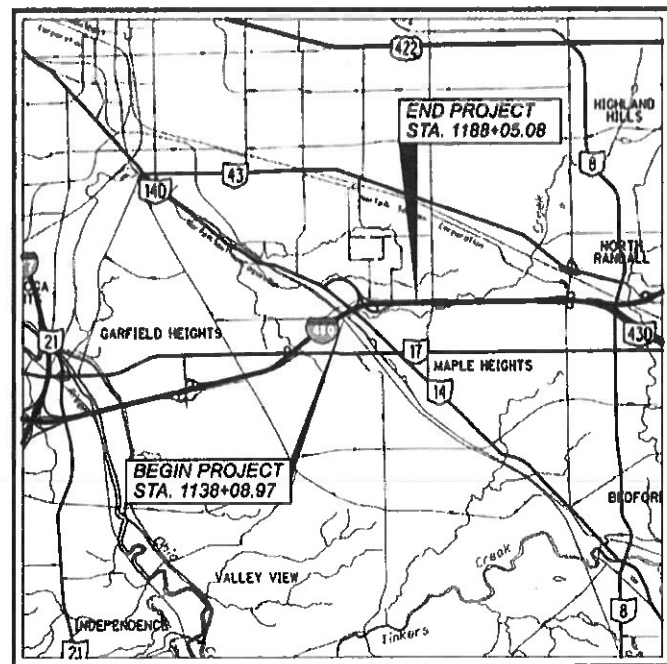


CUY - IR 480-21.30 WB Safety
 210285 PID - 107657
 Dist 12 4/29/2021

Contract Proposal available @
 www.contracts.dot.state.oh.us

BM03-12-087-UN



LOCATION MAP

LATITUDE: 41°25'28"N LONGITUDE: 81°34'59"W



PORTION TO BE IMPROVED	-----	=====
INTERSTATE HIGHWAY	-----	=====
FEDERAL ROUTES	-----	=====
STATE ROUTES	-----	=====
COUNTY & TOWNSHIP ROADS	-----	=====
OTHER ROADS	-----	=====

DESIGN DESIGNATION

CURRENT ADT (2021)	155,400
DESIGN YEAR ADT (2051)	178,700
DESIGN HOURLY VOLUME (2051)	31,662
DIRECTIONAL DISTRIBUTION	9%
TRUCKS (24 HOUR B&C)	7,770
DESIGN SPEED	70 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS	APPROVAL DATE	SHEET NO.
LANE WIDTH	12/17/2020	26-32
SHOULDER WIDTH	12/17/2020	26-32

UNDERGROUND UTILITIES
 Contact Two Working Days Before You Dig

OHIO811.org
 Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
 (Non-members must be called directly)

PLAN PREPARED BY:

 KS Associates, Inc.
 260 Burns Road, Suite 100
 Elyria, OH 44035
 P 440 365 4730
 F 440 365 4790
 www.ksassociates.com

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION

CUY-480-21.30 WB

GARFIELD HEIGHTS & MAPLE HEIGHTS

CUYAHOGA COUNTY

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ENGINEER'S SEAL:
 FOR ROADWAY

SIGNED: *Walid A. Antonios*
 DATE: 01/21/21

ENGINEER'S SEAL:
 FOR BRIDGE

SIGNED: *Hamid V. Homaei*
 DATE: 01/21/21

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	01/17/20	MGS-1.1	1/19/18	SBR-1-20	7/17/20	MT-104.10	10/16/15	800-2020	1/15/21
		MGS-2.1	1/19/18			MT-105.10	1/17/20	808	1/18/19
CB-2.1	7/20/18	MGS-3.1	1/19/18	HL-20.14	4/17/20			821	4/20/12
CB-3.2	1/15/16	MGS-3.2	1/18/13	HL-30.41	4/17/20	TC-22.10	4/17/20	832	10/19/18
		MGS-4.2	7/19/13			TC-22.20	1/17/14	872	4/17/20
I-1.1	7/20/18	MGS-4.3	1/18/13	MT-95.30	7/19/19	TC-41.20	10/18/13	908	10/20/17
I-1.2	1/15/16	MGS-5.3	7/15/16	MT-95.45	1/17/20	TC-41.30	10/18/13	921	4/20/12
				MT-98.10	1/17/20	TC-42.20	10/18/13		
DM-1.1	7/17/20	RM-1.1	7/18/14	MT-98.11	1/17/20	TC-52.10	10/18/13		
DM-1.2	1/18/13	RM-4.2	4/17/20	MT-98.22	1/17/20	TC-52.20	7/20/18		
DM-4.3	1/15/16	RM-4.3	7/18/14	MT-98.28	1/17/20	TC-61.30	7/19/19		
DM-4.4	1/15/16	RM-4.5	7/21/17	MT-101.70	1/17/20	TC-65.10	1/17/14		
				MT-101.75	1/17/20	TC-65.11	7/21/17		
BP-5.1	1/18/19	EXJ-4-87	1/19/18	MT-101.90	7/17/20	TC-72.20	7/20/18		
BP-9.1	1/18/19	GSD-1-19	1/18/19	MT-102.10	1/17/20				
		PCB-91	7/17/20	MT-102.20	4/19/19				

PROJECT DESCRIPTION

THE PROJECT SHALL UTILIZE PERFORMANCE BASED PRACTICAL DESIGN PRINCIPLES TO ADD A FOURTH LANE BETWEEN THE WESTBOUND IR-480 BROADWAY AVENUE ENTRANCE AND EXIT LANE AND SHOULDER WIDTHS SHALL BE REDUCED, EXISTING VERTICAL CLEARANCES AND SUPERELEVATION SHALL BE MAINTAINED.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	3.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.1 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

APPROVED: *JLR*
 DATE: 2/5/21 DISTRICT DEPUTY DIRECTOR

APPROVED: *Jack Harwood*
 DATE: 2/19/21 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. NON-FEDERAL

PID NO. 107657

RAILROAD INVOLVEMENT

NORFOLK SOUTHERN AND CLEVELAND & CUYAHOGA

TITLE SHEET

DESIGN AGENCY

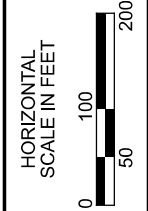
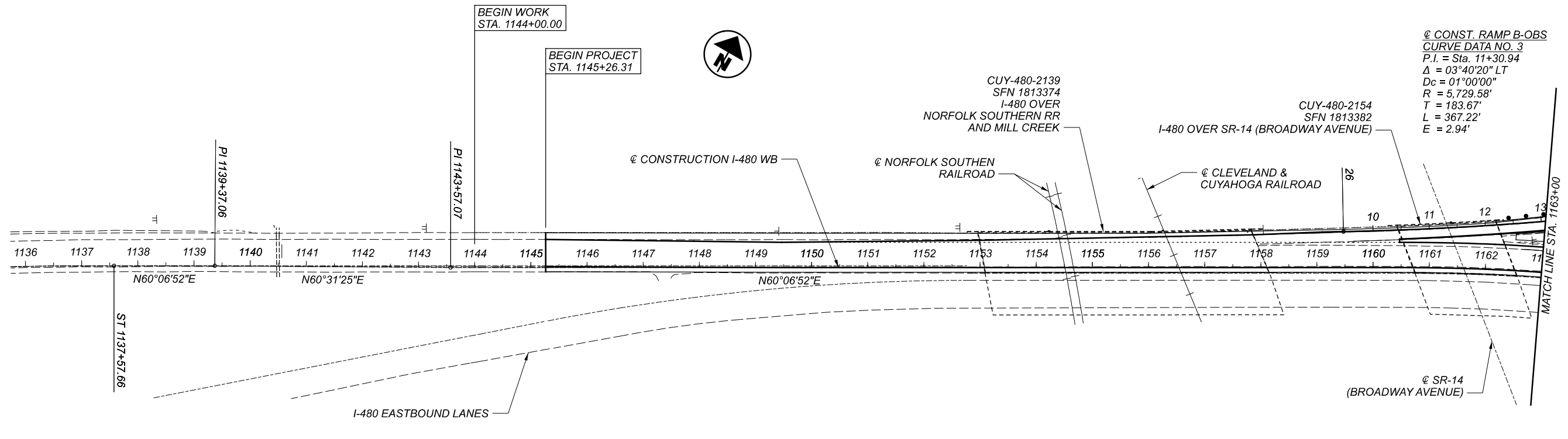
KS Associates, Inc.
 260 Burns Road,
 Elyria, Ohio 44035

DESIGNER: RAP

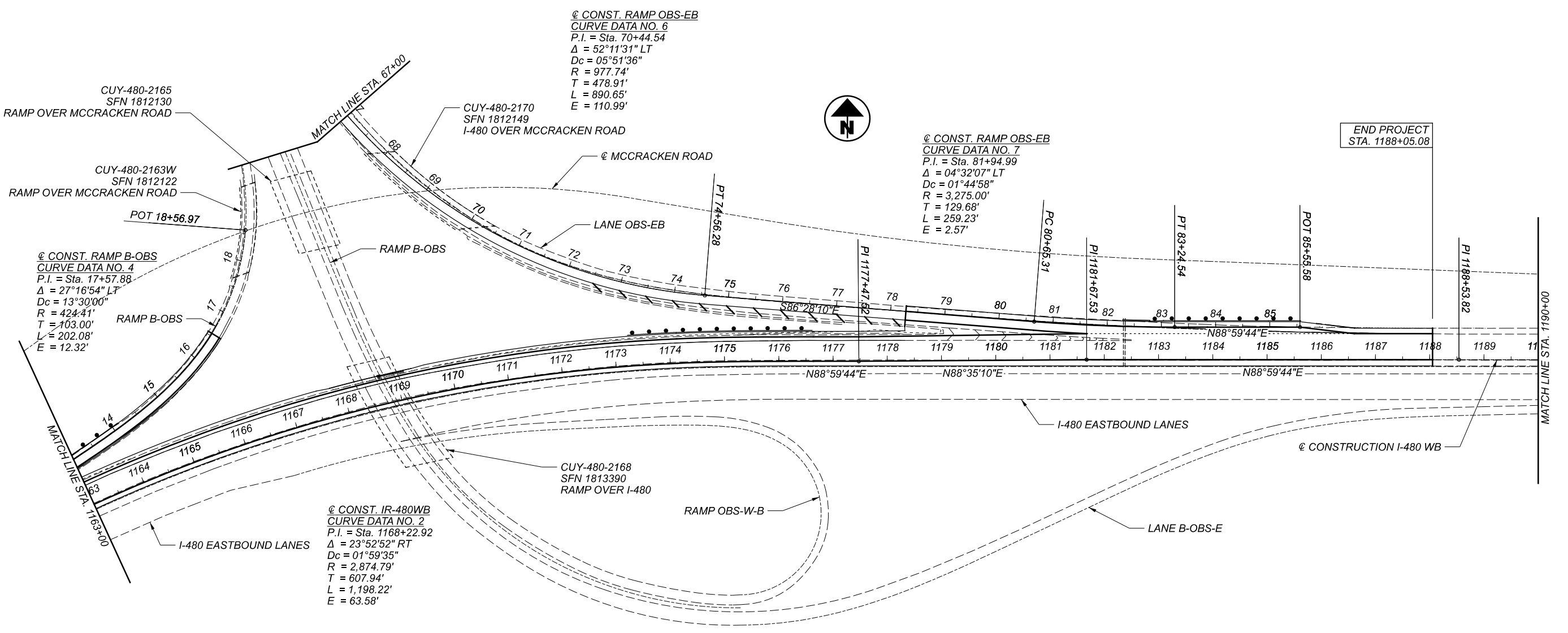
REVIEWER: WAA 01-11-21

PROJECT ID: 107657

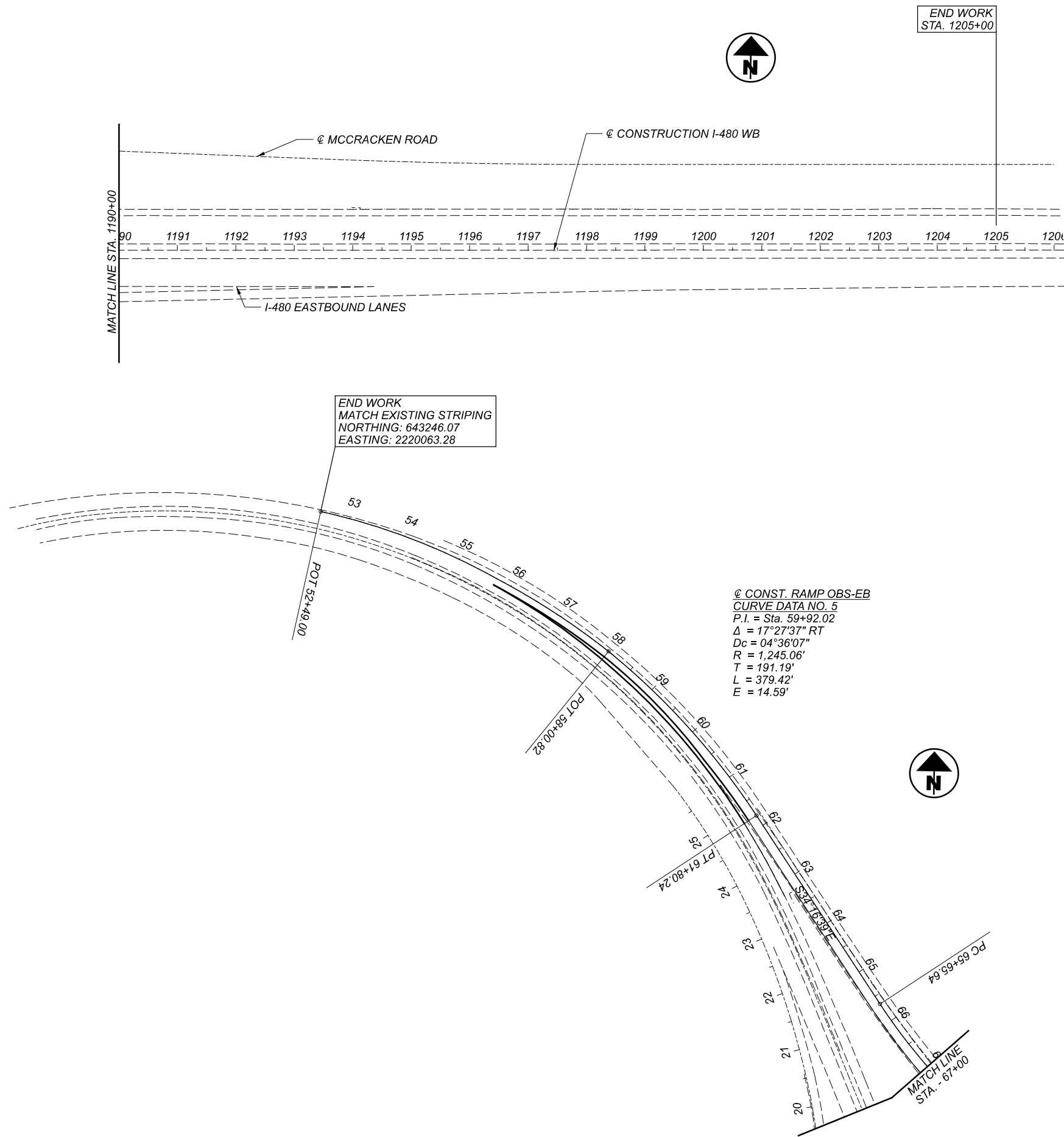
SHEET TOTAL: 1 98



SCHEMATIC PLAN



DESIGN AGENCY	KS KS Associates Inc. 260 Burns Road Elyria, Ohio 44035
DESIGNER	RAP
REVIEWER	WAA
PROJECT ID	12-04-20
SHEET	107657
TOTAL	98

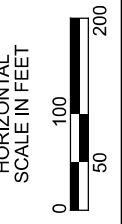


END WORK
STA. 1205+00

END WORK
MATCH EXISTING STRIPING
NORTHING: 643246.07
EASTING: 2220063.28

@ CONST. RAMP OBS-EB
CURVE DATA NO. 5
P.I. = Sta. 59+92.02
 $\Delta = 17^\circ 27' 37''$ RT
 $D_c = 04^\circ 36' 07''$
 $R = 1,245.06'$
 $T = 191.19'$
 $L = 379.42'$
 $E = 14.59'$

CONTROL POINTS				
NAME	NORTHING	EASTING	ELEV.	DESCRIPTION
CP200	641995.44	2224978.45	911.63	CNPT-IPINS
CP201	641989.67	2224491.27	904.06	CNPT-IPINS
CP202	641971.61	2224050.08	894.94	CNPT-MAGS
CP203	641963.00	2223550.51	885.95	CNPT-MAGS
CP204	641955.23	2223052.03	880.78	CNPT-MAGS
CP205	641958.79	2222579.37	875.82	CNPT-MAGS
CP206	641932.07	2222245.04	872.98	CNPT-MAGS
CP207	641918.55	2221795.10	869.66	CNPT-MAGS
CP208	641855.84	2221297.66	863.45	CNPT-MAGS
CP209	641711.46	2220822.32	867.90	CNPT-MAGS
CP210	641526.17	2220396.93	879.13	CNPT-MAGS
CP211	641246.17	2219931.13	895.29	CNPT-MAGS
CP212	641021.09	2219539.77	903.72	CNPT-MAGS
CP213	640772.16	2219109.89	903.93	CNPT-MAGS
CP214	640537.63	2218699.79	899.90	CNPT-MAGS
CP215	640283.20	2218264.05	907.84	CNPT-MAGS
CP216	640359.83	2218372.25	903.56	CNPT-IPINS
SV500	641983.61	2222048.49	872.24	CNPT-MAGS
SV501	642001.59	2221798.90	879.53	CNPT-MAGS
SV502	642027.13	2221623.16	886.53	CNPT-MAGS
SV503	642107.48	2221402.00	894.36	CNPT-MAGS
SV504	642256.18	2221196.05	898.44	CNPT-MAGS
SV505	642446.29	2221034.54	897.05	CNPT-MAGS
SV506	642654.45	2220895.95	893.24	CNPT-MAGS
SV507	642854.43	2220744.81	889.80	CNPT-MAGS
SV508	643025.97	2220567.18	886.18	CNPT-MAGS
SV509	643160.23	2220354.74	881.49	CNPT-MAGS
SV510	642189.20	2220927.42	890.62	CNPT-MAGS
SV511	641990.43	2220906.70	884.65	CNPT-MAGS
SV512	641802.84	2220777.05	877.19	CNPT-MAGS
SV513	641655.76	2220596.48	874.57	CNPT-MAGS



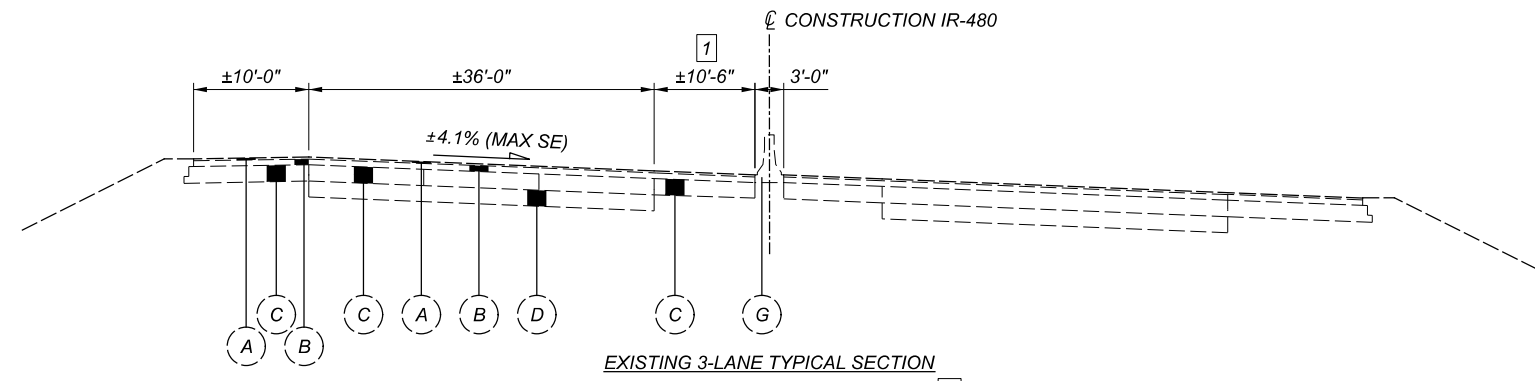
SCHEMATIC PLAN



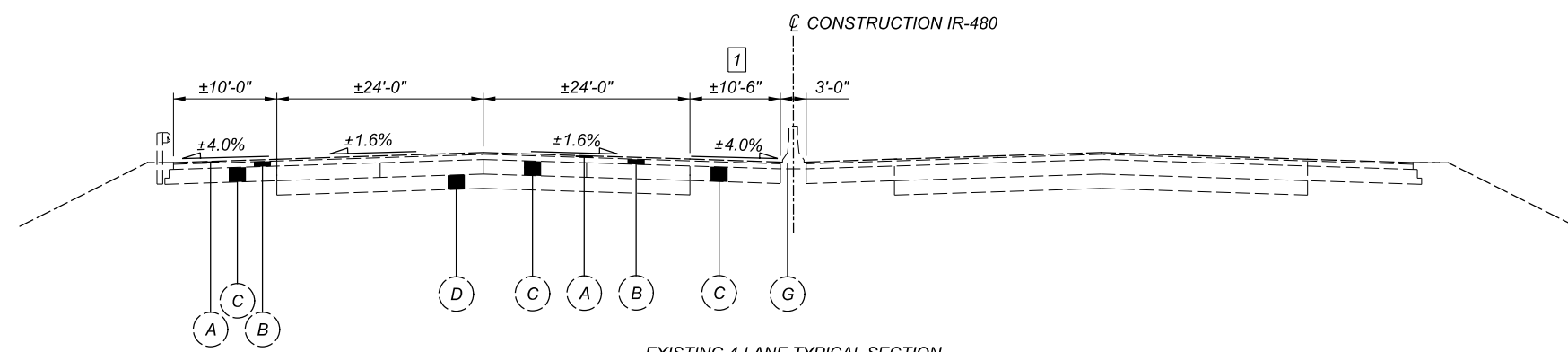
DESIGNER	RAP
REVIEWER	WAA
PROJECT ID	12-04-20
SHEET	107657
TOTAL	3
	98

1 TAPER 9'-0" TO 8'-6"
 STA. 1145+26.31 TO 1147+20
 TAPER 10'-0" TO 10'-6"
 STA. 1147+20 TO STA. 1149+25
 10'-6"
 STA. 1149+25 TO 1186+20
 TAPER 10'-6" TO 11'-0"
 STA. 1186+20 TO STA. 1188+05.08

2 SEE BRIDGE PLANS FOR DETAILS FOR
 STATIONS 1153+08.88 TO 1158+10.40
 AND 1160+72.33 TO 1162+51.81



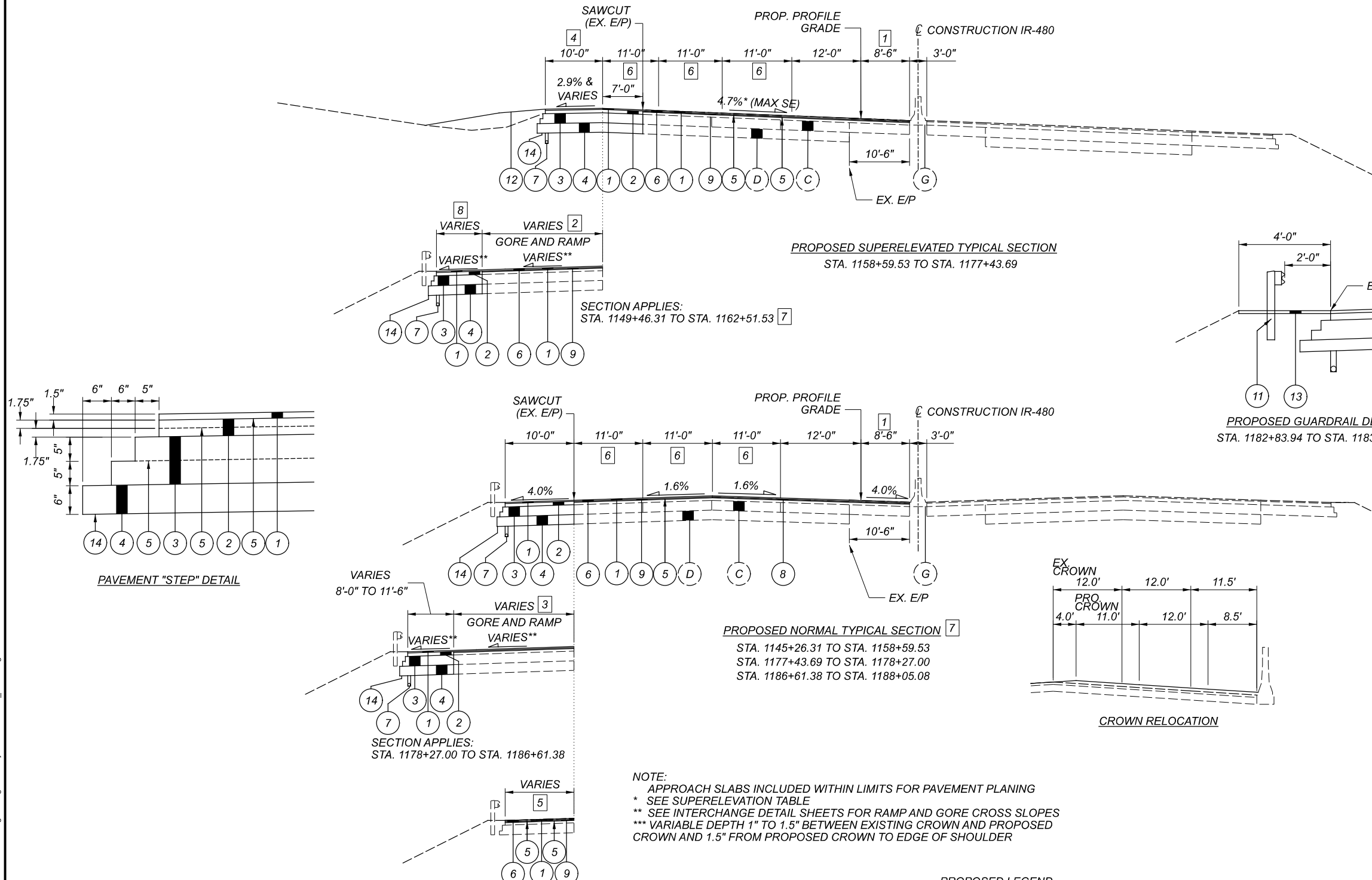
EXISTING 3-LANE TYPICAL SECTION
 STA. 1158+59.53 TO STA. 1177+43.69 2



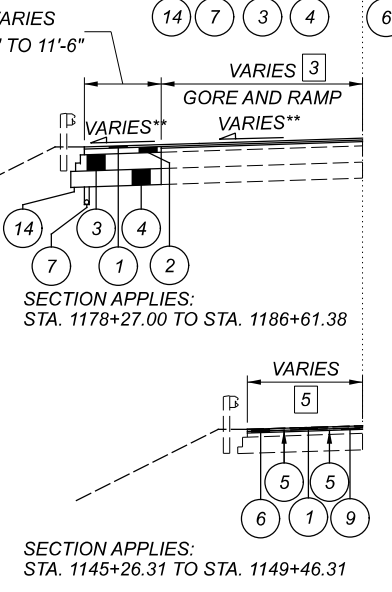
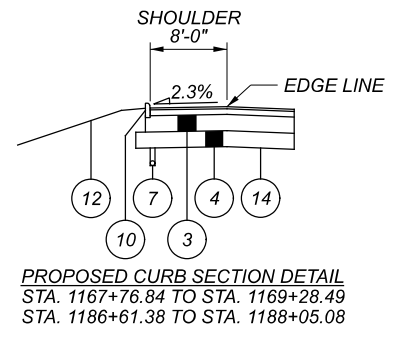
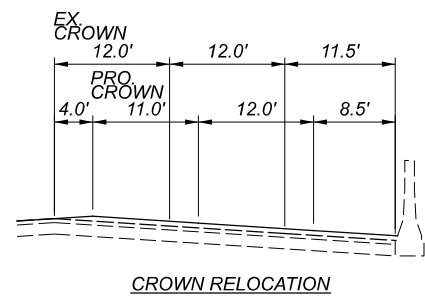
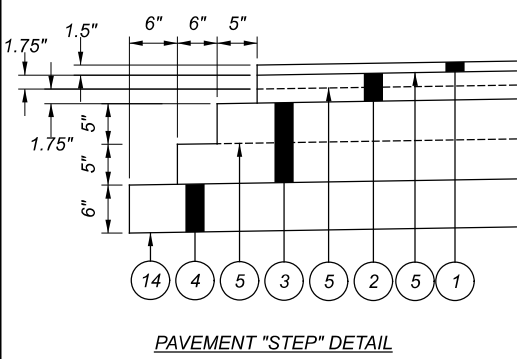
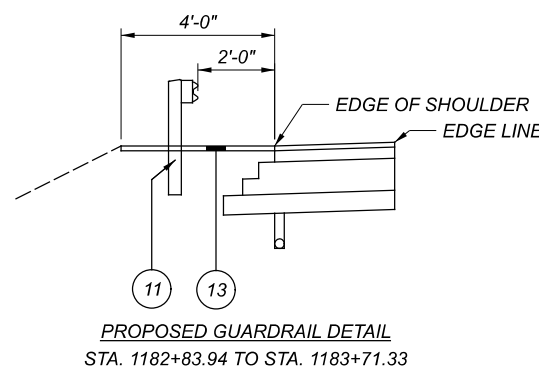
EXISTING 4-LANE TYPICAL SECTION
 STA. 1145+26.31 TO STA. 1158+59.53 2
 STA. 1177+43.69 TO STA. 1188+05.08

LEGEND

- | | |
|--|--|
| (A) EXISTING SURFACE COURSE (±1.25") | (H) EXISTING 5"± ASPHALT OVERLAY |
| (B) EXISTING INTERMEDIATE COURSE (±3.5") | (I) EXISTING 9" REINFORCED CONCRETE BASE |
| (C) EXISTING 10" REINFORCED CONCRETE | (J) EXISTING AGGREGATE BASE |
| (D) EXISTING SUBBASE | |
| (E) EXISTING ASPHALT SHOULDER (±4") | |
| (F) EXISTING SUBBASE (±8") | |
| (G) EXISTING CONCRETE BARRIER, 50" | |



- 1 TAPER 9'-0" TO 8'-6"
 STA. 1145+26.31 TO 1149+46.31
 8'-6"
 STA. 1149+46.31 TO STA. 1177+47.52
 TAPER 8'-6" TO 11'-6"
 STA. 1147+47.52 TO 1181+67.53
 11'-6"
 STA. 1181+67.53 TO STA. 1188+05.08
- 2 VARIES 19'-10" TO 39'-2"
 STA. 1149+46.31 TO STA. 1162+51.53
- 3 VARIES 0'-0" TO 46'-0"
 STA. 1178+27.00 TO STA. 1186+61.38
- 4 8'-0"
 STA. 1167+76.84 TO STA. 1169+28.49
- 5 VARIES 10'-0" TO 16'-0"
 STA. 1145+26.31 TO STA. 1149+46.31
- 6 TAPER 12'-0" TO 11'-0"
 STA. 1145+26.31 TO 1149+46.31
 11'-0"
 STA. 1149+46.31 TO STA. 1177+47.52
 TAPER 11'-0" TO 12'-0"
 STA. 1177+47.52 TO 1181+67.53
 12'-0"
 STA. 1181+67.53 TO STA. 1188+05.08
- 7 SEE BRIDGE PLANS FOR DETAILS FOR STATIONS 1153+08.88 TO 1158+10.40 AND 1160+72.33 TO 1162+51.81
- 8 TAPER 4'-0" TO 8'-0"
 STA. 12+14.38 TO STA. 13+14.48
 TAPER 16'-0" TO 4'-0"
 STA 1149+46.31 TO STA. 1159+09.85



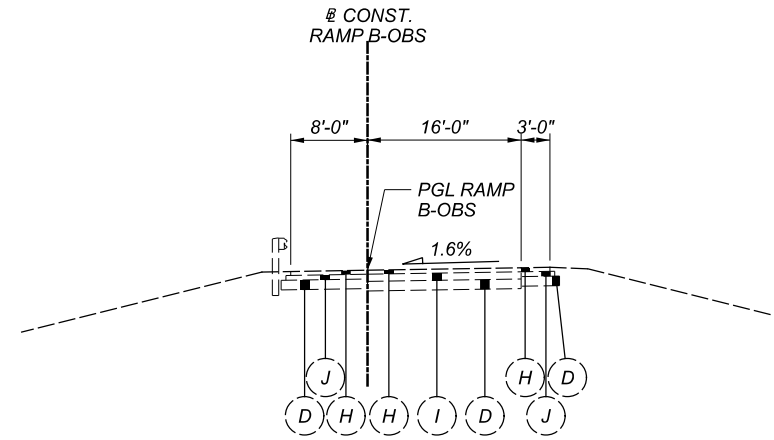
NOTE:
 APPROACH SLABS INCLUDED WITHIN LIMITS FOR PAVEMENT PLANING
 * SEE SUPERELEVATION TABLE
 ** SEE INTERCHANGE DETAIL SHEETS FOR RAMP AND GORE CROSS SLOPES
 *** VARIABLE DEPTH 1" TO 1.5" BETWEEN EXISTING CROWN AND PROPOSED CROWN AND 1.5" FROM PROPOSED CROWN TO EDGE OF SHOULDER

EXISTING LEGEND

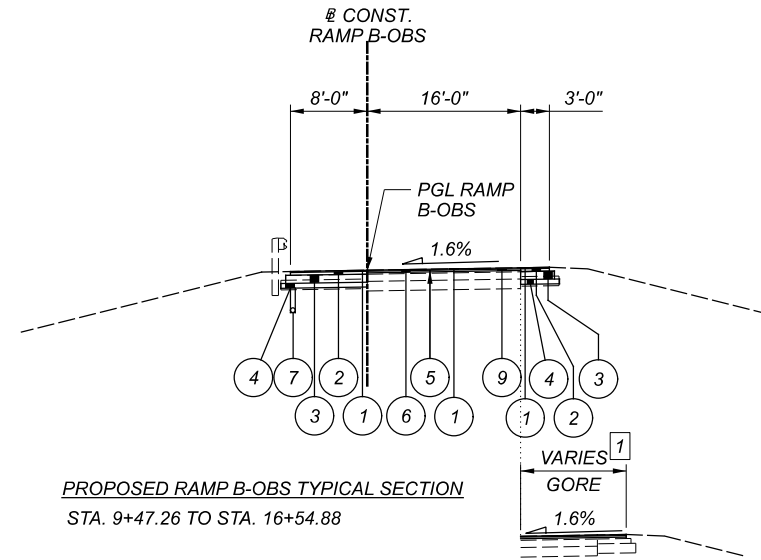
- | | |
|--|--|
| (A) EXISTING SURFACE COURSE (±1.25") | (F) EXISTING SUBBASE (±8") |
| (B) EXISTING INTERMEDIATE COURSE (±3.5") | (G) EXISTING CONCRETE BARRIER, 50" |
| (C) EXISTING 10" REINFORCED CONCRETE | (H) EXISTING 5"± ASPHALT OVERLAY |
| (D) EXISTING SUBBASE | (I) EXISTING 9" REINFORCED CONCRETE BASE |
| (E) EXISTING ASPHALT SHOULDER (±4") | (J) EXISTING AGGREGATE BASE |

PROPOSED LEGEND

- | | |
|--|---|
| (1) ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, 1.5" | (8) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), VARIABLE DEPTH*** |
| (2) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448), 3.5" (2 LIFTS) | (9) ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), 1.0" |
| (3) ITEM 302 - ASPHALT CONCRETE BASE, PG64-22, 10" (2 LIFTS) | (10) ITEM 609 - CURB, TYPE 6 |
| (4) ITEM 304 - AGGREGATE BASE COURSE, 6" | (11) ITEM 606 - GUARDRAIL, TYPE MGS |
| (5) ITEM 407 - NON-TRACKING TACK COAT | (12) ITEM 659 - SEEDING AND MULCHING |
| (6) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, 2.5" | (13) ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 (448), (UNDERGUARDRAIL), AS PER PLAN |
| (7) ITEM 605 - 6" BASE PIPE UNDERDRAINS | (14) ITEM 204 - SUBGRADE COMPACTION |

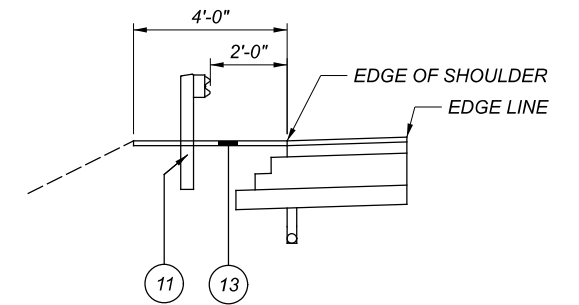


EXISTING RAMP B-OBS TYPICAL SECTION
 STA. 9+47.26 TO STA. 16+54.88

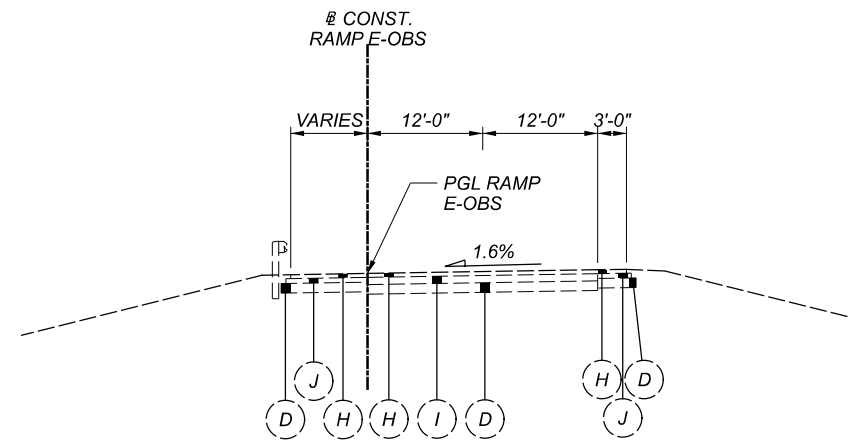


PROPOSED RAMP B-OBS TYPICAL SECTION
 STA. 9+47.26 TO STA. 16+54.88

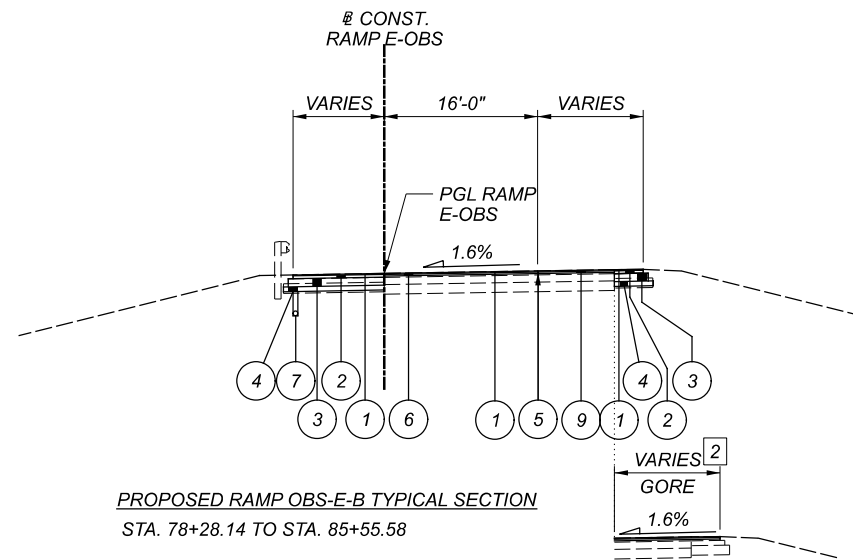
1 SECTION APPLIES:
 STA. 9+89 TO 12+54



PROPOSED GUARDRAIL DETAIL
 STA. 12+33.54 TO STA. 14+12.22



EXISTING RAMP OBS-E-B TYPICAL SECTION
 STA. 78+28.14 TO STA. 85+55.58



PROPOSED RAMP OBS-E-B TYPICAL SECTION
 STA. 78+28.14 TO STA. 85+55.58

2 SECTION APPLIES:
 STA. 78+28.14 TO 81+67.53

FOR LEGEND, SEE SHEET 5.

1 VARIES 4'-0" TO 23'-2"

2 VARIES 29'-11" TO 0'-0"

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

- AT&T
13630 LORAIN AVENUE - 2ND FLOOR
CLEVELAND, OH 44111
ATTN: SCOTT KLEBE
216-476-6057
NORTHEAST OHIO REGIONAL
SEWER DISTRICT
3900 EUCLID AVENUE
CLEVELAND, OH 44115
ATTN: ROBERT STOERKEL
216-881-6600
- CEI FIRST ENERGY
6896 MILLER ROAD
BRECKSVILLE, OH 44141
ATTN: PAM RUSANOWSKY
440-546-8718
SUNOCO PIPELINE
ENERGY TRANSFER
525 FRITZTOWN ROAD
SINKING SPRING, PA 19608
ATTN: DEB SCHNECK
610-670-3258
- CENTURYLINK
441 WEST BROAD STREET
PATASKALA, OH 43062
ATTN: CHRISTOPHER STRAYER
303-886-1299
WINDSTREAM
1450 N CENTER POINT ROAD
HIAWATHA, IA 52233
ATTN: JESSE COOKSLEY
800-289-1901
- CHARTER COMMUNICATIONS
7820 DIVISION DRIVE
MENTOR, OH 44060
ATTN: EMIL SYMISTER
216-575-8016
WIDE OPEN WEST INTERNET,
CABLE, AND PHONE
105 BLAZE INDUSTRIAL PARKWAY
BEREA, OH 44017
ATTN: JILLIAN ZULKER
216-538-7541
- CROWN CASTLE FIBER
15565 NEO PARKWAY
GARFIELD HEIGHTS, OH 44128
ATTN: EDWARD DALY
585-397-5988
VERIZON BUSINESS
120 RAVINE STREET
AKRON, OH 44303
ATTN: DAN ARZ
440-457-4832
- DOMINION EAST OHIO GAS COMPANY
320 SPRINGSIDE DRIVE, SUITE 320
FAIRLAWN, OH 44333
ATTN: GREGORY TOMPKINS
330-664-2409
ODOT DISTRICT 12 TRAFFIC
5500 TRANSPORTATION BLVD
GARFIELD HEIGHTS, OH 44125
ATTN: KEITH HAMILTON
216-584-2220
keith.hamilton@dot.ohio.gov
- DOMINION EAST OHIO
GAS COMPANY
320 SPRINGSIDE DRIVE, SUITE 320
FAIRLAWN, OH 44333
ATTN: GREGORY TOMPKINS
330-664-2409
ATTN: DAVID NIMRICHTER
216-584-2296
david.nimrichter@dot.ohio.gov
- CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OH 44114
ATTN: LELIA MARINESCU
216-664-2444
- CITY OF CLEVELAND
DIVISION OF WATER POLLUTION CONTROL
12302 KIRBY ROAD
CLEVELAND, OH 44108
ATTN: ALEX CANCELLIERE
216-420-7638
- CITY OF CLEVELAND
DIVISION OF CLEVELAND PUBLIC POWER
1300 LAKESIDE AVENUE
CLEVELAND, OH 44114
ATTN: THEPHILUS HUDSON
216-664-3297

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET NO. 3 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

- PROJECT CONTROL
POSITIONING METHOD: STATIC GPS/ODOT VRS RTK GPS / CONVENTIONAL MONUMENT TYPE: ODOT TYPE B MONUMENTS AND MAG NAILS
- VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID 12B
- HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83(2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH ZONE (3401)
COMBINED SCALE FACTOR: 0.99992126
PROJECT ADJUSTMENT FACTOR: 3.28109168.
ORIGIN OF COORDINATE SYSTEM: X=0, Y=0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

EXISTING PLANS

EXISTING PLANS LISTED BELOW MAY BE INSPECTED IN THE ODOT DISTRICT 12 OFFICE IN GARFIELD HEIGHTS, OHIO.

- CUY-480-19.21 CUY-480-19.43
- CUY-480-19.23 CUY-480-21.30

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

PART WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD DRAWING BP-3.1.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

- ITEM 204 - PROOF ROLLING 3 HOURS.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

- 659, SOIL ANALYSIS TEST 1 EACH
- 659, TOPSOIL 200 CU. YD.
- 659, SEEDING AND MULCHING 2833 SQ. YD.
- 659, REPAIR SEEDING AND MULCHING 285 SQ. YD.
- 659, INTER-SEEDING 285 SQ. YD.
- 659, COMMERCIAL FERTILIZER 1 TON
- 659, LIME 1 ACRES
- 659, WATER 0.1 M. GAL.
- 659, MOWING 0.1 M. SQ.FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 618 - RUMBLE STRIPS, ASPHALT CONCRETE, AS PER PLAN

FOR ALL FREEWAYS, THE LATERAL POSITION OF EDGE LINE RUMBLE STRIPS SHOWN IN SCD BB-9.1 IS REVISED AS FOLLOWS:

- MEDIAN AND OUTSIDE SHOULDER OFFSET FOR SHOULDERS LESS THAN 6': DIMENSION A AND B ARE EQUAL TO 6".
- MEDIAN AND OUTSIDE SHOULDER OFFSET FOR SHOULDERS 6' TO 12': DIMENSION A AND B ARE EQUAL TO HALF THE SHOULDER WIDTH MINUS 12".
- MEDIAN AND OUTSIDE SHOULDER OFFSET FOR SHOULDERS GREATER THAN 12': DIMENSION A AND B ARE EQUAL TO 5'.

ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN 2.45 MI.

REVIEW OF DRAINAGE FACILITIES (ODOT) FREEWAY SYSTEM

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

ITEM 619 FIELD OFFICE, TYPE B, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 619, THE CONTRACTOR SHALL FURNISH AND SET UP A WI-FI ROUTER MEETING THE REQUIREMENTS OF IEEE 802.11AC FOR THE EXCLUSIVE USE OF THE DEPARTMENT.

ALL OTHER FIELD OFFICE ITEMS SUPPLIED SHALL MEET THE REQUIREMENTS OF A TYPE B FIELD OFFICE.

ITEM 619 FIELD OFFICE, TYPE B, AS PER PLAN 6 MONTHS

DESIGN AGENCY
PATRICK ENGINEERING

DESIGNER
DJT

REVIEWER
WAA 12-04-20

PROJECT ID
107657

SHEET TOTAL
7 98

ITEM 204 EXCAVATION OF SUBGRADE, AS PER PLAN (CY)

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE FROM STATION 1170+00 TO STATION 1174+00. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
3. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE FROM STATION 1170+00 TO STATION 1174+00. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS. PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.
5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.
7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSTABLE SUBGRADE AND SUITABLE REPLACEMENT MATERIAL ARE BOTH PAID UNDER THE FOLLOWING:

ITEM 204 - EXCAVATION OF SUBGRADE.....280 CY

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE,

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016) (CONT.)

GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

BAT TREE CUTTING RESTRICTIONS

ENSURE IMPACTS TO THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT ARE AVOIDED AND MINIMIZED. DO NOT REMOVE TREES FROM APRIL 1 THROUGH SEPTEMBER 30. PERFORM ALL NECESSARY TREE REMOVAL FROM OCTOBER 1 THROUGH MARCH 31. DEMARCATÉ CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

OEPA NOTIFICATION OF DEMOLITION AND RENOVATION

ASBESTOS SURVEYS FOR FOUR BRIDGES (SFN 1812122, 1812149, 1813374 AND 1813382) SCHEDULED FOR RENOVATION WORK WERE CONDUCTED BY A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST. A COPY OF THE ASBESTOS INSPECTION REPORTS FOR THESE STRUCTURES ARE INCLUDED IN THE PLAN PACKAGE FOR THIS PROJECT. THE ASBESTOS INSPECTION REPORTS DID NOT IDENTIFY THE PRESENCE OF ANY ASBESTOS CONTAINING MATERIALS ABOVE REGULATORY LIMITS.

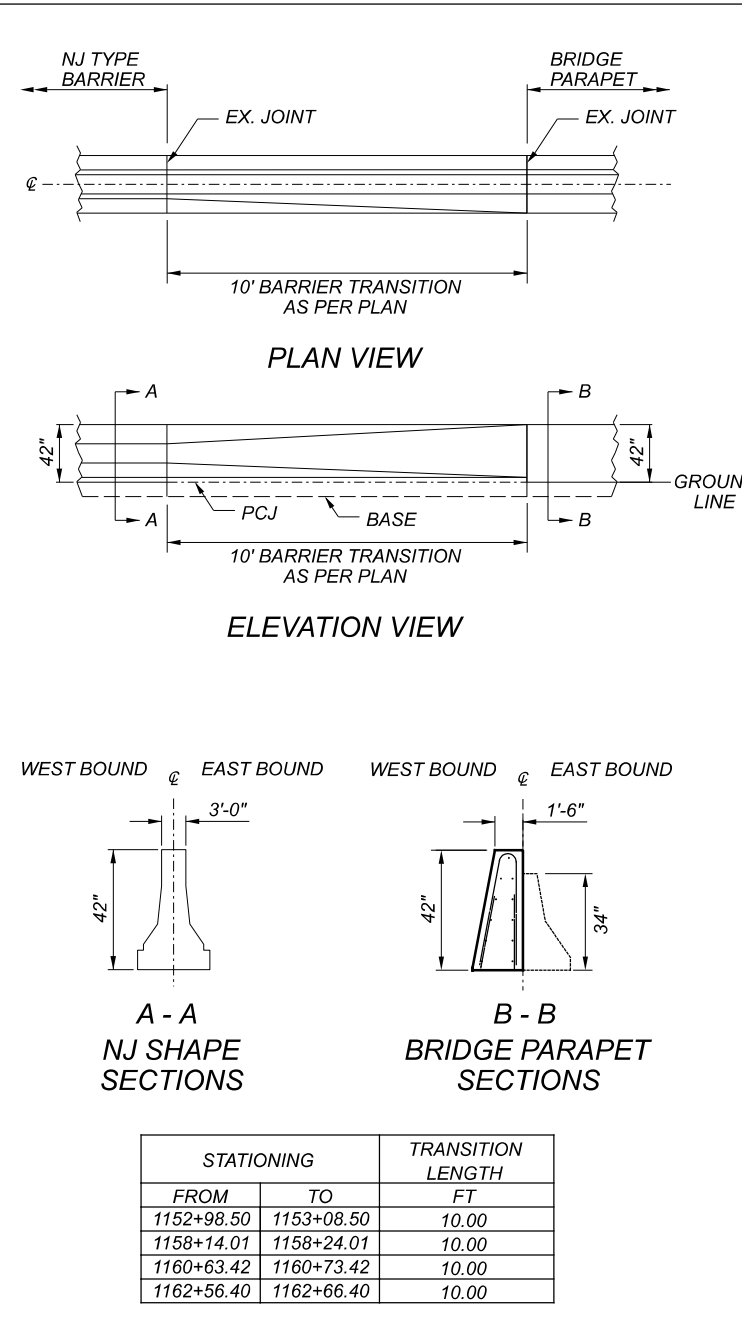
SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT TO THE OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING THE OEPA EBUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY AND ONE HARD COPY OF THE NDRF TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL STAFF.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 50 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
AIR TRAFFIC AIRSPACE BRANCH ASW-520
2601 MEACHAN BLVD.
FORT WORTH, TX 76137-4289



AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS (CONT.)

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
614-387-2346

DETAIL FOR BARRIER TRANSITION, AS PER PLAN

GENERAL: THIS INSERT DETAILS THE BARRIER TRANSITION, TO CONNECT EXISTING NJ CONCRETE BARRIER (SAFTEY SHAPE) TO BRIDGE PARAPETS AT LOCATIONS SHOWN ON THE PLANS. FOR NJ BARRIER SHAPE AND OTHER DETAILS, SEE SCD RM-4.3.

BARRIER FACE TRANSITION: TO PREVENT VEHICLE SNAGGING, A SMOOTH TRANSITION FROM THE SAFTEY SHAPE FACE TO THE SINGLE SLOPE FACE IS MADE OVER A DESIGNATED LENGTH. THE ACTUAL SHAPE OF THE TRANSITION IS DEPENDENT ON BOTH THE ADJACENT NJ BARRIER AND THE SINGLE SLOPE BARRIER TYPES, AS DETAILED ON THE PLANS. THE CONTRACTOR AND ENGINEER WILL AGREE ON A CONSTRUCTION METHOD TO ENSURE A SMOOTH BARRIER FACE. VERTICAL AND HORIZONTAL TRANSITIONS ARE WITHIN THE TRANSITION LENGTH ON WESTBOUND SIDE ONLY.

MATERIALS: MATERIALS ARE SAME FOR THOSE SHOWN ON RM-4.3 AND RM-4.5, EXCEPT THAT CAST-IN-PLACE IS THE ONLY ACCEPTABLE METHOD. EDGES MAY BE CHAMFERED OR RADIUSED AS SHOWN ON THOSE DRAWINGS.

JOINTS: CONSTRUCT JOINTS AS SHOWN ON THE RESPECTIVE BARRIER DRAWINGS.

RACEWAYS: WHEN SPECIFIED, PLACE RACEWAY(S) TO MATCH RACEWAY ELEVATION IN ADJOINING SEGMENTS. PLACE TO OBTAIN MAXIMUM CONCRETE COVER.

PAYMENT: THIS BARRIER TRANSITION SHALL INCLUDE ALL MATERIAL AND LABOR NEEDED TO CONSTRUCT THIS SECTION, INCLUDING ANY RACEWAYS, REINFORCING STEEL, DOWELS AND OTHER NECESSARY INCIDENTALS. PAYMENT SHALL BE MADE AT THE UNIT PRICE FOR ITEM 622 - BARRIER TRANSITION, AS PER PLAN.

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE CMS, THIS ITEM OF WORK WILL INCLUDE THE FOLLOWING ADDITIONAL REQUIREMENTS.

AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL EXISTING AND NEW BRIDGES WITHIN THE PROJECT LIMITS AFTER COMPLETION OF ALL THE WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. AT A MINIMUM, MEASUREMENTS SHALL BE TAKEN ALONG THE CENTERLINE OF EACH FASCIA BEAM AT THE EDGE OF SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE MEASUREMENTS SHALL BE DOCUMENTED ON THE ODOT VERTICAL CLEARANCE SURVEY FORM. THE FORM SHALL BEAR THE STAMP OR SEAL OF THE OHIO PROFESSIONAL SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THE OHIO PROFESSIONAL SURVEYOR SHALL SUBMIT THE COMPLETED FORM TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE MAINTENANCE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 623 CONSTRUCTION LAYOUT STAKES, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209 RESHAPING UNDER GUARDRAIL, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1,(448), (UNDER GUARDRAIL), AS PER PLAN.

HERBICIDE SHALL BE EPA APPROVED FOR PAVING UNDER GUARDRAIL. IT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

HERBICIDE LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO A DEPTH OF 3"AND A MAXIMUM WIDTH OF 4' USING ONE OF THE FOLLOWING METHODS:

- METHOD A:
1. SET GUARDRAIL POSTS
 2. PLACE ITEM 441

- METHOD B:
1. PLACE ITEM 441
 2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
 3. SET GUARDRAIL POSTS
 4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS AND ITEM 209, RESHAPING UNDER GUARDRAIL, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1,(448), (UNDER GUARDRAIL), AS PER PLAN.

ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446), AS PER PLAN, PG 76-22M

JOINT CORING AS PER 446.05 WILL NOT BE REQUIRED FOR ALL ASPHALT CONCRETE PLACED WITH COLD LONGITUDINAL JOINTS USING VOID REDUCING ASPHALT MEMBRANE (VRAM). THE CONTRACTOR WILL BE REQUIRED TO USE THE SAME COLD JOINT CONSTRUCTION TECHNIQUES, EQUIPMENT AND ROLLER PATTERNS USED ON THE REMAINDER OF THE PROJECT WHEN CONSTRUCTING THE ASPHALT CONCRETE IN THE VRAM SECTIONS. OBTAIN 10 MAT CORES FOR EACH LOT OF MATERIAL PER 446.05. PAY FACTORS FOR EACH LOT OF MATERIAL WILL BE DETERMINED PER TABLE 446.05-2.

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM 60% OF ACBFS OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE. AT LEAST 50% OF FINE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO ACBFS OR TRAP ROCK FROM ONTARIO.

TABLE 442.02-2 APPLIES EXCEPT NO. 4 SIEVE REQUIREMENTS ARE 52 TO 60 TOTAL PERCENT PASSING. FOR THE NO. 4 SIEVE DO NOT EXCEED 63 IN PRODUCTION.

WITH THE EXCEPTION OF SETTING POSTS AND ITEM 209 RESHAPING UNDER GUARDRAIL, WHEN ACBFS IS USED FOR A FRACTION OF THE COARSE AGGREGATE, PROVIDE A TOTAL ASPHALT BINDER CONTENT GREATER THAN OR EQUAL TO 6.2 PERCENT. IF ACBFS MAKES UP 100% OF THE COARSE AGGREGATE, APPLY THE BINDER CONTENT REQUIREMENTS OF C&MS 442.

ITEM 209 RESHAPING UNDER GUARDRAIL, AS PER PLAN

THIS ITEM OF WORK SHALL BE USED TO PREPARE PROPOSED AND EXISTING GUARDRAIL RUNS FOR PAVING UNDER GUARDRAIL, INCLUDING THE REMOVAL AND DISPOSAL OF EXISTING ASPHALT UNDER GUARDRAIL.

A SAWCUT WILL BE PERFORMED, WHEN APPLICABLE, TO ASSIST THE REMOVAL OF EXISTING ASPHALT UNDER GUARDRAIL AND MINIMIZE DAMAGE TO EXISTING SHOULDER ASPHALT. PAYMENT FOR SAWCUTTING WILL BE INCLUDED IN THE BID PRICE FOR ITEM 209 RESHAPING UNDER GUARDRAIL, AS PER PLAN.

FILL ALL HOLES REMAINING AFTER REMOVAL OF GUARDRAIL POSTS AND ANCHOR ASSEMBLIES WITH GRANULAR MATERIAL. DO NOT USE FILL MATERIAL CONTAINING SOD. ALL FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER AND SHALL BE COMPACTED AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE ABOVE IS INCLUDED IN THE APPLICABLE GUARDRAIL ITEM.

RESHAPE AND COMPACT SUBGRADE TO ENSURE POSITIVE DRAINAGE. ESTABLISH A CROSS-SLOPE OF 0.042 (HALF INCH PER FOOT). GRADE TO A MAXIMUM WIDTH OF 6' TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE TRAVEL LANES.

ALL COLLECTED DEBRIS AND TOPSOIL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN SECTION 105.17 OF THE CMS.

IN AREAS WHERE ASPHALT UNDER GUARDRAIL WILL NOT BE REPLACED, THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 AND PLACED TO GRADE AS APPROVED BY THE ENGINEER. SEED AND MULCH THESE AREAS ACCORDING TO SECTION 659.

IN AREAS WHERE EXISTING PAVEMENT WILL NOT BE PLANED, AFTER THE EXISTING ASPHALT UNDER GUARDRAIL IS REMOVED, COMPACTED GRANULAR MATERIAL SHALL BE PLACED WITHIN 3" OF THE FINAL PAVEMENT ELEVATION IN PREPARATION OF THE ASPHALT UNDER GUARDRAIL.

ITEM 209 RESHAPING UNDER GUARDRAIL, AS PER PLAN (CONT.)

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 209 RESHAPING UNDER GUARDRAIL, AS PER PLAN AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE WORK.

ASPHALT CONCRETE SURFACE COURSE SEALING REQUIREMENTS

IN ADDITION TO THE GUTTER SEALING REQUIREMENTS SPECIFIED IN SCD BP-3.1 AND C&MS 401.15, AFTER COMPLETION OF THE SURFACE COURSE, THE CONTRACTOR SHALL USE A CERTIFIED 702.01 PG BINDER TO SEAL THE FOLLOWING LOCATIONS:

- ALL CASTINGS INCLUDING BUT NOT LIMITED TO MONUMENTS, MANHOLES, WATER VALVES, CATCH BASINS, CURB INLETS.
- BUTT JOINTS AND FEATHER JOINTS INCLUDING BRIDGE APPROACHES.
- FORWARD JOINT FOR DRIVEWAY ASPHALT AND TRAILING JOINT WHEN BUTTING TO EXISTING ASPHALT DRIVE.
- PERIMETER OF ALL PAVEMENT REPAIRS OR OTHER ASPHALT INLAYS WHEN PAVEMENT REPAIRS/INLAYS ARE NOT OVERLAID WITH AN ASPHALT CONCRETE SURFACE COURSE.
- ALL COLD LONGITUDINAL JOINTS BETWEEN PAVED SHOULDERS AND GUARDRAIL ASPHALT.

THE MATERIAL USED SHALL BE A CERTIFIED 702.01 PG BINDER. THE WIDTH OF THE SEALER SHALL BE 2-3 INCHES.

ANY ADDITIONAL COSTS ASSOCIATED WITH THE WORK IDENTIFIED IN THIS NOTE SHALL BE INCLUDED IN THE APPROPRIATE ASPHALT CONCRETE SURFACE COURSE ITEM OF WORK.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE AND COORDINATE OPERATIONS WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THE CONTRACT. SPECIFICALLY, WORK ON CUY-480-22.45, PID 84020, AND D12-LG-FY2020, PID 103165, WILL BE IN PROGRESS DURING THE 2021 CONSTRUCTION SEASON.

ITEM 611 - MANHOLE, NO. 3, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL A NUMBER 3 MANHOLE , WITH FLAT SLAB TOP, PER STANDARD CONSTRUCTION DRAWING MH-1.2 AS SHOWN ON SHEET 28 OF THE PLANS. THE MANHOLE COVER SHALL BE BOLTED IN PLACE TO PREVENT ANY MOVEMENT DUE TO TRAFFIC DRIVING OVER IT. THE SIZE AND NUMBER OF BOLTS SHALL BE DETERMINED BY THE CASTING SUPPLIER FOR INTERSTATE TYPE APPLICATION, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THE TOOLS, MATERIALS, AND INSTALLATION OF THE ABOVE ITEM WILL BE MADE USING ITEM 611 - MANHOLE, NO. 3, AS PER PLAN.

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

IN ORDER TO ENSURE PROPER PAVEMENT PLANING EQUIPMENT ORERATION, THE CONTRACTOR SHALL REMOVE RAISED PAVEMENT MARKERS IN THE AREAS TO BE PLANED PRIOR TO BEGINNING PLANING OPERATIONS. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:


ITEM 621 - RAISED PAVEMENT MARKER REMOVED 156 EACH

ITEM 642, TRAFFIC PAINT

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND COST ESTIMATE FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC. THESE ITEMS ARE TO BE PLACED BEFORE FINAL THERMO PAINT AND TO BE PLACED ALONG EDGE LINES, LANE LINES, AND CHANNELIZING LINES.

ITEM 642,	EDGE LINE, 6"	2.52 MILES
ITEM 642,	LANE LINE, 6"	2.44 MILES
ITEM 642,	CHANNELIZING LINE, 12"	2593 FT

DESIGN AGENCY



DESIGNER
DJT

REVIEWER
WAA 12-04-20

PROJECT ID
107657

SHEET	TOTAL
8a	98

ITEM 614, MAINTAINING TRAFFIC (AT ALL TIMES)

A MINIMUM OF THREE LANES OF WESTBOUND TRAFFIC SHALL BE MAINTAINED THROUGH PHASE 3 BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

- CHRISTMAS FOURTH OF JULY
- NEW YEARS LABOR DAY
- MEMORIAL DAY THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00AM FRIDAY (THANKSGIVING ONLY)
FRIDAY	6:00AM WEDNESDAY THROUGH 6:00AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

SCHEDULE OF THROUGH LANES TO BE MAINTAINED

ALL LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE DISTRICT 12 PERMITTED LANE CLOSURE TIMES LIST, WHICH IS LOCATED ON THE ODOT WEBSITE:

[HTTP://WWW.DOT.STATE.OH.US/DISTRICTS/D12/HIGHWAYMANAGEMENT/PAGES/PERMITTEDLANECLOSURES.ASPX](http://www.dot.state.oh.us/districts/d12/highwaymanagement/pages/permittedlane closures.aspx)

THE LATEST REVISION, AT 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT.

NO LANE OR SHOULDER CLOSURES SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED, UNLESS DIRECTED BY THE ENGINEER. SHOULDER CLOSURES SHALL ONLY BE ALLOWED AT THE TIMES SPECIFIED FOR LANE CLOSURES.

ANY ROADWAY NOT LISTED SHALL NOT HAVE ANY LANE CLOSURES ON WEEKDAYS FROM 6:30AM TO 9:00AM AND 3:00PM TO 6:00PM. CONTACT TROY ONESTI, DISTRICT 12 WORK ZONE TRAFFIC MANAGER, AT (216) 379-5337 IF THERE ARE ANY QUESTIONS.

ALL NOTES ON THE PERMITTED LANE CLOSURE TIMES SHALL BE PART OF THE PROJECT.

SEQUENCE OF CONSTRUCTION

PHASE 1

THIS PHASE SHALL INCLUDE THE RECONSTRUCTION OF THE OUTSIDE OF THE BRIDGES, SHOULDERS ON RAMP B-OBS, OUTSIDE SHOULDER ON RAMP OBS E-B, AND THE OUTSIDE SHOULDERS TO ACCOMMODATE SHIFTED TRAFFIC IN SUBSEQUENT PHASES. THREE LANES OF TRAFFIC SHALL BE SHIFTED TO THE INSIDE AND LANE WIDTHS SHALL BE REDUCED TO 11'-11'-11". PORTABLE BARRIER SHALL BE USED TO PROTECT THE ADJACENT WORK ZONES. CONSTRUCT TEMPORARY PAVEMENT ON OUTSIDE SHOULDER PER FIELD REQUIREMENT.

RAMP B-OBS SHALL BE CLOSED DURING THIS STAGE, AND THE EXISTING PAVEMENT MARKINGS AT THE RAMP OBS E-B GORE SHALL REMAIN AS IS.

PHASE 2

THIS PHASE SHALL INCLUDE THE RECONSTRUCTION OF THE MIDDLE PORTION OF THE BRIDGES AND THE GORE RESTRIPING ON RAMP OBS E-B. THREE LANES OF TRAFFIC SHALL BE SHIFTED TO THE INSIDE (ONE LANE) AND OUTSIDE (TWO LANES) OF THE BRIDGES. LANE WIDTHS SHALL BE REDUCED TO 11'-11'-11".

PHASE 3

THIS PHASE SHALL COMPLETE THE RECONSTRUCTION OF THE BRIDGE. THIS WORK REQUIRES THE WESTBOUND LANES BE SHIFTED TO THE OUTSIDE SHOULDERS OF THE PROJECT AREA. THE THREE WESTBOUND LANES SHALL BE MAINTAINED THROUGH THE FULL LENGTH OF THE PROJECT LIMITS (STA. 1145+26 TO STA. 1190+00). LANE WIDTHS OF 11'-11'-11" SHALL BE MAINTAINED WITH PORTABLE BARRIER TO PROTECT THE INSIDE SHOULDER WORK ZONE.

PHASE 4 (NO PLAN SHEETS PROVIDED)

THIS PHASE WILL COMPLETE THE MILLING AND RESURFACING WITHIN THE ENTIRE PROJECT LIMITS. THE PORTABLE BARRIER WILL BE REMOVED AND BARRELS WILL BE PLACED TO PROTECT THE RESURFACING OPERATIONS TO BE COMPLETED. THIS WORK SHALL ONLY OCCUR DURING NIGHTTIME AND WEEKEND HOURS. NO SPLIT-TRAFFIC OPERATIONS ARE TO BE ALLOWED, THREE LANES SHALL BE ALLOWED 11'-11'-11". REMOVE AND CONSTRUCT OVERHEAD SIGN PANELS PER PLANS.

WORK SHALL ONLY OCCUR WHEN THE LANES CAN BE CLOSED AS ALLOWED BY THE PERMITTED LANE CLOSURE SCHEDULE.

INTERIM COMPLETION DATE

ALL LANES OF TRAFFIC ARE TO BE OPENED OCTOBER 15, 2021 THROUGH APRIL 1, 2022 WITH CONDITIONS RETURNED TO PRE-CONSTRUCTION CONDITION. NO PAVEMENT DROP OFFS OR PORTABLE CONCRETE BARRIER PERMITTED THROUGH THE WINTER DATES.

ITEM 614, ASPHALT FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 100 CU. YD.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUTDOWNS.

THE R11-H5A-48 SIGNS SHALL BE MOUNTED ON 2 NO. 3 POSTS WHEN LOCATED WITHIN CLEAR ZONES.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 3 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS: I-480 WB, SEE PLAN

ITEM 618, RUMBLE STRIPS (ASPHALT CONCRETE), AS PER PLAN

THE CONTRACTOR SHALL MILL 2 INCHES BY 2 FEET WIDE OF THE EXISTING ASPHALT SHOULDER IN ORDER TO REMOVE THE EXISTING RUMBLE STRIPS ALONG I-480 WB IN THE AREA WHERE TRAFFIC IS SHIFTED. THE CONTRACTOR SHALL THEN COAT ALL MILLED SURFACES HORIZONTAL AND VERTICAL WITH APPROVED AC LIQUID. NEXT THE CONTRACTOR SHALL PLACE 2 INCHES OF ITEM 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-28.

ALL COST ASSOCIATED WITH THE REMOVAL OF THE EXISTING PAVEMENT AND PLACEMENT OF THE SURFACE COURSE SHALL BE INCLUDED IN UNIT PRICE BID PER FOOT OF ITEM 618 - RUMBLE STRIPS (ASPHALT CONCRETE), AS PER PLAN.

AN ESTIMATED QUANTITY OF 2600 FEET HAS BEEN CARRIED TO THE MAINTENANCE OF TRAFFIC SUBSUMMARY.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 CALENDAR DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.



ITEM 614 MAINTAINING TRAFFIC - WORK ZONE SPEED ZONE SIGNS FOR FREEWAY RESURFACINGS

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER	COUNTY-ROUTE-SECTION	DIRECTION
WZ-65236	CUY 1-480-21.30	WB ONLY

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRECONSTRUCTION) POSTED SPEED LIMIT OF ≥55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY
 8 SIGN MNTH
 ASSUMING 2 DSL SIGN ASSEMBLY(IES) FOR 4 MONTH(S)

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAIN CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN IN THE PLANS. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER- DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

8 SIGN MONTH ASSUMING 2 PCMS SIGN(S) FOR 4 MONTH(S)

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1, ONE-WAY 225 EACH

ITEM 614, OBJECT MARKER, ONE-WAY 225 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 4 M. GAL.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DESIGN AGENCY



DESIGNER
 LAB

REVIEWER

WAA 12-04-20

PROJECT ID
 107657

SHEET TOTAL
 10 98

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A PREQUALIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE TRAINED IN ACCORDANCE WITH CMS 614.03, SHALL HAVE SUCCESSFULLY COMPLETED ODOT ADMINISTERED WTS TESTING (AND RE-TESTING WHEN APPLICABLE) AND BE LISTED ON THE ODOT PREQUALIFIED WTS ROSTER. PREQUALIFICATION EXPIRES EVERY 5 YEARS. RE-TESTING SHALL BE SUCCESSFULLY REPEATED EVERY 5 YEARS TO REMAIN PREQUALIFIED.

THE NAME OF THE PREQUALIFIED WTS AND RELATED 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE (SECONDARY) WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY; HOWEVER THE PRIMARY WTS SHALL REMAIN THE POINT OF CONTACT AT ALL TIMES. ANY ALTERNATE (SECONDARY) WTS IS SUBJECT TO THE SAME TRAINING, PREQUALIFICATION AND OTHER REQUIREMENTS OUTLINED WITHIN THIS PLAN NOTE. AT ALL TIMES THE ENGINEER, OR ENGINEER'S REPRESENTATIVES, MUST BE INFORMED OF WHO THE PRIMARY WTS (AND SECONDARY WTS, IF APPLICABLE) IS AT THE CURRENT TIME.

THE WTS POSITION HAS THE PRIMARY RESPONSIBILITY OF IMPLEMENTING THE TRAFFIC MANAGEMENT PLAN (TMP), MONITORING THE SAFETY AND MOBILITY OF THE ENTIRE WORK ZONE, AND CORRECTING TEMPORARY TRAFFIC CONTROL (TTC) DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE WTS, AND ALTERNATE WTS WHEN ON DUTY, SHALL HAVE SUFFICIENT AUTHORITY TO EFFECTIVELY CARRY OUT THE IDENTIFIED WTS RESPONSIBILITIES AND DUTIES. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS.
2. BE ON SITE FOR ALL EMERGENCY TTC NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF, AND EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TTC DEVICES.
3. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TTC MANAGEMENT IS DISCUSSED.
4. BE AVAILABLE ON SITE FOR OTHER MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST.
5. BE AWARE OF ALL EXISTING AND PROPOSED TTC OPERATIONS OF THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS, AND ENSURE COORDINATION OCCURS BETWEEN THEM TO ELIMINATE CONFLICTING TEMPORARY AND/OR PERMANENT TRAFFIC CONTROL.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). THE WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE LEOS ARE ON THE PROJECT.
7. COORDINATE AND FACILITATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS THE WORK ZONE TTC FOR IMPLEMENTING THE PHASE SWITCH. SUBMIT A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PHASE PLANS TO THE ENGINEER 5 CALENDAR DAYS PRIOR TO THIS MEETING.
8. BE PRESENT, ON SITE FOR, AND INVOLVED WITH, EACH TTC SET UP/TAKE DOWN AND EACH PHASE CHANGE IN ACCORDANCE WITH CMS 614.03.
9. ON A CONTINUAL BASIS ENSURE THAT THE TTC ZONE AND ALL RELATED DEVICES ARE INSTALLED, MAINTAINED AND REMOVED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. ON A CONTINUAL BASIS FACILITATE CORRECTIVE ACTION(S) NECESSARY TO BRING DEFICIENT TTC ZONES AND ALL RELATED DEVICES INTO COMPLIANCE WITH CONTRACT DOCUMENTS IN THE TIMEFRAME DETERMINED BY THE ENGINEER.

11. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TTC DEVICES AND TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, PERFORM ONE WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

- A. INITIAL TTC SETUP (DAY AND NIGHT REVIEW).
- B. DAILY TTC SETUP AND REMOVAL.
- C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TTC SETUP.
- D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA AND WITHIN THE INFLUENCE AREA(S) APPROACHING THE WORK ZONE.
- E. REMOVAL OF TTC DEVICES AT THE END OF A PHASE OR PROJECT.
- F. ALL OTHER EMERGENCY TTC NEEDS.

12. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 11 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORKDAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TTC MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED OR COMPLETED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THE CURRENT CA-D-8 DOCUMENT CAN BE FOUND ON THE OFFICE OF CONSTRUCTION ADMINISTRATION'S INSPECTION FORMS WEBSITE. 13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL DEDUCT:

- A. THE PRORATED DAILY AMOUNT OF ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY IN WHICH THE WTS FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. THE PRORATED DAILY AMOUNT WILL BE EQUAL TO THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC DIVIDED BY THE DIFFERENCE BETWEEN THE ORIGINAL COMPLETION DATE AND THE FIRST DAY OF WORK, IN CALENDAR DAYS.
- B. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A TTC ISSUE IS IDENTIFIED IN THE FIELD AND IS NOT CORRECTED IN THE GIVEN TIMEFRAME PER THE ENGINEER. DEDUCTION B SHALL NOT APPLY TO SITUATIONS COVERED BY DEDUCTION C.
- C. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A LANE OR RAMP IS BLOCKED (FULLY OR PARTIALLY) WITHOUT TTC, AS DETERMINED BY THE ENGINEER. THIS DEDUCTION SHALL BE IN ADDITION TO ANY OTHER DISINCENTIVES ESTABLISHED FOR UNAUTHORIZED LANE USE.

FOR DAYS IN WHICH MORE THAN ONE DEDUCTION LISTED ABOVE OCCUR, THE HIGHEST DEDUCTION AMOUNT WILL APPLY.

IF THREE OR MORE TOTAL DAYS RESULT IN TTC ISSUES DESCRIBED IN DEDUCTION B OR C ABOVE, THE PRIMARY WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05. UPON REMOVAL THE ENGINEER SHALL NOTIFY ODOT CENTRAL OFFICE (WTSPREQUALIFICATION@DOT.OHIO.GOV) TO REGISTER A REMOVAL AGAINST THE STATEWIDE PREQUALIFICATION FOR THE PRIMARY WTS. THREE REMOVALS SHALL CAUSE STATEWIDE DISQUALIFICATION FOR ANY PREVIOUSLY PREQUALIFIED WTS.

PAYMENT FOR THE ABOVE REQUIREMENTS, RESPONSIBILITIES AND DUTIES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE ODOT INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) MAY BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 40 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 10 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

LANE VALUE CONTRACT

THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES AS DESIGNATED IN THE LANE VALUE CONTRACT TABLE FOR EACH UNIT OF TIME THE DESCRIBED CRITICAL LANE/RAMP IS RESTRICTED FROM FULL USE BY THE TRAVELING PUBLIC WITHIN THE RESTRICTED TIME PERIOD. THE LANE VALUE CONTRACT TABLE IS LOCATED BELOW. THE DISINCENTIVES WILL BE ASSESSED FOR ALL RESTRICTIONS OF THE CRITICAL WORK. CRITICAL WORK IS SHOWN IN THE LANE VALUE CONTRACT TABLE. CRITICAL WORK IS DEFINED AS HAVING THE DESIGNATED SECTIONS OPEN TO UNRESTRICTED TRAFFIC AS SHOWN IN THE TABLE, OR THE ENTIRE PROJECT IF NOT OTHERWISE LISTED. UNRESTRICTED TRAFFIC IS DEFINED AS ALL TRAFFIC LANES BEING AVAILABLE FOR USE WITH SPECIFIED STRIPING AND SAFETY FEATURES IN PLACE.

Description of Critical Lane/Ramp to be Maintained	Restricted Time Period	Time Unit	Disincentive \$ per Time Unit per Lane
Broadway on ramp to SR-21 overpass (West)	As per the D12 Permitted Lane Closure Schedule	Each Minute	\$335
3 lane section under Broadway ramp (West)	As per the D12 Permitted Lane Closure Schedule	Each Minute	\$485
Warrensville overpass to Broadway exit (West)	As per the D12 Permitted Lane Closure Schedule	Each Minute	\$365

ITEM 622 - PORTABLE BARRIER, 50", BRIDGE MOUNTED, AS PER PLAN

THE CONTRACTOR SHALL PLACE THE PORTABLE BARRIER AT ALL LOCATIONS WHERE BARRIER TRAVERSES BRIDGES AS SHOWN IN THESE PLANS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS RM-4.1 AND PCB-91.

DESIGN AGENCY



DESIGNER
LAB

REVIEWER


WAA 12-04-20

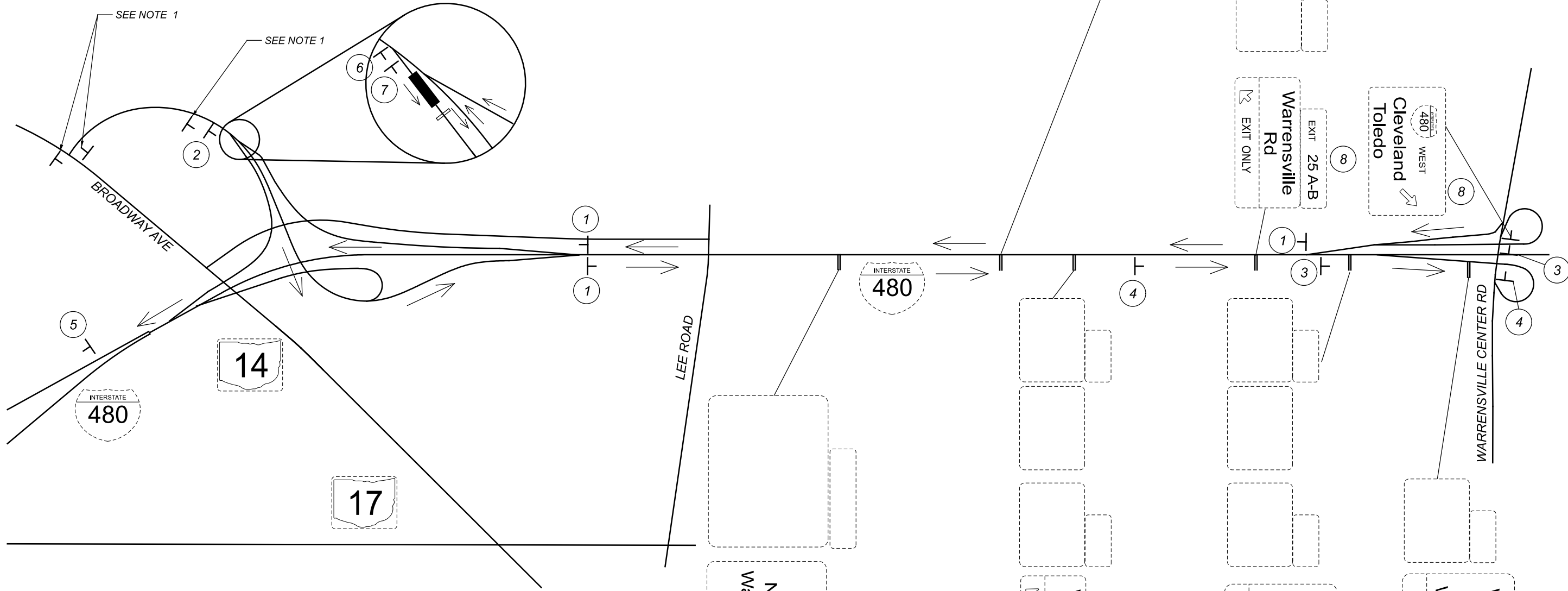
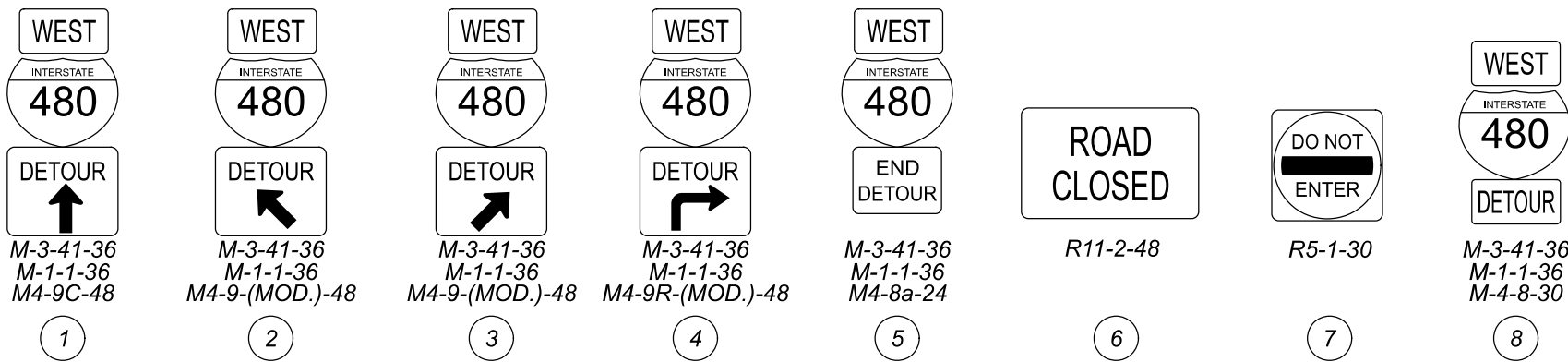
PROJECT ID
107657

SHEET TOTAL
11 98

REF NO.	SHEET NO.	STATION TO STATION		614	614	614	614	614													
				WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL) EACH	WORK ZONE RAISED PAVEMENT MARKER EACH	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	WORK ZONE LANE LINE, CLASS I, 642 PAINT MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT MILE													
	13-18c	1144+09.00	TO	1188+05.00	7																
	13-15	1144+09.00		1188+05.00		208															
	16-18	1144+09.00		1188+05.00		444															
	18a-18c	1144+09.00		1188+05.00		331															
CH-1	13	1144+09.00		1153+07.00			898														
CH-2	13	1144+09.00		1153+07.00			898														
CH-3	14	1162+53.00		1169+71.00			718														
CH-4	14	1162+53.00		1169+71.00			718														
CH-5A	16	1143+59.00		1144+09.00			50														
CH-5	16	1147+09.00		1153+03.00			594														
CH-6A	16	1143+59.00		1144+09.00			50														
CH-6	16	1147+09.00		1149+47.00			238														
CH-7A	16	1143+59.00		1144+09.00			50														
CH-7	16	1147+09.00		1153+03.00			594														
CH-8	16	1149+47.00		1153+03.00			356														
CH-9	17	1163+53.00		1181+33.00			1780														
CH-10	17	1163+53.00		1181+33.00			1780														
CH-11	17	1163+53.00		1181+33.00			1780														
CH-12	17	1178+33.00		1184+08.00			575														
CH-13	17	1178+33.00		1184+08.00			575														
CH-14	18a	1147+01.00		1153+03.00			1602														
CH-15	18a	1147+01.00		1153+03.00			1602														
CH-16	18a	1147+01.00		1153+01.00			1602														
CH-17	18b	1160+47.00		1162+53.00			263														
CH-18	18b	1177+47.00		1179+03.00			156														
LL-1	13-14	1153+07.00		1162+53.00			0.18														
LL-2	13-14	1153+07.00		1162+53.00			0.18														
LL-3	14-15	1169+71.00		1188+05.00			0.35														
LL-4	14-15	1169+71.00		1188+05.00			0.35														
LL-5	16-17	1153+03.00		1162+53.00			0.18														
LL-6	17	1181+33.00		1188+05.00			0.13														
LL-7	17	1181+33.00		1188+05.00			0.13														
LL-8	17	1184+08.00		1188+05.00			0.08														
LL-9	18b-18c	1153+03.00		1188+05.00			0.66														
LL-10	18b-18c	1153+03.00		1188+05.00			0.66														
LL-11	18b-18c	1173+96.00		1188+05.00			0.27														
ELW-1	13	1144+09.00		1179+12.00				0.66													
ELW-2	15	1188+05.00		1195+00.00				0.13													
ELW-3	14-15	78+00.00		1188+05.00				0.18													
ELW-4	16	1149+30.00		1157+94.00				0.16													
ELW-5	16-17	1147+97.00		1153+03.00				0.10													
ELW-6	16-17	1153+03.00		1162+53.00				0.18													
ELW-7	17	1162+53		1178+33.00				0.30													
ELW-8	18	1186+58.00		1188+05.00				0.03													
ELW-9	18b-18c	1162+53		7747+00.00				0.28													
ELY-1	13-15	1147+09.00		1188+05.00				0.78													
ELY-2	16-18	1149+30.00		1188+05.00				0.73													
ELY-3	16-17	1153+03.00		1162+53.00				0.14													
ELY-4	17	77+23.00		78+27.00				0.02													
ELY-5	18a-18b	1147+01.00		1188+05.00				0.94													
ELY-6	18b	77+66.00		78+30.00				0.01													
TOTALS CARRIED TO GENERAL SUMMARY					7	983	16879	3.16	4.65												

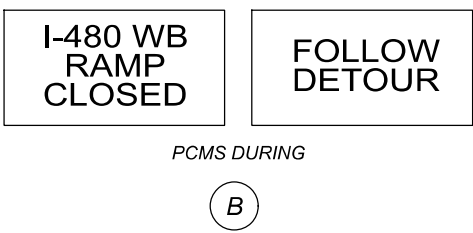
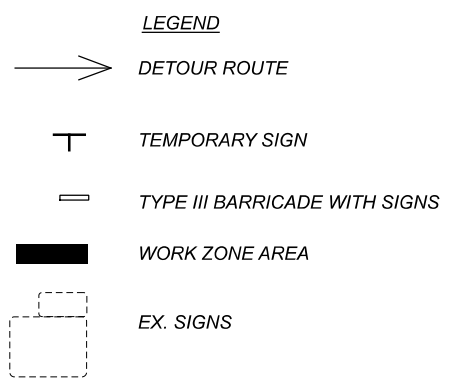
MAINTENANCE OF TRAFFIC SUBSUMMARY

DESIGN AGENCY

 PATRICK ENGINEERING
 DESIGNER
 LAB
 REVIEWER
 WAA 01-11-21
 PROJECT ID
 107657
 SHEET TOTAL
 12 98



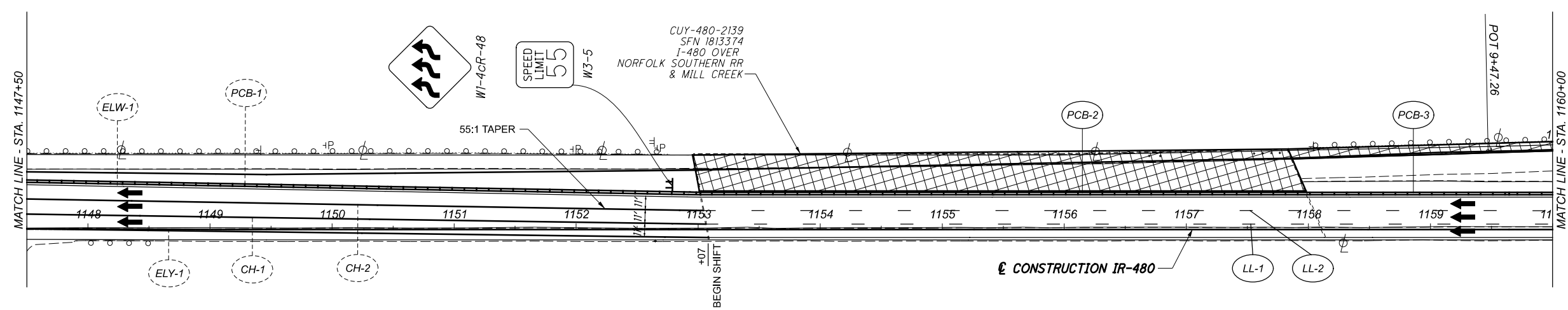
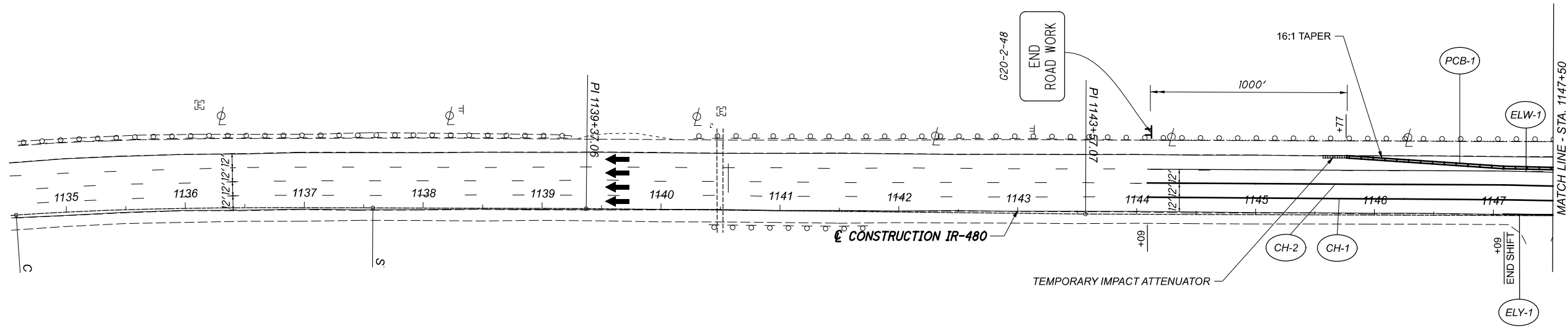
NOTES:

1. PCMS SHALL BE PLACED 2 WEEKS PRIOR TO RAMP CLOSURE. PRIOR TO RAMP CLOSURE, PCMS SHALL READ "I-480 RAMP WB TO CLOSE XX/XX/XX." DURING RAMP CLOSURE, PCMS SHALL READ "I-480 WB RAMP CLOSED, FOLLOW DETOUR." ALL COSTS FOR PCMS SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC, LS.
2. THE DETOUR SIGN ASSEMBLIES SHALL BE PLACED ON THE OVERHEAD SIGNS AS DETAILED ON THIS SHEET. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN ITEM 614, DETOUR SIGNING, LS.
3. OVERHEAD SIGNS DRAWN ON THIS DETOUR PLAN ARE NOT TO SCALE. THEY ARE SHOWN FOR INFORMATION ONLY.



MAINTENANCE OF TRAFFIC DETOUR PLAN

DESIGN AGENCY	
KS	
KS Associates, Inc. 260 Burns Road Elyria, Ohio 44035	
DESIGNER	AYJ
REVIEWER	WAA
PROJECT ID	12-04-20
SHEET	107657
TOTAL	12b
	98

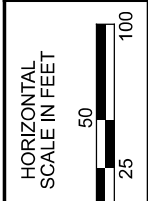


MAINTENANCE OF TRAFFIC LEGEND

WORK ZONE		ELW	ITEM 646 - EDGE LINE, 6" WHITE	DL	ITEM 646 - WORK ZONE DOTTED
DRUMS		ELY	ITEM 646 - EDGE LINE, 6" YELLOW		
PORTABLE BARRIER (PB)		LL	ITEM 646 - LANE LINE, 6"		
ATTENUATOR		CH	ITEM 646 - CHANNELIZING LINE, 12"		
DIRECTION OF TRAVEL		PCB	ITEM 624- PORTABLE CONCRETE BARRIER (BRIDGE MOUNTED INCLUDED)		
TEMPORARY SIGN					
TYPE III BARRICADE					

NOTES

1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.



**MAINTENANCE OF TRAFFIC - PHASE I
I-480 WESTBOUND**

DESIGN AGENCY



DESIGNER

LAB

REVIEWER

WAA 12-04-20

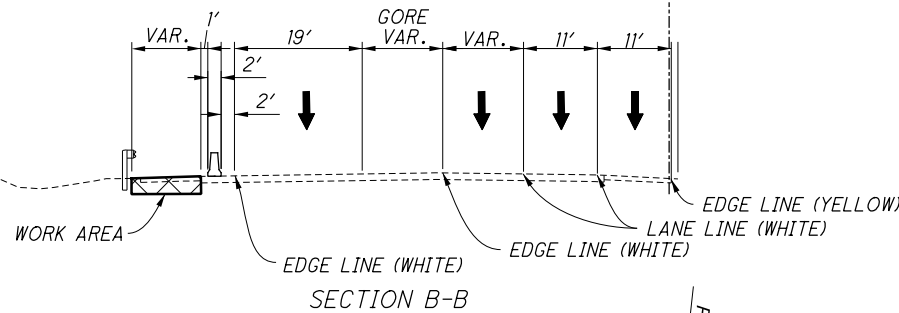
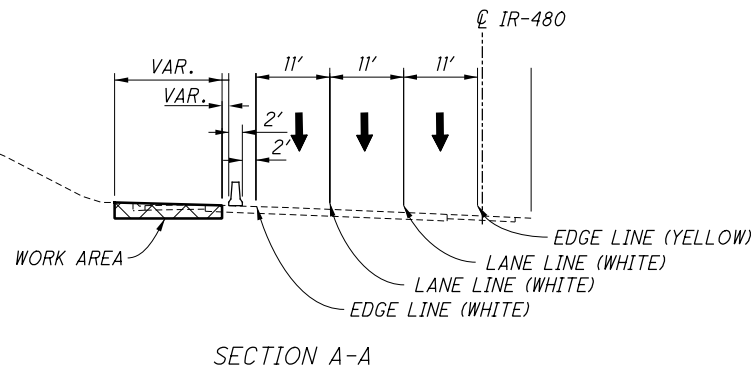
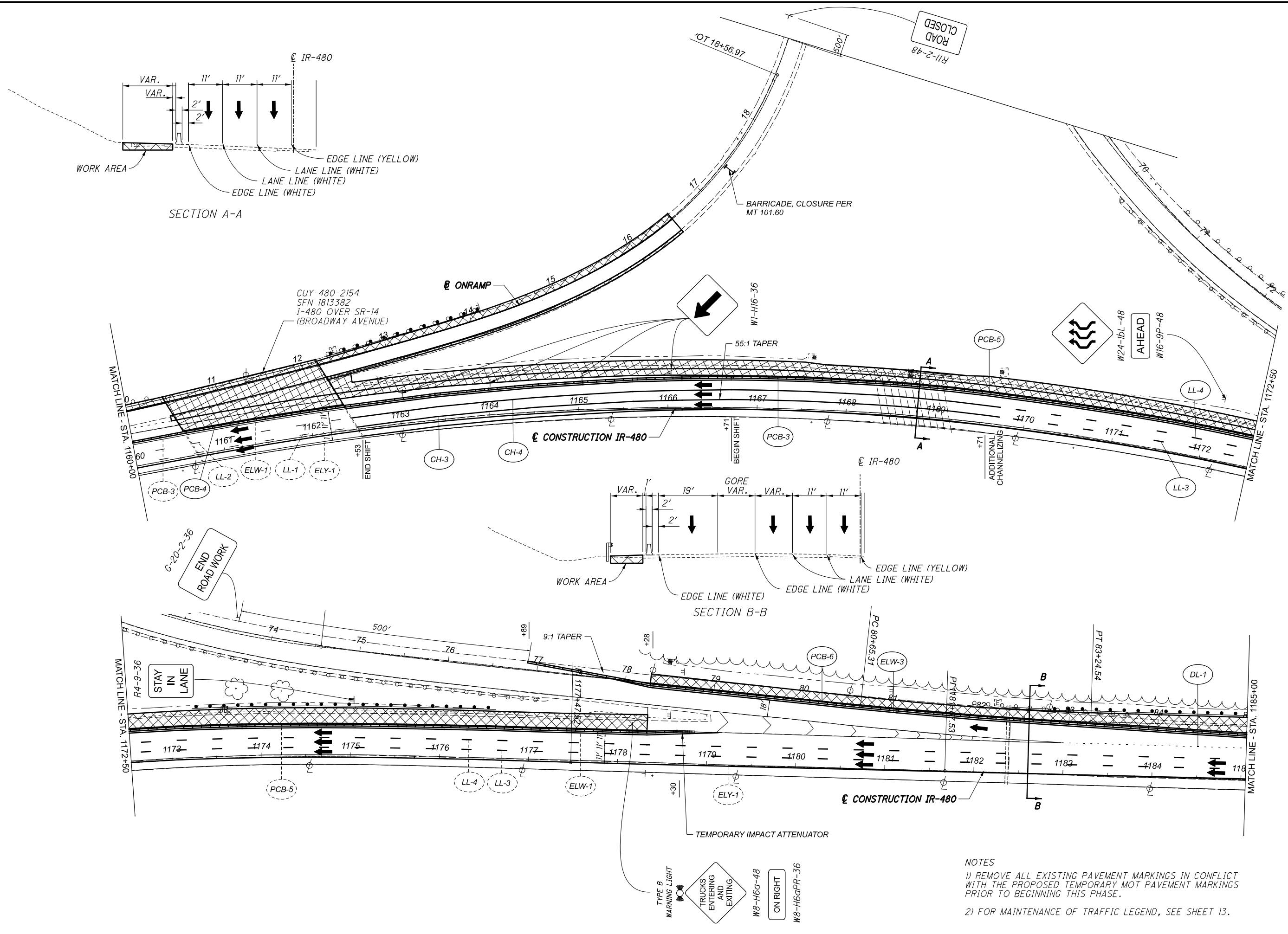
PROJECT ID

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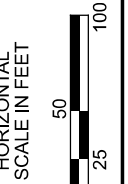
TOTAL

13 98



NOTES

- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
- 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.

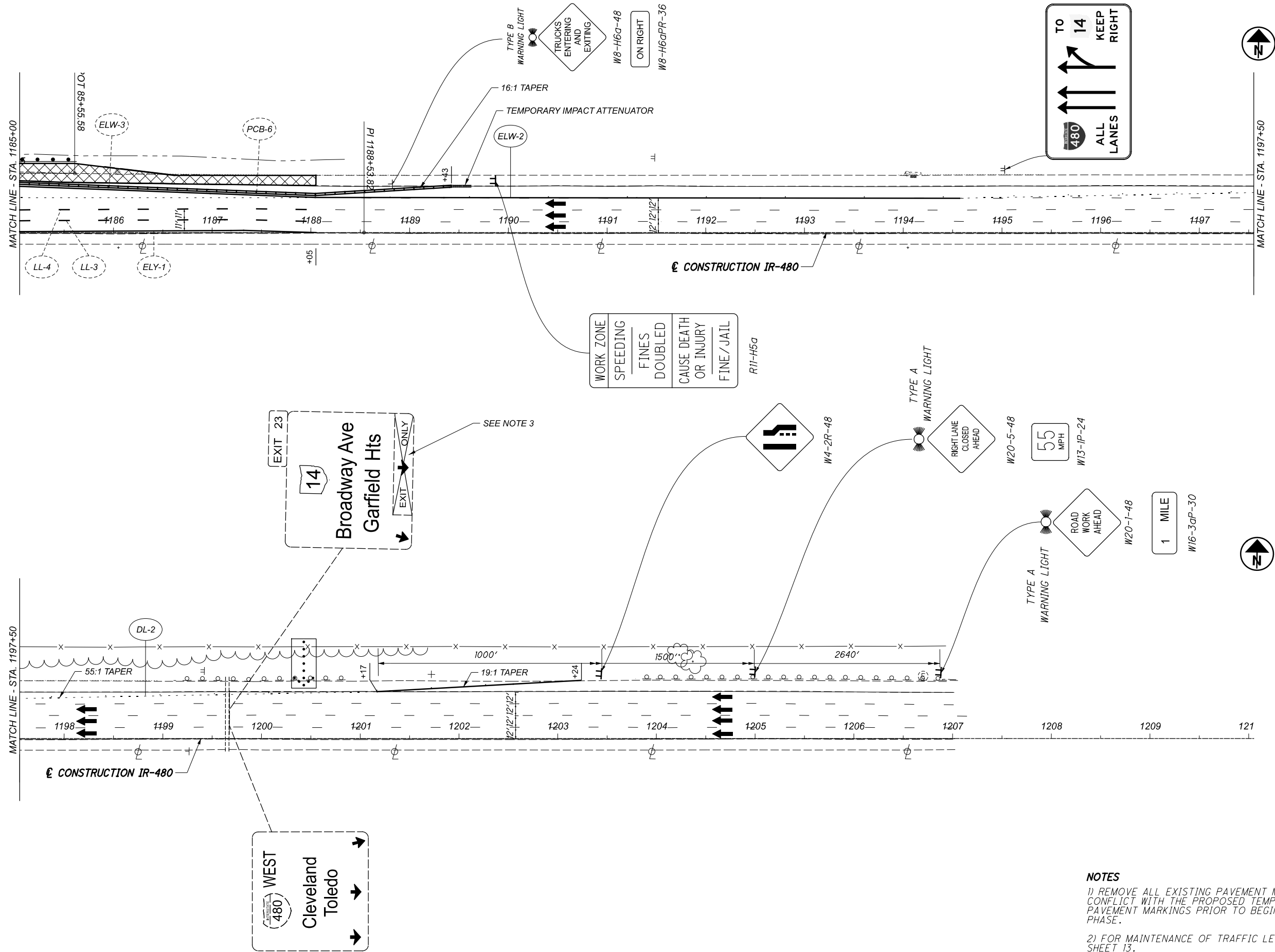


MAINTENANCE OF TRAFFIC - PHASE I
 I-480 WESTBOUND

DESIGN AGENCY

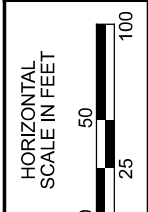


DESIGNER	LAB
REVIEWER	WAA 12-04-20
PROJECT ID	107657
SHEET	TOTAL
14	98



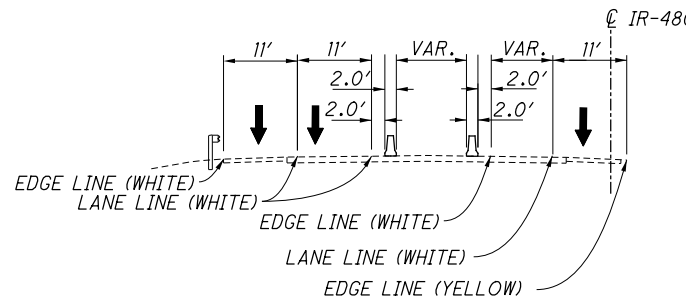
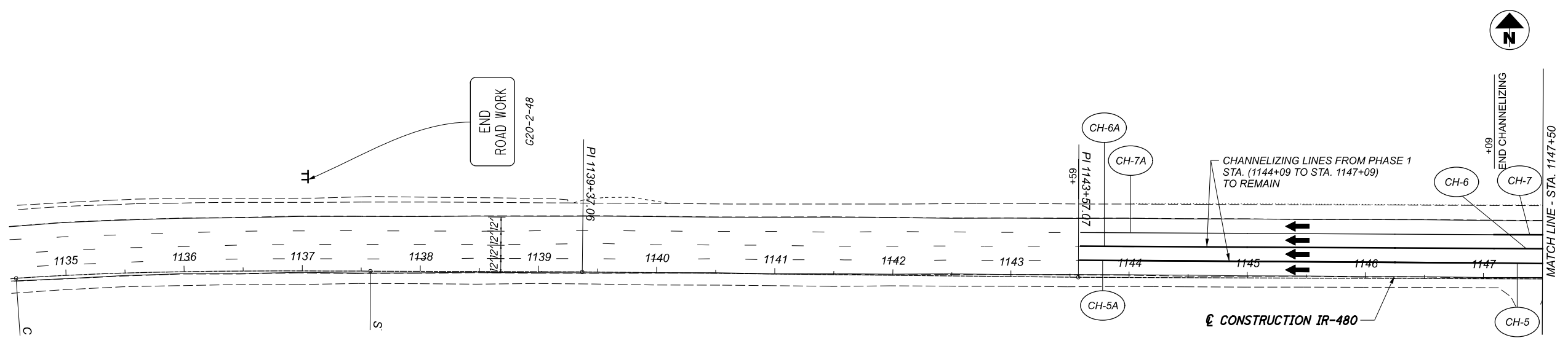
NOTES

- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
- 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.
- 3) TEMP. OVERHEAD SIGN OVERLAY PLACEMENT/REMOVAL WORK IS INCIDENTAL TO ITEM 614, MAINTAINING TRAFFIC.

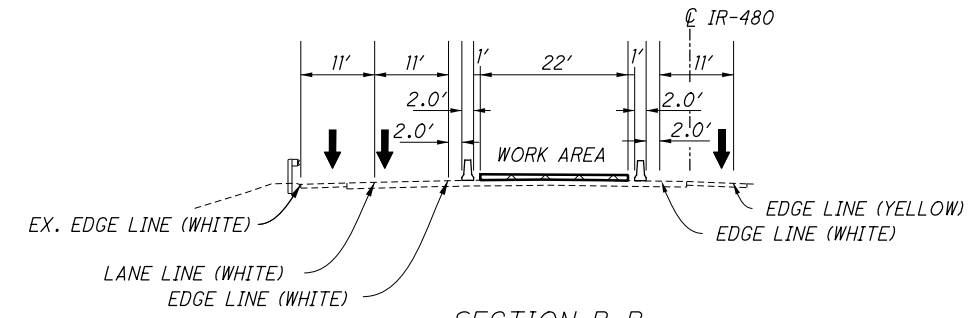
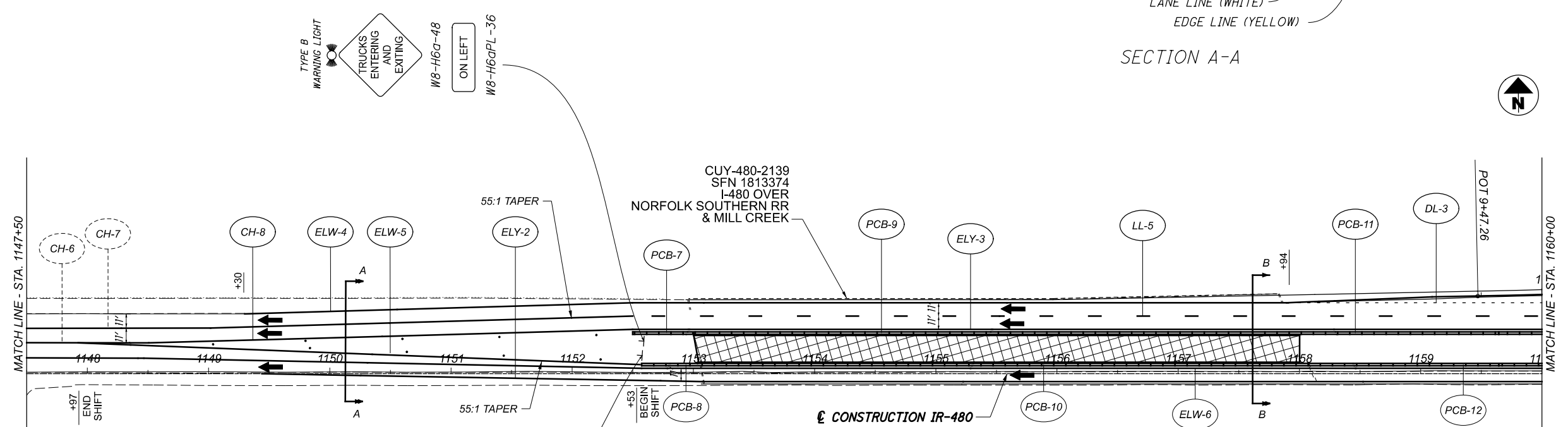


MAINTENANCE OF TRAFFIC - PHASE I
I-480 WESTBOUND

DESIGN AGENCY	
DESIGNER	LAB
REVIEWER	WAA 12-04-20
PROJECT ID	107657
SHEET	TOTAL
15	98

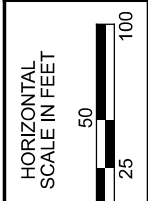


SECTION A-A



SECTION B-B

- NOTES**
- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
 - 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.



MAINTENANCE OF TRAFFIC - PHASE II
 I-480 WESTBOUND

DESIGN AGENCY

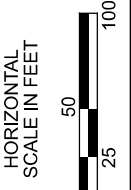
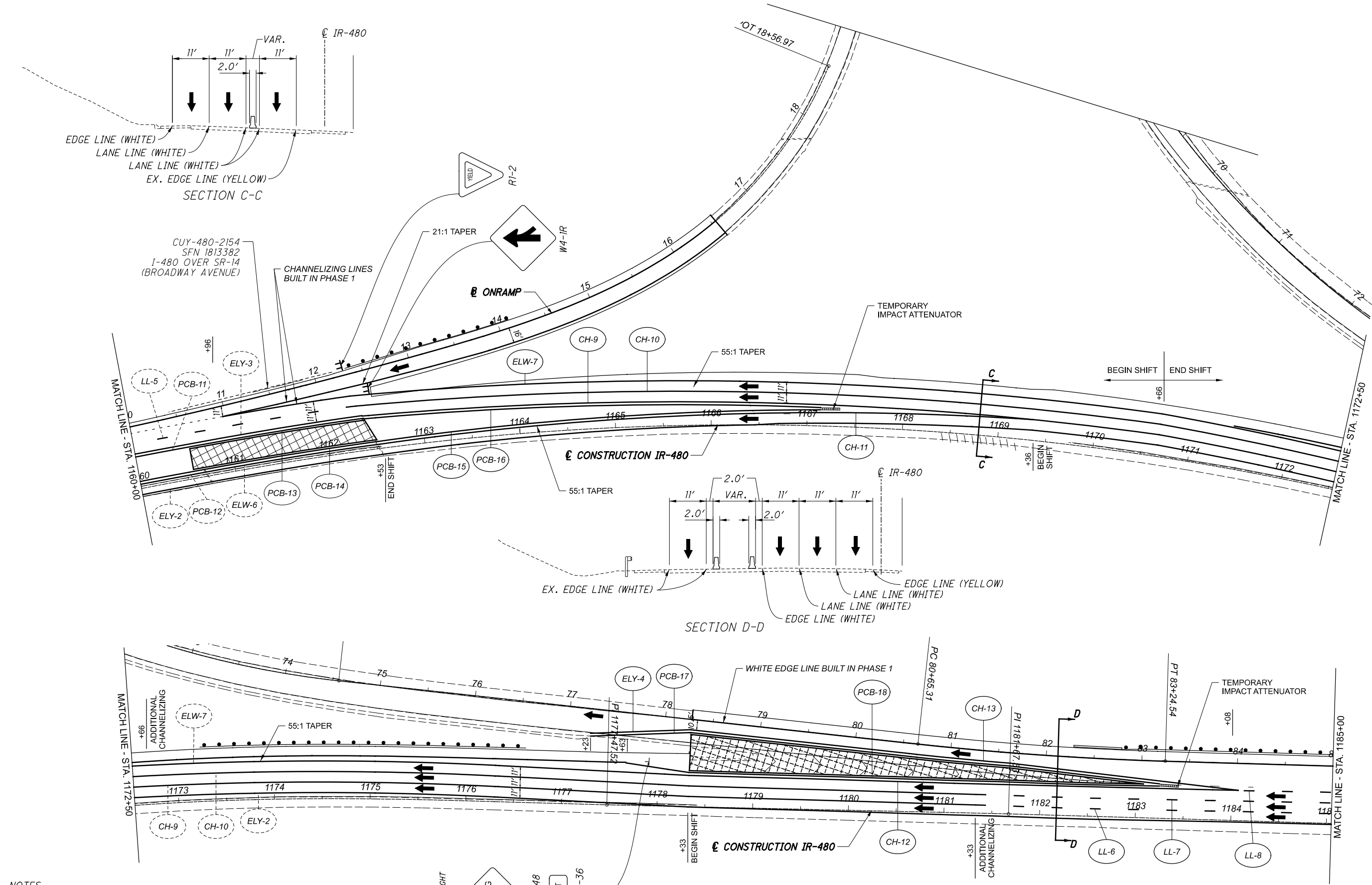


DESIGNER
 LAB

REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

SHEET TOTAL
 16 98



MAINTENANCE OF TRAFFIC - PHASE II
I-480 WESTBOUND

DESIGN AGENCY



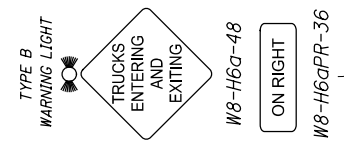
DESIGNER
LAB

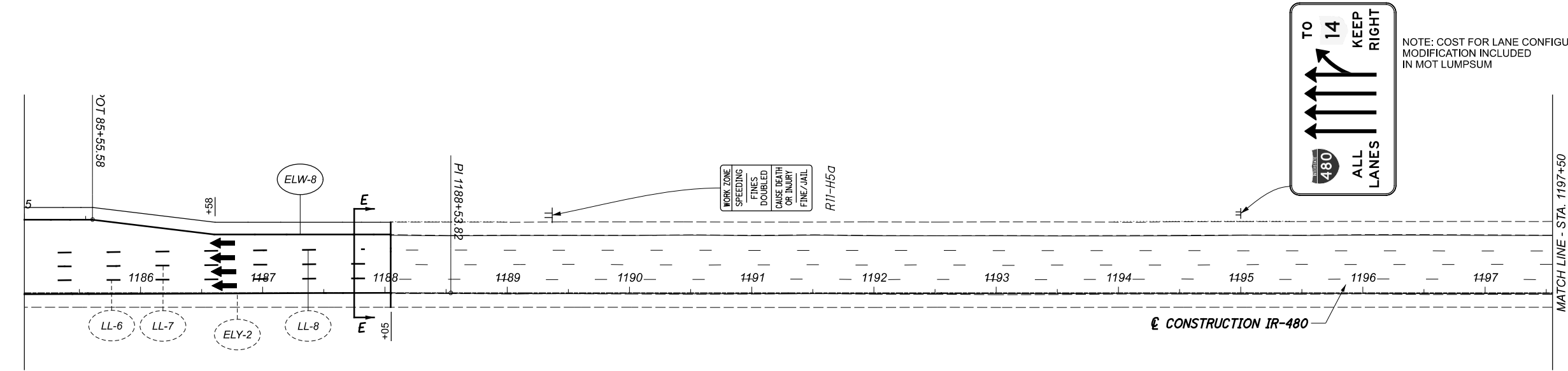
REVIEWER
 WAA 12-04-20

PROJECT ID
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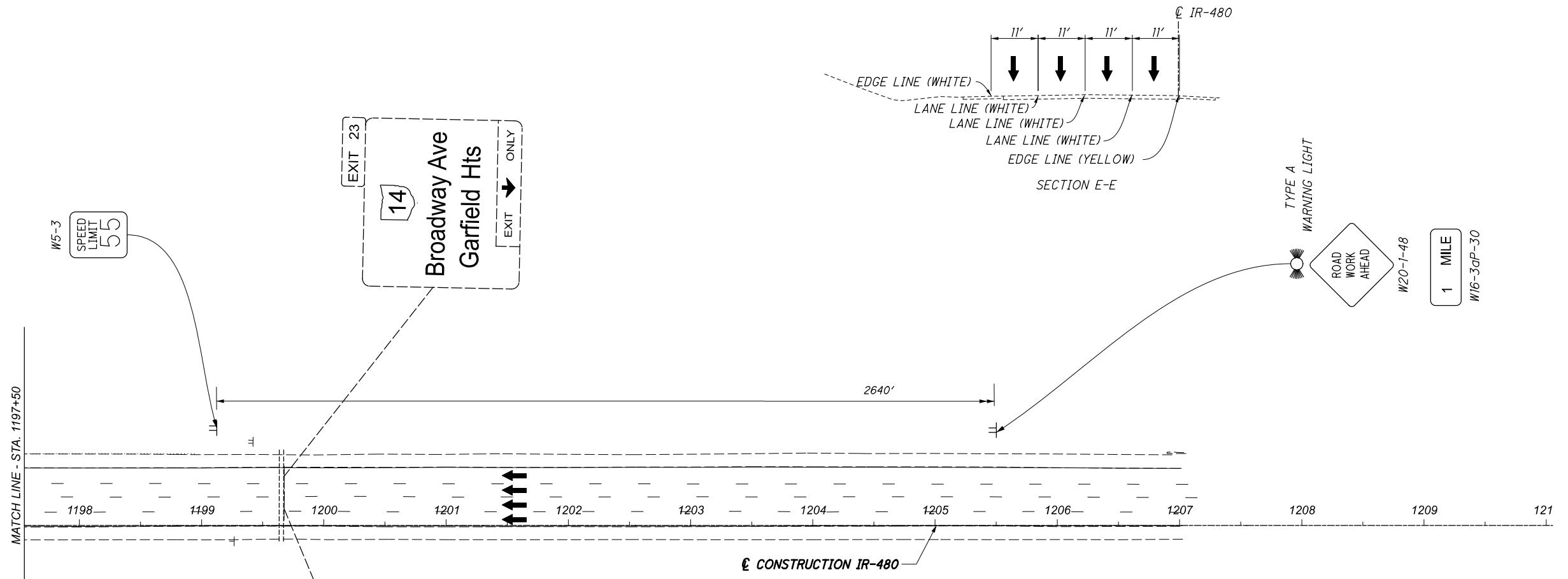
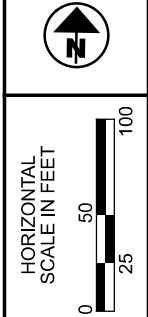
SHEET TOTAL
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- NOTES**
- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
 - 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.





NOTE: COST FOR LANE CONFIGURATION MODIFICATION INCLUDED IN MOT LUMP SUM



MAINTENANCE OF TRAFFIC - PHASE II
 I-480 WESTBOUND

DESIGN AGENCY



DESIGNER
 LAB

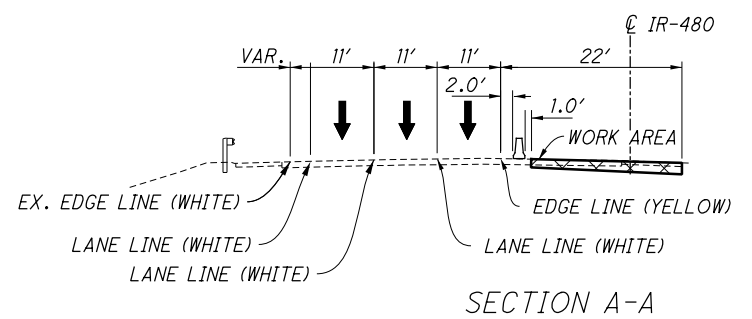
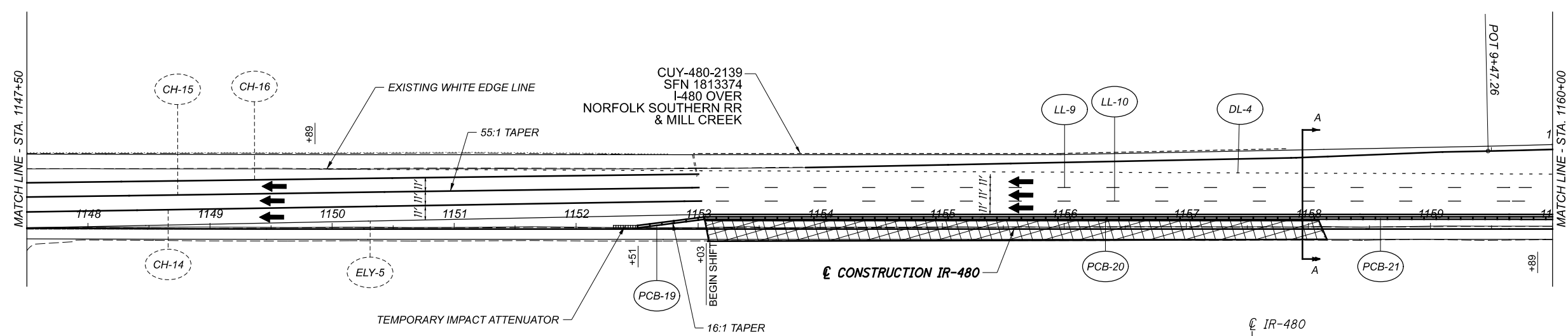
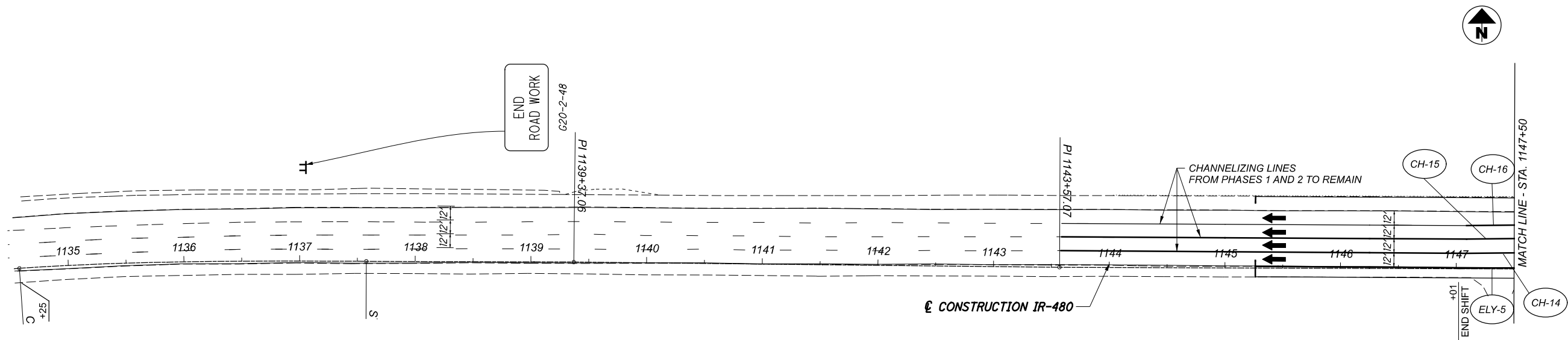
REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

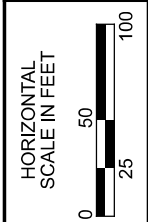
SHEET TOTAL
 18 98

- NOTES**
- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
 - 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.
 - 3) TEMP. OVERHEAD SIGN OVERLAY PLACEMENT/REMOVAL WORK IS INCIDENTAL TO ITEM 614, MAINTAINING TRAFFIC.

SEE NOTE 3



- NOTES**
- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
 - 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.



MAINTENANCE OF TRAFFIC - PHASE III
 I-480 WESTBOUND

DESIGN AGENCY

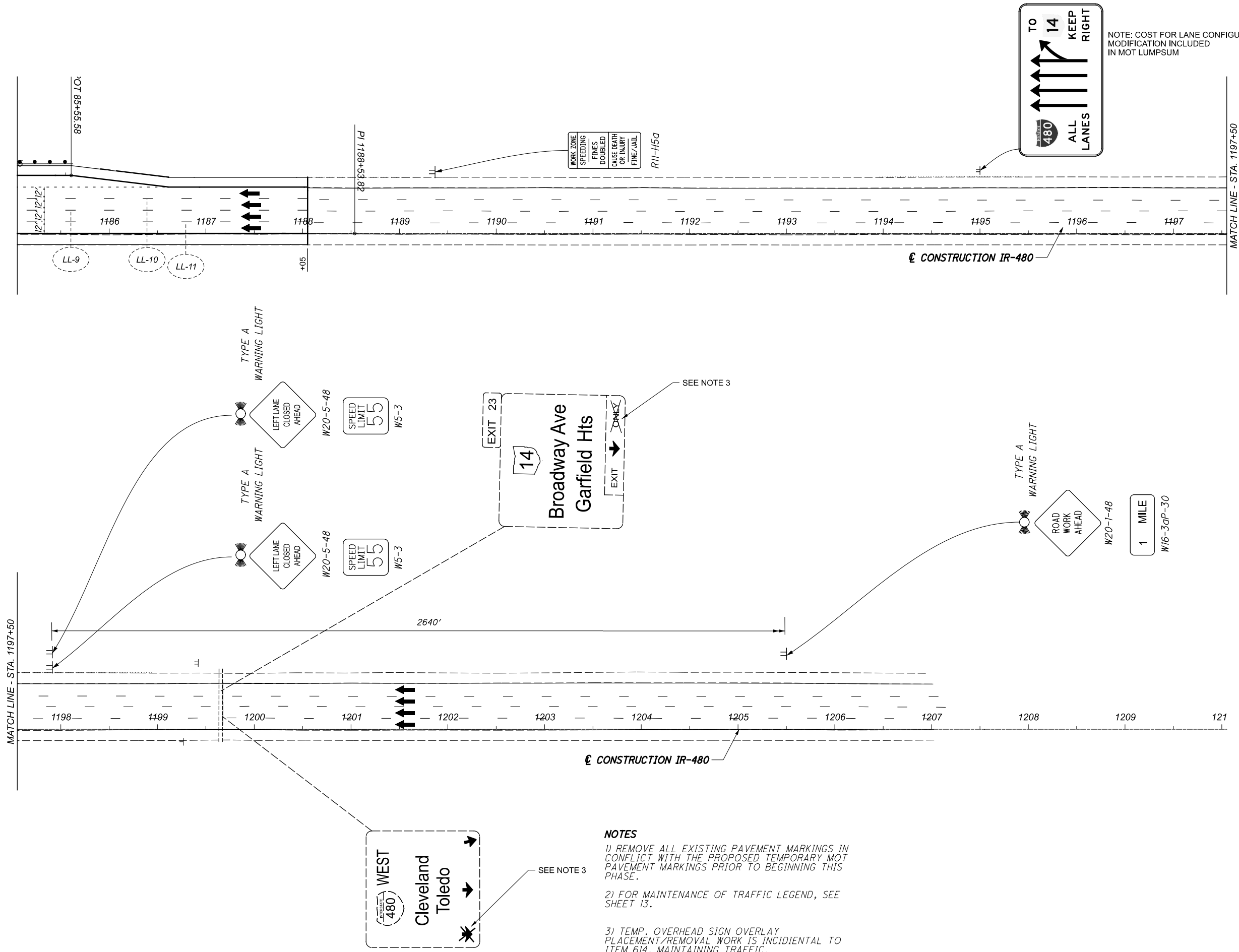


DESIGNER
 LAB

REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

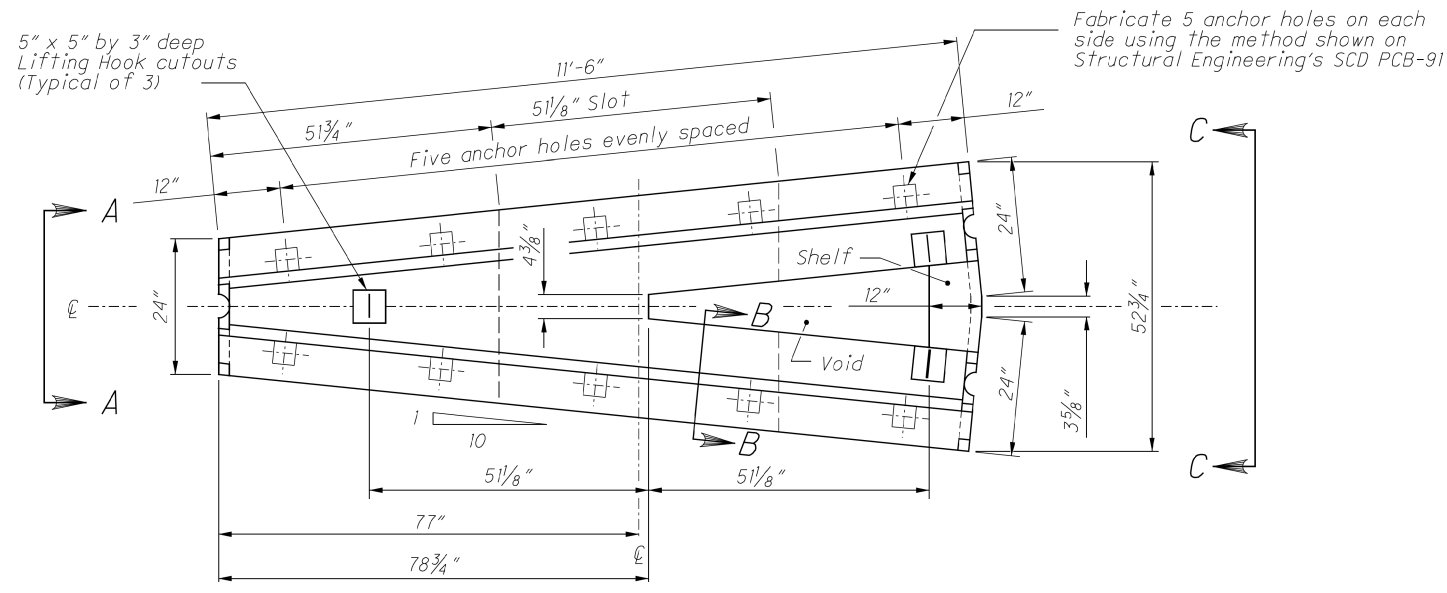
SHEET TOTAL
 18a 98



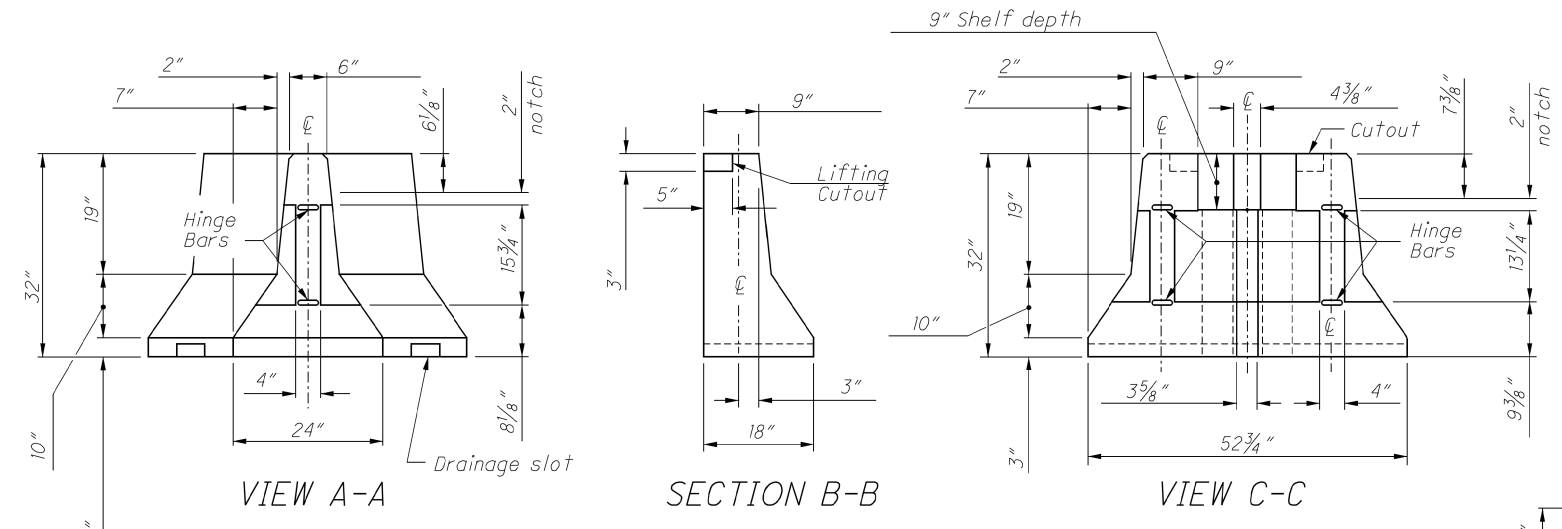
- NOTES**
- 1) REMOVE ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TEMPORARY MOT PAVEMENT MARKINGS PRIOR TO BEGINNING THIS PHASE.
 - 2) FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 13.
 - 3) TEMP. OVERHEAD SIGN OVERLAY PLACEMENT/REMOVAL WORK IS INCIDENTAL TO ITEM 614, MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC - PHASE III
 I-480 WESTBOUND

DESIGN AGENCY	
PATRICK ENGINEERING	
DESIGNER	LAB
REVIEWER	WAA 12-04-20
PROJECT ID	107657
SHEET	TOTAL
18c	98



PLAN



NOTES

GENERAL: This barrier segment is used to split one run of portable concrete barrier into dual runs. Attach directly to ODOT's 32" PCB; however, other approved barrier shapes may be connected to this segment by the use of an appropriate transition unit. Attach at least one standard PCB segment in between this "Y" and an Impact Attenuator. Its field application is shown in MOT plans and on MT standard drawings. Do not use this barrier in an unanchored configuration next to bridge deck edges or similar dropoffs, anchor according to method shown on PCBDD or other approved method.

BARRIER DETAILS: Use SCD RM-4.2 for details not shown here, including the geometry of this pin and loop segment matches in every way the design of the end connections shown on the HINGED CONNECTION and JOINT CONNECTION Details (the alternate J-J Hooks connection design is permitted). Additionally, barrier edges may be radiused or chamfered as per the LEGEND Note, barrier is to be permanently marked as mentioned in the MARKINGS Note, and delineate as per the REFLECTORIZATION Note.

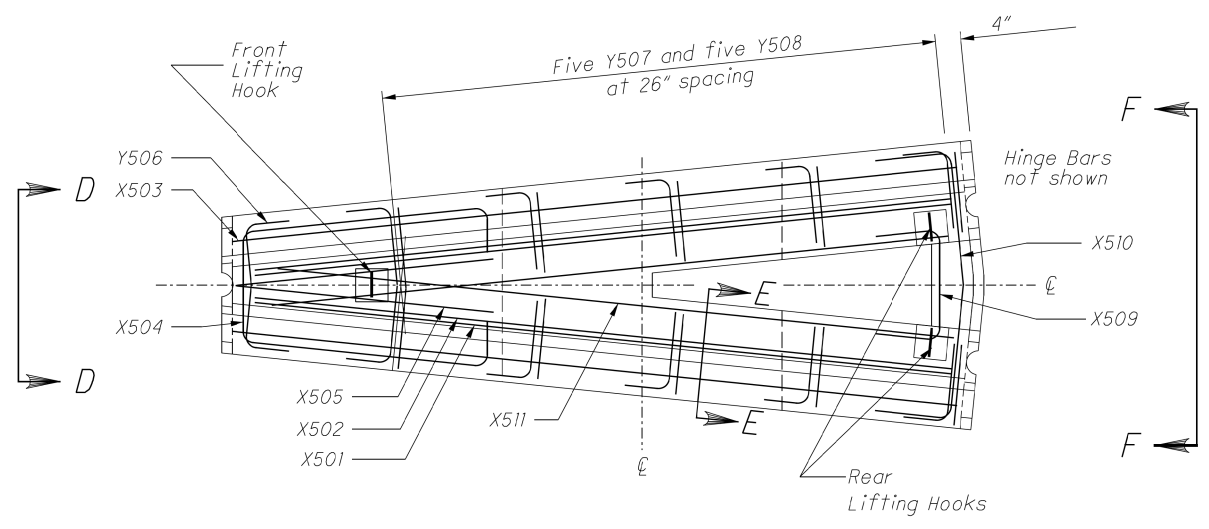
MATERIAL SPECIFICATIONS: The minimum design strength of the concrete is 4,000 psi and meets the requirements of CMS 499. For reinforcing steel, use ASTM A615 Grade 60 black steel and provide 2" min. rebar cover. Material specifications for the Hinge and Reinforcing Bars, as well as the Connecting Hardware may be found on SCD RM-4.2. For additional material specifications not shown here, see SCD RM-4.2 and CMS 622.

HANDLING: The fabricator is responsible for the design of a lifting system for handling segments. As a minimum, use three lifting points at the locations suggested in the Plan views, and design with a lifting factor of safety of 4. Any protrusions from the lifting hook design is not to affect the crash worthiness of the barrier. The calculations shall be signed, sealed and dated by a Registered Engineer and include these calculations with the Manufacturing Drawings required by Supplement 1073.12. Refer to Part 5 of the PCI Handbook. Approximate segment weight is 8,500 lbs [3850 kg].

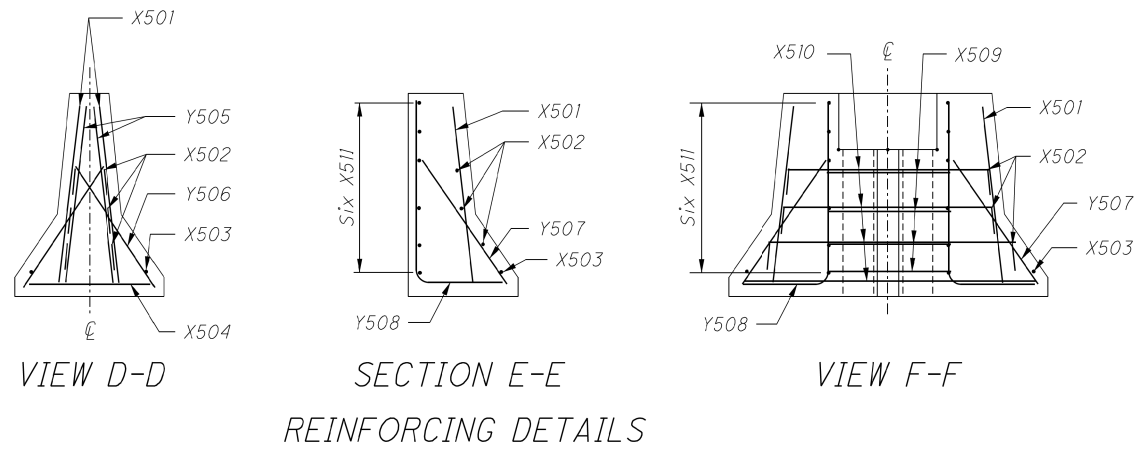
PAYMENT: Payment will be made under Item 622 - Portable Barrier, "Y" Connector, Each, and will include all forms, materials and labor to cast this segment.

ALTERNATE METHOD: Contractors may choose to use a wide Impact Attenuator in lieu of the concrete "Y" alternate. The chosen unit will be a Type 2 or 3 Impact Attenuator matching the product previously called for on the project plans at the expected installation location.

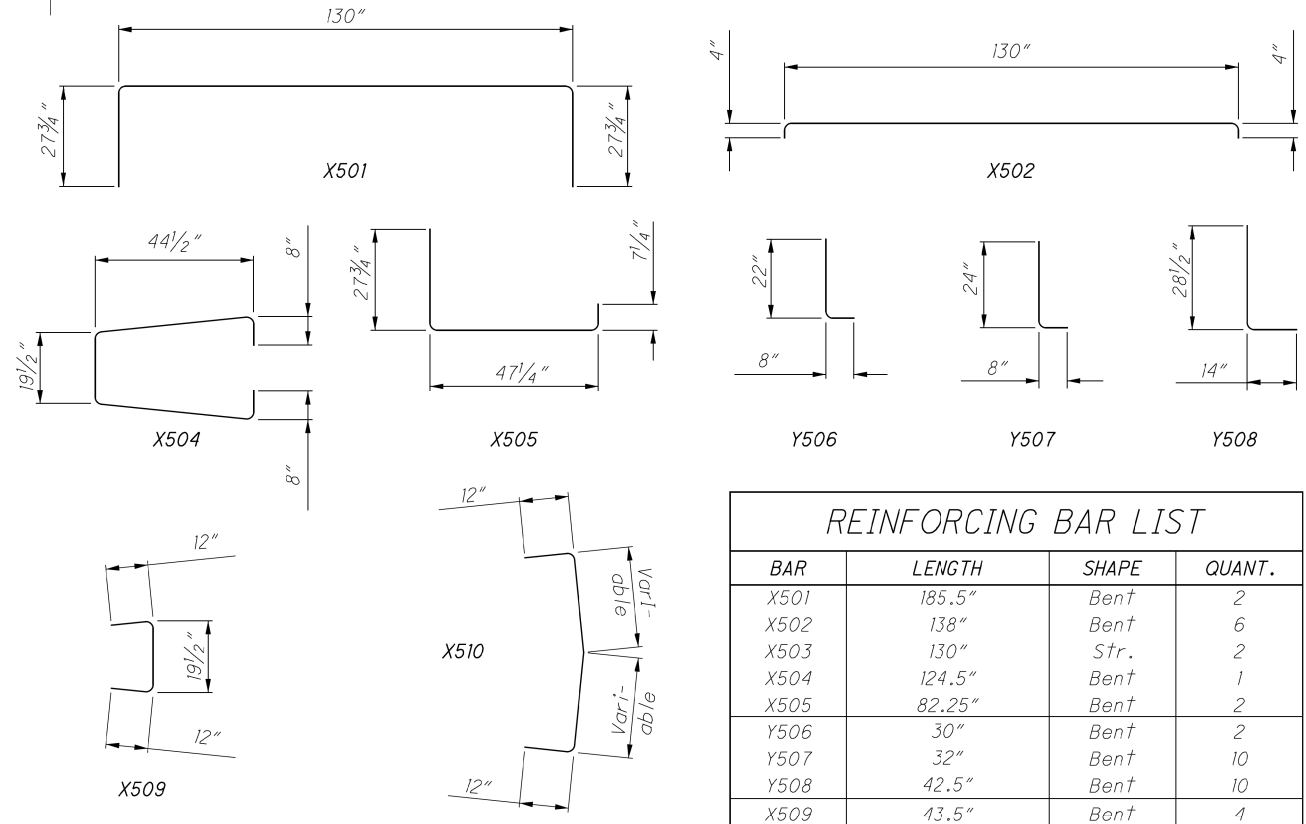
Fabricate 5 anchor holes on each side using the method shown on Structural Engineering's SCD PCB-91



REINFORCING PLAN VIEW



REINFORCING DETAILS




BENDING DIAGRAMS

REINFORCING BAR LIST			
BAR	LENGTH	SHAPE	QUANT.
X501	185.5"	Bent	2
X502	138"	Bent	6
X503	130"	Str.	2
X504	124.5"	Bent	1
X505	82.25"	Bent	2
Y506	30"	Bent	2
Y507	32"	Bent	10
Y508	42.5"	Bent	10
X509	13.5"	Bent	1
X510	Varies	Bent	4
X511	124"	Str.	12

THIS DRAWING REPLACES Y BARRIER PLAN INSERT SHEET DATED 11-30-07

REF NO.	SHEET NO.	STATION TO STATION		202	202	202	209	254	441	606	606	606	606	606	609	609	622	622	622	622	626	872	
				SY	FT	FT	MILE	SY	CY	FT	EACH	EACH	EACH	EACH	FT	FT	EACH	FT	EACH	EACH	EACH	EACH	FT
			TO																				
R-1	26	1145+26.31							6142														
R-2	27,28	1157+86.07																				207	
R-3	27,28	1158+13.02							2029														
GR-1	27	1152+76.71	-61.59			25	0.01		1					1									
GR-2	27	1158+01.41	-66.74			12.5	0.01		1				1		18								
B-1	27	1152+98.50	10	1153+08.50	10												1				1		
B-2	27	1158+14.01	10	1158+24.01	10												1				1		
R-4	28,31	12+32.00		16+54.88	-218.6																	414	
R-5	28,31	12+58.00		16+54.88	-213.2			795															
R-6	28,31	12+61.00		16+54.88	-201.2				171													409	
R-7	28,29	1162+32.37		1178+32.66					1951													1587	
R-8	28-30	1162+61.70		1188+05.08				16147															
GR-3	28	1160+27.00	-72.86			179	0.01		1					1									
GR-4	28	1162+28.52	-87.98	1163+97.66	-119.9		12.5	0.03	1	100	1		1		18						2		
B-3	28	1160+63.42	10	1160+73.42	10												1				1		
B-4	28	1162+56.40	10	1162+66.40	10												1				1		
C-1	28	1167+76.84	-53	1169+28.49	-53										154								
R-9	29	1181+95.00	-75.23	1183+74.86	-68.97		180																
R-10	29,30	1178+35.00		1188+05.08					1006													974	
B-5	29	1182+34.20	-72.15	1182+84.21	-71.07													21	1	1	2		
GR-5	29	1173+25.00	-57	1176+61.48	-57			0.06		262.5	1	1									4		
GR-6	29	1182+84.21	-71.07	1185+62.33	-72			0.04	3	200	1	1	1		18						4		
C-2	30	1185+91.21	-66.42	1186+61.48	-58											71							
TOTALS CARRIED TO GENERAL SUMMARY																							
				3683	40	409.00	1	25113	7	563	3	1	3	2	54	225	4	21	1	1	16	3591	

ROADWAY SUBSUMMARY

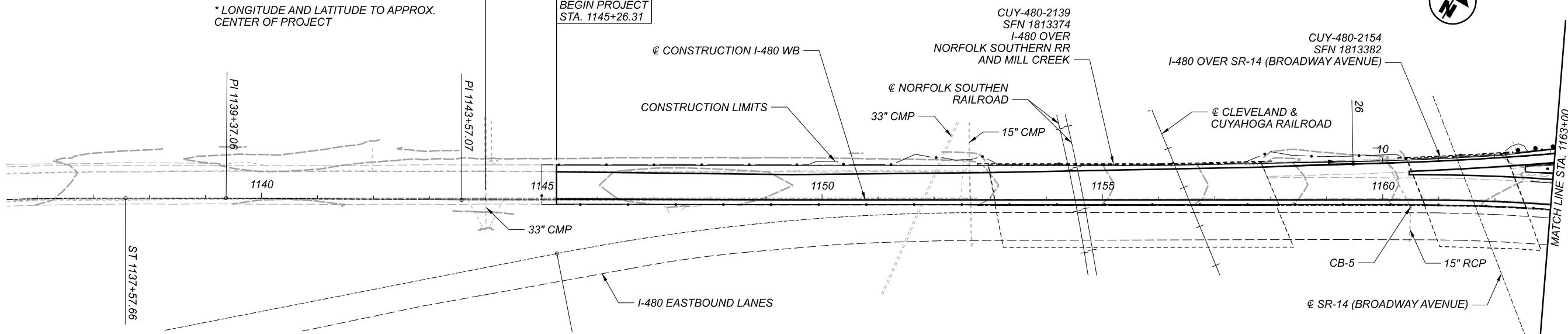
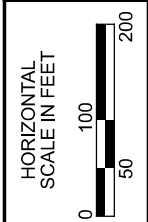
DESIGN AGENCY	
	
DESIGNER	MAH
REVIEWER	WAA 01-11-21
PROJECT ID	107657
SHEET	TOTAL
21	98

USGS MAP: SHAKER HEIGHTS QUADRANGLE
 LONGITUDE: 81°34'45"W
 LATITUDE: 41°25'28"N

* LONGITUDE AND LATITUDE TO APPROX.
 CENTER OF PROJECT

BEGIN WORK
 STA. 1144+00.00

BEGIN PROJECT
 STA. 1145+26.31



THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

THIS PLAN UTILIZES VEGETATED BIOFILTER(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AS SHOWN IN THE PLANS TO ANY DISTURBED AREA ON THE SHOULDER AND FORESLOPE DRAINING TO A VEGETATED BIOFILTER. THE DITCH FOR EACH VEGETATED BIOFILTER SHALL BE TRAPEZOIDAL, AS SHOWN IN THE PLAN CROSS SECTIONS. PROVIDE ITEM 670 AS SPECIFIED IN THE PLANS.

NAME	STATION	SIDE	BOTTOM WIDTH	LAT/LONG	EDA TREATMENT CREDIT (ACRES)
VEGETATED BIOFILTER 1	BEGIN 1164+00.00	RT.	5.0'	41.424323, 81.580281	0.62
	END 1167+50.00	RT.	5.0'	41.424648, 81.579032	

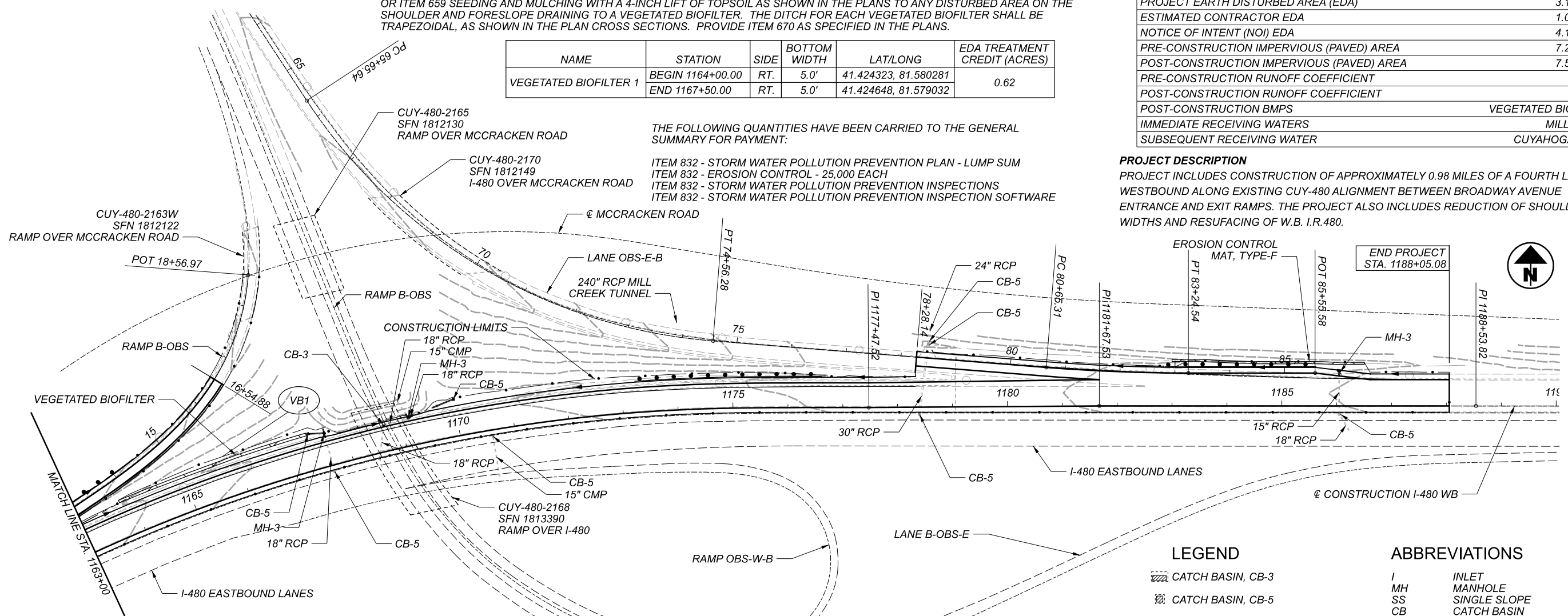
PROJECT DATA	
TOTAL AREA (RW)	63 ACRES
PROJECT EARTH DISTURBED AREA (EDA)	3.1 ACRES
ESTIMATED CONTRACTOR EDA	1.0 ACRES
NOTICE OF INTENT (NOI) EDA	4.1 ACRES
PRE-CONSTRUCTION IMPERVIOUS (PAVED) AREA	7.2 ACRES
POST-CONSTRUCTION IMPERVIOUS (PAVED) AREA	7.5 ACRES
PRE-CONSTRUCTION RUNOFF COEFFICIENT	0.67
POST-CONSTRUCTION RUNOFF COEFFICIENT	0.68
POST-CONSTRUCTION BMPS	VEGETATED BIOFILTER
IMMEDIATE RECEIVING WATERS	MILL CREEK
SUBSEQUENT RECEIVING WATER	CUYAHOGA RIVER

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR PAYMENT:

- ITEM 832 - STORM WATER POLLUTION PREVENTION PLAN - LUMP SUM
- ITEM 832 - EROSION CONTROL - 25,000 EACH
- ITEM 832 - STORM WATER POLLUTION PREVENTION INSPECTIONS
- ITEM 832 - STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE

PROJECT DESCRIPTION

PROJECT INCLUDES CONSTRUCTION OF APPROXIMATELY 0.98 MILES OF A FOURTH LANE WESTBOUND ALONG EXISTING CUY-480 ALIGNMENT BETWEEN BROADWAY AVENUE ENTRANCE AND EXIT RAMP. THE PROJECT ALSO INCLUDES REDUCTION OF SHOULDER WIDTHS AND RESURFACING OF W.B. I.R. 480.



LEGEND

- CATCH BASIN, CB-3
- CATCH BASIN, CB-5
- MANHOLE, MH-3
- VEGETATED BIOFILTER, VB1

ABBREVIATIONS

- I INLET
- MH MANHOLE
- SS SINGLE SLOPE
- CB CATCH BASIN
- APP AS PER PLAN
- ATG ADJUST TO GRADE
- RTG RECONSTRUCT TO GRADE
- C1, B1 BARRIER TYPE

CUY-480-21.30WB

MODEL: SITE PLAN PAPER SIZE: 17x11 (in.) DATE: 1/27/2021 TIME: 4:56:20 PM USER: mhay
 p:\p\infocp-pw\benley.com\patrickcp-pw-07\Documents\ODOT_CEI\107657\400-Engineering\Roadway\Sheets\107657_SP001.dgn

PROJECT SITE PLAN

DESIGN AGENCY



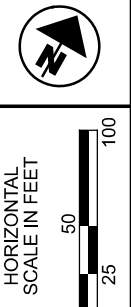
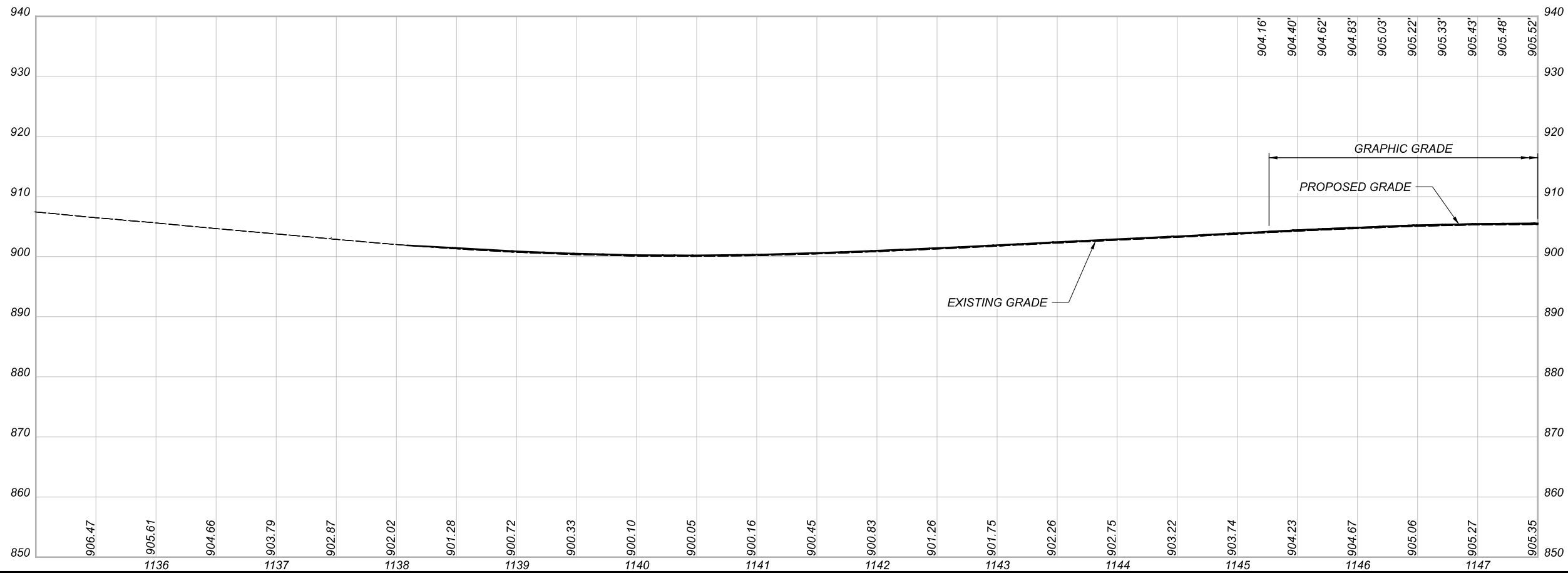
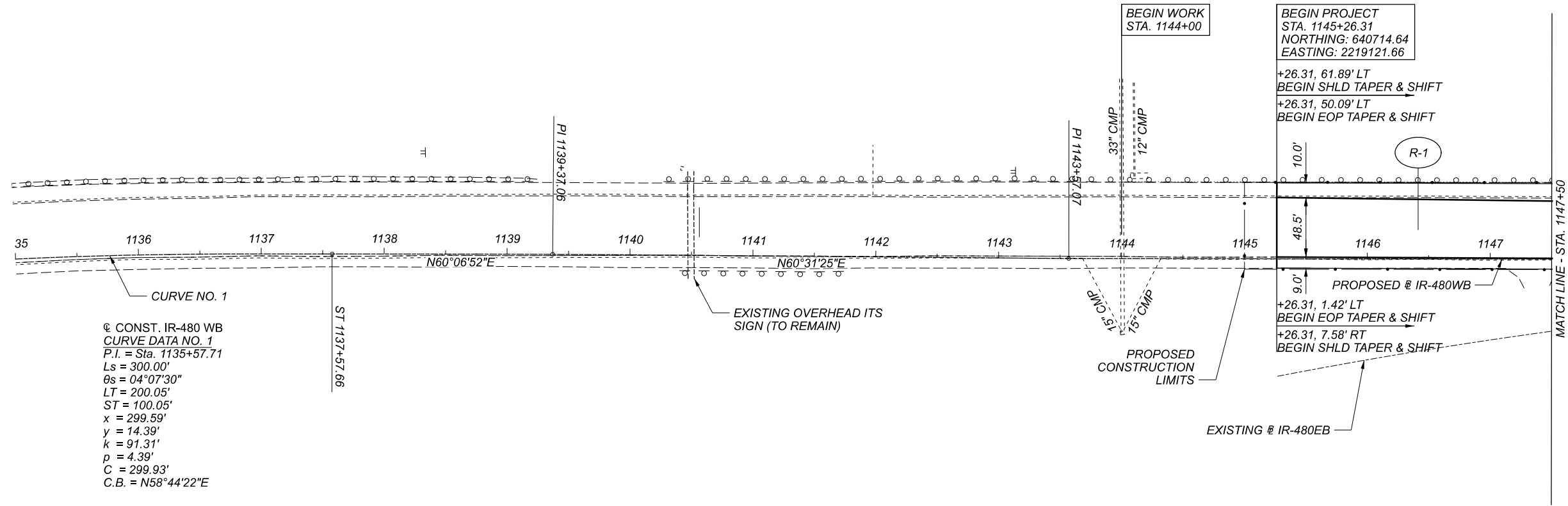
DESIGNER
TAS

REVIEWER

WAA 12-04-20

PROJECT ID
107657

SHEET TOTAL
25 98



PLAN AND PROFILE
 I-480 - STA. 1135+00 TO STA. 1147+50

DESIGN AGENCY

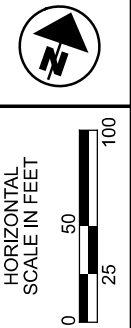
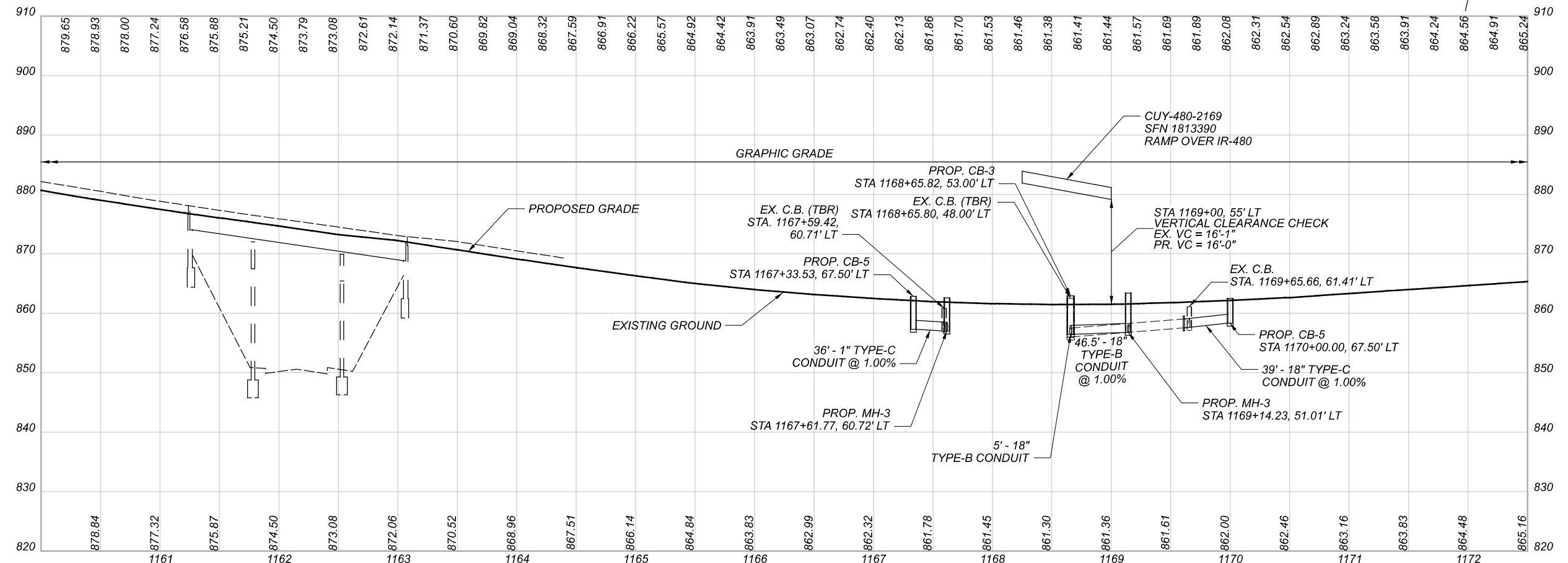
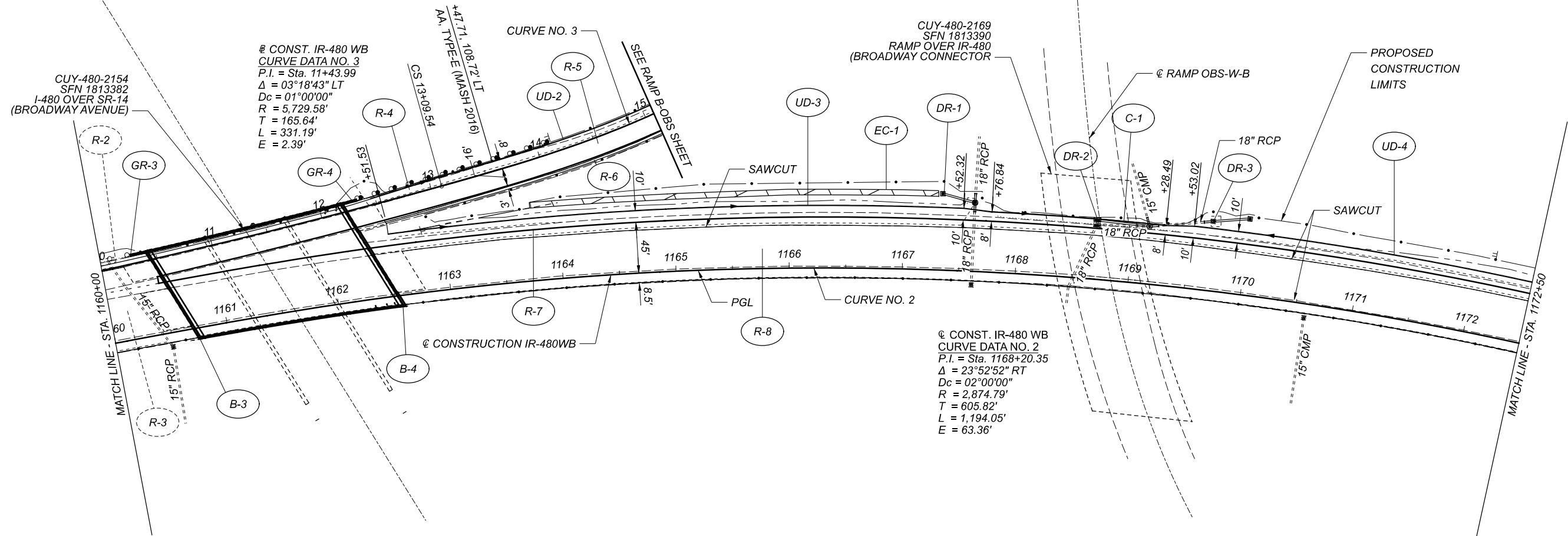
KS Associates, Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 RAP

REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

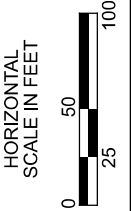
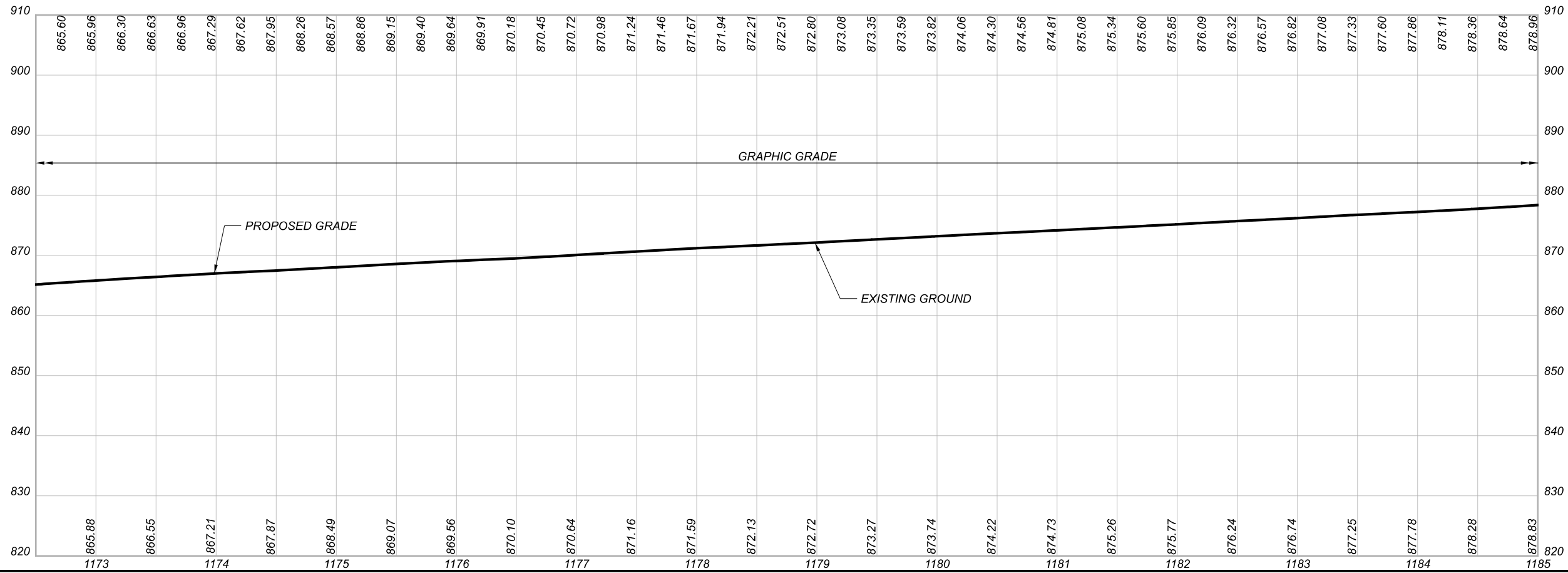
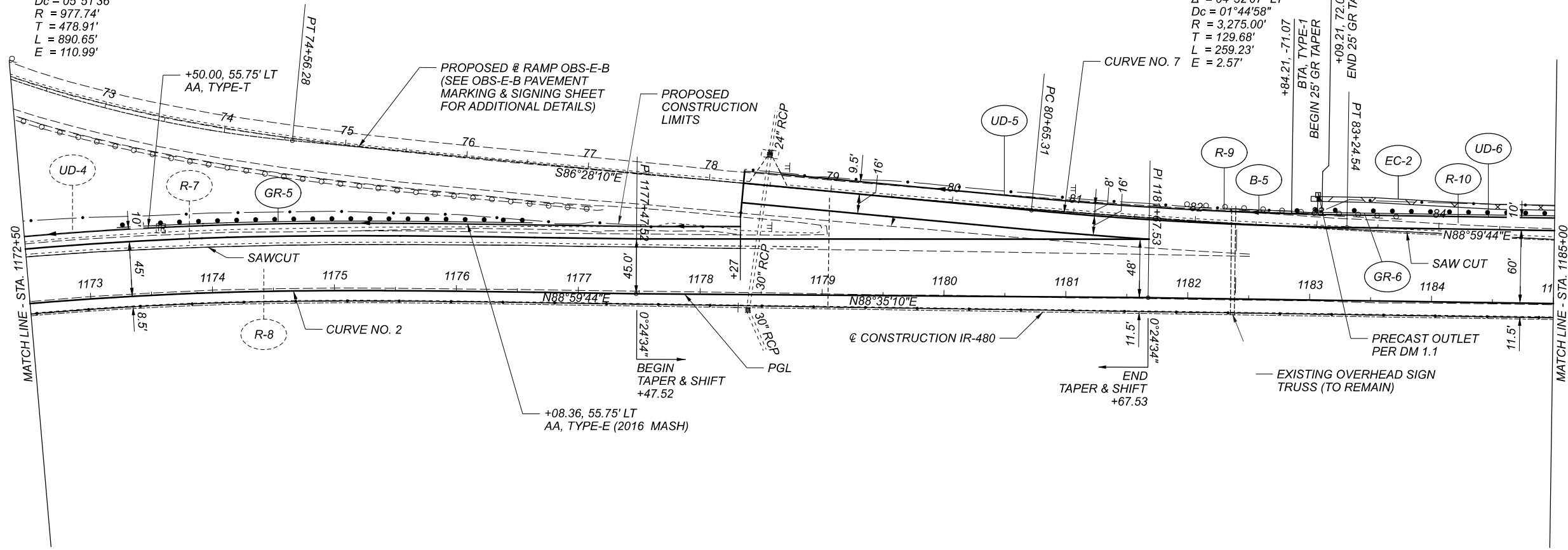
SHEET TOTAL
 26 98



PLAN AND PROFILE
 I-480 - STA. 1160+00 TO STA. 1172+50

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 $T = 478.91'$
 $L = 890.65'$
 $E = 110.99'$

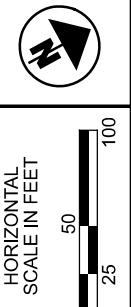
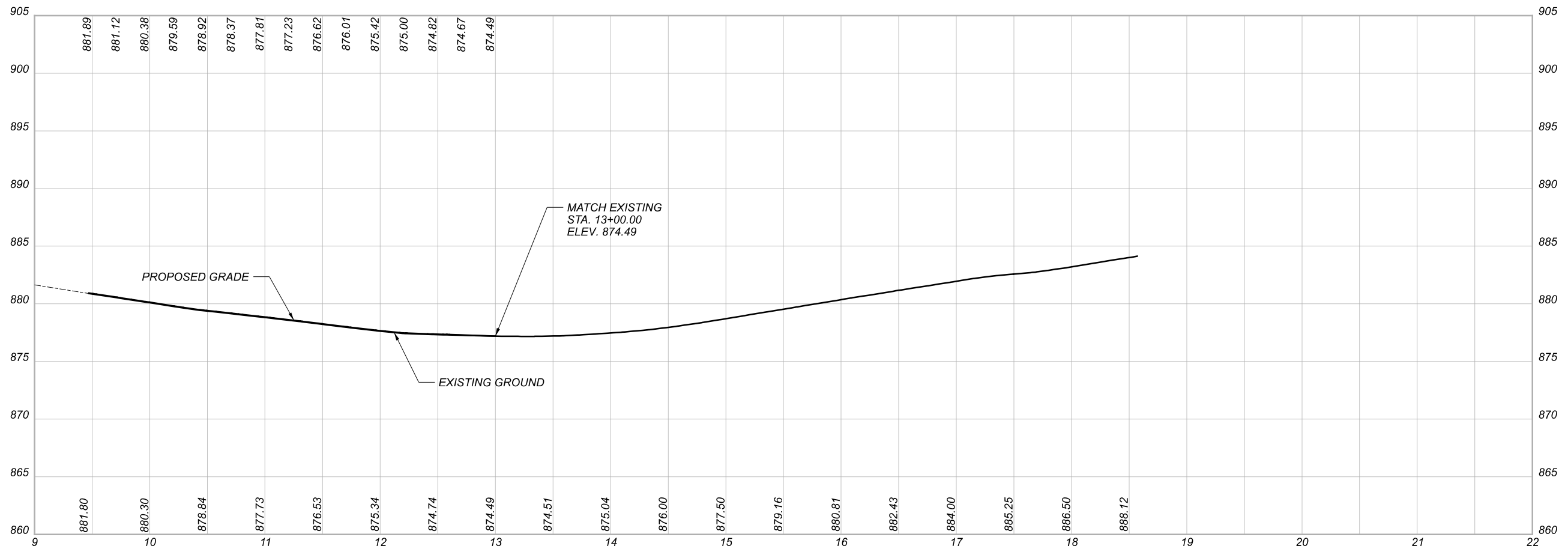
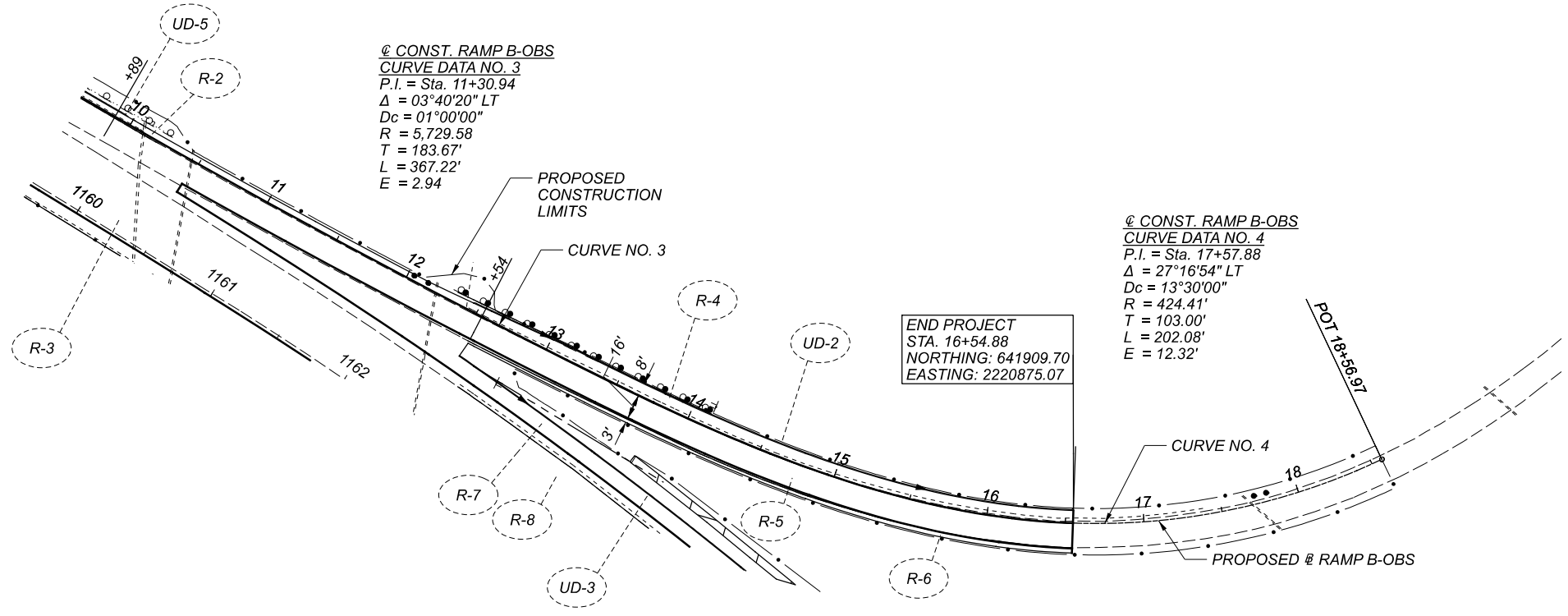
CONST. IR-480EB
CURVE DATA NO. 7
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 $D_c = 01^\circ 44' 58"$
 $R = 3,275.00'$
 $T = 129.68'$
 $L = 259.23'$
 $E = 2.57'$



PLAN AND PROFILE
 I-480 - STA. 1172+50 TO STA. 1185+00

HS
 KS Associates, Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER	RAP
REVIEWER	WAA
PROJECT ID	107657
SHEET	29
TOTAL	98



PLAN AND PROFILE
 RAMP-B-OBS - STA. 9+00 TO STA. 22+00

DESIGN AGENCY

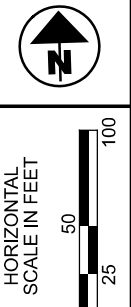
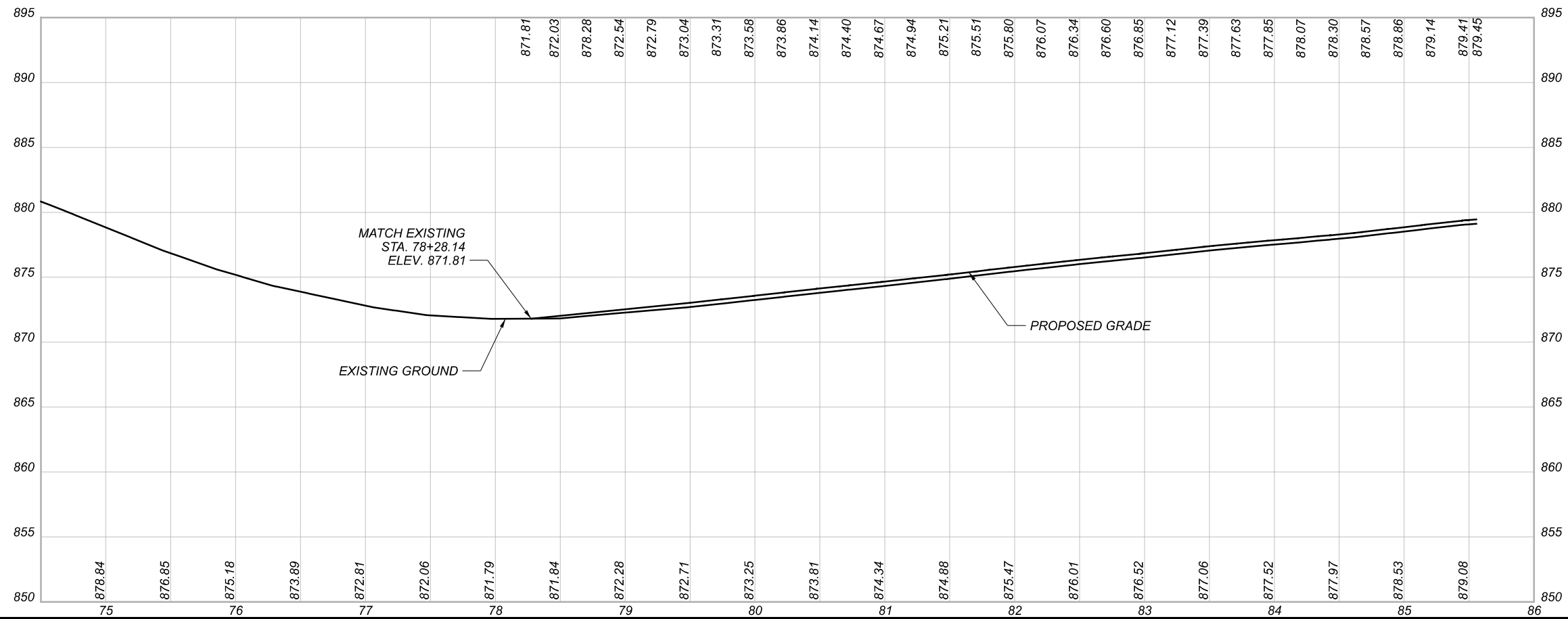
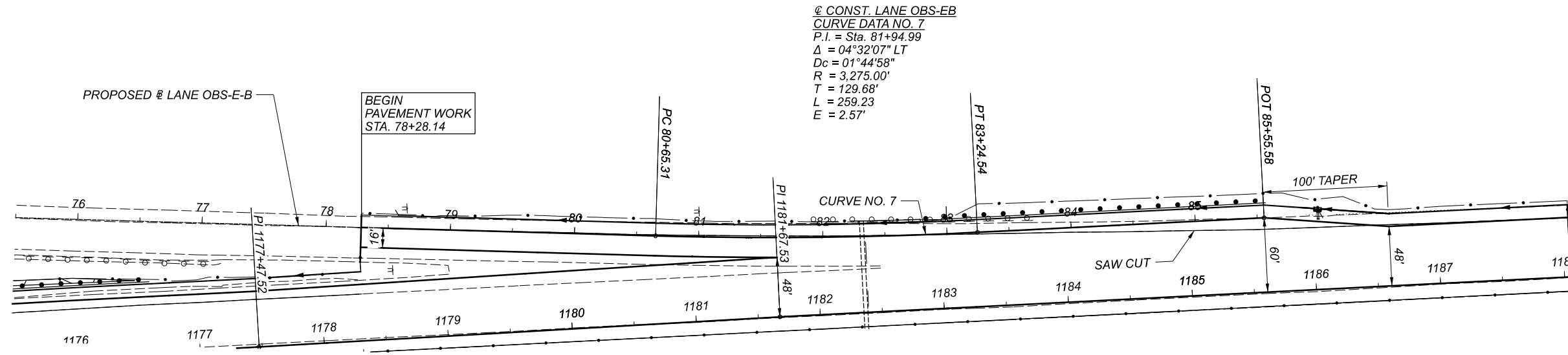
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 RAP

REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

SHEET TOTAL
 31 98



PLAN AND PROFILE
 LANE-OBS STA. 74+50 TO STA. 86+00

DESIGN AGENCY

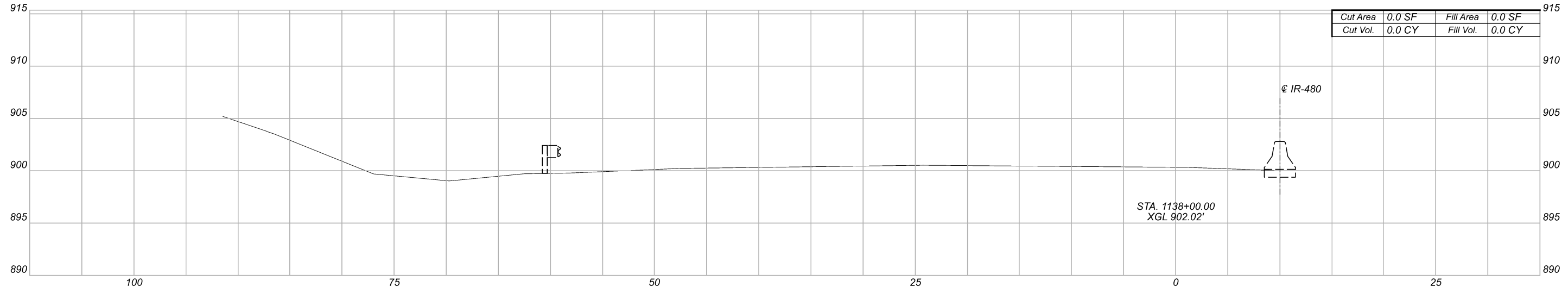
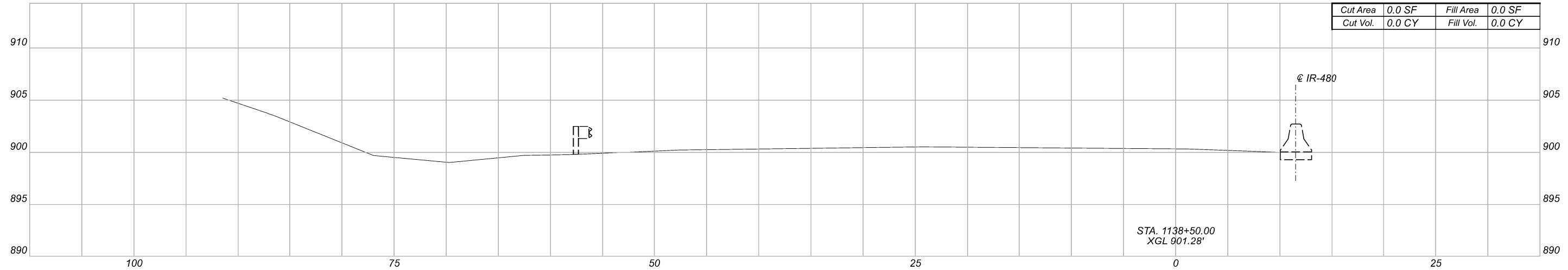
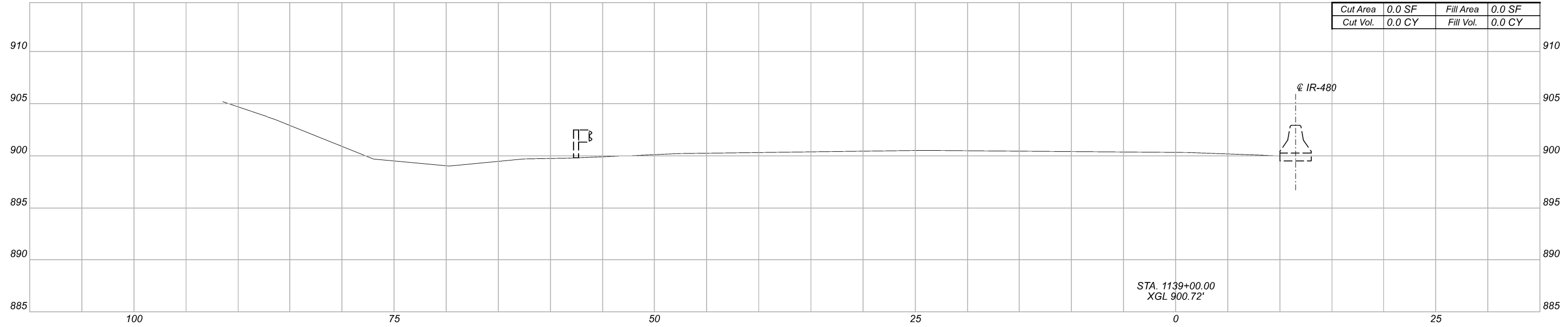
KS Associates, Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 RAP

REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

SHEET TOTAL
 32 98



Totals for Lengths of Project		
Item 203 - Excavation	Item 203 - Embankment	Item 659 - Seeding and Mulching
1791.0 CY	436.3 CY	2833.3 SY

Sheet Totals		
Seeding	Cut	Fill
0	0	0

PROJECT ID	107657
SHEET	33
TOTAL	98

CROSS SECTIONS
 STA 1138+00.00 TO STA 1139+00.00

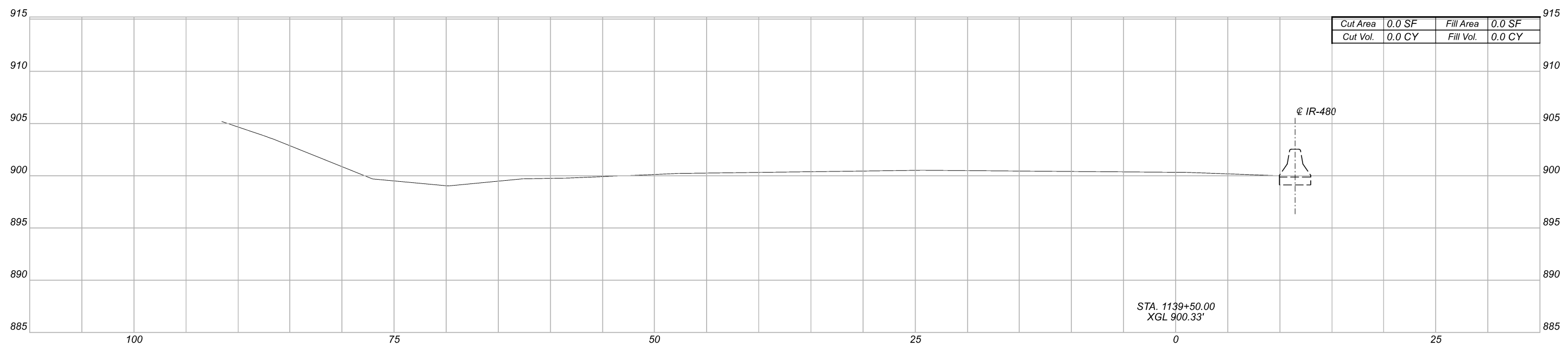
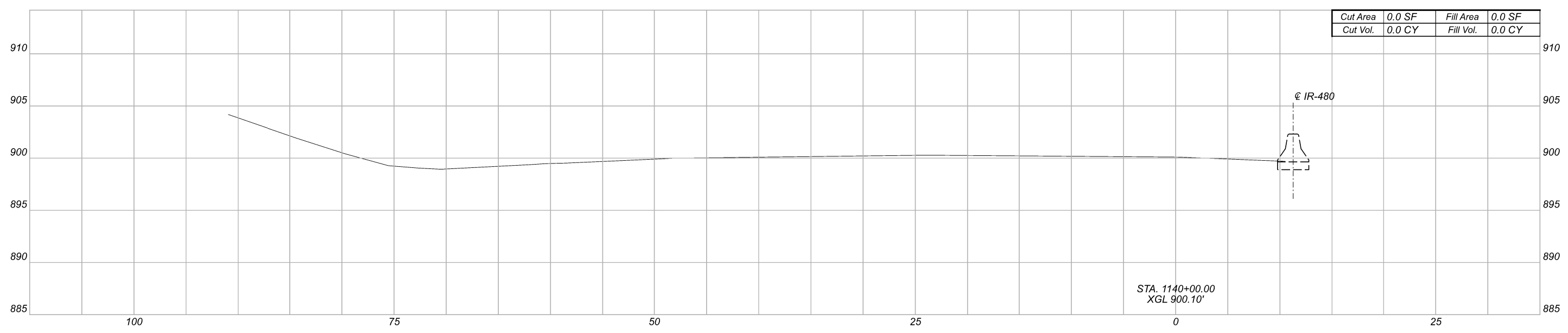
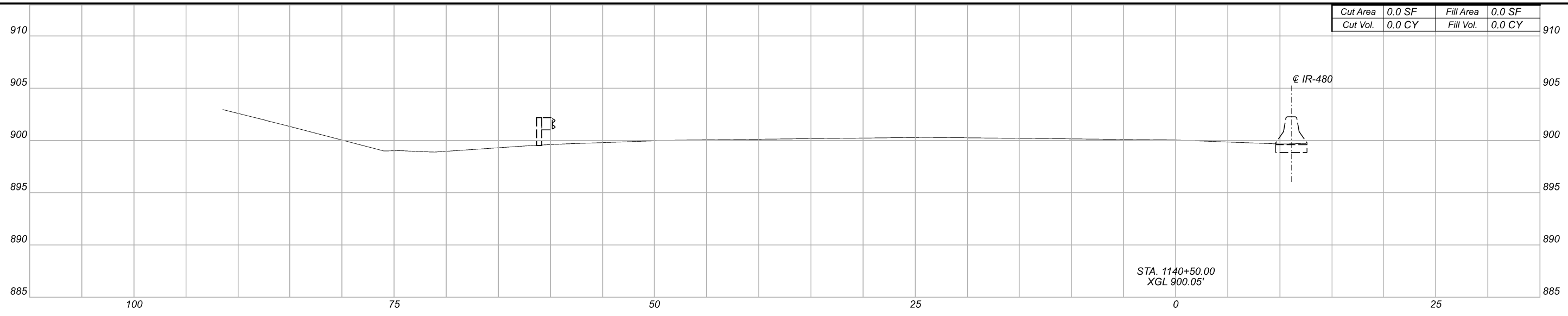
DESIGN AGENCY



KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21



CROSS SECTIONS
 STA 1139+50.00 TO STA 1140+50.00

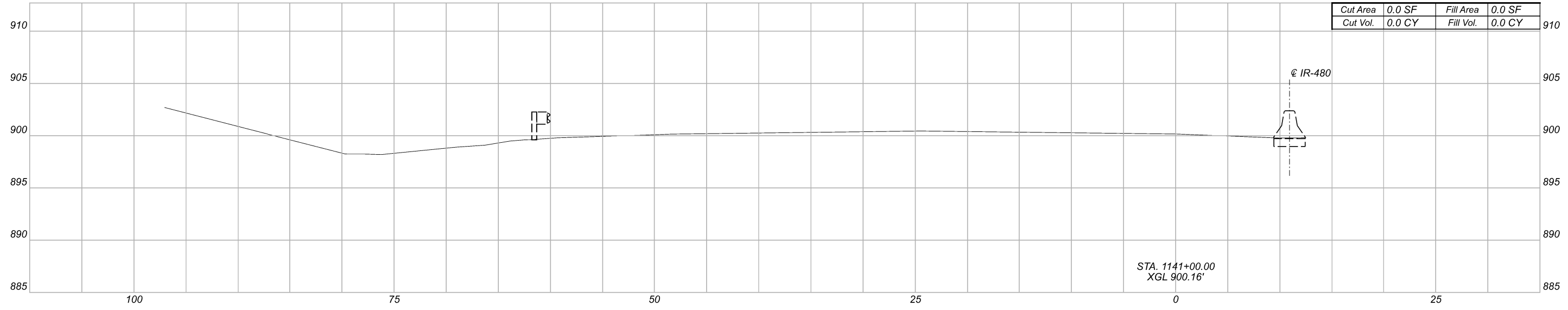
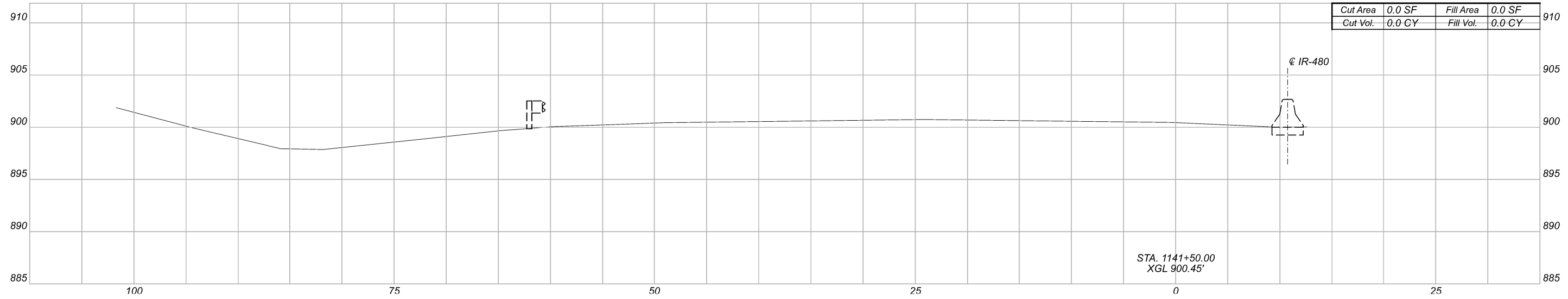
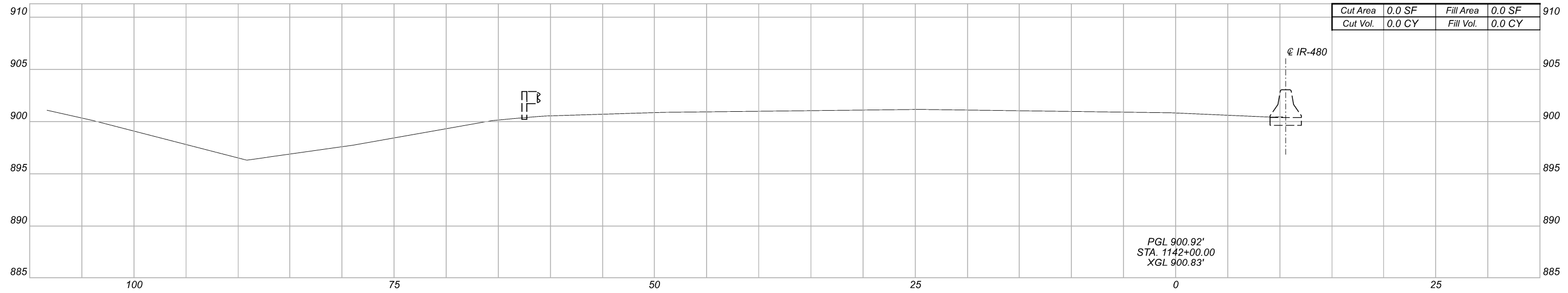
DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

Sheet Totals			TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	34	98



CROSS SECTIONS
 STA 1141+00.00 TO STA 1142+00.00

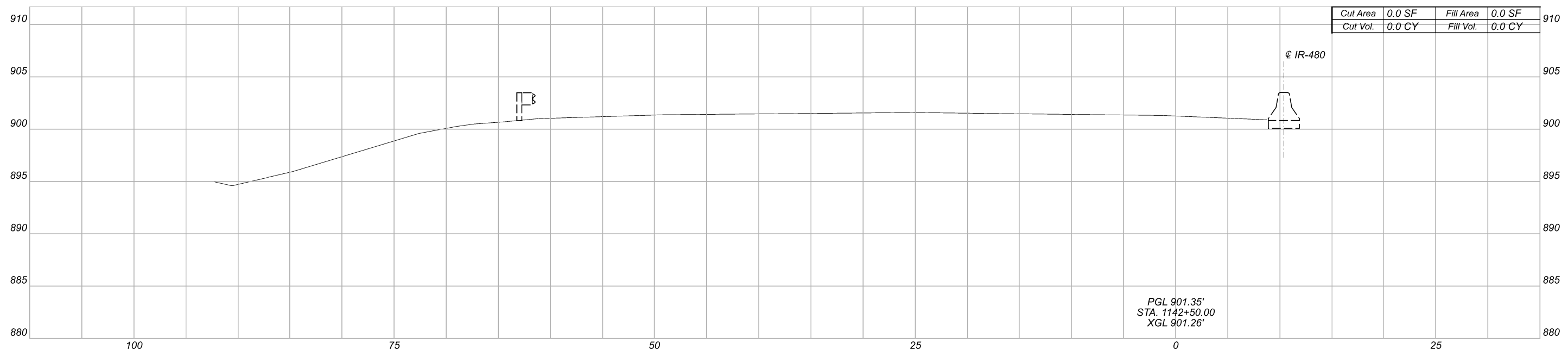
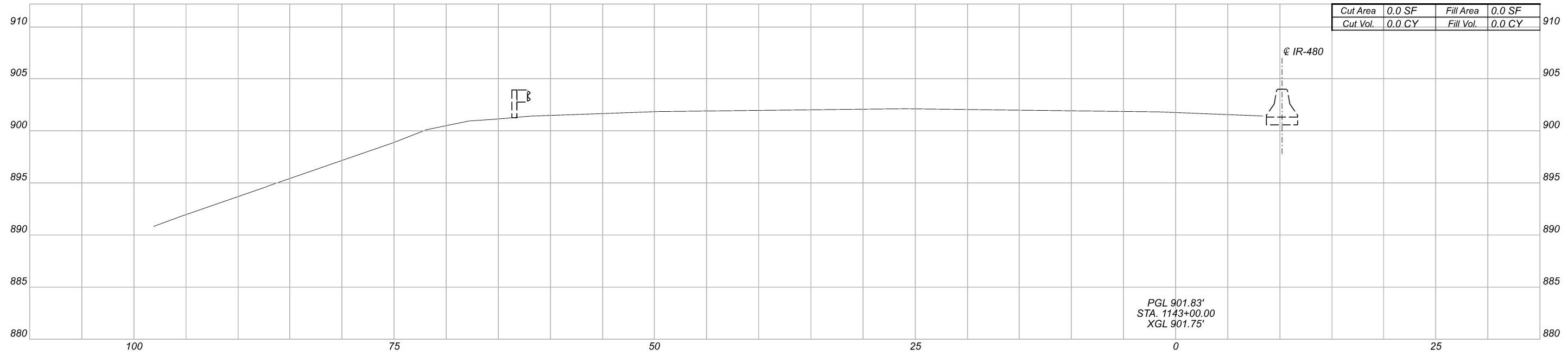
DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	0	0	35 98



Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	0	0	36 98

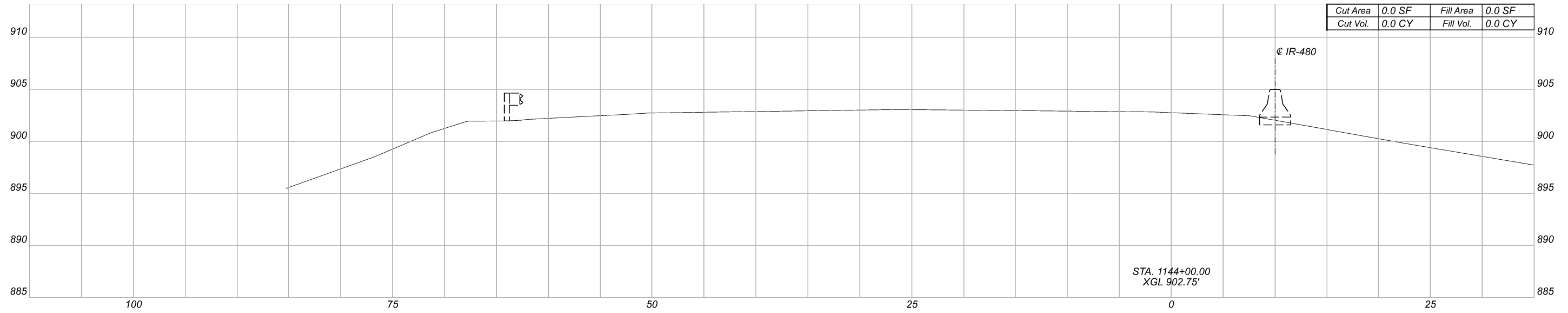
DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

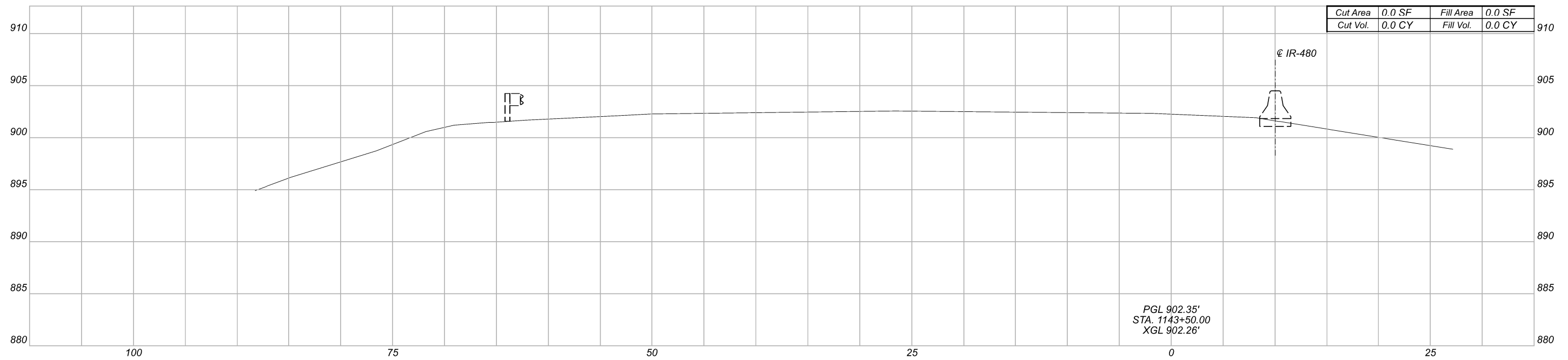
REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

CROSS SECTIONS
 STA 1142+50.00 TO STA 1143+00.00



STA. 1144+00.00
XGL 902.75'



PGL 902.35'
STA. 1143+50.00
XGL 902.26'

CROSS SECTIONS
STA 1143+50.00 TO STA 1144+00.00

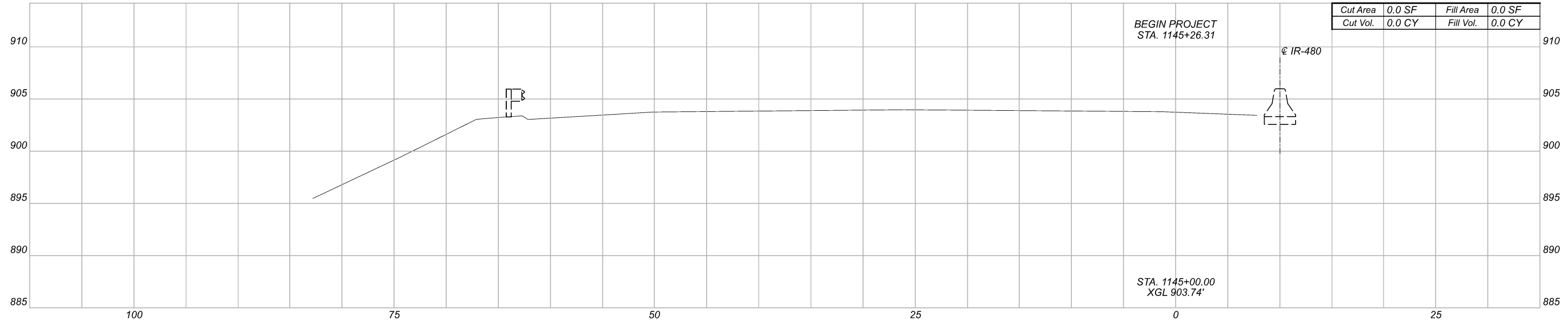


DESIGNER
EJB

REVIEWER
WAA 01-11-21

PROJECT ID
107657

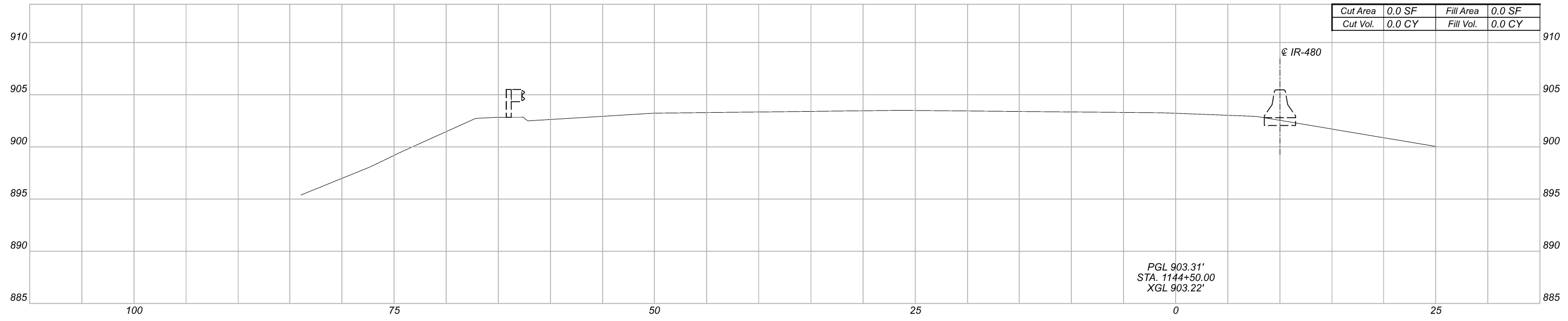
Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	0	0	37 98



BEGIN PROJECT
 STA. 1145+26.31

STA. 1145+00.00
 XGL 903.74'

Ø IR-480



PGL 903.31'
 STA. 1144+50.00
 XGL 903.22'

Ø IR-480

CROSS SECTIONS
 STA 1144+50.00 TO STA 1145+00.00

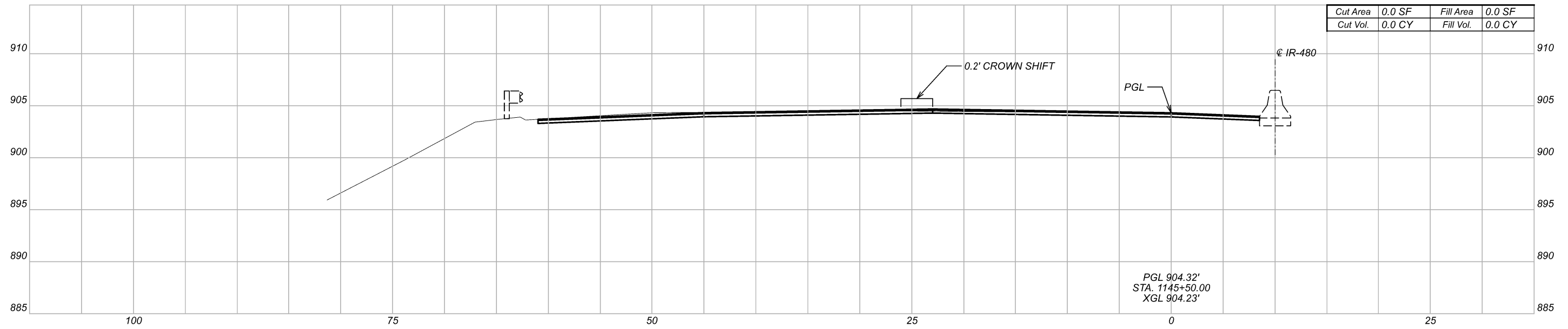
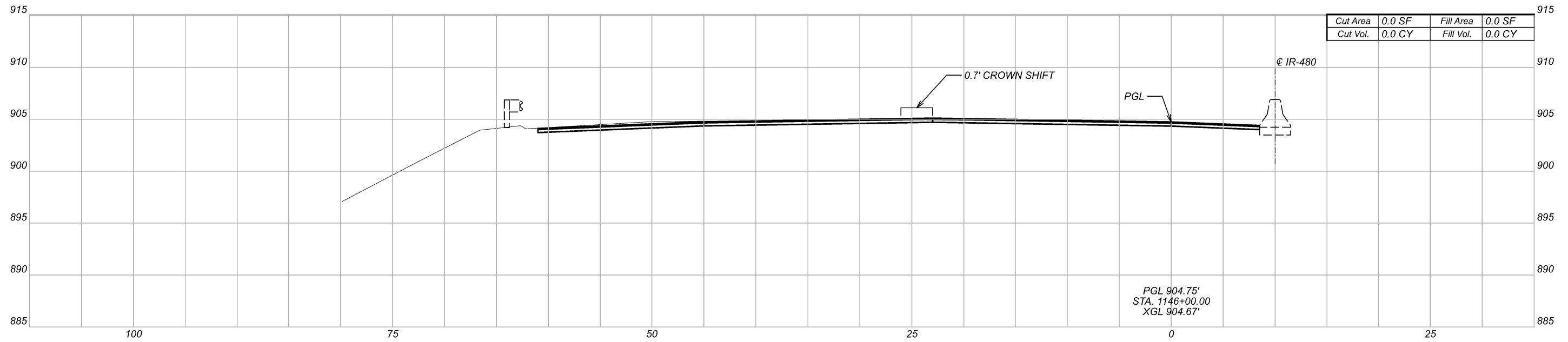


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 107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	38	98



CROSS SECTIONS
 STA 1145+50.00 TO STA 1146+00.00

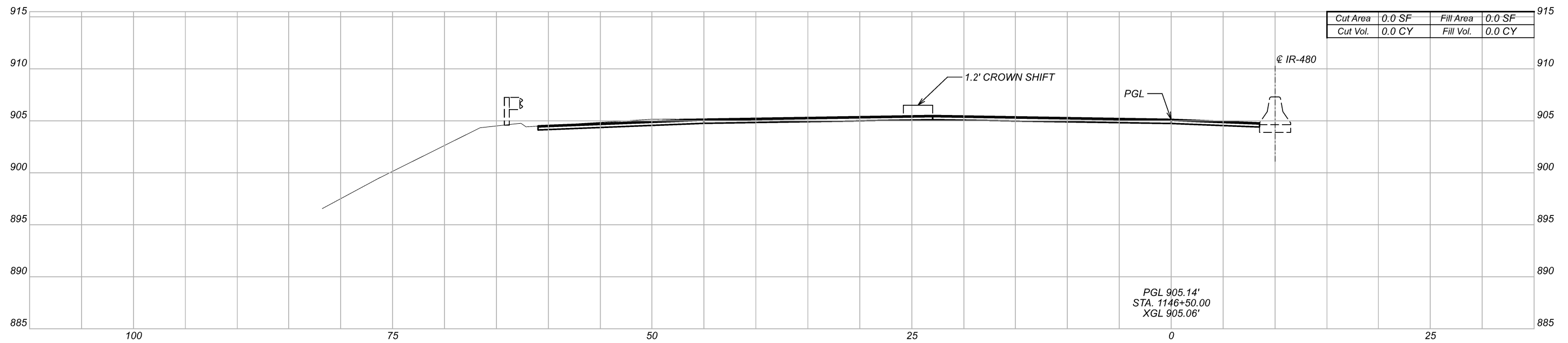
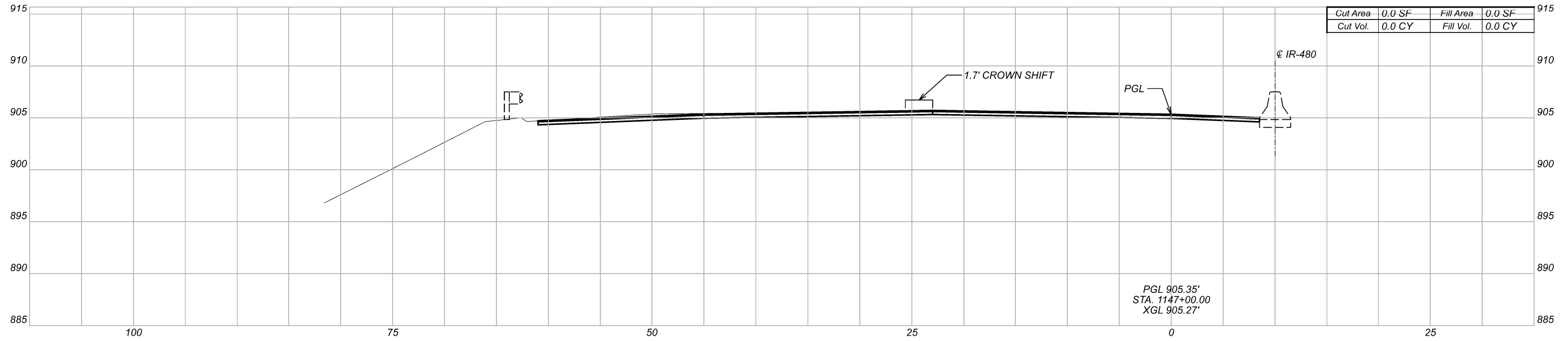


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Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	0	0	39 98



CROSS SECTIONS
 STA 1146+50.00 TO STA 1147+00.00

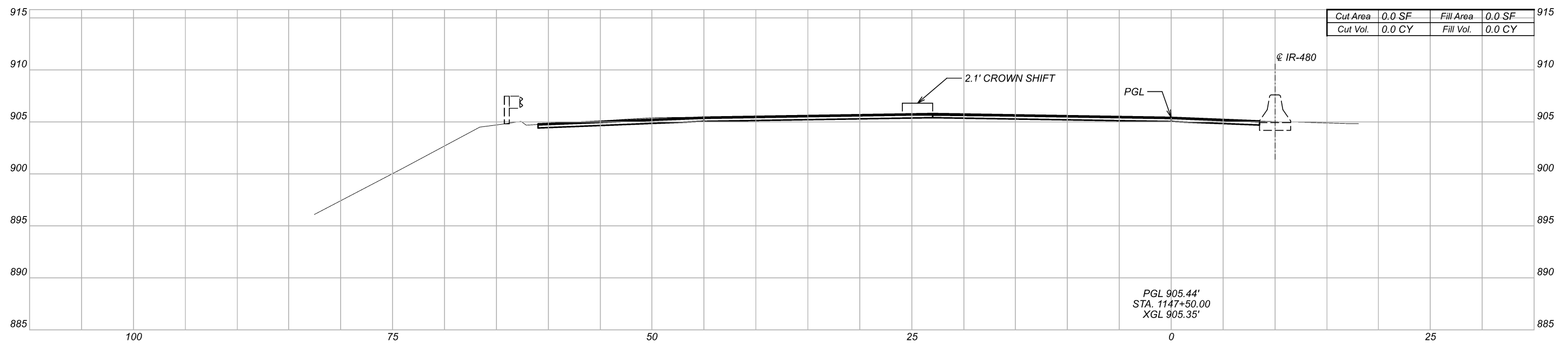
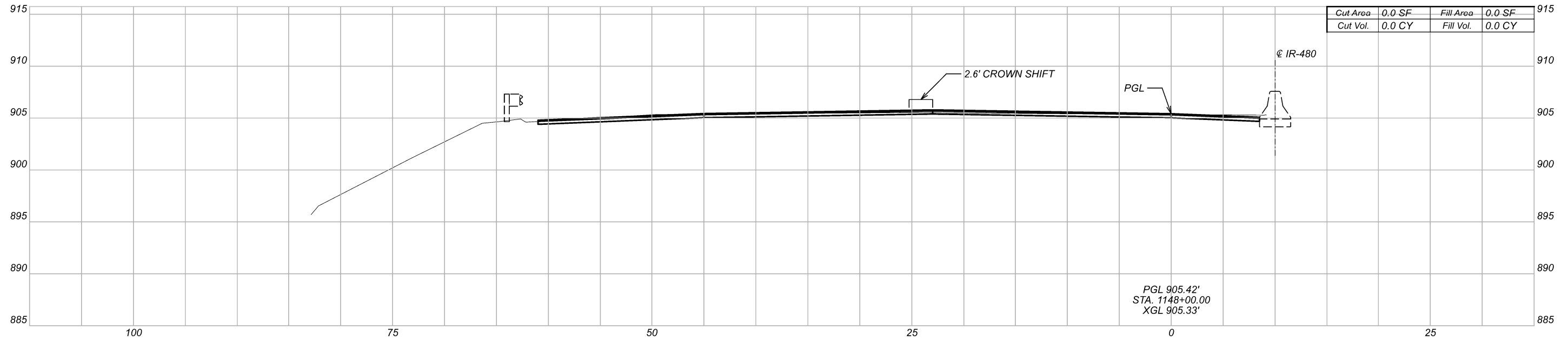


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Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	40	98
0	0	0		



CROSS SECTIONS
 STA 1147+50.00 TO STA 1148+00.00

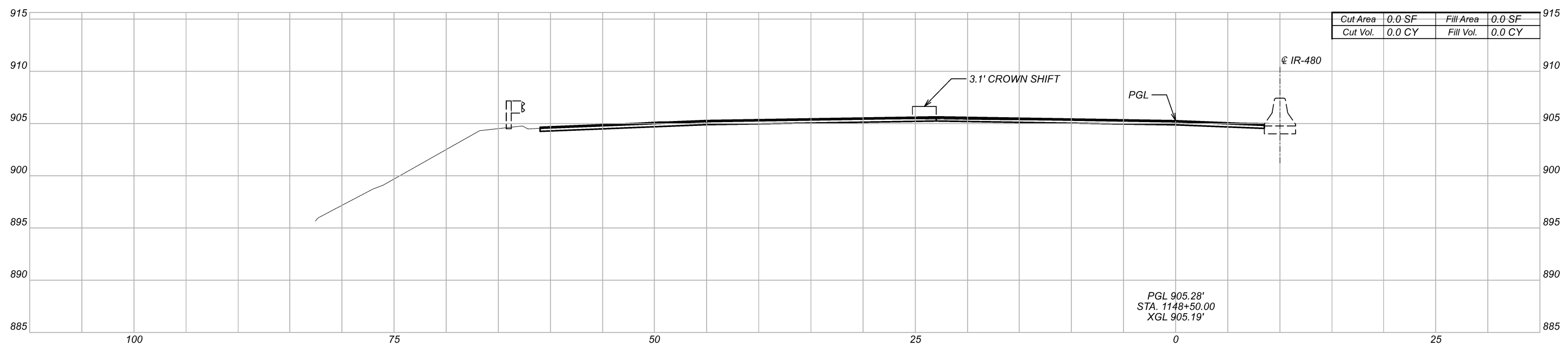
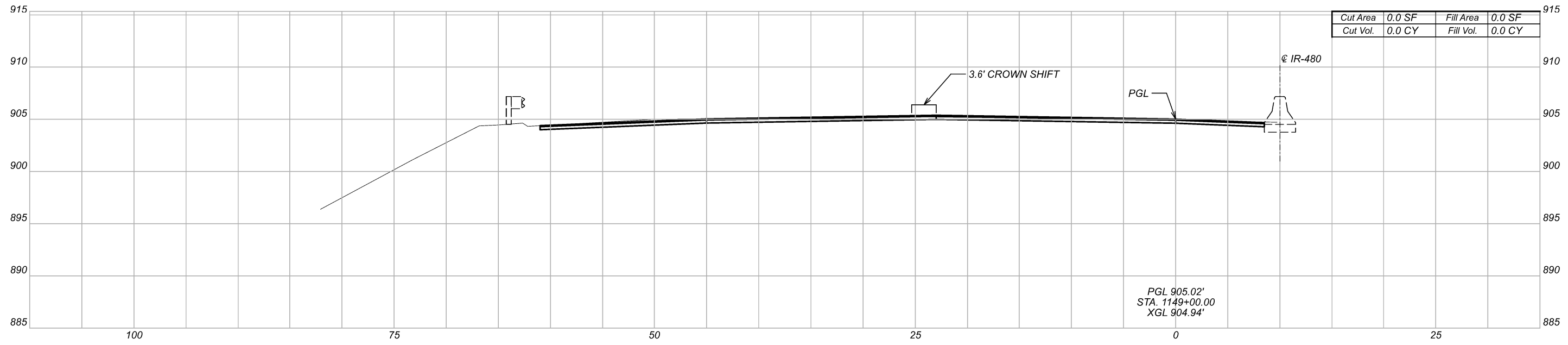


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 107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	41	98



Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	0	0	42 98

CROSS SECTIONS
 STA 1148+50.00 TO STA 1149+00.00

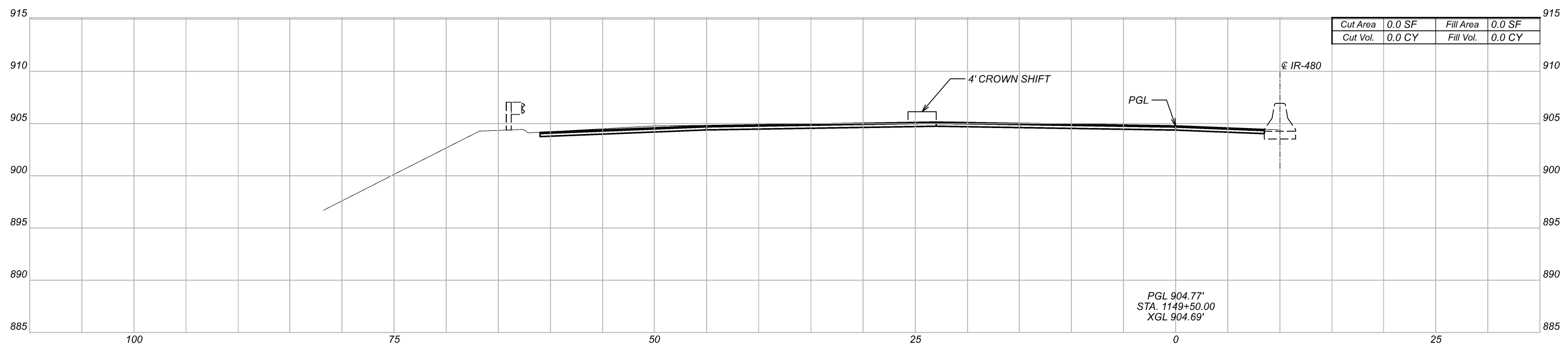
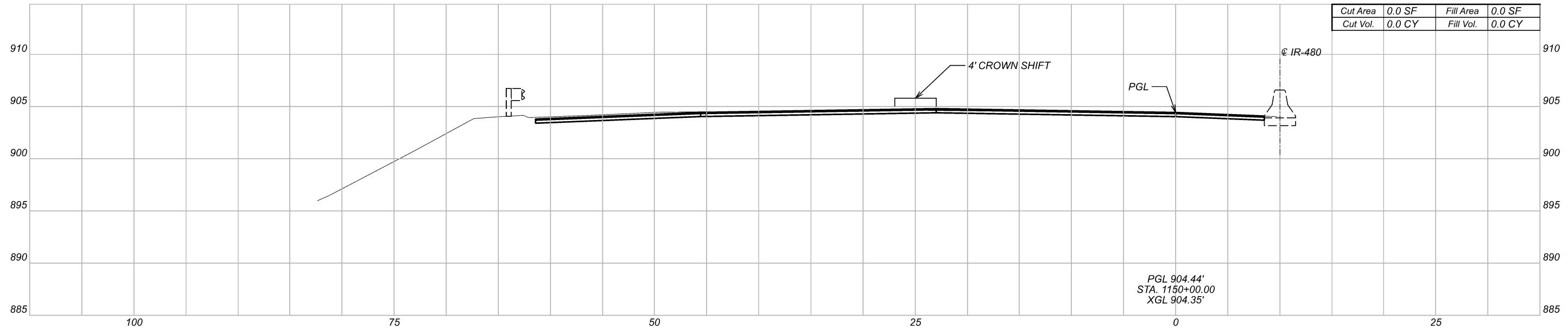
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CROSS SECTIONS
 STA 1149+50.00 TO STA 1150+00.00

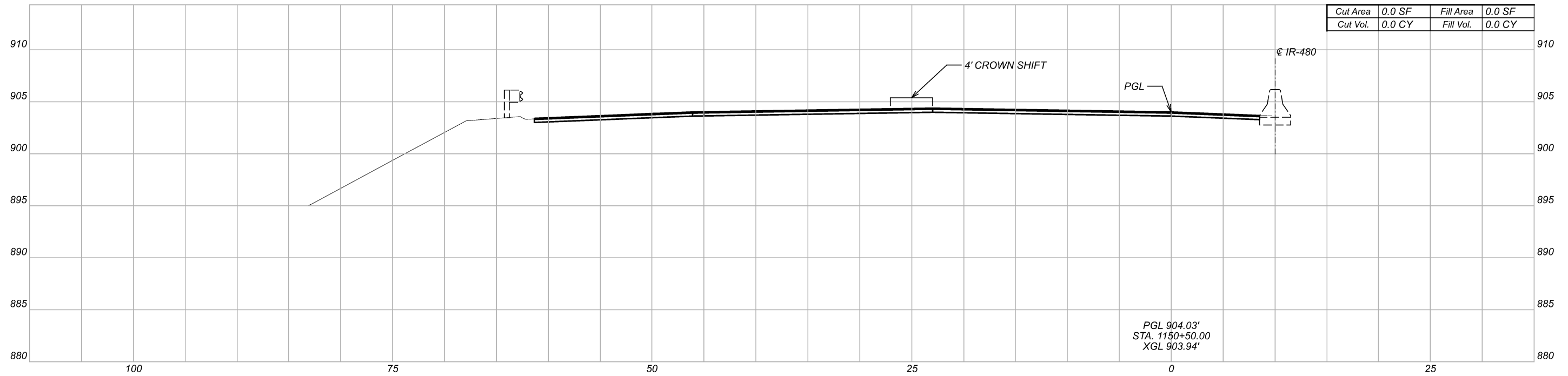
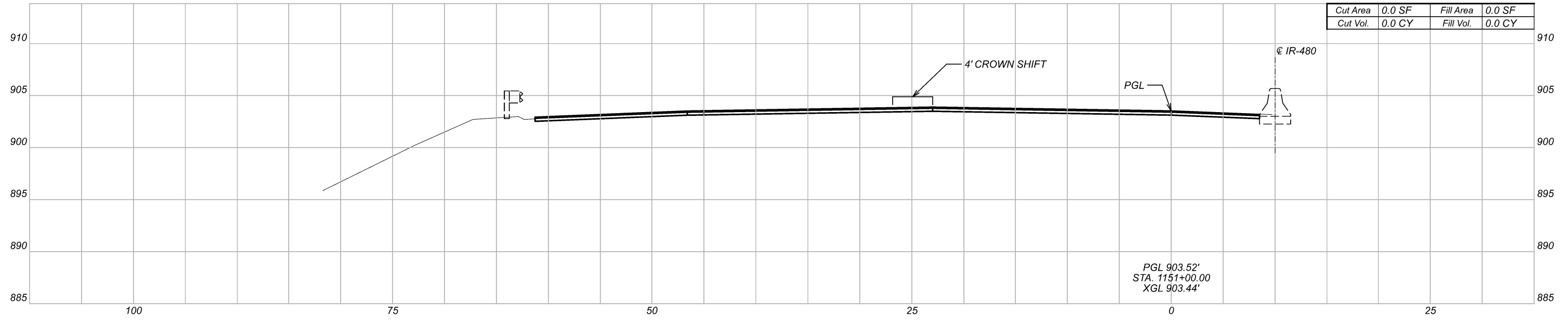


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 107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	43	98

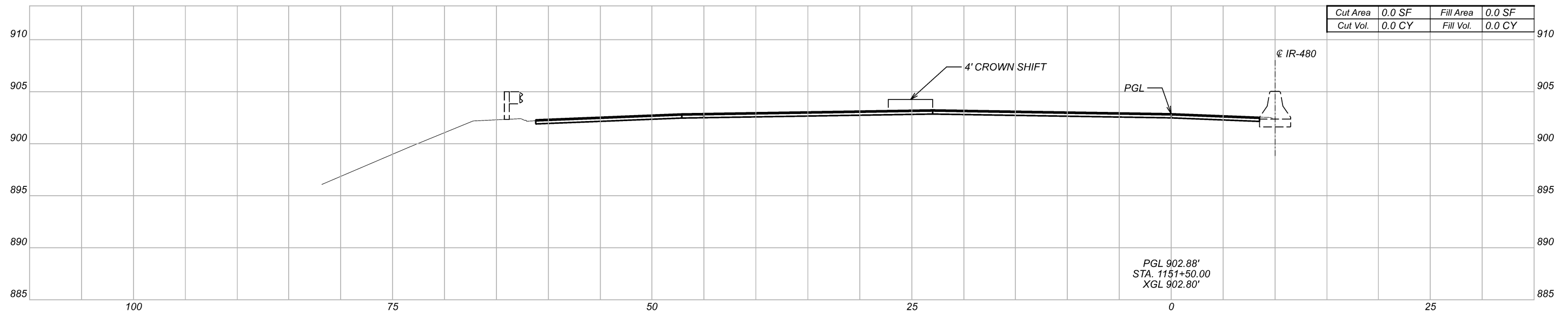
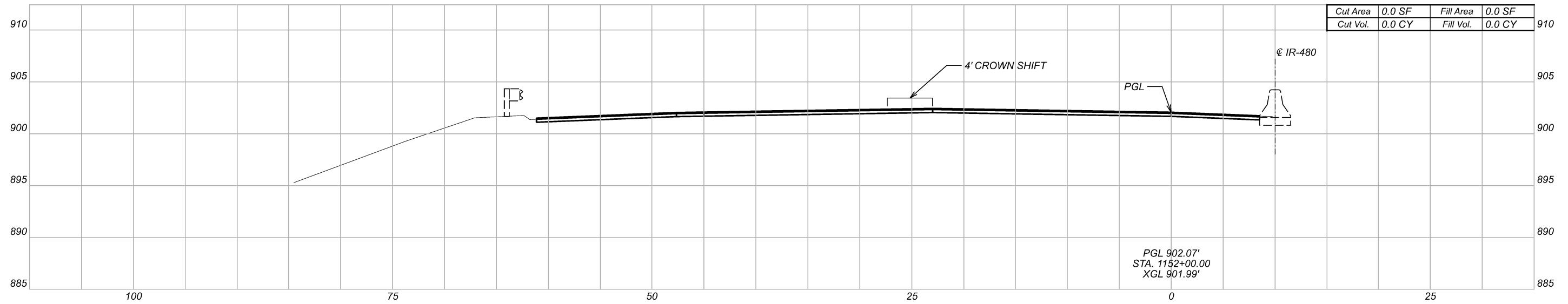
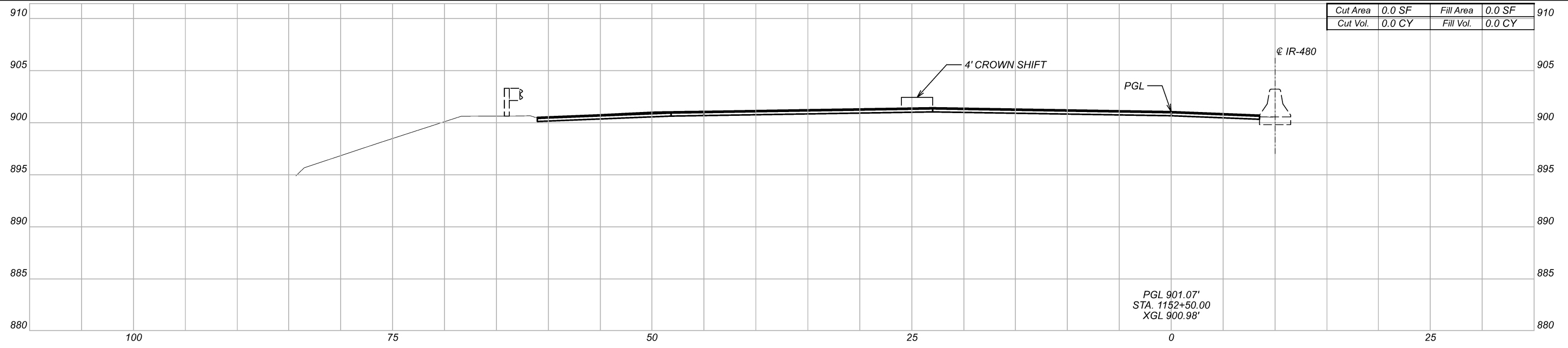


Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	0	0	44 98



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CROSS SECTIONS
 STA 1150+50.00 TO STA 1151+00.00



CROSS SECTIONS
STA 1151+50.00 TO STA 1152+50.00

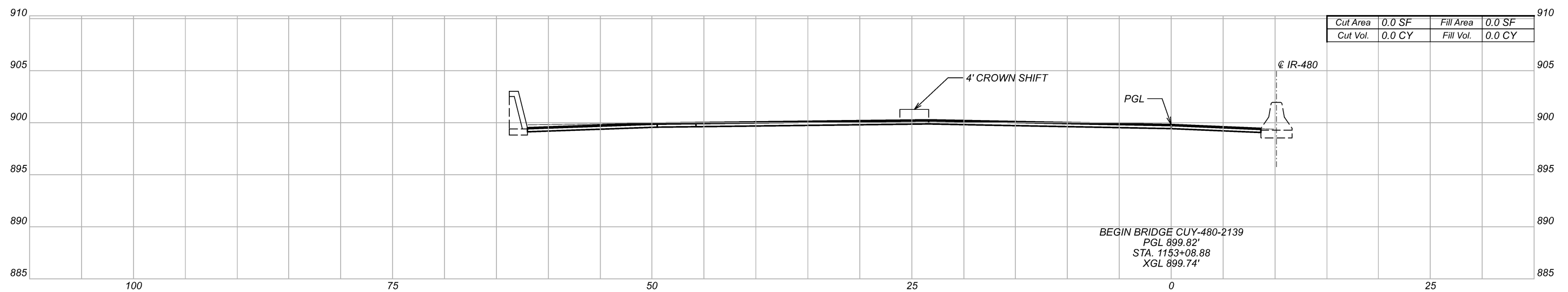
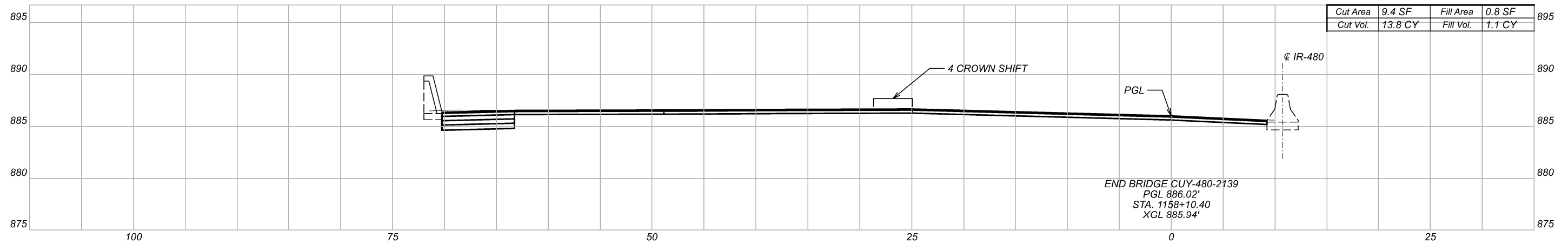
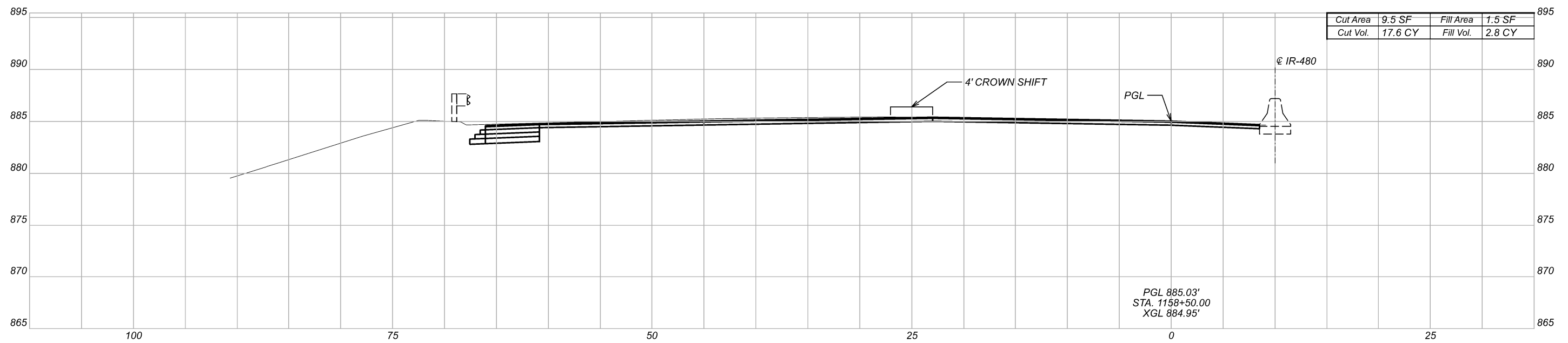


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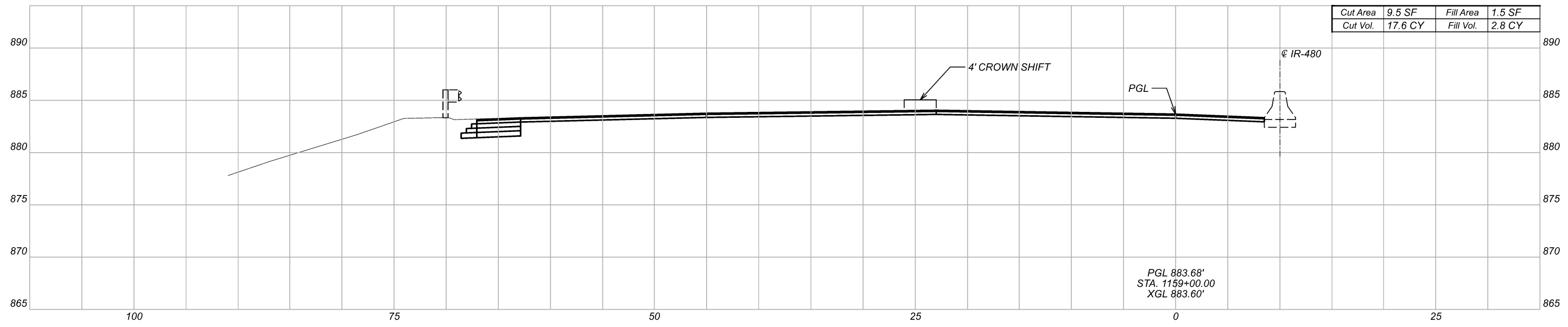
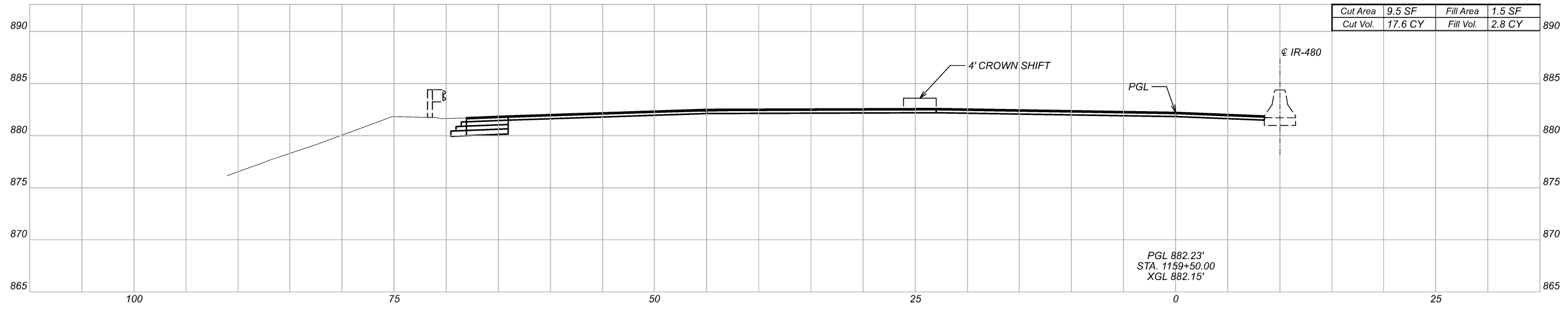
PROJECT ID
107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	45	98



CROSS SECTIONS
 STA 1153+08.88 TO STA 1158+50.00

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	31.4	3.9	46	98

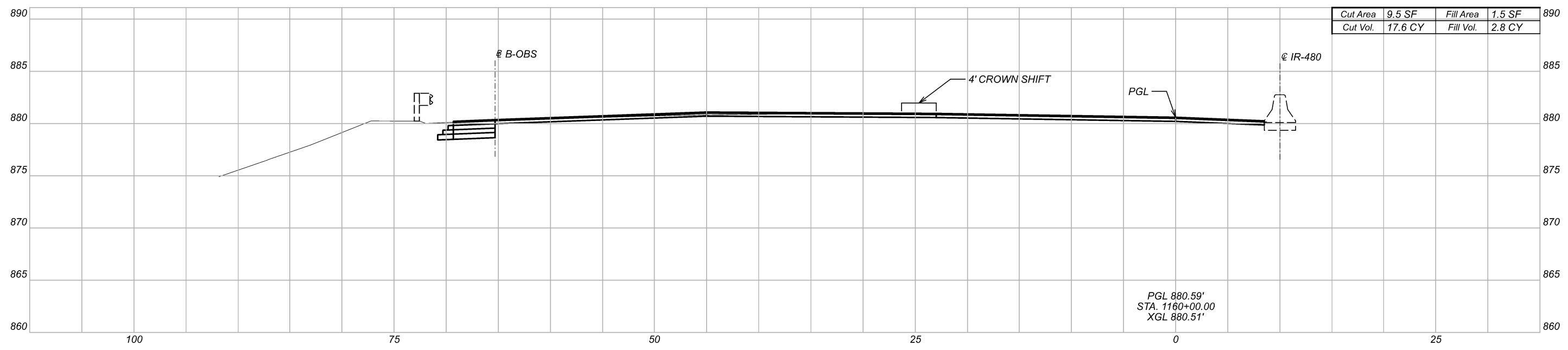
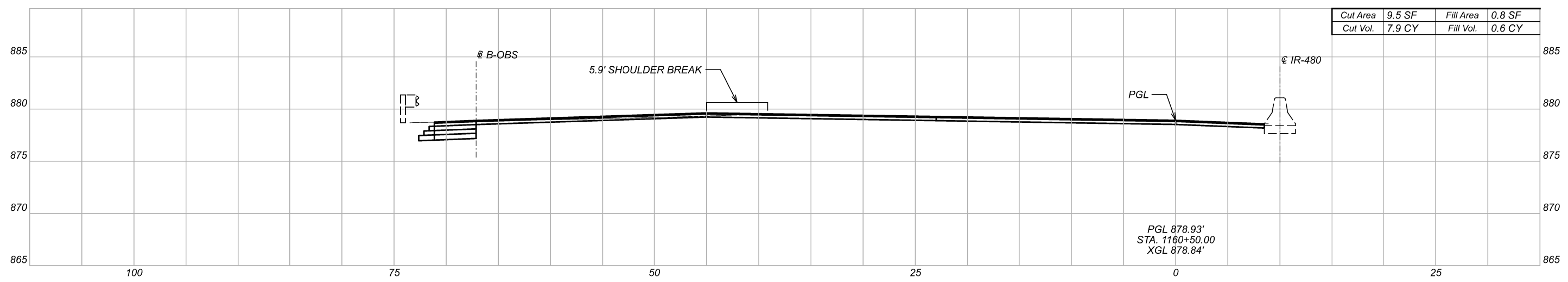
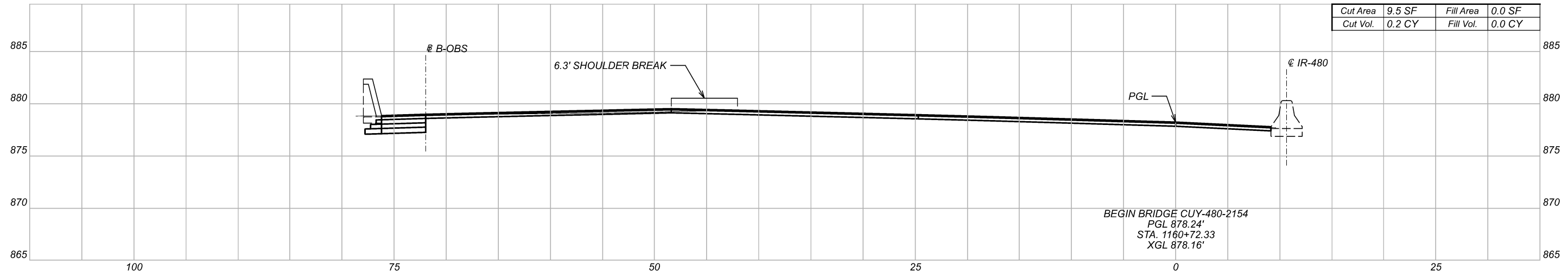


CROSS SECTIONS
 STA 1159+00.00 TO STA 1159+50.00



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Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	35.2	5.6	47 98



CROSS SECTIONS
 STA 1160+00.00 TO STA 1160+72.33

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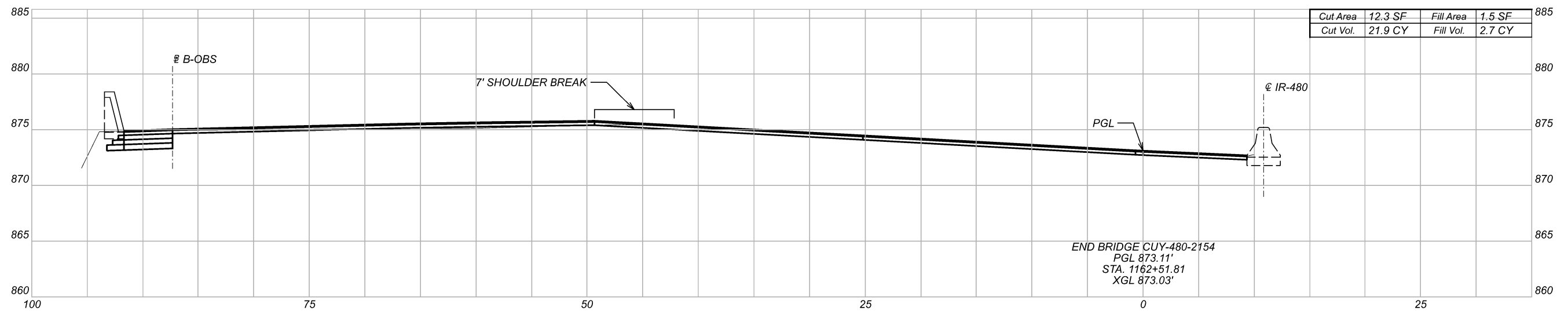
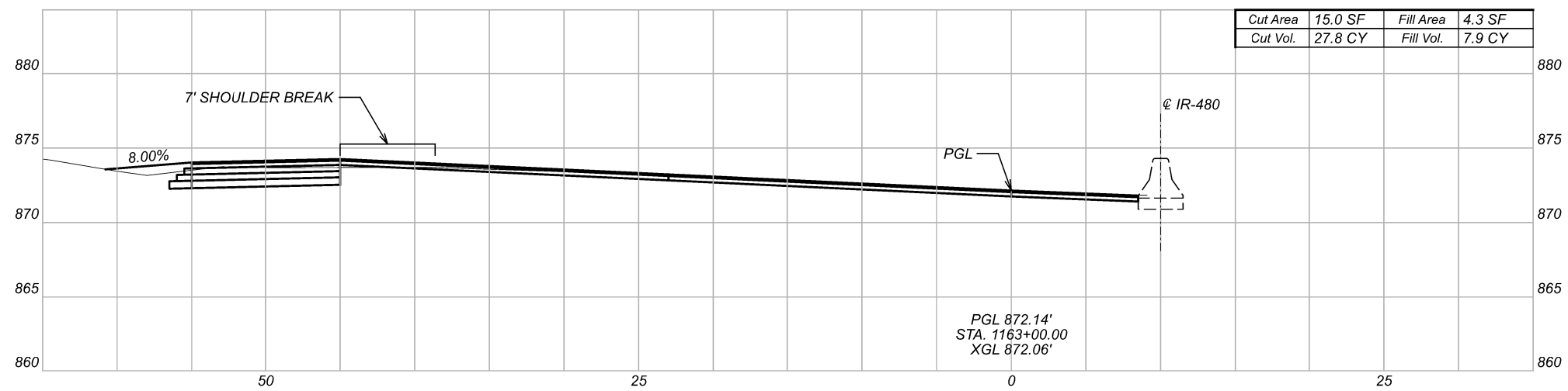
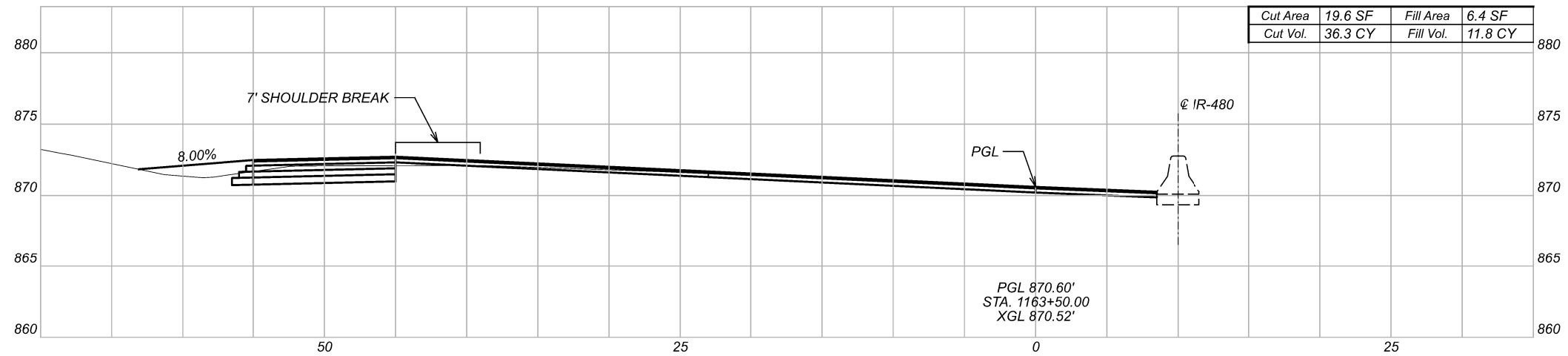
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 107657

Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
0	25.7	3.4	48	98

SEEDING	
END WIDTH	SO. YDS.
92.8	
8.0	
38.3	
5.8	
15.5	
0.0	
146.6	



Sheet Totals		
Seeding	Cut	Fill
146.6	86.0	22.4

CROSS SECTIONS
 STA 1162+51.81 TO STA 1163+50.00

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SHEET	TOTAL
49	98

SEEDING	
END WIDTH	SO. YDS.

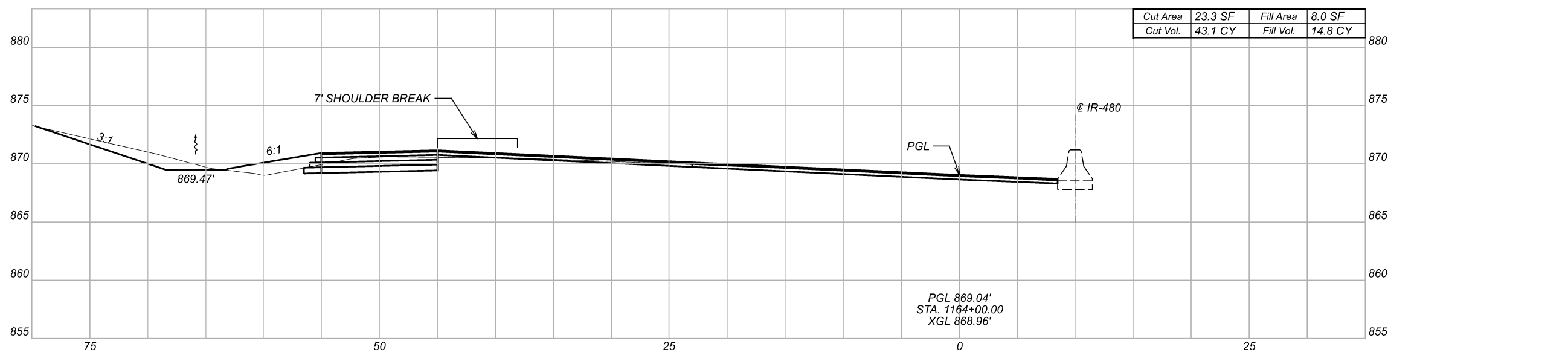
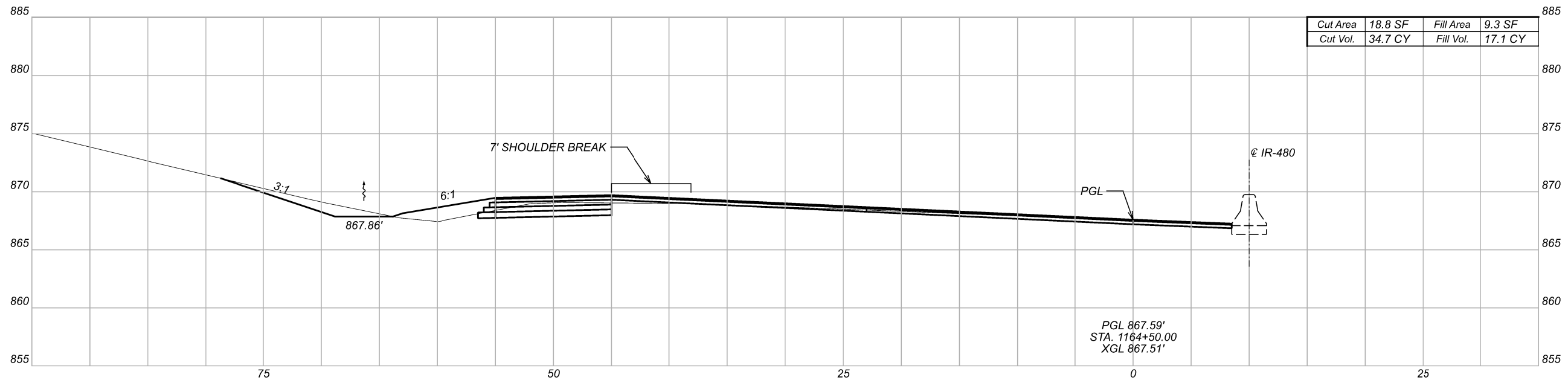
120.6

24.4

138.3

25.4

258.9



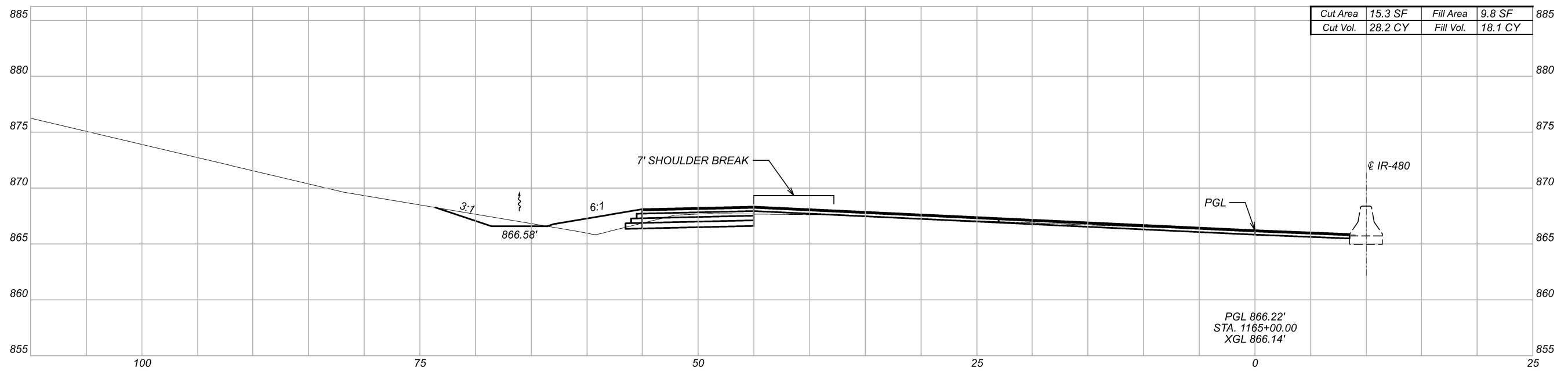
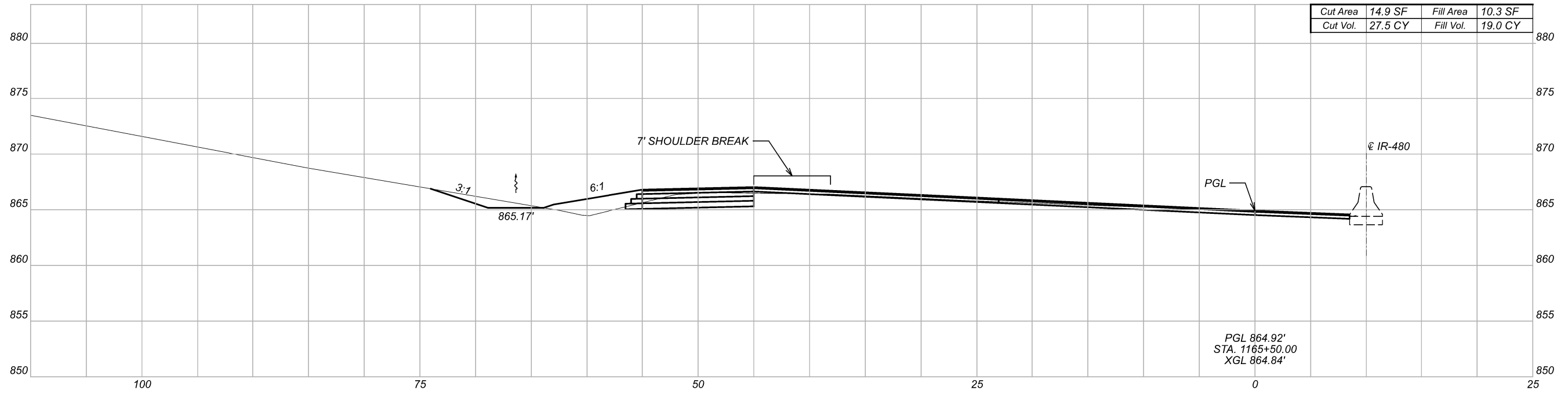
CROSS SECTIONS
 STA 1164+00.00 TO STA 1164+50.00



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Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
258.9	77.8	31.9	50	98

SEEDING	
END WIDTH	SO. YDS.
109.2	
106.7	
19.4	
19.0	
215.9	



Sheet Totals		
Seeding	Cut	Fill
215.9	55.7	37.7

CROSS SECTIONS
 STA 1165+00.00 TO STA 1165+50.00



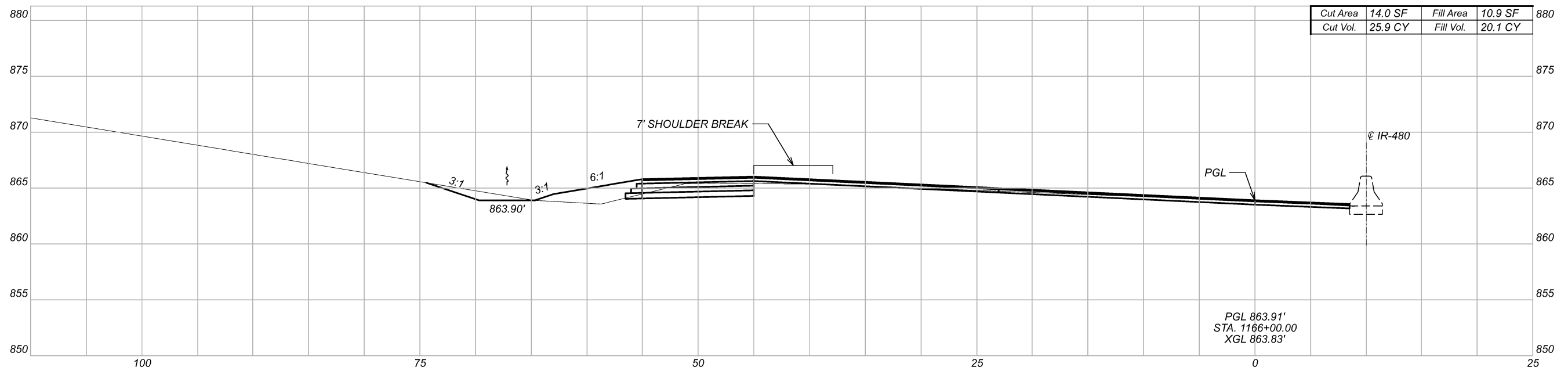
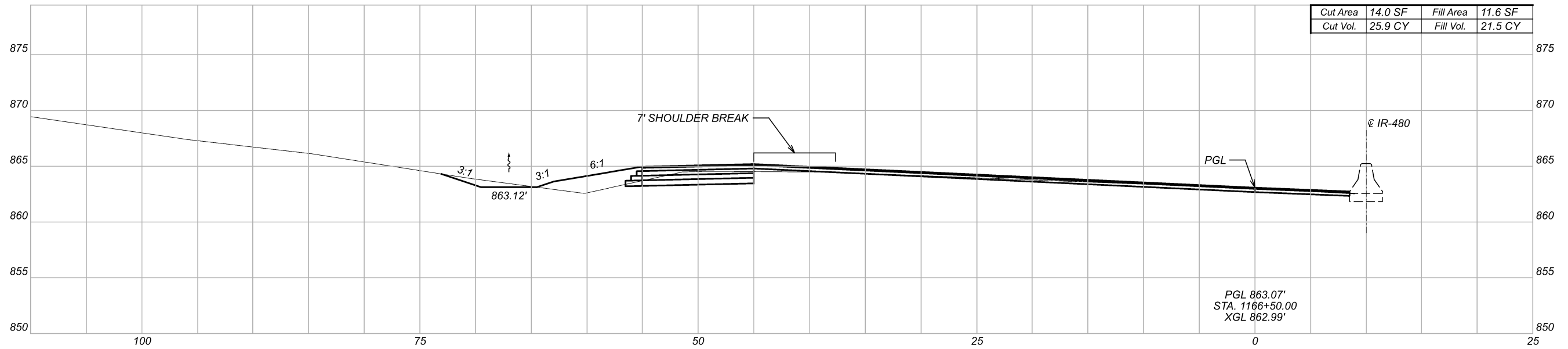
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PROJECT ID
 107657

SHEET	TOTAL
51	98

SEEDING	
END WIDTH	SO. YDS.
107.8	
18.5	
106.7	
19.9	
214.5	



Sheet Totals		
Seeding	Cut	Fill
214.5	51.8	41.6

CROSS SECTIONS
 STA 1166+00.00 TO STA 1166+50.00

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SHEET	TOTAL
52	98

SEEDING	
END WIDTH	SO. YDS.
45.8	
16.3	
101.7	
20.3	
147.5	

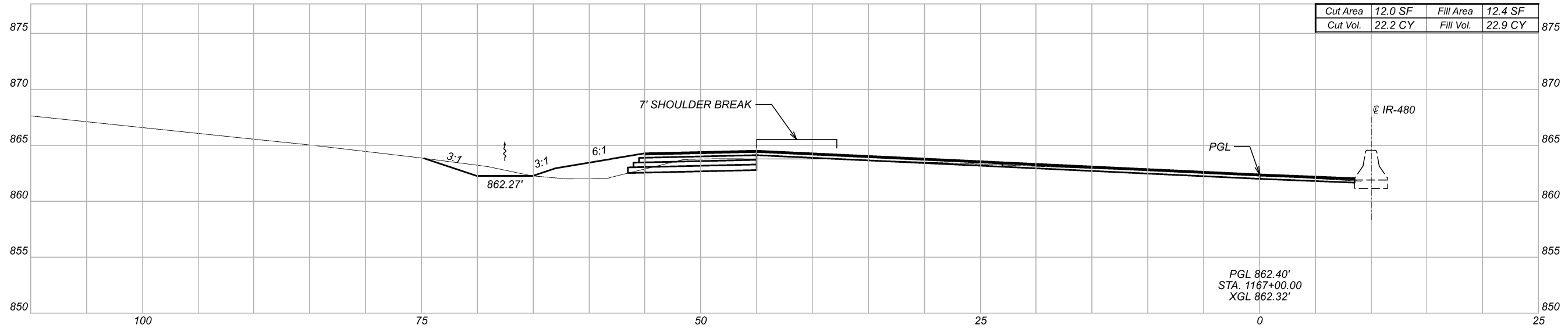
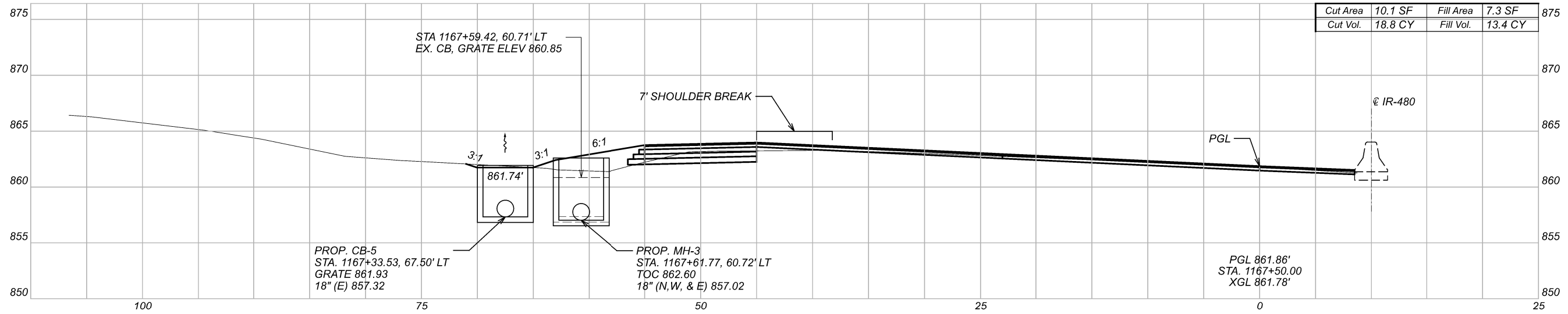
45.8

16.3

101.7

20.3

147.5



CROSS SECTIONS
STA 1167+00.00 TO STA 1167+50.00



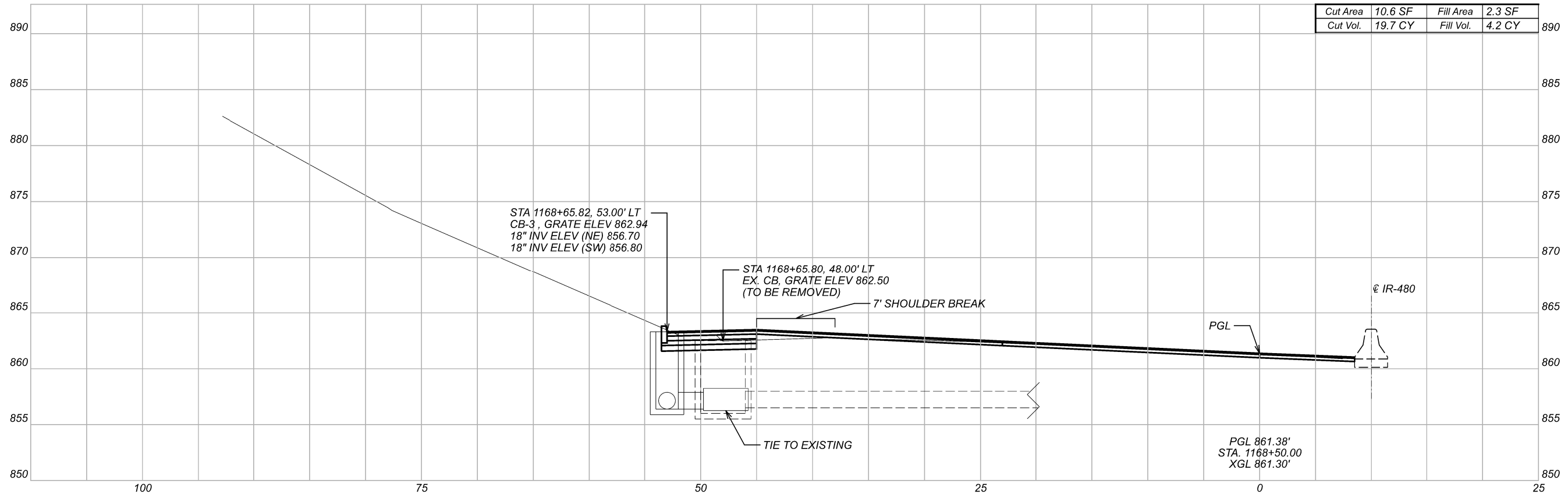
DESIGNER
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WAA 01-11-21
PROJECT ID
107657

Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
147.5	41.0	36.3	53	98

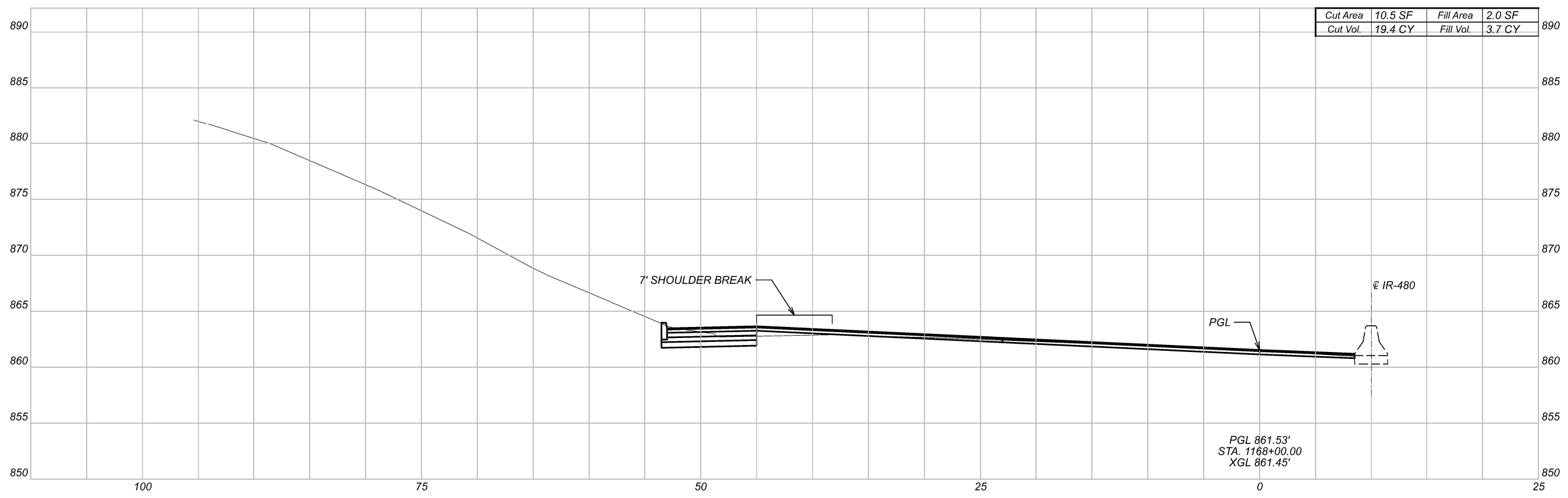
SEEDING	
END WIDTH	SO. YDS.

8.7	
0.4	
1.7	

0.2	
10.4	



Cut Area	10.6 SF	Fill Area	2.3 SF
Cut Vol.	19.7 CY	Fill Vol.	4.2 CY



Cut Area	10.5 SF	Fill Area	2.0 SF
Cut Vol.	19.4 CY	Fill Vol.	3.7 CY

Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
10.4	39.1	7.9	54	98

CROSS SECTIONS
 STA 1168+00.00 TO STA 1168+50.00

DESIGN AGENCY

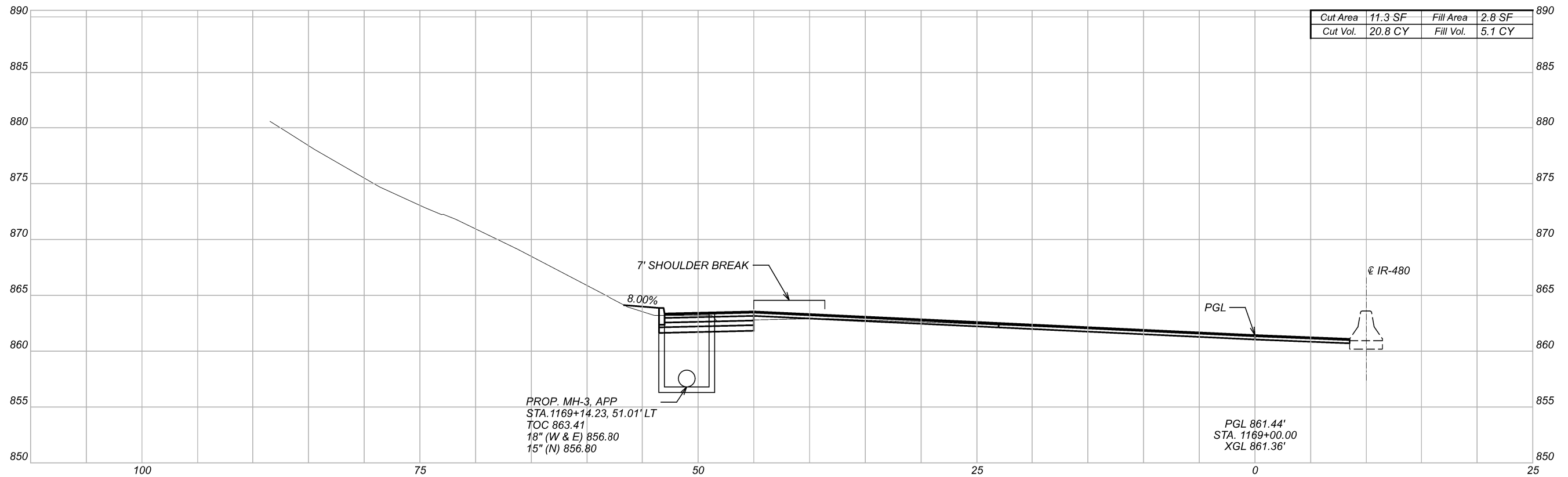
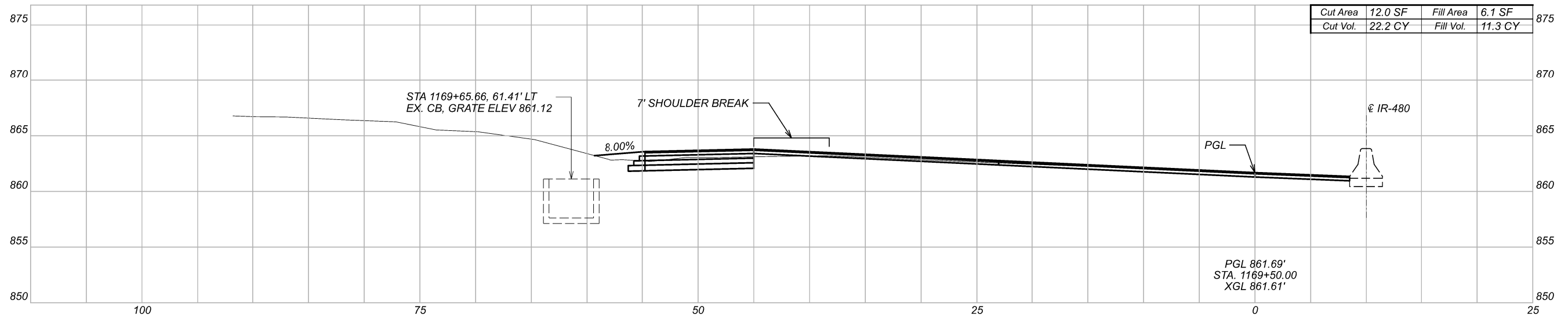
 KS Associates Inc.
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 107657

SEEDING	
END WIDTH	SO. YDS.
47.5	
4.6	
21.4	
3.1	
68.9	



Sheet Totals		
Seeding	Cut	Fill
68.9	43.0	16.4

CROSS SECTIONS
 STA 1169+00.00 TO STA 1169+50.00



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PROJECT ID
107657

SHEET	TOTAL
55	98

SEEDING	
END WIDTH	SO. YDS.
53.6	
63.9	
117.5	

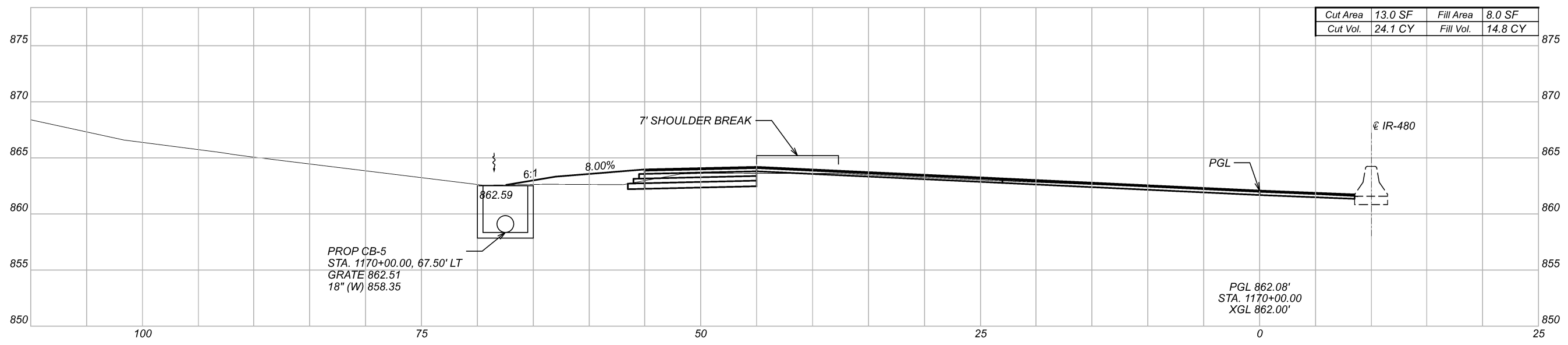
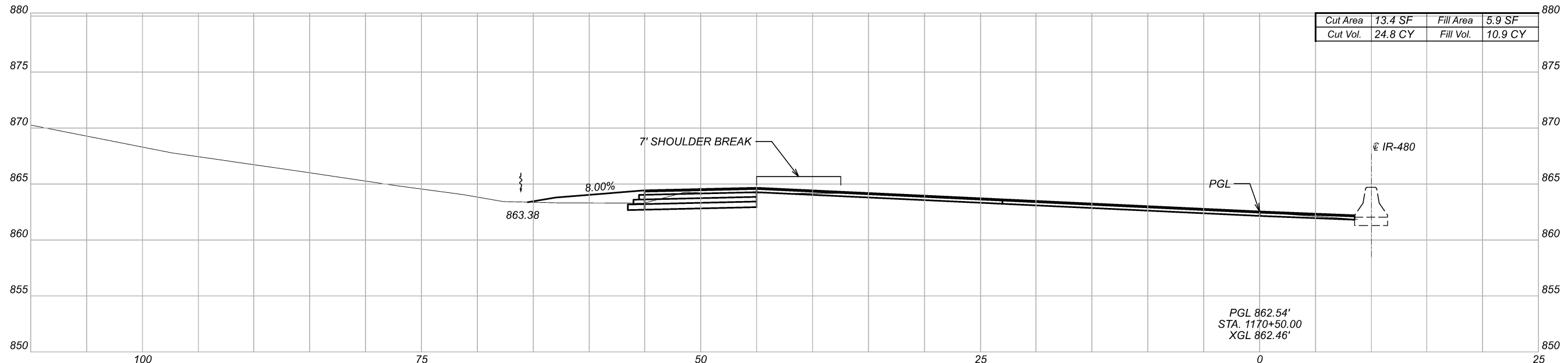
53.6

10.5

63.9

12.5

117.5



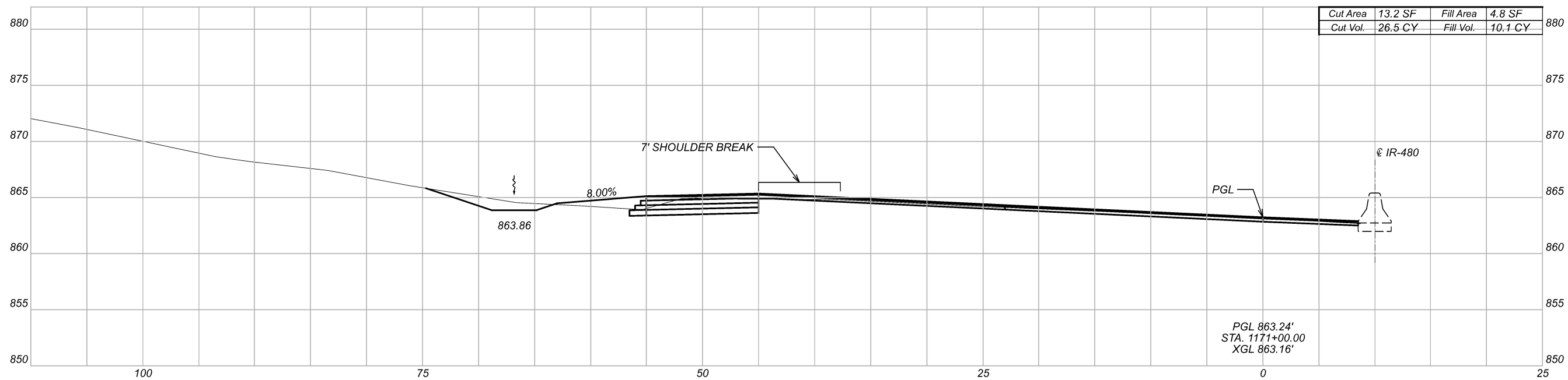
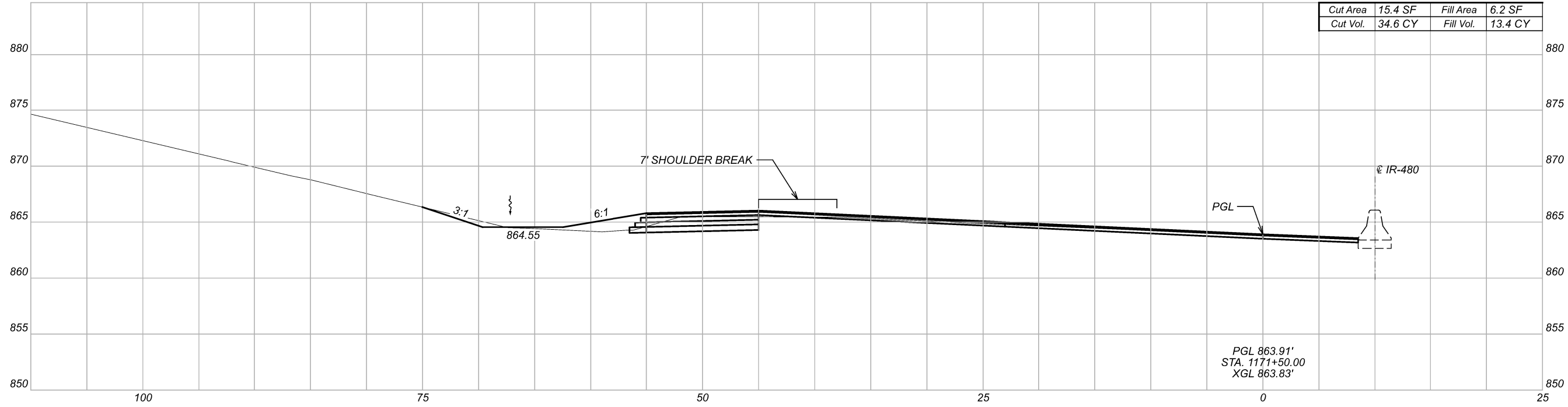
CROSS SECTIONS
 STA 1170+00.00 TO STA 1170+50.00



DESIGN AGENCY
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 PROJECT ID: 107657

Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
117.5	48.9	25.7	56	98

SEEDING	
END WIDTH	SO. YDS.
136.1	
20.5	
80.8	
8.6	
216.9	



Sheet Totals		
Seeding	Cut	Fill
216.9	61.7	23.5

CROSS SECTIONS
 STA 1171+00.00 TO STA 1171+50.00

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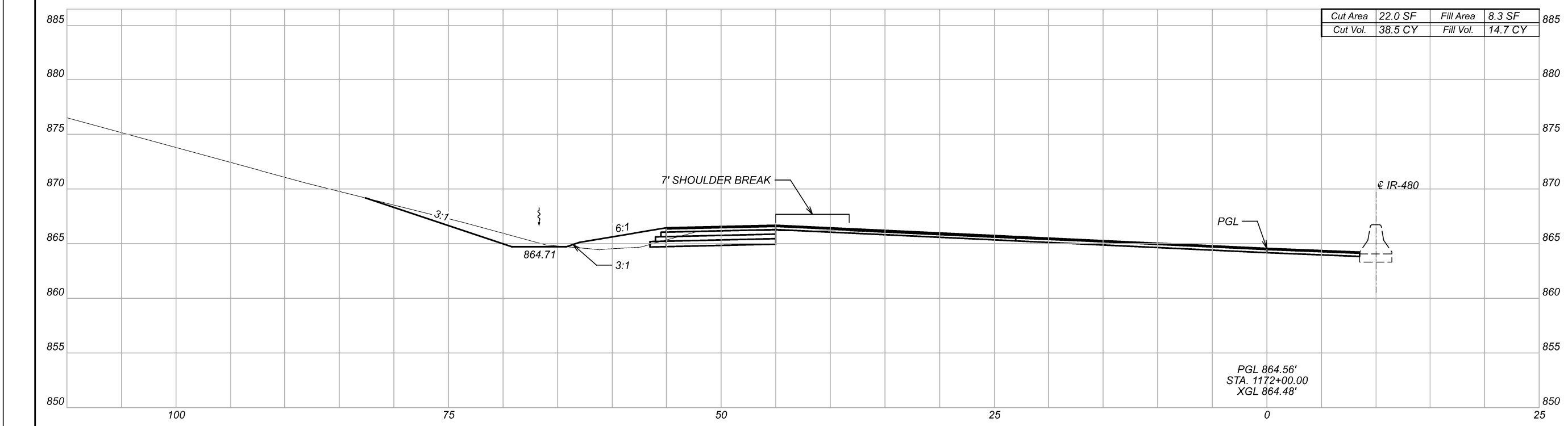
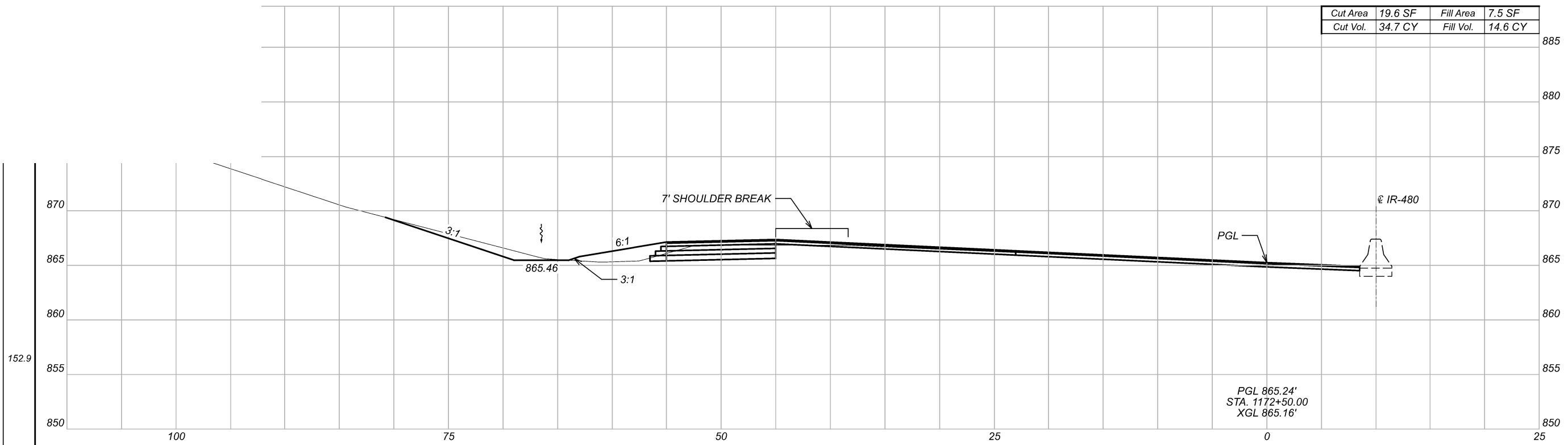
PROJECT ID
 107657

SHEET	TOTAL
57	98

304.5

152.9

28.5



Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
304.5	73.2	29.3	58	98

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 260 Burns Road
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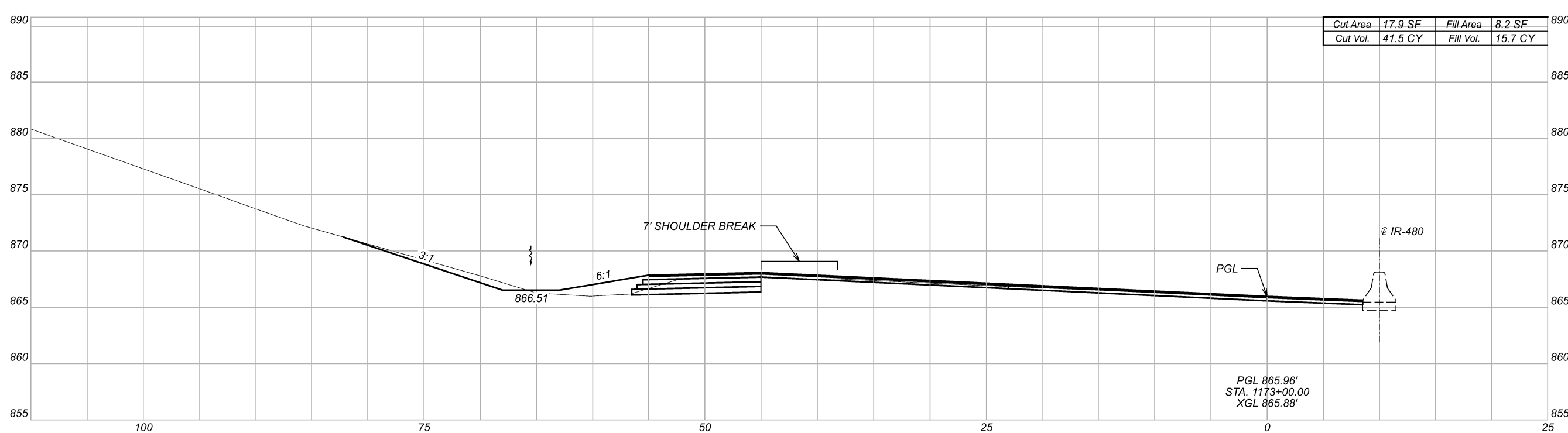
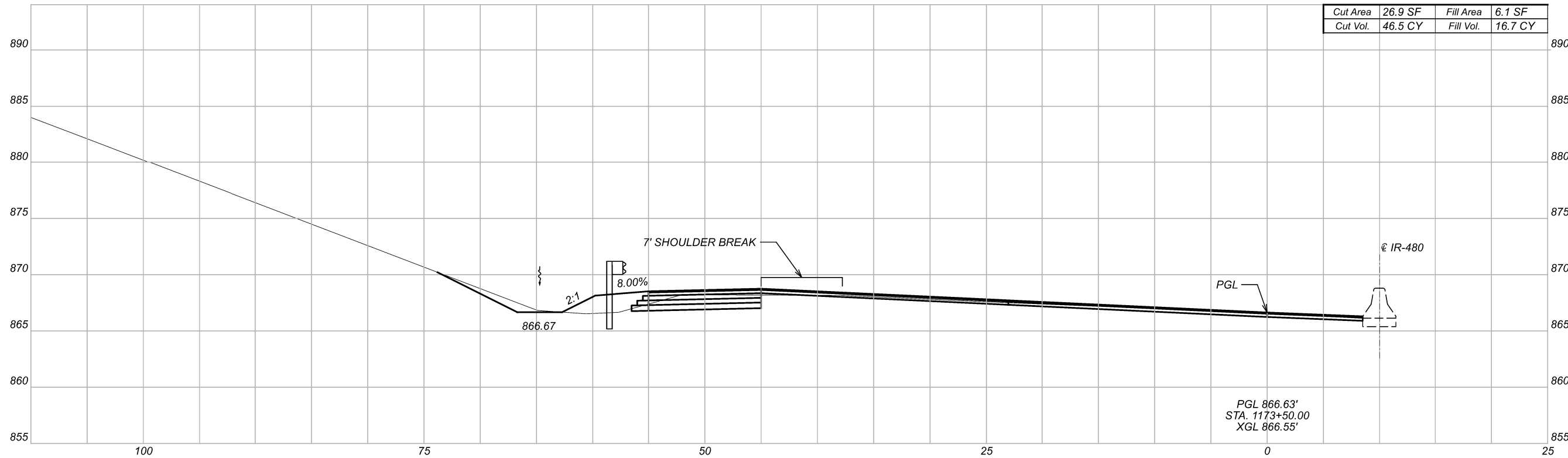
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 107657

CROSS SECTIONS
 STA 1172+00.00 TO STA 1172+50.00

SEEDING	
END WIDTH	SO. YDS.
162.6	
28.1	
155.9	
28.0	
318.5	



Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
318.5	88.0	32.4	59	98

CROSS SECTIONS
 STA 1173+00.00 TO STA 1173+50.00

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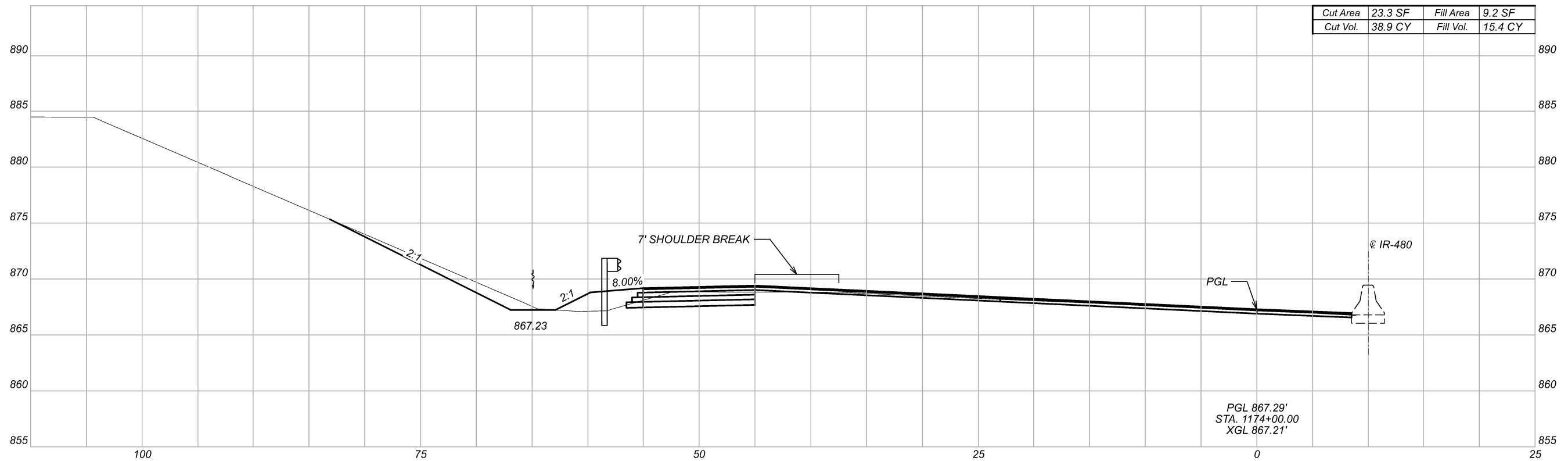
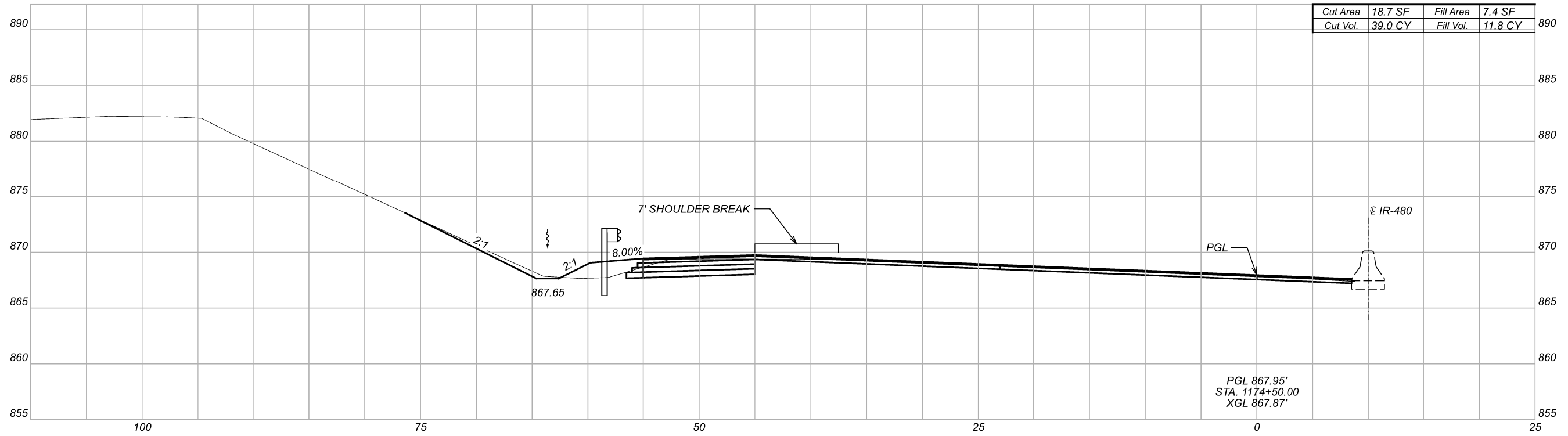
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 107657

SEEDING

END WIDTH	SO. YDS.
155.4	
23.1	
148.6	
30.4	
304.0	



Sheet Totals		
Seeding	Cut	Fill
304.0	77.9	27.2

CROSS SECTIONS
STA 1174+00.00 TO STA 1174+50.00

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 PROJECT ID
107657
 SHEET TOTAL
60 98

SEEDING	
END WIDTH	SO. YDS.
24.1	114.8
32.8	158.2
272.9	

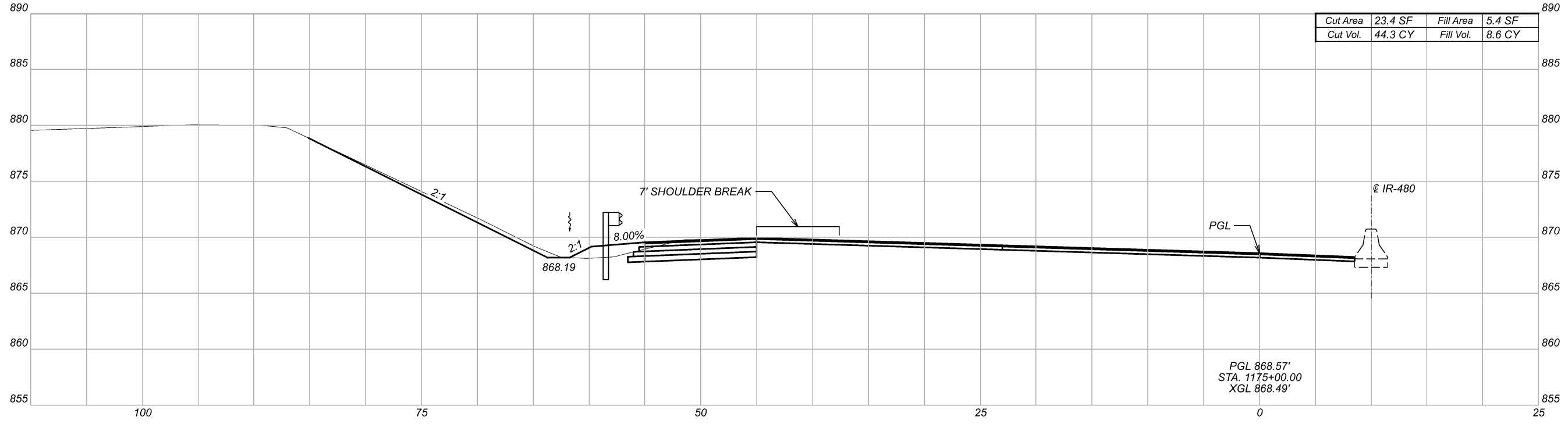
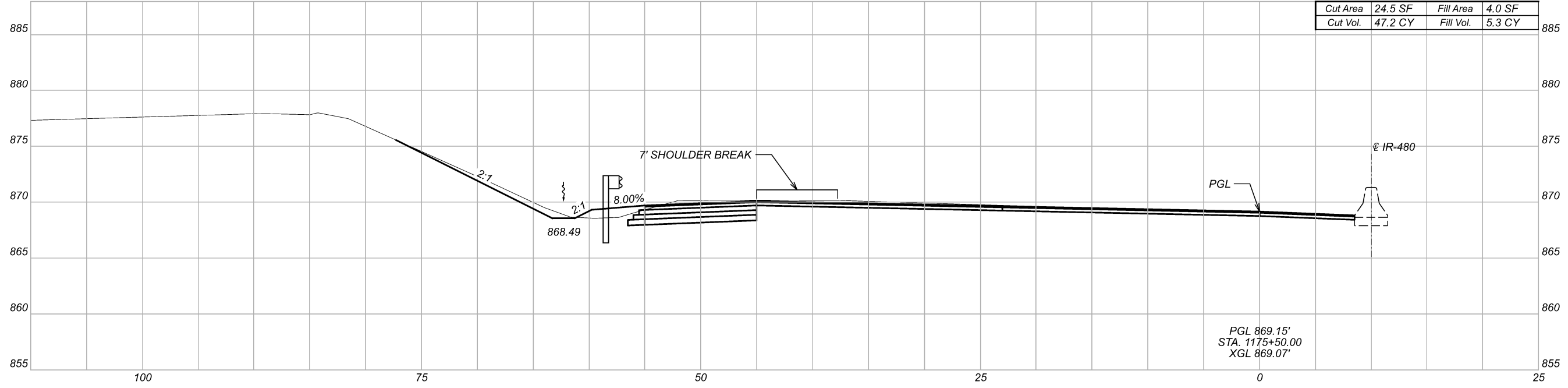
114.8

24.1

158.2

32.8

272.9



Sheet Totals		
Seeding	Cut	Fill
272.9	91.5	13.9

CROSS SECTIONS
 STA 1175+00.00 TO STA 1175+50.00

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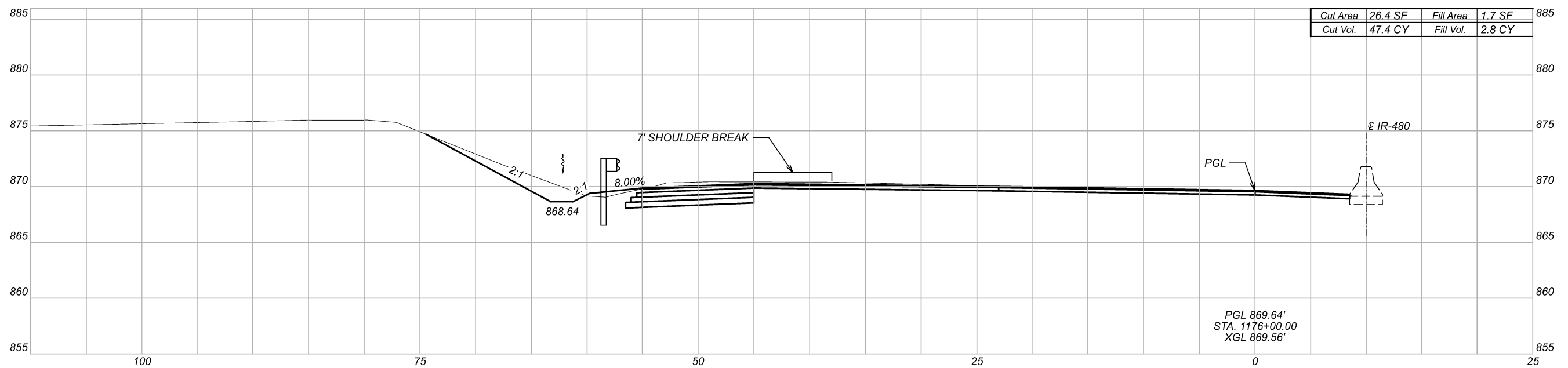
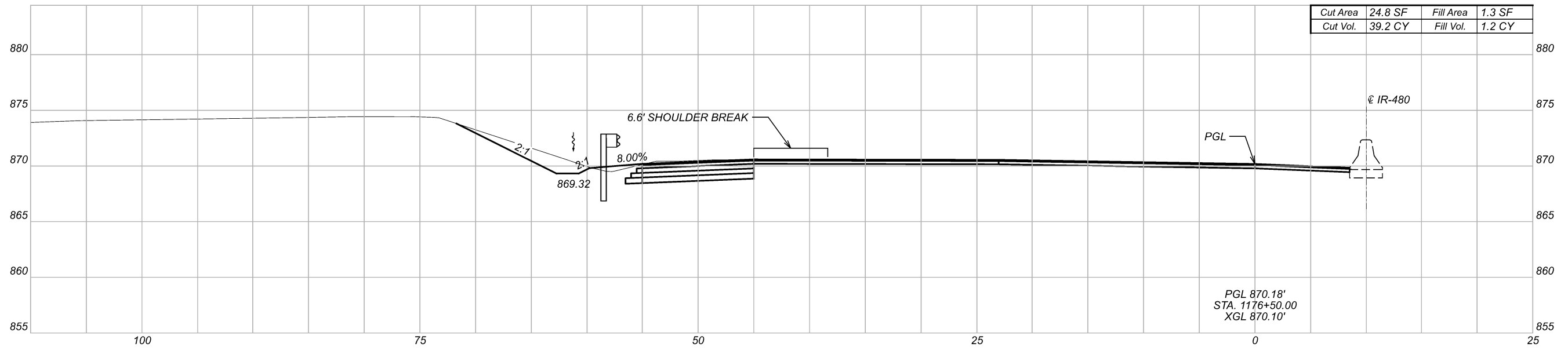
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PROJECT ID
 107657

SHEET	TOTAL
61	98

SEEDING	
END WIDTH	SO. YDS.
40.3	
14.5	
88.2	
17.2	
128.5	



Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
128.5	86.6	4.0	62	98

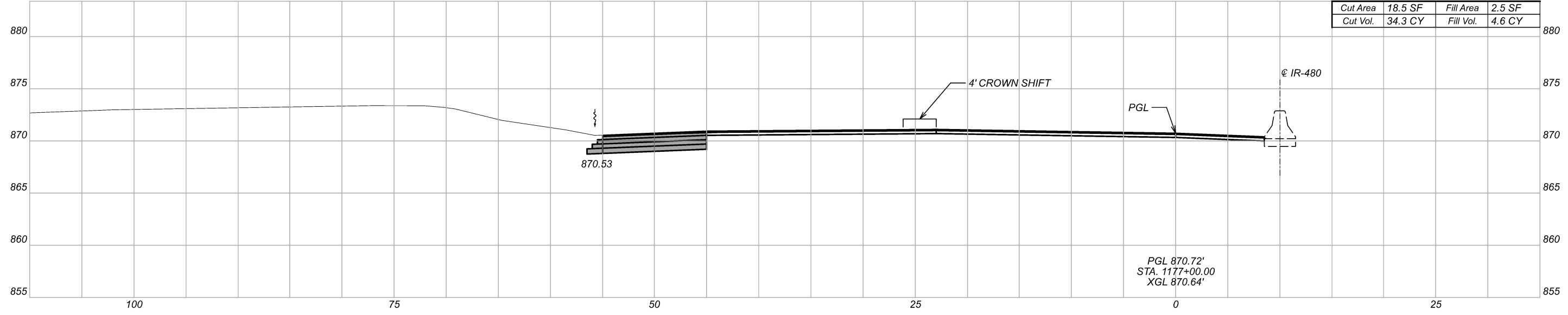
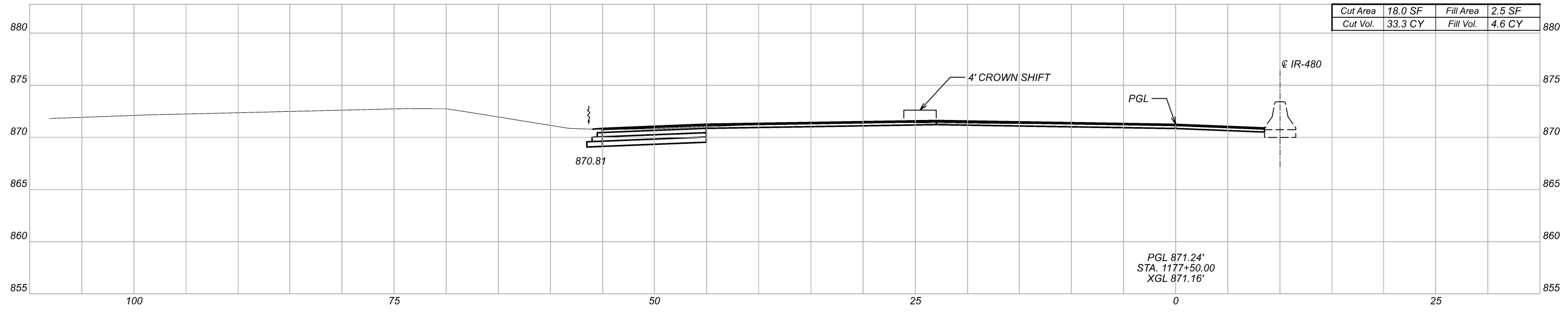
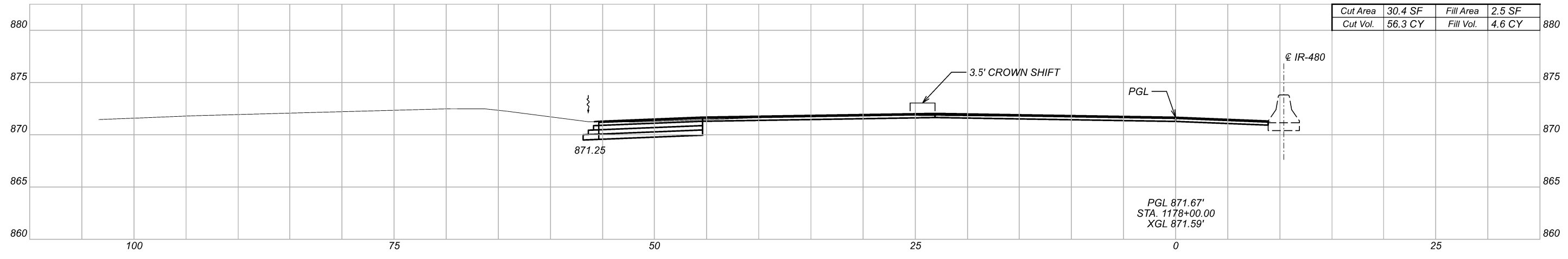
CROSS SECTIONS
 STA 1176+00.00 TO STA 1176+50.00



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Sheet Totals		
Seeding	Cut	Fill
0	123.9	13.8

CROSS SECTIONS
 STA 1177+00.00 TO STA 1178+00.00

DESIGN AGENCY

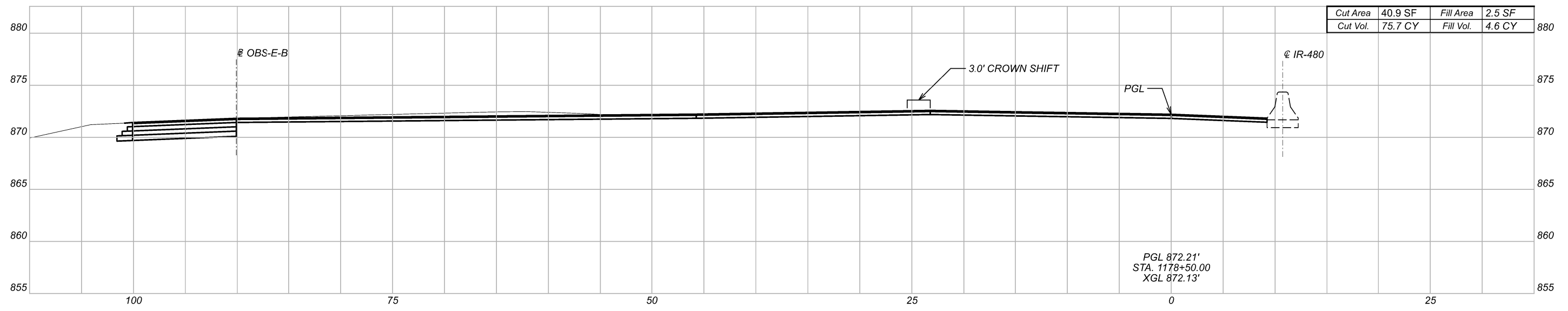
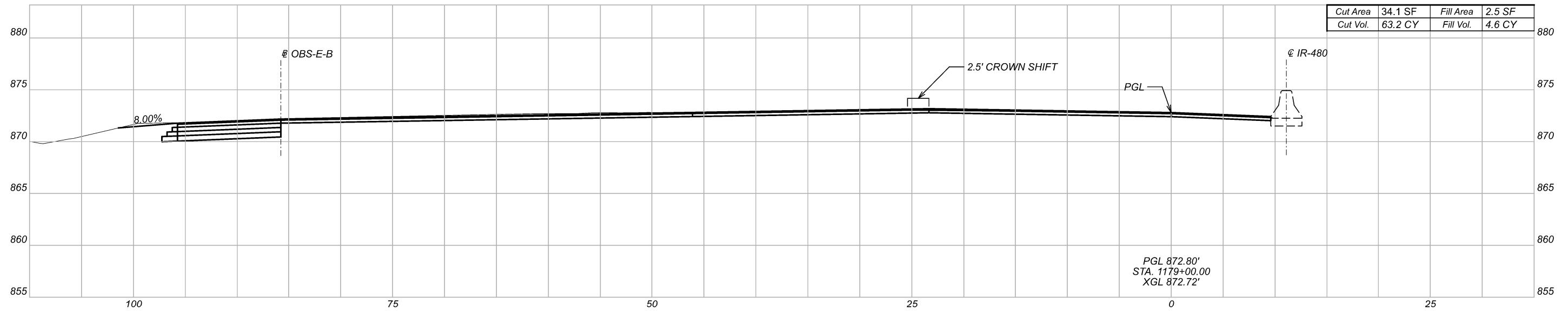
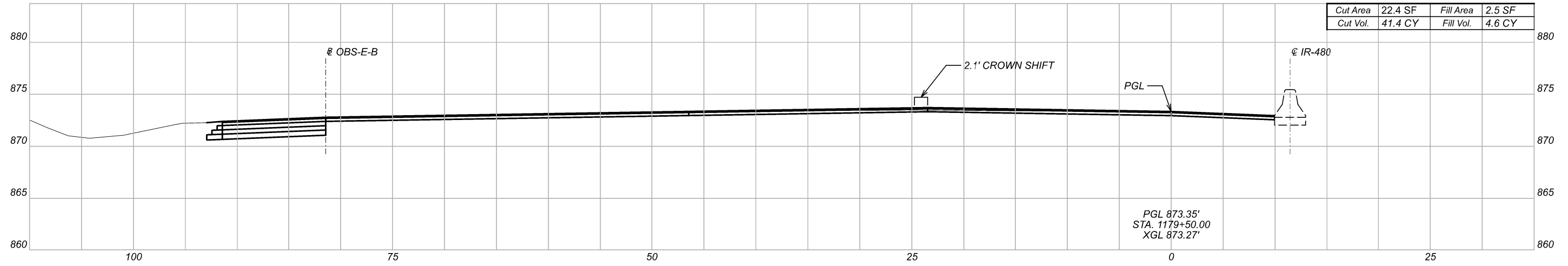
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

SHEET	TOTAL
63	98



CROSS SECTIONS
 STA 1178+50.00 TO STA 1179+50.00

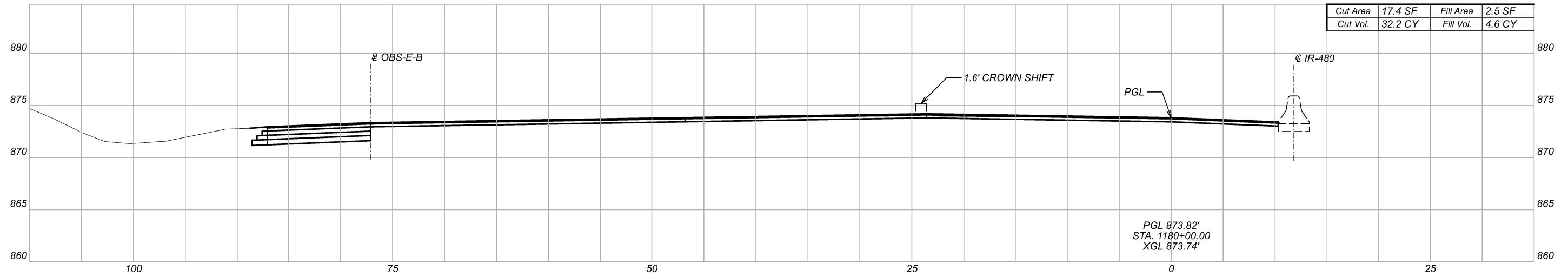
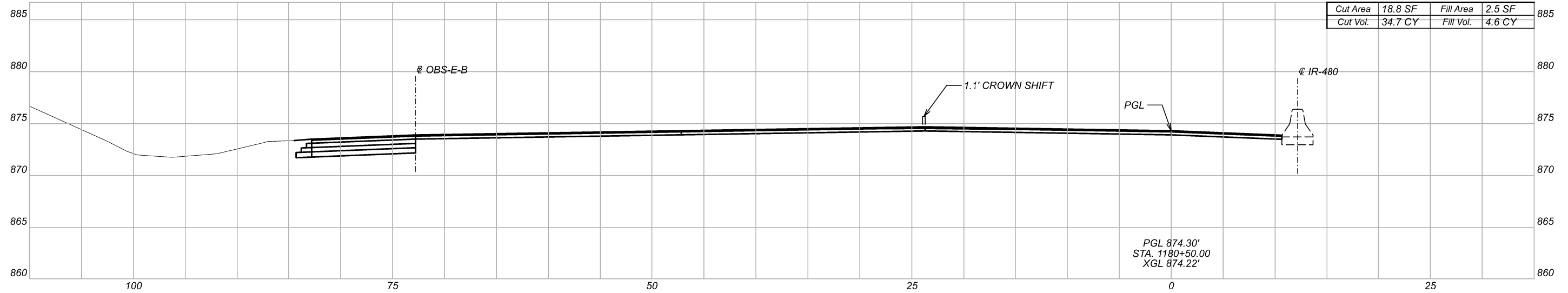
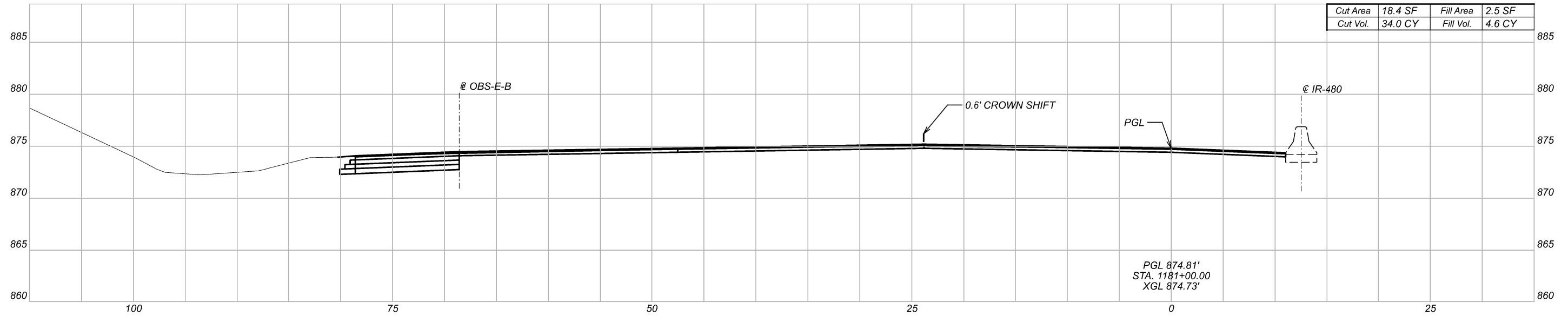


DESIGNER
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REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	108.3	13.8	64	98



Sheet Totals		
Seeding	Cut	Fill
0	100.9	13.8

CROSS SECTIONS
STA 1180+00.00 TO STA 1181+00.00

DESIGN AGENCY

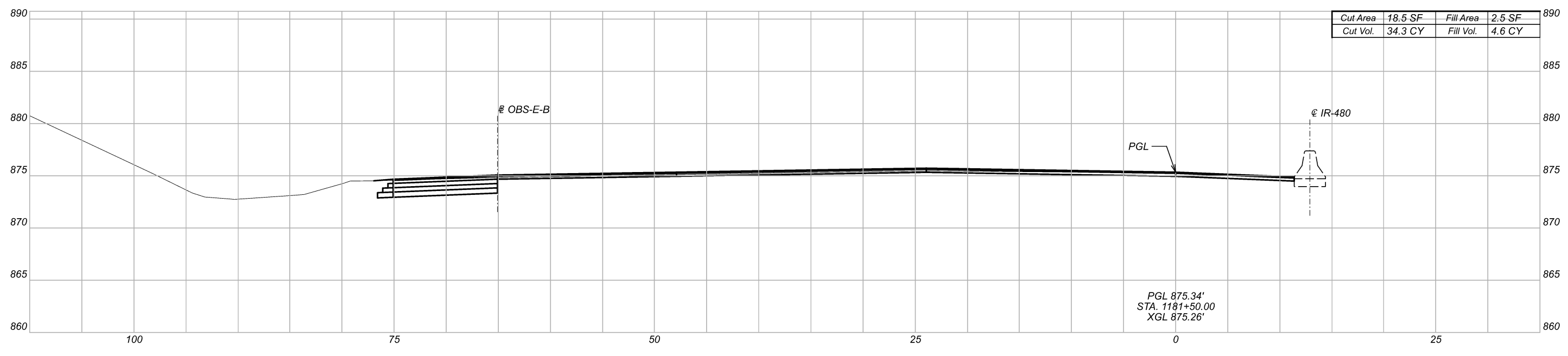
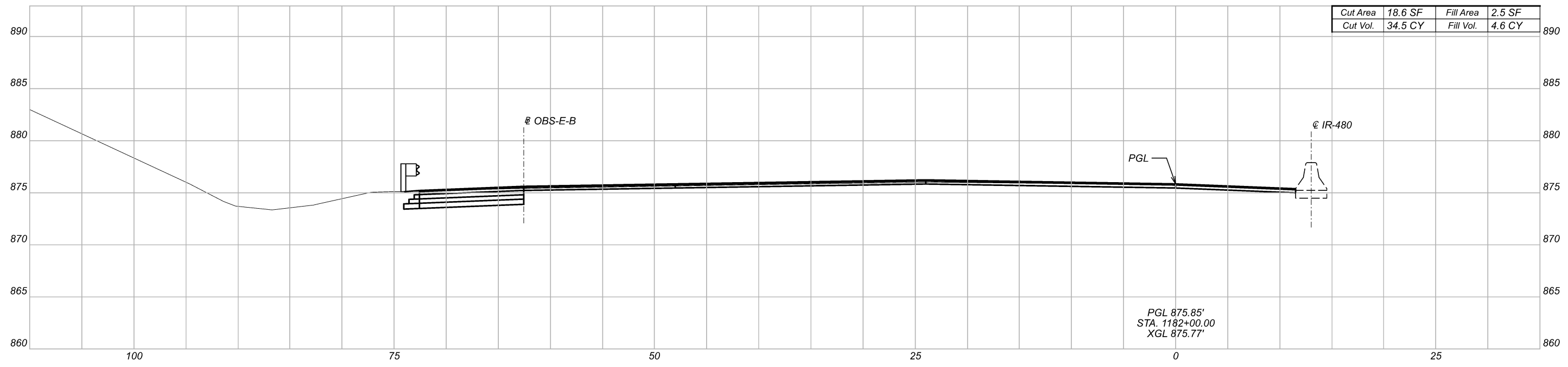
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

SHEET	TOTAL
65	98



Sheet Totals		
Seeding	Cut	Fill
0	68.8	9.2

DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

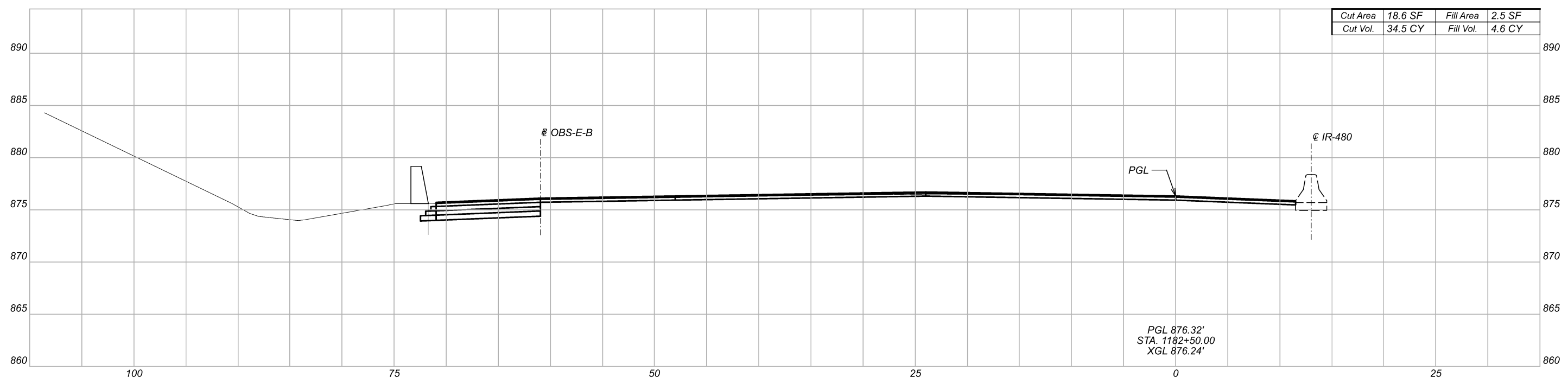
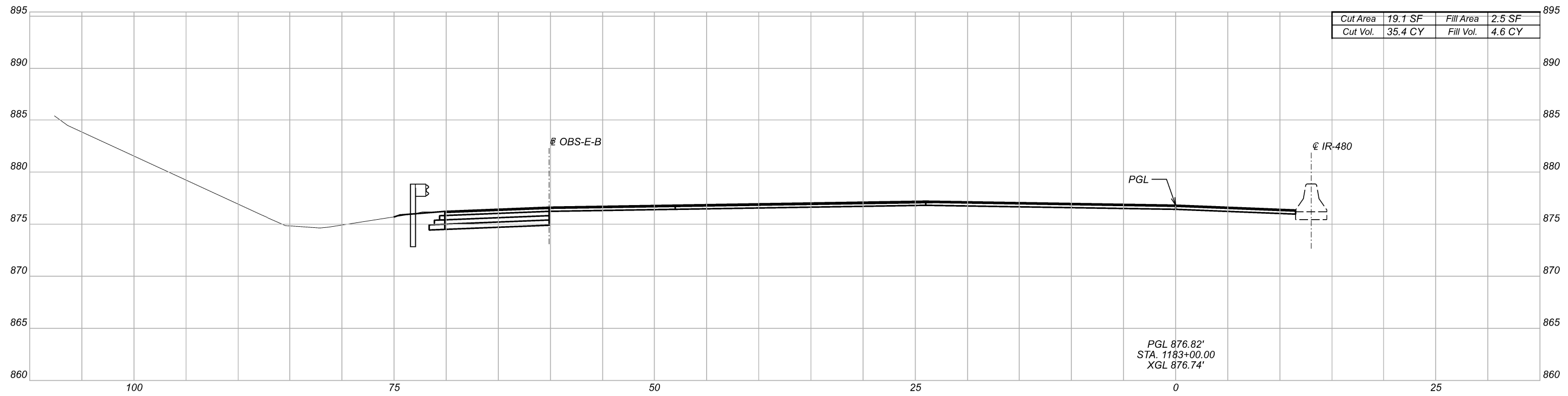
DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

SHEET	TOTAL
66	98

CROSS SECTIONS
 STA 1181+50.00 TO STA 1182+50.00



Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	69.9	9.2	67 98

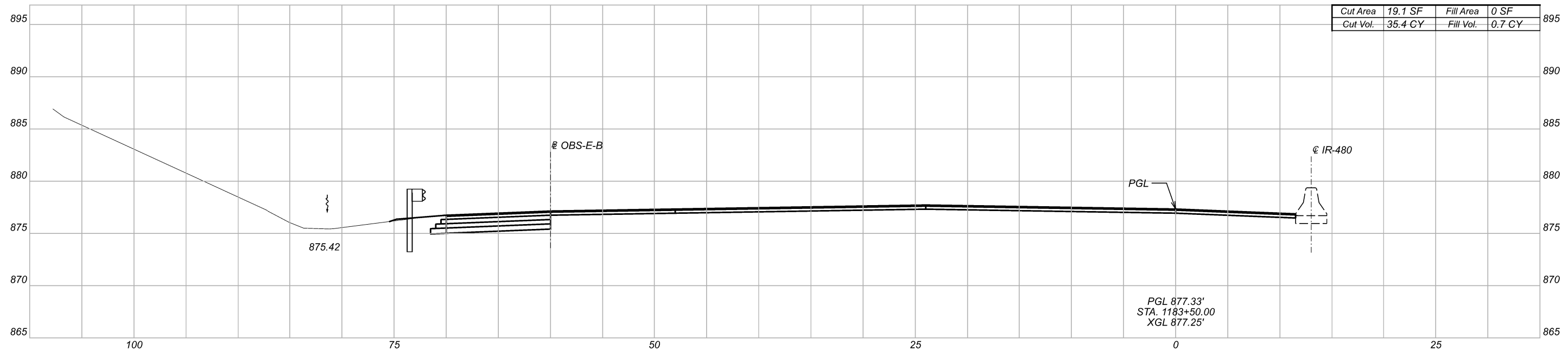
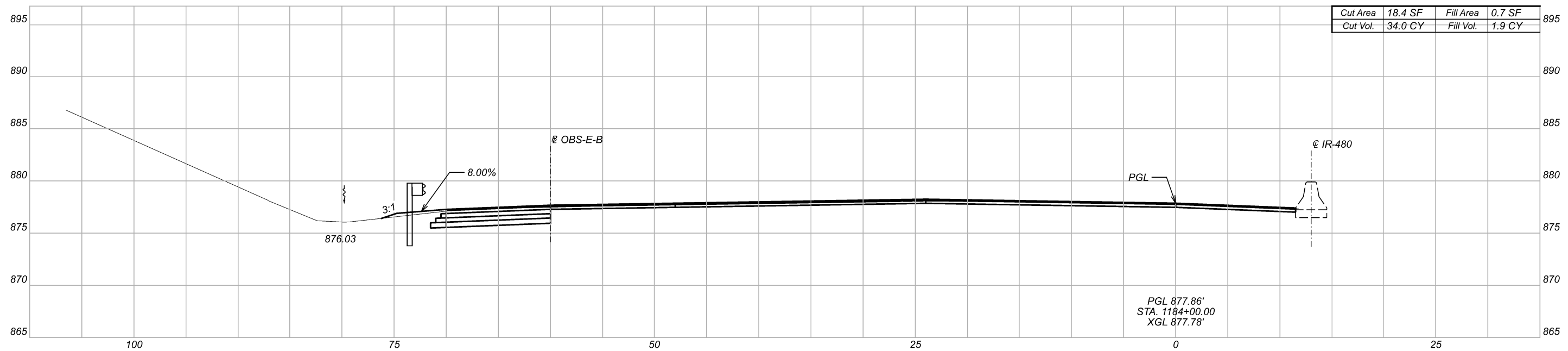
DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

CROSS SECTIONS
 STA 1182+50.00 TO STA 1183+00.00



CROSS SECTIONS
 STA 1183+50.00 TO STA 1184+00.00

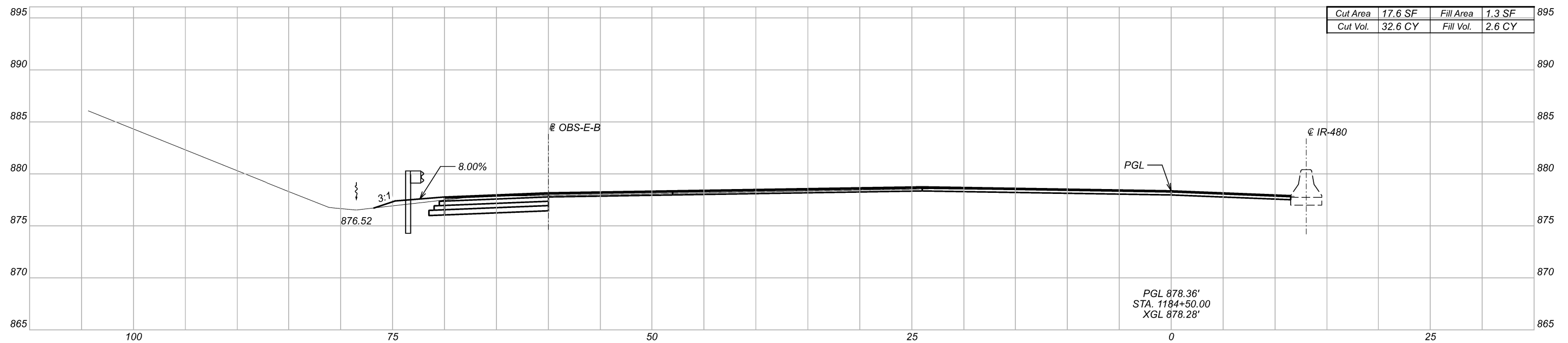
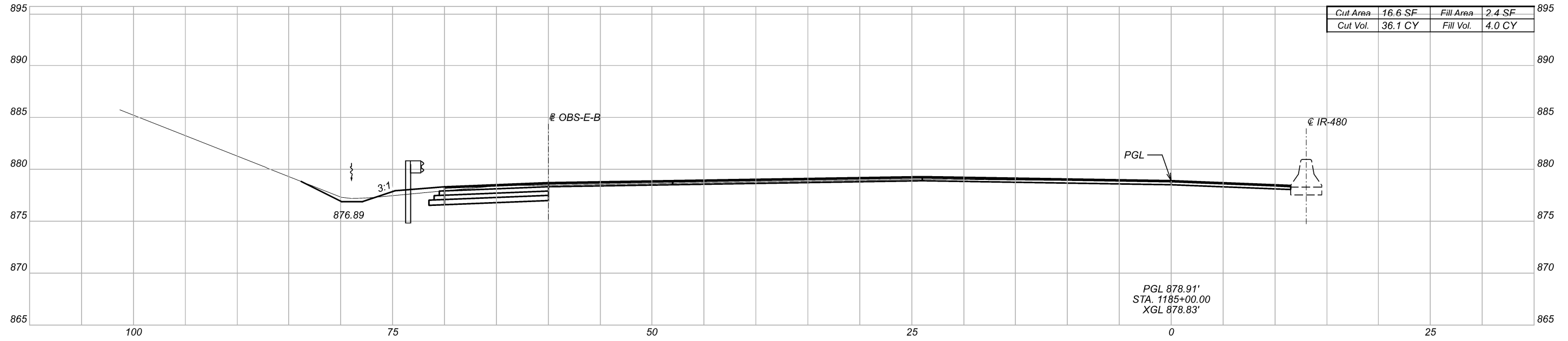
DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

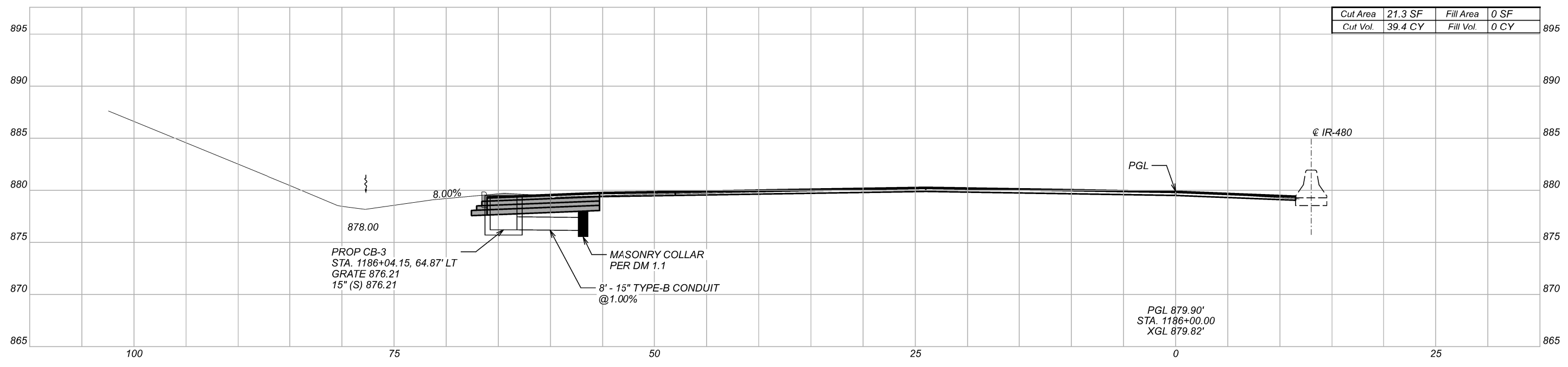
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Seeding	Cut	Fill	SHEET TOTAL
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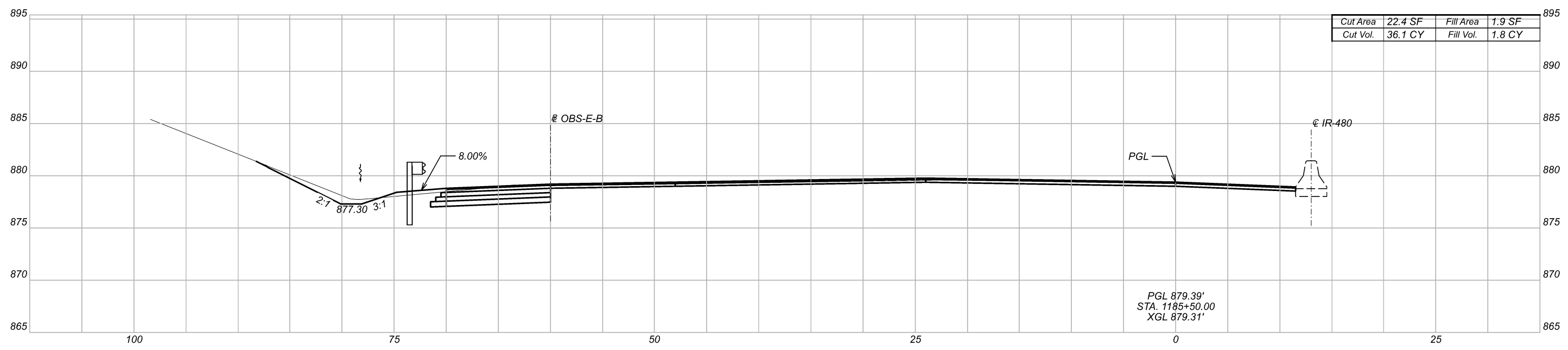
Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	65.7	5.1	69 98

DESIGN AGENCY
KS
 KS Associates Inc.
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 PROJECT ID
 107657

CROSS SECTIONS
 STA 1184+50.00 TO STA 1185+00.00



Cut Area	21.3 SF	Fill Area	0 SF
Cut Vol.	39.4 CY	Fill Vol.	0 CY



Cut Area	22.4 SF	Fill Area	1.9 SF
Cut Vol.	36.1 CY	Fill Vol.	1.8 CY

CROSS SECTIONS
 STA 1185+50.00 TO STA 1186+00.00

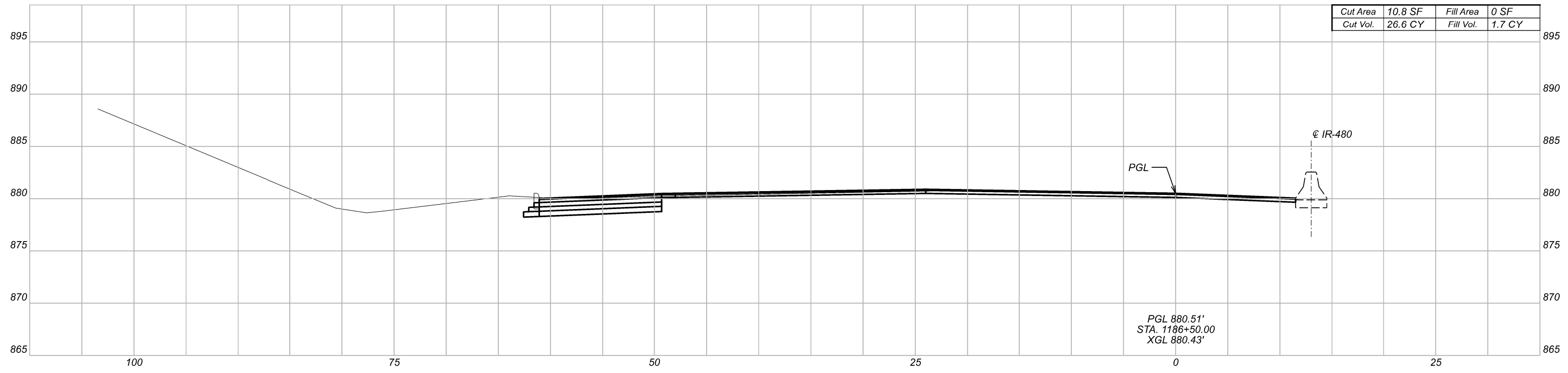
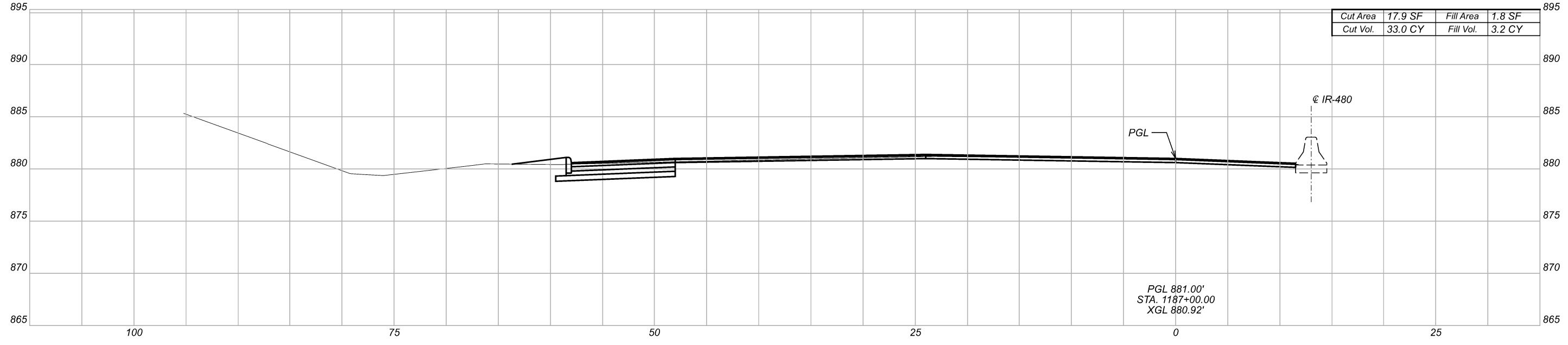
DESIGN AGENCY
KS
 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
107.8	75.5	1.8	70	98



Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	59.6	1.7	71 98

CROSS SECTIONS
 STA 1186+50.00 TO STA 1187+00.00

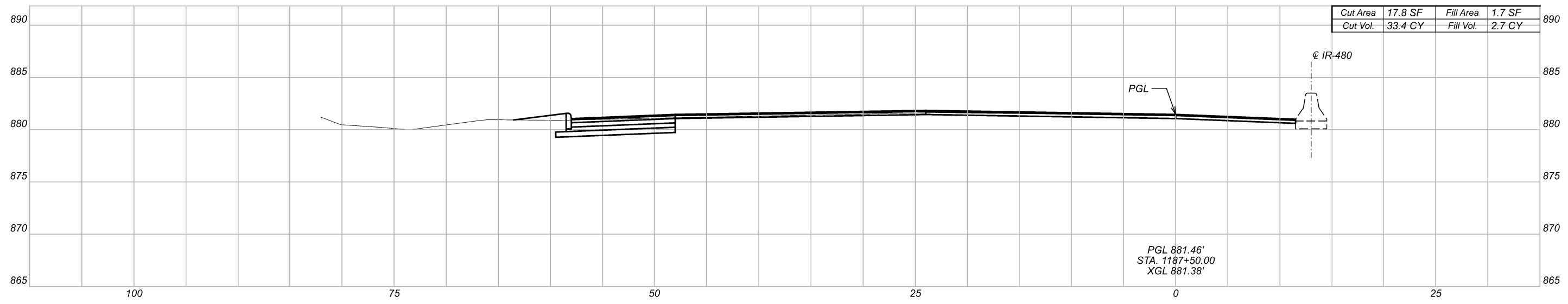
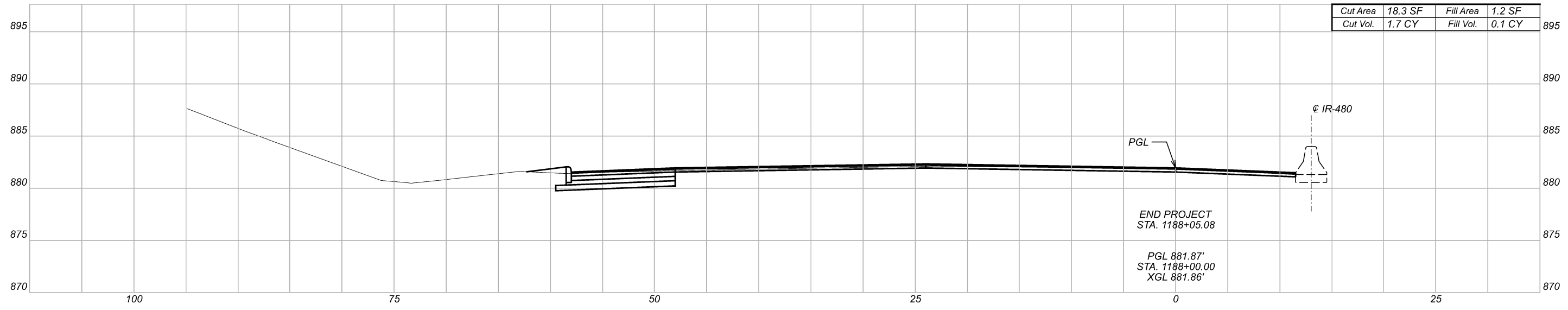
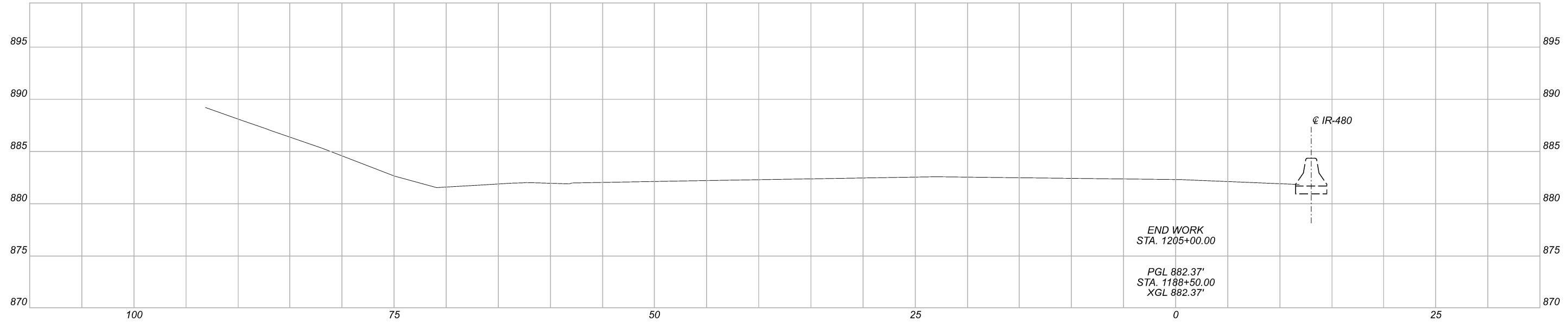
DESIGN AGENCY

 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657



Sheet Totals			107657
Seeding	Cut	Fill	SHEET TOTAL
0	35.1	2.8	71a 98

CROSS SECTIONS
 STA 1187+50.00 TO STA 1188+50.00

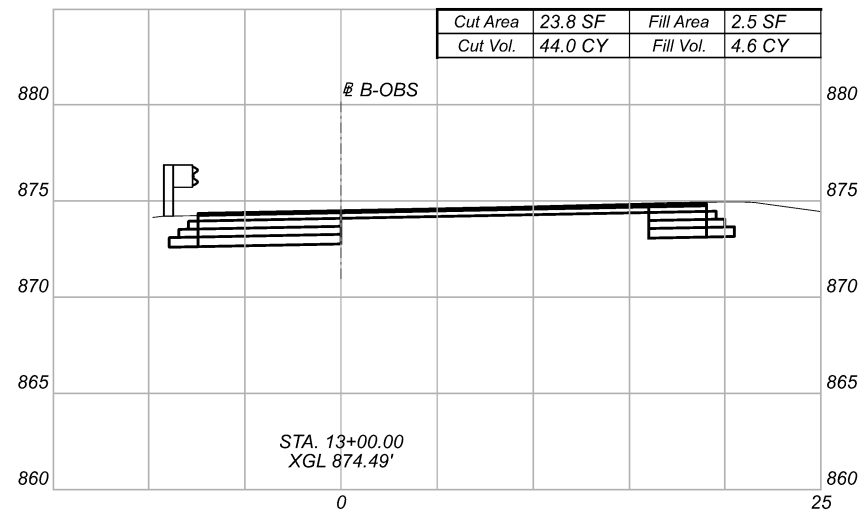
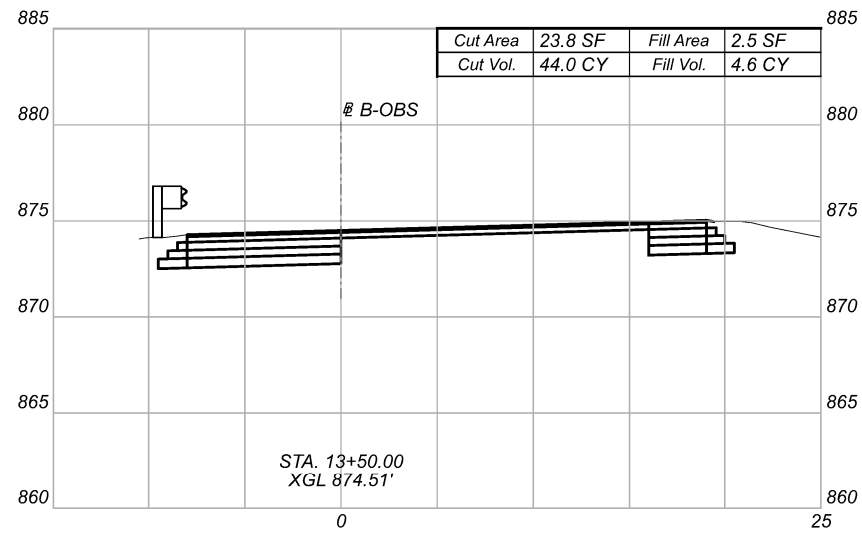
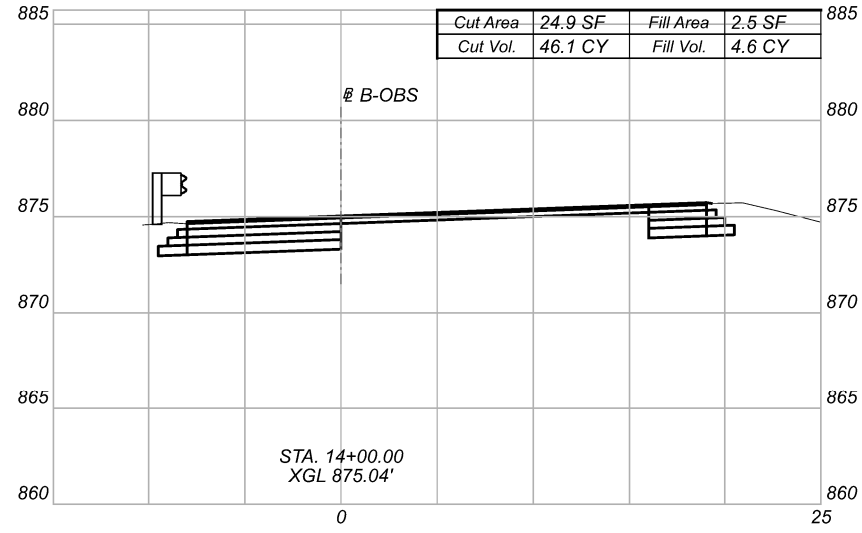
DESIGN AGENCY

 KS Associates Inc.
 260 Burns Road
 Elyria, Ohio 44035

DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657



Cut Area	23.8 SF	Fill Area	2.5 SF
Cut Vol.	38.2 CY	Fill Vol.	4.0 CY

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	172.3	17.8	71b	98

DESIGN AGENCY



DESIGNER

EJB

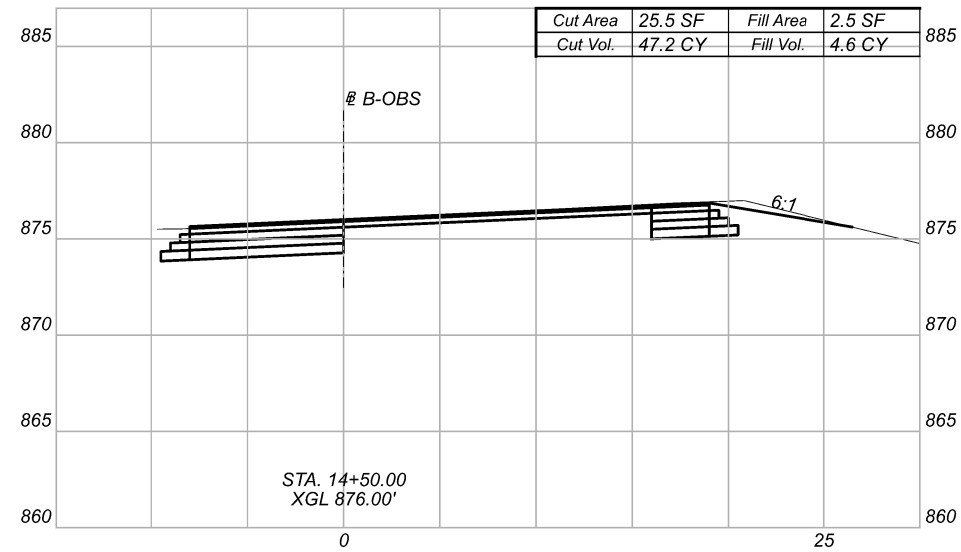
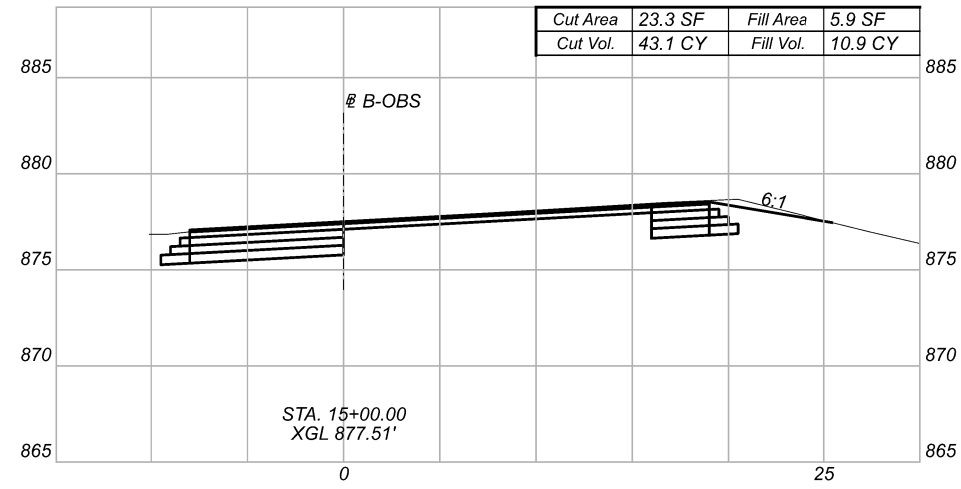
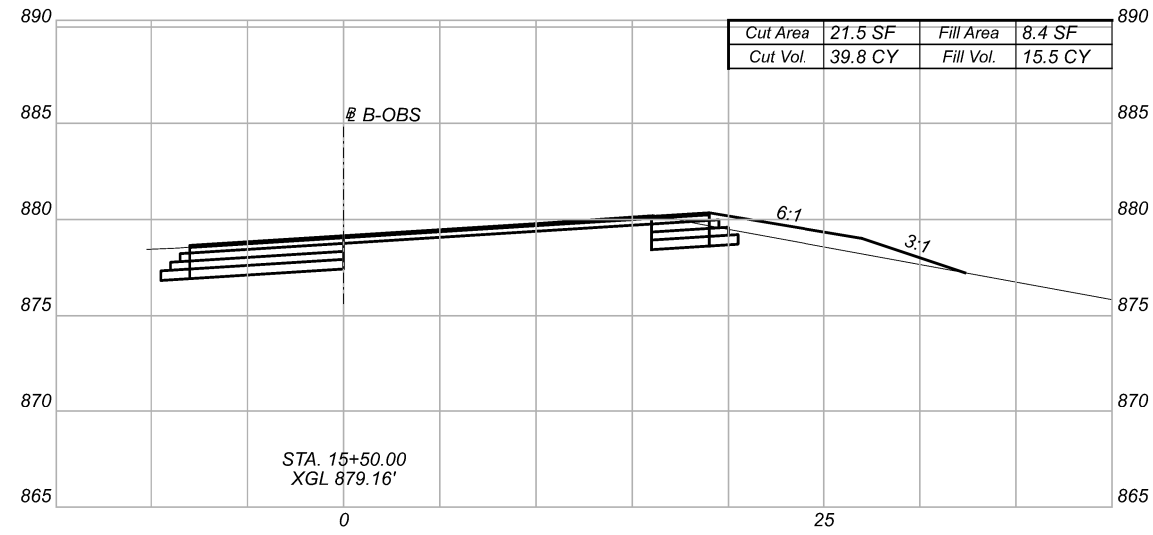
REVIEWER

WAA 01-11-21

PROJECT ID

107657

CROSS SECTIONS
 STA 13+00.00 TO STA 14+00.00



CROSS SECTIONS
 STA 14+50.00 TO STA 15+50.00

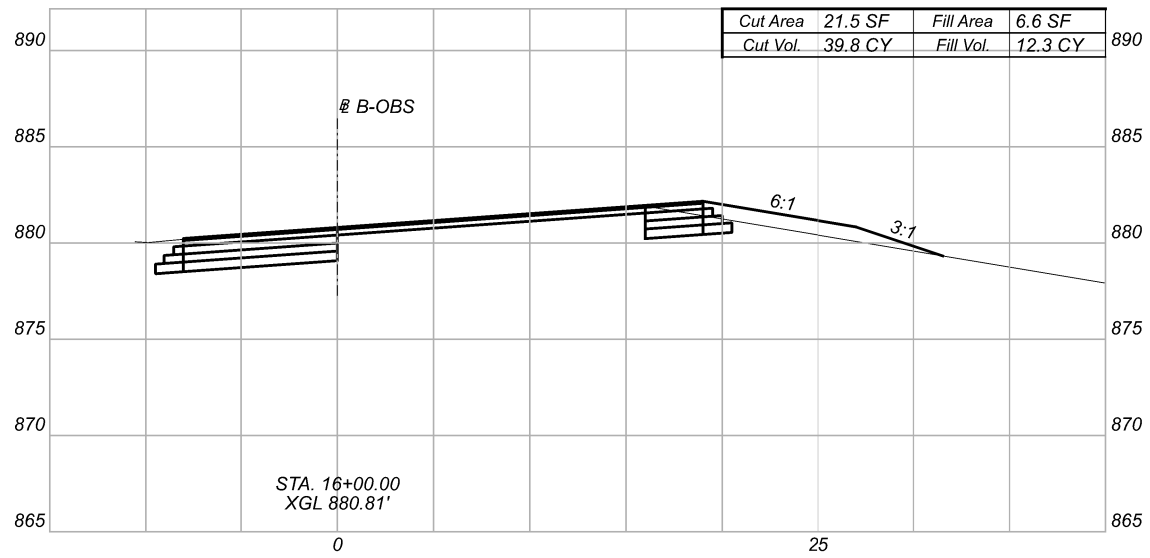
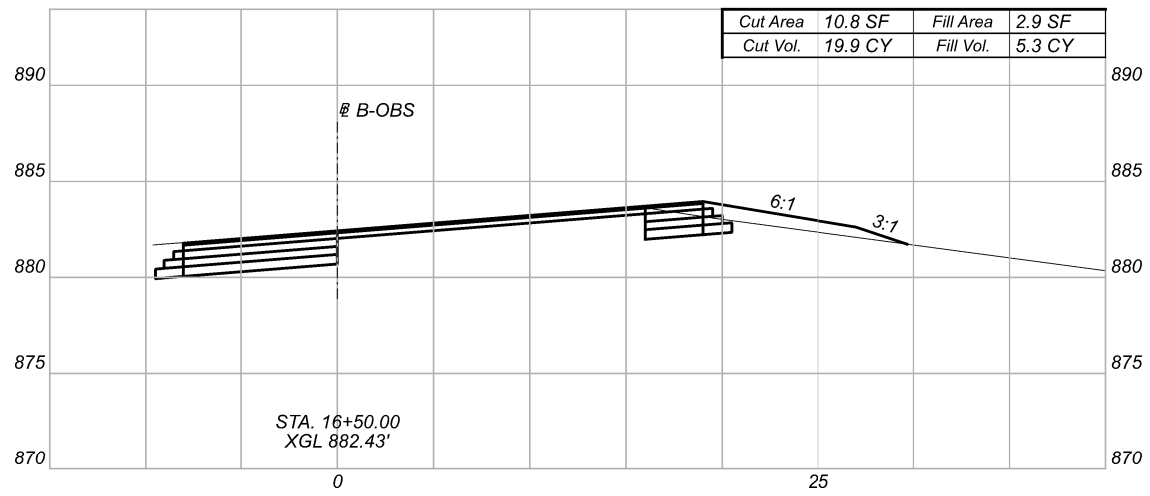
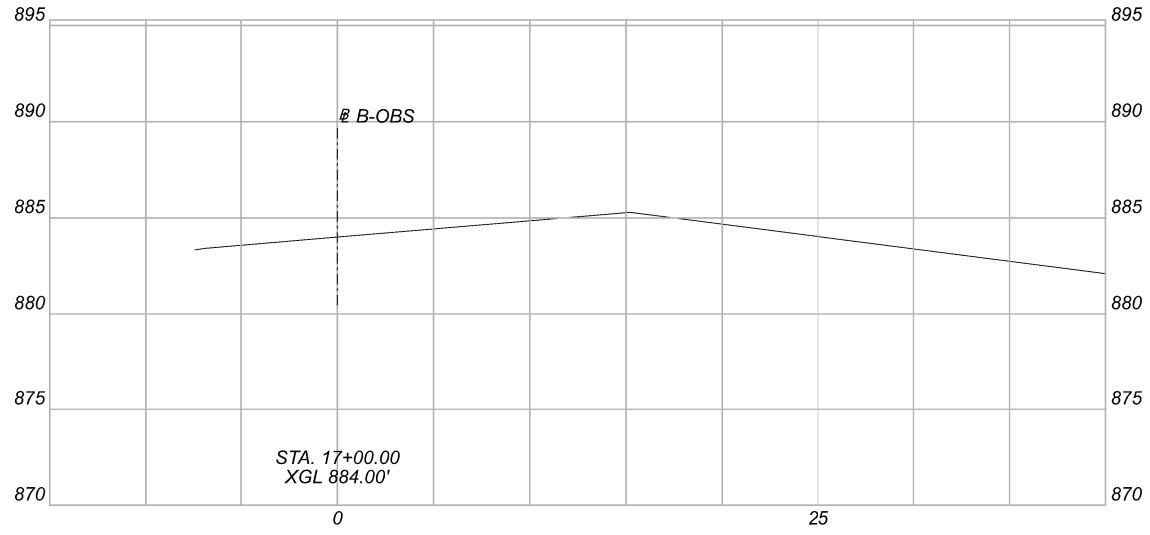


DESIGNER
 EJB

REVIEWER
 WAA 01-11-21

PROJECT ID
 107657

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	SHEET	TOTAL
0	130.1	31.0	71c	98



CROSS SECTIONS
STA 16+00.00 TO STA 17+00.00



DESIGNER
EJB

REVIEWER
WAA 01-11-21

PROJECT ID
107657

Sheet Totals			107657	
Seeding	Cut	Fill	SHEET	TOTAL
0	59.7	17.6	71d	98

SUPERELEVATION TABLE (CONT.)

P.I. STATION = 1168+22.92

Dc = 1° 59' 35"

OUTSIDE SHOULDER / EDGE OF RAMP				OUTSIDE LANES				INSIDE LANES				PGL CONTROL		INSIDE SHOULDER			REMARKS	
EDGE ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	OFFSET	CROSS SLOPE	ELEVATION CORRECTION	CROWN ELEVATION	STATION	PROFILE ELEVATION	OFFSET	CROSS SLOPE	ELEVATION CORRECTION		EDGE ELEVATION
866.13	-0.230	-0.023	10.00	866.36	1.03	0.047	22.00	23.00	0.047	1.08	865.32	1171+75.00	864.24	8.50	-0.040	-0.34	863.90	
866.45	-0.230	-0.023	10.00	866.68	1.03	0.047	22.00	23.00	0.047	1.08	865.64	1172+00.00	864.56	8.50	-0.040	-0.34	864.22	
866.79	-0.230	-0.023	10.00	867.02	1.03	0.047	22.00	23.00	0.047	1.08	865.98	1172+25.00	864.90	8.50	-0.040	-0.34	864.56	
867.13	-0.230	-0.023	10.00	867.36	1.03	0.047	22.00	23.00	0.047	1.08	866.32	1172+50.00	865.24	8.50	-0.040	-0.34	864.90	
867.49	-0.230	-0.023	10.00	867.72	1.03	0.047	22.00	23.00	0.047	1.08	866.68	1172+75.00	865.60	8.50	-0.040	-0.34	865.26	
867.85	-0.230	-0.023	10.00	868.08	1.03	0.047	22.00	23.00	0.047	1.08	867.04	1173+00.00	865.96	8.50	-0.040	-0.34	865.62	
868.19	-0.230	-0.023	10.00	868.42	1.03	0.047	22.00	23.00	0.047	1.08	867.38	1173+25.00	866.30	8.50	-0.040	-0.34	865.96	
868.52	-0.230	-0.023	10.00	868.75	1.03	0.047	22.00	23.00	0.047	1.08	867.71	1173+50.00	866.63	8.50	-0.040	-0.34	866.29	
868.85	-0.230	-0.023	10.00	869.08	1.03	0.047	22.00	23.00	0.047	1.08	868.04	1173+75.00	866.96	8.50	-0.040	-0.34	866.62	
869.18	-0.230	-0.023	10.00	869.41	1.03	0.047	22.00	23.00	0.047	1.08	868.37	1174+00.00	867.29	8.50	-0.040	-0.34	866.95	
869.30	-0.230	-0.023	10.00	869.53	1.03	0.047	22.00	23.00	0.047	1.08	868.49	1174+08.63	867.41	8.50	-0.040	-0.34	867.07	CS / End Full Super
869.39	-0.260	-0.026	10.00	869.65	0.99	0.045	22.00	23.00	0.045	1.04	868.66	1174+25.00	867.62	8.50	-0.040	-0.34	867.28	
869.44	-0.310	-0.031	10.00	869.75	0.88	0.040	22.00	23.00	0.040	0.92	868.87	1174+50.00	867.95	8.50	-0.040	-0.34	867.61	
869.49	-0.350	-0.035	10.00	869.84	0.77	0.035	22.00	23.00	0.035	0.81	869.07	1174+75.00	868.26	8.50	-0.040	-0.34	867.92	
869.57	-0.400	-0.040	10.00	869.97	0.68	0.031	22.00	23.00	0.031	0.71	869.28	1175+00.00	868.57	8.50	-0.040	-0.34	868.23	
869.63	-0.400	-0.040	10.00	870.03	0.57	0.026	22.00	23.00	0.026	0.60	869.46	1175+25.00	868.86	8.50	-0.040	-0.34	868.52	
869.70	-0.400	-0.040	10.00	870.10	0.46	0.021	22.00	23.00	0.021	0.48	869.63	1175+50.00	869.15	8.50	-0.040	-0.34	868.81	
869.72	-0.400	-0.040	10.00	870.12	0.35	0.016	22.00	23.00	0.016	0.37	869.77	1175+75.00	869.40	8.50	-0.040	-0.34	869.06	
869.73	-0.400	-0.040	10.00	870.13	0.35	0.016	22.00	23.00	0.016	0.37	869.78	1175+76.01	869.41	8.50	-0.040	-0.34	869.07	Crown Removal
869.85	-0.400	-0.040	10.00	870.25	0.24	0.011	22.00	23.00	0.011	0.37	870.01	1176+00.00	869.64	8.50	-0.040	-0.34	869.30	
870.03	-0.400	-0.040	10.00	870.43	0.15	0.007	22.00	23.00	0.016	0.37	870.28	1176+25.00	869.91	8.50	-0.040	-0.34	869.57	
870.19	-0.400	-0.040	10.00	870.59	0.04	0.002	22.00	23.00	0.016	0.37	870.55	1176+50.00	870.18	8.50	-0.040	-0.34	869.84	
870.26	-0.400	-0.040	10.00	870.66	0.00	0.000	22.00	23.00	0.016	0.37	870.66	1176+59.88	870.29	8.50	-0.040	-0.34	869.95	Half-Flat
870.35	-0.400	-0.040	10.00	870.75	-0.07	-0.003	22.00	23.00	0.016	0.37	870.82	1176+75.00	870.45	8.50	-0.040	-0.34	870.11	
870.51	-0.400	-0.040	10.00	870.91	-0.18	-0.008	22.00	23.00	0.016	0.37	871.09	1177+00.00	870.72	8.50	-0.040	-0.34	870.38	
870.68	-0.400	-0.040	10.00	871.08	-0.26	-0.012	22.00	23.00	0.016	0.37	871.35	1177+25.00	870.98	8.50	-0.040	-0.34	870.64	
870.81	-0.400	-0.040	10.00	871.21	-0.35	-0.016	22.00	23.00	0.016	0.37	871.56	1177+43.69	871.19	8.52	-0.040	-0.34	870.85	ST / End Lt
870.86	-0.400	-0.040	10.00	871.26	-0.35	-0.016	22.00	23.00	0.016	0.37	871.61	1177+50.00	871.24	8.58	-0.040	-0.34	870.90	

SUPERELEVATION TABLES

DESIGN AGENCY



DESIGNER

RAP

REVIEWER

WAA 12-04-20

PROJECT ID

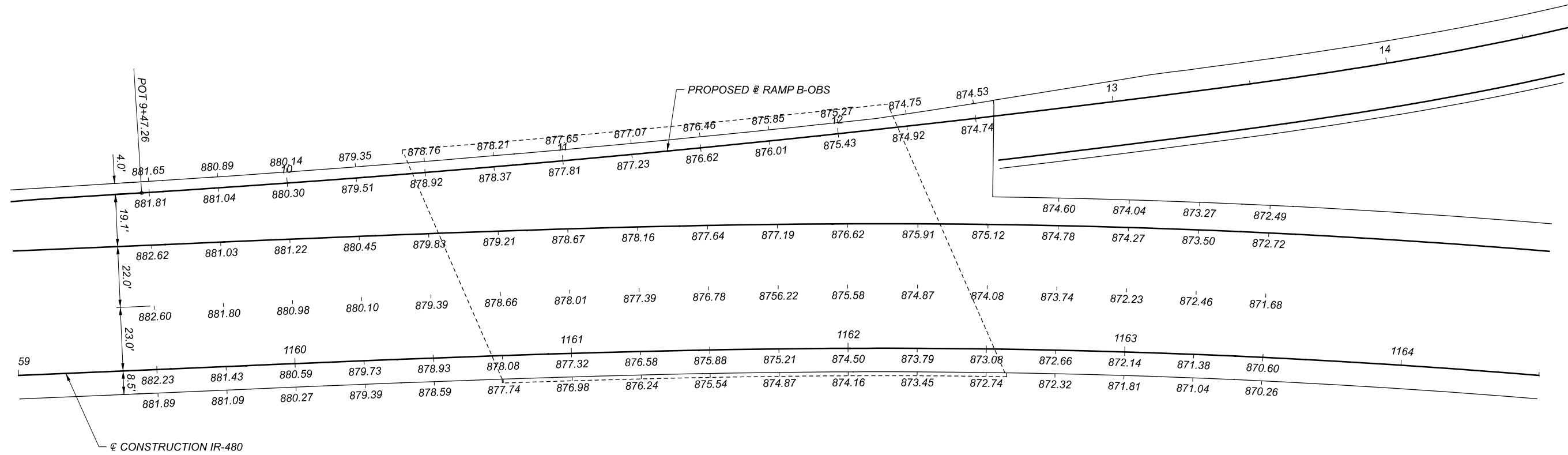
107657

SHEET

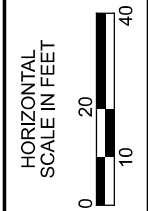
73

TOTAL

98



NOTE: ELEVATIONS SHOWN AT 25' INTERVALS



INTERCHANGE DETAILS
 IR-480 WB AND RAMP B-OBS

DESIGN AGENCY

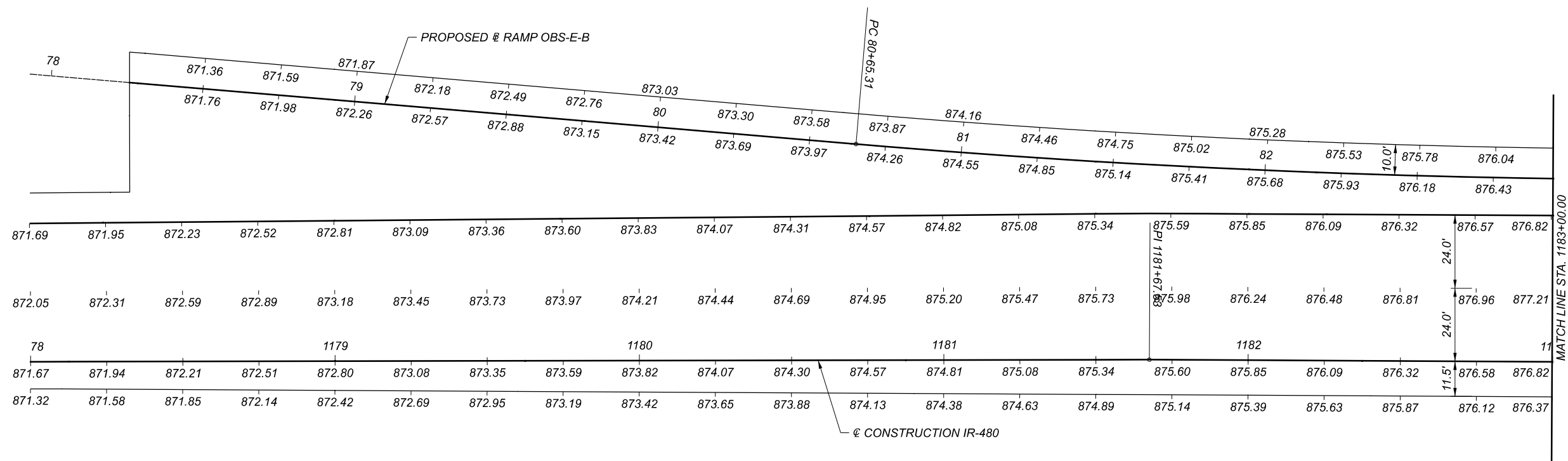


DESIGNER
 TAS

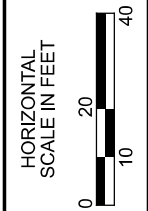
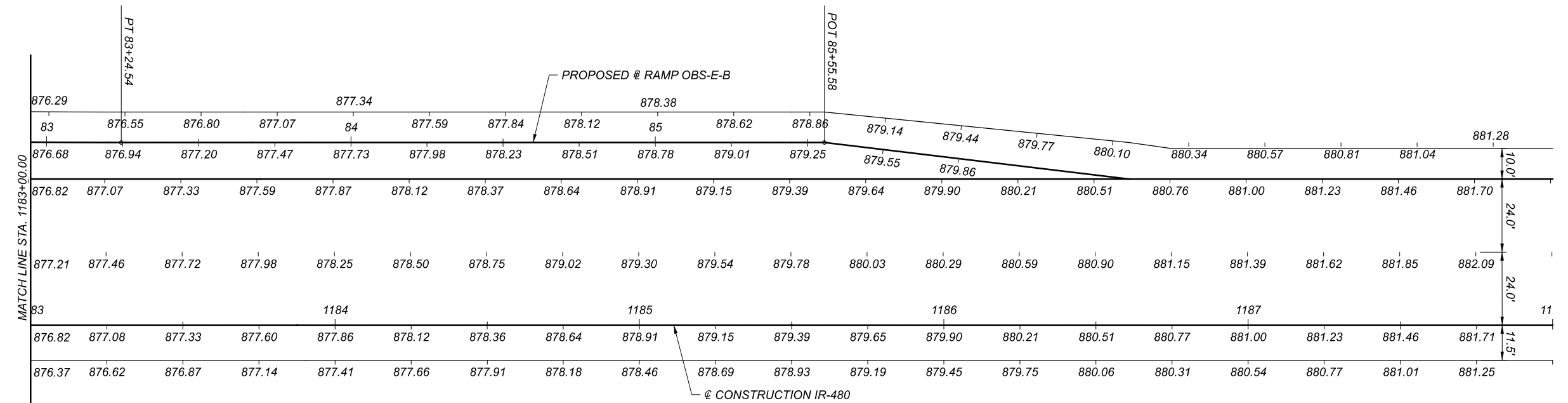
REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

SHEET	TOTAL
74	98



NOTE: ELEVATIONS SHOWN AT 25' INTERVALS



INTERCHANGE DETAILS
IR-480 WB AND RAMP OBS-E-B

DESIGN AGENCY



DESIGNER

TAS

REVIEWER

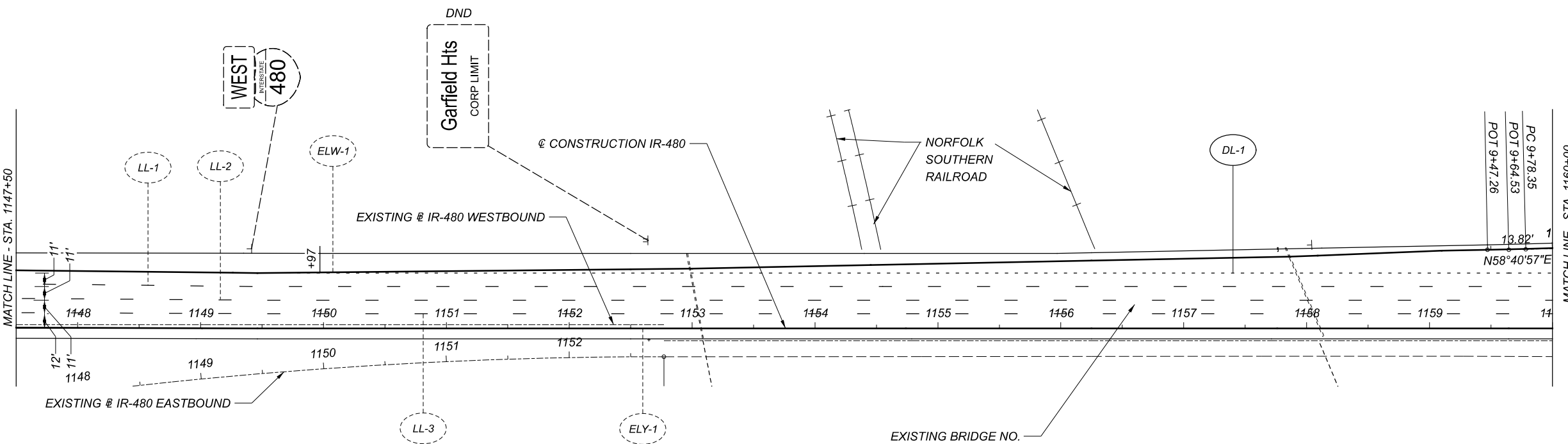
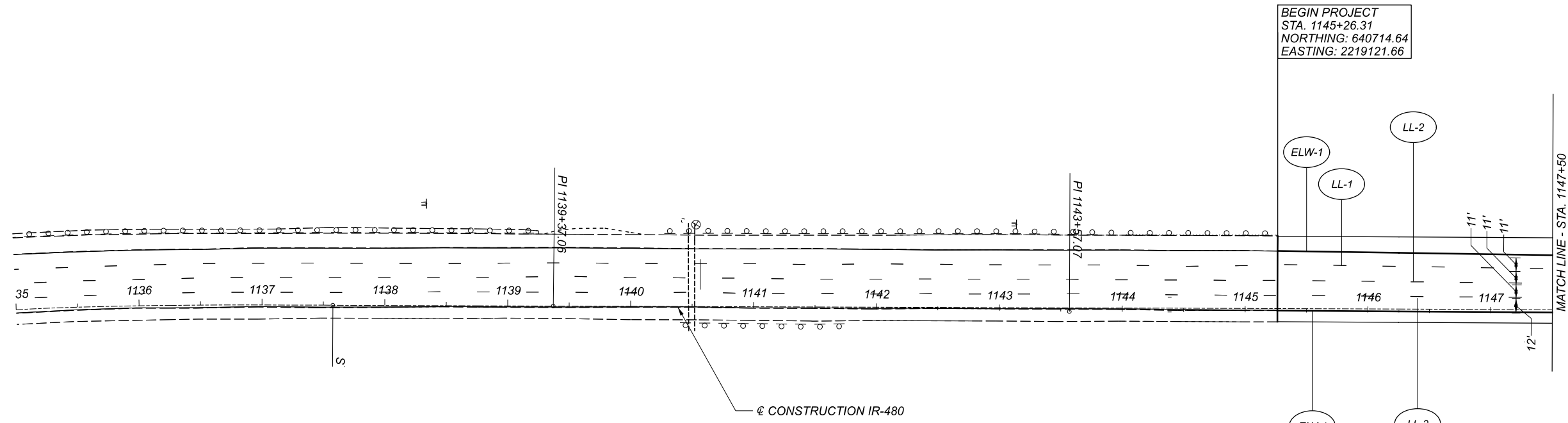
WAA 12-04-20

PROJECT ID







107657

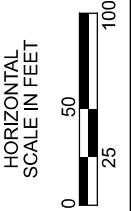
SHEET TOTAL

75 98



PAVEMENT MARKING LEGEND

-  ELW ITEM 646 - EDGE LINE, 6" WHITE
-  ELY ITEM 646 - EDGE LINE, 6" YELLOW
-  LL ITEM 646 - LANE LINE, 6"
-  CH ITEM 646 - CHANNELIZING LINE, 12"
-  DL ITEM 646 - DOTTED LINE, 6"
-  TR ITEM 646 - TRANSVERSE/DIAGONAL LINE, WHITE, 24"



SIGNING AND PAVEMENT MARKING PLAN
 STA. 1135+00 TO 1160+00

DESIGN AGENCY

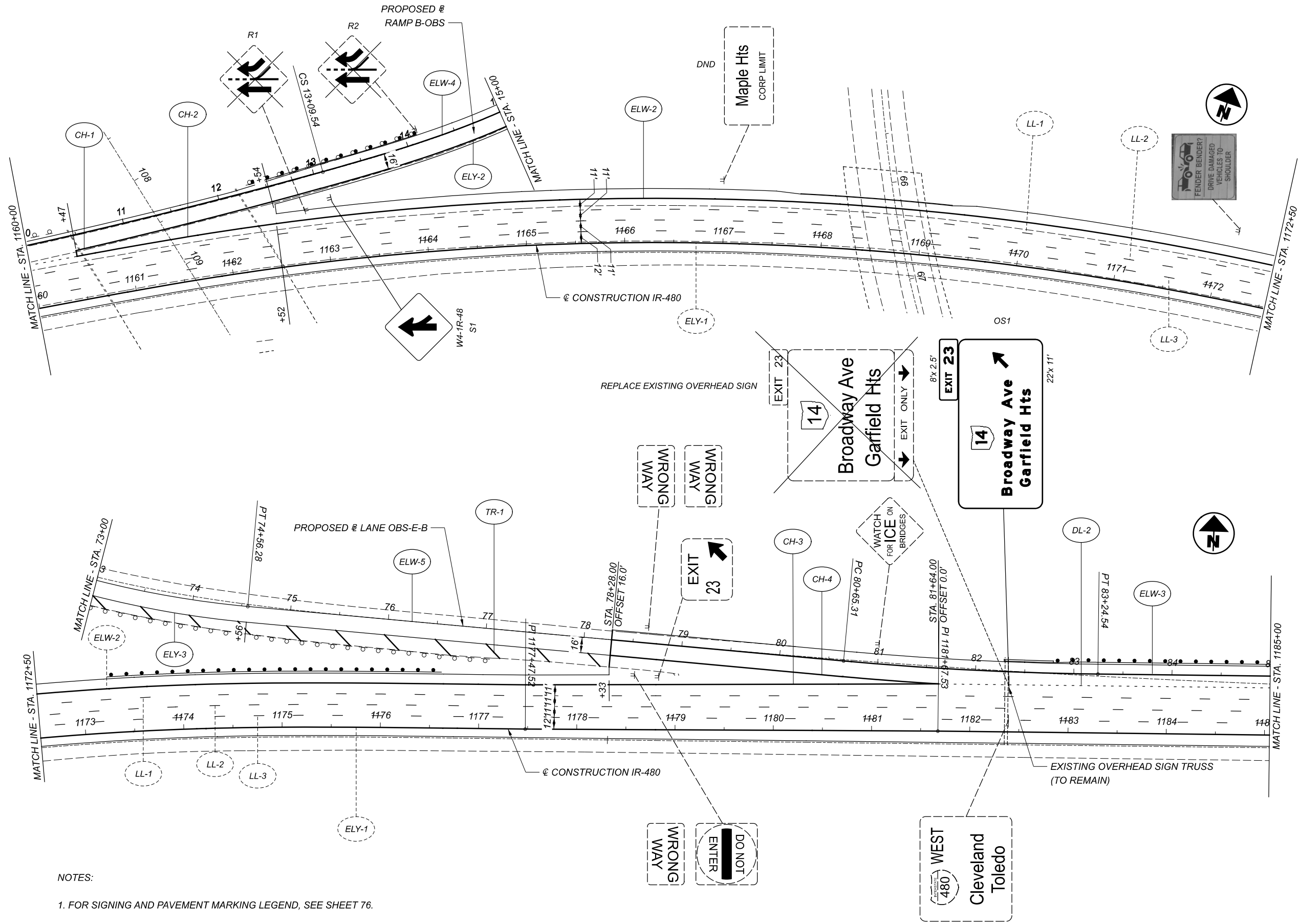


DESIGNER
 AYJ

REVIEWER
 WAA 12-04-20

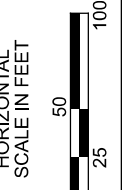
PROJECT ID
 107657

SHEET	TOTAL
76	98



NOTES:

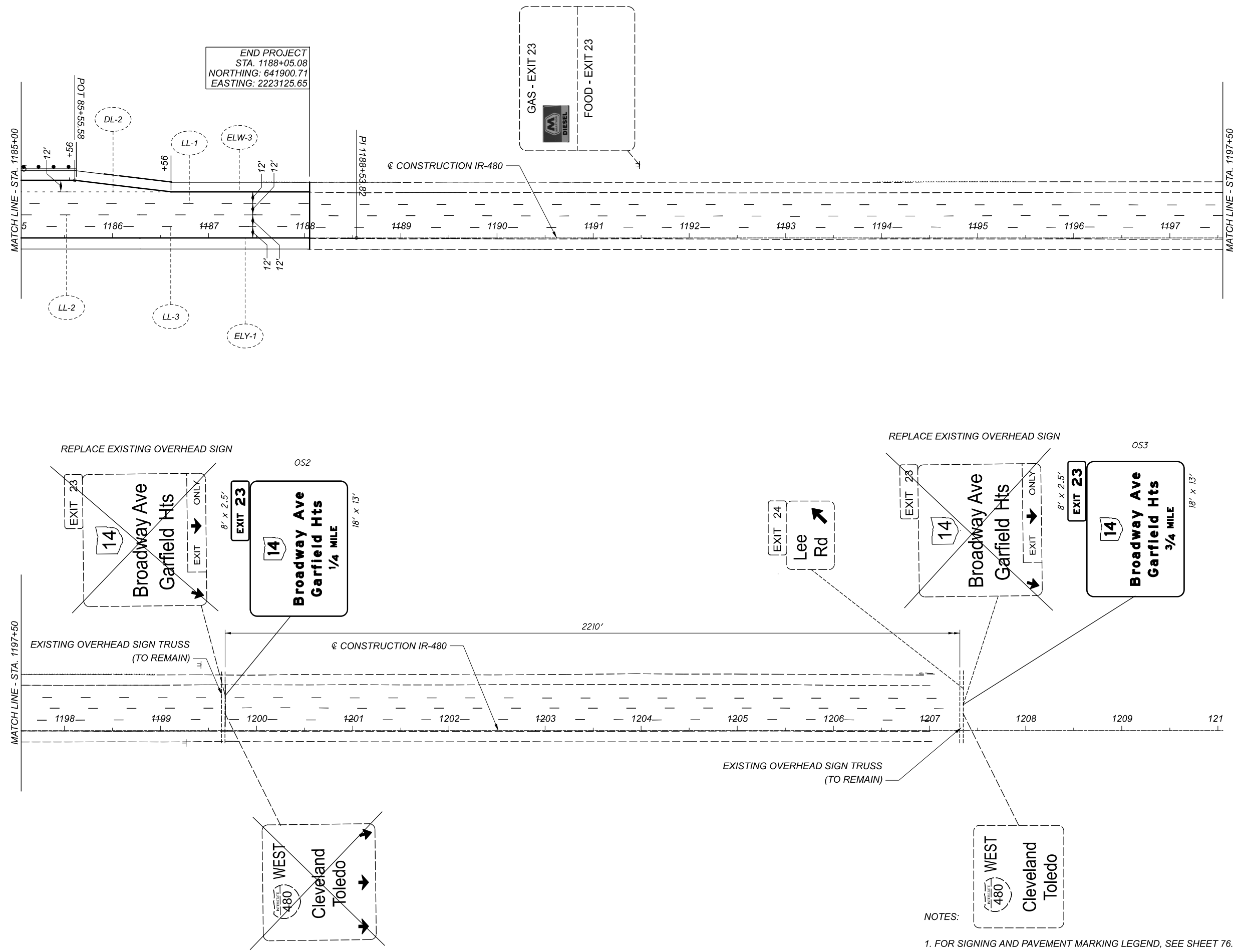
1. FOR SIGNING AND PAVEMENT MARKING LEGEND, SEE SHEET 76.



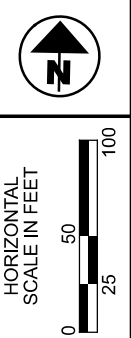
SIGNING AND PAVEMENT MARKING PLAN
 STA. 1160+00 TO 1185+00



DESIGN AGENCY	KS Associates, Inc.
DESIGNER	AYJ
REVIEWER	WAA
PROJECT ID	107657
SHEET	TOTAL
77	98



END PROJECT
 STA. 1188+05.08
 NORTHING: 641900.71
 EASTING: 2223125.65



SIGNING AND PAVEMENT MARKING PLAN
 STA. 1185+00 TO 1210+00

REPLACE EXISTING OVERHEAD SIGN

REPLACE EXISTING OVERHEAD SIGN

EXISTING OVERHEAD SIGN TRUSS (TO REMAIN)

EXISTING OVERHEAD SIGN TRUSS (TO REMAIN)

NOTES:

1. FOR SIGNING AND PAVEMENT MARKING LEGEND, SEE SHEET 76.

DESIGN AGENCY

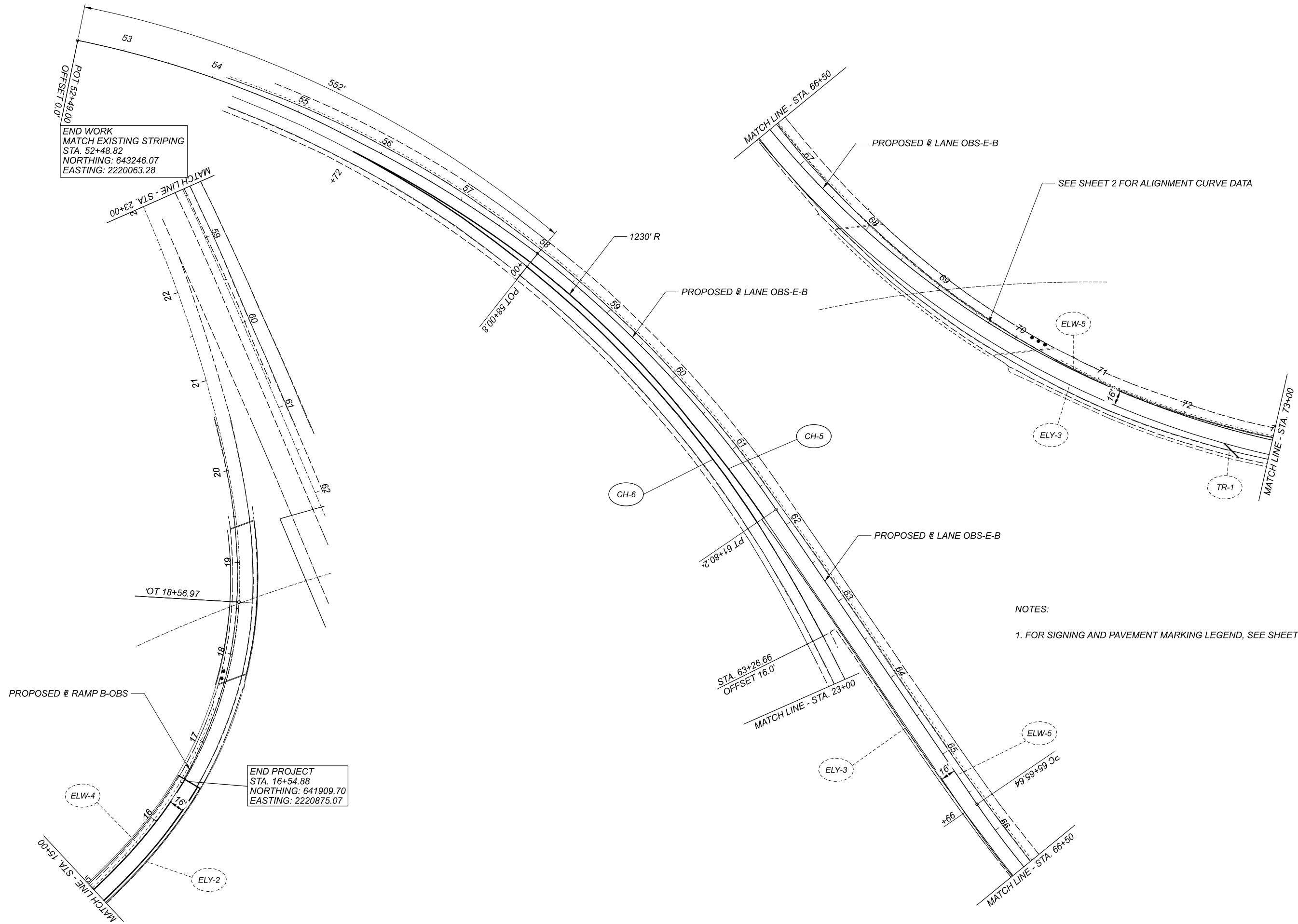


DESIGNER
 AYJ

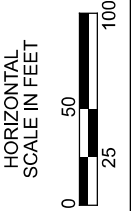
REVIEWER
 WAA 12-04-20

PROJECT ID
 107657

SHEET	TOTAL
78	98



NOTES:
1. FOR SIGNING AND PAVEMENT MARKING LEGEND, SEE SHEET 76.



SIGNING AND PAVEMENT MARKING PLAN
RAMPS - STATIONS VARY



DESIGNER	AYJ
REVIEWER	WAA
PROJECT ID	12-04-20
SHEET	107657
TOTAL	98

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

- EXJ-4-87 DATED (REVISED) 01/19/18
- GSD-1-19 DATED (REVISED) 01/18/19
- HL-20.14 DATED (REVISED) 04/17/20
- PCB-91 DATED (REVISED) 07/17/20
- SBR-1-20 DATED (REVISED) 07/17/20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 01/20/17

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 2017 8TH EDITION, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

HS20, CASE I AND THE ALTERNATE MILITARY LOADING.

DESIGN DATA

CONCRETE QC2
 -COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE QC1
 -COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL
 -MINIMUM YIELD STRENGTH 60 KSI

PROPOSED WORK

REMOVE EXISTING 2 1/2" MICRO-SILICA MODIFIED OVERLAY

INSTALL VARIABLE THICKNESS SUPERPLASTICIZED DENSE OVERLAY

REFACE OUTSIDE PARAPET TO MEET CURRENT TL-5 STANDARD

REPLACE MEDIAN PARAPET WITH STANDARD SBR-1-20 PARAPET

REPLACE SLIDING PLATE ABUTMENT JOINT WITH STRIP SEAL JOINT INCLUDING THE SUPPORT SYSTEM

INSTALL PROPOSED STRIPING TO PROVIDE 4 MAINLINE TRAFFIC LANES OVER STRUCTURES

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

UTILITY LINE

THE UTILITY(IES) SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) ANY AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS WORK CONSISTS OF THE REMOVAL OF EXISTING MEDIAN PARAPETS, PORTIONS OF OUTSIDE PARAPETS AND DECK JOINTS IN STAGES, AS PER PLAN. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING THE REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, RAILROAD, PEDESTRIAN, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING THE REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEERS APPROVAL BEFORE PERFORMING REPAIR.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

NOTIFICATION OF DEMOLITION AND/OR RENOVATION

FOR THIS STRUCTURE, A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM WITH SECTIONS I-VII, XVII, XVIII COMPLETED BY ODOT WILL BE PROVIDED TO THE CONTRACTOR. THE CONTRACTOR WILL COMPLETE THE OEPA ONLINE NOTIFICATION OF DEMOLITION AND RENOVATION FORM AND PAY THE CALCULATED APPLICABLE FEES TO THE OHIO EPA, AT LEAST 10 BUSINESS DAYS PRIOR TO DEMOLITION/RENOVATION ACTIVITIES. ALL ASSOCIATED FEES MUST BE PAID VIA CREDIT CARD OR BY ELECTRONIC CHECK TO THE OHIO EPA. ALL WORK TO COMPLY WITH THESE REQUIREMENTS AND THE FEES REQUIRED BY THE OHIO EPA SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DURING DEMOLITION OF THE STRUCTURE, SHOULD ASBESTOS CONTAINING MATERIAL (ACM) BE FOUND, THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS ARE NECESSARY TO ENSURE THE ACM DOES NOT BECOME FRIABLE. TO ASSURE THE NON-FRIABLE ASBESTOS MATERIAL DOES NOT BECOME FRIABLE OR IN THE EVENT THAT THE NON-FRIABLE MATERIAL BECOMES FRIABLE, THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF NESHAP THAT WILL BE ON-SITE DURING THE DEMOLITION AND/OR REMOVAL OF THE ACM. ALL ACMS SHALL BE PROPERLY CONTAINERIZED, TRANSPORTED, AND DISPOSED OF IN ACCORDANCE WITH THE STATE AND FEDERAL REGULATIONS. COST TO CONTAIN, TRANSPORT AND DISPOSE OF ACM FOUND UPON DEMOLITION OF THE STRUCTURE WILL BE PAID BY CHANGE ORDER.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL

REMOVE CONCRETE AT THE TOP OF THE ABUTMENT BACKWALL NEAR THE JOINT BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN: REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

A CONTINGENCY QUANTITY OF 200 LBS JS INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS ITEM.

RAILROAD COORDINATION

ANY WORK WITHIN THE RAILROAD R/W SHALL BE COORDINATED WITH THE NORFOLK SOUTHERN AND CLEVELAND & CUYAHOGA R/W COMPANIES AND OHIO DEPARTMENT OF TRANSPORTATION.

ITEM 513 REPLACEMENT OF DETERIORATED END CROSSFRAME, AS PER PLAN

ALL SPECIFICATIONS OF ITEM 513 SHALL APPLY EXCEPT AS MODIFIED HEREIN. THE NEW CROSSFRAMES SHALL BE FABRICATED FROM A709 GRADE 50W WEATHERING STEEL. REMOVAL OF EXISTING CROSSFRAMES SHALL BE PAID UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED. CONTRACTOR SHALL TAKE CARE WHEN REMOVING/INSTALLING CROSSFRAMES TO MINIMIZE DAMAGE TO THE EXISTING STRUCTURE PROTECTIVE COATING SYSTEM.

ITEM 516 STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

THE REPLACEMENT DETAILS OF THE EXISTING SLIDING PLATE EXPANSION JOINTS AT ABUTMENTS WITH STRIP SEAL JOINTS ARE ON SHEET 9 OF 19 FOR BRIDGE NO. CUY-480-2139 AND SHEET 17 OF 19 FOR BRIDGE NO. CUY-480-2154.

ITEM 625 BARRIER JUNCTION BOX, AS PER PLAN

THE EXISTING JUNCTION BOX(ES) IN THE OUTSIDE PARAPET SHALL BE EXTENDED TO MEET THE NEW PARAPET FACE AFTER THE REFACING. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION PER THE REQUIREMENTS OF ODOT CMS 725.10. SEE ODOT STANDARD DRAWING HL-30.41 FOR OTHER APPLYING REQUIREMENTS.

ITEM 848 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN.

THE VARIABLE OVERLAY DETAILS ARE ILLUSTRATED ON SHEET 4 OF 19 FOR BRIDGE NO. CUY-480-2139 AND SHEET 13 OF 19 FOR BRIDGE NO. CUY-480-2154.

STRUCTURE GENERAL NOTES
 BRIDGE NO. CUY-480-2139
 BRIDGE NO. CUY-480-2154

SFN	1813374/82
DESIGN AGENCY	 KS Associates Inc. 260 Burns Road, Elyria, Ohio 44035
DESIGNER	RY
CHECKER	RAP
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	TOTAL
1	19
SHEET	TOTAL
80	98

CALC: RY DATE: 1/24/2021
 CHECKED: RAP DATE: 1/25/2021

ESTIMATED QUANTITIES (SFN 1813374)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	1/19
509	10000	31920	LB	EPOXY COATED REINFORCING STEEL	1579		30341		
509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				200	1/19
510	10000	2567	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT (EPOXY)			2567		
511	34410	18	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE			18		
511	34448	138	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			138		
511	44110	25	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	25				
512	10100	839	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			839		
513	21501	3528	LB	REPLACEMENT OF DETERIORATED END CROSSFRAMES, AS PER PLAN			3528		1/19
516	11211	160	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	160				1/19, 9/19
625	29941	2	EACH	BARRIER JUNCTION BOX, AS PER PLAN				2	1/19
848	10200	3891	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION: 1/2 INCHES			3891		
848	20000	3891	SY	SURFACE PREPARATION USING HYDRODEMOLITION			3891		
848	30201	357	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN			357		1/19, 4/19
848	50000	394	SY	HAND CHIPPING			394		
848	50320	3944	SY	EXISTING CONCRETE OVERLAY REMOVED: 2.5 INCHES			3944		

CALC: RY DATE: 1/24/2021
 CHECKED: RAP DATE: 1/25/2021

ESTIMATED QUANTITIES (SFN 1813382)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	1/19
509	10000	14006	LB	EPOXY COATED REINFORCING STEEL	2093		11913		
509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				200	1/19
510	10000	990	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT (EPOXY)			990		
511	34410	22	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE			22		
511	34448	52	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			52		
511	44110	31	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	31				
512	10100	311	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			311		
513	21501	4410	LB	REPLACEMENT OF DETERIORATED END CROSSFRAMES, AS PER PLAN			4410		1/19
516	11211	200	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	200				1/19, 17/19
625	29941	3	EACH	BARRIER JUNCTION BOX, AS PER PLAN				3	1/19
848	10200	1686	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION: 1/2 INCHES			1686		
848	20000	1686	SY	SURFACE PREPARATION USING HYDRODEMOLITION			1686		
848	30201	166	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN			166		1/19, 13/19
848	50000	175	SY	HAND CHIPPING			175		
848	50320	1753	SY	EXISTING CONCRETE OVERLAY REMOVED: 2.5 INCHES			1753		

STRUCTURE ESTIMATED QUANTITIES
 BRIDGE NO. CUY-480-2139
 BRIDGE NO. CUY-480-2154

SFN 1813374/82



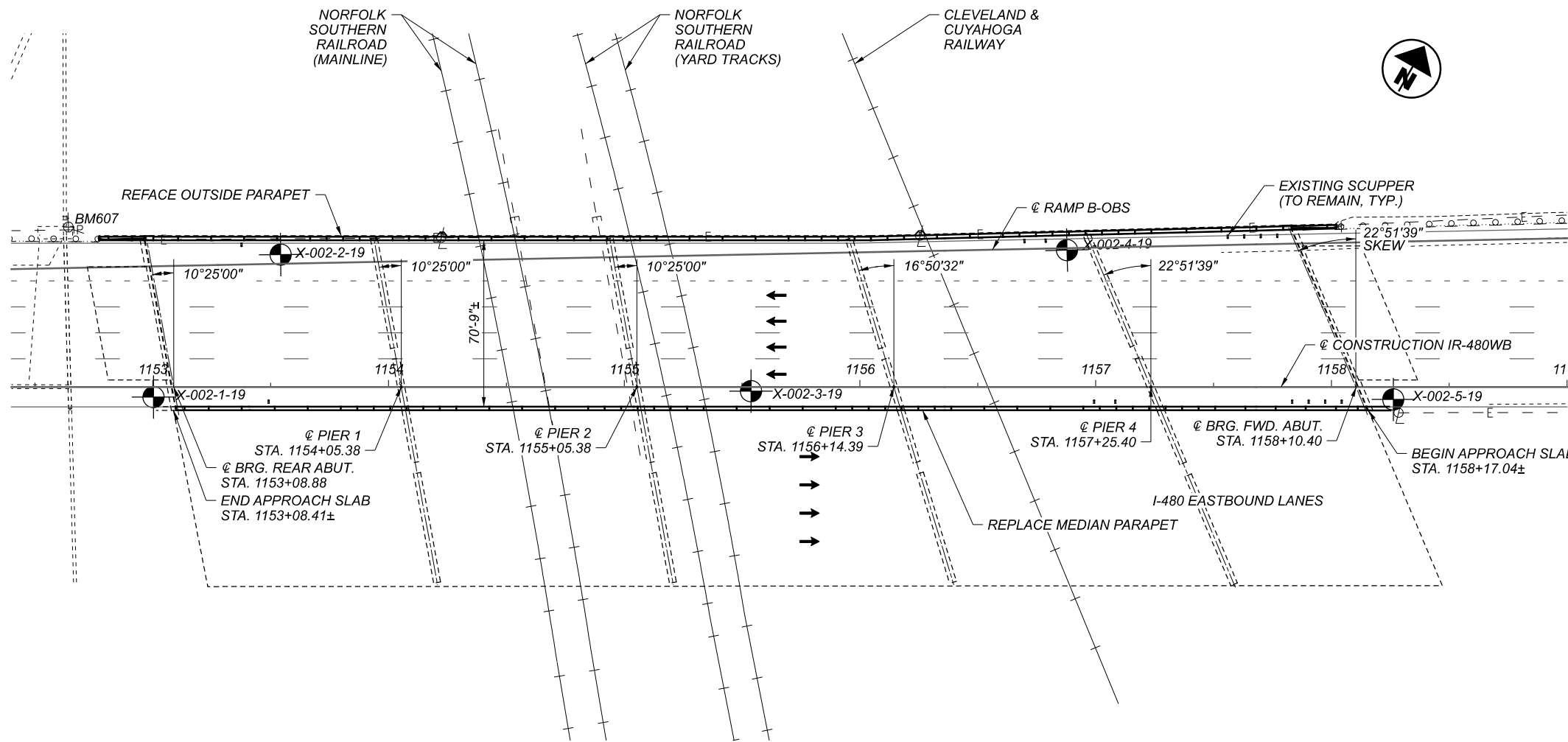
DESIGNER CHECKER
 RAP RY

REVIEWER
 HVH 12-11-20

PROJECT ID
 107657

SUBSET TOTAL
 2 19

SHEET TOTAL
 81 98



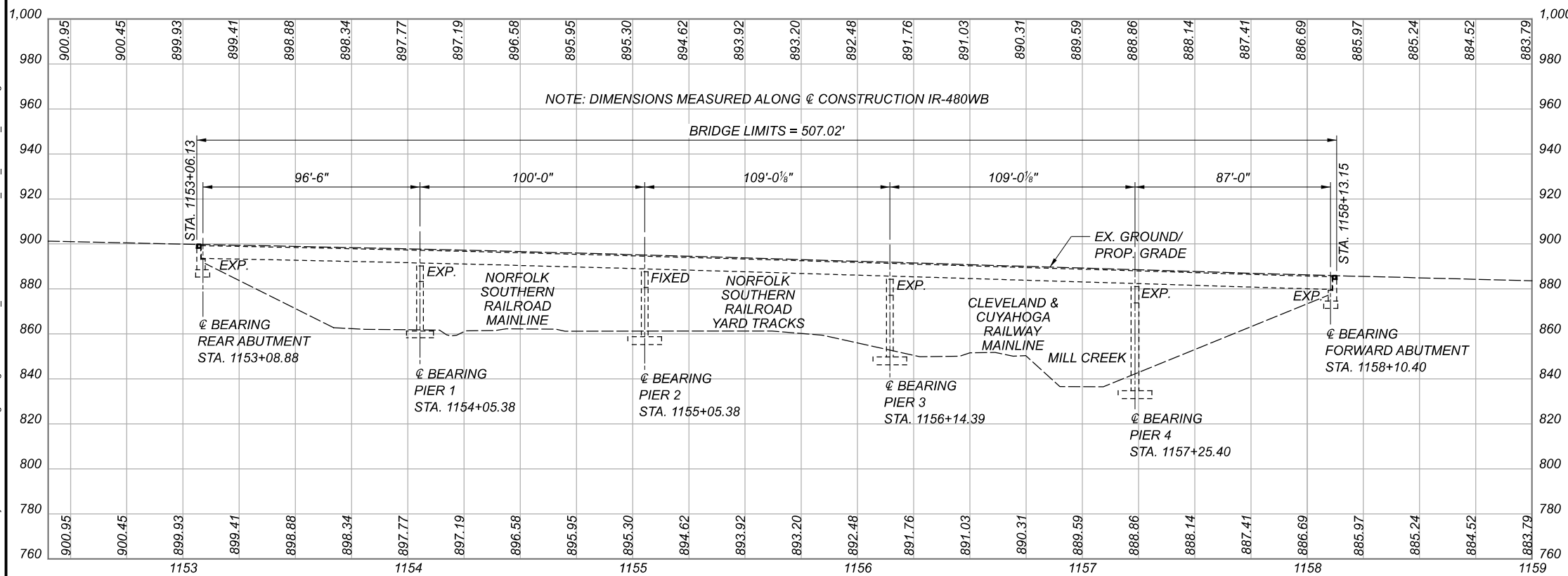
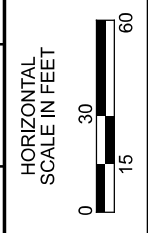
BENCHMARK DATA	
BM 607 STA. 1152+64.1, 64.8' LT, ELEV. = 900.60, MAG NAIL SET IN TOP OF SOUTHERLY CONCRETE "GARFIELD HTS CORP LIMIT" SIGN BASE	
BM 606 STA. 1160+27.4, 84.3' LT, ELEV. = 881.61, MAG NAIL SET IN TOP OF CONCRETE WALL NORTHWEST CORNER OF BRIDGE	

- PROPOSED WORK**
- REMOVE EXISTING 2 1/2" EXISTING MICRO-SILICA MODIFIED OVERLAY
 - INSTALL VARIABLE THICKNESS SUPERPLASTICIZED DENSE OVERLAY
 - REFACE OUTSIDE PARAPET
 - REPLACE MEDIAN PARAPET
 - INSTALL PROPOSED STRIPING TO PROVIDE 4 TRAFFIC LANES OVER STRUCTURE

NOTES

DESIGN TRAFFIC:
 2021 ADT = 155,400 2021 ADTT = 7,770
 2051 ADT = 178,700 2051 ADTT = 8,935
 DIRECTIONAL DISTRIBUTION = 9%

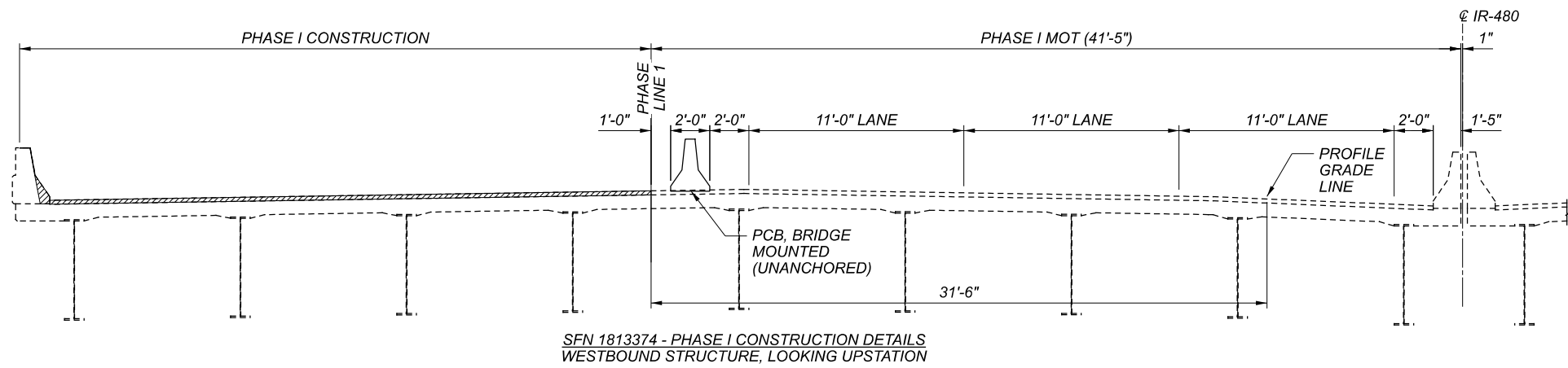
- LEGEND**
- ⊕ PAVEMENT CORE LOCATION
 - * - PHASE 1 CONSTRUCTION
 - ** - PHASE 2 CONSTRUCTION
 - 23'-0" REQUIRED MINIMUM VERTICAL CLEARANCE
 - 23'-5 1/2" ACTUAL MINIMUM VERTICAL CLEARANCE



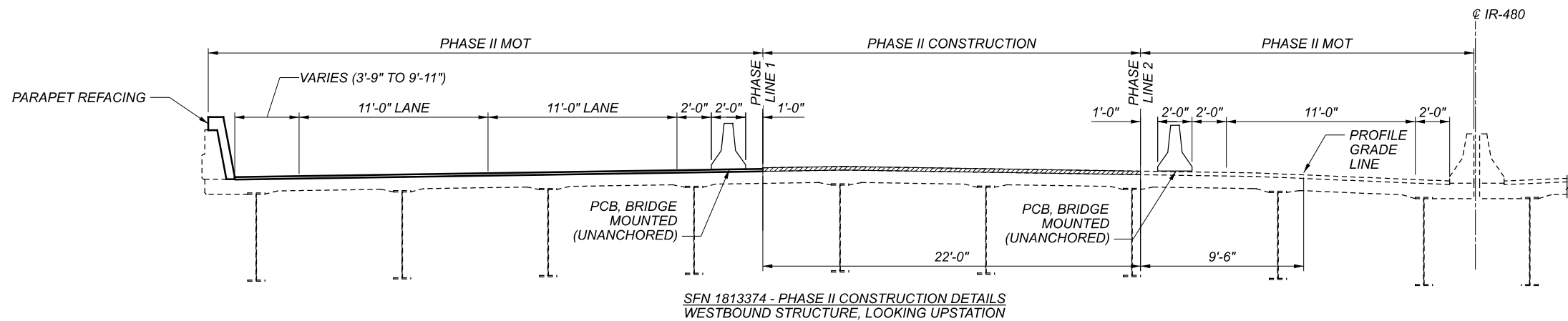
EXISTING/PROPOSED STRUCTURE	
TYPE:	CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS:	96'-6"±, 100'-0"±, 110'-2 3/8"±, 110'-2 7/16"±, 87'-0" ALONG @ I-480
ROADWAY:	WIDTH VARIES FROM 146'-0" TO 150'-5 1/8" F/F OF PARAPETS WITH CONCRETE BARRIER
LOADING:	HS-20 AND INTERSTATE ALTERNATE LOADING
SKEW:	VARIES
WEARING SURFACE:	EXISTING - 2 1/2"± MICRO-SILICA MODIFIED PROPOSED - SUPERPLASTICIZED DENSE (THICKNESS VARIES)
APPROACH SLABS:	AS-1-67 (25' LONG)
ALIGNMENT:	TANGENT
CROWN:	SUPERELEVATED
STRUCTURE FILE NUMBER:	1813374
DATE BUILT:	7/1/1976
DECK AREA:	37,153± SF (WESTBOUND STRUCTURE)
COORDINATES:	LATITUDE 41° 25' 21.29" LONGITUDE 81° 35' 3.48"

SITE PLAN
 BRIDGE NO. CUY-480-2139
 IR-480 OVER NSRR, CLEVELAND & CUYAHOGA RAILWAY, AND MILL CREEK

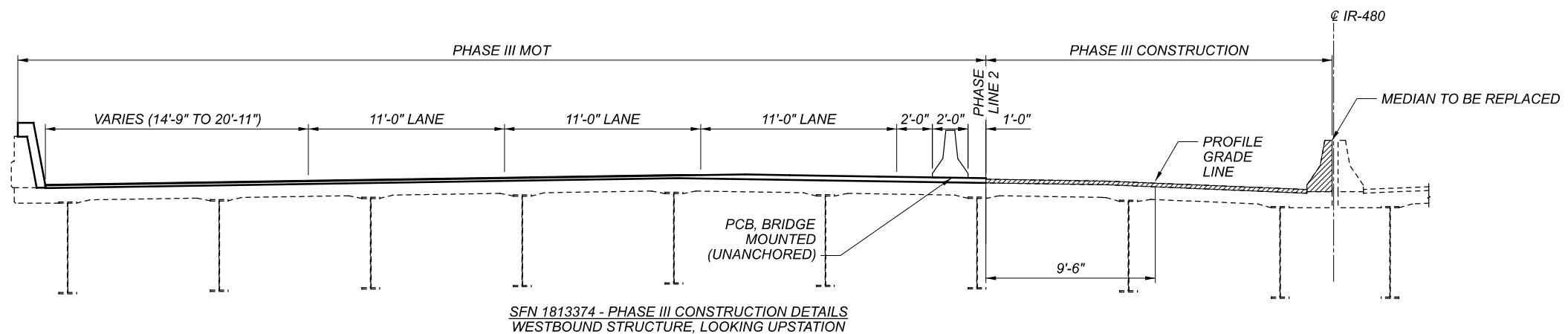
SFN	1813374
DESIGN AGENCY	KS Associates Inc. 260 Burns Road Elyria, Ohio 44035
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	3
TOTAL	19
SHEET	82
TOTAL	98



SFN 1813374 - PHASE I CONSTRUCTION DETAILS
 WESTBOUND STRUCTURE, LOOKING UPSTATION

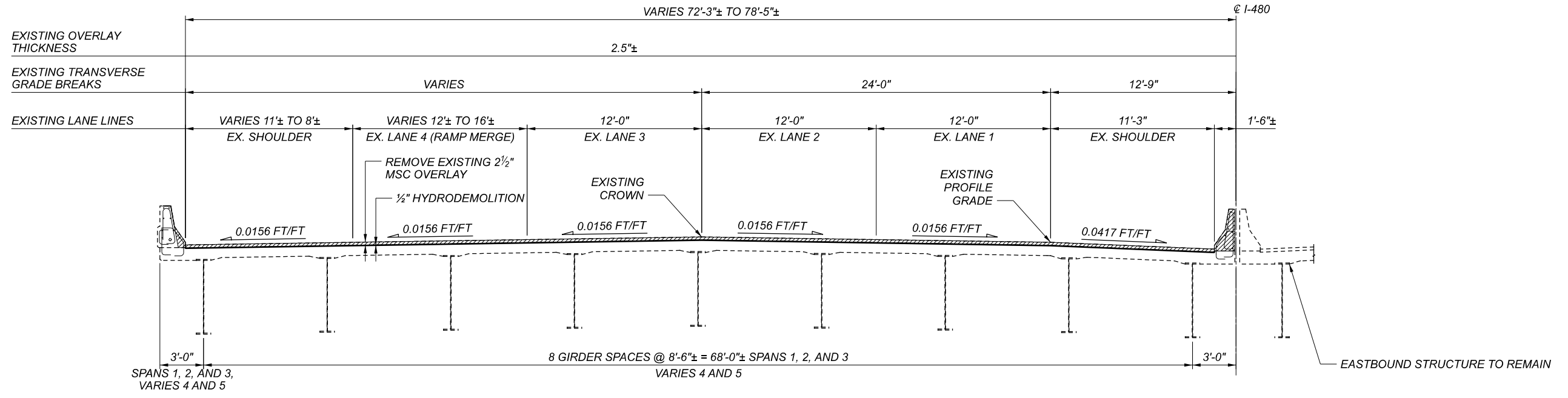


SFN 1813374 - PHASE II CONSTRUCTION DETAILS
 WESTBOUND STRUCTURE, LOOKING UPSTATION

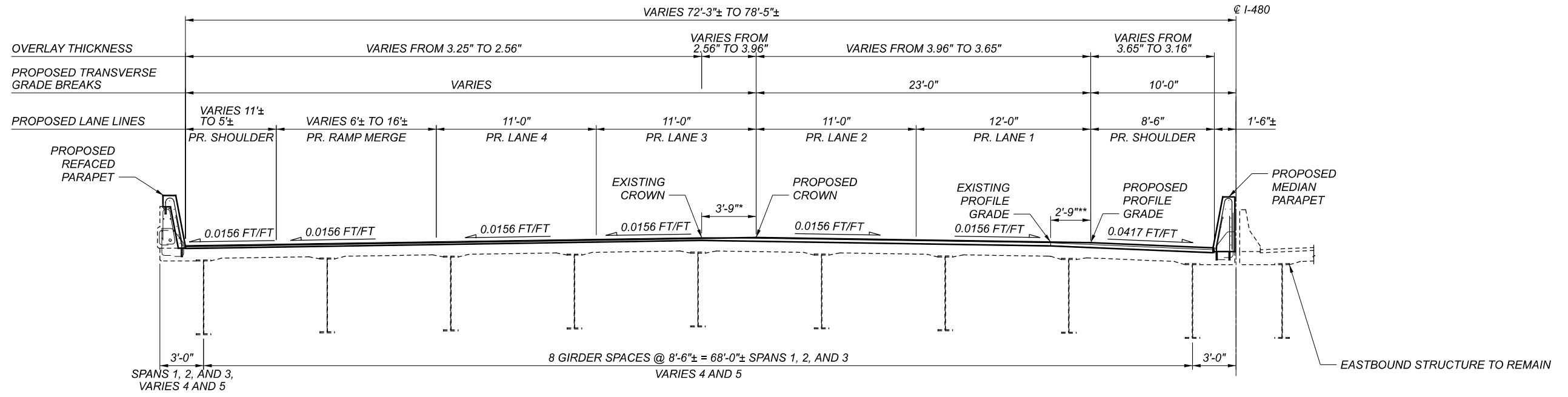


SFN 1813374 - PHASE III CONSTRUCTION DETAILS
 WESTBOUND STRUCTURE, LOOKING UPSTATION

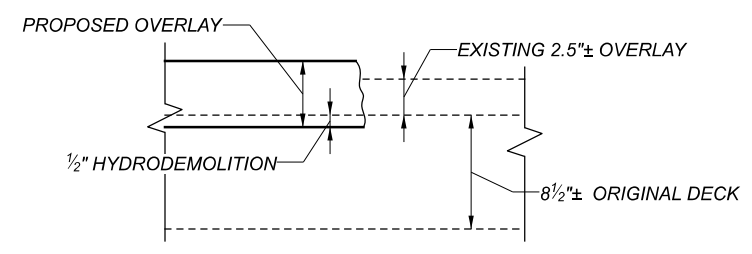
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DESIGN AGENCY	KS KS Associates Inc. 260 Burns Road Elyria, Ohio 44035
DESIGNER	RY
CHECKER	RAP
REVIEWER	HVH 01-11-21
PROJECT ID	107657
SUBSET	3A 19
SHEET	82A 98



SFN 1813374 - EXISTING DECK TRANSVERSE SECTION
 WESTBOUND STRUCTURE, LOOKING UPSTATION

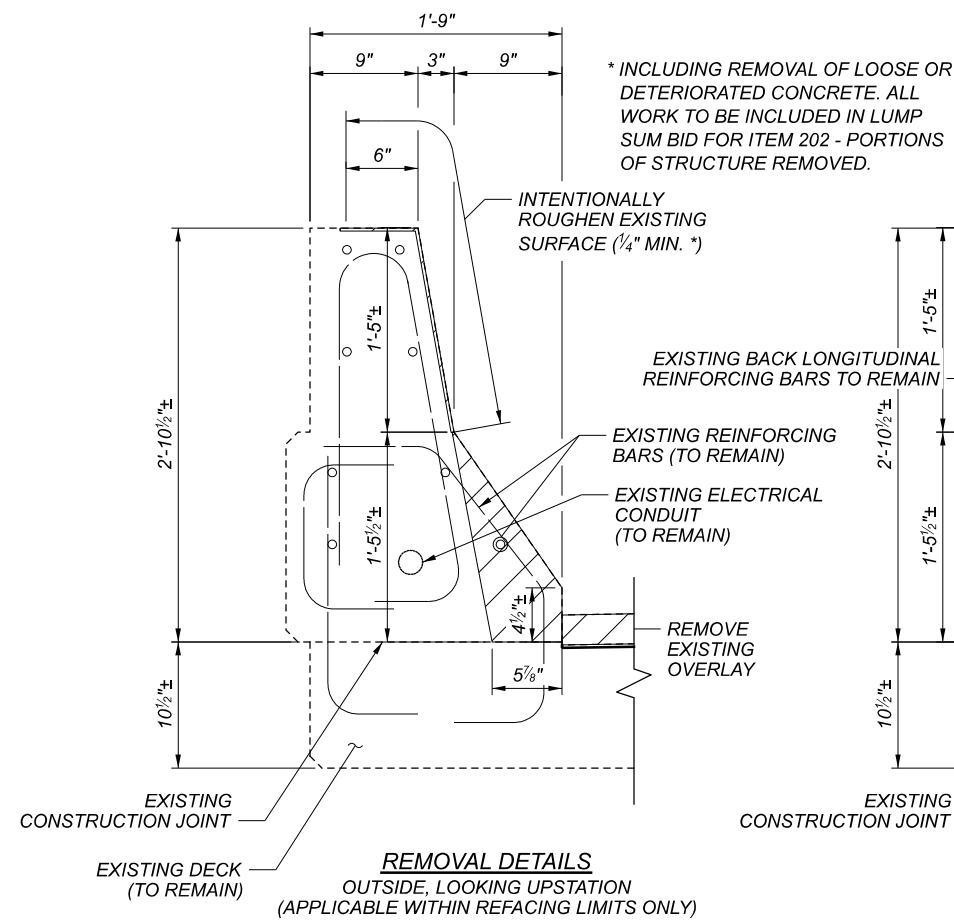


SFN 1813374 - PROPOSED DECK TRANSVERSE SECTION
 WESTBOUND STRUCTURE, LOOKING UPSTATION



DECK BUILDUP DETAIL

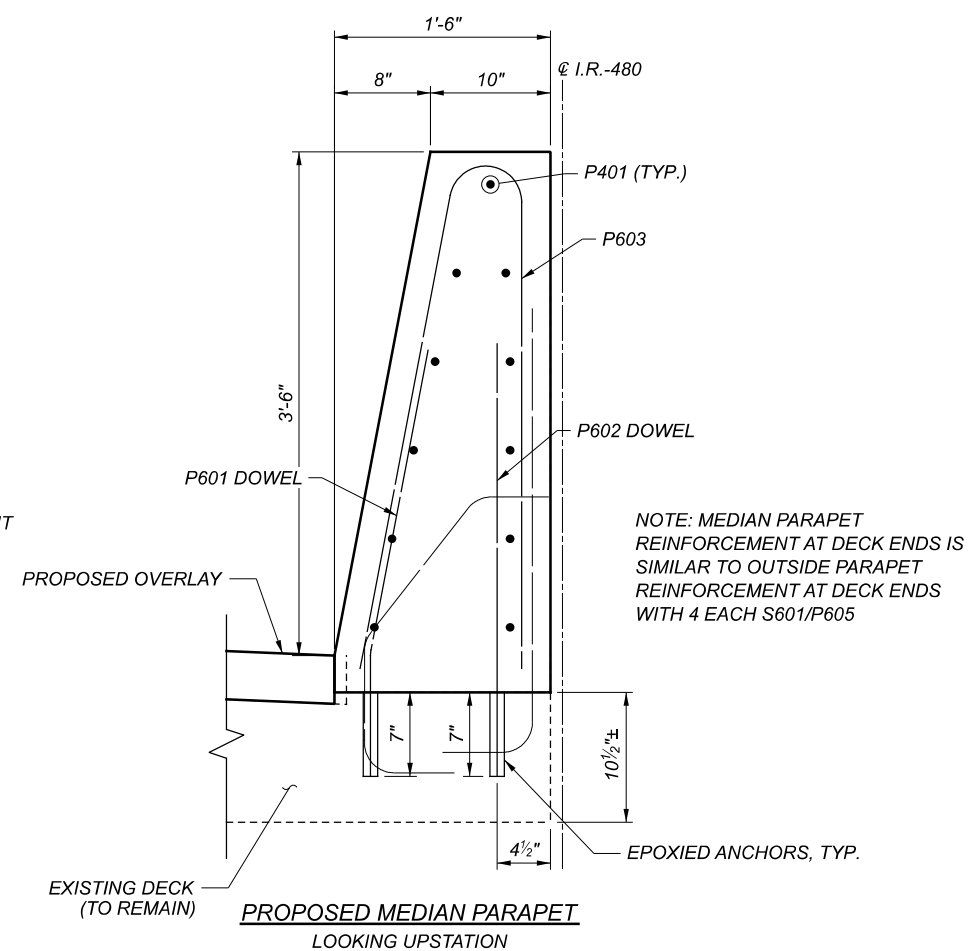
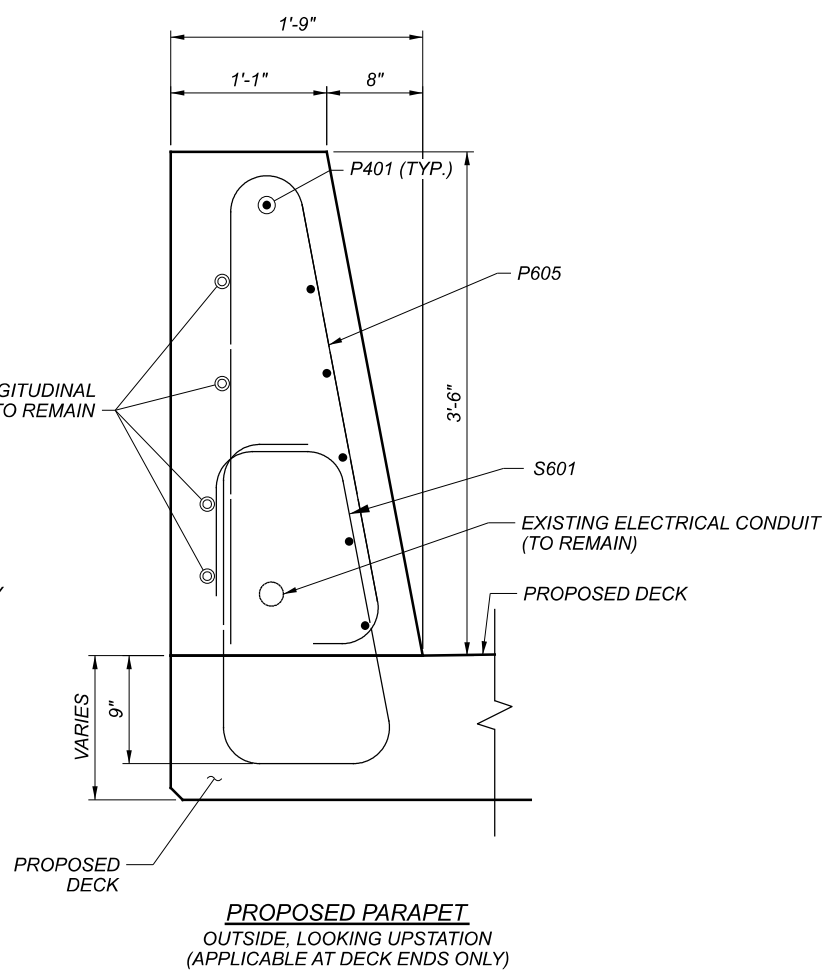
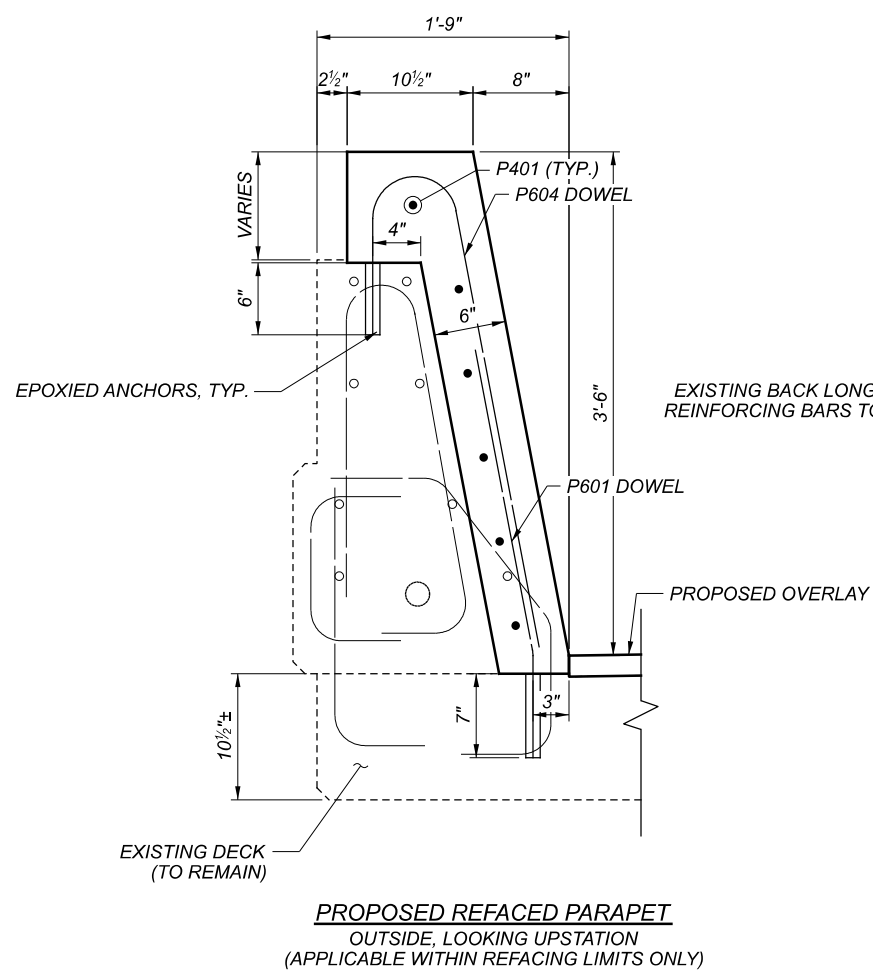
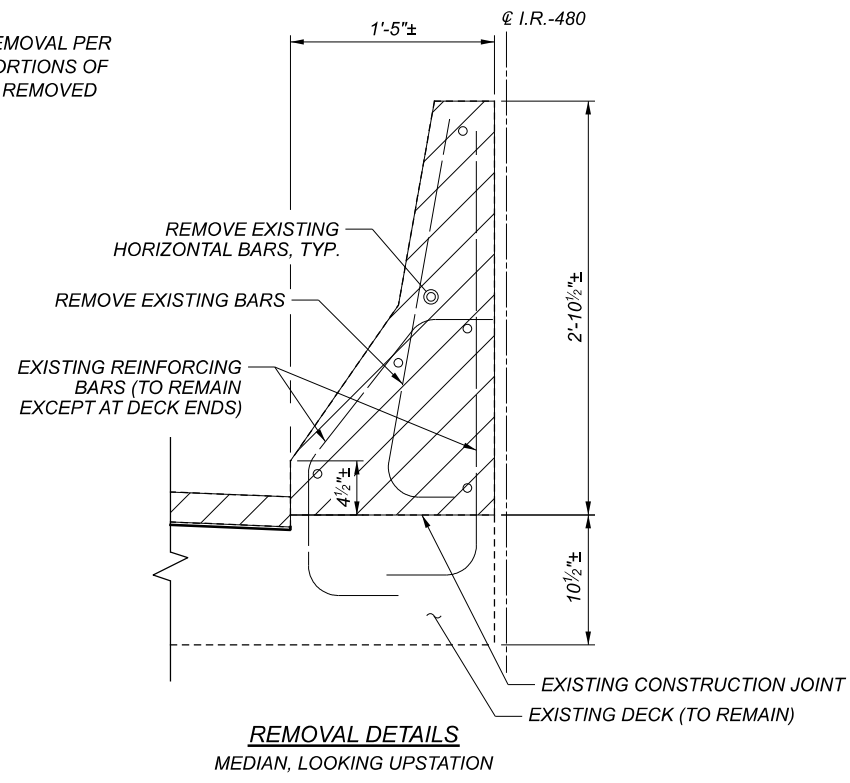
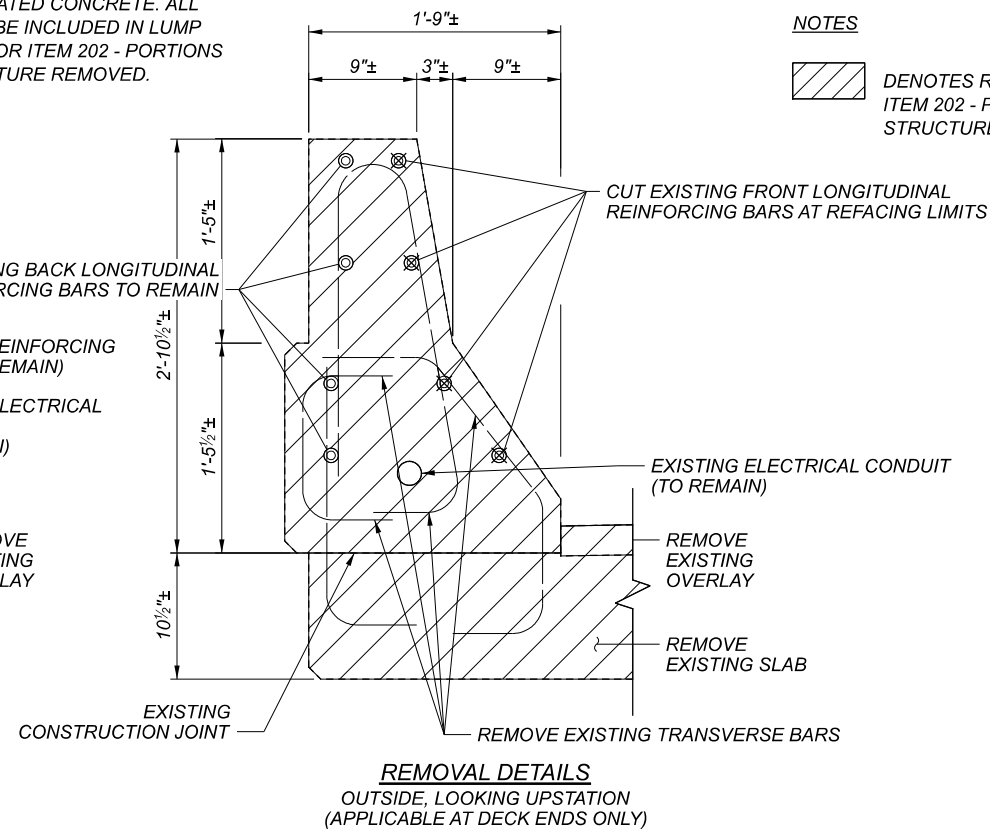
SFN 1813374	
DESIGN AGENCY	
 KS Associates Inc. 260 Burns Road Elyria, Ohio 44035	
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	TOTAL
4	19
SHEET	TOTAL
83	98



* INCLUDING REMOVAL OF LOOSE OR DETERIORATED CONCRETE. ALL WORK TO BE INCLUDED IN LUMP SUM BID FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED.

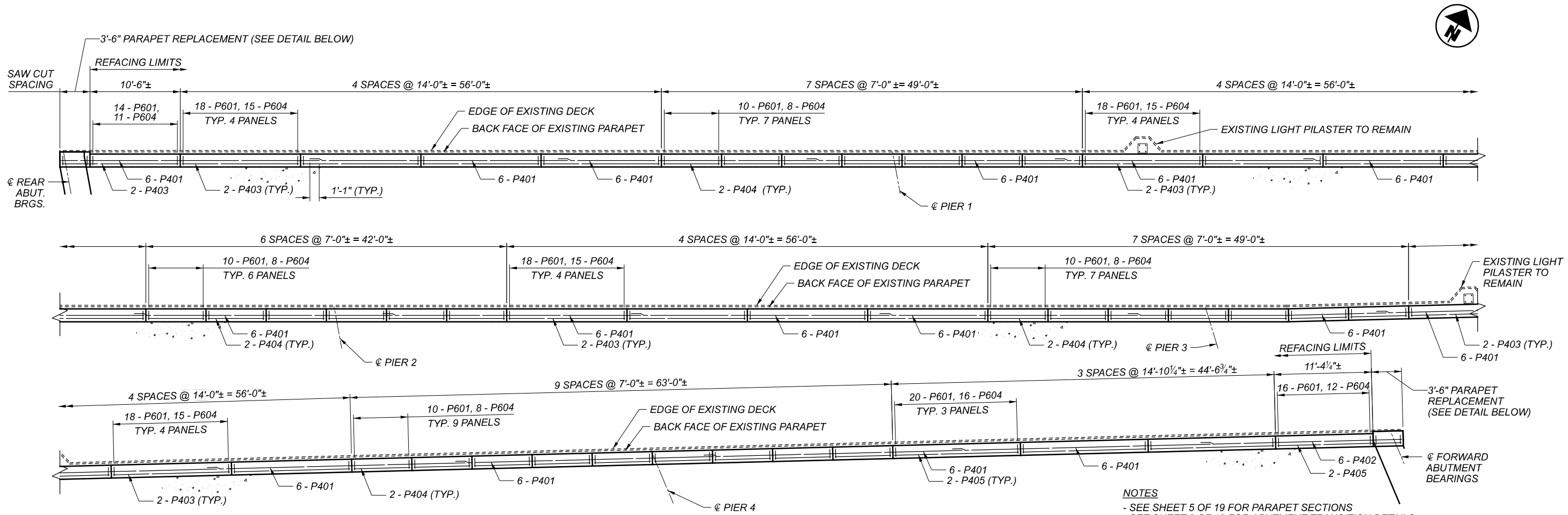
NOTES

DENOTES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED



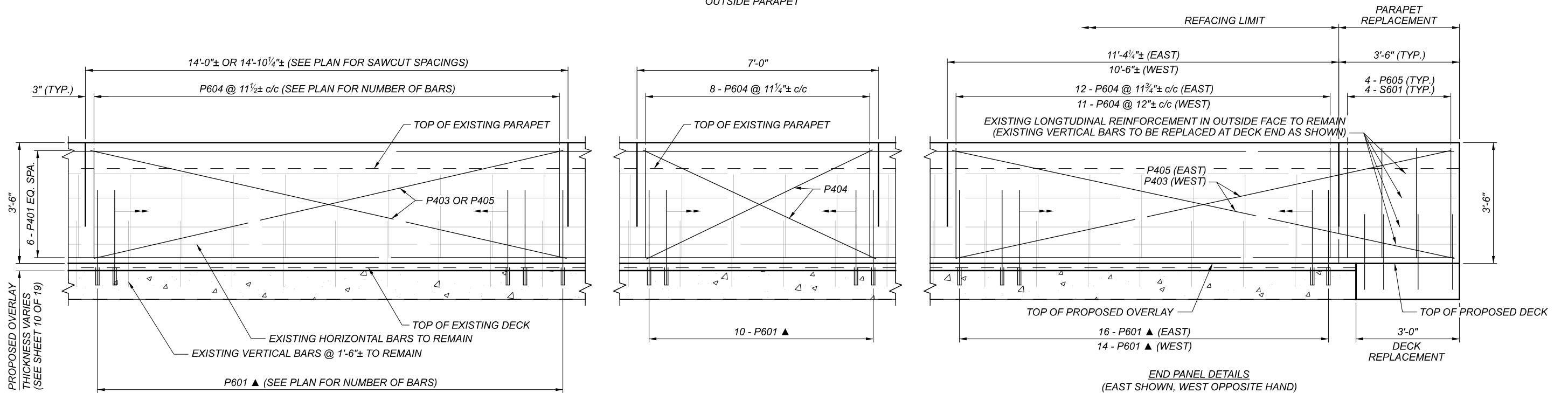
NOTE: MEDIAN PARAPET REINFORCEMENT AT DECK ENDS IS SIMILAR TO OUTSIDE PARAPET REINFORCEMENT AT DECK ENDS WITH 4 EACH S601/P605

SFN 1813374	
DESIGNER AGENCY	
KS Associates Inc. 260 Burns Road Elyria, Ohio 44035	
DESIGNER	CHECKER
RAP	RY
REVIEWER	
HVH 12-11-20	
PROJECT ID	
107657	
SUBSET	TOTAL
5	19
SHEET	TOTAL
84	98



PARAPET PLAN
OUTSIDE PARAPET

- NOTES
- SEE SHEET 5 OF 19 FOR PARAPET SECTIONS
 - SEE SHEET 8 OF 19 FOR ABUTMENT TRANSITION DETAILS
 - FOR ADDITIONAL DETAILS SEE SCD SBR-1-20
 - CONTRACTOR SHALL MATCH EXISTING SAW CUT LOCATIONS AND ADJUST BARS AS NEEDED, NOT TO EXCEED THE SPACINGS SHOWN

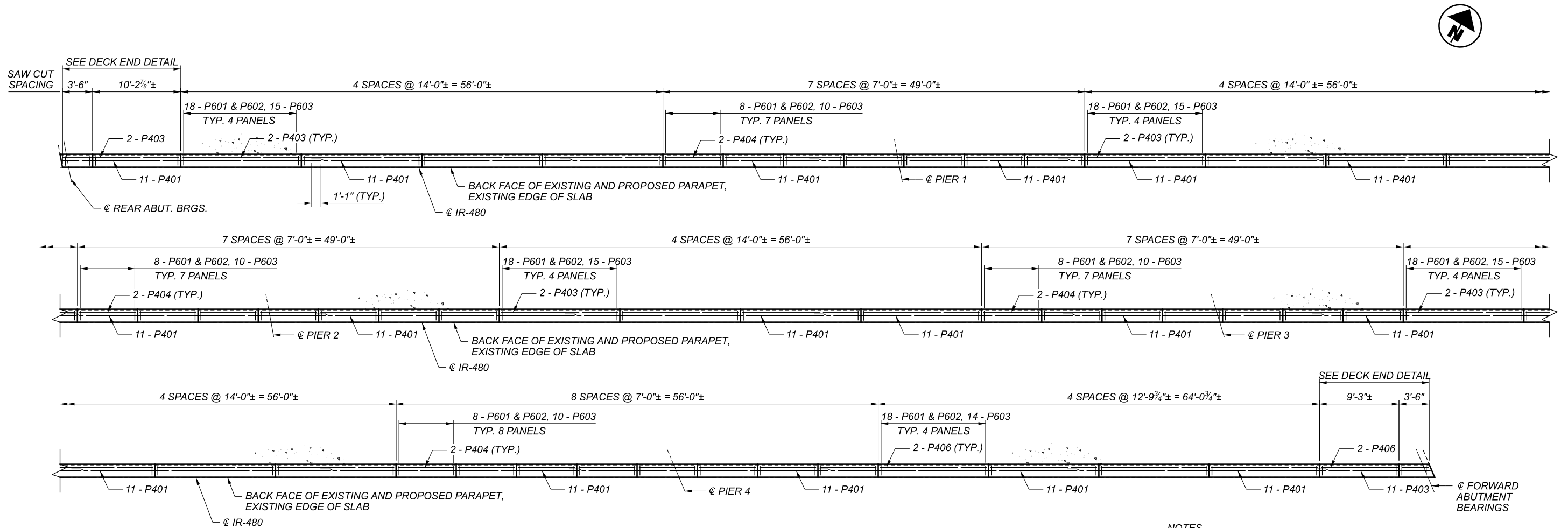


PARAPET ELEVATIONS
TYPICAL PANEL DETAILS

- ▲ - P601 DOWELS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN EXISTING STEEL. CONTRACTOR MAY ADJUST PLACEMENT AS NEEDED TO ACCOMMODATE PROPOSED SAWCUTS. QUANTITY SHOWN IS BASED ON NOMINAL PANEL LENGTH. PAYMENT SHALL BE MADE BASED ON ACTUAL QUANTITY ACCEPTED IN PLACE.

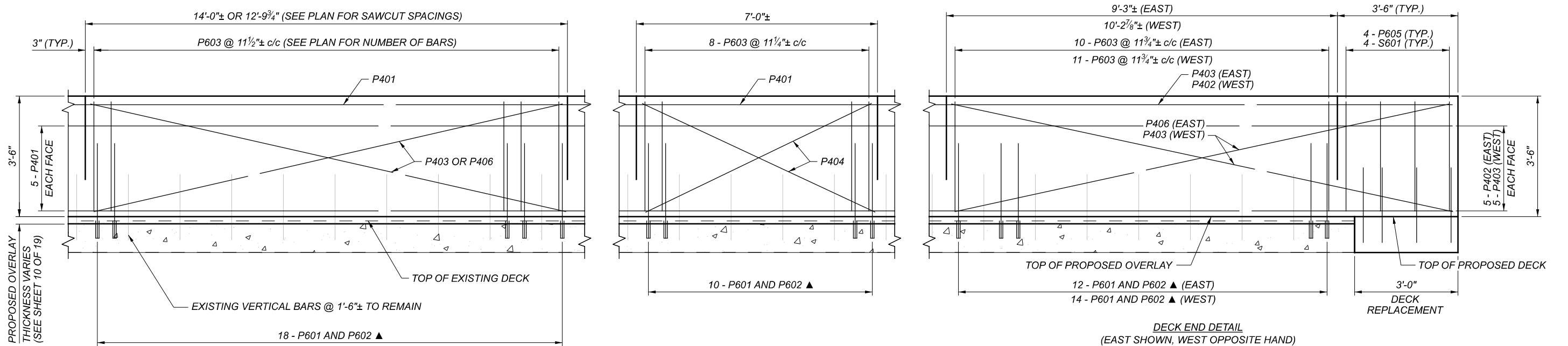


SFN	1813374
DESIGN AGENCY	KS
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	6 TOTAL 19
SHEET	85 TOTAL 98



PARAPET PLAN
 MEDIAN PARAPET

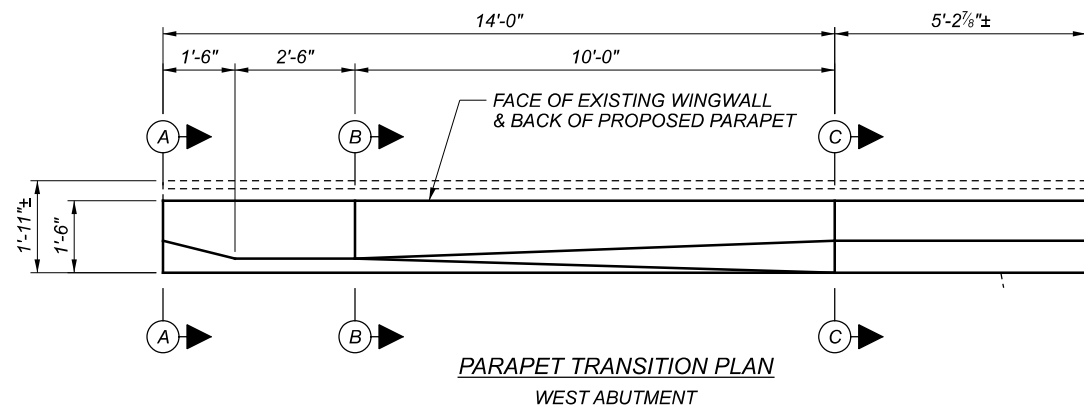
- NOTES
 - SEE SHEET 5 OF 19 FOR PARAPET SECTIONS
 - SEE SHEET 8 OF 19 FOR ABUTMENT TRANSITION DETAILS
 - FOR ADDITIONAL DETAILS SEE SCD SBR-1-20



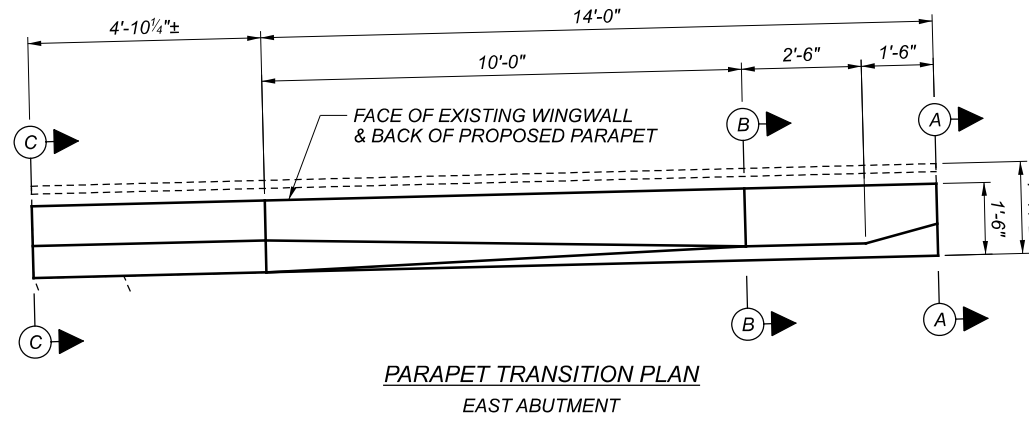
MEDIAN PARAPET ELEVATIONS
 TYPICAL PANEL DETAILS

- ▲ - P601 AND P602 DOWELS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN EXISTING STEEL. CONTRACTOR MAY ADJUST PLACEMENT AS NEEDED TO ACCOMMODATE PROPOSED SAWCUTS. QUANTITY SHOWN IS BASED ON NOMINAL PANEL LENGTH. PAYMENT SHALL BE MADE BASED ON ACTUAL QUANTITY ACCEPTED IN PLACE.

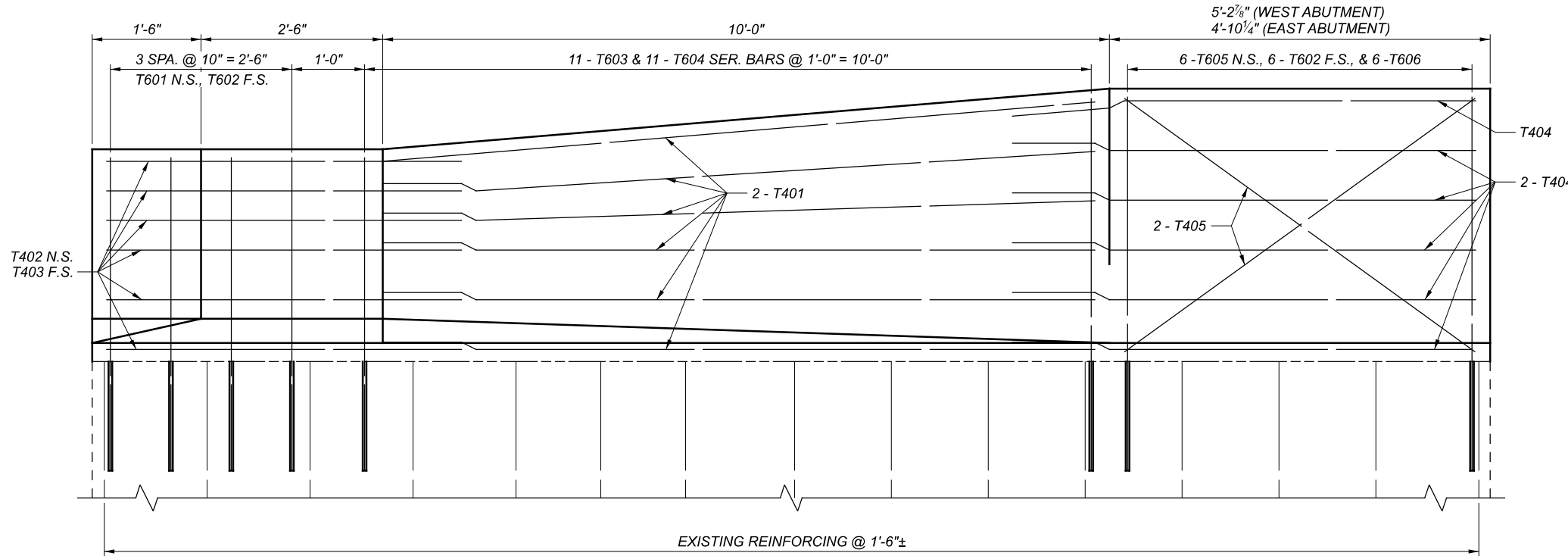
SFN	1813374
DESIGN AGENCY	KS
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	7 TOTAL 19
SHEET	86 TOTAL 98



PARAPET TRANSITION PLAN
WEST ABUTMENT



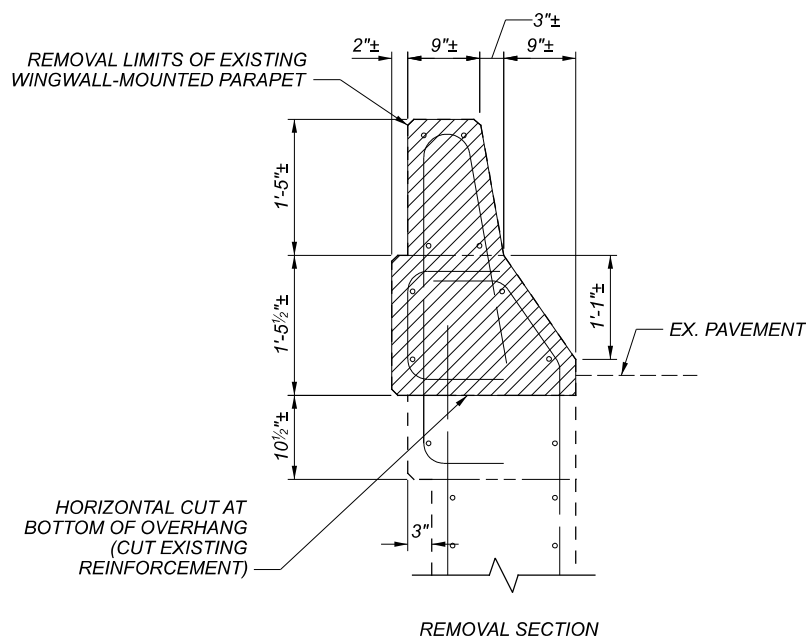
PARAPET TRANSITION PLAN
EAST ABUTMENT



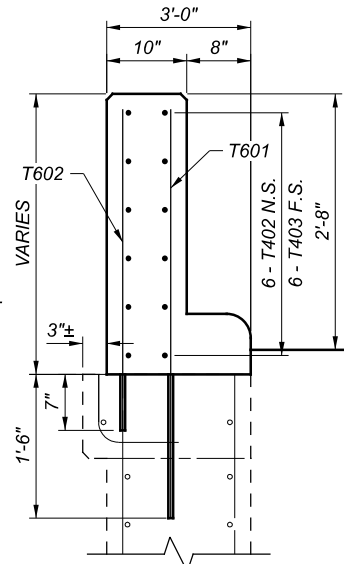
PARAPET TRANSITION ELEVATION
WEST ABUTMENT SHOWN, EAST SIMILAR AND AS NOTED

LEGEND
 E.S. = EACH SIDE
 F.S. = FAR SIDE
 N.S. = NEAR SIDE

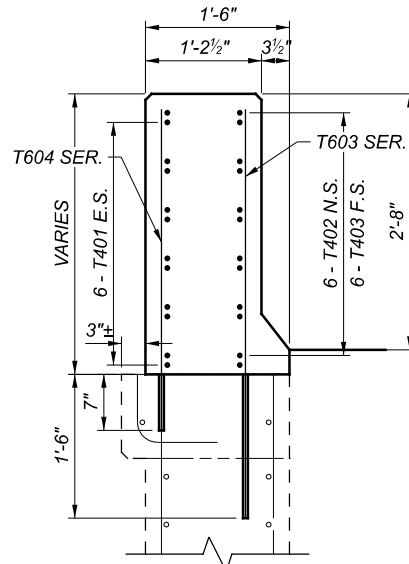
NOTES
 FOR ADDITIONAL DETAILS SEE SCD SBR-1-20



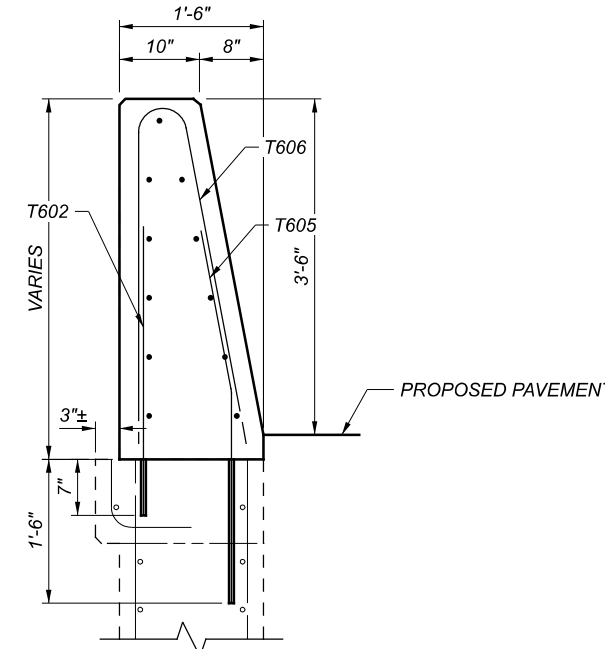
REMOVAL SECTION



SECTION A-A



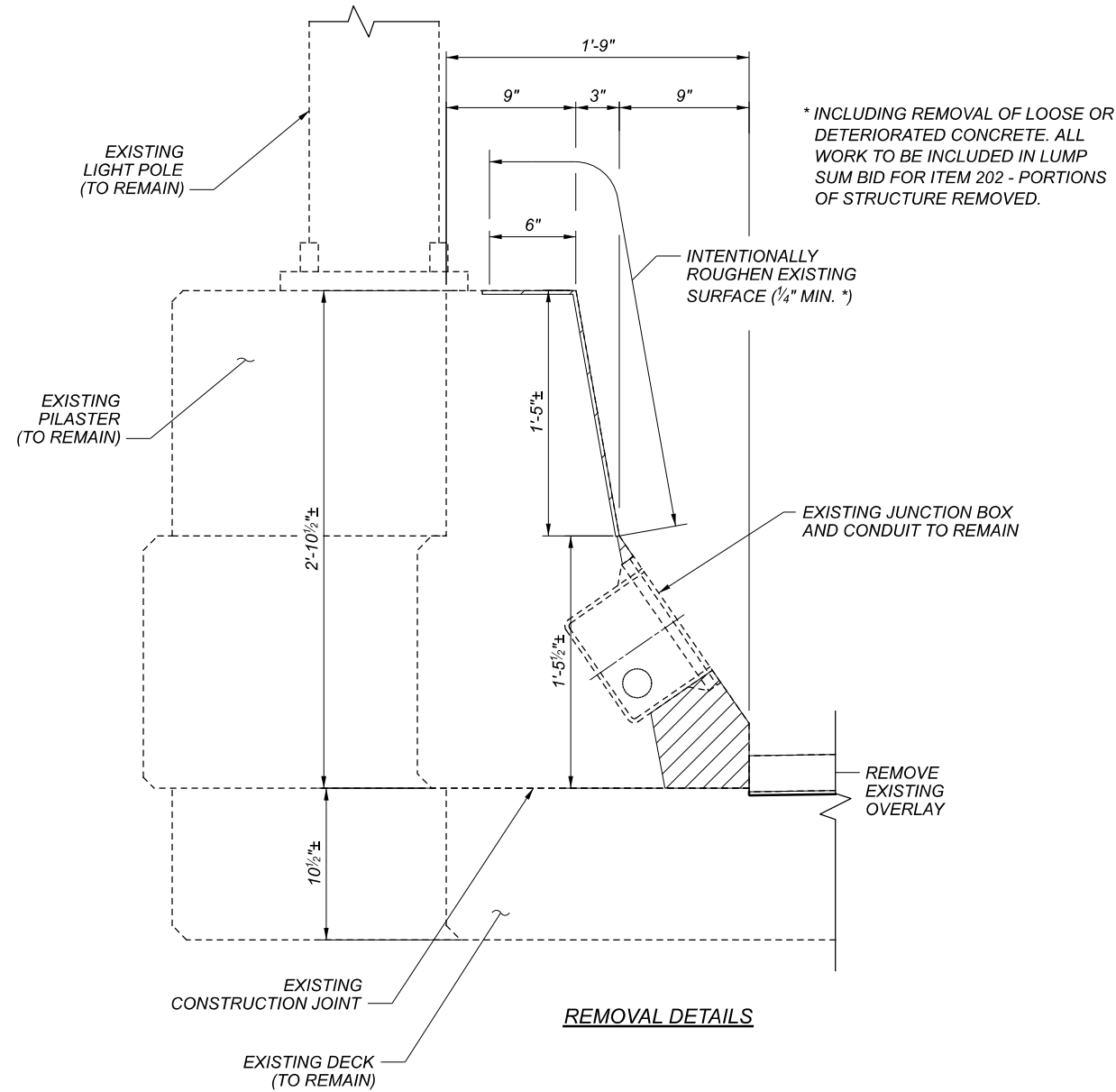
SECTION B-B



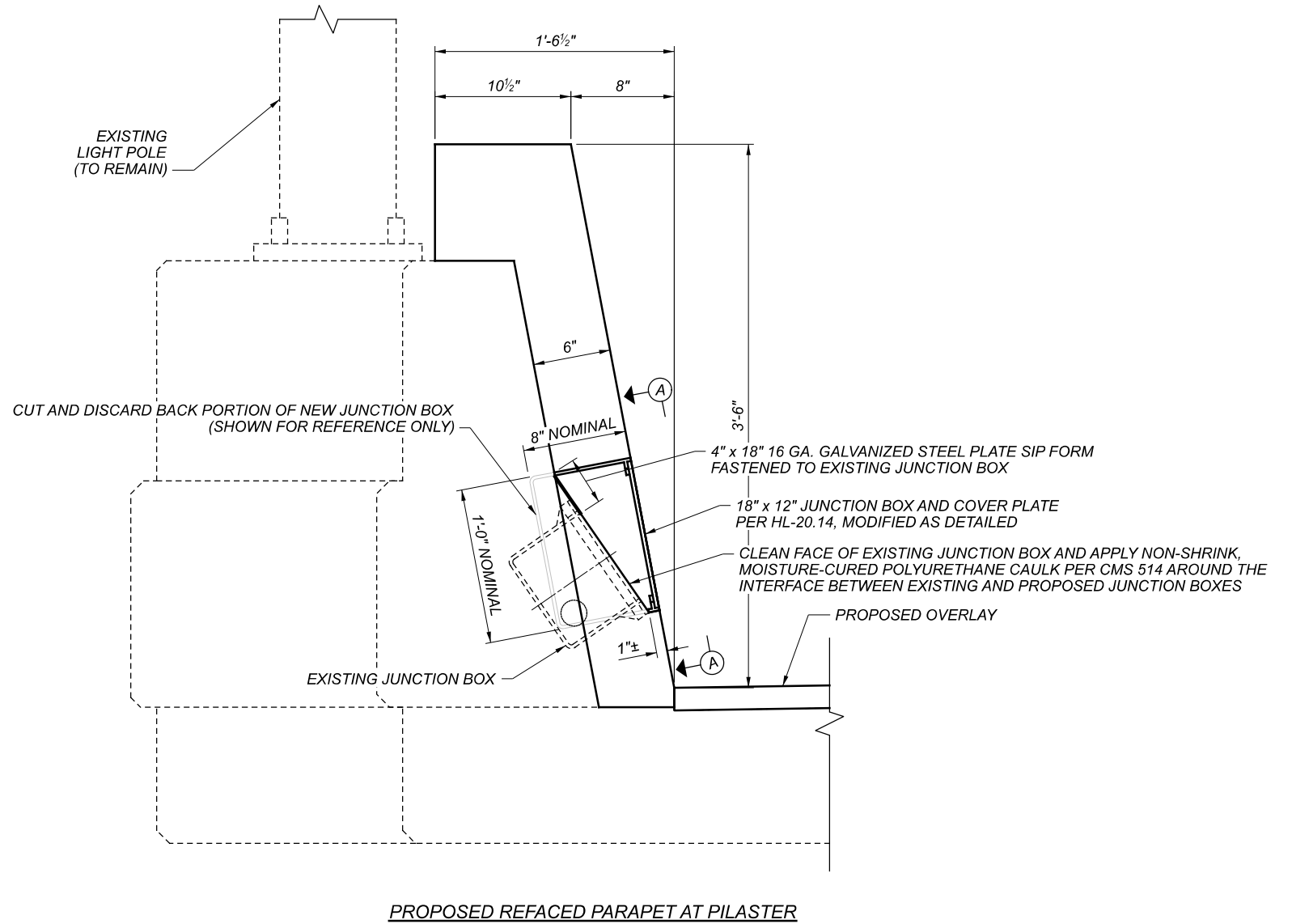
SECTION C-C

SECTIONS

SFN	1813374
DESIGN AGENCY	KS KS Associates Inc. 260 Burne Road, Elyria, Ohio 44035
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	8 19
SHEET	87 98



REMOVAL DETAILS

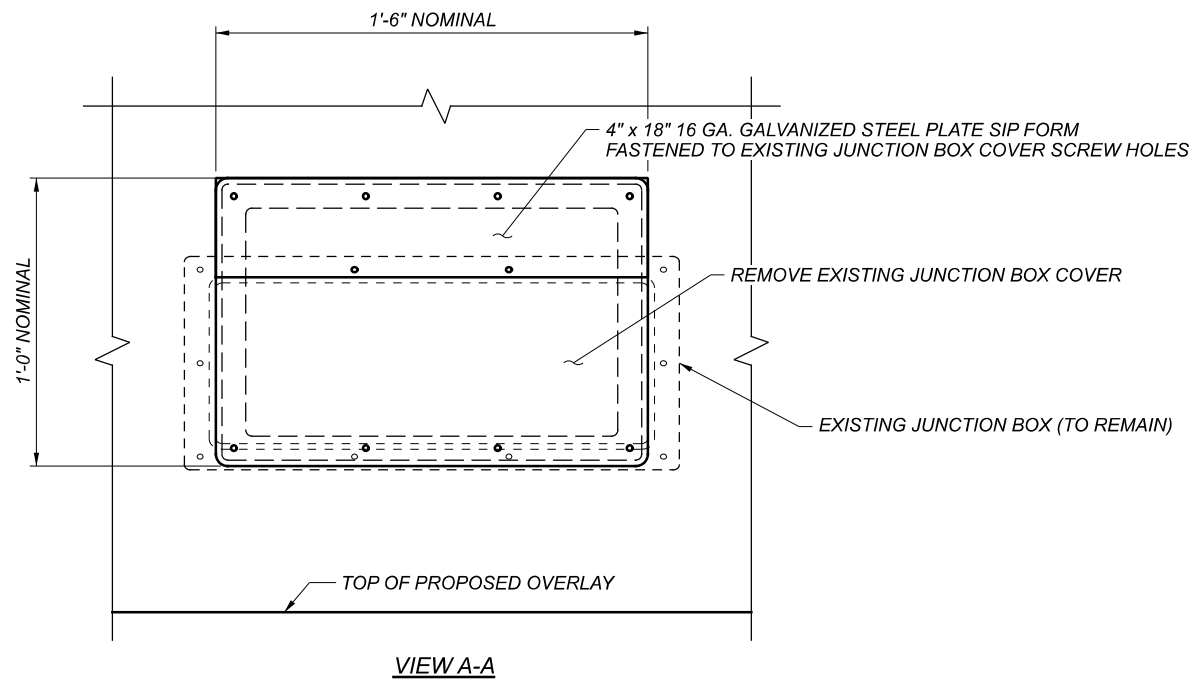


PROPOSED REFACED PARAPET AT PILASTER

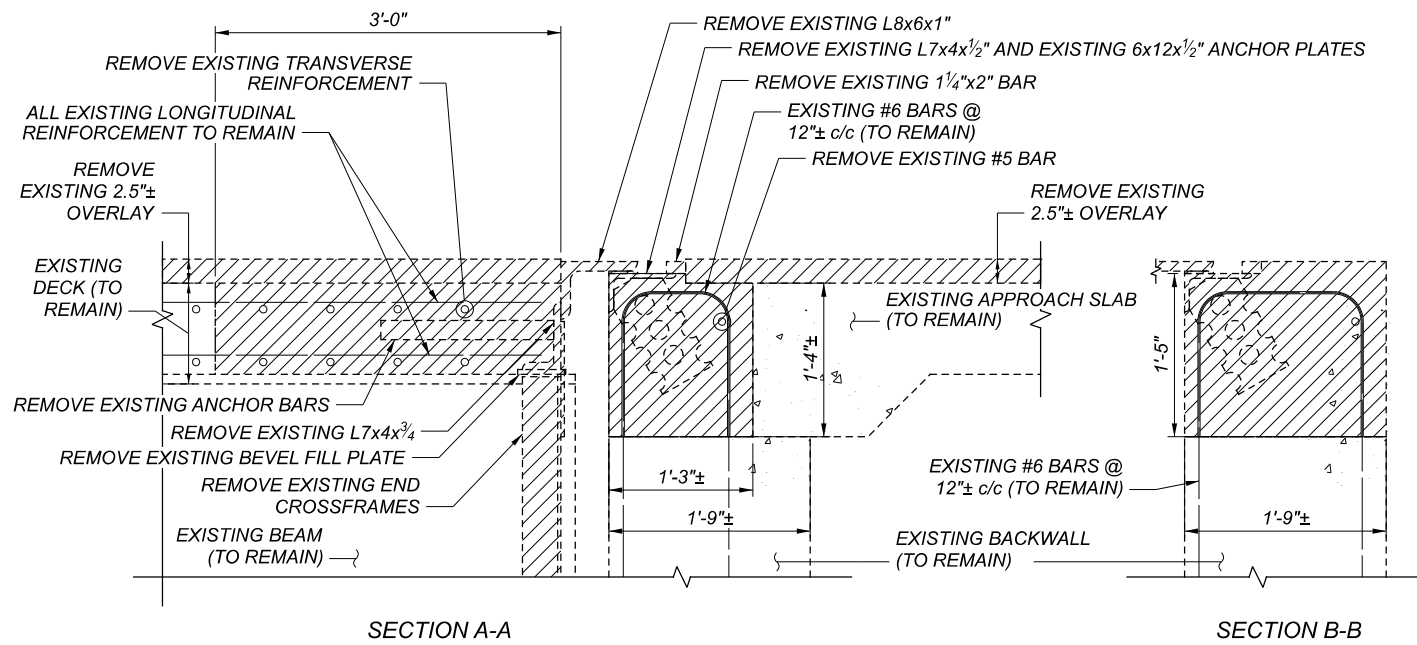
NOTES

 - DENOTES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED

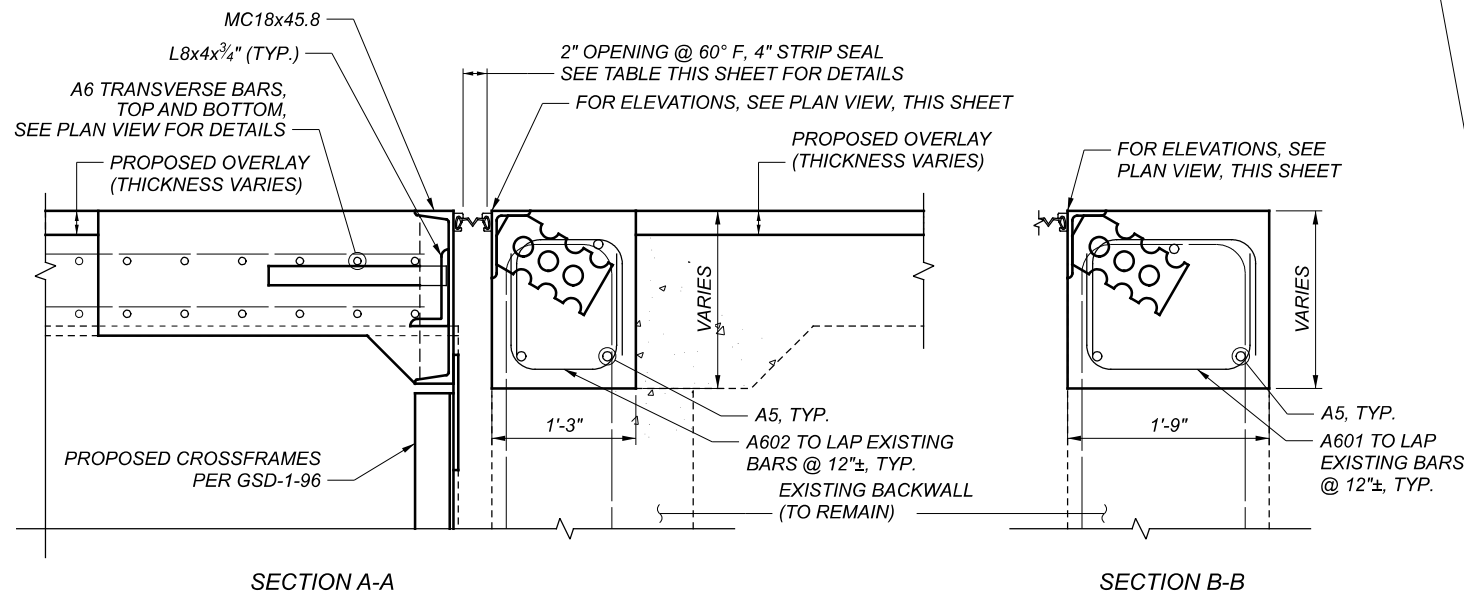
- REINFORCING STEEL NOT SHOWN FOR CLARITY. SEE PARAPET SECTIONS FOR REINFORCEMENT DETAILS.
- FOR ADDITIONAL DETAILS, SEE ODOT SCD HL-20.14
- COVER PLATES SHALL BE FURNISHED NEW



SFN	1813374
DESIGN AGENCY	
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 01-11-21
PROJECT ID	107657
SUBSET	8A 19
SHEET	87A 98



REMOVAL DETAILS



PROPOSED JOINT DETAILS

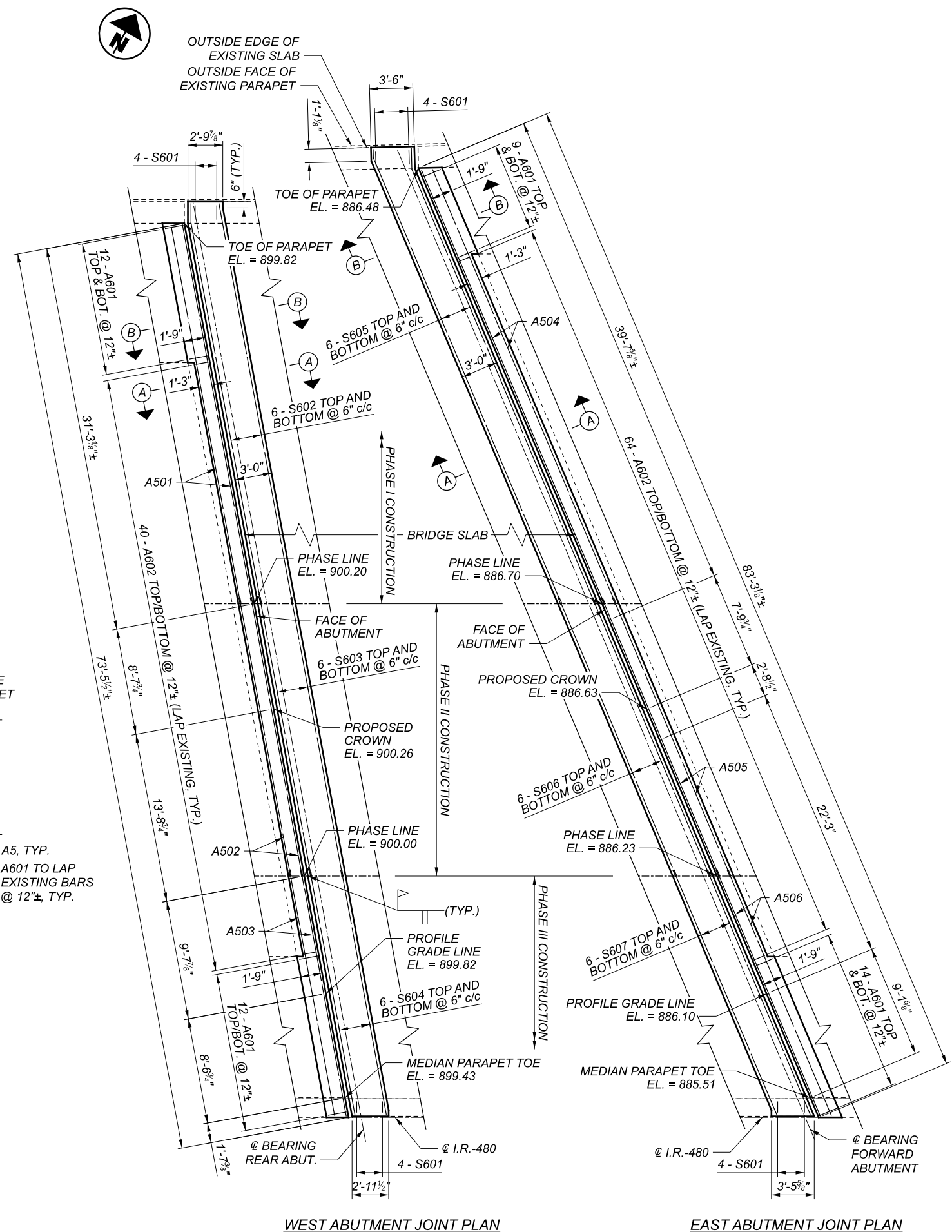
LEGEND

DENOTES ITEM 202 - PORTIONS OF STRUCTURE REMOVED

NOTES

- FOR ADDITIONAL DETAILS, SEE ODOT SCD EXJ-4-87 AND GSD-1-96
- FOR SHOULDER DETAILS, SEE ROADWAY TYPICAL SECTIONS
- MECHANICAL CONNECTORS TO BE PROVIDED AT PHASE LINES FOR TRANSVERSE BARS AS SHOWN. COST IS INCIDENTAL TO REINFORCEMENT.
- NEW CROSSFRAMES SHALL BE FRABICATED FROM A709 GRADE 50W WEATHERING STEEL

JOINT OPENING 4" STRIP SEAL (TYP.)		
TEMP. (°F)	REAR	FWD.
30	2 ⁷ / ₁₆ "	2 ³ / ₄ "
40	2 ⁵ / ₁₆ "	2 ¹ / ₂ "
50	2 ¹ / ₈ "	2 ¹ / ₄ "
60	2"	2"
70	1 ⁷ / ₈ "	1 ³ / ₄ "
80	1 ¹¹ / ₁₆ "	1 ¹ / ₂ "
90	1 ⁹ / ₁₆ "	1 ¹ / ₄ "



WEST ABUTMENT JOINT PLAN

EAST ABUTMENT JOINT PLAN


SFN	1813374
DESIGN AGENCY	
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	9 TOTAL 19
SHEET	88 TOTAL 98

		SPAN 1				SPAN 2				SPAN 3				
		C/L BEARING REAR ABUT	1/4 PT	1/2 PT	3/4 PT	C/L BEARING PIER 1	1/4 PT	1/2 PT	3/4 PT	C/L BEARING PIER 2	1/4 PT	1/2 PT	3/4 PT	C/L BEARING PIER 3
TOE OF LEFT PARAPET	STATION	1152+97.43	1153+21.56	1153+45.68	1153+69.81	1153+93.93	1154+18.93	1154+43.93	1154+68.93	1154+93.93	1155+19.34	1155+44.74	1155+70.14	1155+95.54
	OFFSET	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT	62.25' LT
	FINAL DECK SURFACE ELEVATION	899.73	899.24	898.77	898.25	877.71	897.14	896.52	895.82	895.17	894.42	893.71	892.95	892.18
CROWN	STATION	1153+04.65	1153+28.77	1153+52.90	1153+77.02	1154+01.15	1154+26.15	1154+51.15	1154+76.15	1155+01.15	1155+27.72	1155+54.29	1155+80.86	1156+07.42
	OFFSET	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT
	FINAL DECK SURFACE ELEVATION	900.18	899.71	899.23	898.70	898.16	897.57	896.92	896.25	895.56	894.79	894.04	893.23	892.45
PHASE LINE	STATION	1153+05.11	1153+29.23	1153+53.36	1153+77.48	1154+01.61	1154+26.61	1154+51.61	1154+76.61	1155+01.61	1155+28.25	1155+54.89	1155+81.54	1156+08.18
	OFFSET	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT
	FINAL DECK SURFACE ELEVATION	900.13	899.66	899.18	898.65	898.11	897.52	896.87	896.20	895.51	894.74	893.98	893.17	892.38
PROFILE GRADE LINE	STATION	1153+08.60	1153+33.00	1153+57.13	1153+81.25	1154+05.38	1154+30.38	1154+55.38	1154+80.38	1155+05.38	1155+32.63	1155+59.88	1155+87.13	1156+14.39
	OFFSET	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT
	FINAL DECK SURFACE ELEVATION	899.74	899.27	898.77	898.24	897.70	897.10	896.44	895.78	895.08	894.30	893.52	892.68	891.88
TOE OF MEDIAN PARAPET	STATION	1153+10.42	1153+34.55	1153+58.67	1153+82.80	1154+06.92	1154+31.92	1154+56.92	1154+81.92	1155+06.92	1155+34.43	1155+61.93	1155+89.43	1156+16.94
	OFFSET	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT
	FINAL DECK SURFACE ELEVATION	899.36	898.89	898.39	897.86	897.32	896.72	896.05	895.39	894.68	893.90	893.11	892.26	891.46

		SPAN 4				SPAN 5				
		C/L BEARING PIER 3	1/4 PT	1/2 PT	3/4 PT	C/L BEARING PIER 4	1/4 PT	1/2 PT	3/4 PT	C/L BEARING FWD ABUT
TOE OF LEFT PARAPET	STATION	1155+95.54	1156+20.81	1156+45.97	1156+71.10	1156+96.19	1157+19.19	1157+40.22	1157+61.25	1157+82.28
	OFFSET	62.25' LT	62.66' LT	63.29' LT	63.29' LT	64.51' LT	65.12' LT	65.64' LT	66.17' LT	66.70' LT
	FINAL DECK SURFACE ELEVATION	892.18	891.43	890.65	889.87	899.11	888.42	887.76	887.09	886.44
CROWN	STATION	1156+07.42	1156+33.99	1156+60.56	1156+87.13	1157+13.70	1157+36.95	1157+58.20	1157+79.45	1158+00.70
	OFFSET	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT	23.00' LT
	FINAL DECK SURFACE ELEVATION	892.45	891.66	890.83	890.02	889.24	888.53	887.86	887.21	886.59
PHASE LINE	STATION	1156+08.18	1156+34.83	1156+61.47	1156+88.11	1157+14.76	1157+38.01	1157+59.26	1157+80.51	1158+01.76
	OFFSET	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT
	FINAL DECK SURFACE ELEVATION	892.38	891.59	890.76	889.95	889.17	888.46	887.79	887.14	886.52
PROFILE GRADE LINE	STATION	1156+14.39	1156+41.64	1156+68.89	1156+96.15	1157+23.40	1157+46.65	1157+67.90	1157+89.15	1158.10.40
	OFFSET	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT
	FINAL DECK SURFACE ELEVATION	891.88	891.06	890.21	889.40	888.59	887.86	887.20	886.55	885.94
TOE OF MEDIAN PARAPET	STATION	1156+16.94	1156+44.44	1156+71.94	1156+99.44	1157+26.95	1157+50.20	1157+71.45	1157+92.70	1158+13.95
	OFFSET	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT
	FINAL DECK SURFACE ELEVATION	891.46	890.62	889.77	888.96	888.13	887.40	886.74	886.10	885.50

PROPOSED OVERLAY ELEVATIONS
 BRIDGE NO. CUY-480-2139

IR-480 OVER NSRR, CLEVELAND & CUYAHOGA RAILWAY, AND MILL CREEK

SFN	1813374
DESIGN AGENCY	
	KS Associates Inc. 260 Burns Road Elyria, Ohio 44035
DESIGNER/CHECKER	MTG RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	TOTAL
10	19
SHEET	TOTAL
89	98

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	OUTSIDE	MEDIAN	TOTAL				A	B	C	D	E	R	INC
PARAPETS													
P401	96	187	283	30'-0"	5671	STR							
P402	6		6	25'-0"	100	STR							
P403	34	45	79	14'-0"	739	STR							
P404	58	58	116	7'-4"	568	STR							
P405	8		8	14'-8"	78	STR							
P406		10	10	12'-9"	85	STR							
P601	668	618	1286	2'-10"	5473	19	2'-1"	0'-9"	0'-2"				
P602		618	618	3'-0"	2785	STR							
P603		607	607	7'-7"	6914	24	1'-0"	3'-0"			0'-3"		
P604	543		543	4'-7"	3738	10	0'-7"	3'-3"	0'-6"	1'-1"			
P605	8	8	16	7'-0"	168	23	0'-6"	3'-3"	3'-3"		0'-2"		
SUB-TOTAL					26,319								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	WEST	EAST	TOTAL				A	B	C	D	E	R	INC
PARAPET TRANSITIONS													
T401	12	12	24	10'-0"	160	STR							
T402	6	6	12	6'-4"	51	25	2'-6"	2'-5"	1'-4"	0'-2"	0'-5"		
T403	6	6	12	5'-1"	41	STR							
T404	11	11	22	6'-6"	96	STR							
T405	2	2	4	5'-0"	13	STR							
T601	4	4	8	4'-3"	51	STR							
T602	10	10	20	3'-3"	98	STR							
T603	1 SR	1 SR	2 SR	4'-3"									
T603	OF	OF	OF	TO	154	STR						0'-1"	
T603	11	11	11	5'-1"									
T603	1 SR	1 SR	2 SR	3'-3"									
T604	OF	OF	OF	TO	121	STR						0'-1"	
T604	11	11	11	4'-1"									
T605	6	6	12	3'-10"	69	19	2'-2"	1'-8"	0'-4"				
T606	6	6	12	8'-1"	146	24	1'-0"	3'-3"			0'-3"		
SUB-TOTAL					1,000								

NOTES

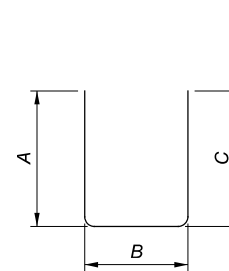
THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORCING STEEL TO BE EPOXY COATED.

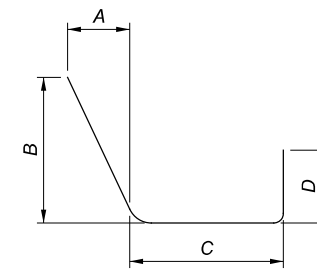
GFRP BARS ARE INCLUDED IN THIS TABLE. SEE ODOT SCD SBR-1-20 FOR ADDITIONAL DETAILS.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	WEST	EAST	TOTAL				A	B	C	D	E	R	INC
DECK ENDS													
S601	8	8	16	7'-1"	170	29	0'-9"	1'-2"	2'-2"				
S602	12		12	32'-10"	592	STR							
S603	12		12	22'-4"	403	STR							
S604	12		12	19'-8"	354	STR							
S605		12	12	38'-8"	697	STR							
S606		12	12	23'-10"	430	STR							
S607		12	12	20'-10"	376	STR							
SUB-TOTAL					3,022								

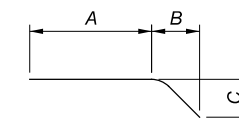
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	WEST	EAST	TOTAL				A	B	C	D	E	R	INC
ABUTMENT BACKWALLS													
A501	3		3	31'-1"	97	STR							
A502	3		3	22'-4"	70	STR							
A503	3		3	19'-6"	61	STR							
A504		3	3	38'-0"	119	STR							
A505		3	3	23'-10"	75	STR							
A506		3	3	21'-0"	66	STR							
A601	48	46	94	2'-9"	388	2	0'-10"	1'-5"	0'-10"				
A602	80	128	208	2'-3"	703	2	0'-10"	0'-11"	0'-10"				
SUB-TOTAL					1,579								
SHEET TOTAL					31,920								



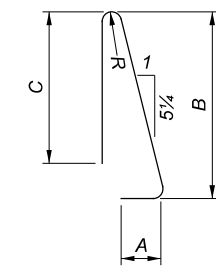
TYPE-2



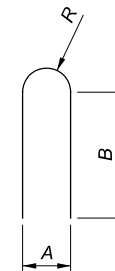
TYPE-10



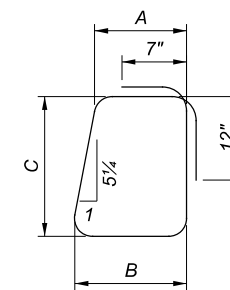
TYPE-19



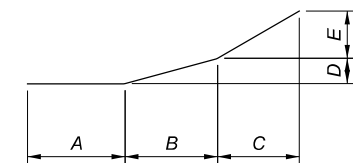
TYPE-23



TYPE-24



TYPE-29

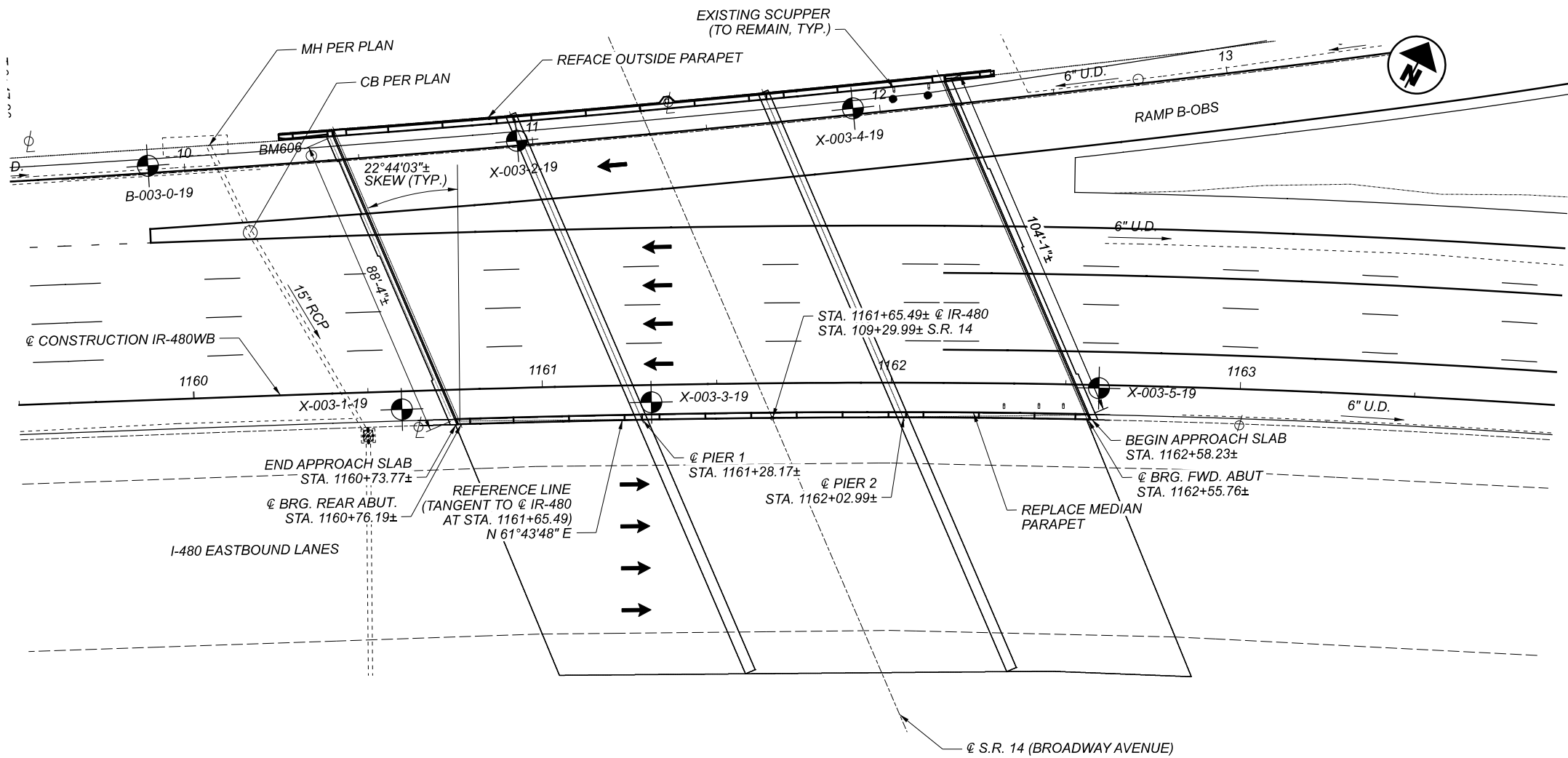


TYPE-25

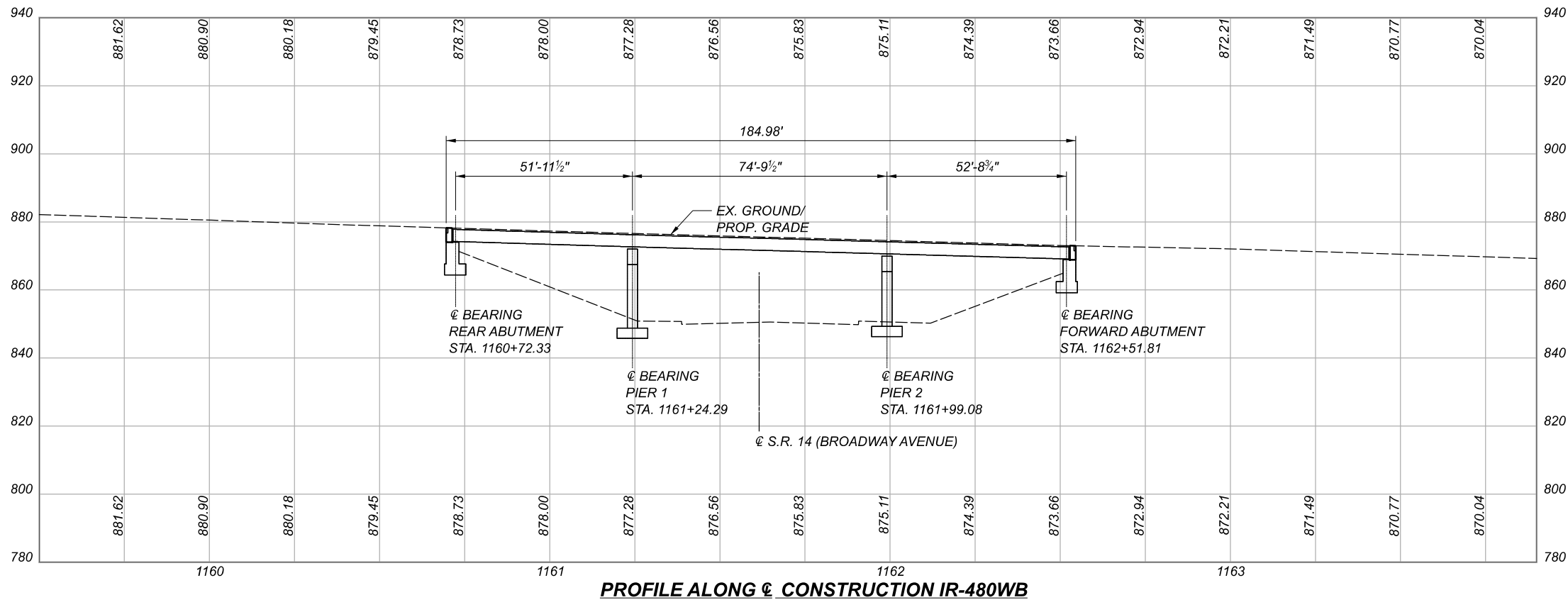
SFN	1813374
DESIGN AGENCY	KS KS Associates Inc. 260 Burne Road, Elyria, Ohio 44035
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	TOTAL
11	19
SHEET	TOTAL
90	98

CUY-480-21.30WB

MODEL: 107657_SFN_1813382_SPO01_Sheet PAPER SIZE: 17x11 (in.) DATE: 1/25/2021 TIME: 5:24:28 PM USER: pfringsen
 R:\19000\19163\ORD Project File\107657\400-Engineering\Structures\SFN_1813382_Sheet\107657_SFN_1813382_SPO01.dgn



PLAN



BENCHMARK DATA

BM 607 STA. 1152+64.1, 64.8' LT, ELEV. = 900.60, MAG NAIL SET IN TOP OF SOUTHERLY CONCRETE "GARFIELD HTS CORP LIMIT" SIGN BASE
 BM 606 STA. 1160+27.4, 84.3' LT, ELEV. = 881.61, MAG NAIL SET IN TOP OF CONCRETE WALL NORTHWEST CORNER OF BRIDGE



PROPOSED WORK

- REMOVE EXISTING 2 1/2" EXISTING MICRO-SILICA MODIFIED OVERLAY
- INSTALL VARIABLE THICKNESS SUPERPLASTICIZED DENSE OVERLAY
- REFACE OUTSIDE PARAPET
- REPLACE MEDIUM PARAPET
- INSTALL PROPOSED STRIPING TO PROVIDE 4 TRAFFIC LANES OVER STRUCTURE

NOTES

DESIGN TRAFFIC:
 2021 ADT = 155,400 2021 ADTT = 7,770
 2051 ADT = 178,700 2051 ADTT = 8,935
 DIRECTIONAL DISTRIBUTION = 9%

LEGEND

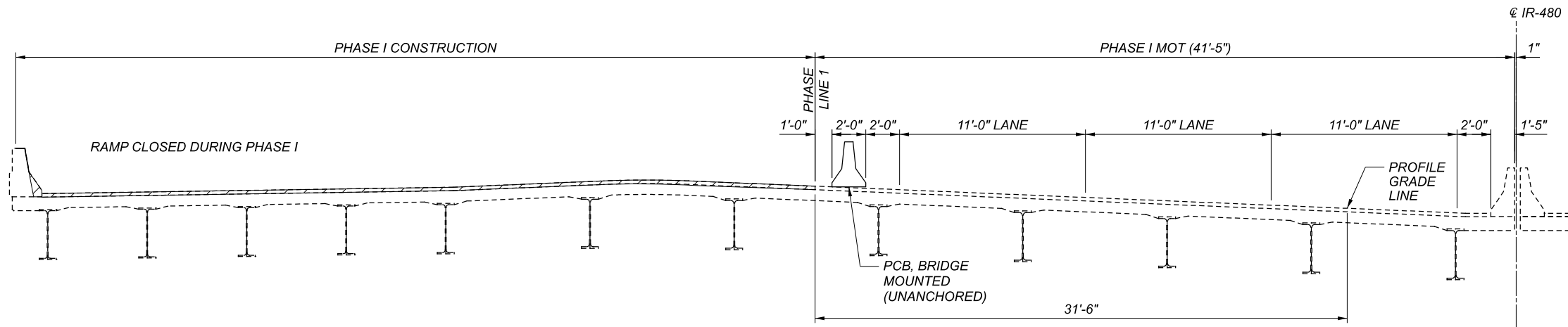
- ◆ PAVEMENT CORE / BORING LOCATION
- * - PHASE 1 CONSTRUCTION
- ** - PHASE 2 CONSTRUCTION
- 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
- 15'-9 1/4" ACTUAL MINIMUM VERTICAL CLEARANCE

EXISTING/PROPOSED STRUCTURE

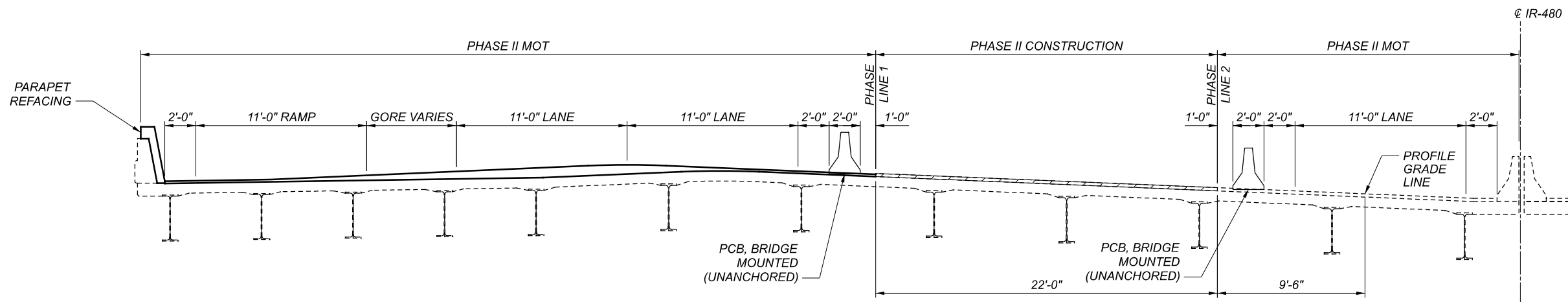
TYPE: CONTINUOUS ROLLED BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 51'-11 13/16"±, 74'-9 3/4"±, 52'-9 5/16"±
 ROADWAY: WIDTH VARIES FROM 160'-4" TO 170'-2 3/8" FACE TO FACE PARAPETS, WITH CONCRETE BARRIER
 LOADING: HS-20 AND INTERSTATE ALTERNATE LOADING
 SKEW: 22°44'03"± RIGHT FORWARD
 WEARING SURFACE: EXISTING - 2 1/2"± MICRO-SILICA MODIFIED
 PROPOSED - SUPERPLASTICIZED DENSE (THICKNESS VARIES)
 APPROACH SLABS: AS-1-67 (25' LONG)
 ALIGNMENT: SPIRAL AND 2°00'00" CURVE RIGHT (@ I-480)
 CROWN: SUPERELEVATED
 STRUCTURE FILE NUMBER: 1813382
 DATE BUILT: 7/1/1976
 DECK AREA: 16,493± SF (WESTBOUND STRUCTURE)
 COORDINATES: LATITUDE 41° 25' 25.43"
 LONGITUDE 81° 34' 53.93"

SITE PLAN
 BRIDGE NO. CUY-480-2154
 IR-480 OVER S.R. 14 (BROADWAY AVENUE)

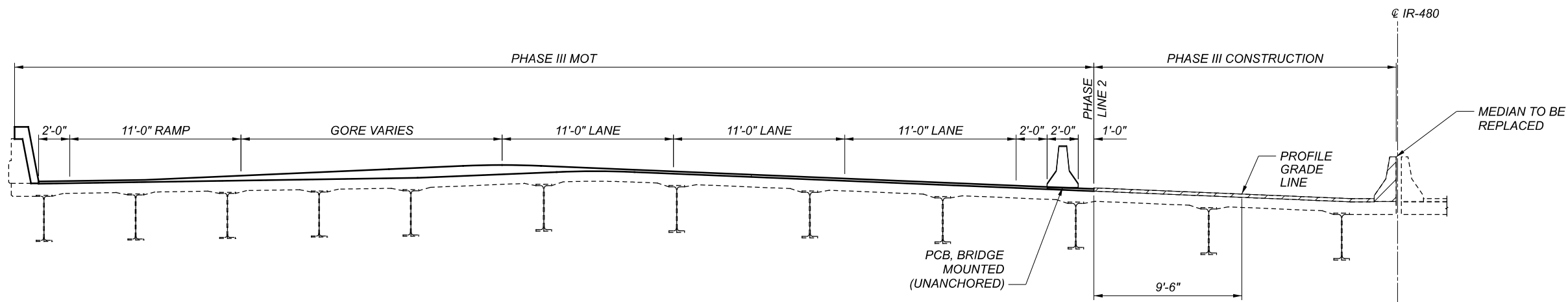
SFN 1813382	
DESIGN AGENCY	
DESIGNER CHECKER	
RAP	RY
REVIEWER	
HVH 12-11-20	
PROJECT ID	
107657	
SUBSET	TOTAL
12	19
SHEET	TOTAL
91	98



SFN 1813382 - PHASE I CONSTRUCTION DETAIL
 WESTBOUND STRUCTURE, LOOKING UPSTATION



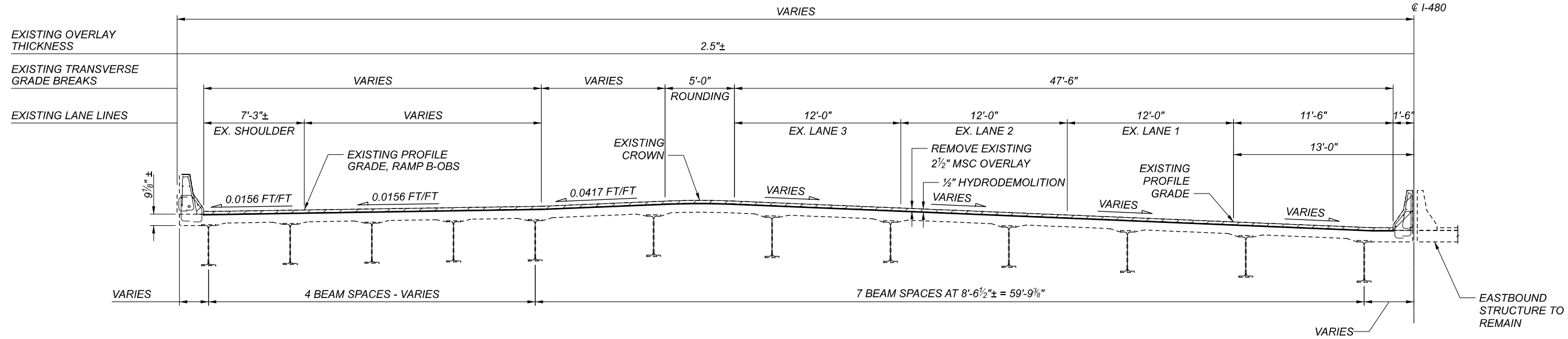
SFN 1813382 - PHASE II CONSTRUCTION DETAIL
 WESTBOUND STRUCTURE, LOOKING UPSTATION



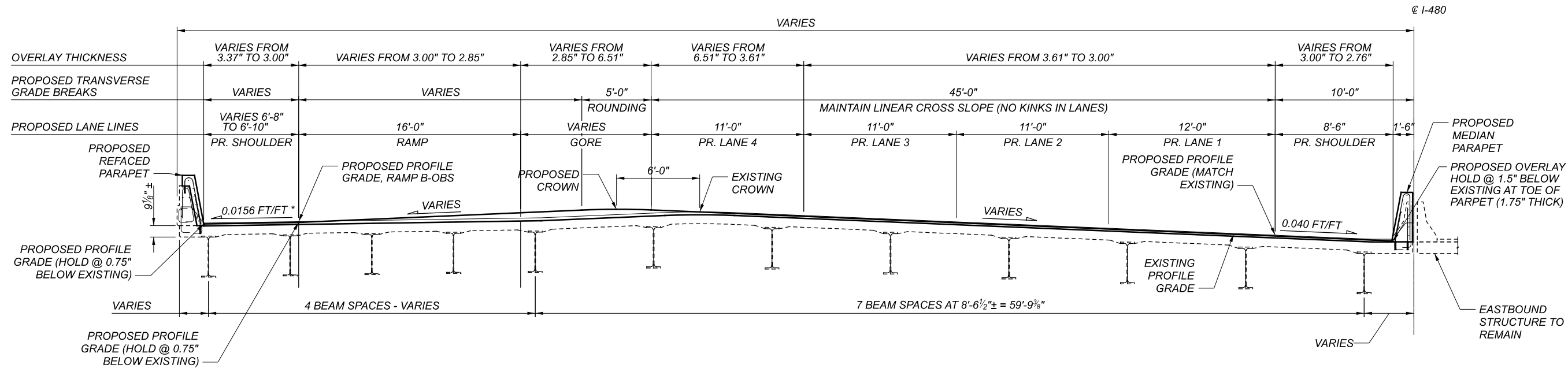
SFN 1813382 - PHASE III CONSTRUCTION DETAIL
 WESTBOUND STRUCTURE, LOOKING UPSTATION

PHASED CONSTRUCTION DETAILS
 BRIDGE NO. CUY-480-2154
 IR-480 OVER S.R. 14 (BROADWAY AVENUE)

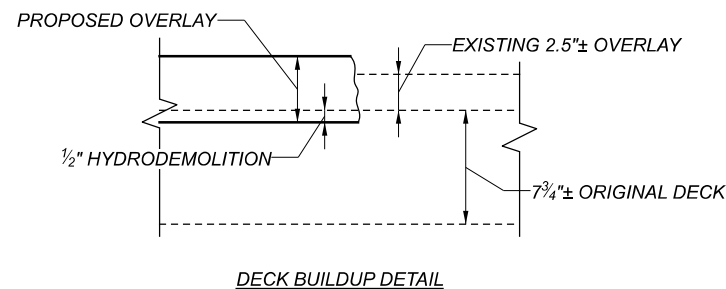
SFN 1813382	
DESIGN AGENCY	
KS KS Associates Inc. 260 Burns Road Elyria, Ohio 44035	
DESIGNER	CHECKER
RY	RAP
REVIEWER	
HVH 01-11-21	
PROJECT ID	
107657	
SUBSET	TOTAL
12A	19
SHEET	
TOTAL	
91A	98



SFN 1813382 - EXISTING DECK TRANSVERSE SECTION
WESTBOUND STRUCTURE, LOOKING UPSTATION



SFN 1813382 - PROPOSED DECK TRANSVERSE SECTION
WESTBOUND STRUCTURE, LOOKING UPSTATION

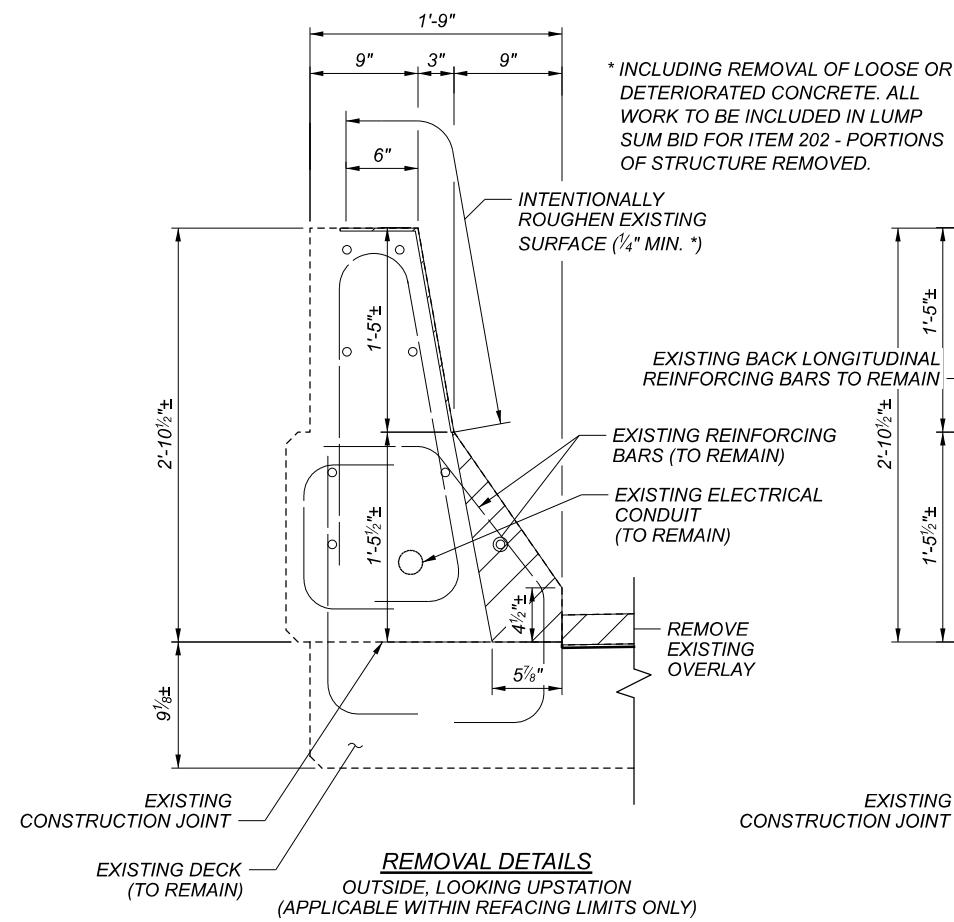


DECK BUILDUP DETAIL


NOTE:

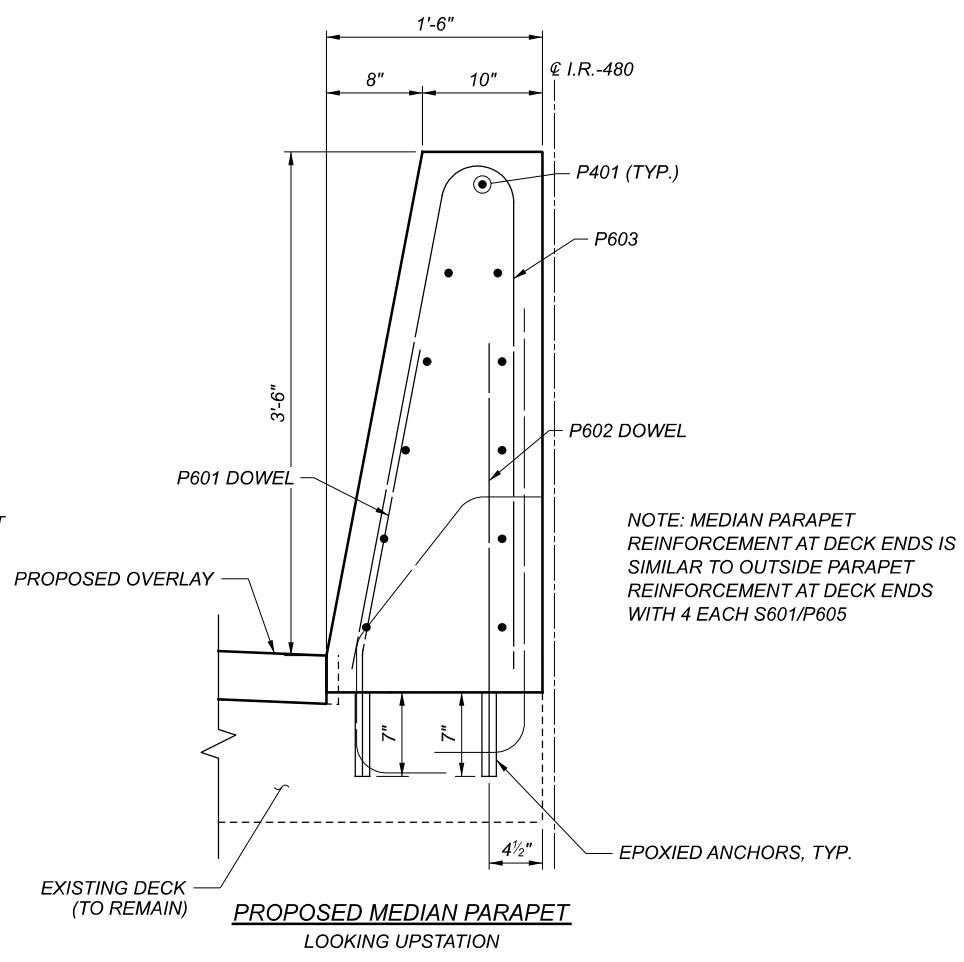
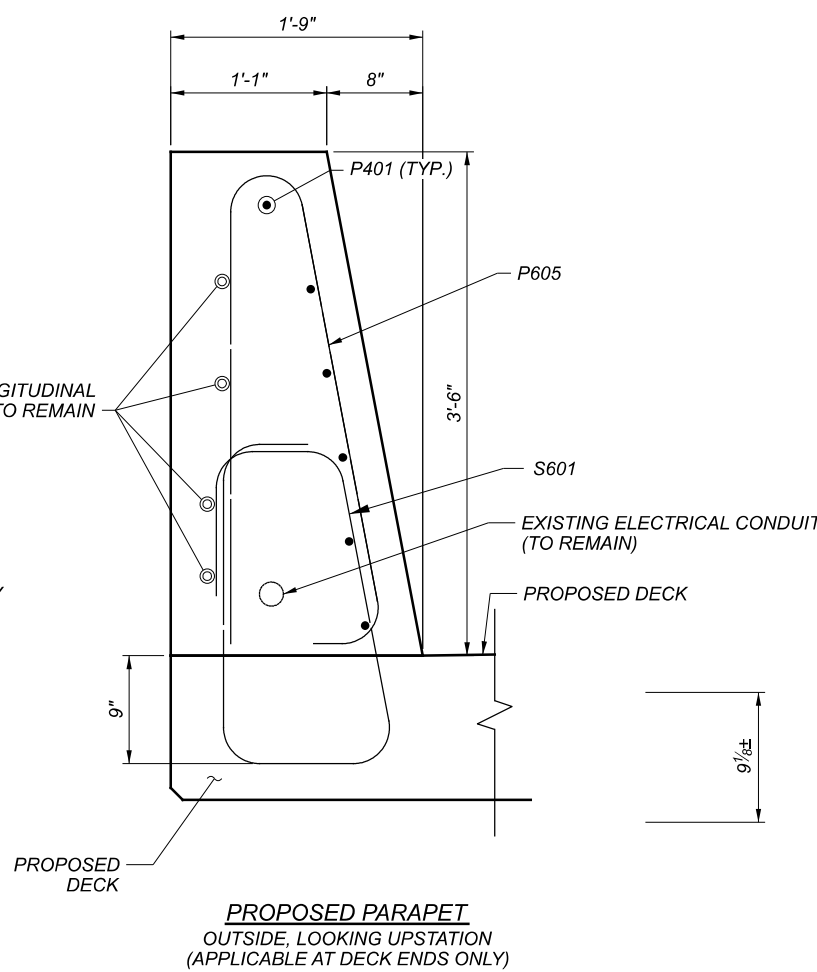
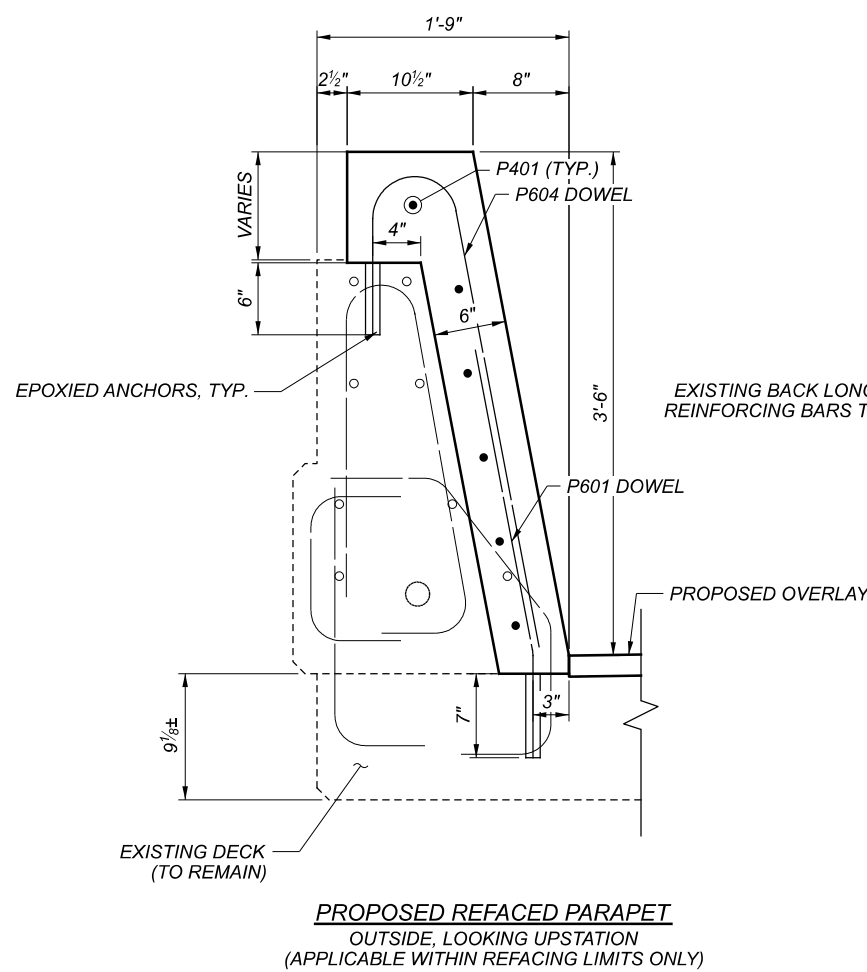
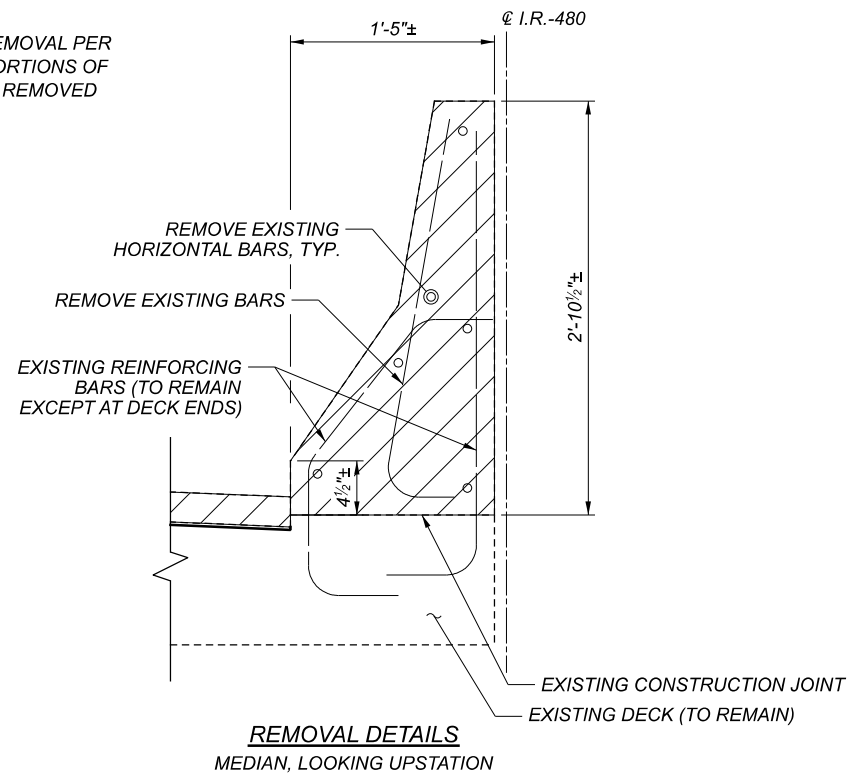
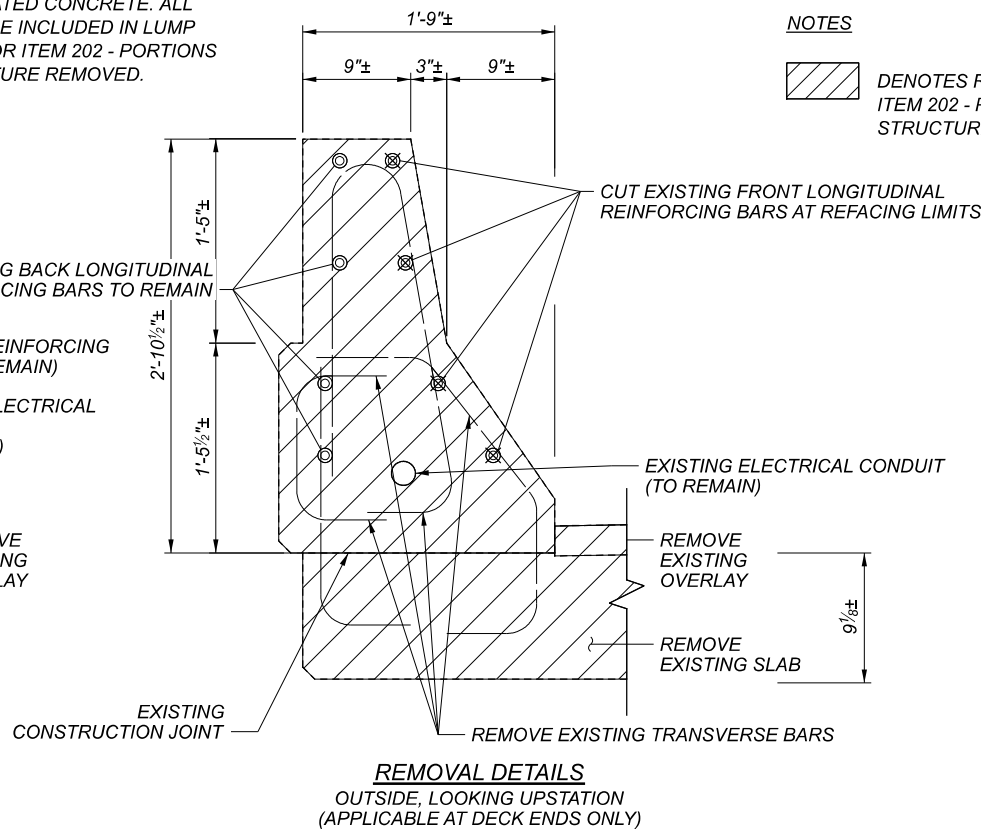
FOR DECK AREA WITH OVERLAY THICKNESS EXCEEDING 5", PLACE 12 X 12 - D12 X D12 EPOXY COATED OR GALVANIZED WELDED WIRE REINFORCEMENT (WWR, ALSO KNOWN AS WELDED WIRE FABRIC). THE WWR SHALL COMPLY WITH CMS 509, EXCEPT AS NOTED HEREIN. INSTALL WWR WITH 2.5" MINIMUM COVER TO THE TOP SURFACE AND 1.5" MINIMUM COVER TO THE PREPARED SURFACE. THE WWR WILL PROVIDE SHRINKAGE AND TEMPERATURE CONTROL REINFORCEMENT TO HELP CONTROL CRACKING IN THE OVERLAY. THE COST OF WWR IS INCIDENTAL TO ITEM 848 SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN.

SFN	1813382
DESIGN AGENCY	
KS	KS Associates Inc. 260 Burns Road, Elyria, Ohio 44035
DESIGNER	RAP
CHECKER	RY
REVIEWER	HVH
PROJECT ID	107657
SUBSET	13
TOTAL	19
SHEET	92
TOTAL	98



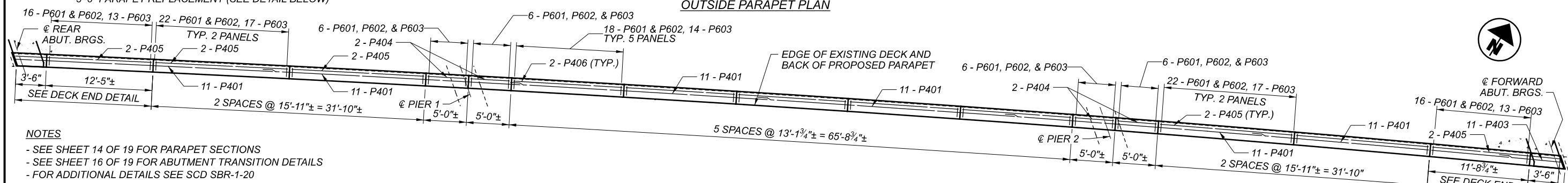
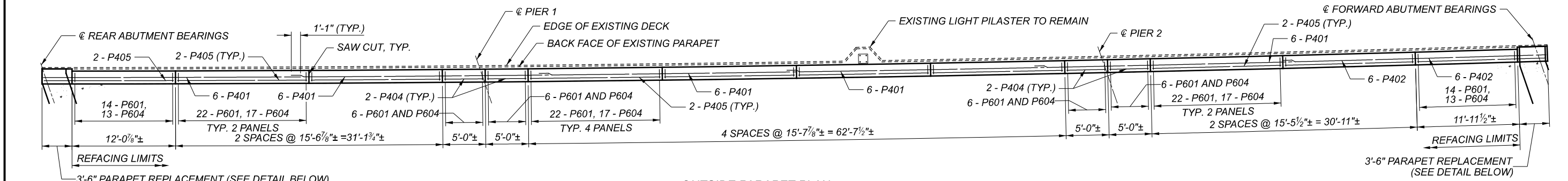
* INCLUDING REMOVAL OF LOOSE OR DETERIORATED CONCRETE. ALL WORK TO BE INCLUDED IN LUMP SUM BID FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED.

NOTES
 DENOTES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED

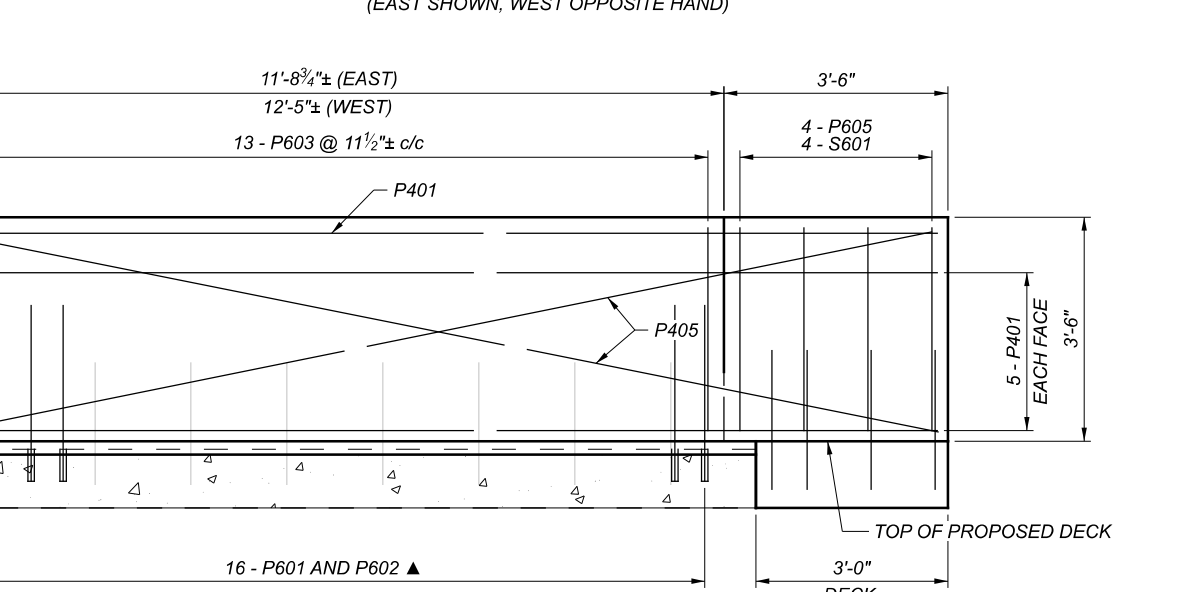
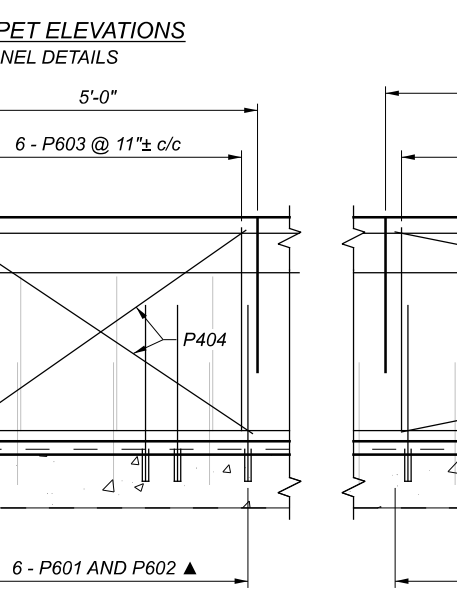
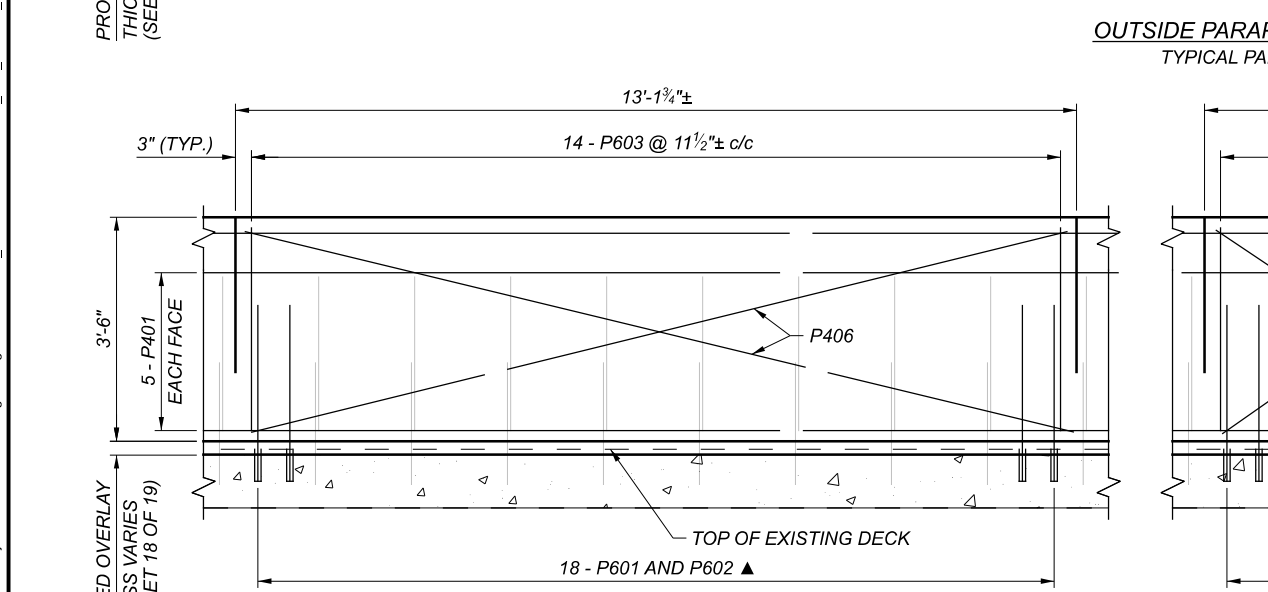
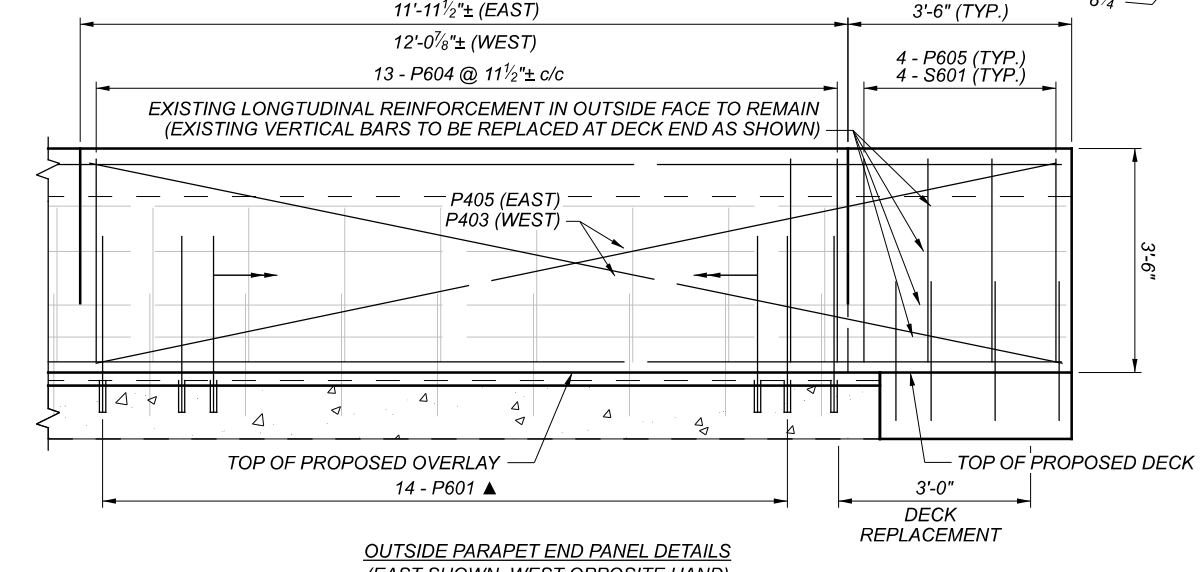
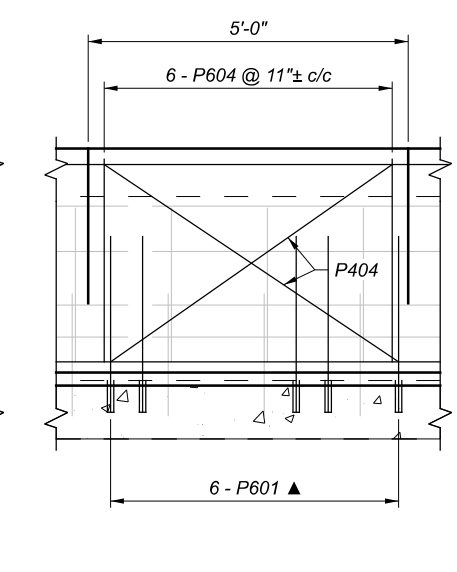
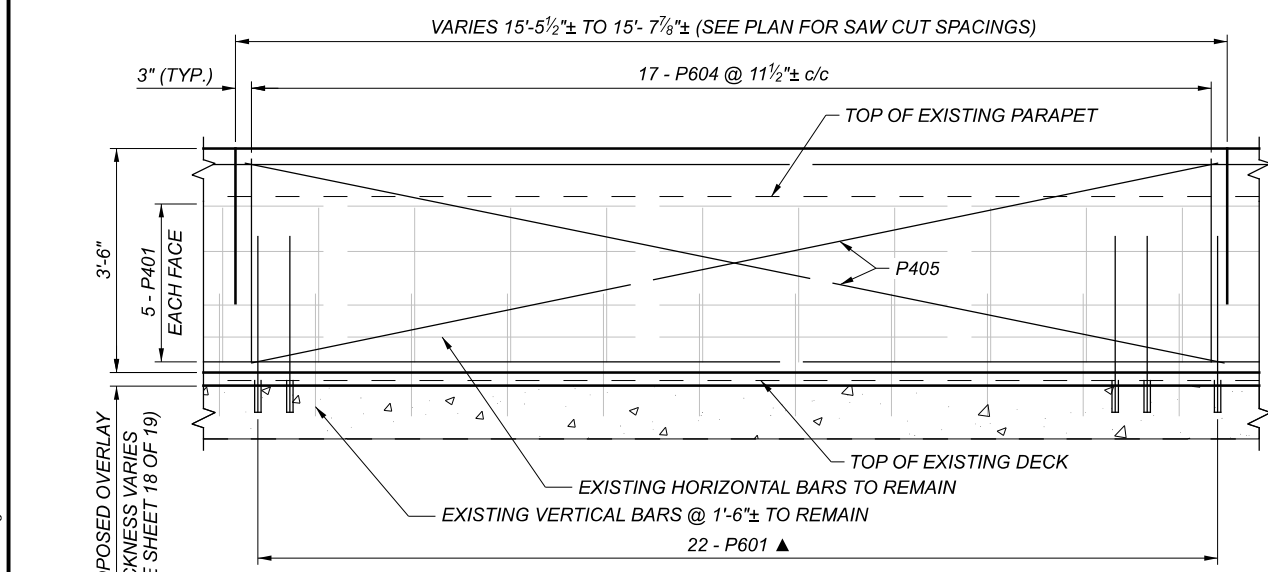


NOTE: MEDIAN PARAPET REINFORCEMENT AT DECK ENDS IS SIMILAR TO OUTSIDE PARAPET REINFORCEMENT AT DECK ENDS WITH 4 EACH S601/P605

SFN	1813382
DESIGN AGENCY	 KS Associates Inc. 260 Burns Road, Elyria, Ohio 44035
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	14 19
SHEET	93 98



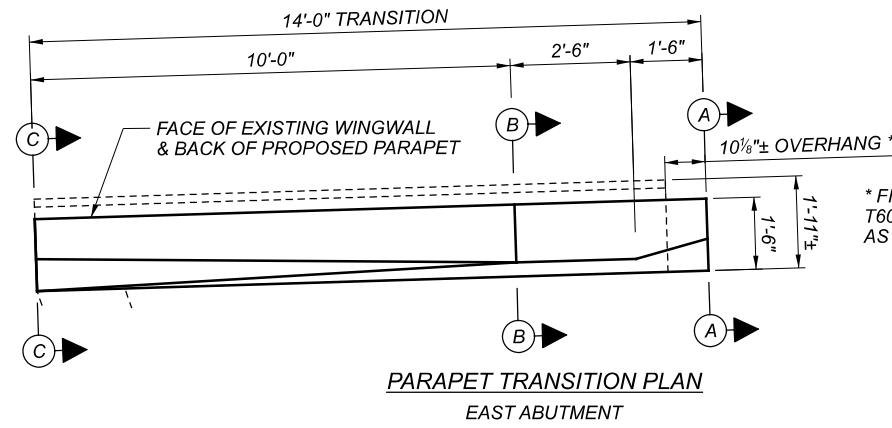
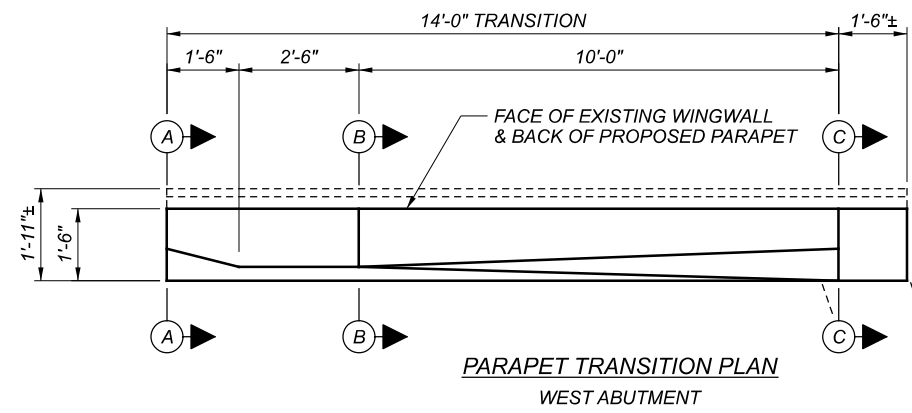
- NOTES**
- SEE SHEET 14 OF 19 FOR PARAPET SECTIONS
 - SEE SHEET 16 OF 19 FOR ABUTMENT TRANSITION DETAILS
 - FOR ADDITIONAL DETAILS SEE SCD SBR-1-20
 - FOR THE OUTSIDE PARAPET, CONTRACTOR SHALL MATCH EXISTING SAW CUT LOCATIONS AND ADJUST BARS AS NEEDED, NOT TO EXCEED THE SPACINGS SHOWN



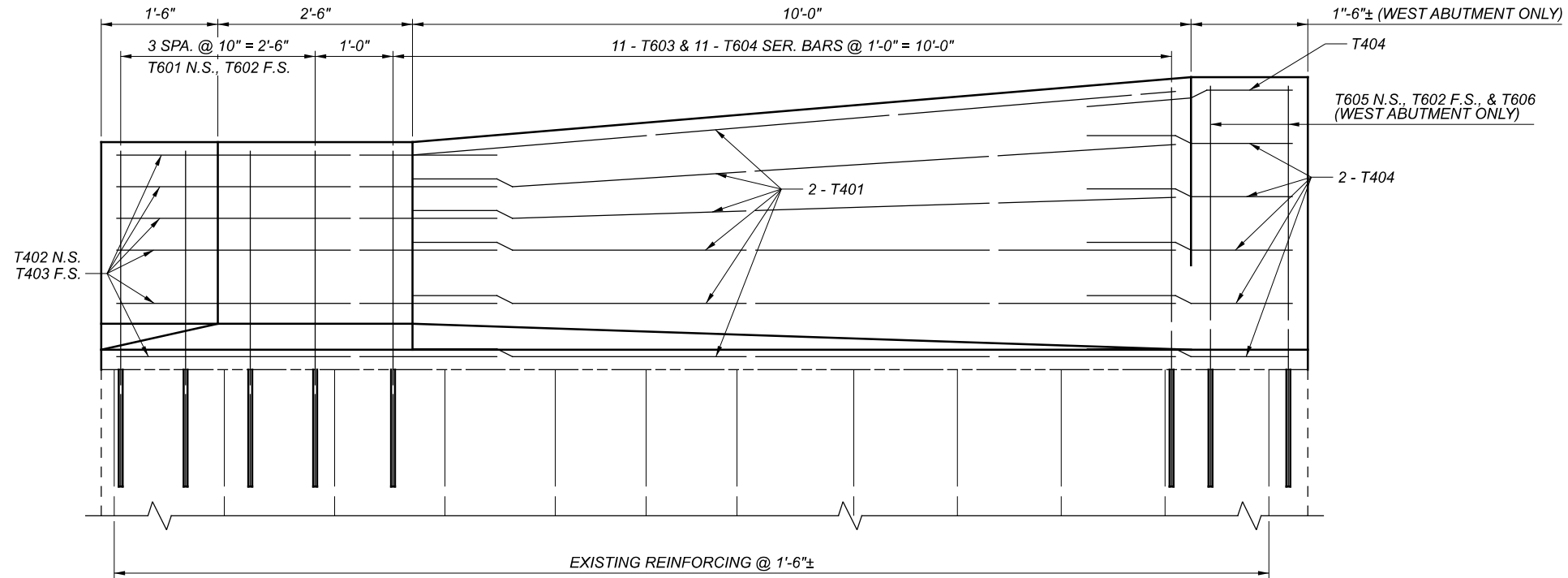
▲ - P601 AND P602 DOWELS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN EXISTING STEEL. CONTRACTOR MAY ADJUST PLACEMENT AS NEEDED TO ACCOMMODATE PROPOSED SAWCUTS. QUANTITY SHOWN IS BASED ON NOMINAL PANEL LENGTH. PAYMENT SHALL BE MADE BASED ON ACTUAL QUANTITY ACCEPTED IN PLACE.

PARAPET DETAILS
 BRIDGE NO. CUY-480-2154
 IR-480 OVER S.R. 14 (BROADWAY AVENUE)

SFN	1813382
DESIGN AGENCY	KS
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	15 TOTAL 19
SHEET	94 TOTAL 98



* FIELD BEND OVERHANGING SET(S) OF T601/T602 BARS UP INTO PARAPET FLOOR AS NEEDED

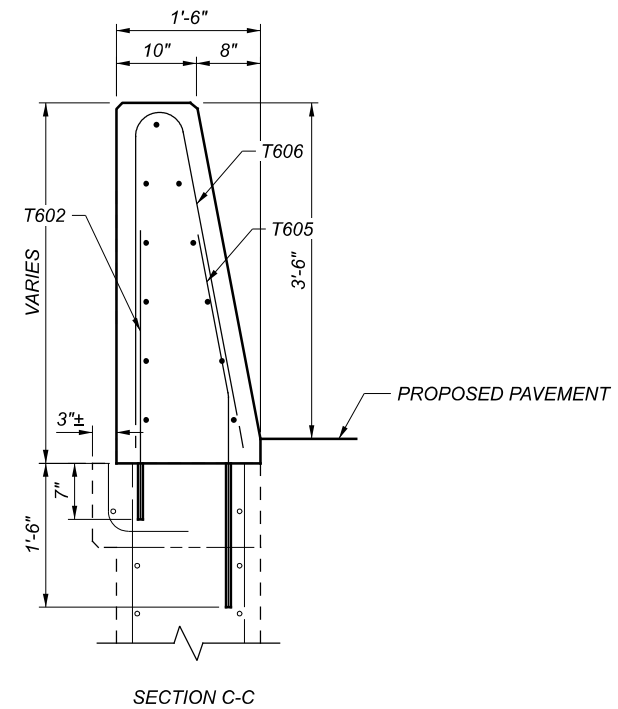
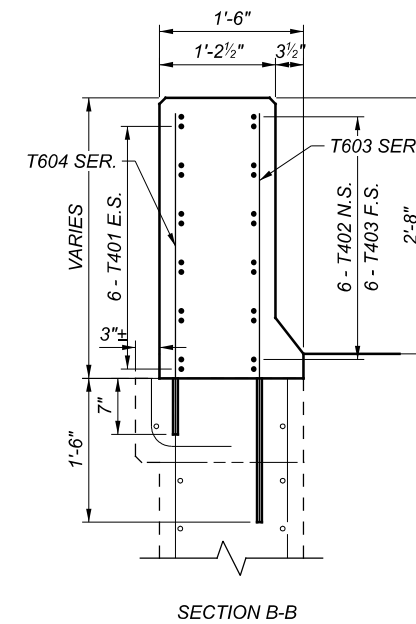
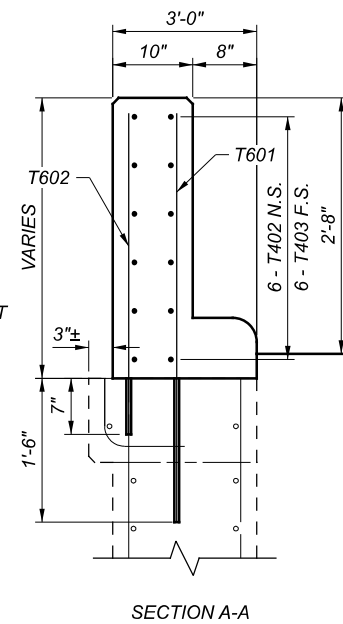
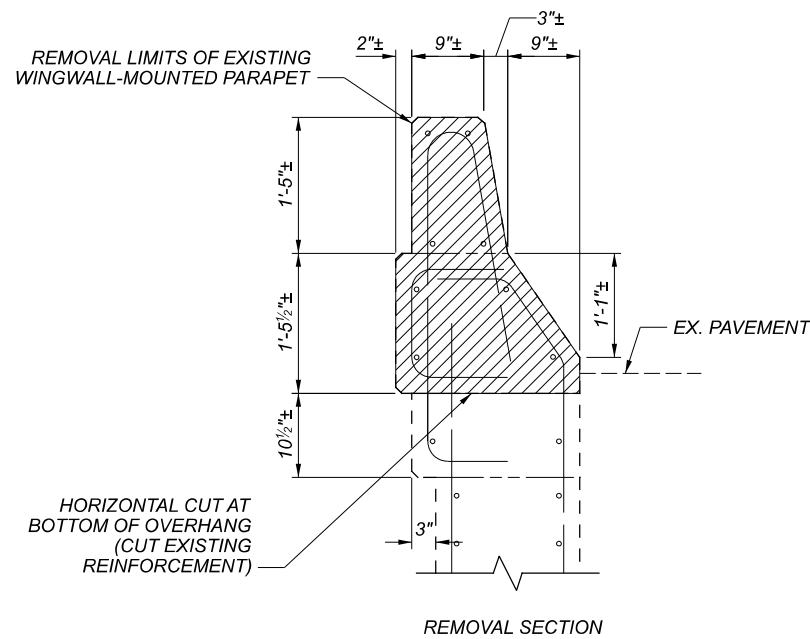


LEGEND

E.S. = EACH SIDE
 F.S. = FAR SIDE
 N.S. = NEAR SIDE

NOTES

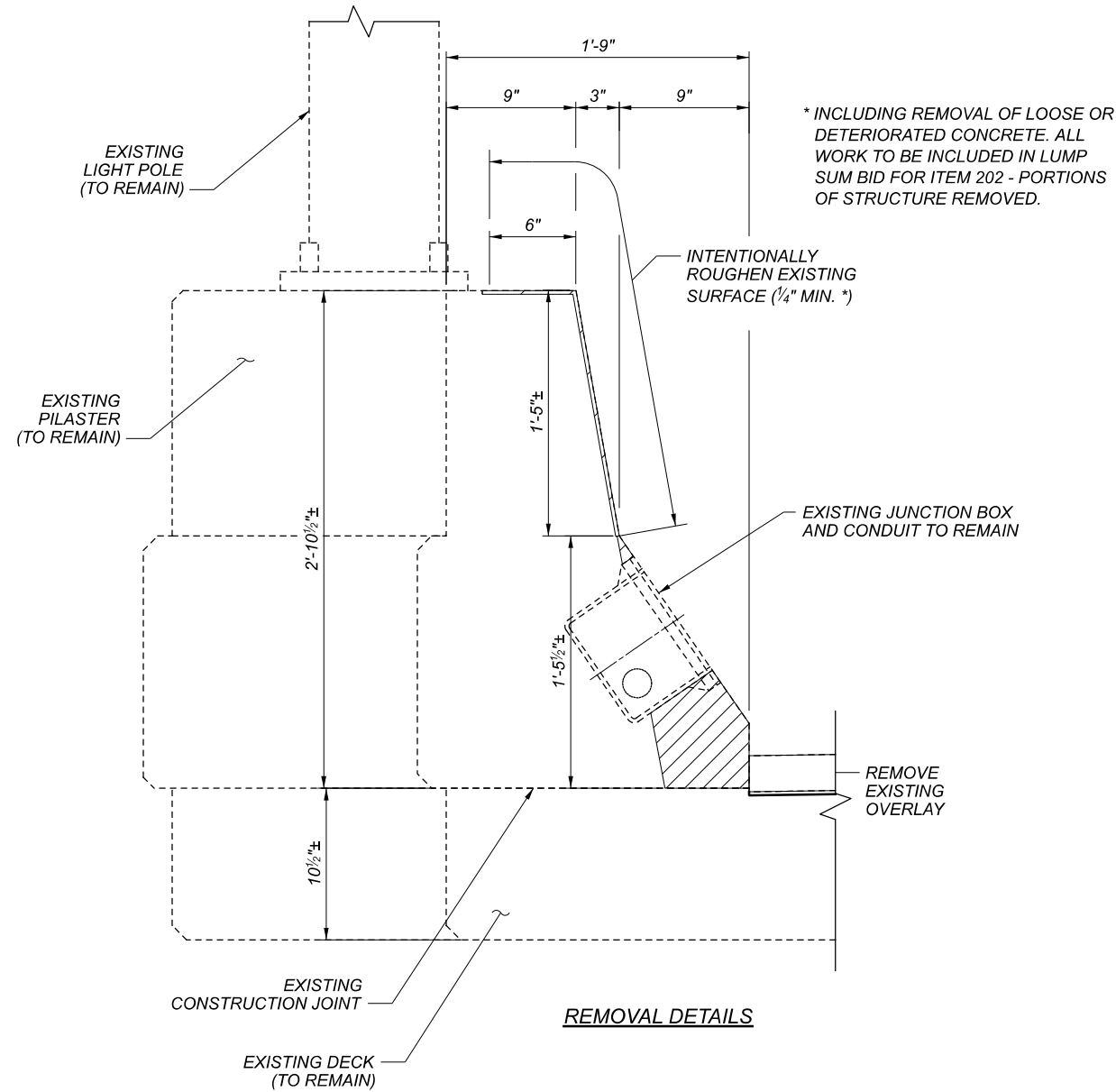
FOR ADDITIONAL DETAILS SEE SCD SBR-1-20



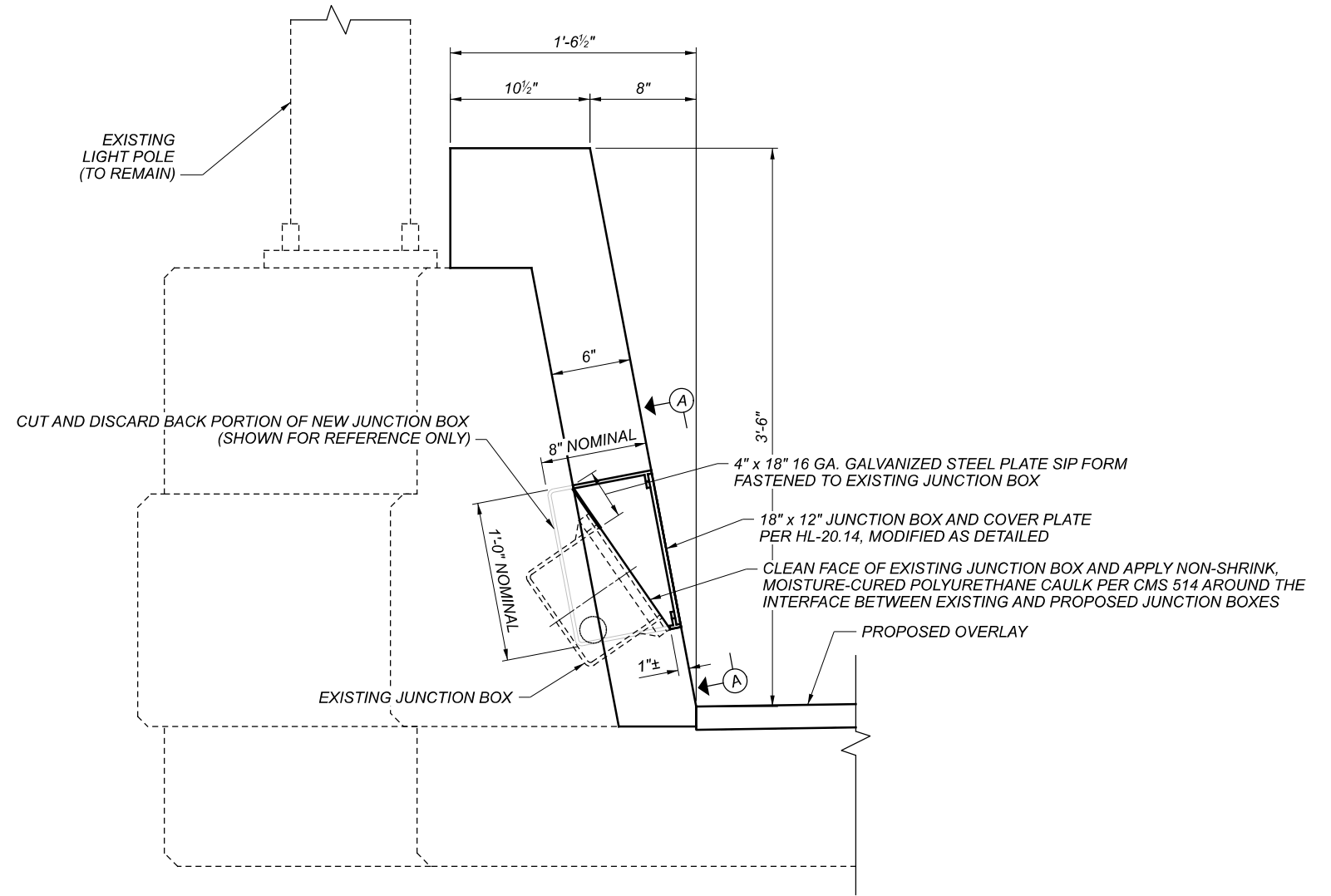
SECTIONS

SFN	1813382
DESIGNER	RAP
CHECKER	RY
REVIEWER	HVH
DATE	12-11-20
PROJECT ID	107657
SUBSET	TOTAL
16	19
SHEET	TOTAL
95	98





REMOVAL DETAILS

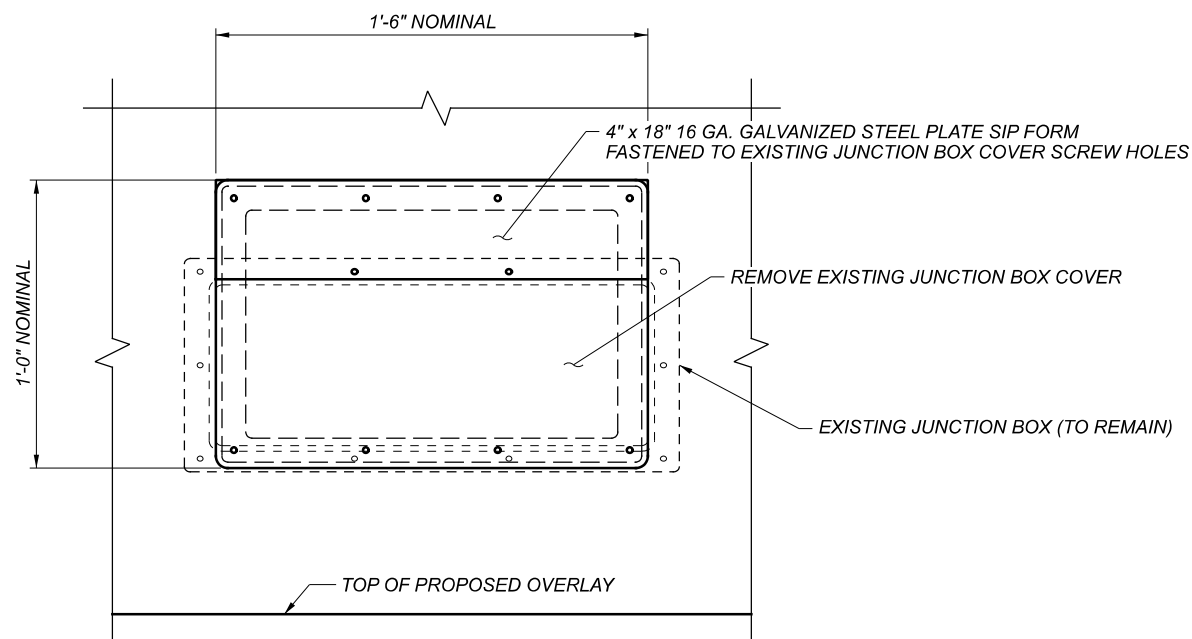


PROPOSED REFACED PARAPET AT PILASTER

NOTES

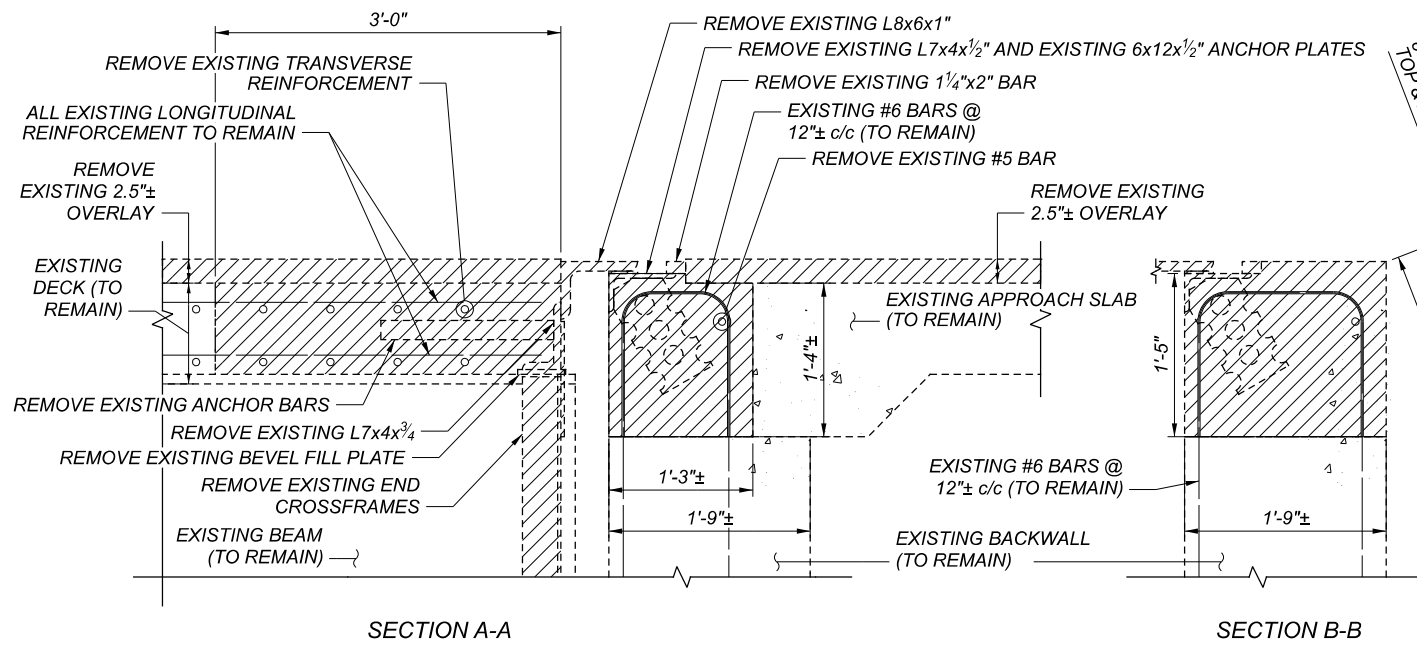
 - DENOTES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED

- REINFORCING STEEL NOT SHOWN FOR CLARITY. SEE PARAPET SECTIONS FOR REINFORCEMENT DETAILS.
- FOR ADDITIONAL DETAILS, SEE ODOT SCD HL-20.14
- COVER PLATES SHALL BE FURNISHED NEW
- TWO OF THE JUNCTION BOXES TO BE MODIFIED AT THIS STRUCTURE DO NOT HAVE A CORRESPONDING PILASTER BUT ARE TO BE REPLACED SIMILARLY

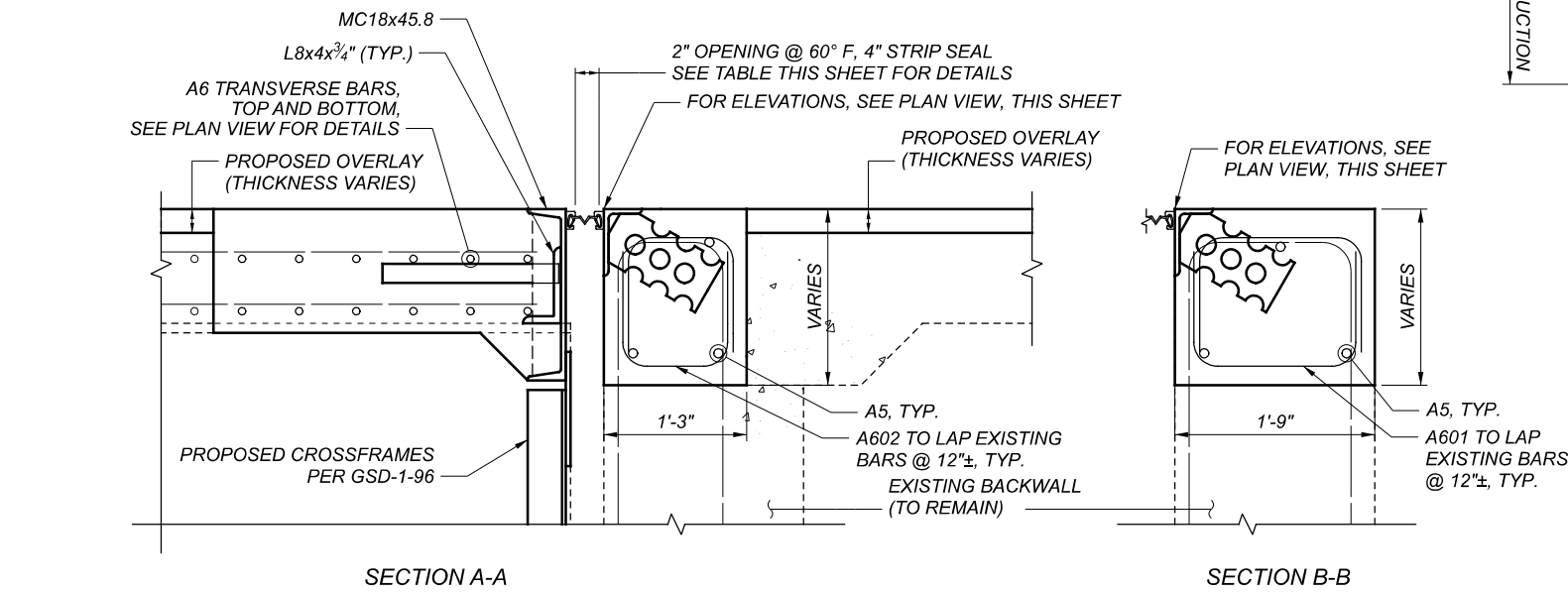


VIEW A-A

SFN	1813382
DESIGN AGENCY	 KS Associates Inc. 260 Burne Road, Elyria, Ohio 44035
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 01-11-21
PROJECT ID	107657
SUBSET	TOTAL
16A	19
SHEET	TOTAL
95A	98



REMOVAL DETAILS



PROPOSED JOINT DETAILS

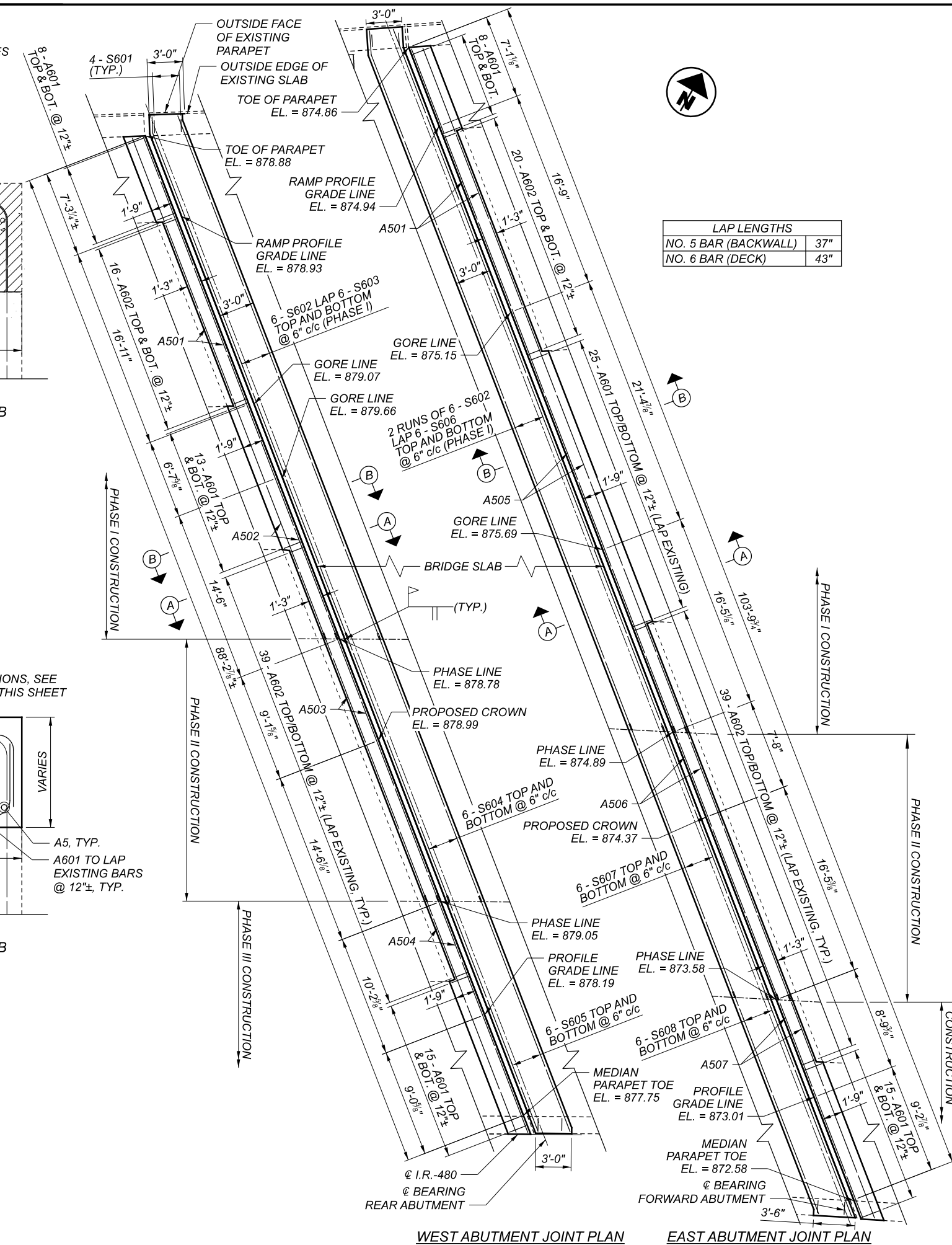
LEGEND

DENOTES ITEM 202 - PORTIONS OF STRUCTURE REMOVED

NOTES

- FOR ADDITIONAL DETAILS, SEE ODOT SCD EXJ-4-87 AND GSD-1-96
- FOR SHOULDER DETAILS, SEE ROADWAY TYPICAL SECTIONS
- MECHANICAL CONNECTORS TO BE PROVIDED AT PHASE LINES FOR TRANSVERSE BARS AS SHOWN. COST IS INCIDENTAL TO REINFORCEMENT.
- NEW CROSSFRAMES SHALL BE FRABICATED FROM A709 GRADE 50W WEATHERING STEEL

JOINT OPENING 3" STRIP SEAL (TYP.)		
TEMP. (°F)	REAR	FWD.
30	2 ¹⁵ / ₁₆ "	2 ³ / ₄ "
40	1 ¹³ / ₁₆ "	2 ¹ / ₁₆ "
50	1 ³ / ₄ "	2 ²¹ / ₃₂ "
60	1 ⁵ / ₈ "	1 ⁹ / ₈ "
70	1 ¹ / ₂ "	2 ¹⁹ / ₃₂ "
80	1 ⁷ / ₁₆ "	2 ⁹ / ₁₆ "
90	2 ⁵ / ₁₆ "	2 ¹ / ₂ "



WEST ABUTMENT JOINT PLAN

EAST ABUTMENT JOINT PLAN

LAP LENGTHS	
NO. 5 BAR (BACKWALL)	37"
NO. 6 BAR (DECK)	43"

EXPANSION JOINT DETAILS
 BRIDGE NO. CUY-480-2154
 IR-480 OVER S.R. 14 (BROADWAY AVENUE)

SFN	1813382
DESIGN AGENCY	
DESIGNER/CHECKER	RAP RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	17
TOTAL	19
SHEET	96
TOTAL	98

		SPAN 1				SPAN 2				SPAN 3					
		C/L BEARING REAR ABUT	1/4 PT	1/2 PT	3/4 PT	C/L BEARING PIER 1	1/4 PT	1/2 PT	3/4 PT	C/L BEARING PIER 2	1/4 PT	1/2 PT	3/4 PT	C/L BEARING FWD ABUT	
TOE OF LEFT PARAPET	STATION	1160+43.47	1160+56.11	1160+68.72	1160+81.28	1160+93.80	1161+11.74	1161+29.57	1161+47.32	1161+64.94	1161+77.30	1161+89.60	1162+01.83	1162+14.01	
	OFFSET	73.72' LT	74.27' LT	74.86' LT	75.50' LT	76.20' LT	77+30' LT	78.51' LT	79.86' LT	81.34' LT	82.47' LT	83.67' LT	84.94' LT	86.28' LT	
	FINAL DECK SURFACE ELEVATION	878.85	878.58	878.29	878.01	877.76	877.31	876.88	876.43	875.99	875.68	875.38	875.12	874.87	
RAMP PGL	STATION	1160+46.09	1160+58.74	1160+71.34	1160+83.91	1160+96.44	1161+14.34	1161+32.25	1161+50.00	1161+67.64	1161+80.02	1161+92.33	1162+04.58	1162+16.77	
	OFFSET	66.97' LT	67.53' LT	68.14' LT	68.80' LT	69.51' LT	70.63' LT	71.88' LT	73.25' LT	74.76' LT	75.91' LT	77.13' LT	78.42' LT	79.78' LT	
	FINAL DECK SURFACE ELEVATION	878.91	878.64	878.35	878.07	877.79	877.36	876.93	876.49	876.04	875.74	875.44	875.19	874.94	
RAMP/GORE LINE	STATION	1160+52.22	1160+64.88	1160+77.51	1160+90.10	1161+02.65	1161+20.64	1161+38.53	1161+56.33	1161+74.03	1161+86.45	1161+98.80	1162+11.10	1162+23.34	
	OFFSET	51.22' LT	51.80' LT	52.43' LT	53.12' LT	53.86' LT	55.02' LT	56.30' LT	57.72' LT	59.28' LT	60.46' LT	61.71' LT	63.04' LT	64.45' LT	
	FINAL DECK SURFACE ELEVATION	879.05	878.76	878.48	878.20	877.92	0.25	877.49	877.06	876.61	876.17	0.25	875.87	875.58	875.34
CROWN	STATION	1160+53.67	1160+66.57	1160+79.45	1160+92.32	1161+05.18	1161+23.66	1161+42.11	1161+60.53	1161+78.94	1161+91.89	1162+04.84	1162+17.77	1162+30.70	
	OFFSET	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	47.50' LT	
	FINAL DECK SURFACE ELEVATION	879.71	879.46	879.17	878.90	878.63	0.00	878.27	877.88	877.56	877.22	0.00	876.96	876.59	876.23
PHASE LINE	STATION	1160+64.25	1160+77.19	1160+90.13	1161+03.11	1161+15.99	1161+34.59	1161+53.17	1161+71.74	1161+90.31	1162+03.39	1162+16.46	1162+29.53	1162+42.60	
	OFFSET	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	20.50' LT	
	FINAL DECK SURFACE ELEVATION	878.89	878.59	878.19	877.86	877.52	877.05	876.62	876.20	875.73	875.36	874.99	874.62	874.25	
PROFILE GRADE LINE	STATION	1160+72.33	1160+85.32	1160+98.31	1161+11.30	1161+24.29	1161+42.99	1161+61.69	1161+80.38	1161+99.08	1162+12.26	1162+25.44	1162+38.63	1162+51.81	
	OFFSET	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	0.00' RT	
	FINAL DECK SURFACE ELEVATION	878.16	877.76	877.37	876.89	876.6	876.06	875.58	875.05	874.53	874.15	873.78	873.4	873.03	
TOE OF MEDIAN PARAPET	STATION	1160+75.70	1160+88.68	1161+01.69	1161+14.70	1161+27.72	1161+46.47	1161+65.21	1161+83.96	1162+02.71	1162+15.94	1162+29.17	1162+42.40	1162+55.63	
	OFFSET	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	8.42' RT	
	FINAL DECK SURFACE ELEVATION	877.72	877.32	876.93	876.54	876.15	875.63	875.14	874.61	874.08	873.71	873.33	872.95	872.61	

PROPOSED OVERLAY ELEVATIONS
 BRIDGE NO. CUY-480-2139
 IR-480 OVER S.R. 14 (BROADWAY AVENUE)

SFN	1813382
DESIGN AGENCY	 KS Associates Inc. 260 Burns Road, Elyria, Ohio 44035
DESIGNER/CHECKER	MTG RY
REVIEWER	HVH 12-11-20
PROJECT ID	107657
SUBSET	TOTAL
18	19
SHEET	TOTAL
97	98

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	OUTSIDE	MEDIAN	TOTAL				A	B	C	D	E	R	INC
PARAPETS													
P401	30	66	96	30'-0"	1924	STR							
P402	6		6	32'-0"	128	STR							
P403		11	11	8'-0"	59	STR							
P404	8	8	16	5'-6"	59	STR							
P405	20	12	32	15'-6"	331	STR							
P406		10	10	13'-1"	87	STR							
P601	228	234	462	2'-10"	1966	19	2'-1"	0'-9"	0'-2"				
P602		234	234	3'-0"	1054	STR							
P603		188	188	7'-7"	2141	24	1'-0"	3'-0"			0'-3"		
P604	186		186	4'-7"	1280	10	0'-7"	3'-3"	0'-6"	1'-1"			
P605	8	8	16	7'-0"	168	23	0'-6"	3'-3"	3'-3"		0'-2"		
SUB-TOTAL					9,197								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	WEST	EAST	TOTAL				A	B	C	D	E	R	INC
PARAPET TRANSITIONS													
T401	12	12	24	10'-0"	160	STR							
T402	6	6	12	6'-4"	51	25	2'-6"	2'-5"	1'-4"	0'-2"	0'-5"		
T403	6	6	12	5'-1"	41	STR							
T404	11		11	2'-8"	20	STR							
T601	4	4	8	4'-3"	51	STR							
T602	6		6	3'-3"	29	STR							
T603	1 SR	1 SR	2 SR	4'-3"									
T603	OF	OF	OF	TO	154	STR						0'-1"	
T603	11	11	11	5'-1"									
T604	1 SR	1 SR	2 SR	3'-3"									
T604	OF	OF	OF	TO	121	STR						0'-1"	
T604	11	11	11	4'-1"									
T605	2		2	3'-10"	12	19	2'-2"	1'-8"	0'-4"				
T606	2		2	8'-1"	24	24	1'-0"	3'-3"			0'-3"		
SUB-TOTAL					663								

NOTES

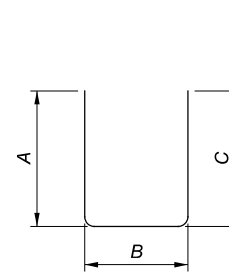
THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORCING STEEL TO BE EPOXY COATED.

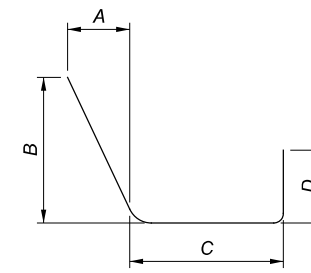
GFRP BARS ARE INCLUDED IN THIS TABLE. SEE ODOT SCD SBR-1-20 FOR ADDITIONAL DETAILS.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	WEST	EAST	TOTAL				A	B	C	D	E	R	INC
DECK ENDS													
S601	8	8	16	7'-1"	170	29	0'-9"	1'-2"	2'-2"				
S602	6	12	18	30'-0"	811	STR							
S603	6		6	20'-9"	187	STR							
S604	6		6	23'-8"	213	STR							
S605	6		6	20'-8"	186	STR							
S606		6	6	10'-5"	94	STR							
S607		6	6	24'-1"	217	STR							
S608		6	6	19'-5"	175	STR							
SUB-TOTAL					2,053								

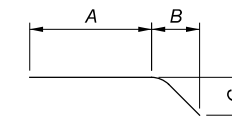
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	WEST	EAST	TOTAL				A	B	C	D	E	R	INC
ABUTMENT BACKWALLS													
A501	3	3	6	30'-0"	188	STR							
A502	3		3	18'-3"	57	STR							
A503	3		3	23'-8"	74	STR							
A504	3		3	20'-9"	65	STR							
A505		3	3	34'-8"	108	STR							
A506		3	3	24'-1"	75	STR							
A507		3	3	19'-6"	61	STR							
A601	72	96	168	2'-9"	694	2	0'-10"	1'-5"	0'-10"				
A602	110	118	228	2'-3"	771	2	0'-10"	0'-11"	0'-10"				
SUB-TOTAL					2,093								
SHEET TOTAL					14,006								



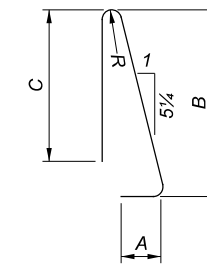
TYPE-2



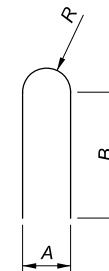
TYPE-10



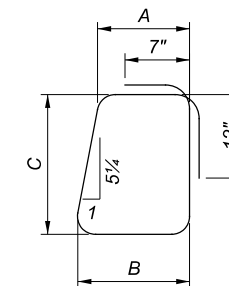
TYPE-19



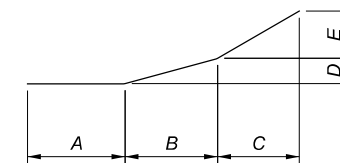
TYPE-23



TYPE-24



TYPE-29



TYPE-25

PROJECT DESCRIPTION

IT IS PROPOSED TO ADD AN ADDITIONAL TRAVEL LANE ON IR 480 WESTBOUND WITHIN THE VICINITY OF THE BROADWAY AVENUE (SR 14) INTERCHANGE. AS PART OF THE PROPOSED WORK, THE WESTBOUND EXIT RAMP TO BROADWAY AVENUE WILL BE REDUCED TO A SINGLE LANE. THE PROJECT SITE IS LOCATED NEAR THE BOUNDARY BETWEEN MAPLE HEIGHTS AND GARFIELD HEIGHTS, CUYAHOGA COUNTY, OHIO. LITTLE TO NO CHANGE IN HORIZONTAL ALIGNMENT AND VERTICAL PROFILE OF IR 480 ARE ANTICIPATED.

HISTORIC RECORDS

THE ODOT TRANSPORTATION INFORMATION MAPPING SYSTEM (TIMS) WAS SEARCHED FOR HISTORIC GEOTECHNICAL INFORMATION AT THIS SITE. MULTIPLE PREVIOUS EXPLORATIONS HAVE BEEN PERFORMED IN THE VICINITY OF, OR WITHIN THE LIMITS OF THE CURRENT PROJECT LIMITS. HOWEVER, NONE OF THE HISTORICAL BORINGS CONTAINED ADEQUATE INFORMATION TO ASSESS THE EXISTING CONDITION OF ROADWAY SUBGRADE IN ACCORDANCE WITHIN CURRENT ODOT SGE REQUIREMENTS.

GEOLOGY

THE PROJECT SITE IS WITHIN THE INTERIOR PLAINS PORTION OF THE STATE WITHIN THE ERIE LAKE PLAIN PHYSIOGRAPHIC REGION, WHERE THE SOIL OVERBURDEN CONSISTS OF PLEISTOCENE-AGE LACUSTRINE SAND, SILT, CLAY, AND WAVE-PLANED TILL OVER DEVONIAN- AND MISSISSIPPIAN-AGE SHALES AND SANDSTONES.

THE GROUND SURFACE ELEVATION ALONG THIS PORTION OF IR 480 RANGES FROM APPROXIMATE EL. 862 TO EL. 905. OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) BEDROCK TOPOGRAPHY MAPPING SUGGESTS THE UPPERMOST BEDROCK MAY BE PRESENT NEAR EL. 850. BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE BORINGS.

A REVIEW OF THE ODNR "OHIO KARST AREAS" MAP INDICATES THIS SITE IS NOT IN AN AREA OF OHIO KNOWN TO CONTAIN KARST FEATURES. THE ODNR "LANDSLIDES IN OHIO" MAP SHOWS THE PROJECT AREA TO BE IN AN AREA OF LOW INCIDENCE AND LOW SUSCEPTIBILITY TO LANDSLIDES. THE ODNR "ABANDONED UNDERGROUND MINES OF OHIO" MAP DOES NOT INDICATE ANY MAPPED ABANDONED MINES NEAR THE PROJECT SITE.

RECONNAISSANCE

A SITE RECONNAISSANCE WAS MADE ON MARCH 9, 2020, TO OBSERVE THE CONDITIONS AT THIS PROJECT SITE WITH RESPECT TO TRAFFIC AND SITE ACCESS, AND TO MARK THE PLANNED ROADWAY BORING AND PAVEMENT CORE LOCATIONS. BORING AND CORE LOCATIONS WERE ONLY MARKED IN THE OUTSIDE SHOULDER ON ACCOUNT OF SAFETY CONCERNS DUE TO THE TRAFFIC VOLUME AND PROXIMITY OF TRAFFIC TO THE INSIDE SHOULDER.

THE EXISTING ROADWAY PAVEMENTS WERE OBSERVED TO GENERALLY BE IN GOOD CONDITION. EMBANKMENT SLOPES EAST OF THE BRIDGE OVER BROADWAY AVENUE GENERALLY APPEARED TO BE IN GOOD CONDITION. EXISTING DITCHES WITHIN THIS EASTERN PORTION OF THE PROJECT WERE PRESENT NORTH OF THE PAVED OUTSIDE SHOULDER OF THE ROADWAY AND WERE OBSERVED TO HAVE LITTLE TO NO STANDING WATER AT THE TIME OF OUR SITE VISIT. THE WESTERN APPROACH EMBANKMENT FOR THE BRIDGE OVER THE NORFOLK SOUTHERN RAILROAD (NS RR) TRACKS WAS OBSERVED TO EXPERIENCING SLOPE INSTABILITY WITH NOTICEABLE FAILURES EXTENDING NEARLY UP TO THE WESTERN BRIDGE ABUTMENT. ADDITIONALLY, AREAS OF NOTICEABLE EROSION WERE OBSERVED ON THE NORTH-FACING SLOPE OF THE EMBANKMENT WEST OF THE BRIDGE OVER THE NS RR TRACKS. IN SOME AREAS, GEOWEB OR OTHER EVIDENCE OF PREVIOUS SLOPE REPAIRS WERE VISIBLE WITHIN ERODED AREAS.

SUBSURFACE EXPLORATION

ON MARCH 17 AND 18, AND APRIL 24, 2020, TWENTY-SIX (26) PAVEMENT CORES WERE PERFORMED AND MARKED IN THE FIELD BY S&ME PERSONNEL USING A HAND-HELD GPS UNIT. THE CORES WERE PERFORMED USING A CORING RIG POWERED BY A GENERATOR AND UTILIZING A DIAMOND-TIPPED CORING BIT. WHERE SOIL BORINGS WERE ALSO PLANNED, AN 8-INCH-DIAMETER CORE BARREL WAS USED. EITHER A 2- OR 4-INCH-DIAMETER CORE BARREL WAS USED FOR CORES OF THE BRIDGE DECKS, AND A 4-INCH-DIAMETER CORE BARREL WAS USED FOR CORES PERFORMED IN EXISTING APPROACH SLABS OR THE INSIDE SHOULDER PAVEMENT OF WESTBOUND I-480.

THE PAVEMENT CORES WERE ADVANCED THROUGH THE SURFICIAL ASPHALT PAVEMENT UNTIL AGGREGATE BASE COURSE MATERIAL WAS ENCOUNTERED. IN SEVERAL LOCATIONS, A 1-INCH TO 5-INCH THICK LAYER OF GRAVEL WAS ENCOUNTERED BENEATH THE ASPHALT BUT YET ABOVE A LAYER OF CONCRETE. CORED ROADWAY PAVEMENT WAS BACKFILLED WITH COLD-PATCH ASPHALT OR QUICKSET CONCRETE, DEPENDING ON THE MATERIAL ENCOUNTERED, AND COMPACTED INTO THE HOLE LEFT BY THE REMOVED CORE. THE BRIDGE DECKS WERE REPAIRED USING A NON-SHRINK NON-METALLIC GROUT PER ITEM 705.20 OF THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATION (CMS).

ON MARCH 18, 2020, A TOTAL OF EIGHT (8) BORINGS WERE PERFORMED TO INVESTIGATE THE SUBGRADE SOIL FOR THE PROPOSED ROADWAY WIDENING. THE SUBGRADE BORINGS WERE NUMBERED B-001-0-19 THROUGH B-008-0-19 AND ARE HEREINAFTER REFERRED TO AS BORINGS B-001 THROUGH B-008.

THE BORINGS WERE PERFORMED BY AN ATV-MOUNTED DRILLING RIG USING A 2 1/4-INCH I.D. HOLLOW-STEM AUGER TO ADVANCE THE BORINGS BETWEEN SAMPLING ATTEMPTS. DISTURBED BUT REPRESENTATIVE SOIL SAMPLES WERE OBTAINED BY LOWERING A 2-INCH O.D. SPLIT-BARREL SAMPLER TO THE BOTTOM OF THE BORING AND THEN DRIVING THE SAMPLER INTO THE SOIL WITH BLOWS FROM A 140-POUND HAMMER FREELY FALLING 30 INCHES (AASHTO T206 - STANDARD PENETRATION TEST). FOUR CONTINUOUS SPT SAMPLES WERE PERFORMED BENEATH THE EXISTING PAVEMENT IN EACH BORING. THE DRILL RIG USED FOR THIS EXPLORATION HAS BEEN CALIBRATED IN ACCORDANCE WITH ASTM D4633 FOR DRILL ROD ENERGY RATIO (85.7%). AT THE COMPLETION OF DRILLING, THE BORINGS WERE BACKFILLED WITH SOIL CUTTINGS AND A PLASTIC HOLE PLUG DEVICE, AND THE SURFACE OF THE PAVEMENT WAS REPAIRED USING COLD-PATCH ASPHALT.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL
GRAVEL	A-1-a	1 --
GRAVEL WITH SAND	A-1-b	1 1
GRAVEL WITH SAND AND SILT	A-2-4	4 6
SANDY SILT	A-4a	1 3
SILT AND CLAY	A-6a	5 3
SILTY CLAY	A-6b	5 4
	TOTAL	17 17
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL	
BORING LOCATION - PLAN VIEW		
DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.		
WC	INDICATES WATER CONTENT IN PERCENT.	
N ₆₀	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.	
W	INDICATES FREE WATER ELEVATION.	
INDICATES ELEVATION OF WATER AT END OF DRILLING (EOD).		
INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.		
SS	INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.	

EXPLORATION FINDINGS

THE FOLLOWING IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED IN THE PAVEMENT CORES PERFORMED FOR THIS INVESTIGATION:
 - 1 TO 6 INCHES OF ASPHALT AT ALL LOCATIONS EXCEPT FOR THE BRIDGE DECK CORES; HOWEVER, THE BRIDGE DECK CORE AT X-003-3-19 ENCOUNTERED 2 1/4 INCHES OF ASPHALT AT THE TOP OF THE CORE.
 - 1 TO 5 INCHES OF AN INTERMEDIATE GRAVEL LAYER (BETWEEN THE ASPHALT AND CONCRETE LAYERS IN EIGHT BORING AND/OR CORE ONLY LOCATIONS).
 - 2 1/2 TO 17 INCHES OF CONCRETE.
 - 8 INCHES OF AGGREGATE BASE BENEATH THE ASPHALT AND CONCRETE AT BORING B-008.

EIGHT (8) ROADWAY BORINGS, BORINGS B-001 THROUGH B-008, WERE PERFORMED FOR THIS PROJECT. BENEATH 12 TO 24 INCHES OF EXISTING PAVEMENT MATERIALS, EXISTING FILL AND PROBABLE/POSSIBLE FILL WERE ENCOUNTERED TO THE TERMINATION DEPTHS IN BORINGS B-001 THROUGH B-003 AND TO A DEPTH OF 7 FEET IN BORING B-007. THESE FILL SOILS CONSISTED OF DISCONTINUOUS LAYERS OF VERY-STIFF TO HARD BROWN AND/OR GRAY SILT AND CLAY (A-6a) AND SILTY CLAY (A-6b) OR MEDIUM-DENSE TO VERY-DENSE BROWN GRAVEL (A-1-a), GRAVEL WITH SAND (A-1-b), GRAVEL WITH SAND AND SILT (A-2-4) AND SANDY SILT (A-4a). ASPHALT AND BRICK FRAGMENTS WERE OBSERVED WITHIN THE FILL IN BORINGS B-002 AND B-003, RESPECTIVELY.

THE NATURAL SOILS ENCOUNTERED BELOW THE FILL IN BORING B-007 AND BENEATH THE PAVEMENT MATERIALS IN THE REMAINING BORINGS CONSISTED OF HARD BROWN AND/OR GRAY SILT AND CLAY (A-6a) OR SILTY CLAY (A-6b) AND MEDIUM-DENSE BROWN OR GRAY GRAVEL WITH SAND AND SILT (A-2-4) OR SANDY SILT (A-4a). A LAYER OF MEDIUM-STIFF TO STIFF SILT AND CLAY (A-6a) WAS ENCOUNTERED AT THE BOTTOM OF B-005.

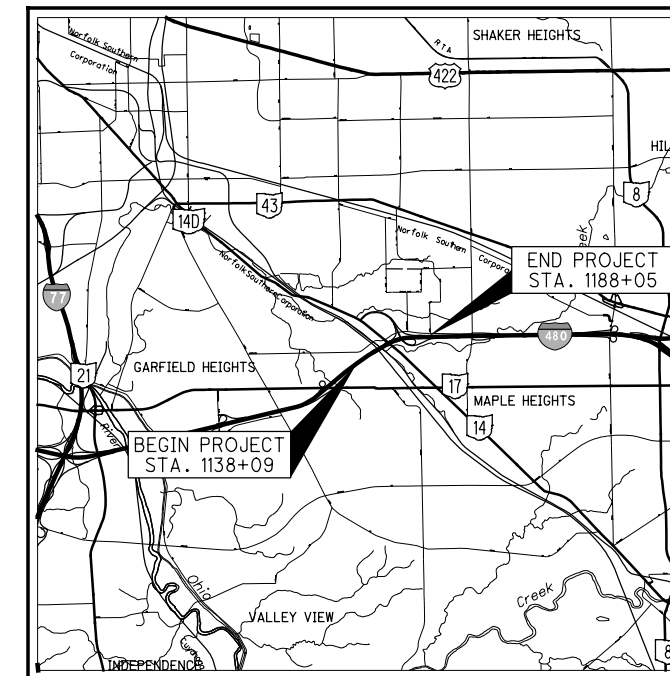
DURING DRILLING, WATER WAS OBSERVED IN BORING B-003 AT A DEPTH OF 3 FEET. AT THE END OF DRILLING, WATER HAD ACCUMULATED TO A DEPTH OF 2 FEET. GROUNDWATER WAS NOT OBSERVED DURING OR AT THE END OF DRILLING IN THE OTHER 7 BORINGS. AS THE BORINGS WERE BACKFILLED IMMEDIATELY AFTER SAMPLING, NO LONG-TERM GROUNDWATER MEASUREMENTS WERE OBTAINED IN ANY OF THE BORINGS.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2020.

AVAILABLE INFORMATION

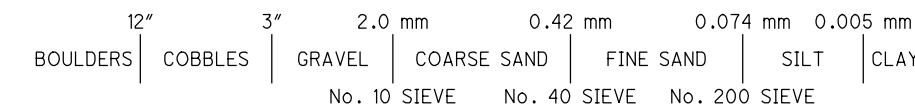
THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.



LOCATION MAP
SCALE IN MILES



PARTICLE SIZE DEFINITIONS



INDEX OF SHEETS

LOCATION FROM STA. TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CROSS-SECTION SHEET	CUT MAX.	FILL MAX.
SUMMARY OF SOIL TEST DATA - SHEET 2					
IR 480					
1147+00	1161+00	3	3	--	< 1 FT. < 1 FT.
1161+00	1175+00	4	4	--	< 1 FT. < 1 FT.
1175+00	1189+00	5	5	--	< 1 FT. < 1 FT.

- RECON. - S&ME 3/9/20
- DRILLING - S&ME 3/17/20 - 3/18/20, 4/24/20
- DRAWN - KAH 11/2/20 - 11/6/20, 1/7/21
- REVIEWED - BKS 11/23/20, 1/7/21



4800 SWEET VALLEY DRIVE, SUITE 100, VALLEY VIEW, OHIO 44125
 (216) 901-1000
 PID NO. 107657
 SOIL PROFILE - ROADWAY
 CUY-480-21.30
 1/5

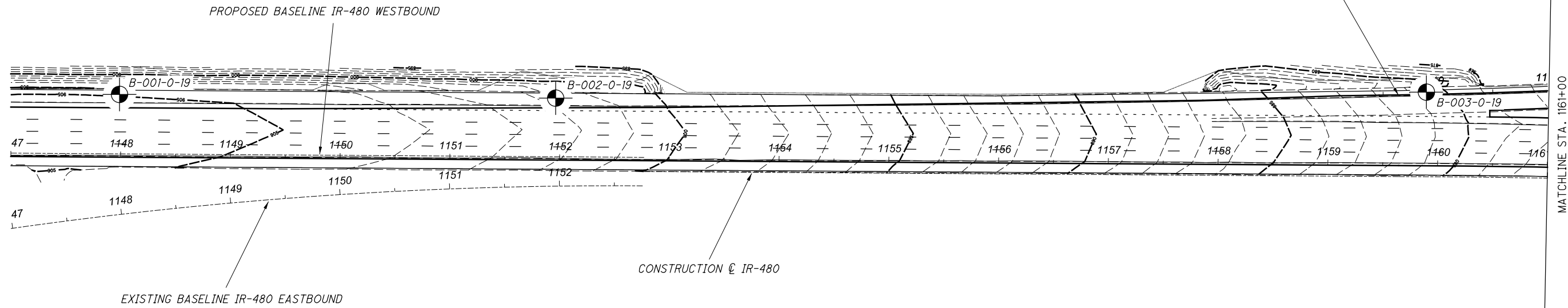
SUMMARY OF SOIL TEST DATA
IR 480

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N ₆₀	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO ₄
B-001-0-19 1147+99, 54' LT Latitude: 41.422054 Longitude: -81.586032	2.0 - 3.5	SS-1	13	100	4.0-4.5	28	15	8	33	16	33	18	15	14	A-6 (5)	808
	3.5 - 5.0	SS-2	11	100	-	52	14	7	22	5	29	19	10	9	A-2-4 (0)	
	5.0 - 6.5	SS-3	13	67	-	-	-	-	SAME AS SS-2			12	12	A-2-4 (VISUAL)		
	6.5 - 8.0	SS-4	17	100	-	-	-	-	SAME AS SS-2			12	12	A-2-4 (VISUAL)		
B-002-0-19 1151+96, 53' LT Latitude: 41.422585 Longitude: -81.584766	2.0 - 3.5	SS-1	16	100	3.8-4.0	12	12	20	35	21	28	15	13	16	A-6 (5)	555
	3.5 - 5.0	SS-2	23	67	-	29	8	21	36	6	NP	NP	NP	14	A-4a (VISUAL)	
	5.0 - 6.5	SS-3	23	100	-	-	-	-	SAME AS SS-2			13	13	A-4a (VISUAL)		
	6.5 - 8.0	SS-4	20	100	-	-	-	-	SAME AS SS-2			16	16	A-4a (VISUAL)		
B-003-0-19 1159+89, 77' LT Latitude: 41.423676 Longitude: -81.582263	1.5 - 3.0	SS-1	69	100	-	45	37	14	4	0	NP	NP	NP	14	A-1-b (0)	1516
	3.0 - 3.5	SS-2A	34	100	-	-	-	-	SAME AS SS-1			21	21	A-1-b (VISUAL)		
	3.5 - 4.5	SS-2B	34	100	-	66	23	8	3	0	NP	NP	NP	29	A-1-a (0)	
	4.5 - 6.0	SS-3	13	67	3.5-4.5	12	5	8	29	46	38	19	19	26	A-6b (12)	
B-004-0-19 1163+99, 56' LT Latitude: 41.424140 Longitude: -81.580874	6.0 - 7.5	SS-4	10	100	3.5-4.0	-	-	-	SAME AS SS-3			17	17	A-6b (VISUAL)		
	2.0 - 3.5	SS-1	19	100	4.5+	7	6	12	37	38	33	17	16	16	A-6b (10)	280
	3.5 - 5.0	SS-2	27	100	4.5+	13	6	9	34	38	37	19	18	16	A-6b (11)	
	5.0 - 6.5	SS-3	24	100	4.5+	-	-	-	SAME AS SS-2			12	12	A-6b (VISUAL)		
B-005-0-19 1167+78, 55' LT Latitude: 41.424488 Longitude: -81.579545	6.5 - 8.0	SS-4	29	100	4.0-4.5	-	-	-	SAME AS SS-2			12	12	A-6b (VISUAL)		
	2.0 - 3.5	SS-1	14	100	4.5+	10	10	18	26	36	31	16	15	15	A-6a (7)	427
	3.5 - 5.0	SS-2	21	100	4.5+	9	7	14	30	40	33	17	16	15	A-6b (9)	
	5.0 - 6.5	SS-3	23	100	4.5+	-	-	-	SAME AS SS-2			14	14	A-6b (VISUAL)		
B-006-0-19 1171+92, 55' LT Latitude: 41.424716 Longitude: -81.578036	6.5 - 8.0	SS-4	11	100	0.6-1.1	-	-	-	MEDIUM-STIFF TO STIFF SILT & CLAY, TRACE SAND			15	15	A-6a (VISUAL)		
	2.0 - 3.5	SS-1	14	67	4.0-4.5	13	7	7	24	49	36	20	16	21	A-6b (10)	447
	3.5 - 5.0	SS-2	24	67	-	54	19	10	9	8	26	18	8	11	A-2-4 (0)	
	5.0 - 6.5	SS-3	20	100	-	-	-	-	SAME AS SS-2			15	15	A-2-4 (VISUAL)		
B-007-0-19 1175+85, 55' LT Latitude: 41.424782 Longitude: -81.576584	6.5 - 8.0	SS-4	21	100	-	-	-	-	SAME AS SS-2			16	16	A-2-4 (VISUAL)		
	2.0 - 3.5	SS-1	20	100	-	49	19	15	9	8	26	18	8	12	A-2-4 (0)	987
	3.5 - 5.0	SS-2	20	100	-	43	18	15	11	13	26	17	9	16	A-2-4 (0)	
	5.0 - 6.5	SS-3	24	33	-	-	-	-	SAME AS SS-2			13	13	A-2-4 (VISUAL)		
B-008-0-19 1179+27, 58' LT Latitude: 41.424798 Longitude: -81.575335	6.5 - 7.0	SS-4A	14	100	-	-	-	-	MEDIUM-DENSE SANDY SILT, LITTLE TO SOME CLAY			14	14	A-2-4 (VISUAL)		
	7.0 - 8.0	SS-4B	14	50	-	-	-	-	MEDIUM-DENSE SANDY SILT, LITTLE TO SOME CLAY			18	18	A-4a (VISUAL)		
	2.0 - 3.5	SS-1	23	100	4.5+	7	7	13	28	45	30	16	14	16	A-6a (9)	142
	3.5 - 5.0	SS-2	20	100	4.5+	10	6	13	28	43	31	16	15	15	A-6a (9)	
	5.0 - 6.5	SS-3	21	100	4.0-4.5	-	-	-	SAME AS SS-2			14	14	A-6a (VISUAL)		
	6.5 - 8.0	SS-4	17	100	4.0-4.2	-	-	-	SAME AS SS-2			14	14	A-6a (VISUAL)		

COMMERCIAL

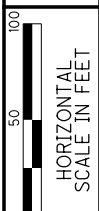
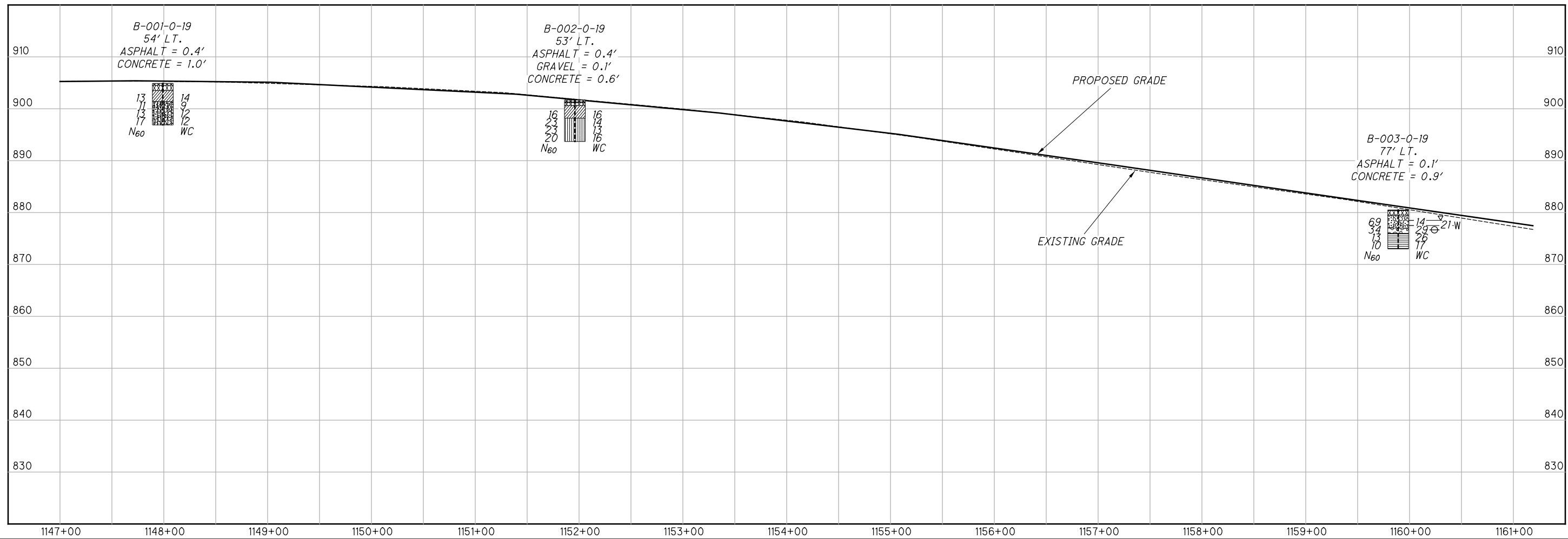
COMMERCIAL

BEGIN PROJECT
STA. 1138+09



COMMERCIAL

COMMERCIAL



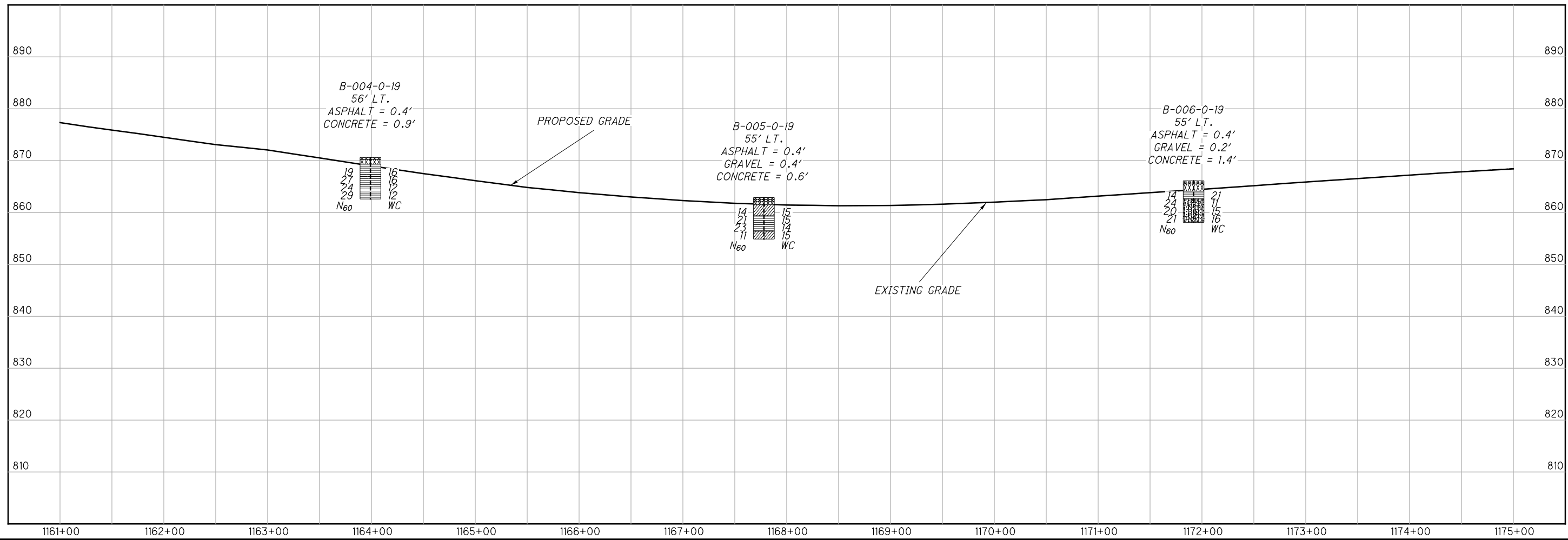
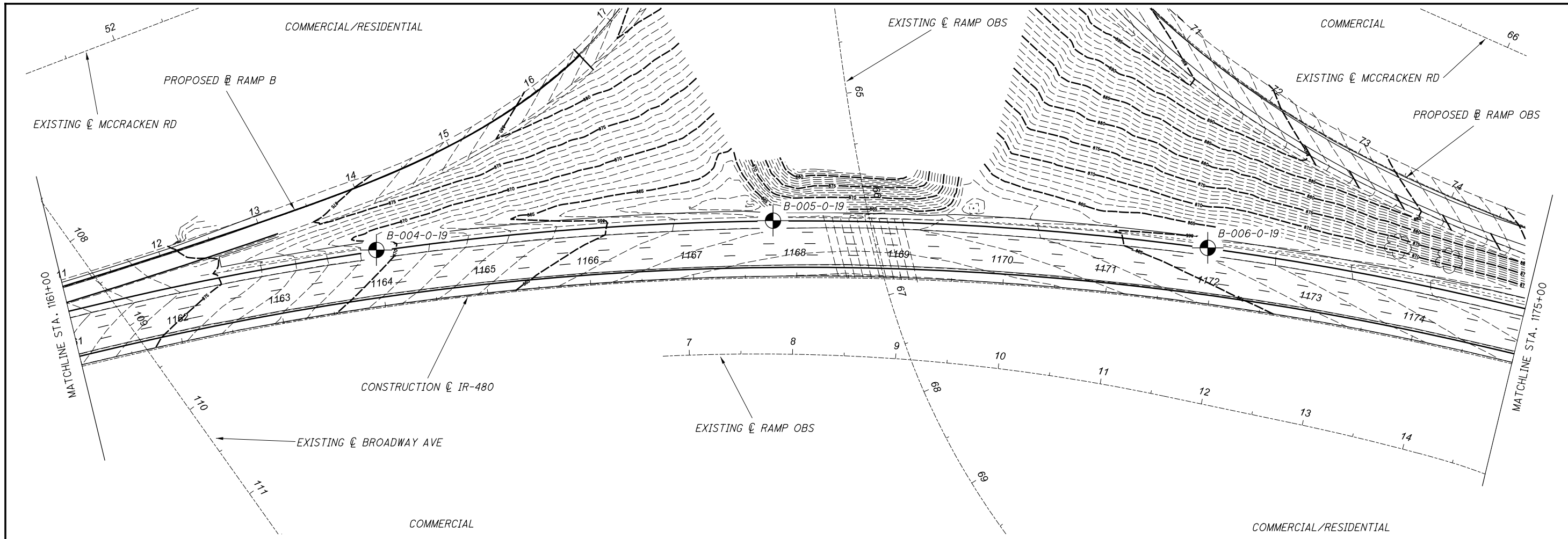
DRAWN: KAH
CHECKED: BKS

SOIL PROFILE - ROADWAY
STA. 1147+00 TO STA. 1161+00

CUY - 480 - 21.30

3 / 5





SOIL PROFILE - ROADWAY
STA. 1161+00 TO STA. 1175+00

CUY - 480-21.30

4 / 5

HORIZONTAL SCALE IN FEET

0 50 100

DRAWN: KAH
 CHECKED: BKS



DRAWN: KAH
CHECKED: BKS

SOIL PROFILE - ROADWAY
STA. 1175+00 TO STA. 1189+00

CUY - 480 - 21.30

5 / 5

