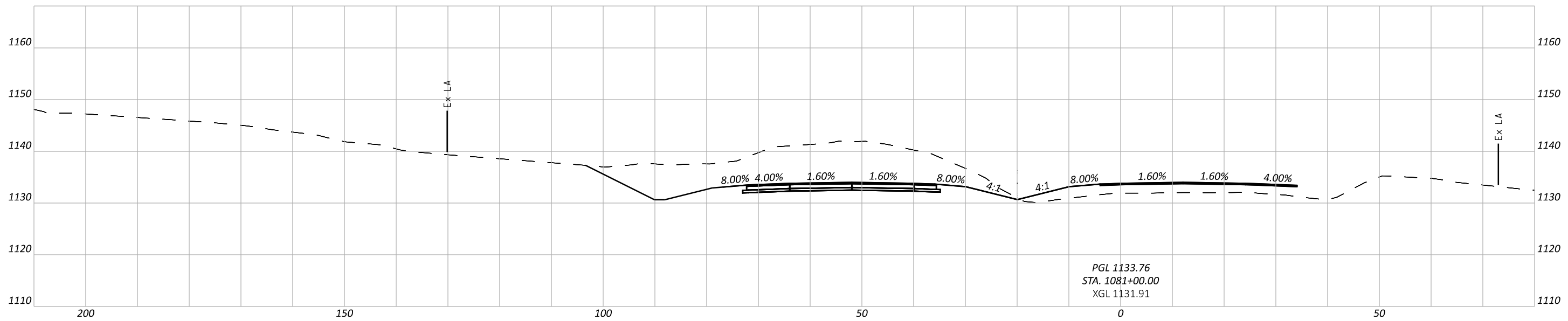
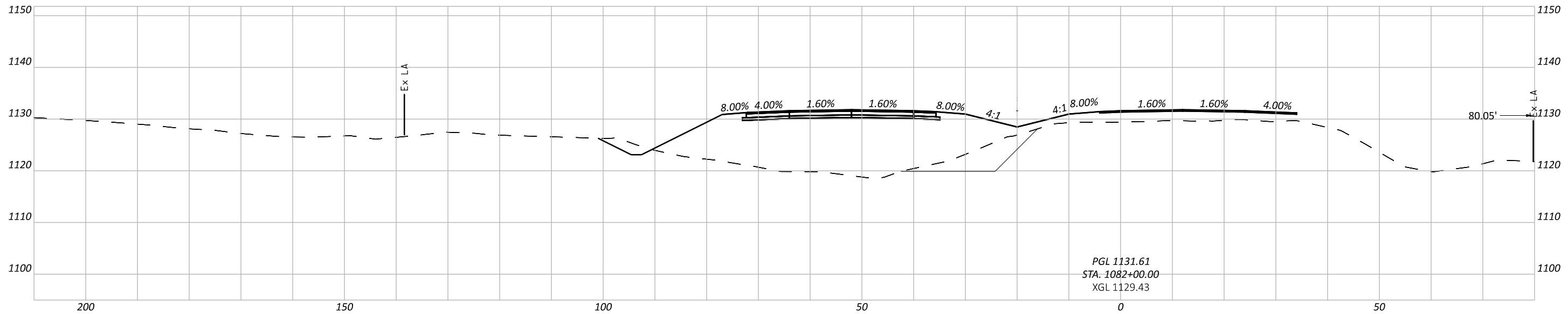
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Sheet Totals			TOTAL	
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CROSS SECTIONS - U.S. 22
STA 1081+00 TO STA 1082+00

DESIGN AGENCY

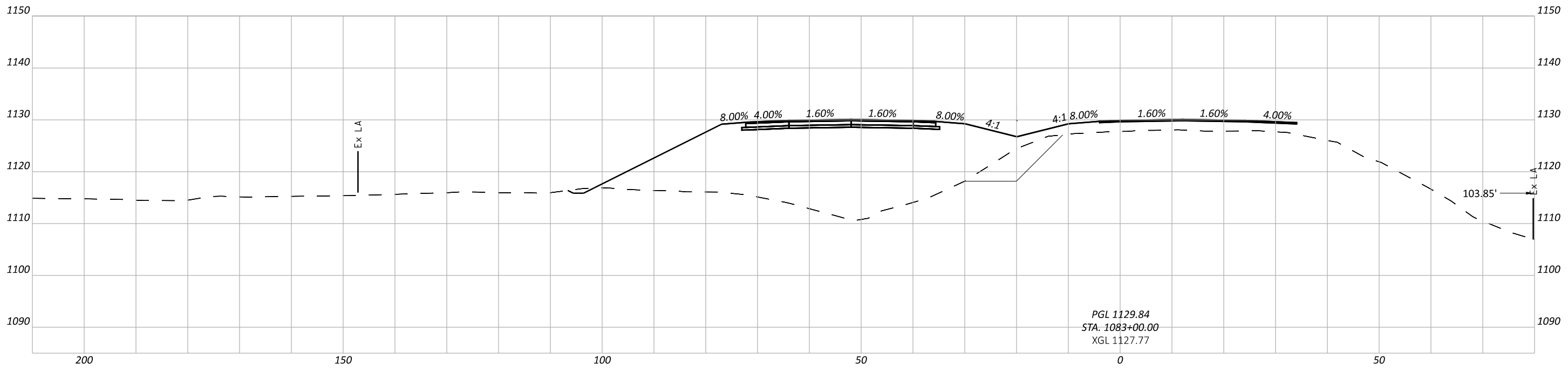
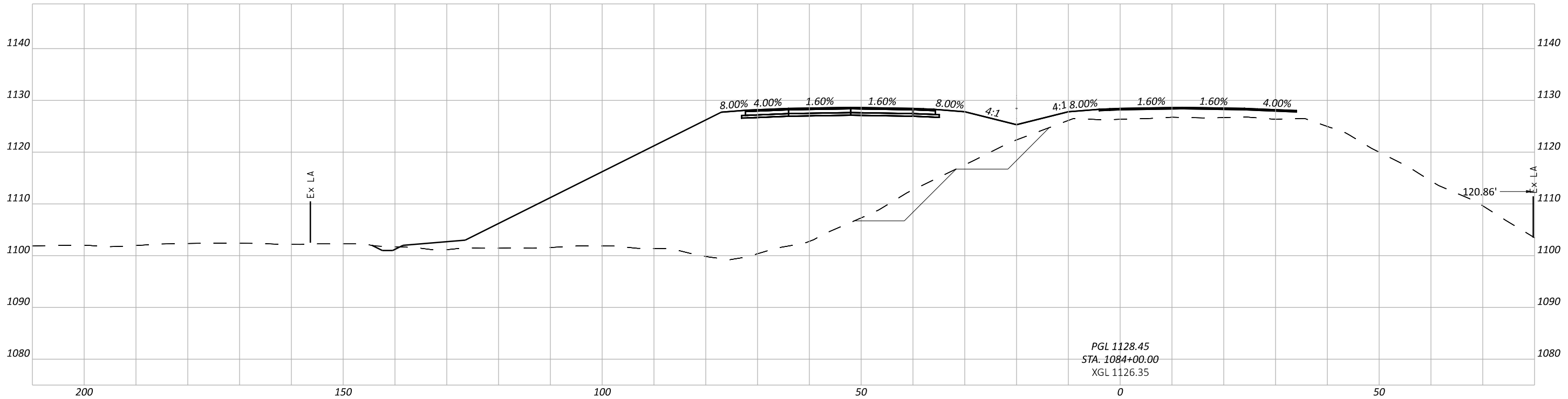
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Sheet Totals			TOTAL	
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CROSS SECTIONS - U.S. 22
STA 1083+00 TO STA 1084+00

DESIGN AGENCY

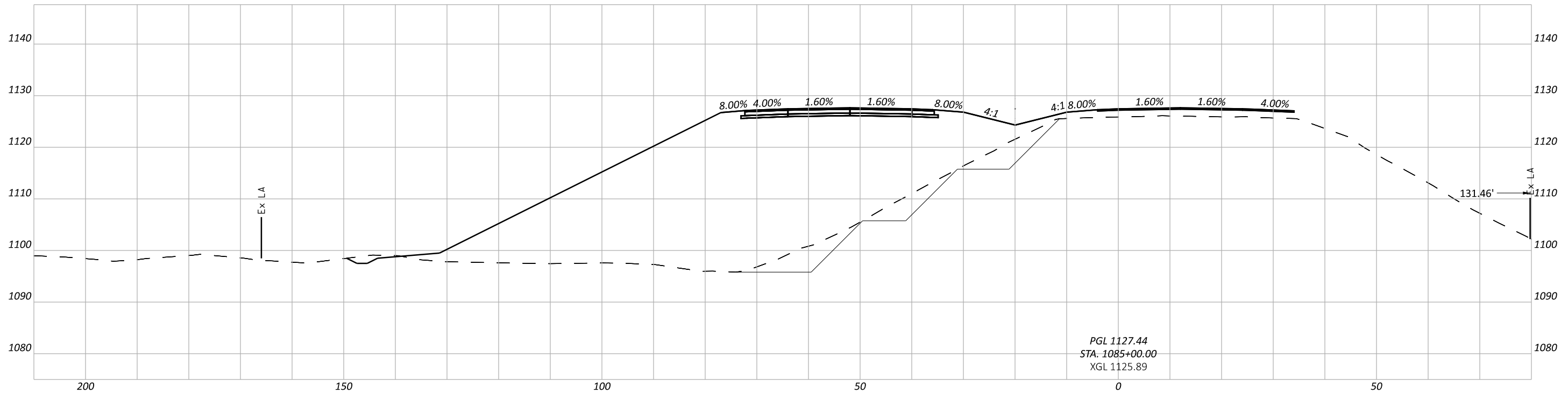
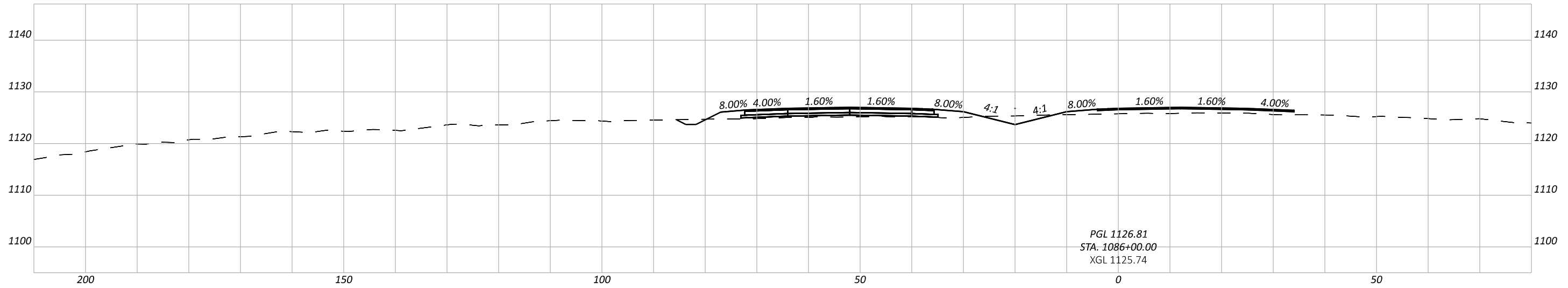
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1085+00 TO STA 1086+00

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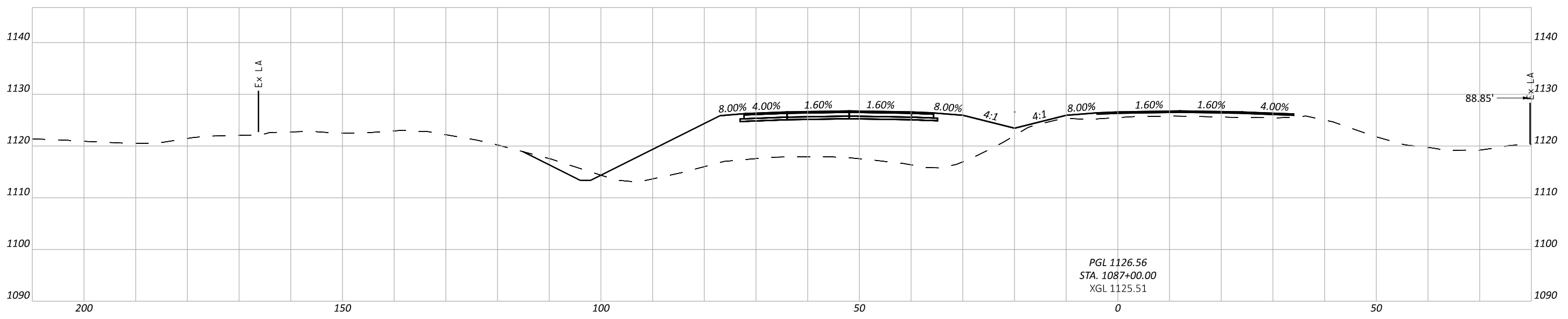
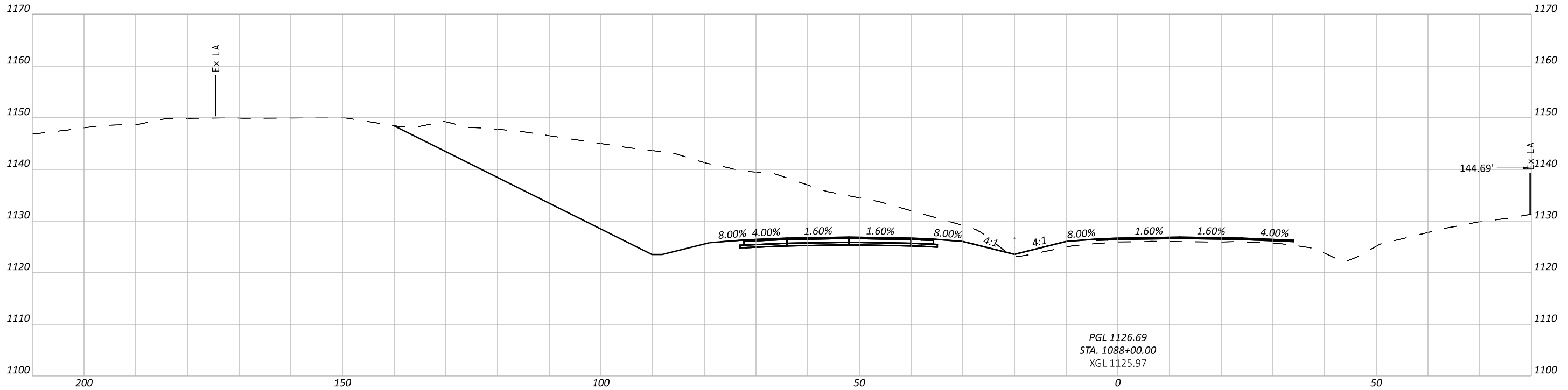
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SHEET	TOTAL
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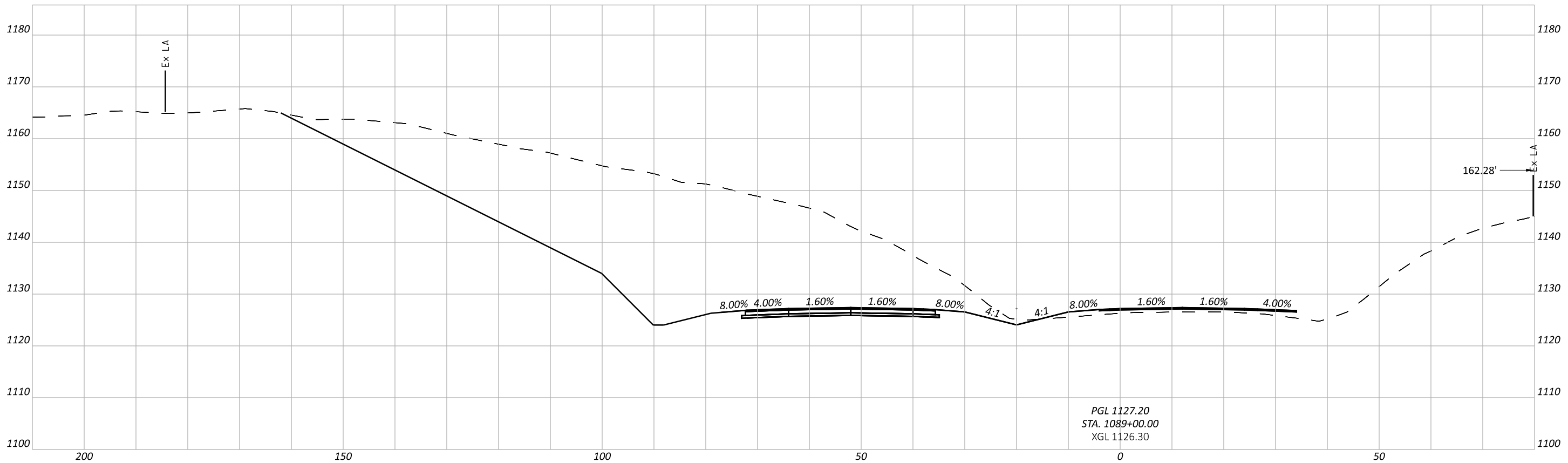
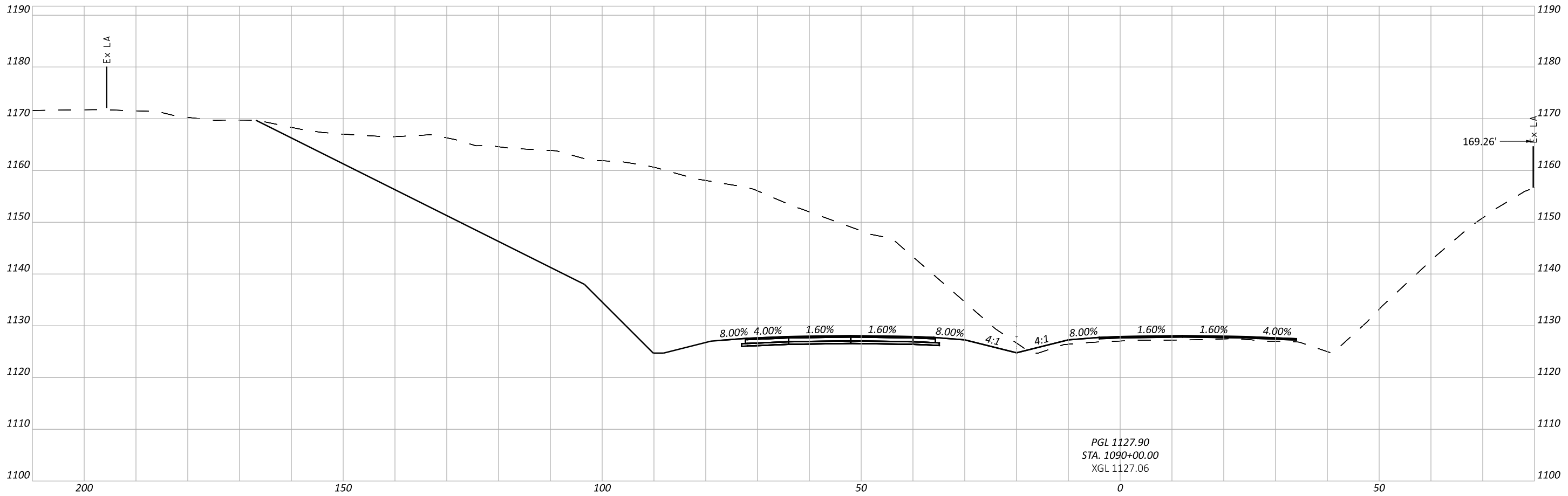


CROSS SECTIONS - U.S. 22
STA 1087+00 TO STA 1088+00




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Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1089+00 TO STA 1090+00

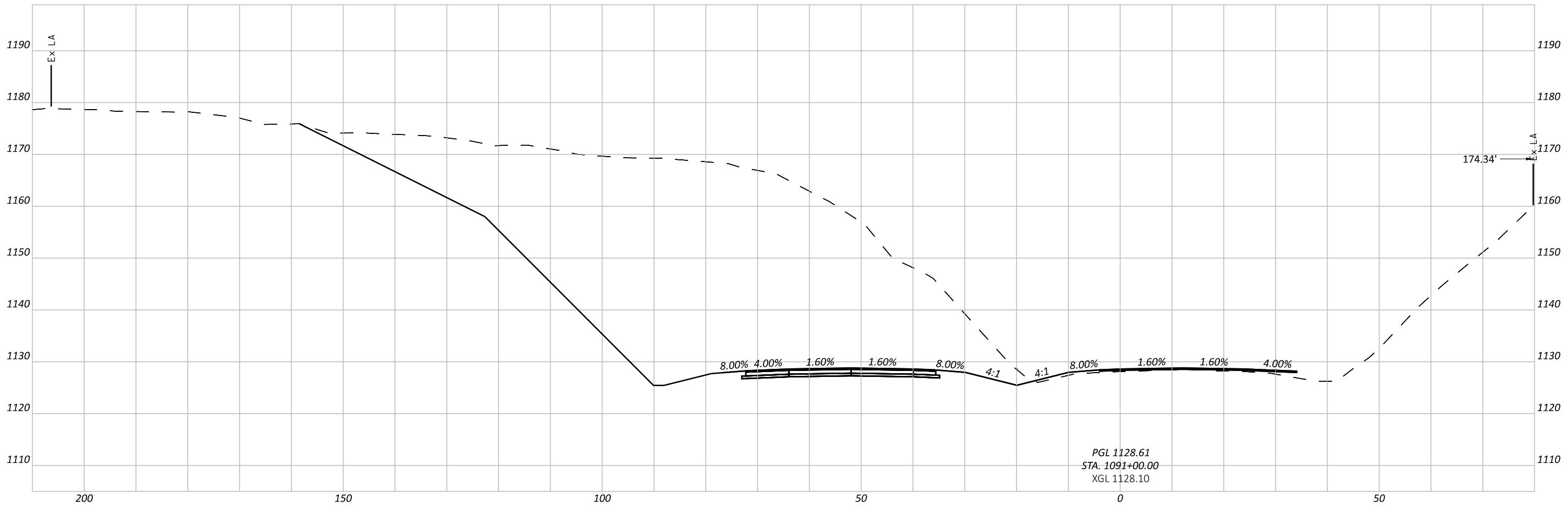
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1091+00

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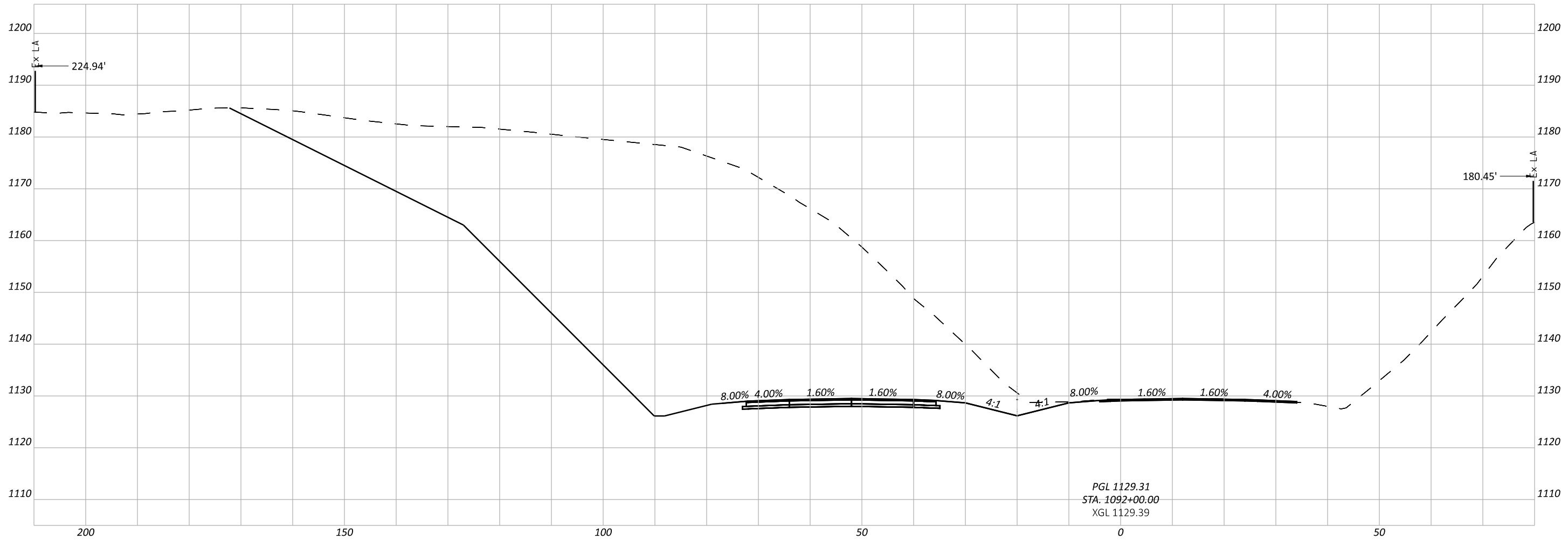
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Sheet Totals			TOTAL	
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PGL 1129.31
 STA. 1092+00.00
 XGL 1129.39

CROSS SECTIONS - U.S. 22
 STA 1092+00

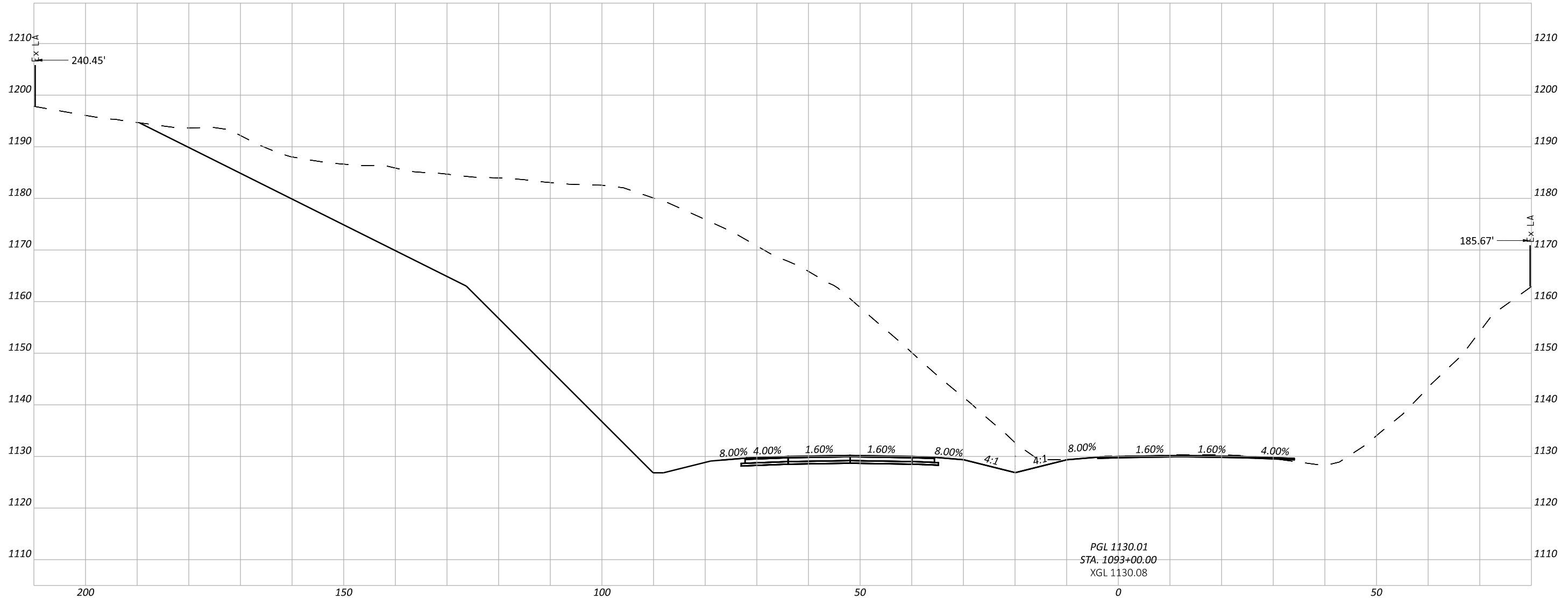
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1130.01
 STA. 1093+00.00
 XGL 1130.08

CROSS SECTIONS - U.S. 22
 STA 1093+00

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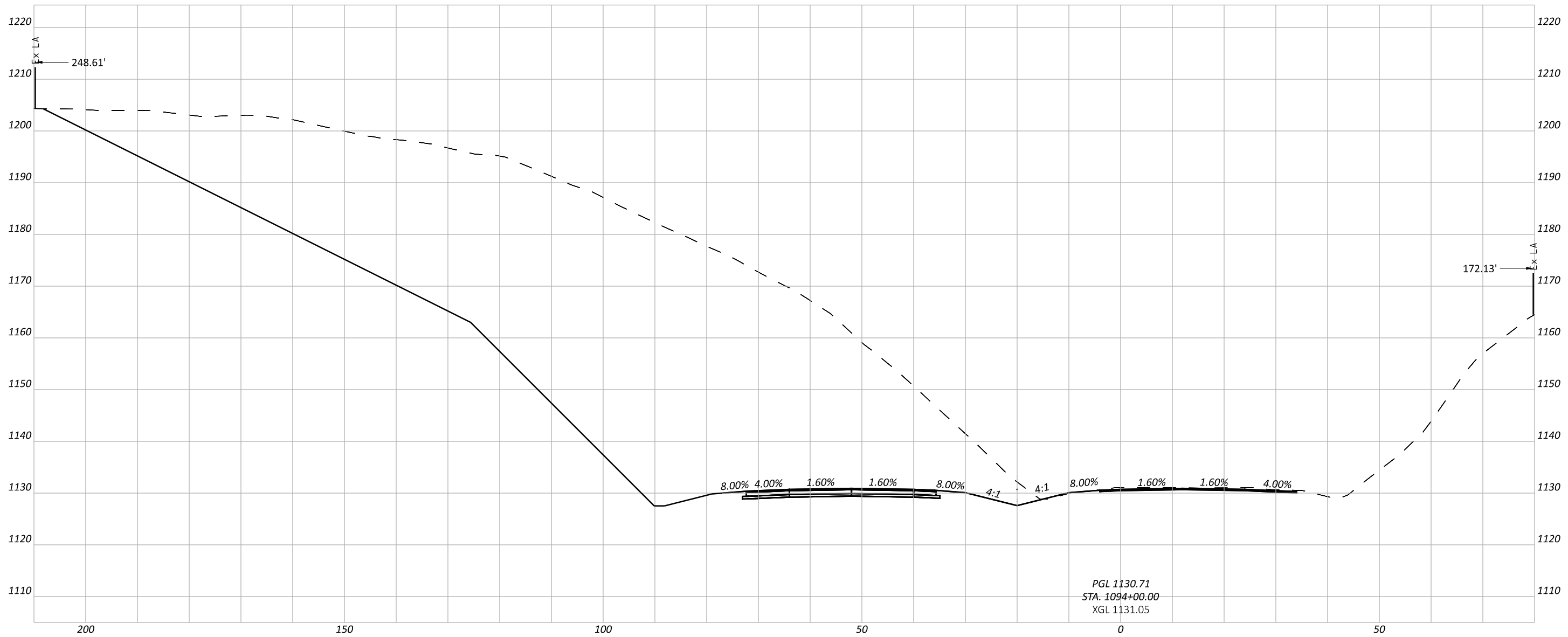
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Sheet Totals		
Seeding	Cut	Fill
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SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1094+00

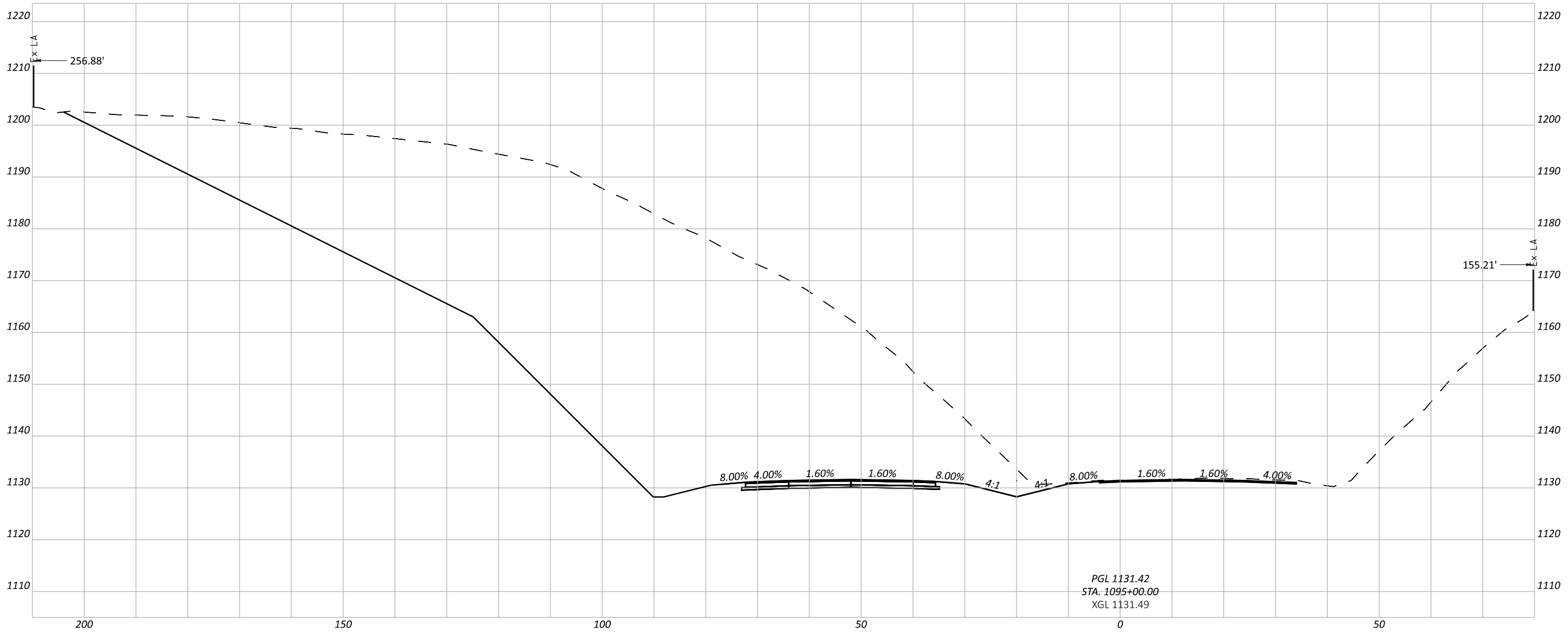
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Sheet Totals			TOTAL	
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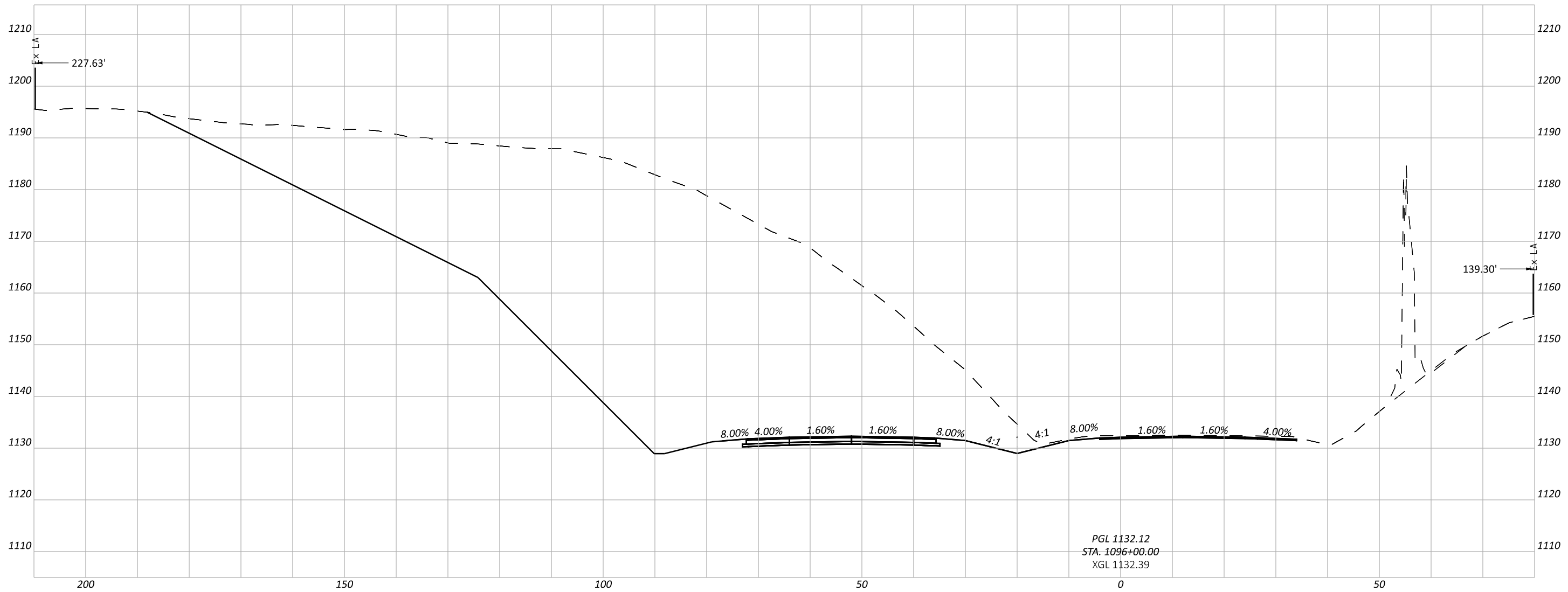
CROSS SECTIONS - U.S. 22
STA 1095+00

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Sheet Totals			TOTAL	
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CROSS SECTIONS - U.S. 22
 STA 1096+00

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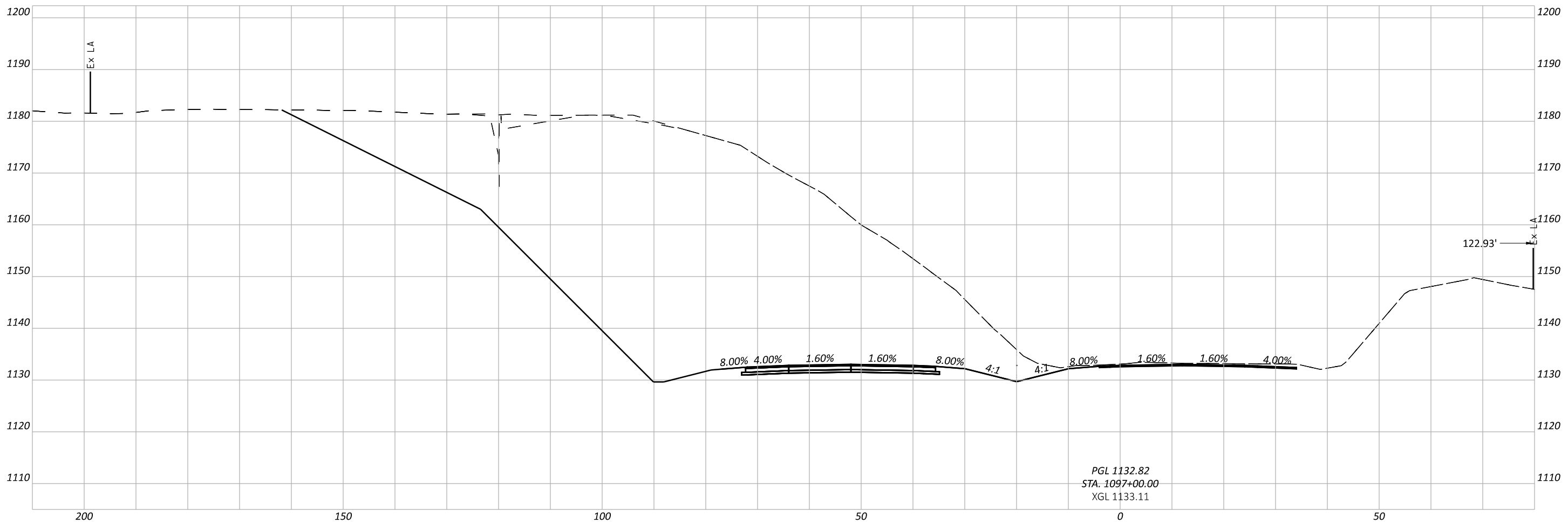
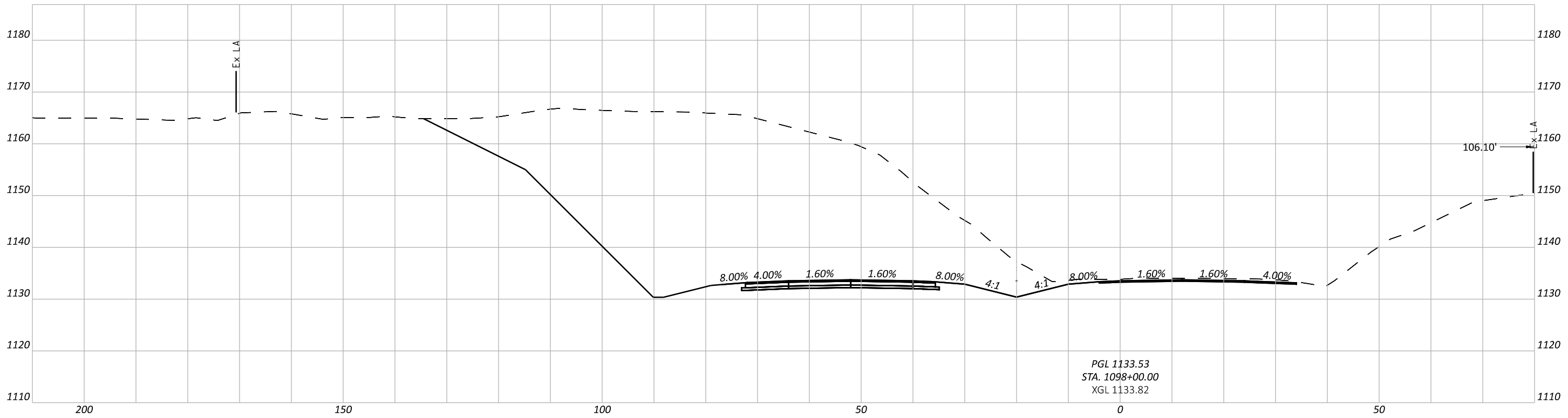
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Sheet Totals			115278	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1097+00 TO STA 1098+00

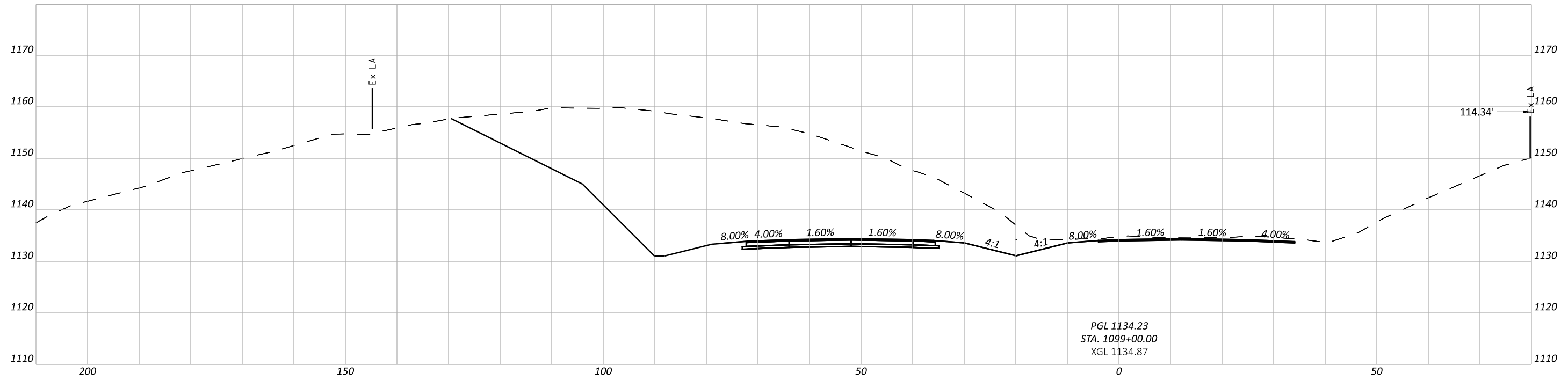
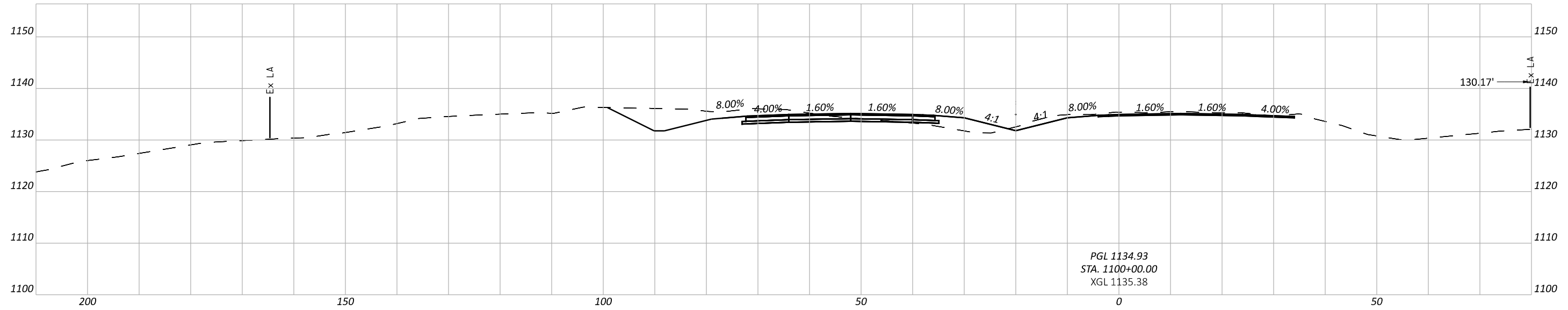
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1099+00 TO STA 1100+00

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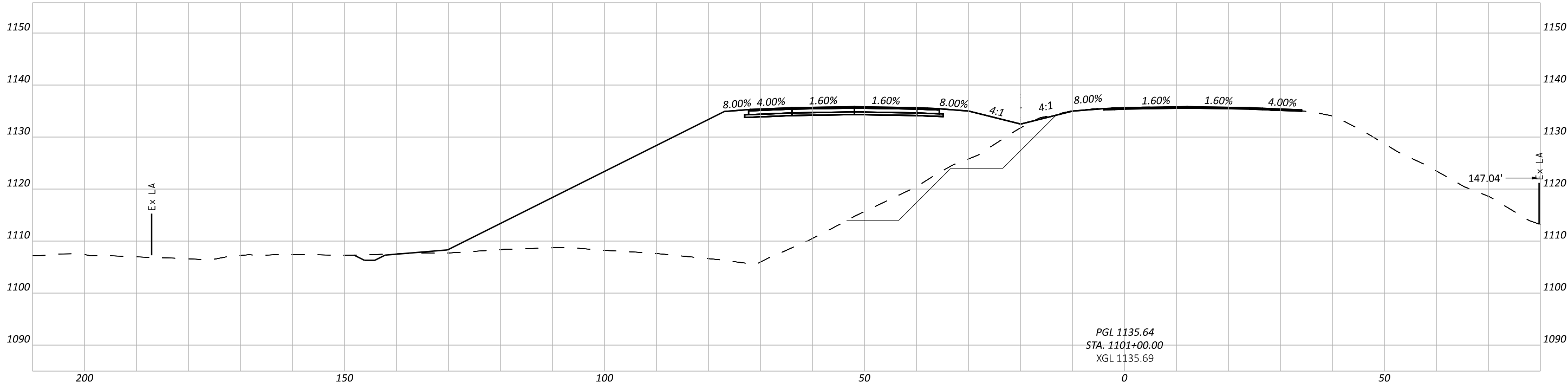
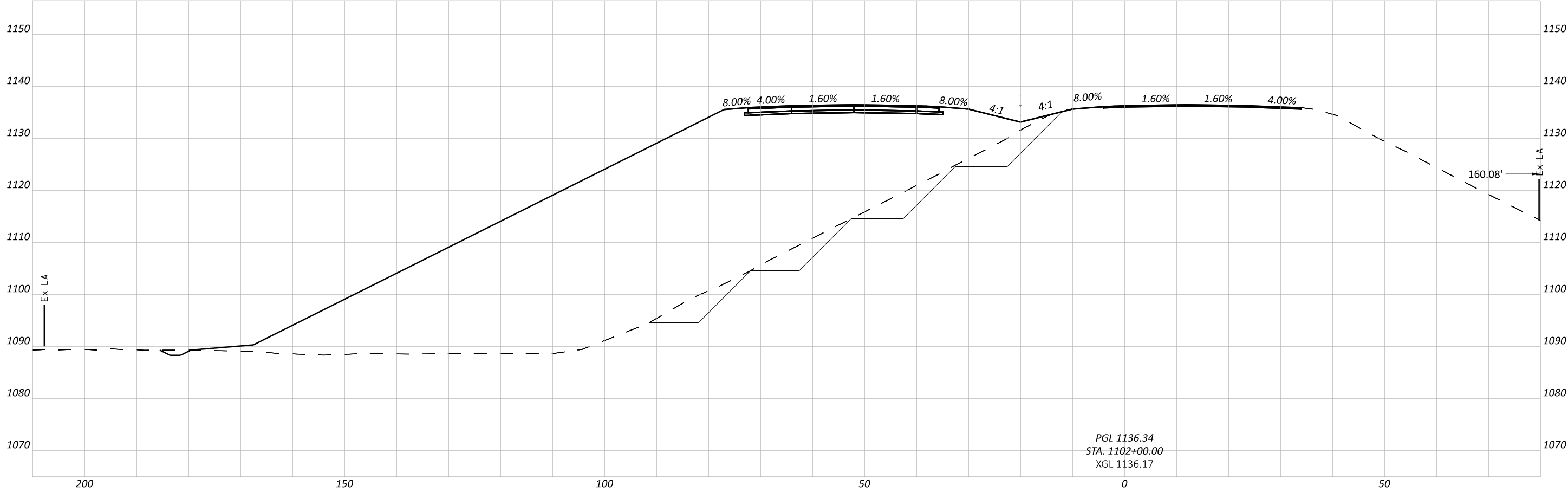
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CROSS SECTIONS - U.S. 22
 STA 1101+00 TO 1102+00

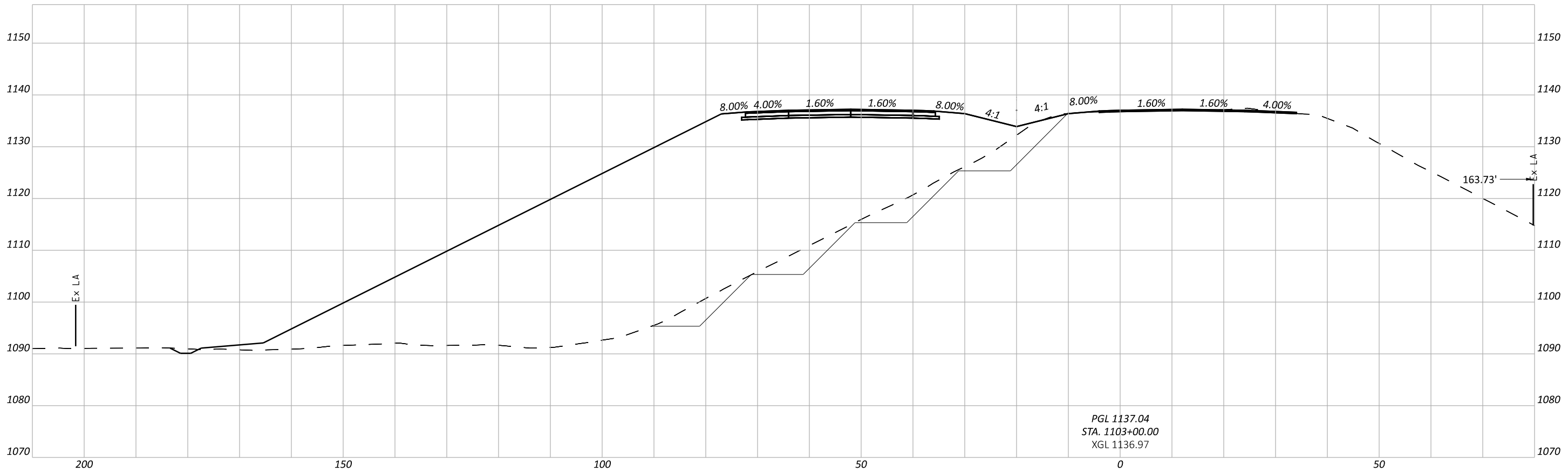
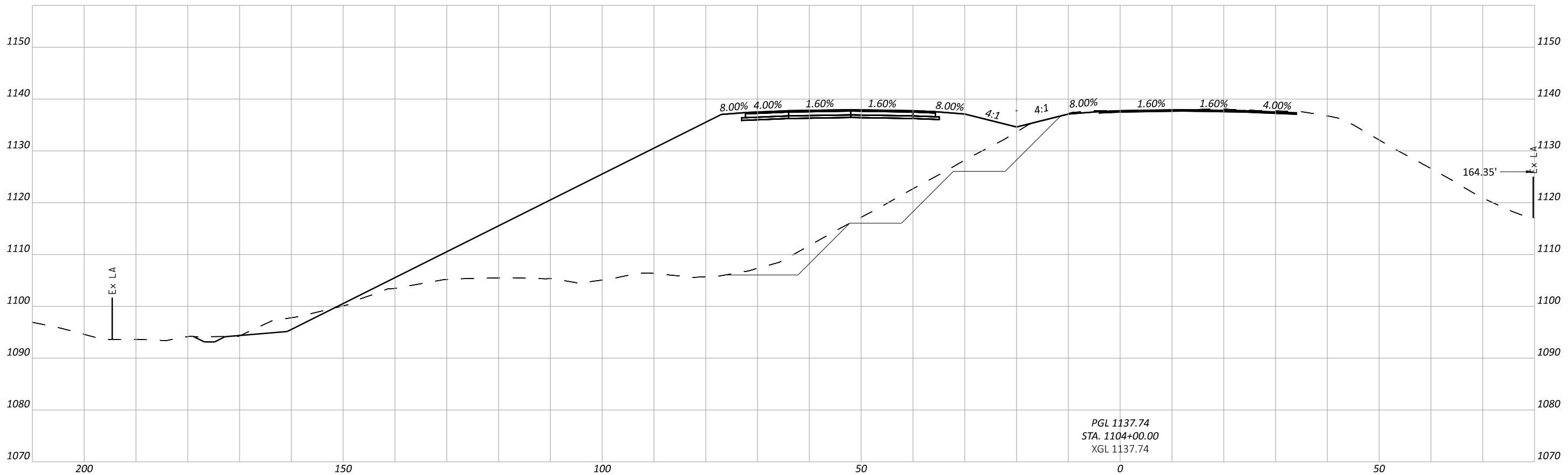


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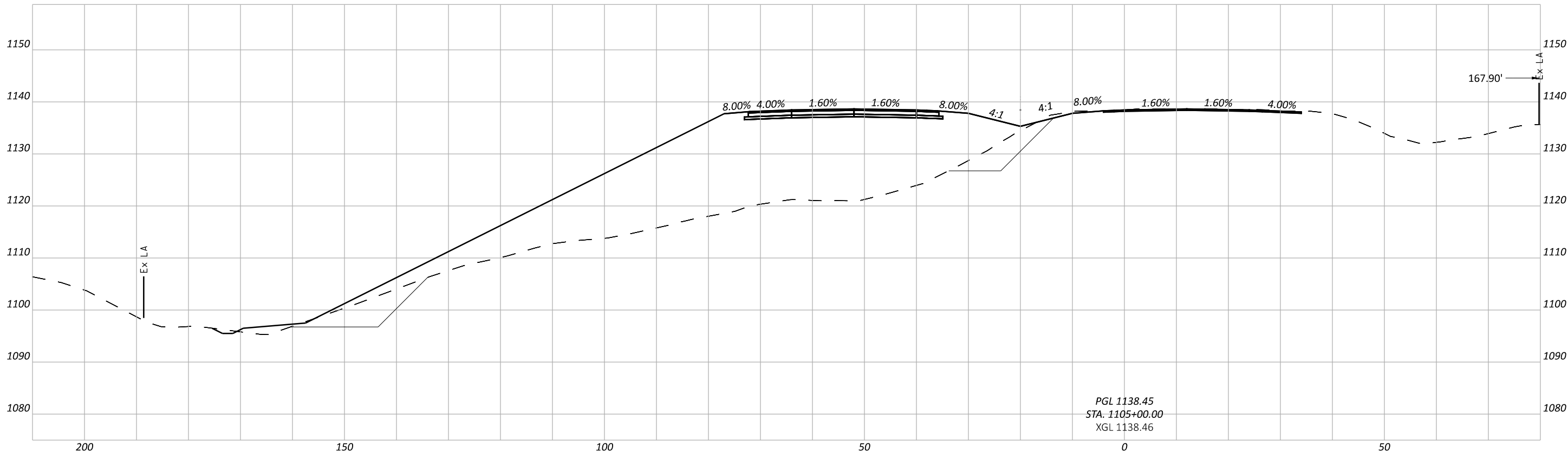
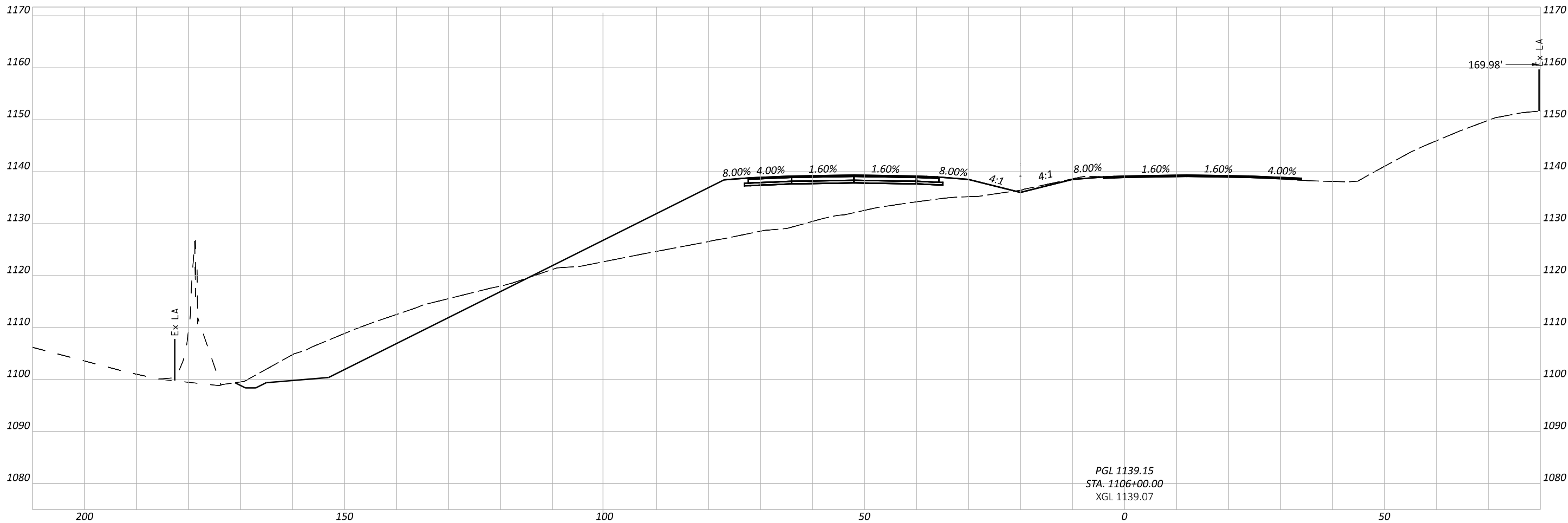
CROSS SECTIONS - U.S. 22
 1103+00 TO STA 1104+00

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CROSS SECTIONS - U.S. 22
 STA 1105+00 TO STA 1106+00

DESIGN AGENCY

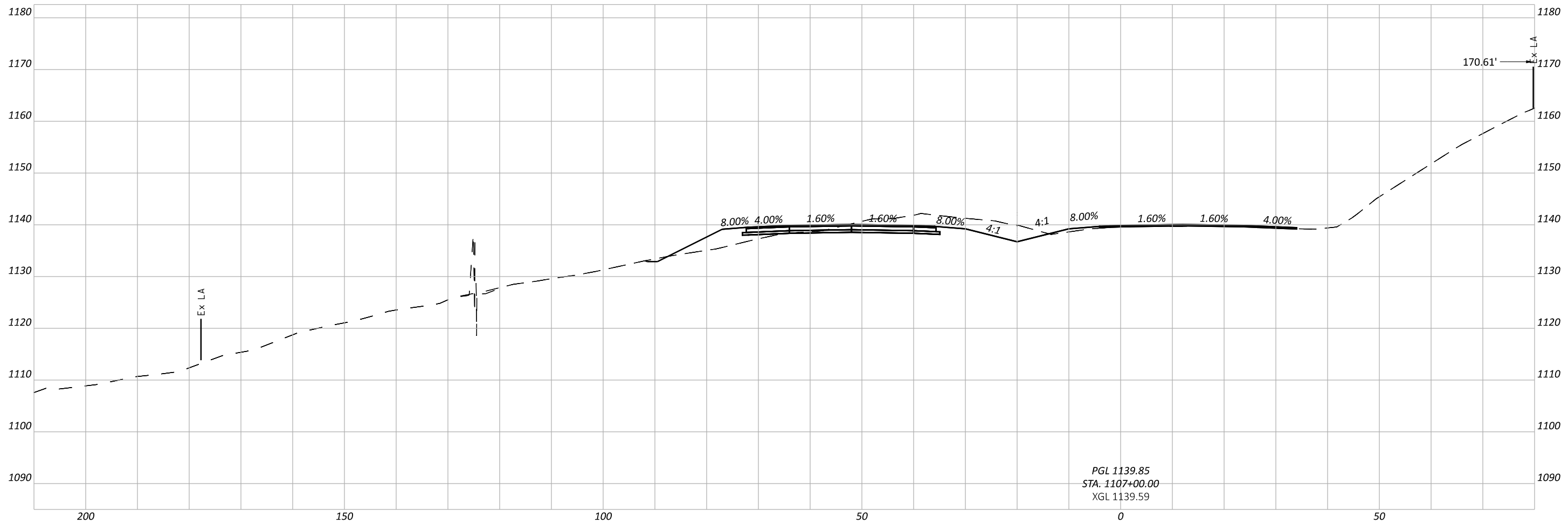
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1139.85
STA. 1107+00.00
XGL 1139.59

CROSS SECTIONS - U.S. 22
STA 1107+00

DESIGN AGENCY

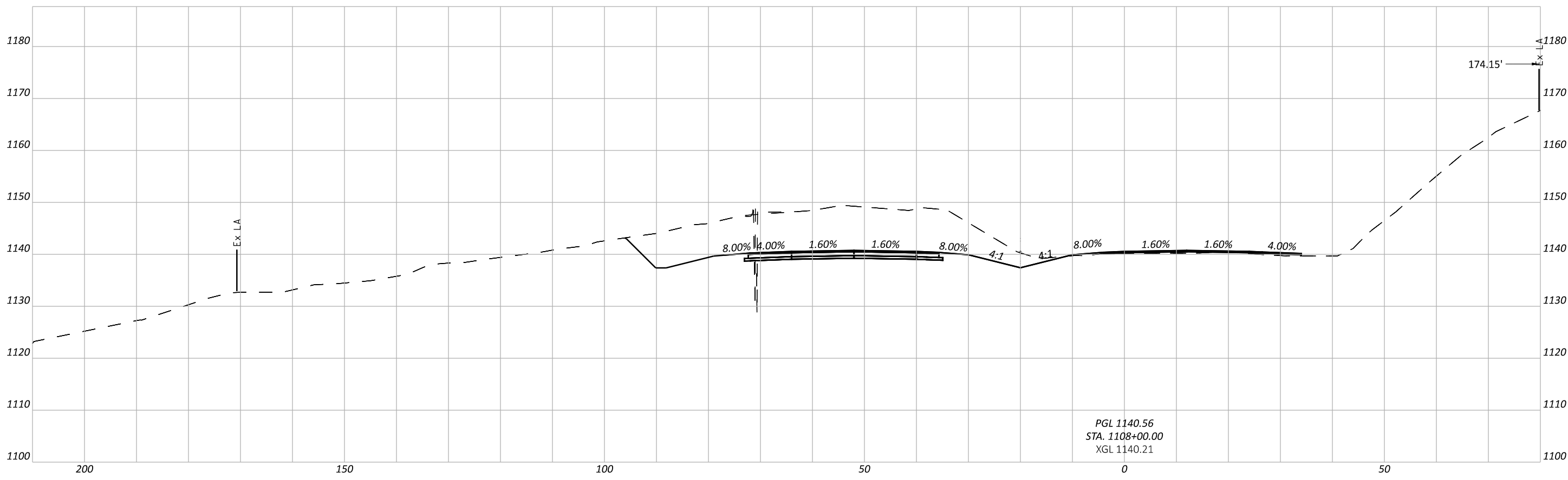
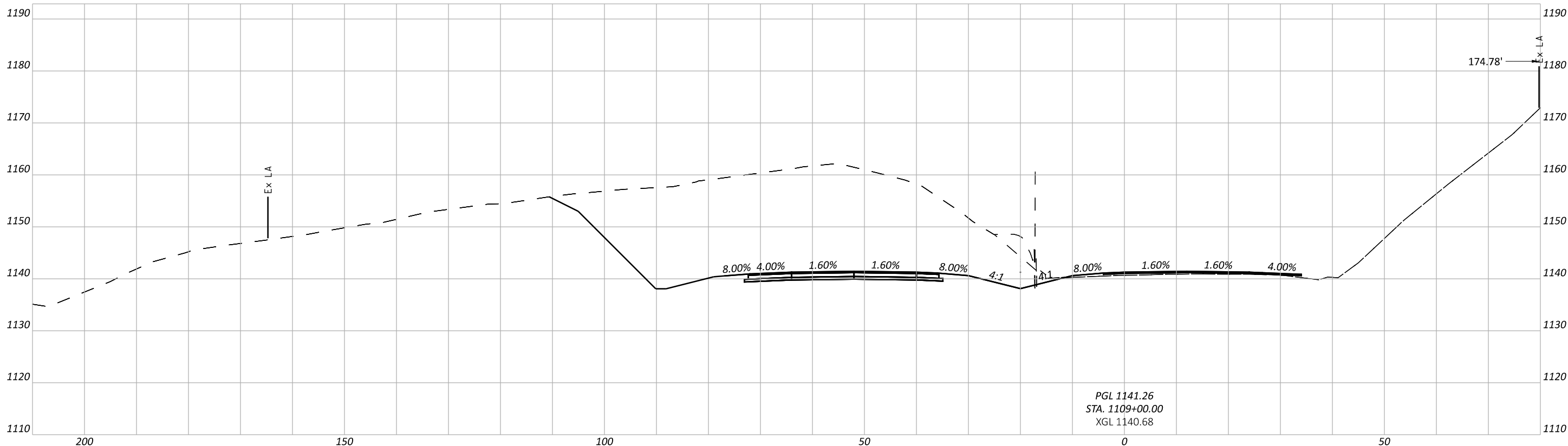
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CROSS SECTIONS - U.S. 22
 STA 1108+00 TO STA 1109+00

DESIGN AGENCY

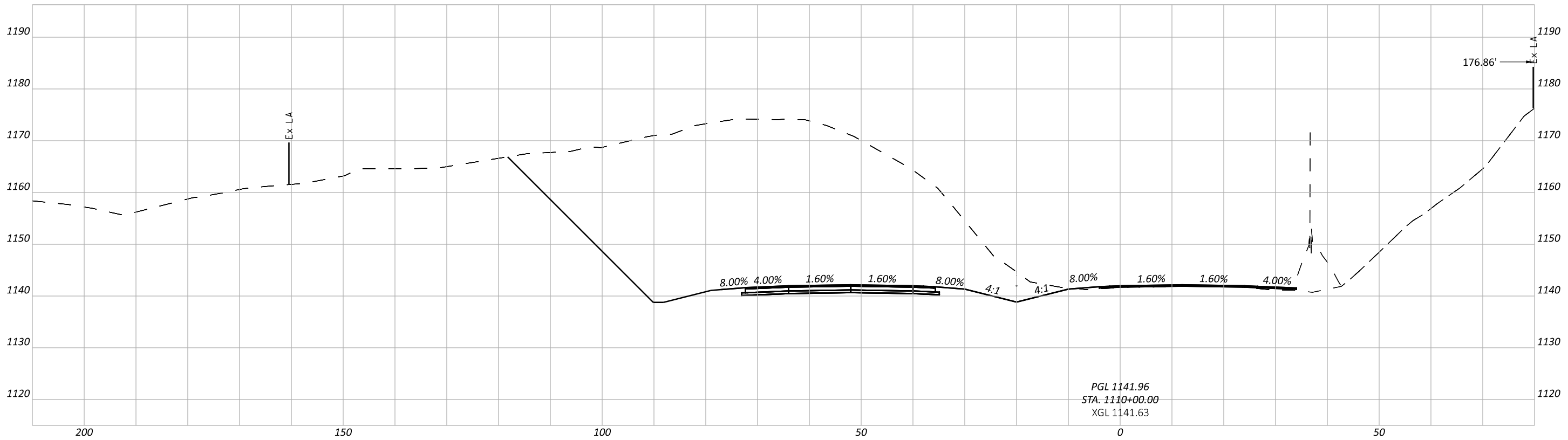
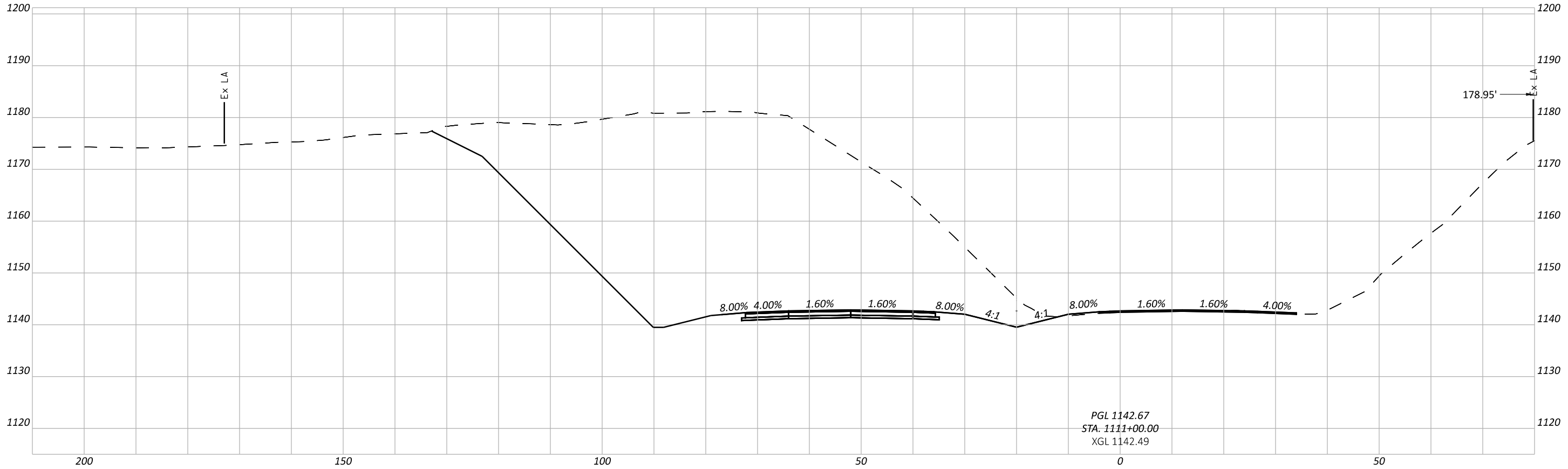
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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1110+00 TO STA 1111+00

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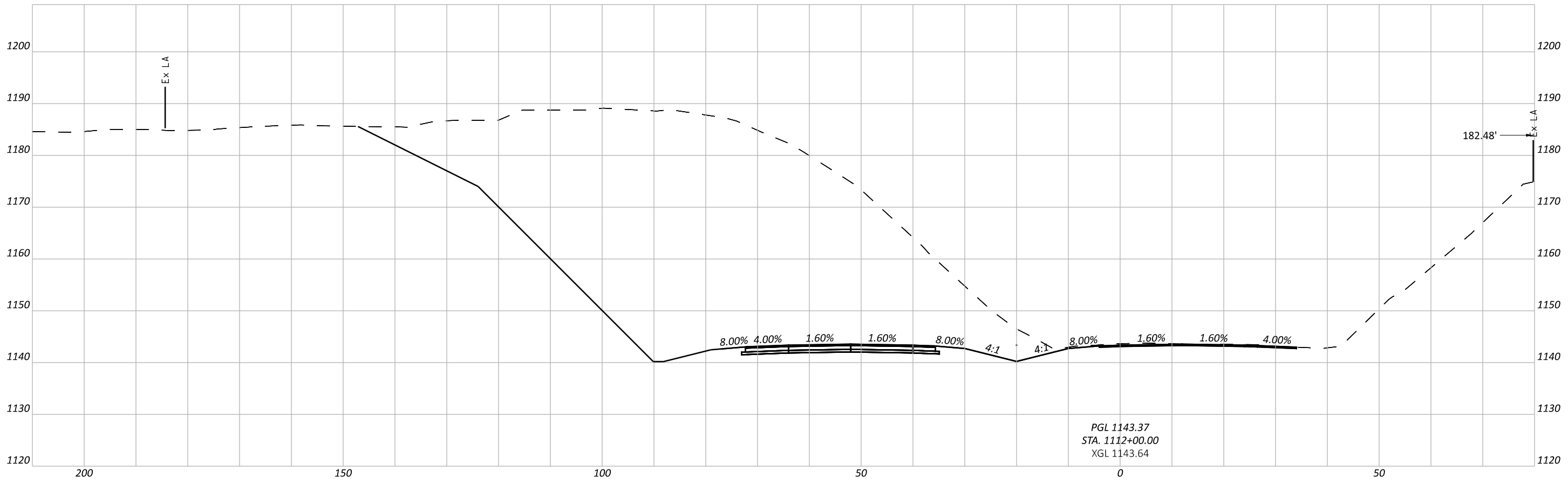
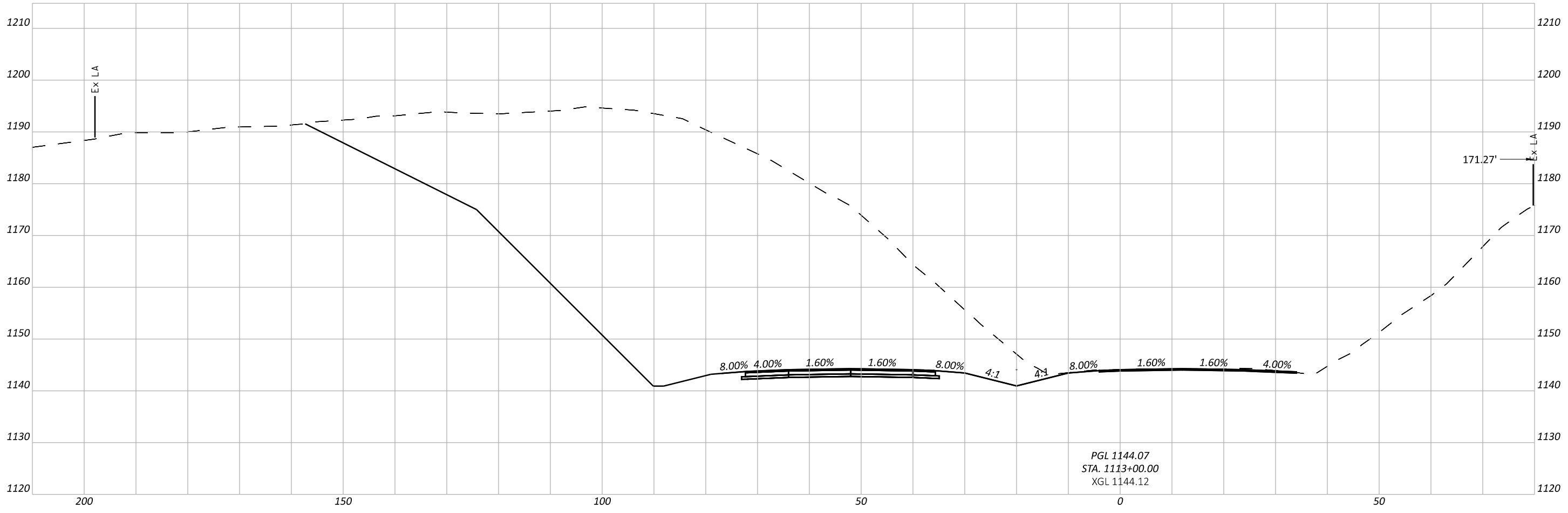
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CROSS SECTIONS - U.S. 22
STA 1112+00 TO STA 1113+00

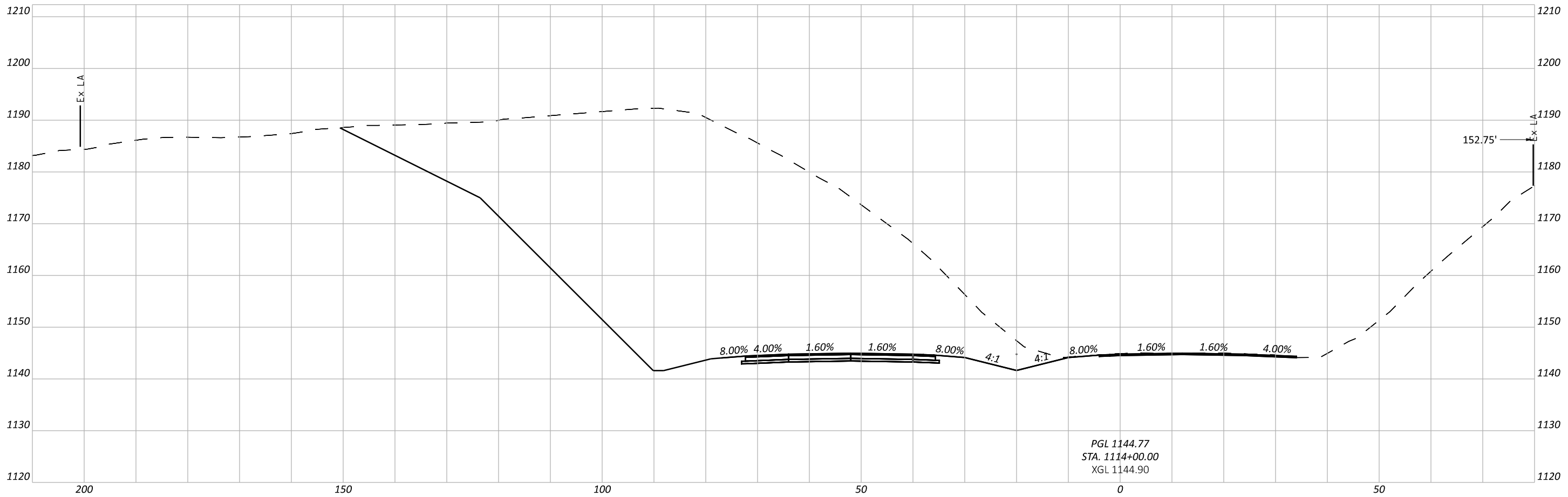
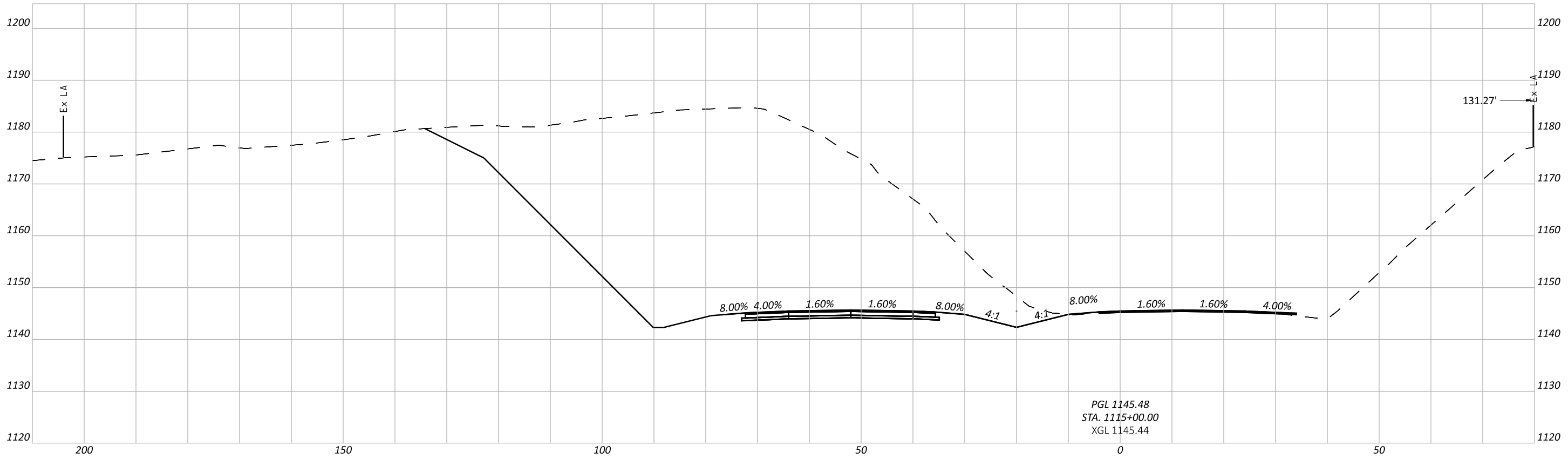
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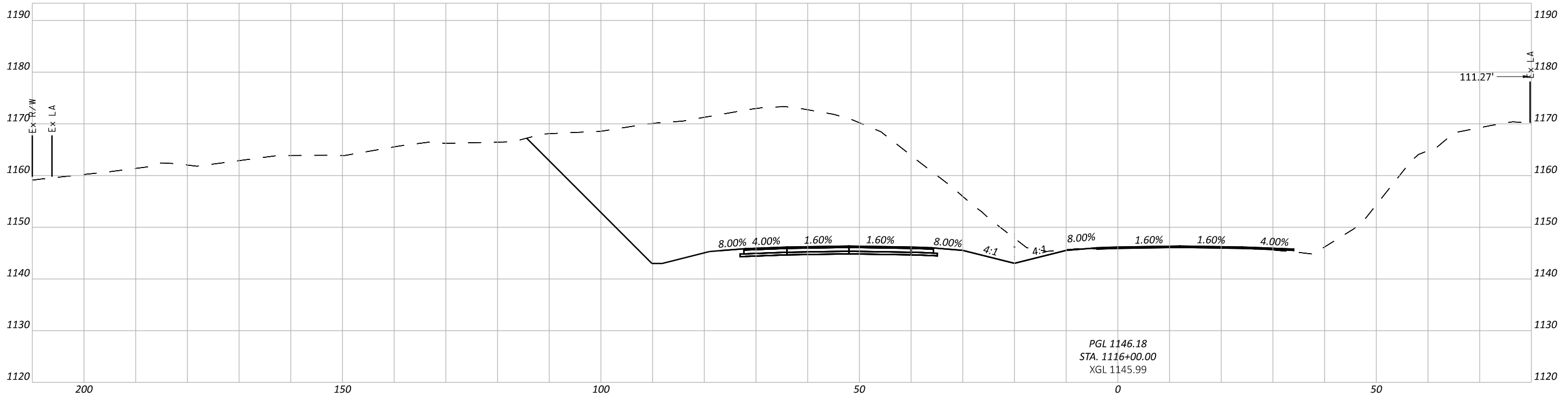
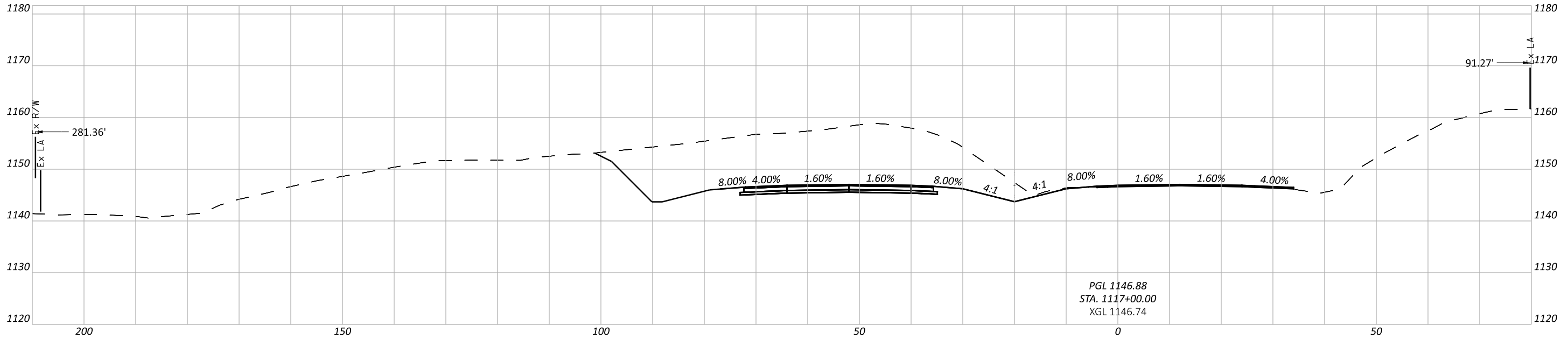
CROSS SECTIONS - U.S. 22
 STA 1114+00 TO STA 1115+00

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Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
STA 1116+00 TO STA 1117+00

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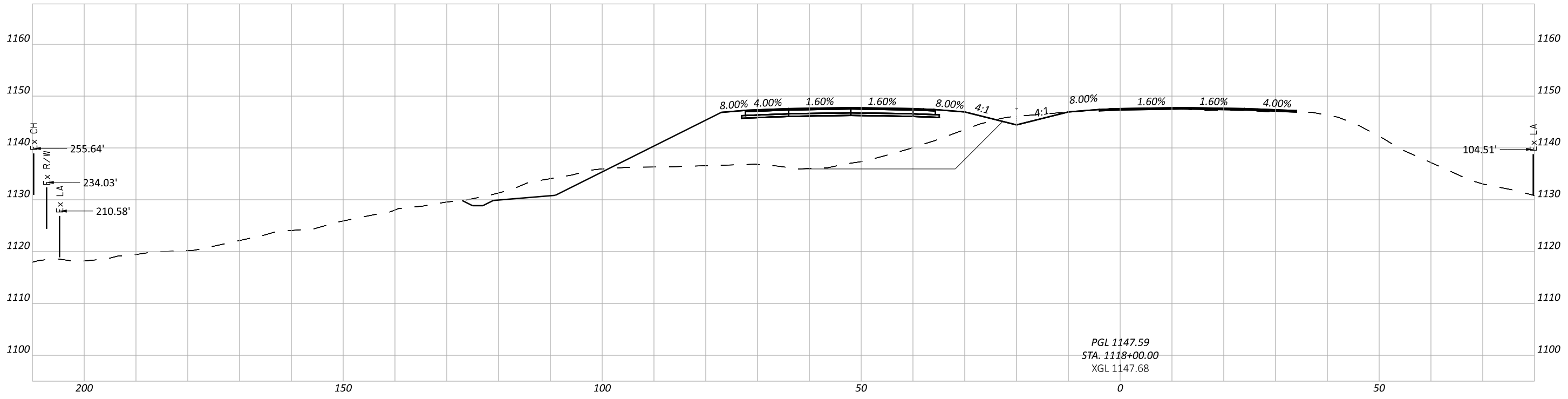
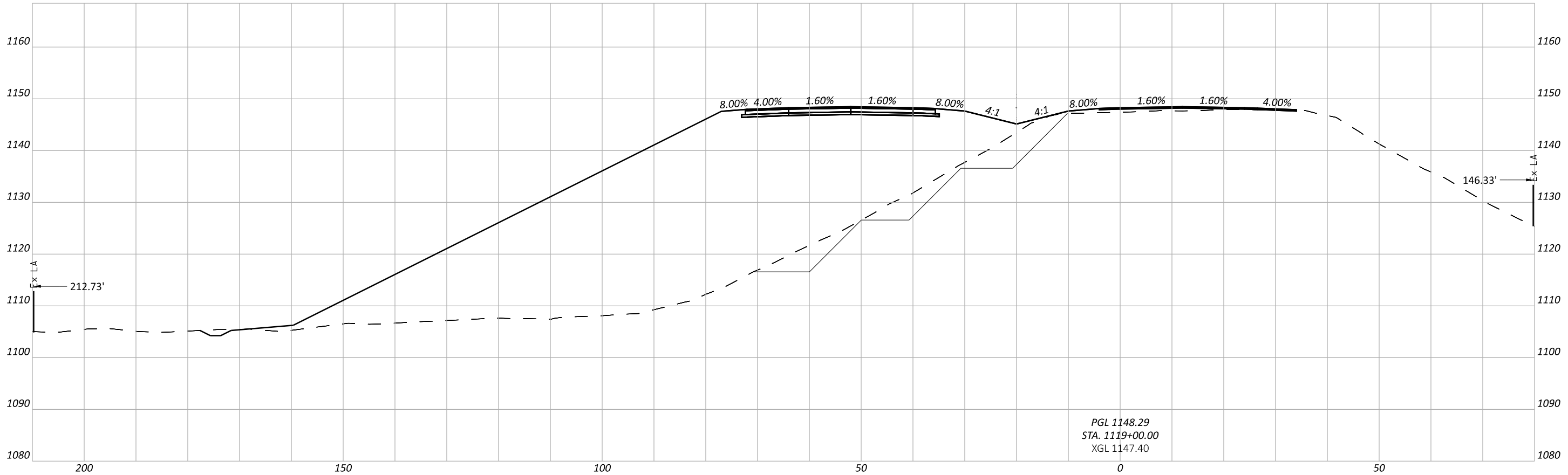
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SHEET	TOTAL
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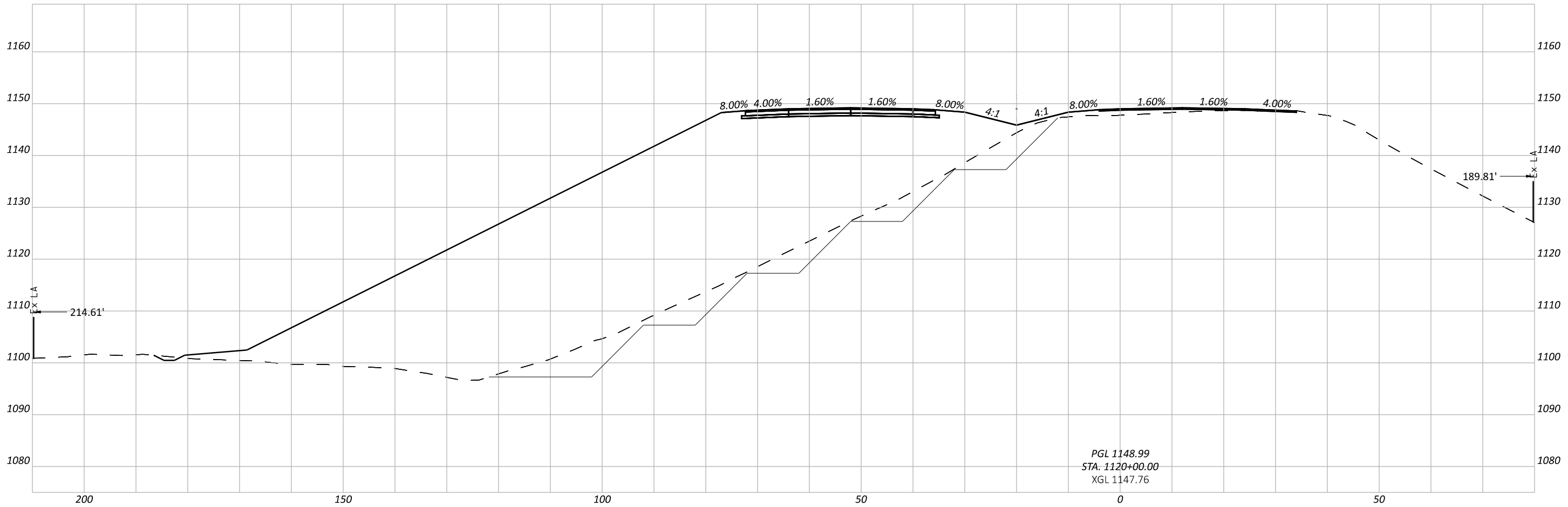
CROSS SECTIONS - U.S. 22
 STA 1118+00 TO STA 1119+00



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Sheet Totals			115278	
Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1148.99
 STA. 1120+00.00
 XGL 1147.76

CROSS SECTIONS - U.S. 22
 STA 1120+00

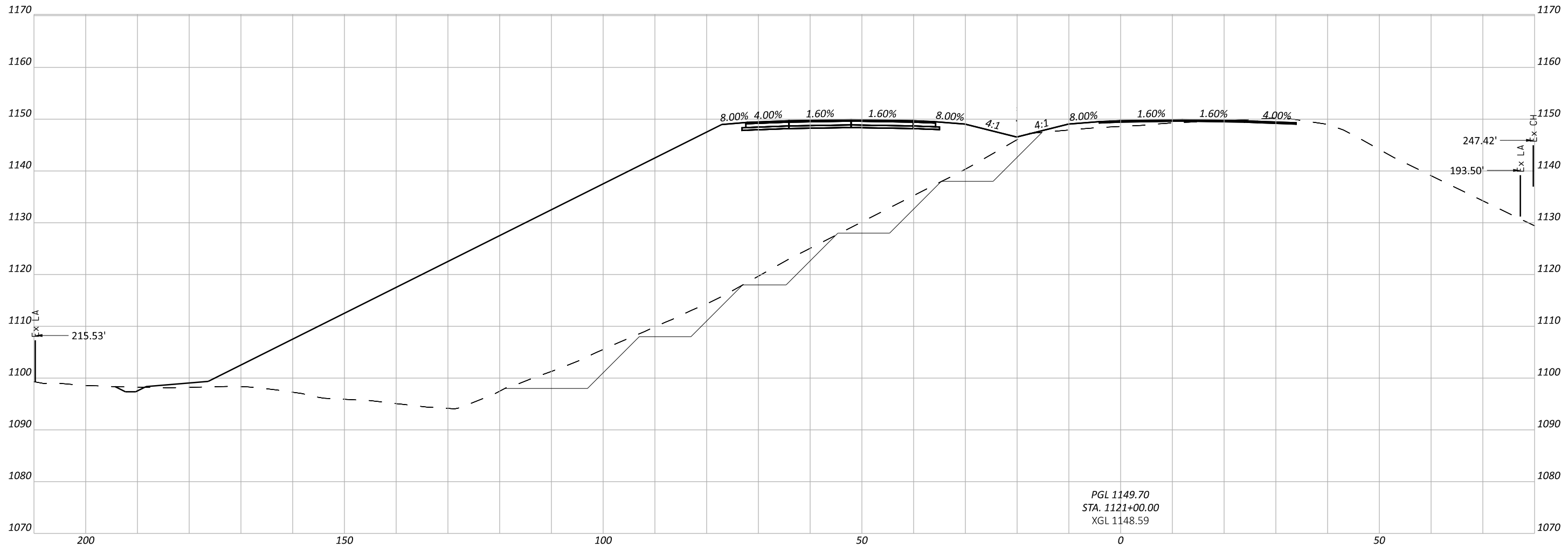


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CROSS SECTIONS - U.S. 22
STA 1121+00

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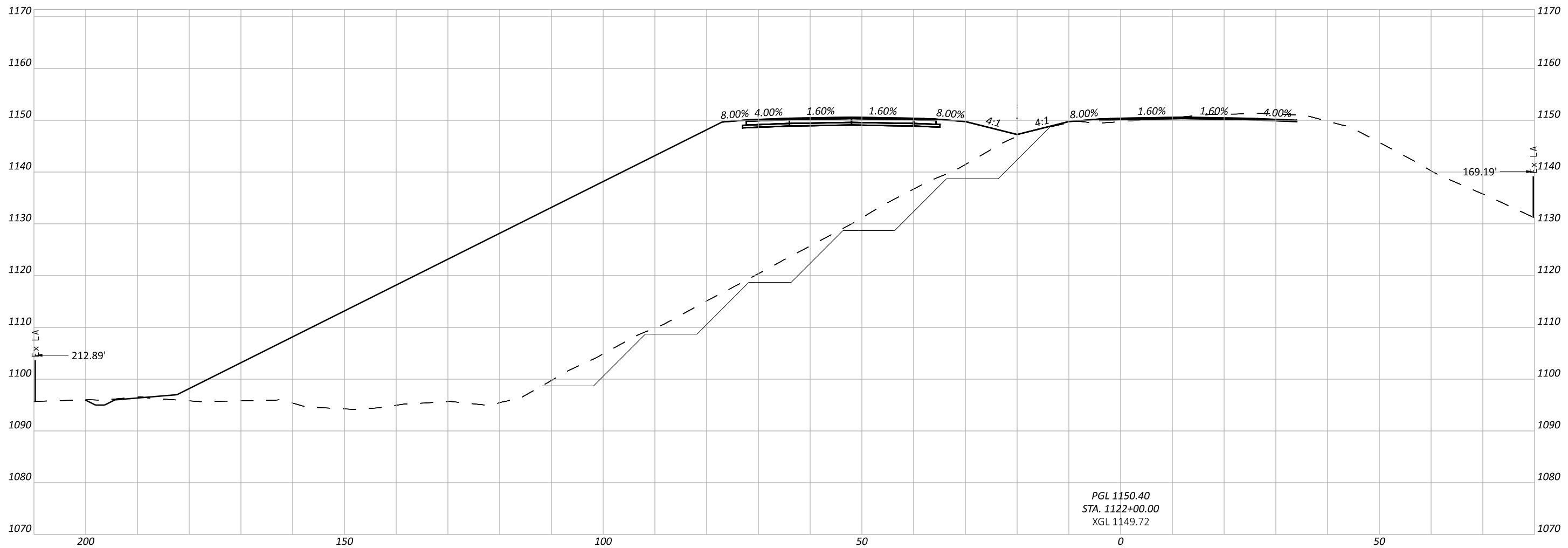
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Seeding	Cut	Fill	SHEET	TOTAL
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PGL 1150.40
STA. 1122+00.00
XGL 1149.72

CROSS SECTIONS - U.S. 22
STA 1122+00

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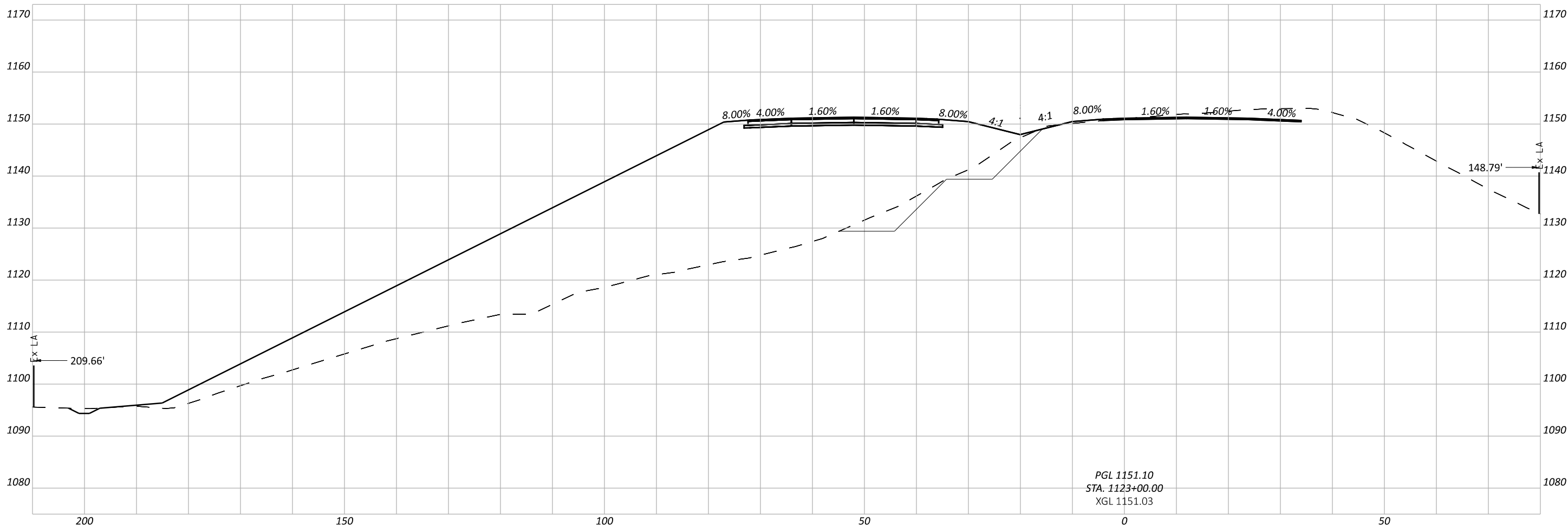
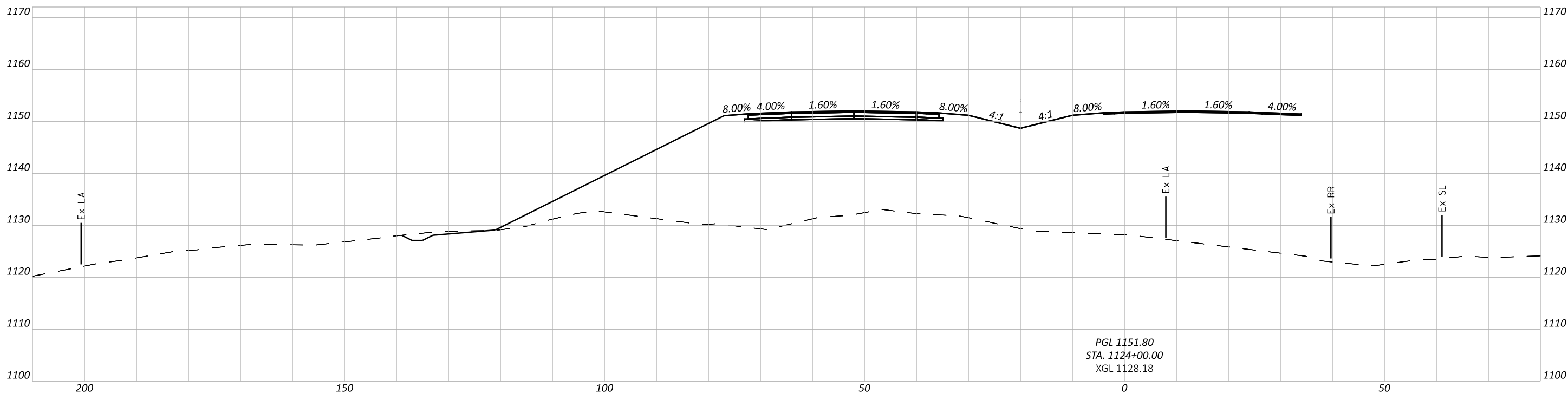
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Sheet Totals			TOTAL	
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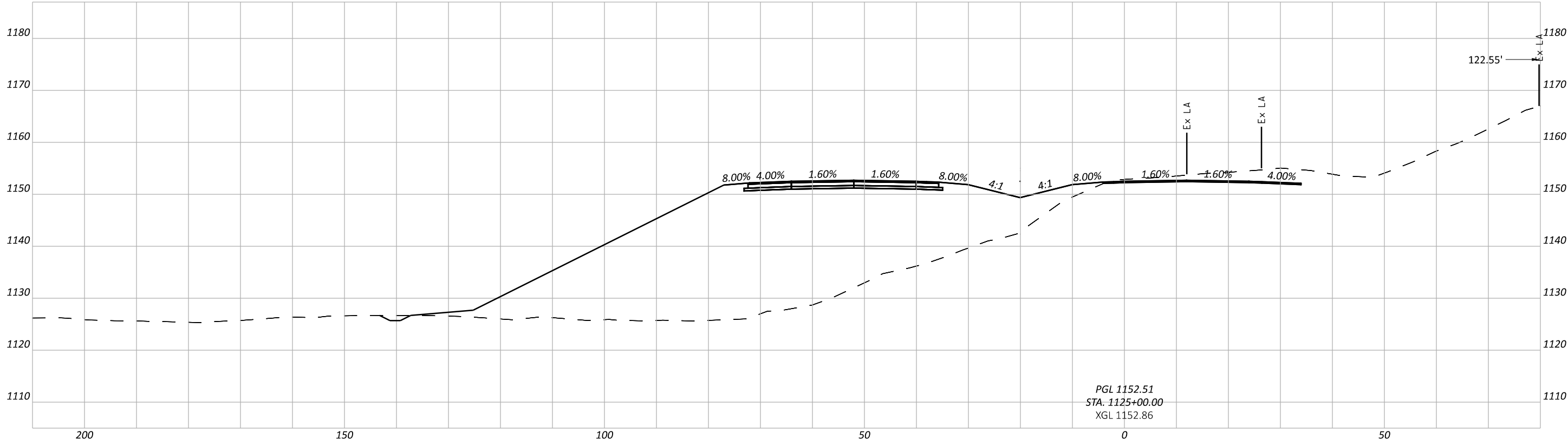
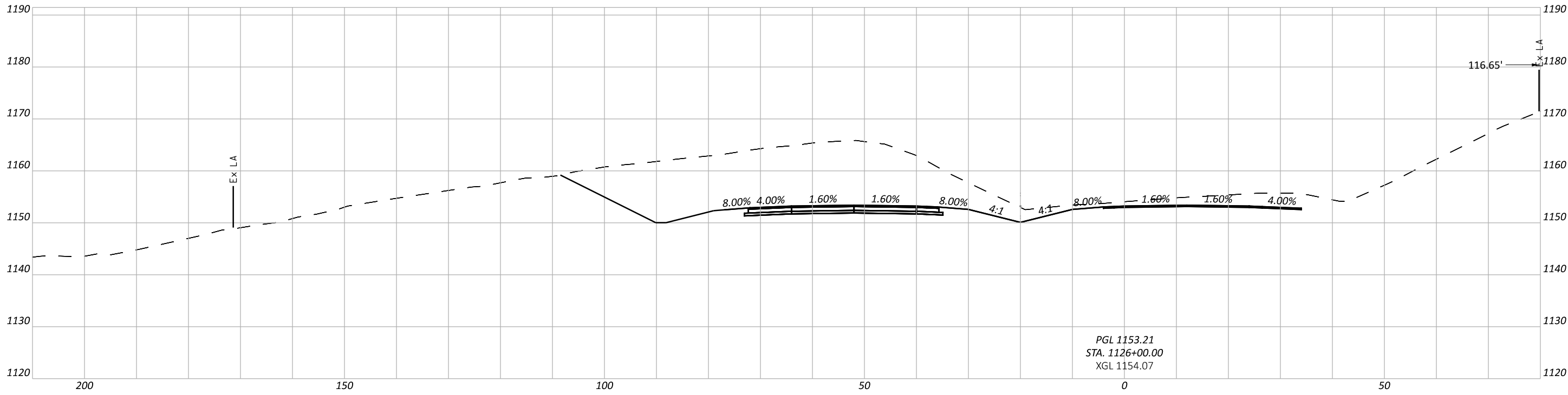


CROSS SECTIONS - U.S. 22
 STA 1123+00 TO STA 1124+00

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Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - U.S. 22
 STA 1125+00 TO STA 1126+00

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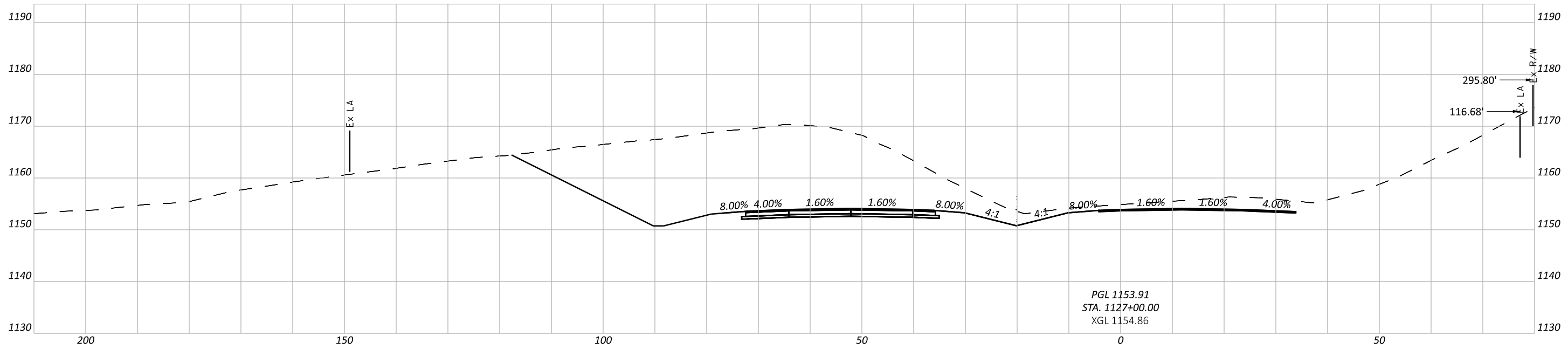
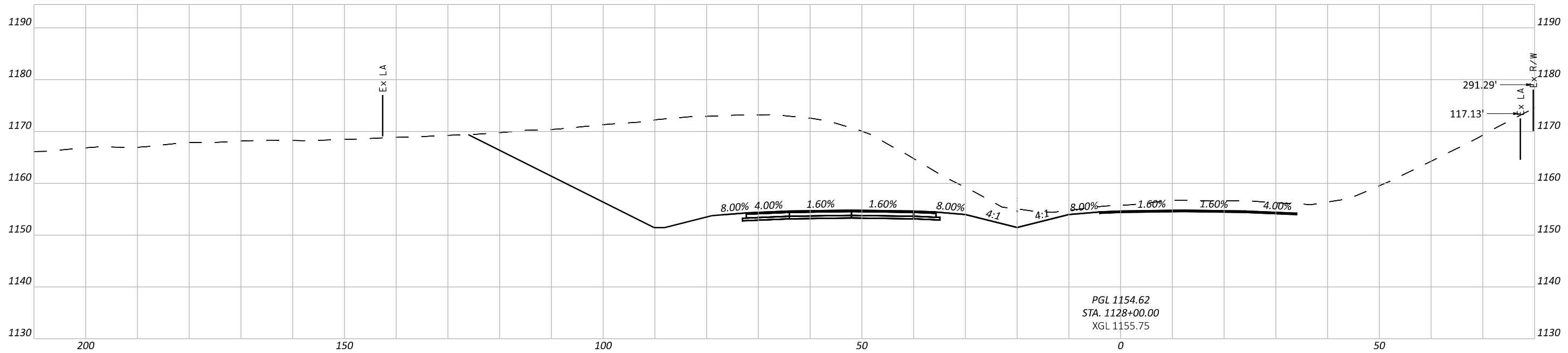
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Sheet Totals			TOTAL	
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CROSS SECTIONS - U.S. 22
 STA 1127+00 TO STA 1128+00

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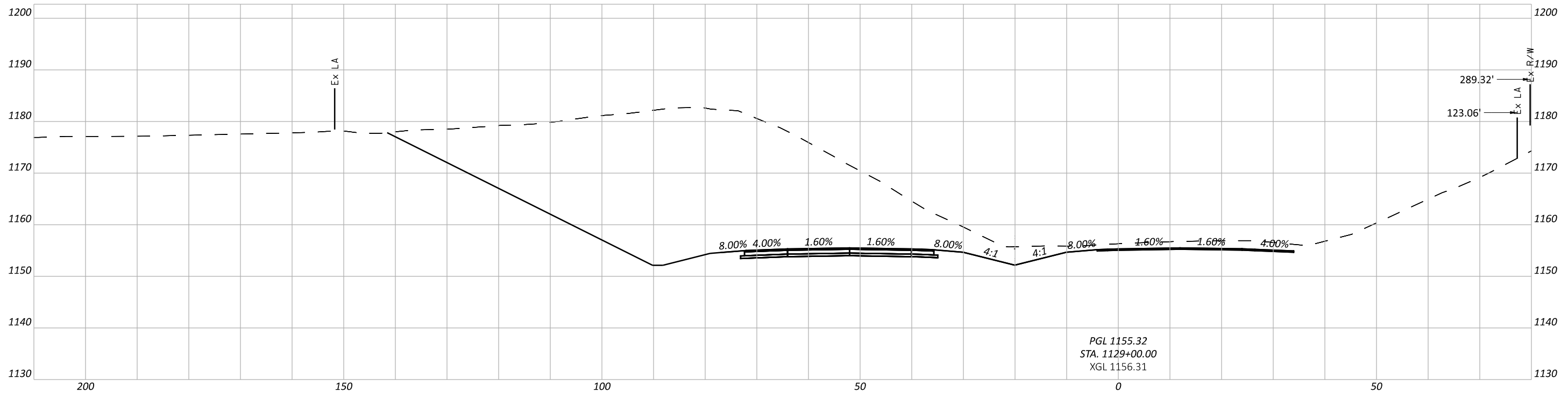
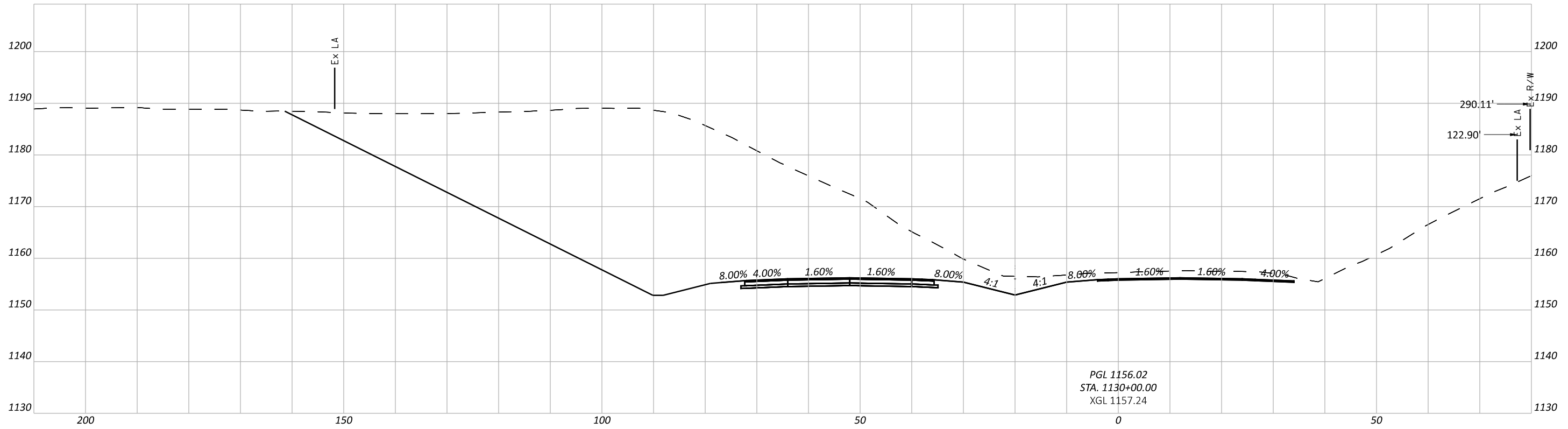
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CROSS SECTIONS - U.S. 22
 STA 1129+00 TO STA 1130+00

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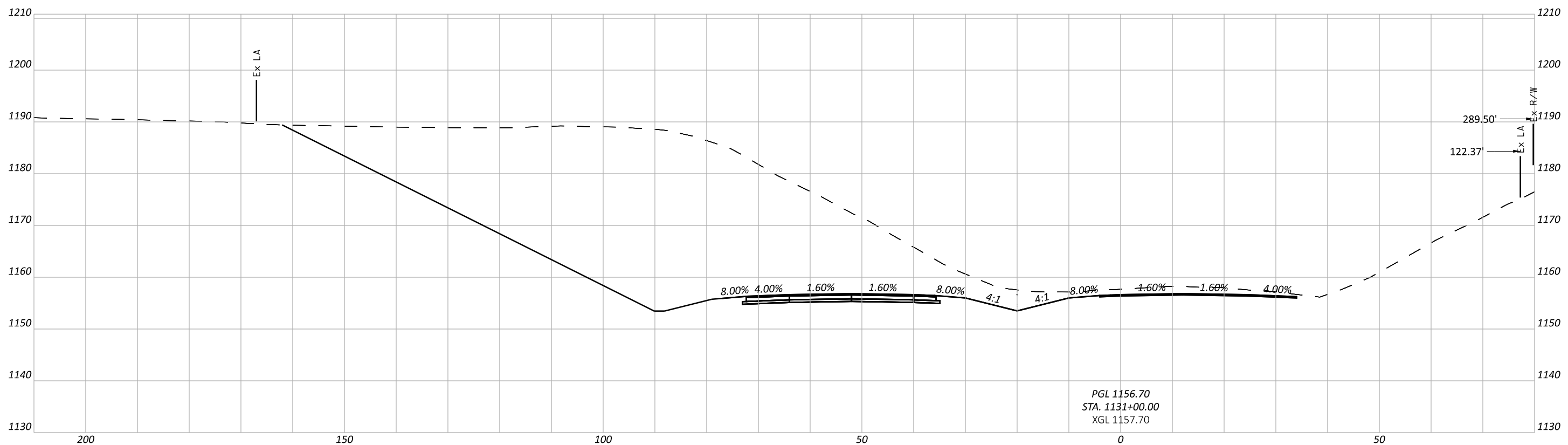
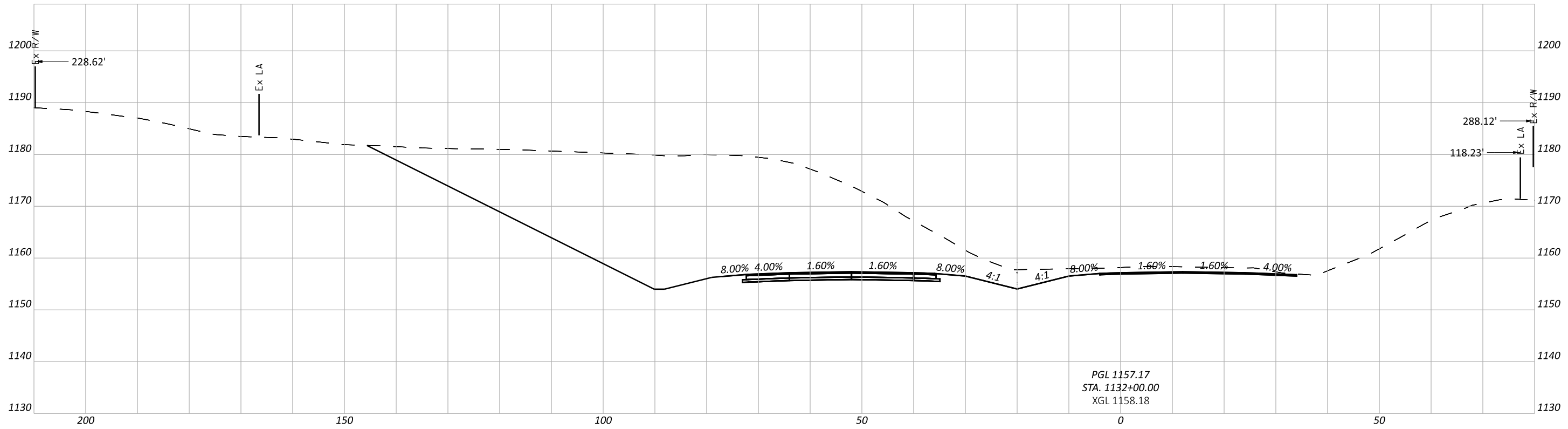
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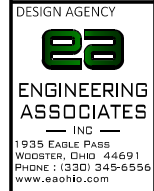
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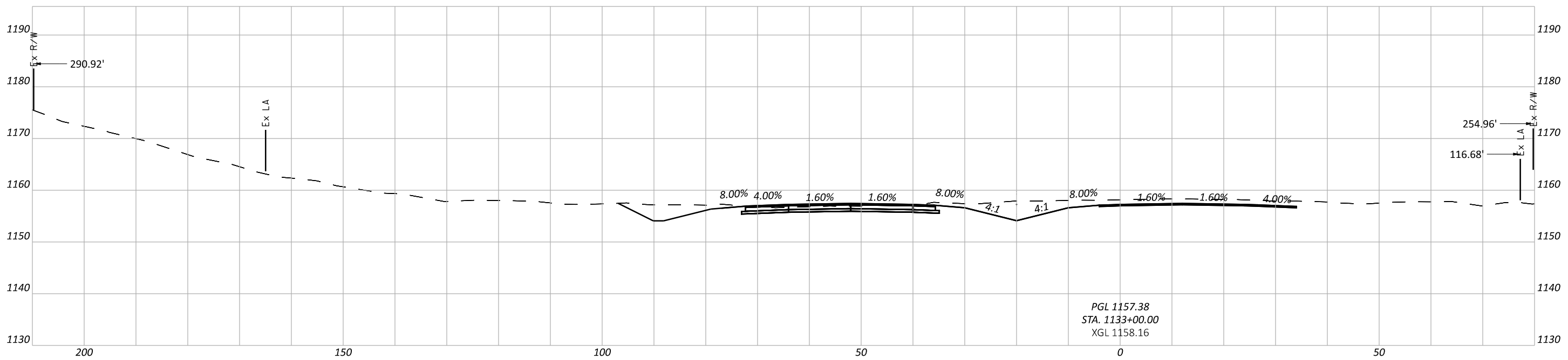
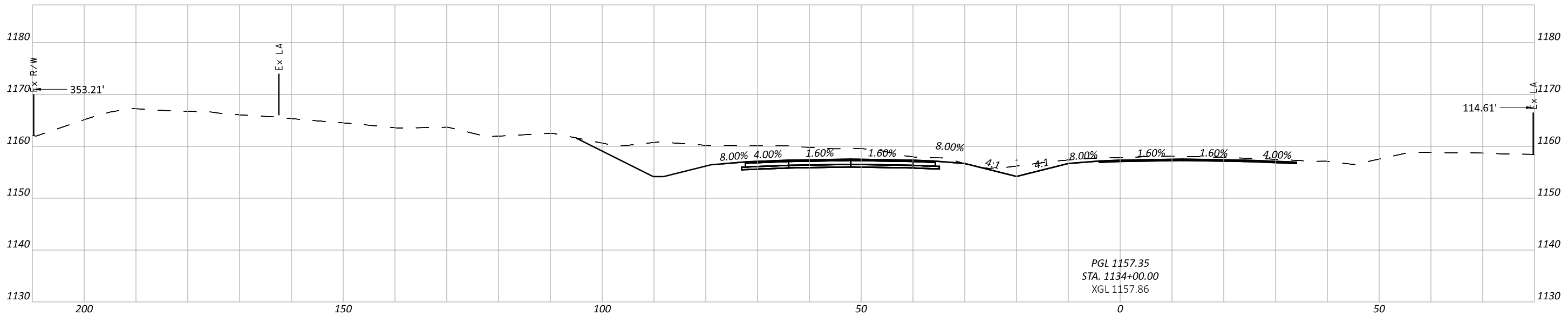
CROSS SECTIONS - U.S. 22
 STA 1131+00 TO STA 1132+00



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CROSS SECTIONS - U.S. 22
STA 1133+00 TO STA 1134+00

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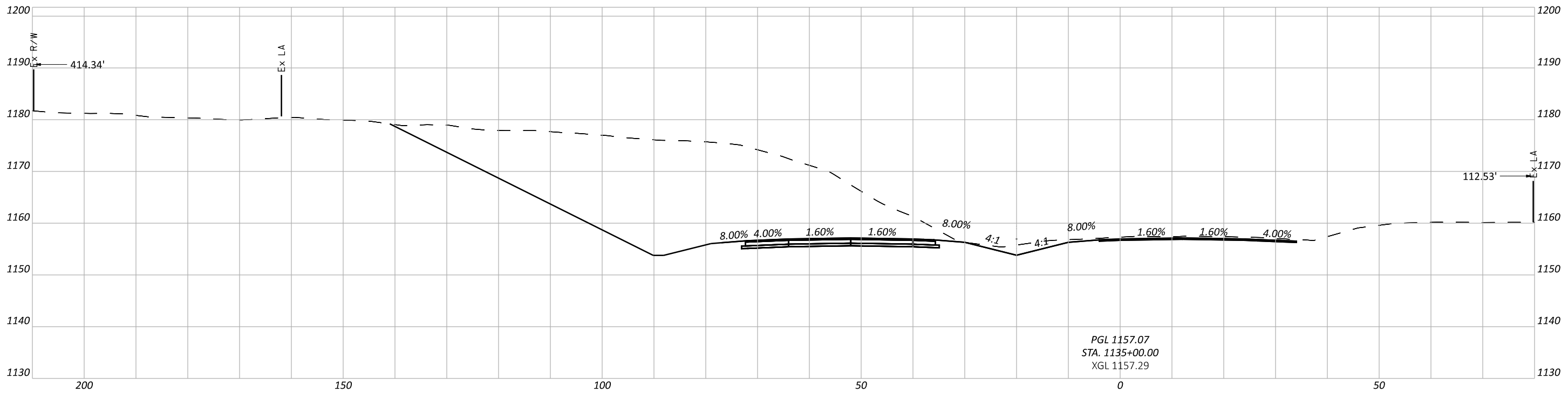
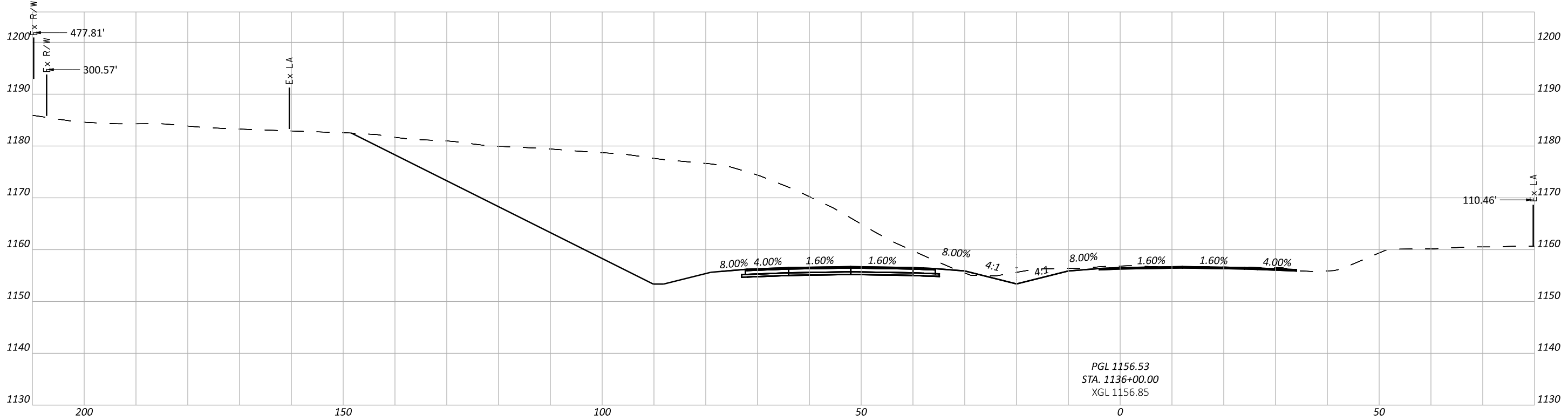
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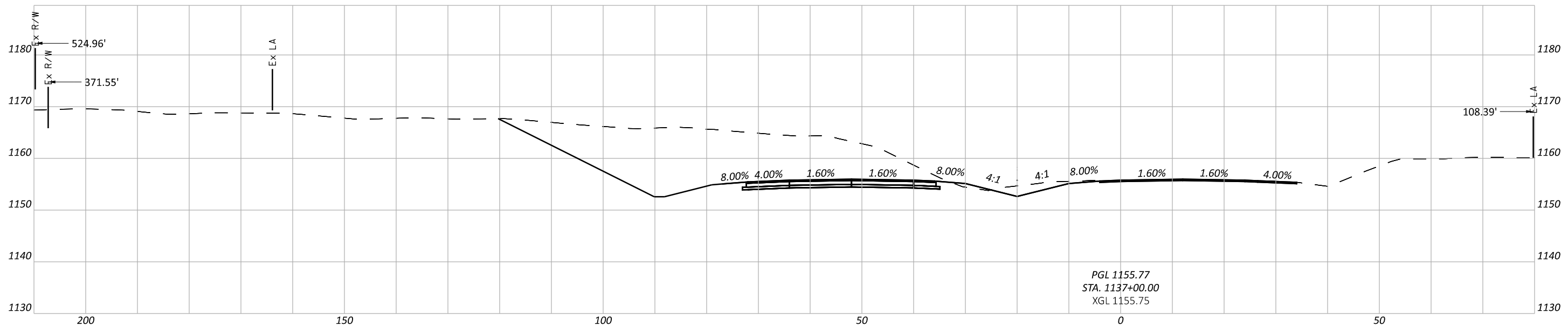
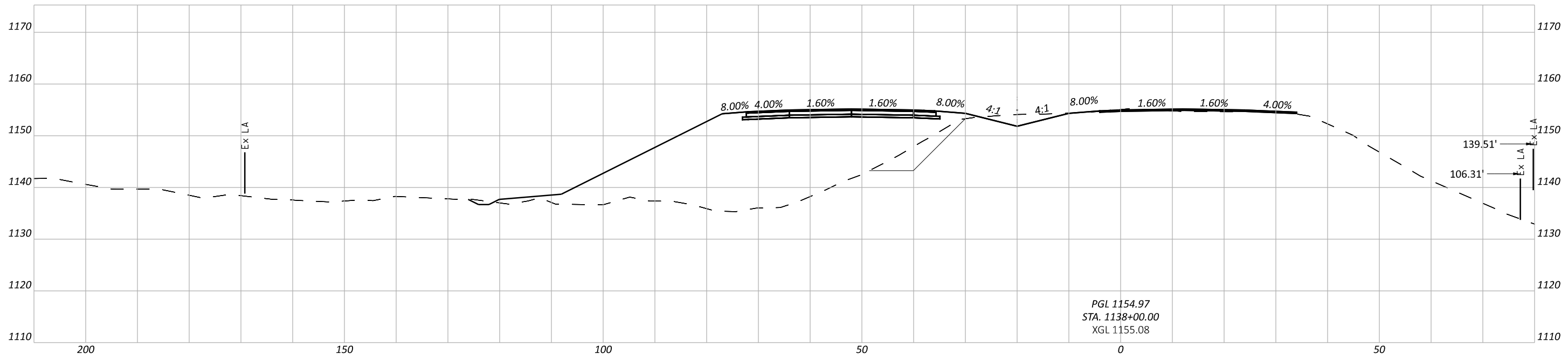


CROSS SECTIONS - U.S. 22
 STA 1135+00 TO STA 1136+00



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CROSS SECTIONS - U.S. 22
 STA 1137+00 TO STA 1138+00

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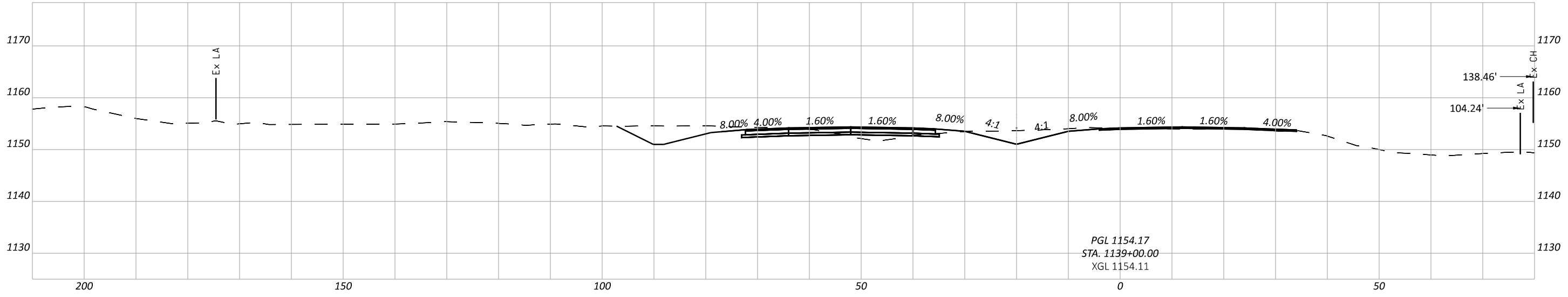
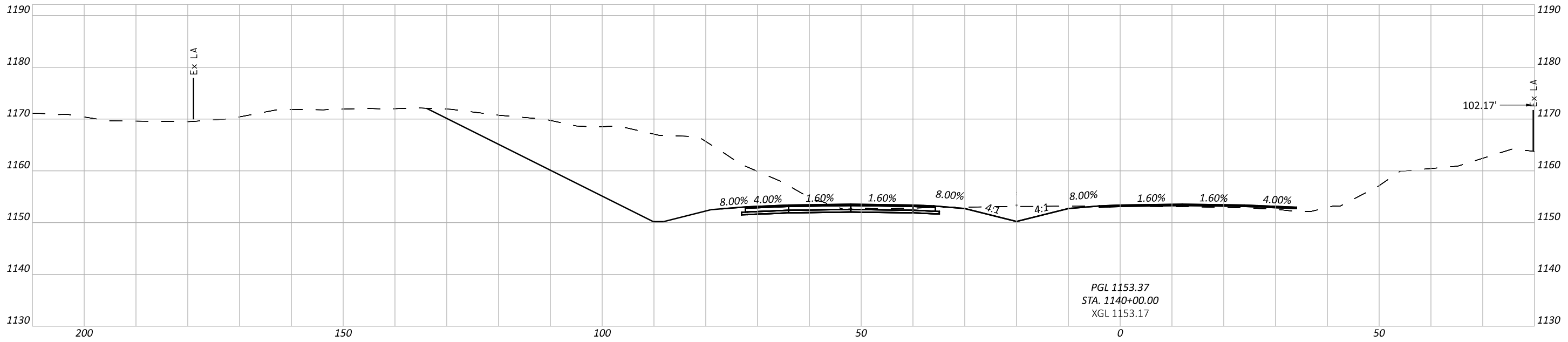
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CROSS SECTIONS - U.S. 22
 STA 1139+00 TO STA 1140+00

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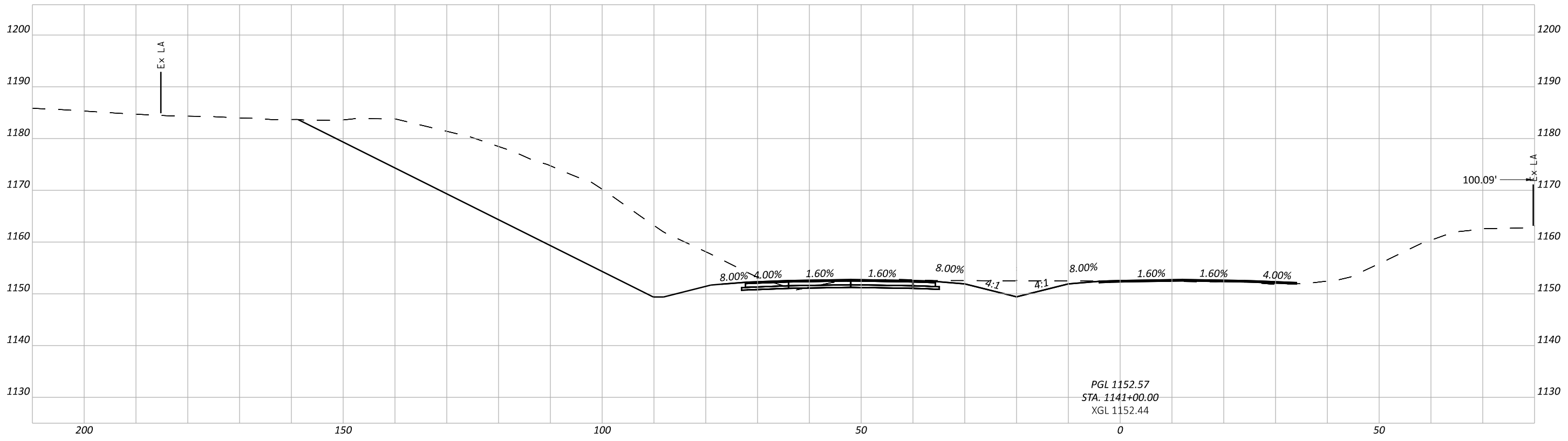
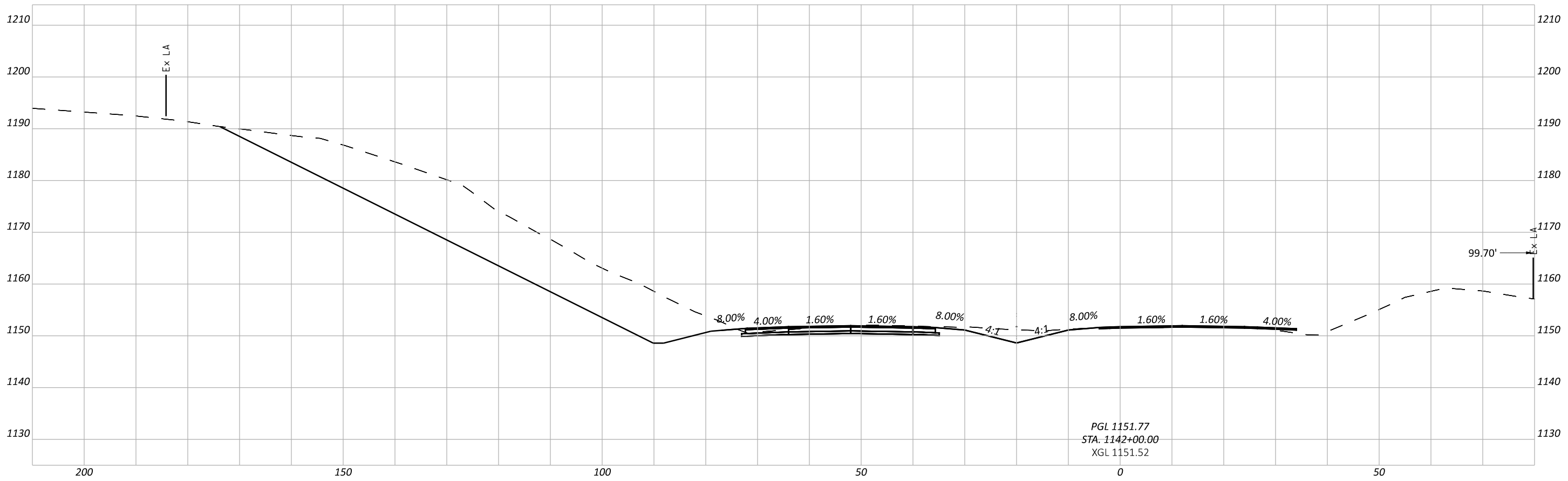
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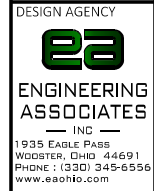
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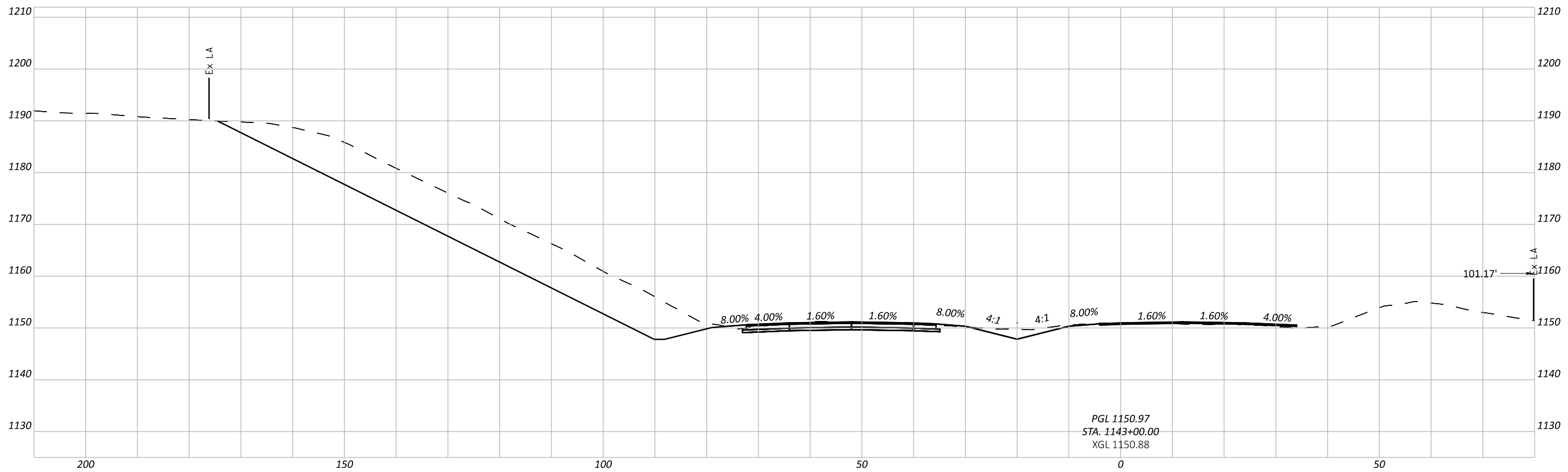
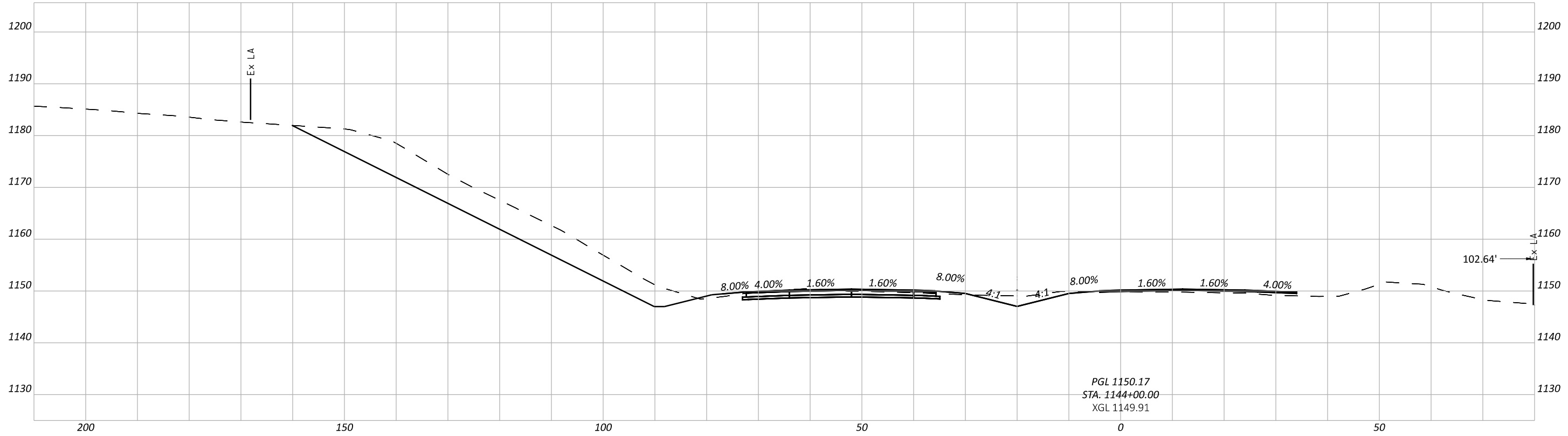


CROSS SECTIONS - U.S. 22
 STA 1141+00 TO STA 1142+00



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Sheet Totals			115278	
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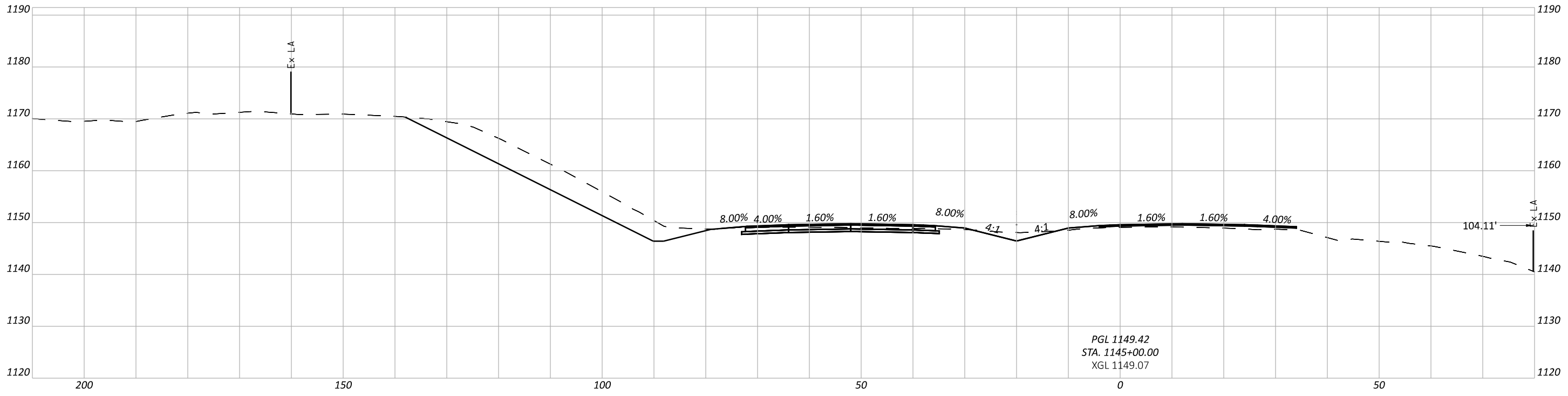
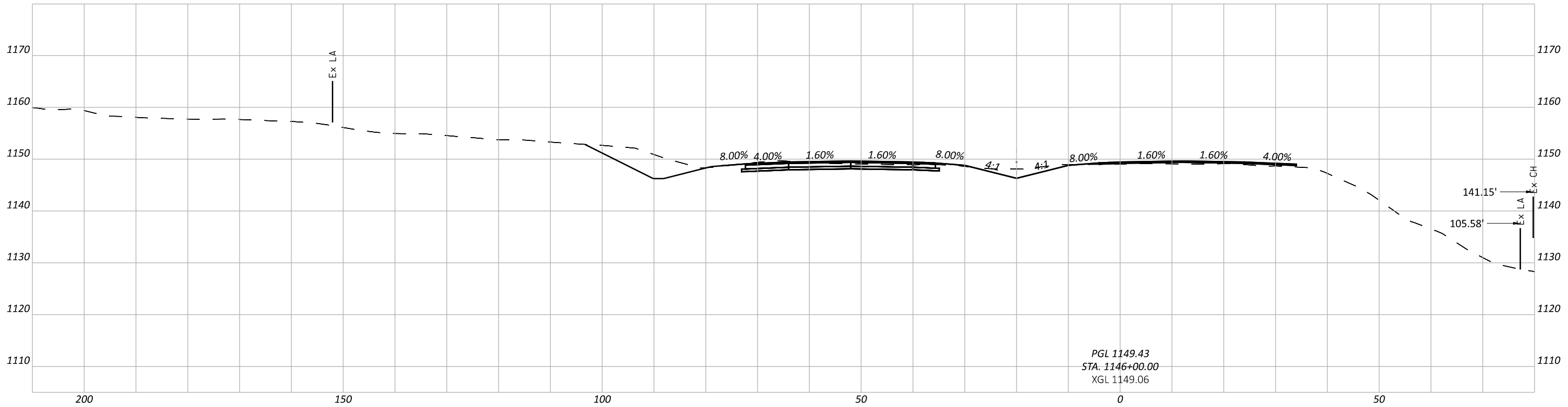


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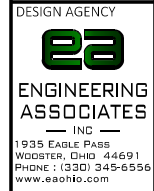


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 PROJECT ID: 115278

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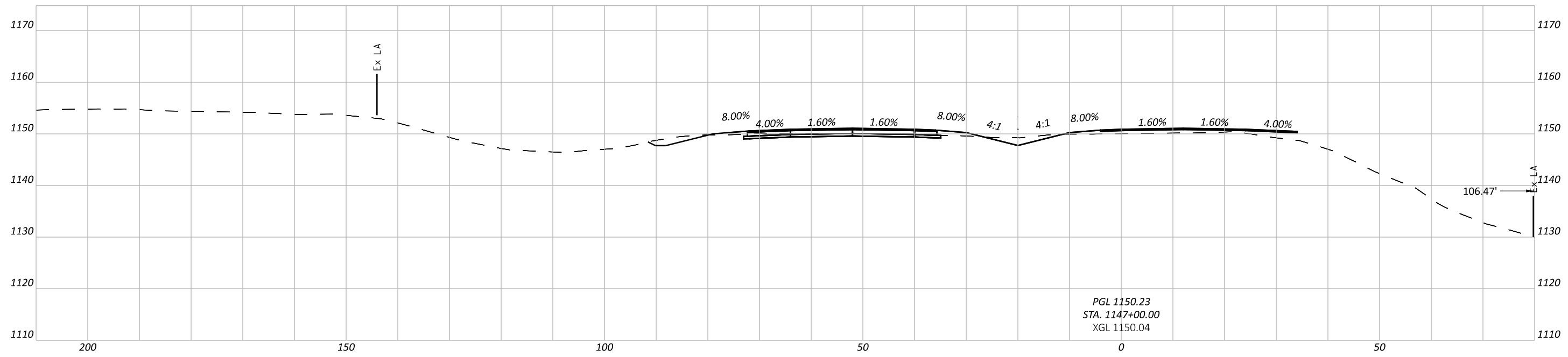
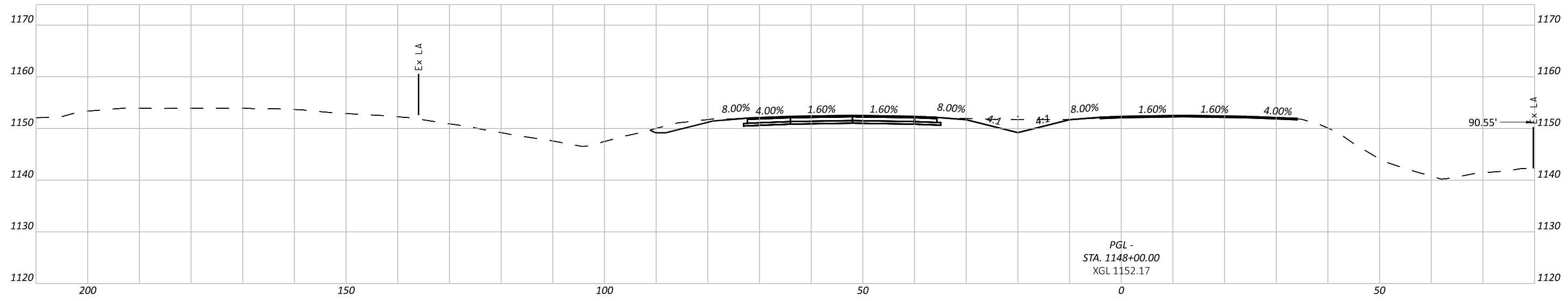
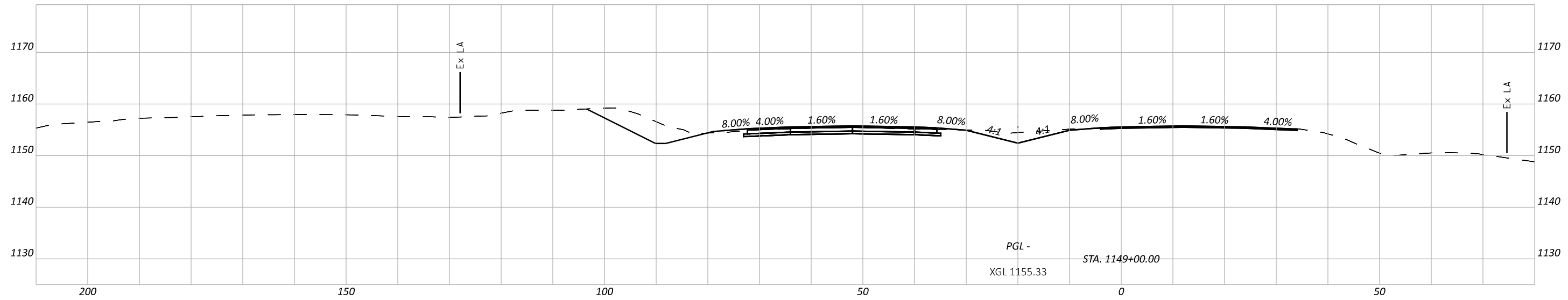
CROSS SECTIONS - U.S. 22
 STA 1145+00 TO STA 1146+00



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Sheet Totals			115278	
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PROJECT ID
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CROSS SECTIONS - U.S. 22
STA 1147+00 TO STA 1149+00



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4-20-2022

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Seeding	Cut	Fill	SHEET	TOTAL
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Appendix D – Preliminary Construction **Cost Estimate**

Estimate HAS-22-18.75

Estimated Cost:\$34,196,088.90

Contingency: 0.00%

Estimated Total: \$34,196,088.90

Widen 3 mi of US 22 from 2-lane to 4-lanes w/ grass median, new drainage & new left structure for WB lanes over RR.

Base Date: 04/15/22

Spec Year: 19

Unit System: E

Work Type: ASPHALT

Highway Type:

Urban/Rural Type: RURAL CLASS

Season: SUMMER

County: HARRISON

Latitude of Midpoint: 0

Longitude of Midpoint: 0

District: 11

Federal/State Project Number: N/A

Estimate Type: Preliminary Study

Prepared by Engineering Associates on 04/15/22

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

Group 0010: Roadway

0005	201E11000 CLEARING AND GRUBBING	1.000	LS	\$200,000.00000	\$200,000.00
0006	202E23000 PAVEMENT REMOVED	5,600.000	SY	\$6.57906	\$36,842.74
0007	202E35100 PIPE REMOVED, 24" AND UNDER	750.000	FT	\$13.40974	\$10,057.31
0008	202E35200 PIPE REMOVED, OVER 24"	100.000	FT	\$38.38758	\$3,838.76
0009	202E38000 GUARDRAIL REMOVED	17,500.000	FT	\$1.66838	\$29,196.65
0010	202E58100 CATCH BASIN REMOVED	5.000	EACH	\$375.83264	\$1,879.16
0011	202E70000 SPECIAL - FILL AND PLUG EXISTING CONDUIT 24" and Under	90.000	FT	\$50.00000	\$4,500.00
0012	202E70000 SPECIAL - FILL AND PLUG EXISTING CONDUIT 30" - 48"	1,638.000	FT	\$100.00000	\$163,800.00
0013	202E70000 SPECIAL - FILL AND PLUG EXISTING CONDUIT 54" - 66"	1,198.000	FT	\$125.00000	\$149,750.00
0014	203E10000 EXCAVATION	370,000.000	CY	\$10.00000	\$3,700,000.00
0015	203E10000 EXCAVATION Rock Excavation	152,000.000	CY	\$45.00000	\$6,840,000.00
0016	203E20000 EMBANKMENT	460,000.000	CY	\$7.50000	\$3,450,000.00
0017	204E10000 SUBGRADE COMPACTION	77,000.000	SY	\$1.15000	\$88,550.00
0018	204E45000 PROOF ROLLING	30.000	HOUR	\$182.52201	\$5,475.66
0019	606E15050 GUARDRAIL, TYPE MGS (MAINLINE)	17,500.000	FT	\$16.31072	\$285,437.60
0020	606E15050 GUARDRAIL, TYPE MGS (SIDE ROADS)	625.000	FT	\$16.31072	\$10,194.20
0021	606E26150 ANCHOR ASSEMBLY, MGS TYPE E	24.000	EACH	\$2,470.06039	\$59,281.45
0022	606E26550 ANCHOR ASSEMBLY, MGS TYPE T	24.000	EACH	\$1,014.95023	\$24,358.81
0023	606E35002 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	4.000	EACH	\$2,292.89726	\$9,171.59
0024	606E35102	4.000	EACH	\$502.61015	\$2,010.44

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2

Total for Group 0010:\$15,074,344.37

Group 0020: Erosion Control

0025	601E21050 TIED CONCRETE BLOCK MAT, TYPE 1	20.000	SY	\$129.12961	\$2,582.59
0026	601E32104 ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC Culverts over 48"	110.000	CY	\$131.77672	\$14,495.44
0027	601E32204 ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC Culverts up to 48"	140.000	CY	\$137.00000	\$19,180.00
0028	659E00100 SOIL ANALYSIS TEST	4.000	EACH	\$81.01485	\$324.06
0029	659E00300 TOPSOIL	23,500.000	CY	\$15.00000	\$352,500.00
0030	659E10000 SEEDING AND MULCHING	184,000.000	SY	\$0.60000	\$110,400.00
0031	659E14000 REPAIR SEEDING AND MULCHING	9,200.000	SY	\$0.44398	\$4,084.62
0032	659E15000 INTER-SEEDING	9,200.000	SY	\$0.35000	\$3,220.00
0033	659E20000 COMMERCIAL FERTILIZER	26.000	TON	\$485.00000	\$12,610.00
0034	659E31000 LIME	38.000	ACRE	\$60.00000	\$2,280.00
0035	659E35000 WATER	1,100.000	MGAL	\$1.10000	\$1,210.00
0036	659E40000 MOWING	415.000	MSF	\$2.84310	\$1,179.89
0037	670E00500 SLOPE EROSION PROTECTION	27,000.000	SY	\$1.87861	\$50,722.47
0038	832E15000 STORM WATER POLLUTION PREVENTION PLAN	1.000	LS	\$15,000.00000	\$15,000.00
0039	832E15002 STORM WATER POLLUTION PREVENTION INSPECTIONS	1.000	LS	\$40,000.00000	\$40,000.00
0040	832E15010 STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	1.000	LS	\$25,000.00000	\$25,000.00
0041	832E30000 EROSION CONTROL	800,000.000	EACH	\$1.00000	\$800,000.00

Total for Group 0020:\$1,454,789.07

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
Group 0040: Drainage					
0042	602E20000 CONCRETE MASONRY	40.000	CY	\$1,096.13701	\$43,845.48
0043	605E14000 6" BASE PIPE UNDERDRAINS	31,000.000	FT	\$7.34699	\$227,756.69
0044	611E00510 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	3,000.000	FT	\$30.00000	\$90,000.00
0045	611E07200 18" CONDUIT, TYPE A	150.000	FT	\$101.31110	\$15,196.67
0046	611E10400 24" CONDUIT, TYPE B	1,100.000	FT	\$162.00000	\$178,200.00
0047	611E10600 24" CONDUIT, TYPE C	110.000	FT	\$95.51708	\$10,506.88
0048	611E11200 24" CONDUIT, TYPE F	550.000	FT	\$100.00000	\$55,000.00
0049	611E11700 27" CONDUIT, TYPE A	320.000	FT	\$200.00000	\$64,000.00
0050	611E13600 30" CONDUIT, TYPE C	2,000.000	FT	\$105.00000	\$210,000.00
0051	611E16200 36" CONDUIT, TYPE A	220.000	FT	\$200.00000	\$44,000.00
0052	611E19200 42" CONDUIT, TYPE A	300.000	FT	\$237.11594	\$71,134.78
0053	611E20700 48" CONDUIT, TYPE A	90.000	FT	\$270.80188	\$24,372.17
0054	611E22200 54" CONDUIT, TYPE A	160.000	FT	\$320.92424	\$51,347.88
0055	611E23600 60" CONDUIT, TYPE A	70.000	FT	\$363.55477	\$25,448.83
0056	611E25000 66" CONDUIT, TYPE A	140.000	FT	\$525.00000	\$73,500.00
0057	611E96600 CONDUIT, BORED OR JACKED 18", TYPE A	90.000	FT	\$300.00000	\$27,000.00
0058	611E96600 CONDUIT, BORED OR JACKED 36", TYPE A	810.000	FT	\$450.00000	\$364,500.00
0059	611E96600 CONDUIT, BORED OR JACKED 42", TYPE A	840.000	FT	\$550.00000	\$462,000.00
0060	611E96600 CONDUIT, BORED OR JACKED 54", TYPE A	610.000	FT	\$700.00000	\$427,000.00
0061	611E96600 CONDUIT, BORED OR JACKED 60", TYPE A	170.000	FT	\$900.00000	\$153,000.00
0062	611E96600 CONDUIT, BORED OR JACKED	425.000	FT	\$950.00000	\$403,750.00

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
	66", TYPE A				
0063	611E98230 CATCH BASIN, NO. 4	21.000	EACH	\$4,390.16880	\$92,193.54
0064	611E99710 PRECAST REINFORCED CONCRETE OUTLET	35.000	EACH	\$290.00000	\$10,150.00

Total for Group 0040:\$3,123,902.92

Group 0050: Pavement

0065	254E01000 PAVEMENT PLANING, ASPHALT CONCRETE	63,000.000	SY	\$1.67981	\$105,828.03
0066	301E46000 ASPHALT CONCRETE BASE, PG64-22	17,000.000	CY	\$100.00000	\$1,700,000.00
0067	304E20000 AGGREGATE BASE	19,500.000	CY	\$46.49240	\$906,601.80
0068	407E10000 TACK COAT	17,000.000	GAL	\$2.14332	\$36,436.44
0069	442E10000 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	6,000.000	CY	\$200.00000	\$1,200,000.00
0070	442E10100 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	8,700.000	CY	\$170.00000	\$1,479,000.00

Total for Group 0050:\$5,427,866.27

Group 0120: Traffic Control

0071	621E00100 RPM	400.000	EACH	\$30.76622	\$12,306.49
0072	621E54000 RAISED PAVEMENT MARKER REMOVED	200.000	EACH	\$7.69478	\$1,538.96
0073	626E00110 BARRIER REFLECTOR, TYPE 2	250.000	EACH	\$8.63432	\$2,158.58
0074	630E03100 GROUND MOUNTED SUPPORT, NO. 3 POST	2,400.000	FT	\$10.00000	\$24,000.00
0075	630E06500 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	120.000	FT	\$22.44739	\$2,693.69
0076	630E09000 BREAKAWAY STRUCTURAL BEAM CONNECTION	8.000	EACH	\$373.38471	\$2,987.08
0077	630E80100 SIGN, FLAT SHEET	500.000	SF	\$16.04259	\$8,021.30
0078	630E84500 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	8.000	EACH	\$1,004.79829	\$8,038.39
0079	630E84900 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	82.000	EACH	\$18.24692	\$1,496.25

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
0080	630E86002	59.000	EACH	\$17.85177	\$1,053.25
REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL					
0081	630E86102	4.000	EACH	\$268.34041	\$1,073.36
REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL					
0082	644E00100	0.100	MILE	\$3,649.74013	\$364.97
EDGE LINE, 4" Sideroads					
0083	644E00104	12.000	MILE	\$3,324.68823	\$39,896.26
EDGE LINE, 6"					
0084	644E00204	6.000	MILE	\$1,478.71433	\$8,872.29
LANE LINE, 6"					
0085	644E00300	0.500	MILE	\$7,822.85436	\$3,911.43
CENTER LINE					
0086	644E00404	2,400.000	FT	\$1.80724	\$4,337.38
CHANNELIZING LINE, 12"					
0087	644E00500	70.000	FT	\$9.00422	\$630.30
STOP LINE					

Total for Group 0120:\$123,379.98

Group 0200: Structures Over 20 Foot Span (Bridge Number of SFN)

0088	503E11100	1.000	LS	\$50,000.00000	\$50,000.00
COFFERDAMS AND EXCAVATION BRACING					
0089	503E21100	413.000	CY	\$45.39157	\$18,746.72
UNCLASSIFIED EXCAVATION					
0090	503E31120	66.000	CY	\$100.00000	\$6,600.00
SHALE EXCAVATION					
0091	505E11100	1.000	LS	\$25,000.00000	\$25,000.00
PILE DRIVING EQUIPMENT MOBILIZATION					
0092	507E00200	392.000	FT	\$38.08084	\$14,927.69
STEEL PILES HP12X53, FURNISHED					
0093	507E00250	322.000	FT	\$14.50715	\$4,671.30
STEEL PILES HP12X53, DRIVEN					
0094	509E10000	10,000.000	LB	\$1.71690	\$17,169.00
EPOXY COATED REINFORCING STEEL					
0095	511E34446	235.000	CY	\$701.79767	\$164,922.45
CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK					
0096	511E42012	175.000	CY	\$1,200.00000	\$210,000.00
CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS					
0097	511E44112	150.000	CY	\$529.93618	\$79,490.43
CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING					
0098	511E46512	88.000	CY	\$411.46253	\$36,208.70
CLASS QC1 CONCRETE WITH QC/QA, FOOTING					

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
0099	512E10100	1,000.000	SY	\$21.16450	\$21,164.50
SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)					
0100	513E10240	185,000.000	LB	\$1.89929	\$351,368.65
STRUCTURAL STEEL MEMBERS, LEVEL 2					
0101	513E20000	2,700.000	EACH	\$3.94255	\$10,644.89
WELDED STUD SHEAR CONNECTORS					
0102	514E00060	10,000.000	SF	\$3.71572	\$37,157.20
FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT					
0103	514E00066	10,000.000	SF	\$3.54307	\$35,430.70
FIELD PAINTING STRUCTURAL STEEL, FINISH COAT					
0104	514E10000	6.000	EACH	\$264.28056	\$1,585.68
FINAL INSPECTION REPAIR					
0105	516E13900	50.000	SF	\$9.76068	\$488.03
2" PREFORMED EXPANSION JOINT FILLER					
0106	516E14020	124.000	FT	\$34.28313	\$4,251.11
SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL					
0107	516E44101	24.000	EACH	\$1,950.00000	\$46,800.00
ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN					
0108	518E21200	70.000	CY	\$80.46669	\$5,632.67
POROUS BACKFILL WITH GEOTEXTILE FABRIC					
0109	518E40000	140.000	FT	\$7.00634	\$980.89
6" PERFORATED CORRUGATED PLASTIC PIPE					
0110	518E40010	60.000	FT	\$6.79437	\$407.66
6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIAL S					
0111	526E25000	262.000	SY	\$322.11199	\$84,393.34
REINFORCED CONCRETE APPROACH SLABS (T=15")					
0112	526E90010	94.000	FT	\$157.18020	\$14,774.94
TYPE A INSTALLATION					
0113	601E20010	105.000	CY	\$91.73504	\$9,632.18
CRUSHED AGGREGATE SLOPE PROTECTION					
0114	846E00110	43.000	CF	\$364.84868	\$15,688.49
POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM					

Total for Group 0200:\$1,268,137.22

Group 0220: Maintenance of Traffic

0115	614E11630	16,000.000	FT	\$0.82582	\$13,213.12
INCREASED BARRIER DELINEATION					
0116	614E12348	12.000	EACH	\$2,082.24379	\$24,986.93
WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)					
0117	614E13310	320.000	EACH	\$6.66054	\$2,131.37

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
BARRIER REFLECTOR, TYPE 1					
0118	614E13360	320.000	EACH	\$18.36803	\$5,877.77
OBJECT MARKER, TWO WAY					
0119	614E20210	6.670	MILE	\$4,402.57020	\$29,365.14
WORK ZONE LANE LINE, CLASS I, 6", 740.06, TYPE I					
0120	614E22210	13.330	MILE	\$7,463.49121	\$99,488.34
WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I					
0121	615E10000	1.000	LS	\$50,000.00000	\$50,000.00
ROADS FOR MAINTAINING TRAFFIC					
0122	615E20000	6,000.000	SY	\$38.02744	\$228,164.64
PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A					
0123	622E41000	16,000.000	FT	\$12.33377	\$197,340.32
PORTABLE BARRIER, 32"					

Total for Group 0220:\$650,567.63

Group 0222: Incidentals

0124	100E00300	1.000	LS	\$50,000.00000	\$50,000.00
PREMIUM ON RAILROADS' PROTECTIVE PUBLIC LIABILITY AND PROPER TY DAMAGE LIABILITY INSURANCE					
0125	103E05000	1.000	LS	\$140,147.90530	\$140,147.91
PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND					
0126	614E11000	1.000	LS	\$280,295.81060	\$280,295.81
MAINTAINING TRAFFIC					
0127	619E16020	24.000	MNTH	\$2,358.06657	\$56,593.60
FIELD OFFICE, TYPE C					
0128	623E10000	1.000	LS	\$140,147.90530	\$140,147.91
CONSTRUCTION LAYOUT STAKES AND SURVEYING					
0129	624E10000	1.000	LS	\$800,000.00000	\$800,000.00
MOBILIZATION					

Total for Group 0222:\$1,467,185.23

Group 0225: DESIGN CONTINGENCY

0130		1.000		\$5,605,916.21200	\$5,605,916.21
20% Design Contingency					

Total for Group 0225:\$5,605,916.21