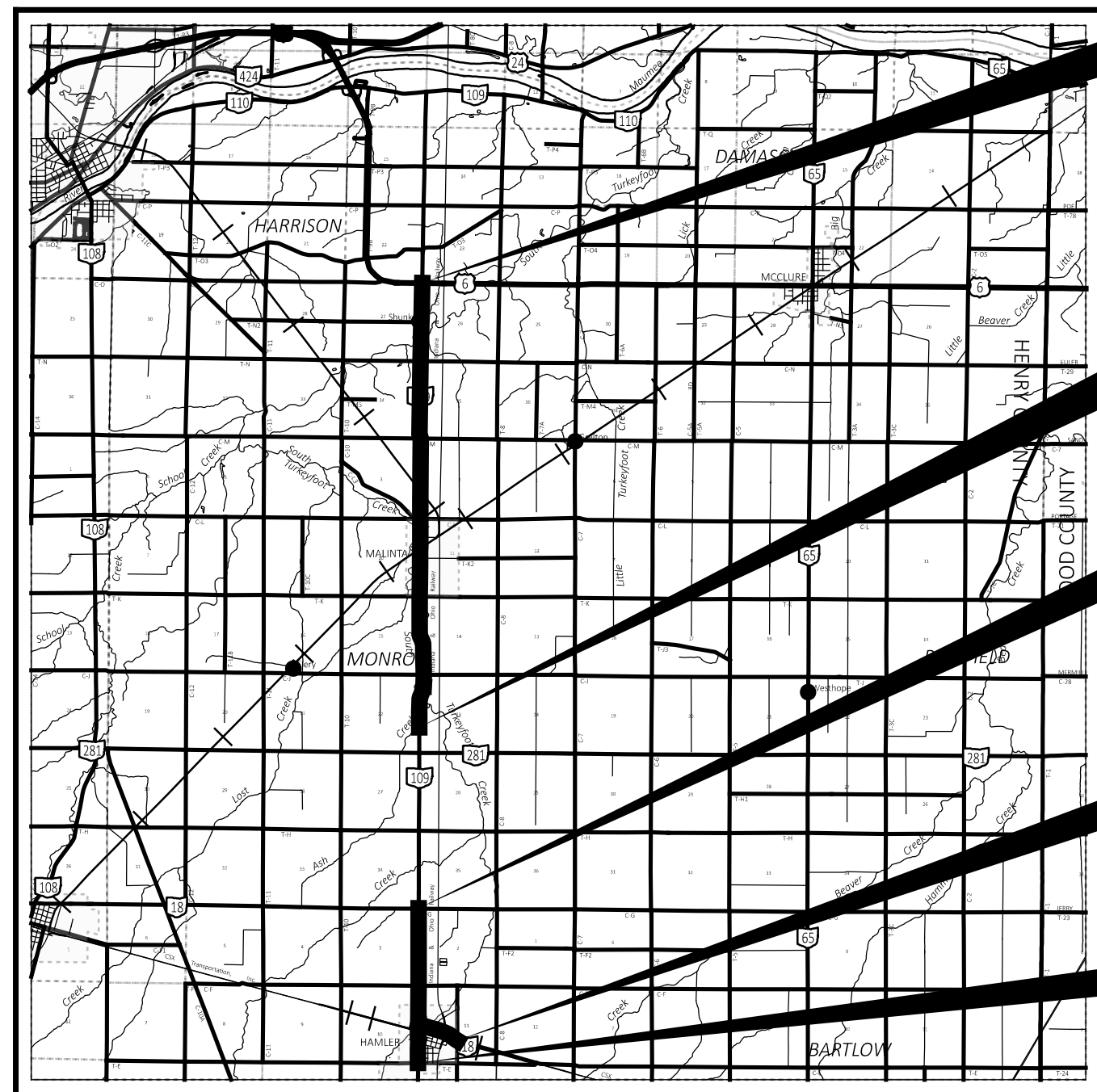


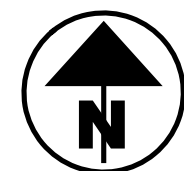
HEN-18/109-9.96/4.01

MODEL: Sheet PAPER: 34x22 (in.) DATE: 11/29/2023 TIME: 11:57:42 AM USER: Mcantierb pvc:\ohiodot-pw-bentley.com\ohiodot-pw-02\Documents\01 Active Projects\District 02\Henry\99587\400-Engineering\Roadway\Sheets\99587\_GT001.dgn



LOCATION MAP

LATITUDE: 41°30'63" LONGITUDE: 84°03'74"



Legend for road types: PORTION TO BE IMPROVED, INTERSTATE HIGHWAY, FEDERAL ROUTES, STATE ROUTES, COUNTY & TOWNSHIP ROADS, OTHER ROADS.

DESIGN DESIGNATION

Table with 4 columns: Designation, HEN-18: 9.96-11.98, HEN-109: 4.01-4.56, HEN-109: 8.78-14.09. Rows include Opening Year ADT, Design Year ADT, DHV, Directional Distribution, Functional Class, Trucks, Design Speed, Legal Speed.

NHS PROJECT ----- NO

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

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: ODOT DISTRICT 2 317 E. POE RD. BOWLING GREEN, OHIO 43402

ENGINEER'S SEAL ROADWAY (Julie M. Fahy, E-63302) ENGINEER'S SEAL BRIDGE (David J. Geckle, E-72729)

END PROJECT END WORK STA. 743+45.06 SR 109
RESUME WORK STA. 440+00 SR 109
SUSPEND WORK STA. 318+03 SR 109
END PROJECT END WORK STA. 632+23.51 SR 18
BEGIN PROJECT BEGIN WORK STA. 211+44 SR 109

INDEX OF SHEETS:

Table listing sheet titles and numbers: TITLE SHEET (1), TYPICAL SECTIONS (2-5), GENERAL NOTES (6), MAINTENANCE OF TRAFFIC NOTES (7), GENERAL SUMMARY (8,9), SUBSUMMARIES (10-13), PLAN SHEETS (14-44), STRUCTURE SHEETS (HEN-18-11.58 to HEN-109-13.55), MISCELLANEOUS DETAILS (51), PLAN INSERT SHEET (52).

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

HEN-18/109-9.96/4.01

MARION, MONROE, AND HARRISON TOWNSHIPS HENRY COUNTY

FEDERAL PROJECT NUMBER

E150267

RAILROAD INVOLVEMENT

CSX & INDIANA AND OHIO

PROJECT DESCRIPTION

RESURFACING OF SR 18 AND 109 IN HENRY COUNTY. S.R. 109 FROM HAMLER SOUTH CORP LINE TO C.R. "G", AND FROM NORTH OF S.R. 281 NORTH TO S.R. 6. S.R. 18 FROM S.R. 109 TO C.R. "8B". PERFORM NECESSARY RELATED WORK.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A ACRES ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES

2023 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE SET FORTH IN THE PLANS AND ESTIMATES.

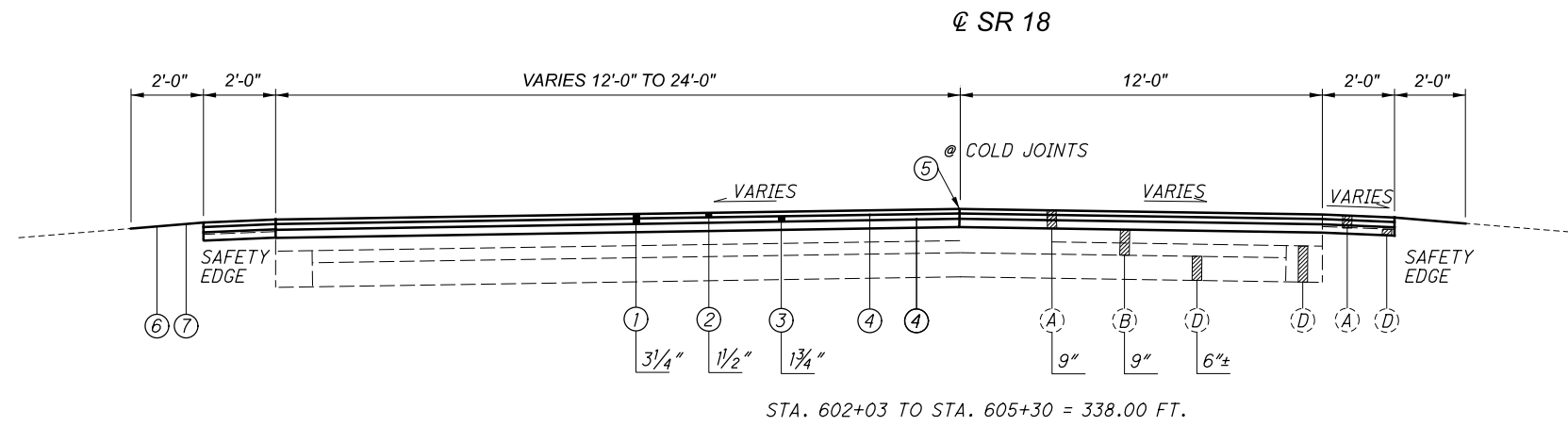
Pat McColey, P.E., S.I. District 02 Deputy Director
Jack Marchbanks, PhD Director, Department of Transportation

Table with columns: STANDARD CONSTRUCTION DRAWINGS, SUPPLEMENTAL SPECIFICATIONS, SPECIAL PROVISIONS. Rows include drawing codes and dates.

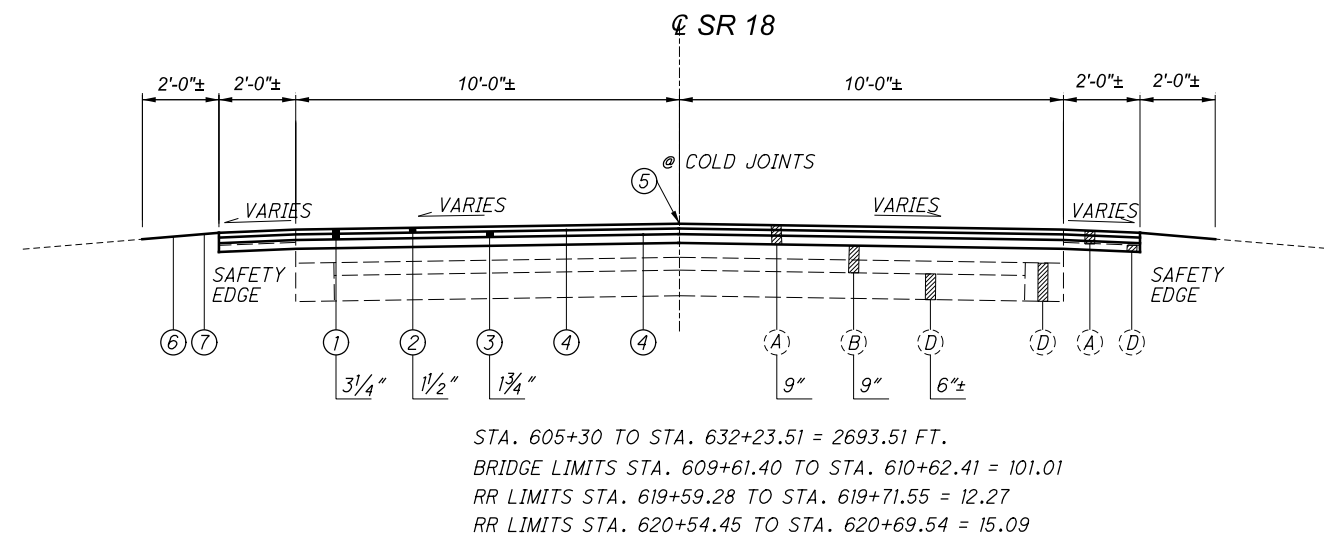
HEN-18/109-9.96/4.01

DESIGN AGENCY MRC REVIEWER JMF MM-DD-YY PROJECT ID 99587 SHEET 1 TOTAL 52

**TYPICAL SECTION - A**



**TYPICAL SECTION - B  
 NORMAL SECTION**



**PROPOSED LEGEND**

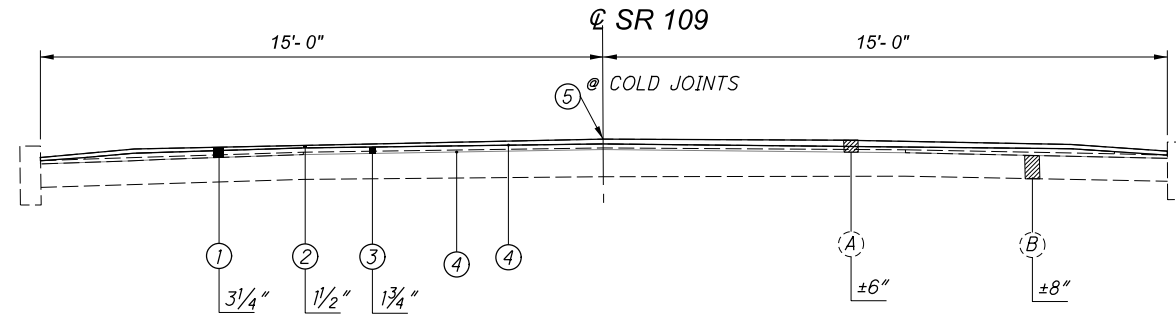
- ① ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
- ② ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446)
- ③ ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A, (448)
- ④ ITEM 407 - NON-TRACKING TACK COAT
- ⑤ ITEM 875 - LONGITUDINAL JOINT ADHESIVE
- ⑥ ITEM 617 - COMPACTED AGGREGATE
- ⑦ ITEM 209 - LINEAR GRADING

**EXISTING LEGEND**

- Ⓐ ASPHALT CONCRETE PAVEMENT
- Ⓑ CONCRETE PAVEMENT
- Ⓒ BASE
- Ⓓ AGGREGATE BASE
- Ⓔ CURB

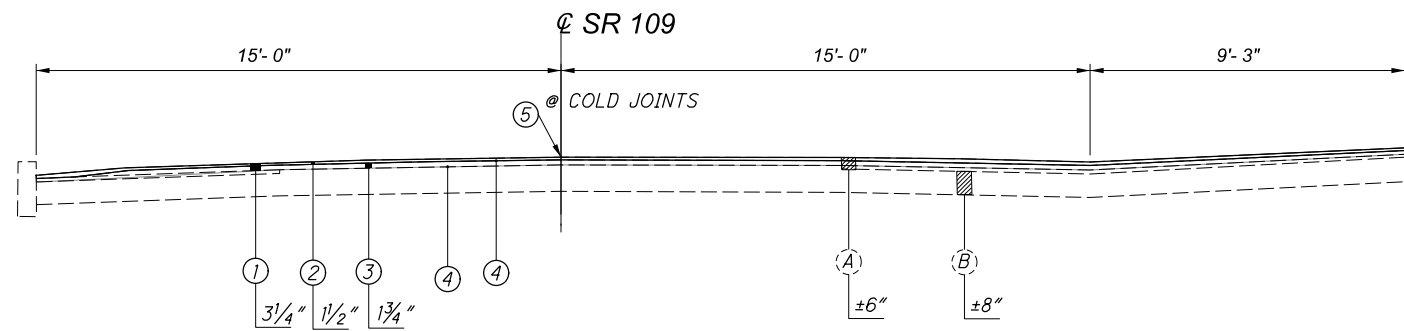


**TYPICAL SECTION - C**



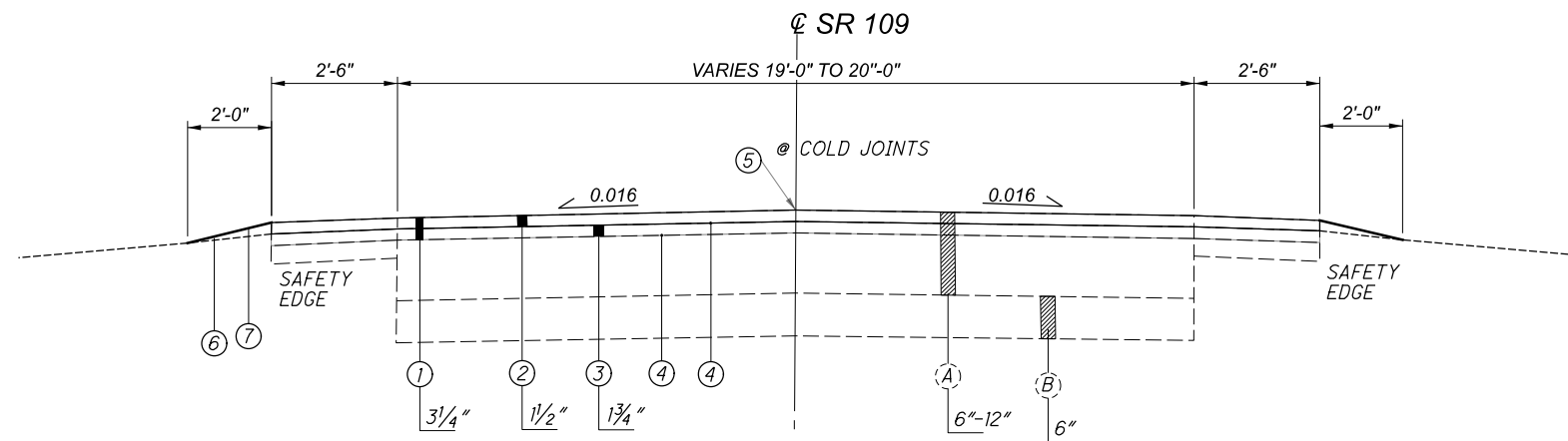
STA. 211+44 TO STA. 222+62.39 = 1118.39 FT.  
 STA. 225+00 TO STA. 231+48.70 = 648.70 FT.  
 BRIDGE LIMITS STA. 231+48.70 TO STA. 232+28.87 = 80.17 FT.

**TYPICAL SECTION - D**



STA. 222+62.39 TO STA. 225+00 = 237.61 FT.

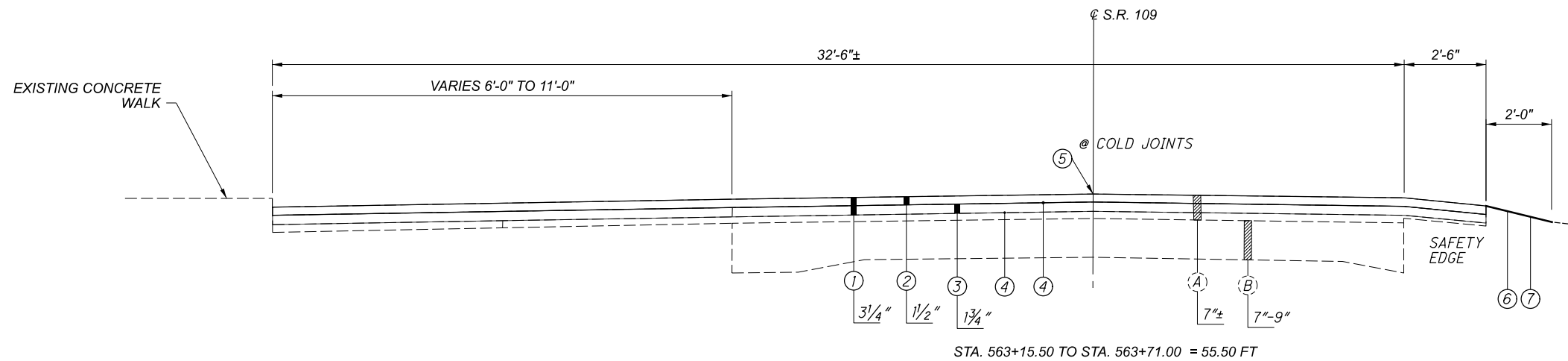
**TYPICAL SECTION - E**



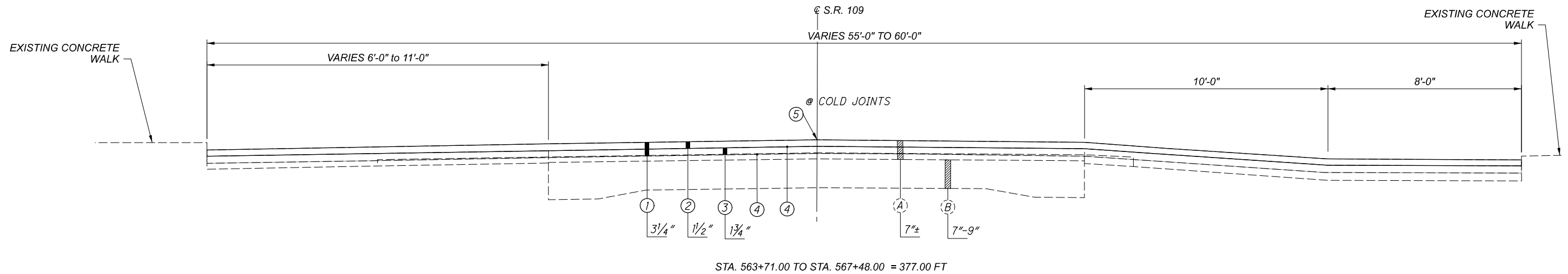
STA. 232+67.6 TO STA. 318+03 = 8400.66 FT.  
 STA. 440+00 TO STA. 463+66.29 = 2366.29 FT.  
 BRIDGE LIMITS STA. 463+66.29 TO STA. 465+00.52 = 134.23 FT.  
 STA. 465+00.52 TO STA. 505+05.28 = 4004.76 FT.  
 BRIDGE LIMITS STA. 505+05.23 TO STA. 506+27.84 = 122.17 FT.  
 STA. 506+27.84 TO STA. 521+05.58 = 1477.74 FT.  
 BRIDGE LIMITS STA. 521+05.58 TO STA. 522+34.68 = 129.10 FT.  
 STA. 522+34.68 TO STA. 563+15.50 = 4080.82 FT.  
 20,715.77 FT.



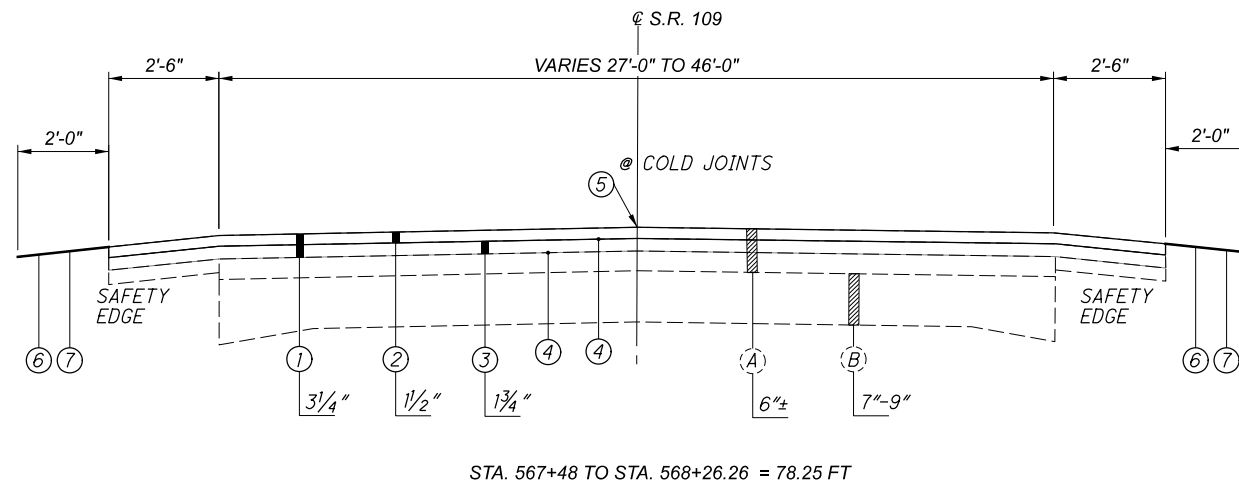
TYPICAL SECTION "F"



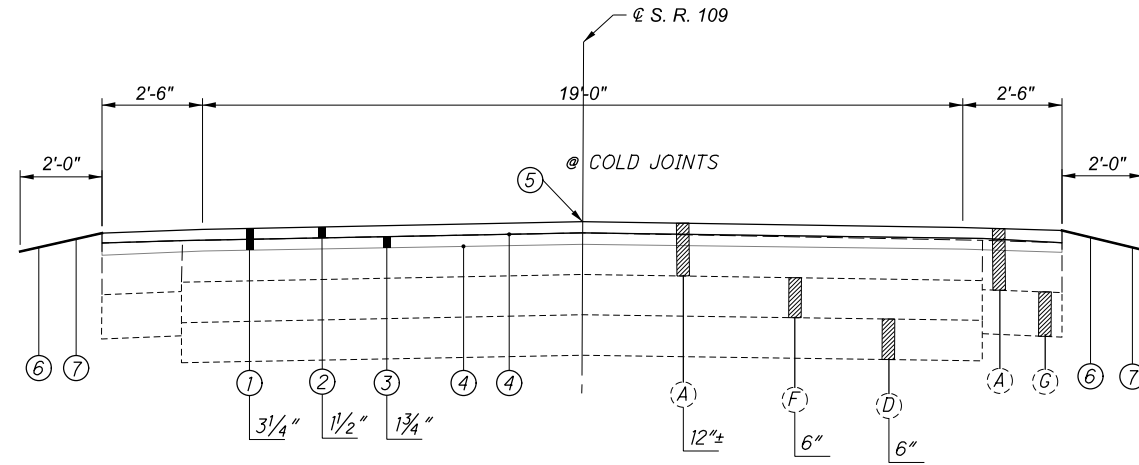
TYPICAL SECTION "G"



TYPICAL SECTION "H"



TYPICAL SECTION " I "



STA. 568+26.26 TO STA. 714+94.28 = 14668.02 FT.  
 BRIDGE LIMITS STA. 714+94.28 TO STA. 716+21.96 = 127.68 FT.  
 STA. 716+21.96 TO STA. 743+45.06 = 2723.10 FT.  
 17,518.80 FT.

DESIGN AGENCY



DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
5	52

**UTILITIES**

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

COLUMBIA GAS TRANSMISSION CENTURYLINK  
 301 MAPLE ST. 175 ASHLAND RD.  
 SUGAR GROVE, OH. 43155 MANSFIELD, OH. 44902  
 740-746-2297 419-755-7183

CHARTER TELECOMMUNICATIONS HANCOCK WOOD ELECTRIC COOP.  
 3760 INTERCHANGE DR. P.O. BOX 190  
 COLUMBUS, OH. 43204 NORTH BALTIMORE, OH. 45872  
 614-255-6340 419-257-5015

HAMLER - VILLAGE OF MALINTA - VILLAGE OF  
 500 E. HUBBARD ST (P.O. BOX 435) P.O. BOX 69  
 HAMLER, OH. 43524 MALINTA, OH. 43535  
 419-274-7651 419-256-7961

TRI-COUNTY RURAL ELECTRIC COOP. TOLEDO EDISON  
 P.O. BOX 100 6099 ANGOLA RD.  
 MALINTA, OH. 43535 HOLLAND, OH. 43528  
 419-256-7900 419-249-5218

**PLANNED SURFACES**

NO PLANNED SURFACES SHALL BE OPEN TO THE PUBLIC FOR MORE THAN 7 DAYS. IF THE PLANNED SURFACE IS OPEN FOR MORE THAN 7 DAYS, THEN IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR THE PAVEMENT FAILURES THAT OCCURRED AFTER THE 7 DAYS AT NO ADDITIONAL COST TO ODOT.

**MONUMENT BOX**

IF THE CONTRACTOR REMOVES OR DISTURBS ANY MONUMENT BOX ASSEMBLIES DURING CONSTRUCTION, THEN THEY SHALL HAVE A REGISTERED SURVEYOR CERTIFY THAT THE MONUMENTS HAVE BEEN RESET AT THE PRE-DISTURBED LOCATION AND PER THE "OHIO ADMINISTRATIVE CODE, CHAPTER 4733-37, STANDARDS FOR BOUNDARY SURVEYS". THE CONTRACTOR SHALL FORWARD A COPY OF SAID CERTIFICATION TO THE PROJECT ENGINEER AND THE DISTRICT SURVEY OPERATIONS MANAGER FOR REVIEW. (SEE EXAMPLE BELOW)

I, JOHN D. DOE, P.S. HEREBY CERTIFY THAT THE CENTERLINE MONUMENTATION HAS BEEN RESET AT THE PRECONSTRUCTION LOCATIONS DURING THE PROJECT HEN-18/109-9.96/4.01, PID 99587. ALL OF MY WORK CONTAINED HEREIN WAS CONDUCTED IN ACCORDANCE WITH "OHIO ADMINISTRATIVE CODE 4733-37" COMMONLY KNOWN AS "A MINIMUM STANDARDS FOR BOUNDARY SURVEYS IN THE STATE OF OHIO", UNLESS OTHERWISE NOTED THE WORDS I AND MY AS USED HEREIN ARE TO MEAN MYSELF OR SOMEONE WORKING UNDER MY DIRECT SUPERVISION.

ALL SURVEY MONUMENTS SET AND/OR RESET BY THE CONSTRUCTION CONTRACTOR'S SURVEYOR SHALL BE CONSTRUCTED ACCORDING TO STANDARD DRAWING RM-1.1.

ALL COSTS ASSOCIATED WITH THE RE-SETTING OF THE MONUMENT BOXES SHALL BE BORNE BY THE CONTRACTOR.

**PAVEMENT MARKINGS**

THE CONTRACTOR SHALL MAKE NOTE OF ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS BEFORE PERFORMING ANY WORK. ESTIMATED QUANTITIES HAVE BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER.

**ASPHALT CONCRETE- SAFETY EDGE**

ADDITIONAL QUANTITIES OF:

ITEM 442- ASPHALT CONCRET SURFACE COURSE, 72.32 CU YD  
 12.5 MM, TYPE A(446)

QUANTITY CARRIED TO THE GENERAL SUMMARY 73 CU YD

**ESTIMATED ADJUSTED TO GRADE QUANTITIES**

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED FOR ADJUSTMENT REQUIRED FOR THE FOLLOWING ITEMS AS DIRECTED BY THE ENGINEER:

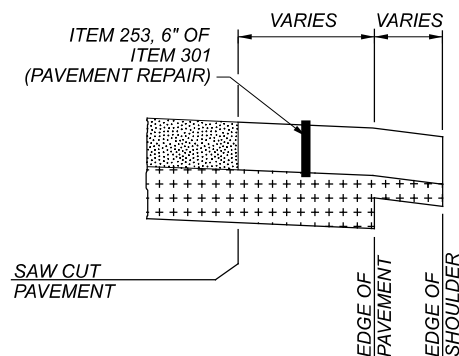
ITEM 611, MANHOLE ADJUSTED TO GRADE 10 EACH  
 ITEM 611, CATCH BASIN ADJUSTED TO GRADE 5 EACH  
 ITEM 623, MONUMENT ASSEMBLY ADJUSTED TO GRADE 2 EACH  
 ITEM 638, VALVE BOX ADJUSTED TO GRADE 5 EACH

QUANTITY CARRIED TO THE GENERAL SUMMARY

**ITEM 253, PAVEMENT REPAIRS**

PAVEMENT REPAIRS SHALL BE PERFORMED AFTER THE PAVEMENT PLANING. THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED FOR FULL DEPTH PAVEMENT REPAIR FOR SR 18 / 109 AND AS DIRECTED BY THE ENGINEER AND BASED ON VARYING WIDTHS ON BOTH SIDES OF THE ROAD.

SR 18/109  
 20 % OF THE TOTAL AREA = (1,399,761 SQ. FT. X 6"/12")/27 X 20% =  
 5185 CU. YD.



**ASPHALT CONCRETE FOR DRIVEWAYS**

THE FOLLOWING ESTIMATED QUANTITY FOR ASPHALT CONCRETE IS TO BE USED FOR ADJUSTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (449)

SR 18 2 CU YD  
 SR 109 6 CU YD

TOTAL CARRIED TO THE GENERAL SUMMARY 8 CU YD

THE JOB WILL NOT BE CONSIDERED COMPLETE UNTIL ALL DRIVEWAYS HAVE BEEN TREATED AS DIRECTED BY THE ENGINEER.

**PAVEMENT RESTORATION FOR CONCRETE PAD REMOVALS**

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR CONCRETE PAVEMENT REMOVAL AT VARIOUS AREAS ALONG S.R. 109.

LOCATIONS CAN BE FOUND ON PLANS SHEETS 19 & 21. QUANTITIES ARE BASED ON A 12" TO 18" THICKNESS OF ITEM 301, ASPHALT CONCRETE BASE, PG64-22 AND A WIDTH OF 30' AND 26'.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

ITEM 202 - PAVEMENT REMOVED 30.66 SQ. YD.  
 ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 15.34 CU. YD.

**RAILROAD NOTES**

IF ANY ISSUE OR INCIDENT OCCURS WITHIN CSXT ROW, PLEASE CONTACT THE: CSXT PUBLIC SAFETY COORDINATION CENTER AT: 800-232-0144

ROADWAY FLAGGERS MUST BE PRESENT ON EACH SIDE OF THE RAILROAD CROSSING ANYTIME TRAFFIC IS DIRECTED INTO OPPOSING TRAFFIC LANES AT THE RAILROAD CROSSING.

CHANNELIZATION /MOT/EROSION CONTROL DEVICES SHALL BE PLACED A MINIMUM 15 FT. FROM CENTERLINE OF RAILROAD TRACKS.

**ITEM 517 RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN**

THIS WORK WILL INCLUDE REMOVAL AND REPLACEMENT OF THE W-BEAM BRIDGE RAIL AND TUBULAR BACKUP. THE EXISTING TYPE 2 STEEL POSTS WILL REMAIN FASTENED ON THE BRIDGE FOR RE-USE.

**ITEM 202 SPECIAL - PARKING BLOCK REMOVED AND RESET**

THE CONTRACTOR IS TO REMOVE THE EXISTING PARKING BLOCKS AND PLACE THEM IN A LOCATION THAT IS SPECIFIED BY THE ENGINEER. ONCE THE PROJECT HAS BEEN COMPLETE, THE CONTRACTOR SHALL RESET THE PARKING BLOCKS. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER ABOUT WHERE TO RESET THE BLOCKS.

CARE SHOULD BE TAKEN WHEN REMOVING AND RESETTING BLOCKS. ANY DAMAGES THAT OCCUR DURING THE CONSTRUCTION PROCESS WILL BE THE RESPONSIBILITY AND COST TO THE CONTRACTOR.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 202, SPECIAL - PARKING BLOCK REMOVED AND RESET 13 EACH

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

99587

SHEET

TOTAL

6 | 52

**PLACEMENT OF ASPHALT CONCRETE**

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**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 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 OFFICE OF COMMUNICATIONS. 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.

**NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE**

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 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.

THE PROJECT ENGINEER WILL FORWARD ALL INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO)  
BY PHONE AT: (419) 373-4428  
OR EMAIL AT: D02.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION  
BY PHONE AT: (419) 373-4301  
OR EMAIL AT: D02.PERMITS@DOT.OHIO.GOV

**ITEM 614, REPLACEMENT SIGN**

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, 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 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**ITEM 614, REPLACEMENT DRUM**

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, 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 DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**WORK ZONE MARKINGS AND SIGNS**

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614 WORK ZONE MARKING SIGN	80 EACH
ITEM 614 WORK ZONE CENTER LINE, CLASS I	17.14 MILE
ITEM 614 WORK ZONE CENTER LINE, CLASS III	8.57 MILE
ITEM 614 WORK ZONE STOP LINE, CLASS I	125 FEET
ITEM 614 WORK ZONE CHANNELIZING LINE, CLASS III	450 FEET
ITEM 614 WORK ZONE RAILROAD SYMBOL MARKING, CLASS I	5 EACH

**ITEM 614 MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR)**

A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 2 CONSECUTIVE DAYS, WHEN TRAFFIC MAY BE DETOURED AS DESCRIBED BELOW TO COMPLETE THE PAVEMENT REPAIRS AT STA. 264+92 AND STA 289+63. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2000 PER DAY FOR EACH DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. IN ORDER TO MAINTAIN ACCESS TO LOCAL TRAFFIC, THE REPAIRS AT STA. 264+92 AND STA. 289+63 SHALL NOT OCCUR CONCURRENTLY.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TABLE BELOW.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS ON ROADWAYS THEY SHALL BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS NUMBER SHALL BE 419-373-4428.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

**LOCATIONS:**

HEN-18/109 NORTH AND SOUTH OF THE REPAIR AT STA. 264+92

HEN-18/109 NORTH AND SOUTH OF THE REPAIR AT STA. 289+63

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS FOLLOW

R11-3 SIGNS ON TYPE III BARRICADES:  
HEN-18/109 JUST NORTH OF C.R. "F"

**STATE ROUTE 109 DETOUR**

TRAFFIC SHALL BE DETOURED DURING CONSTRUCTION AS LISTED BELOW:

NORTHBOUND SR 109:  
SR-18 TO SR-65 TO SR-281

SOUTHBOUND SR 109:  
SR-281 TO SR-65 TO SR-18

THE DEPARTMENT WILL FURNISH, ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE THE DETOUR ROUTING SIGNS AND SUPPORTS REQUIRED ON THE DESIGNATED DETOUR ROUTES.

DESIGN AGENCY



DESIGNER  
MRC

REVIEWER  
JMF MM-DD-YY


PROJECT ID  
99587

SHEET TOTAL  
7 | 52

SHEET NUM.												PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
6	7	10	11	12	13	45	46	47	48	49	50	01/STR/05	EXT	TOTAL				
<b>ROADWAY</b>																		
				2,431								2,431	202	30000	2,431	SF	WALK REMOVED	
				27								27	202	32000	27	FT	CURB REMOVED	
					474							474	202	38000	474	FT	GUARDRAIL REMOVED	
					9							9	202	42010	9	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
					4							4	202	42040	4	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
					12							12	202	47000	12	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
		16.3										16.3	209	60500	16.3	MILE	LINEAR GRADING	
												16.68	209	72050	16.68	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING	
					175							175	517	72307	175	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN	
					475							475	606	15050	475	FT	GUARDRAIL, TYPE MGS	
					9							9	606	26150	9	EACH	ANCHOR ASSEMBLY, MGS TYPE E MASH 2016	
					4							4	606	26550	4	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
					12							12	606	35140	12	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
				2,481								2,481	608	10000	2,481	SF	4" CONCRETE WALK	
				216								216	608	52000	216	SF	CURB RAMP	
13												13	SPECIAL	20253010	13	EACH	PARKING BLOCK REMOVED AND RESET	
				27								27	609	26000	27	FT	CURB, TYPE 6	
5												5	611	98630	5	EACH	CATCH BASIN ADJUSTED TO GRADE	
10												10	611	99654	10	EACH	MANHOLE ADJUSTED TO GRADE	
					32							32	614	13318	32	EACH	BARRIER REFLECTOR, TYPE 5 BIDIRECTIONAL	
2												2	623	39500	2	EACH	MONUMENT ASSEMBLY ADJUSTED TO GRADE	
5												5	638	10800	5	EACH	VALVE BOX ADJUSTED TO GRADE	
<b>EROSION CONTROL</b>																		
												2,500	832	30000	2,500	EACH	EROSION CONTROL	
<b>PAVEMENT</b>																		
30.66												30.66	202	23000	30.66	SY	PAVEMENT REMOVED	
5,185												5,185	253	02000	5,185	CY	PAVEMENT REPAIR	
		126,566										126,566	254	01000	126,566	SY	PAVEMENT PLANING, ASPHALT CONCRETE 3.25"	
15.34												15.34	301	56000	15.34	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
		17,743										17,743	407	20000	17,743	GAL	NON-TRACKING TACK COAT	
8												8	441	70501	8	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS), AS PER PLAN	
73		5,275										5,348	442	10000	5,348	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
		6,159										6,159	442	20170	6,159	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (448)	
		1,715										1,715	617	10100	1,715	CY	COMPACTED AGGREGATE	
		10,965										10,965	875	10000	10,965	LB	LONGITUDINAL JOINT ADHESIVE	
<b>TRAFFIC CONTROL</b>																		
		405										405	621	00100	405	EACH	RPM	
		384										384	621	54000	384	EACH	RAISED PAVEMENT MARKER REMOVED	
			15.58									15.58	642	00104	15.58	MILE	EDGE LINE, 6", TYPE 1	
			8.34									8.34	642	00300	8.34	MILE	CENTER LINE, TYPE 1	
			150									150	644	00404	150	FT	CHANNELIZING LINE, 12"	
			57									57	644	00500	57	FT	STOP LINE	
			887									887	644	00630	887	FT	CROSSWALK LINE, 24"	
			512									512	644	00700	512	FT	TRANSVERSE/DIAGONAL LINE	
			5									5	644	01000	5	EACH	RAILROAD SYMBOL MARKING	
			1,067									1,067	644	01200	1,067	FT	PARKING LOT STALL MARKING	
			4									4	644	01300	4	EACH	LANE ARROW	
			2									2	644	01400	2	EACH	WORD ON PAVEMENT, 72"	
			1									1	644	01600	1	EACH	HANDICAP SYMBOL MARKING	
<b>STRUCTURE REPAIR (HEN-18-1158)</b>																		
					496							496	254	01000	496	SY	PAVEMENT PLANING, ASPHALT CONCRETE 2 1/2"	
					192							192	SPECIAL	51631200	192	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS	
<b>STRUCTURE REPAIR (HEN-109-0438)</b>																		
						382						382	254	01000	382	SY	PAVEMENT PLANING, ASPHALT CONCRETE 1 1/2"	
						137						137	SPECIAL	51631200	137	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS	
						57						57	519	11100	57	SF	PATCHING CONCRETE STRUCTURE	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER  
MRC

REVIEWER  
JMF MM-DD-YY

PROJECT ID  
99587

SHEET TOTAL  
8 | 52





STATION RANGE	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	254	407	407	442	442	617	621	621	875	209	
						PAVEMENT PLANING, ASPHALT CONCRETE 3.25"	NON-TRACKING TACK COAT-0.085	NON-TRACKING TACK COAT-0.055	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A(448)	COMPACTED AGGREGATE	RPM	RAISED PAVEMENT MARKER REMOVED	LONGTUDINAL JOINT ADHESIVE	LINEAR GRADING	
						SY	GAL	GAL	CY	CY	CY	EACH	EACH	LB	MILE	
S.R. # 109																
211+44	TO	222+62	RT/LT	1118.00	30.00	3727.00	3727.00	317.00	205.00	155.30	181.00			279.50		
222+62	TO	225+00	RT/LT	238.00	45.00	1190.00	1190.00	102.00	66.00	49.58	58.00			59.50		
225+00	TO	232+28.87	RT/LT	728.87	31.00	2511.00	2511.00	214.00	139.00	104.63	122.00			182.22		
234+02.34	TO	318+03	RT/LT	8400.66	25.50	23802.00	23802.00	2024.00	1310.00	991.75	1158.00	337.00		2100.17	3.18	
440+00	TO	563+17	RT/LT	12317.00	24.50	33530.00	33530.00	2851.00	1845.00	1397.08	1632.00	494.00		3078.25	4.67	
563+17	TO	567+36	RT/LT	419.00	54.00	2514.00	2514.00	214.00	139.00	104.75	122.00			104.75		
567+36	TO	743+45.06	RT/LT	17609.06	24.50	47936.00	47936.00	4075.00	2637.00	1997.33	2333.00	706.00		4402.27	6.67	
S.R. # 18																
601+92	TO	605+25	RT/LT	333.00	39.00	1443.00	1443.00	79.00	123.00	60.13	70.15	17.00		83.25	0.13	
605+25	TO	632+23.51	RT/LT	2698.51	25.50	7646.00	7646.00	650.00	421.00	318.58	371.68	132.00		674.63	1.02	
<b>SUBTOTALS</b>						124299.00	10526.00	6885.00	5179.13	6047.83	1686.00	405.00	384.00	10964.54	15.67	
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						124299	17411		5180	6048	1686	405	384	10965	16	

**PAVEMENT SUBSUMMARY**

INTERSECTIONS	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	254	407	407	442	442	617	209	
						PAVEMENT PLANING, ASPHALT CONCRETE 3.25"	NON-TRACKING TACK COAT-0.085	NON-TRACKING TACK COAT-0.055	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A(448)	COMPACTED AGGREGATE	LINEAR GRADING	
						SY	GAL	GAL	CY	CY	CY	MILE	
<b>S.R. # 18</b>													
MARION ST.		RT/LT			299.00	299.00	26.00	17.00	12.46	14.53	2.63	0.03	
MAIN ST.		LT			58.00	58.00	5.00	3.00	2.42	2.82	0.96	0.01	
TWP. RD. 8B		RT/LT			137.00	137.00	12.00	8.00	5.71	6.66	2.37	0.02	
<b>S.R. #109</b>													
C.R. E /HUBBARD ST.		LT			41.00	41.00	4.00	3.00	1.71	1.99	0.68	0.01	
COWAN ST.		RT			57.00	57.00	5.00	3.00	2.38	2.77			
WASHINGTON ST.		LT			51.00	51.00	5.00	3.00	2.13	2.48			
C.R. "F"		RT/LT			138.00	138.00	12.00	8.00	5.75	6.71	2.03	0.02	
C.R. "J"		RT/LT			232.00	232.00	20.00	13.00	9.67	11.28	2.75	0.02	
C.R. "K"		RT/LT			152.00	152.00	13.00	9.00	6.33	7.39	2.33	0.03	
C.R. "K2"		RT			85.00	85.00	8.00	5.00	3.54	4.13	1.28	0.01	
WASHINGTON ST.		RT			63.00	63.00	6.00	4.00	2.63	3.06	1.18	0.01	
ADAMS ST.		RT			90.00	90.00	8.00	5.00	3.75	4.38	1.20	0.01	
MONROE ST.		LT			30.00	30.00	3.00	2.00	1.25	1.46	0.36	0.01	
CENTER ST.		RT			40.00	40.00	4.00	3.00	1.67	1.94	0.70	0.01	
FREASE ST.		RT			71.00	71.00	6.00	4.00	2.96	3.45	1.10	0.01	
C.R. "L"		RT/LT			211.00	211.00	18.00	12.00	8.79	10.26	2.70	0.03	
C.R. "M"		RT/LT			225.00	225.00	20.00	13.00	9.38	10.94	2.91	0.03	
C.R. "N"		RT/LT			224.00	224.00	19.00	13.00	9.33	10.89	2.67	0.03	
C.R. "N2"		LT			63.00	63.00	6.00	4.00	2.63	3.06	0.90	0.01	
<b>SUBTOTALS</b>						2267.00	200.00	132.00	94.49	110.20	28.75	0.30	
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>						2267	332		95	111	29	0.3	

**INTERSECTION SUBSUMMARY**



REF NO.	SHEET NO.	STATION TO STATION		642	642	642	642	642	644	644	644	644	644	644
				EDGE LINE, 6", TYPE 1	CENTER LINE, TYPE 1	CENTER LINE, TYPE 1 (NO PASS LT.)	CENTER LINE, TYPE 1 (DOUBLE YELLOW)	CENTER LINE, TYPE 1 (NO PASS RT.)	PARKING LOT STALL MARKING	STOP LINE	RAILROAD SYMBOL MARKING	CROSSWALK LINE, 24"	HANDICAP SYMBOL MARKING	TRANSVERSE/DIAGONAL LINE
				MILE	MILE	MILE	MILE	MILE	FT	FT	EACH	FT	EACH	FT
		212+08	TO 237+97	0.14			0.49		205		2	224		137
		238+53	TO 245+98	0.29		0.14								
		245+98	TO 313+42	2.55	1.28									
		313+42	TO 317+00	0.14			0.07							
		317+60	TO 318+03	0.02			0.01							
		440+00	TO 451+02	0.42	0.21									
		451+02	TO 460+26	0.35			0.18							
		460+26	TO 466+66	0.24			0.12							
		466+66	TO 475+69	0.34		0.17								
		475+69	TO 488+18	0.47	0.24									
		488+18	TO 496+10	0.30			0.15							
		496+10	TO 504+18	0.31			0.15							
		504+18	TO 512+52	0.32		0.16								
		512+52	TO 530+64	0.69	0.34									
		530+64	TO 588+38	1.97			1.09		862			488	1	375
		588+38	TO 629+26	1.55	0.77									
		629+26	TO 637+86	0.33			0.16							
		638+13	TO 640+17	0.08			0.04							
		640+17	TO 648+35	0.31		0.16								
		648+35	TO 699+65	1.94	0.97									
		699+65	TO 705+00	0.20			0.10							
		705+00	TO 708+90	0.15	0.07									
		708+90	TO 714+34	0.20		0.10								
		714+34	TO 719+58	0.20			0.10							
		719+58	TO 722+40	0.11	0.05									
		722+40	TO 728+04	0.21		0.11								
		728+04	TO 740+46	0.47	0.24									
		740+46	TO 742+01	0.06			0.03							
		742+01	TO 743+45	0.06		0.03				29				
<b>SUBTOTALS</b>				14.42	4.17	0.92	1.9	0.79	1067	29	2	712	1	512
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				14.42		7.78			1067.00	29.00	2	712	1	512

PAVEMENT MARKING SR 109

REF NO.	SHEET NO.	STATION TO STATION		642	642	642	642	642	644	644	644	644	644	644
				EDGE LINE, 6", TYPE 1	CENTER LINE, TYPE 1	CENTER LINE, TYPE 1 (NO PASS LT.)	CENTER LINE, TYPE 1 (DOUBLE YELLOW)	CENTER LINE, TYPE 1 (NO PASS RT.)	CHANNELIZING LINE, 12"	STOP LINE	CROSSWALK LINE, 24"	RAILROAD SYMBOL MARKING	LANE ARROW	WORD ON PAVEMENT, 72"
				MILE	MILE	MILE	MILE	MILE	FT	FT	FT	EACH	EACH	EACH
		602+31	TO 607+21	0.21			0.09		150	28				4
		607+21	TO 610+49	0.13		0.06								
		610+49	TO 614+52	0.15	0.08						175	1		
		614+52	TO 618+92	0.17			0.08					1		
		618+92	TO 632+24	0.50			0.25					1		
<b>SUBTOTALS</b>				1.16	0.08	0.06	0.34	0.08	150	28	175	3	4	2
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				1.16		0.56			150.00	28.00	175.00	3	4	2

PAVEMENT MARKING SR 18

PAVEMENT MARKING SUBSUMMARY

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

99587

SHEET

TOTAL

11 | 52

REF NO.	SHEET NO.	STATION	SIDE	CROSS STREET	202	202		608	608	609		
					WALK REMOVED	CURB REMOVED		4" CONCRETE WALK	CURB RAMP	CURB, TYPE 6		
					SF	FT		SF	SF	FT		
SR 109												
CR-1	16	211+96	LT.	C.R. "E"	80	15		80	8	15		
CR-2	16	225+00	LT/RT.	COWAN ST.	309	12		359	24	12		
CR-3	16	225+41	RT.	COWAN ST.	80			80	8			
CR-4	17	227+55	LT.	WASHINGTON ST.	112			112	8			
CR-5	17	227+87	LT.	WASHINGTON ST.	228			228	8			
CR-6	31	556+59	RT.	C.R. "K2"	89			89	8			
CR-7	31	556+83	RT.	C.R. "K2"	85			85	8			
CR-8	31	558+38	RT.	WASHINGTON ST.	127			127	8			
CR-9	31	558+59	RT.	WASHINGTON ST.	90			90	8			
CR-10	32	561+78	RT.	ADAMS ST.	106			106	8			
CR-11	32	562+05	RT.	ADAMS ST.	108			108	8			
CR-12	32	564+37	LT.	MONROE ST.	86			86	8			
CR-13	32	564+75	LT.	MONROE ST.	80			80	8			
CR-14	32	564+81	RT.	MONROE ST.	130			130	8			
CR-15	32	567+27	LT.	CENTER ST.	58			58	8			
CR-16	32	567+27	RT.	CENTER ST.	95			95	8			
CR-17	32	567+71	RT.	CENTER ST.	72			72	8			
CR-18	32	574+40	LT.		72			72	8			
CR-19	32	574+40	RT.		58			58	8			
CR-20	33	578+15	RT.	FREASE ST.	100			100	8			
CR-21	33	578+40	RT.	FREASE ST.	86			86	8			
SR 18												
CR-22	14	68+95.00	RT.	MAIN ST.	40			40	8			
CR-23	14	68+95.00	LT.	MAIN ST.	80			80	16			
CR-24	14	72+65.00	LT.	MAIN ST.	60			60	8			
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					<b>2431</b>	<b>27</b>		<b>2481</b>	<b>216</b>	<b>27</b>		

CURB RAMP SUBSUMMARY



REF NO.	SHEET NO.	STATION TO STATION				202	202	202	202	517	606	606	606	606	614				
		GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE E	ANCHOR ASSEMBLY REMOVED, TYPE T	BRIDGE TERMINAL ASSEMBLY REMOVED	FT	EACH	EACH	EACH	FT	FT	EACH	EACH	EACH	EACH				
SR 109																			
GR-1	25	462+05	TO	464+72	100	1		1	87.5	100	1		1	3					
GR-2	25	462+85	TO	464+75	24	1		1	87.5	25	1		1	2					
GR-3	25	464+72	TO	465+00				1					1	1					
GR-4	25	464+75	TO	466+98	100	1		1		100	1		1	4					
GR-5	28	504+10	TO	505+25	75		1	1		75		1	1	3					
GR-6	28	504+23	TO	505+17	12.5	1		1		12.5	1		1	3					
GR-7	28	506+15	TO	507+10	12.5	1		1		12.5	1		1	3					
GR-8	28	506+07	TO	507+00	37.5		1	1		37.5		1	1	3					
GR-9	29	520+66	TO	521+16	12.5		1	1		12.5		1	1	2					
GR-10	29	520+64	TO	521+29	12.5		1	1		12.5		1	1	2					
GR-11	29	522+11	TO	523+24	25	1		1		25	1		1	3					
GR-12	29	522+25	TO	523+76	62.5	1		1		62.5	1		1	3					
GR-13	36	635+14	TO	635+61		1					1								
GR-14	40	687+70	TO	688+17		1					1								
TOTALS CARRIED TO GENERAL SUMMARY					474	9	4	12	175	475	9	4	12	32					

GUARDRAIL SUBSUMMARY

SUBSUMMARY

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

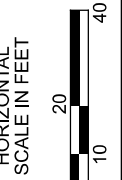
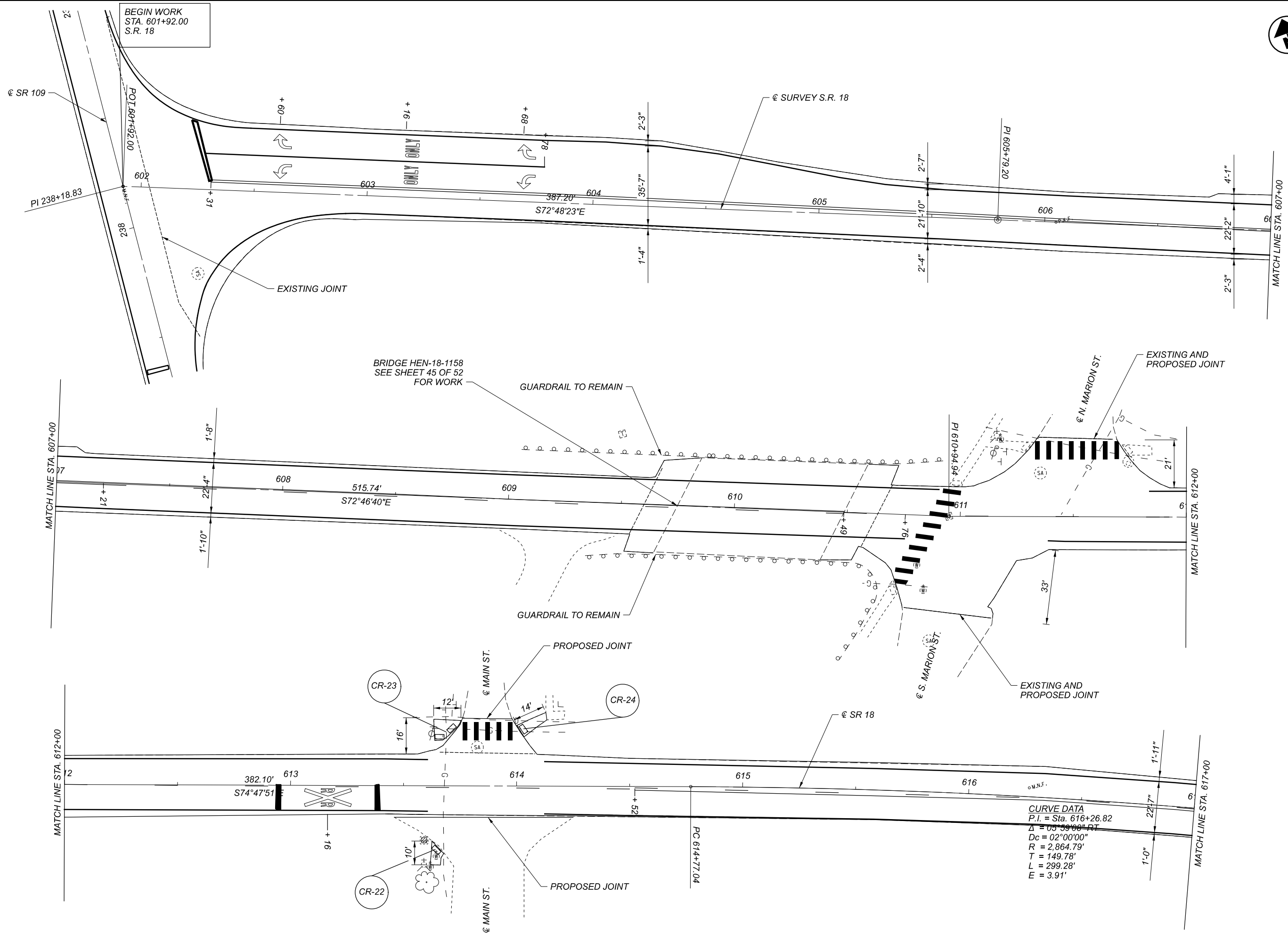
99587

SHEET

13

TOTAL

52



PLAN - SR 18  
 STA. 601+92 TO STA. 617+00

DESIGN AGENCY

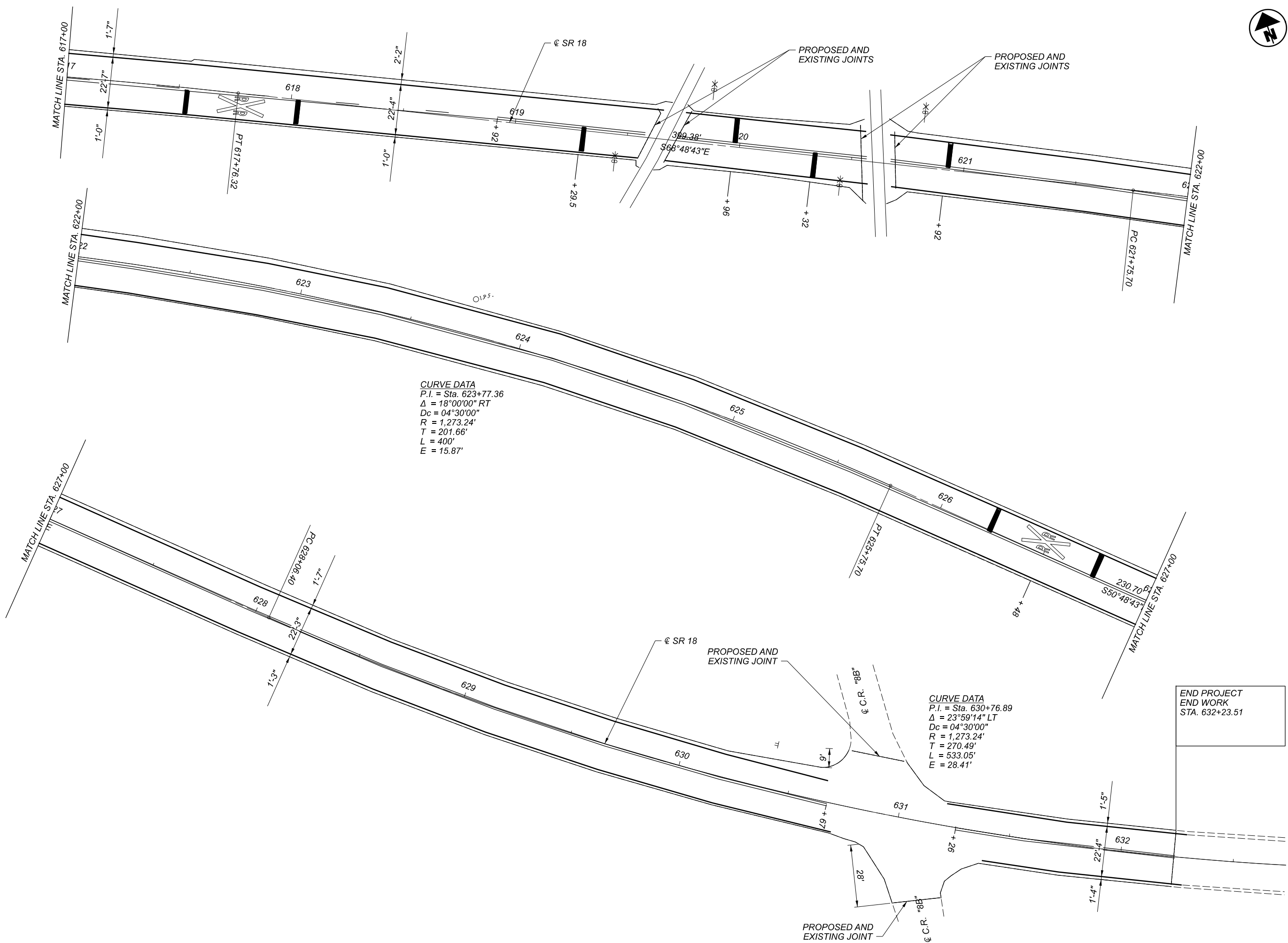


DESIGNER  
 MRC

REVIEWER  
 JMF MM-DD-YY

PROJECT ID  
 99587

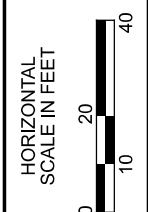
SHEET	TOTAL
14	52



**CURVE DATA**  
 P.I. = Sta. 623+77.36  
 $\Delta = 18^\circ 00' 00''$  RT  
 $D_c = 04^\circ 30' 00''$   
 $R = 1,273.24'$   
 $T = 201.66'$   
 $L = 400'$   
 $E = 15.87'$

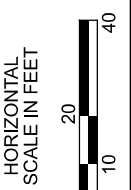
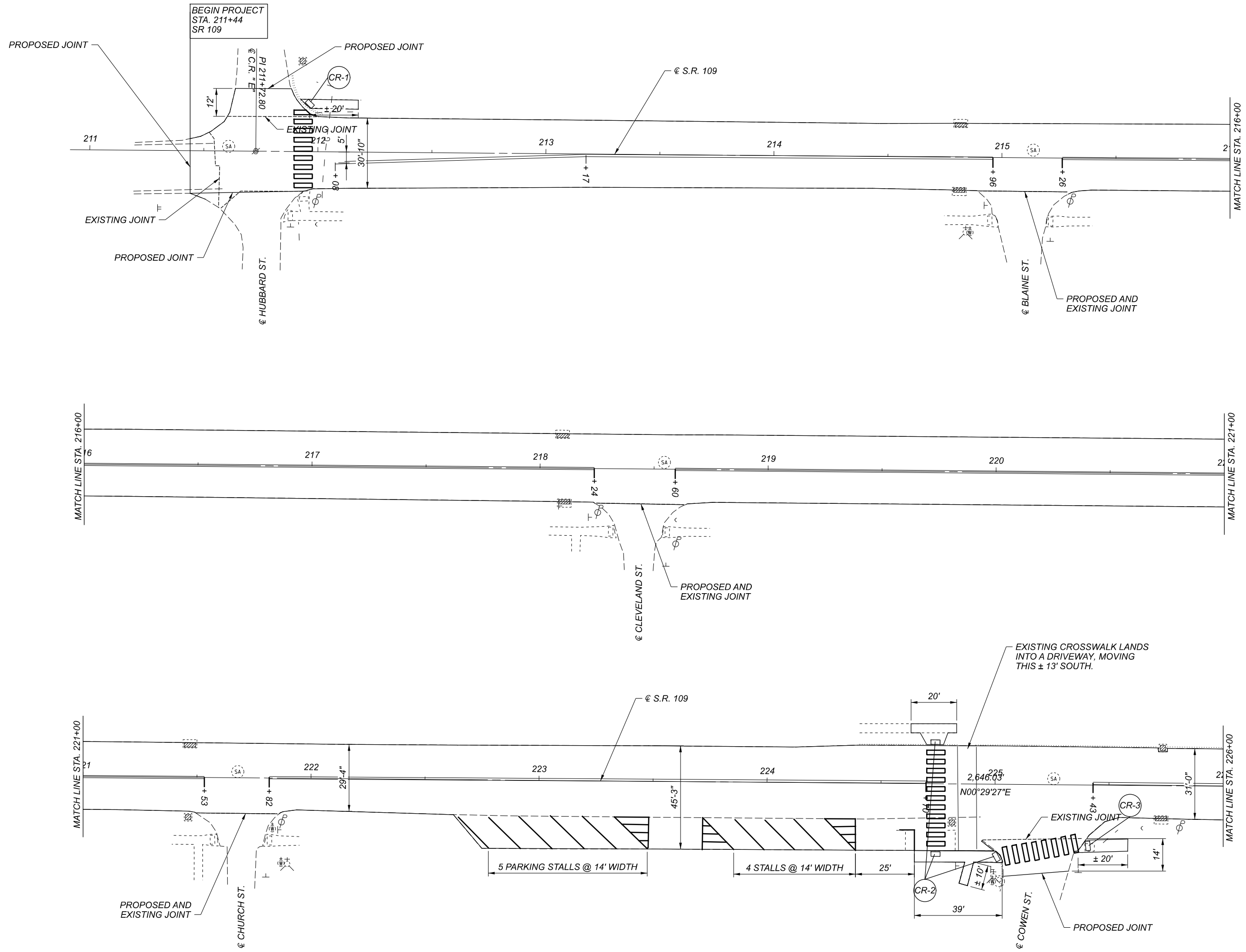
**CURVE DATA**  
 P.I. = Sta. 630+76.89  
 $\Delta = 23^\circ 59' 14''$  LT  
 $D_c = 04^\circ 30' 00''$   
 $R = 1,273.24'$   
 $T = 270.49'$   
 $L = 533.05'$   
 $E = 28.41'$

**END PROJECT  
 END WORK  
 STA. 632+23.51**



**PLAN - SR 18**  
**STA. 617+00 TO STA. 632+23.51**

DESIGN AGENCY	
DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
15	52



PLAN - SR 109  
 STA. 211+00 TO STA. 226+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

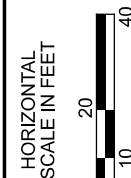
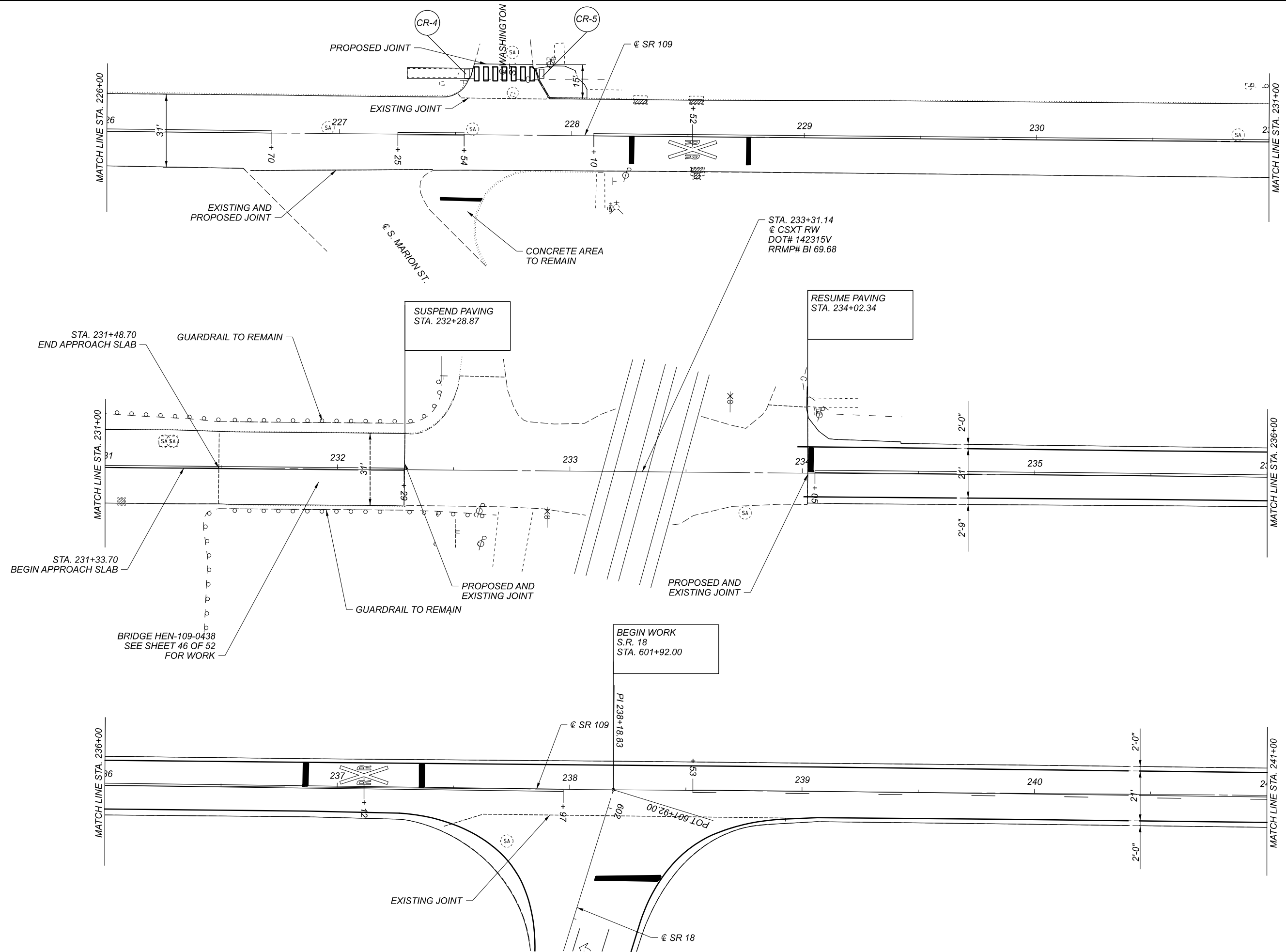
PROJECT ID

99587

SHEET TOTAL

16 52



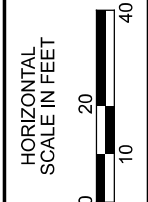
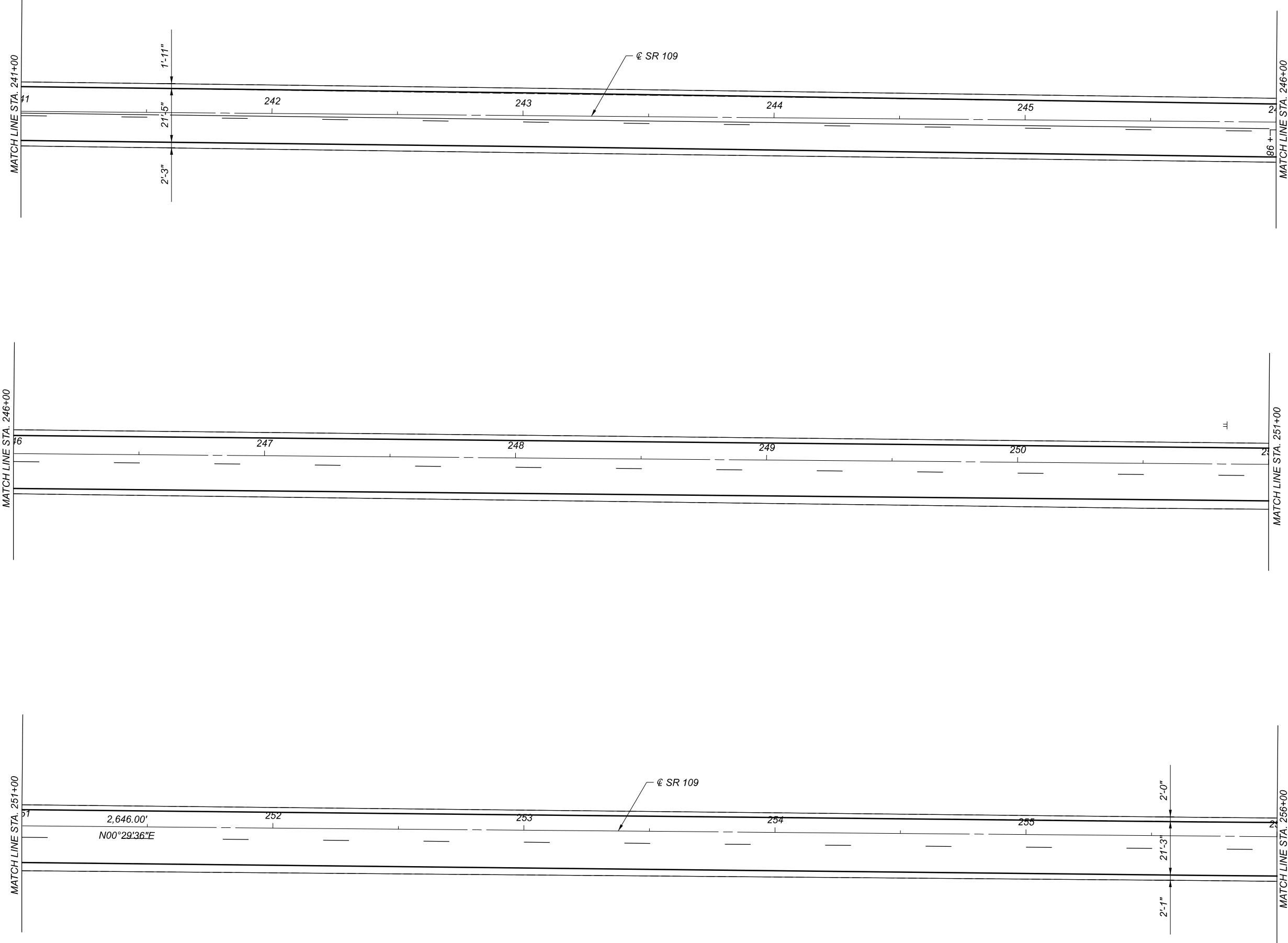


PLAN - SR 109  
 STA. 226+00 TO STA. 241+00

DESIGN AGENCY



DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
17	52



PLAN - SR 109  
 STA. 241+00 TO STA. 256+00

DESIGN AGENCY

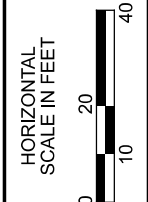
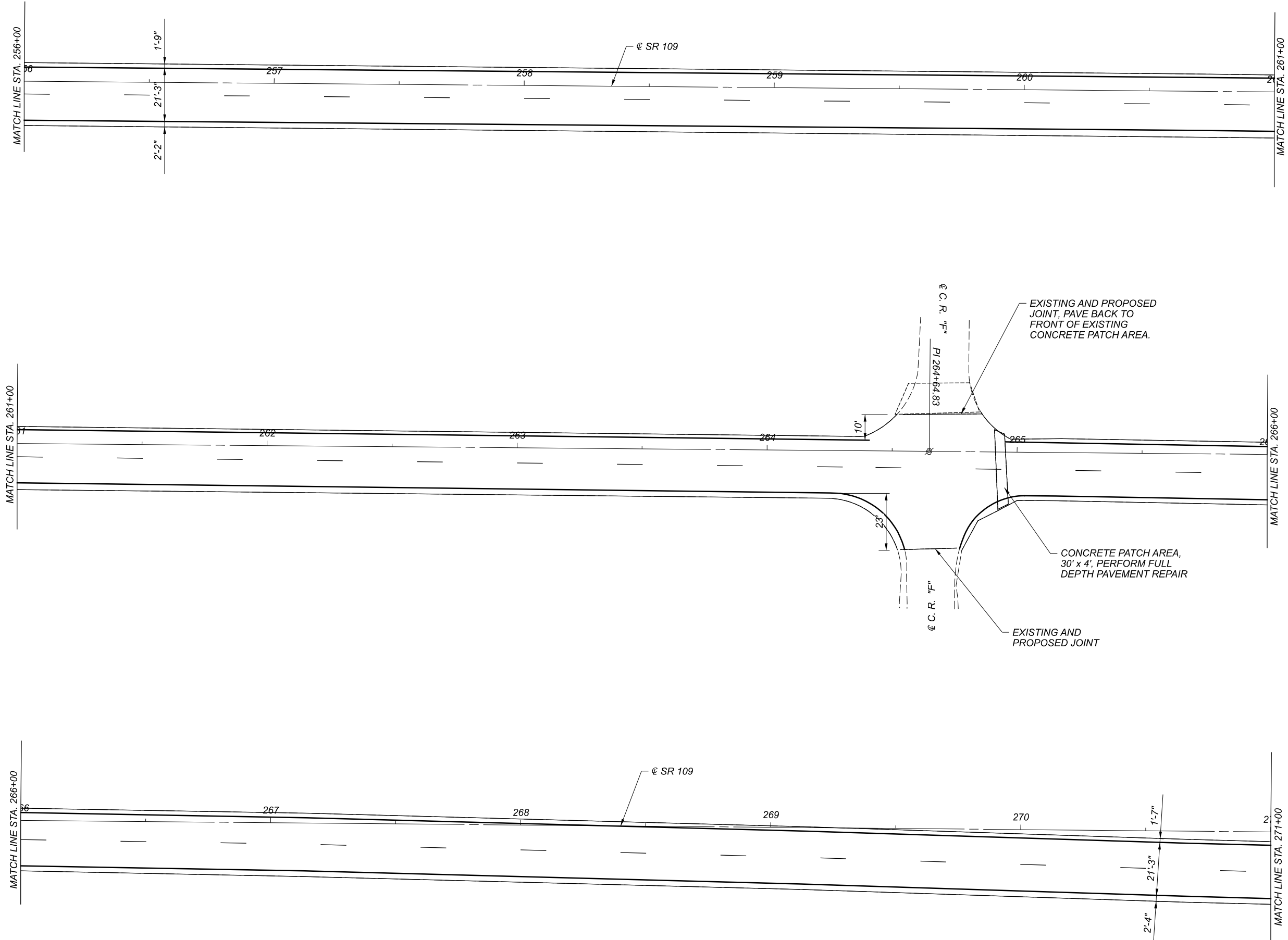


DESIGNER  
 MRC

REVIEWER  
 JMF MM-DD-YY

PROJECT ID  
 99587

SHEET	TOTAL
18	52



PLAN - SR 109  
STA. 256+00 TO STA. 271+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

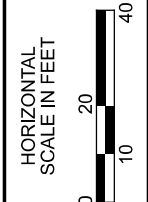
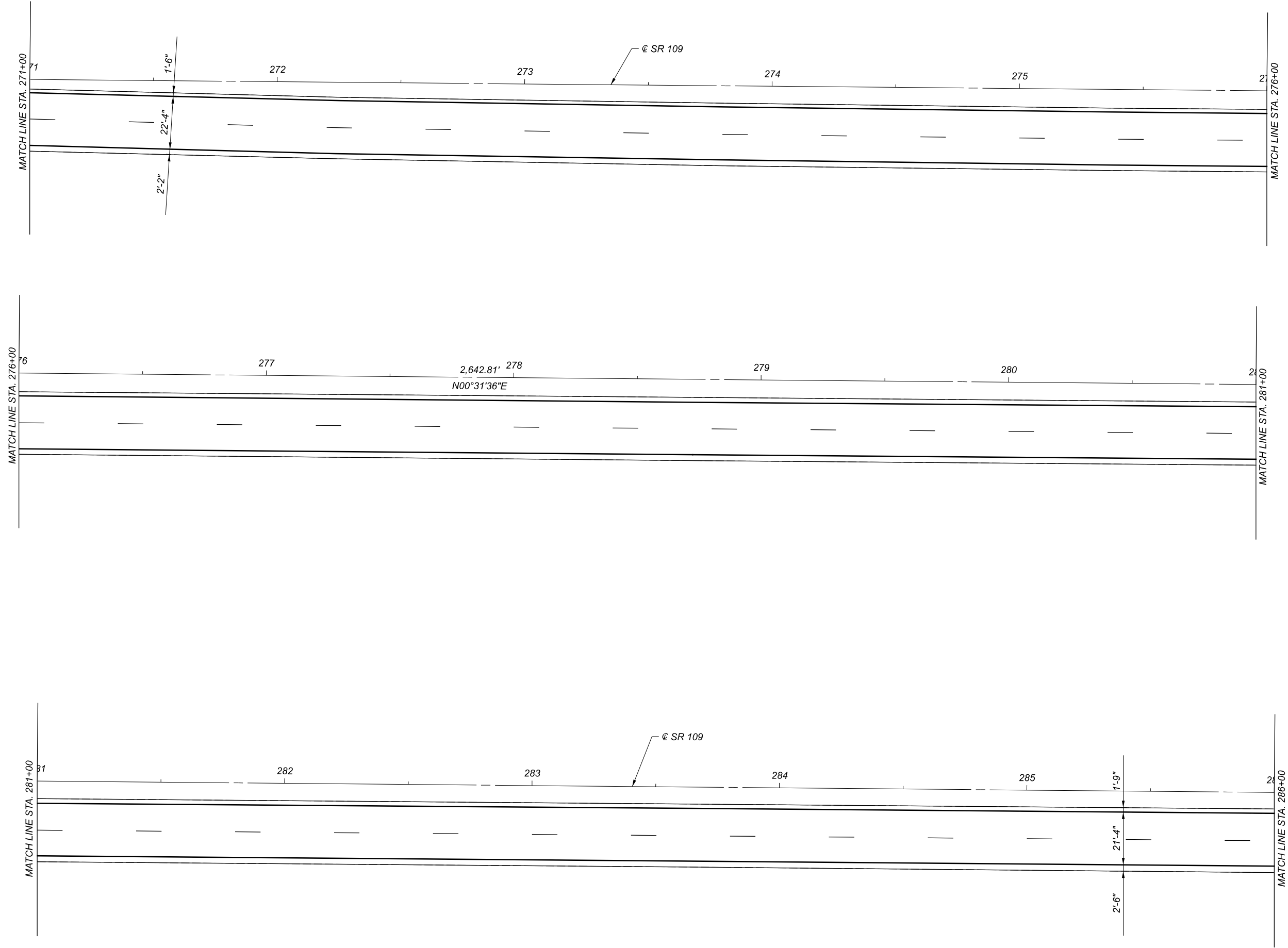
JMF MM-DD-YY

PROJECT ID

99587

SHEET TOTAL

19 52



PLAN - SR 109  
STA. 271+00 TO STA. 286+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

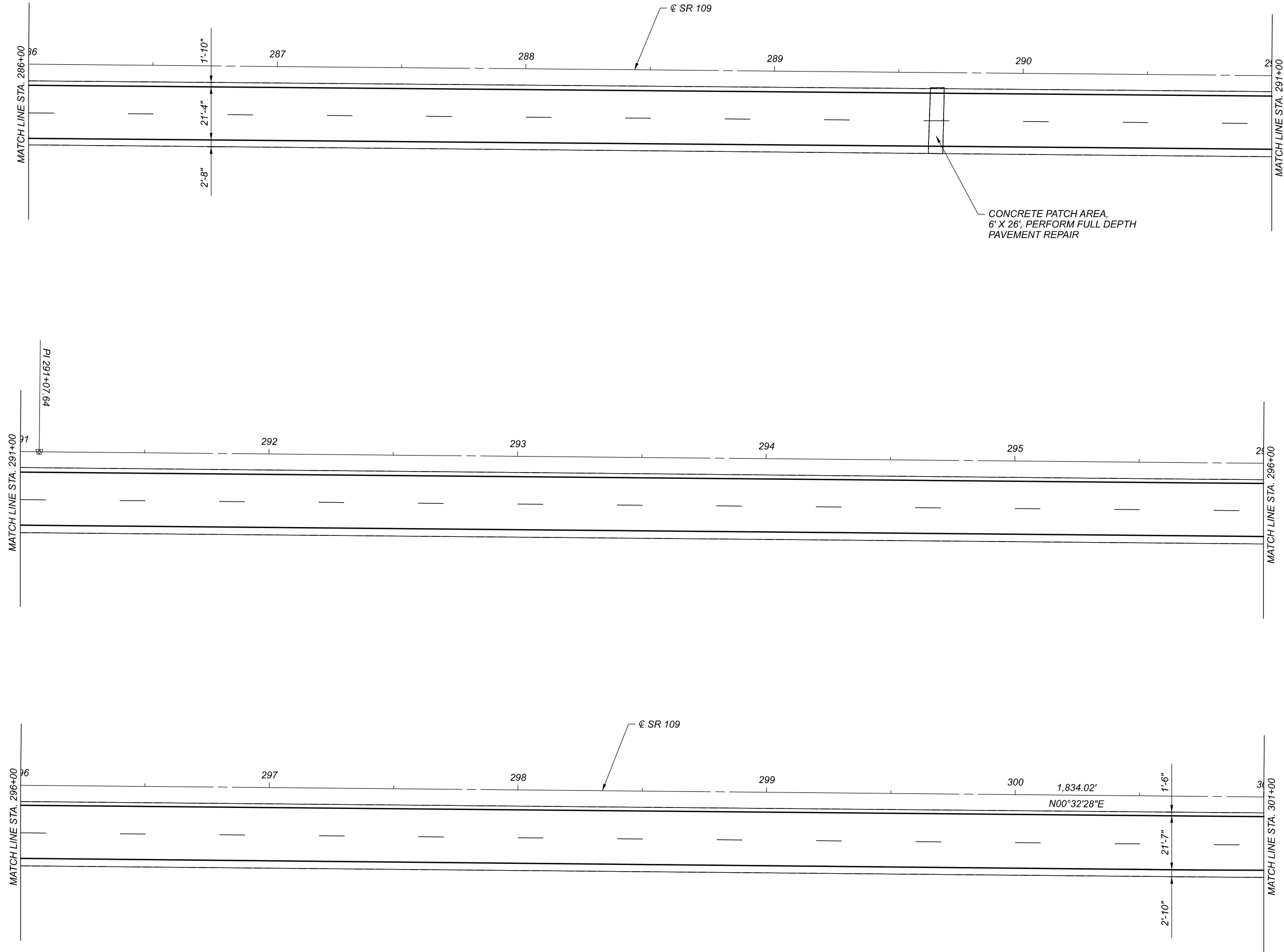
JMF MM-DD-YY

PROJECT ID

99587

SHEET TOTAL

20 52



PLAN - SR 109  
 STA. 286+00 TO STA 301+00

DESIGN AGENCY

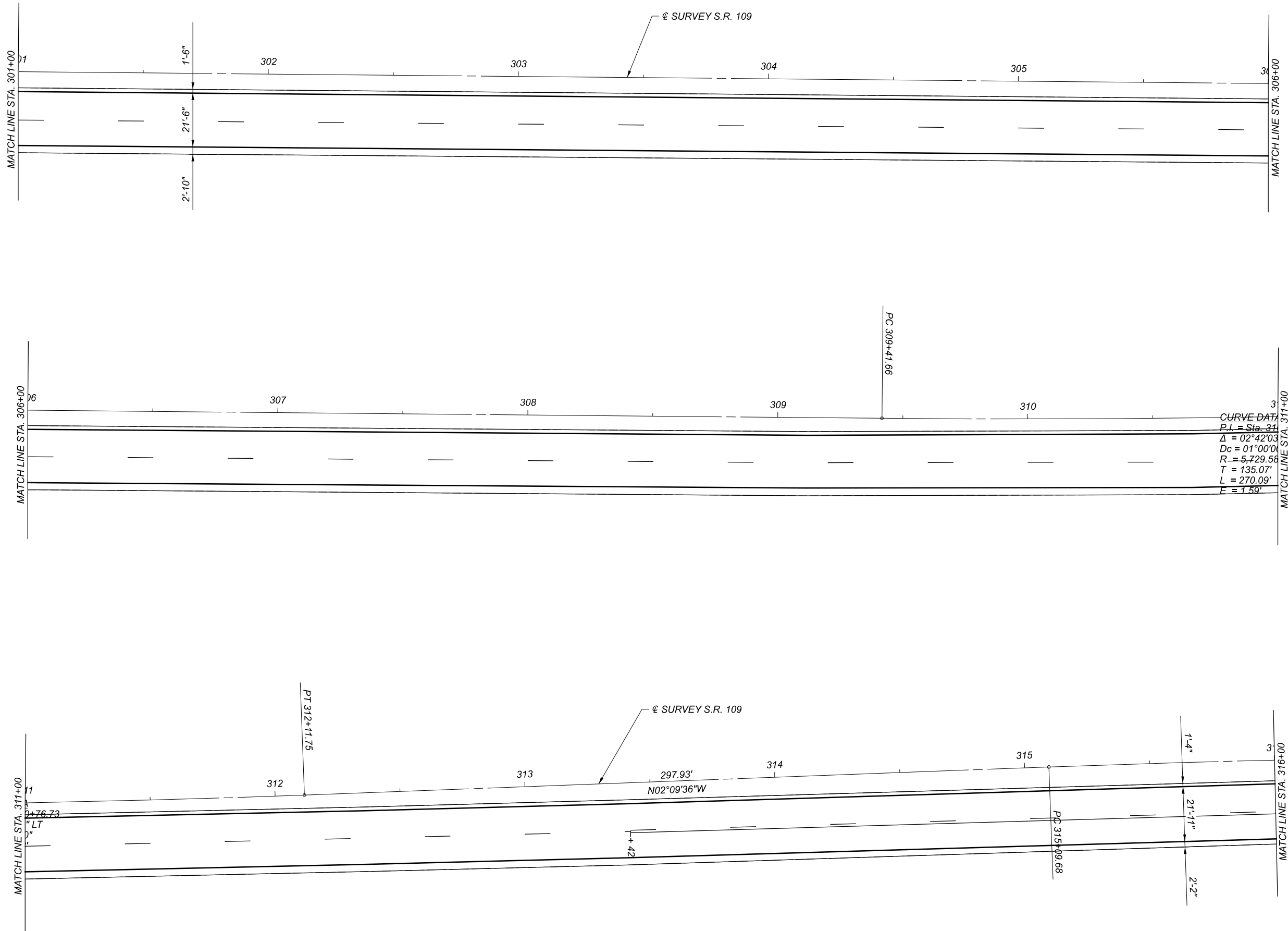


DESIGNER  
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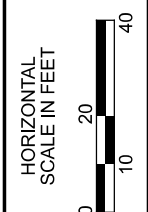
REVIEWER  
 JMF MM-DD-YY

PROJECT ID  
 99587

SHEET	TOTAL
21	52



CURVE DATA  
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 $Dc = 01^{\circ}00'00''$   
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 $T = 135.07'$   
 $L = 270.09'$   
 $E = 1.59'$



PLAN - SR 109  
 STA. 301+00 TO STA. 316+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

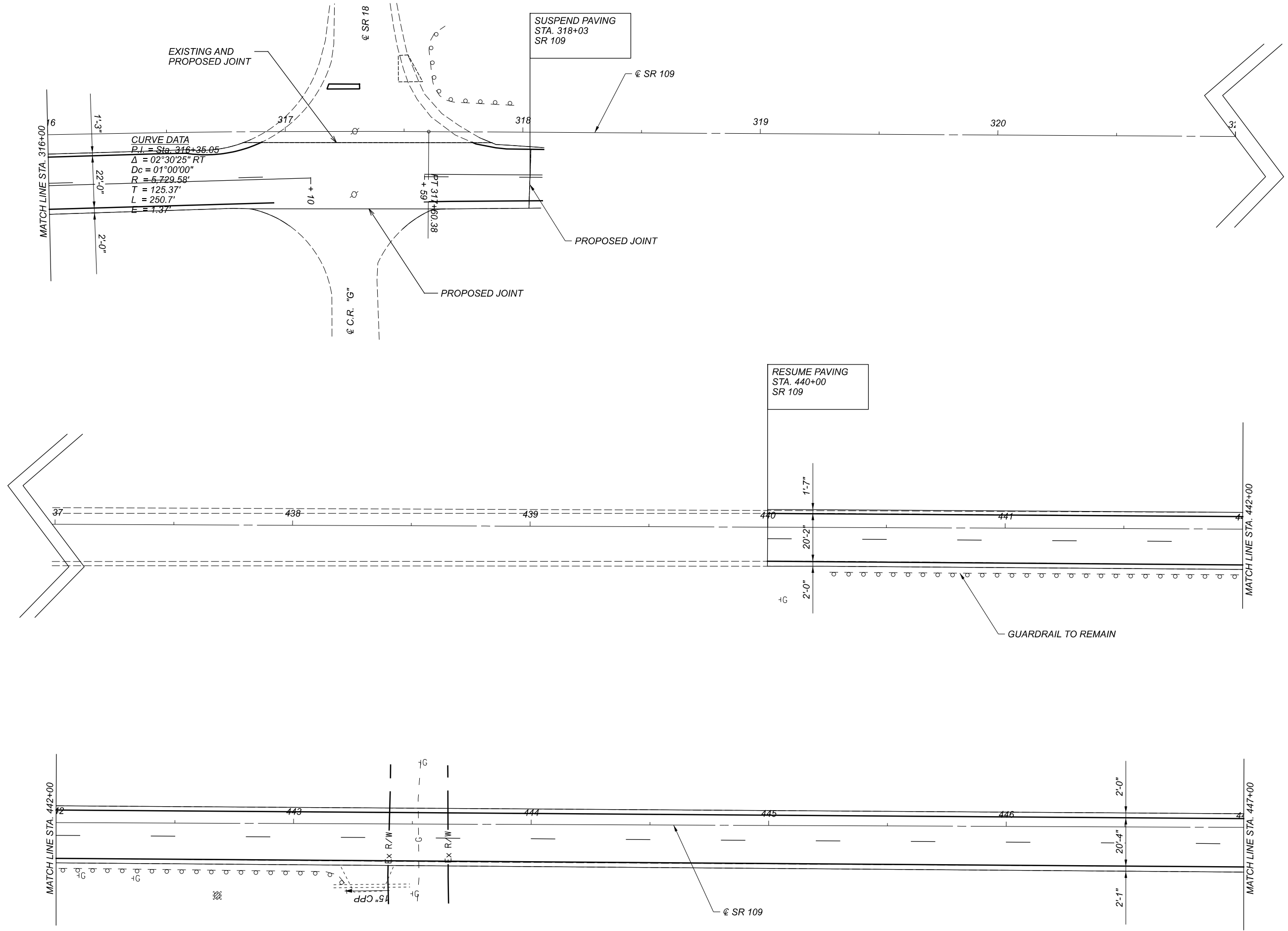
JMF MM-DD-YY

PROJECT ID

99587

SHEET TOTAL

22 52



PLAN - SR 109  
 STA. 316+00 TO STA. 447+00

DESIGN AGENCY

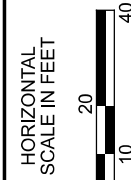
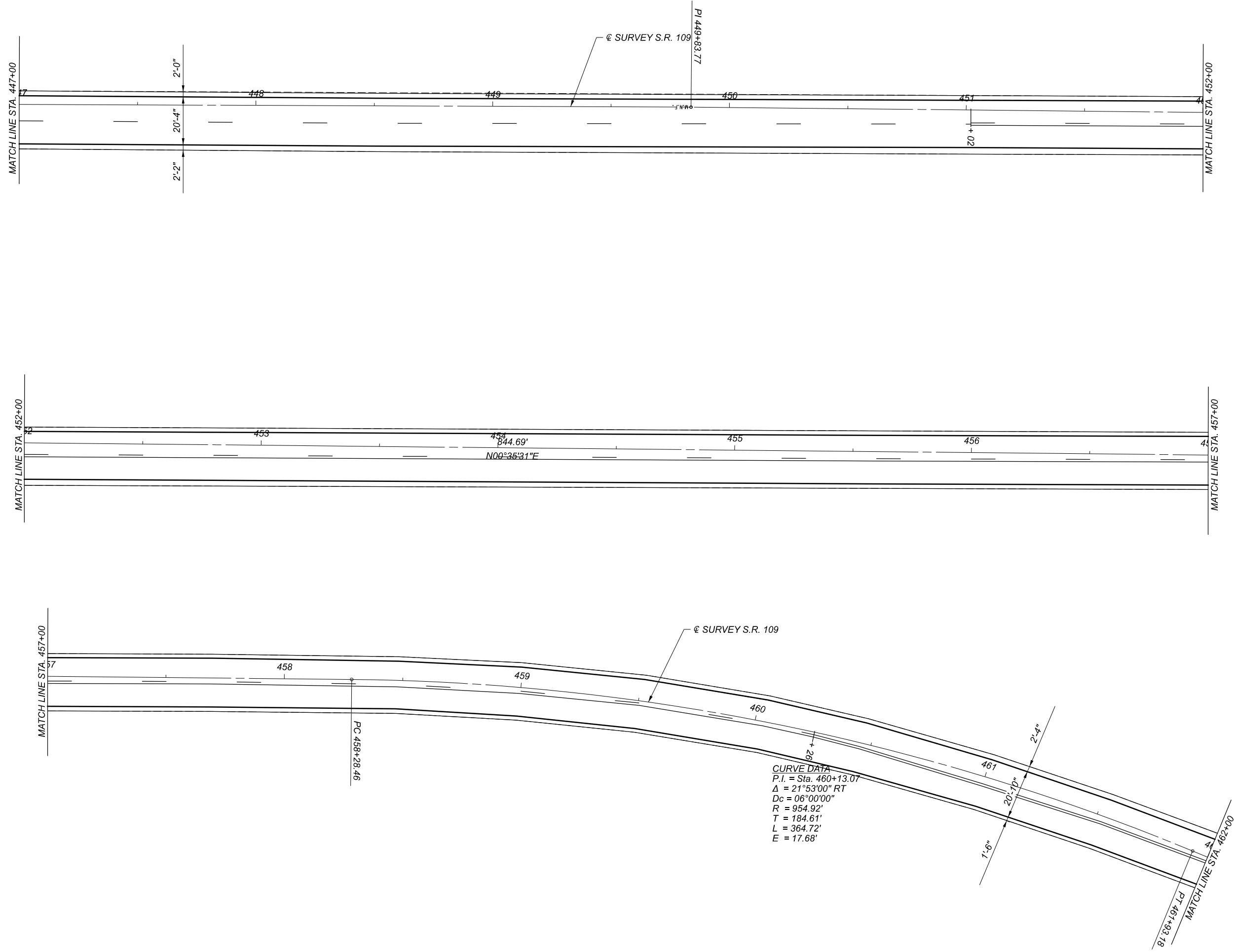


DESIGNER  
 MRC

REVIEWER  
 JMF MM-DD-YY

PROJECT ID  
 99587

SHEET	TOTAL
23	52



PLAN - SR 109  
 STA. 447+00 TO STA. 462+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

99587

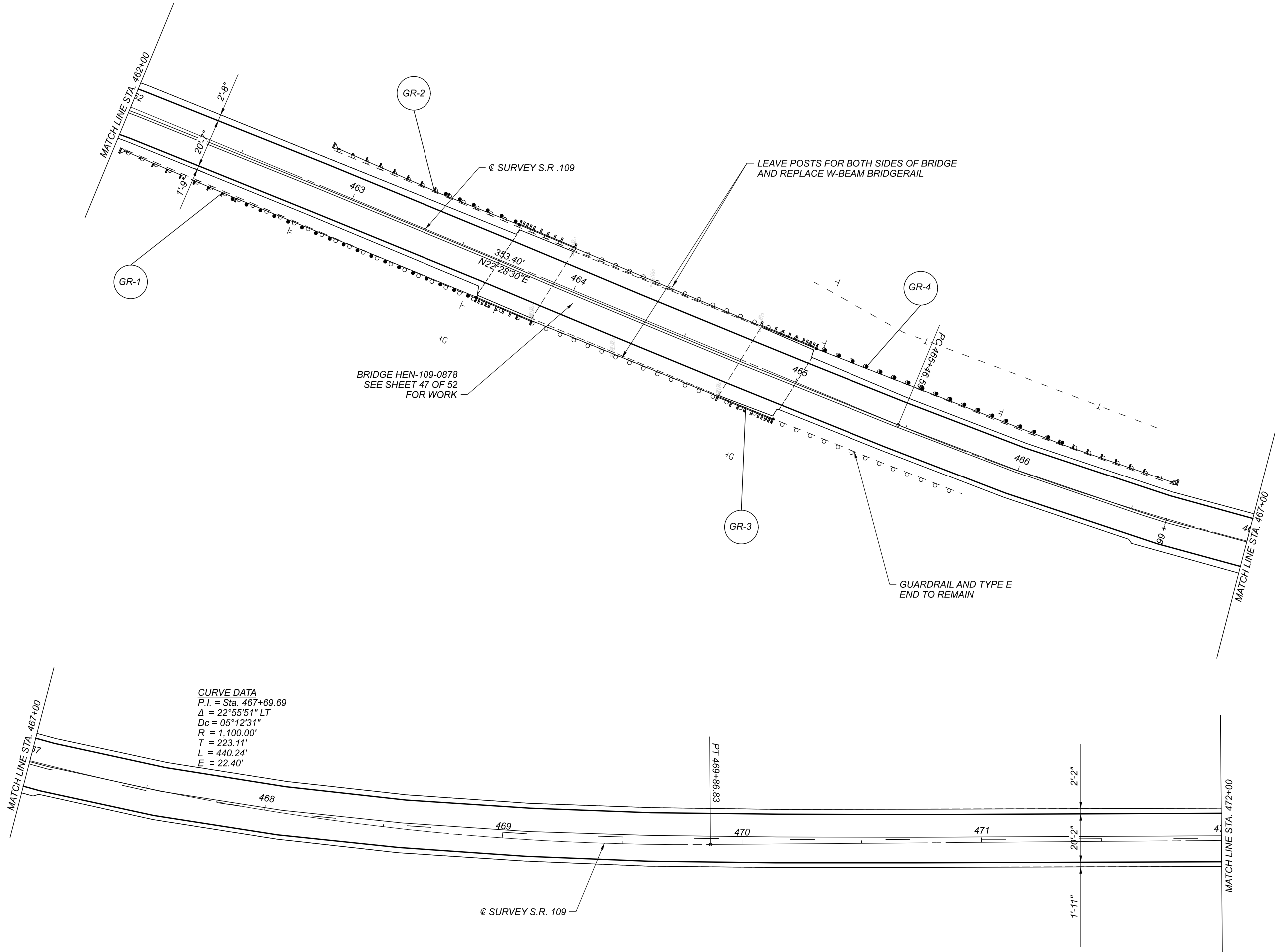
SHEET

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TOTAL

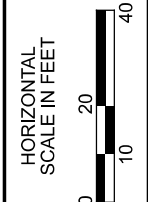
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**CURVE DATA**

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$T = 223.11'$
$L = 440.24'$
$E = 22.40'$



PLAN - SR 109  
STA. 462+00 TO STA. 472+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

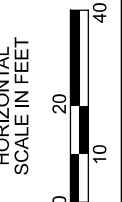
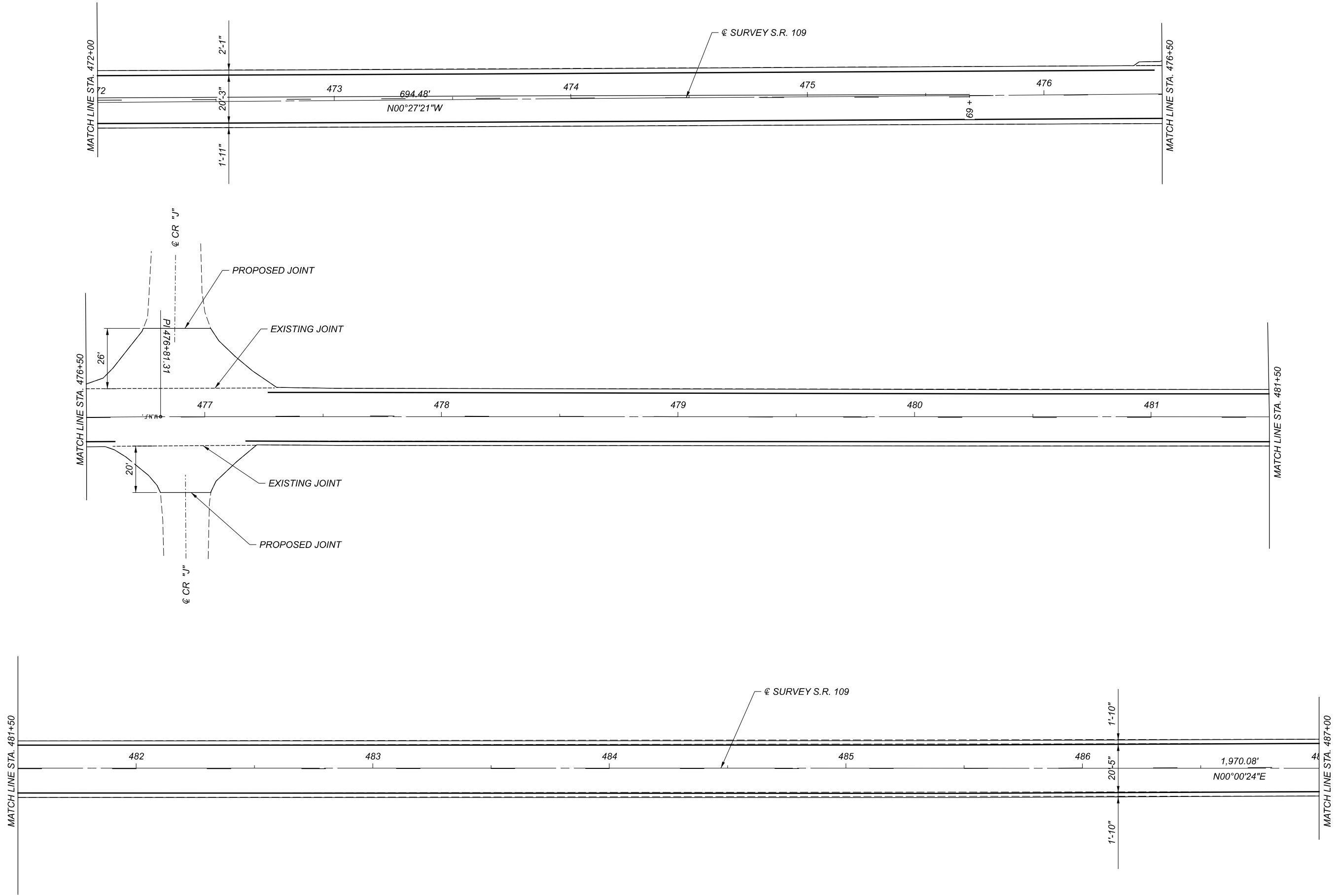
PROJECT ID

99587

SHEET TOTAL

25

52

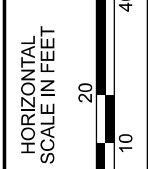
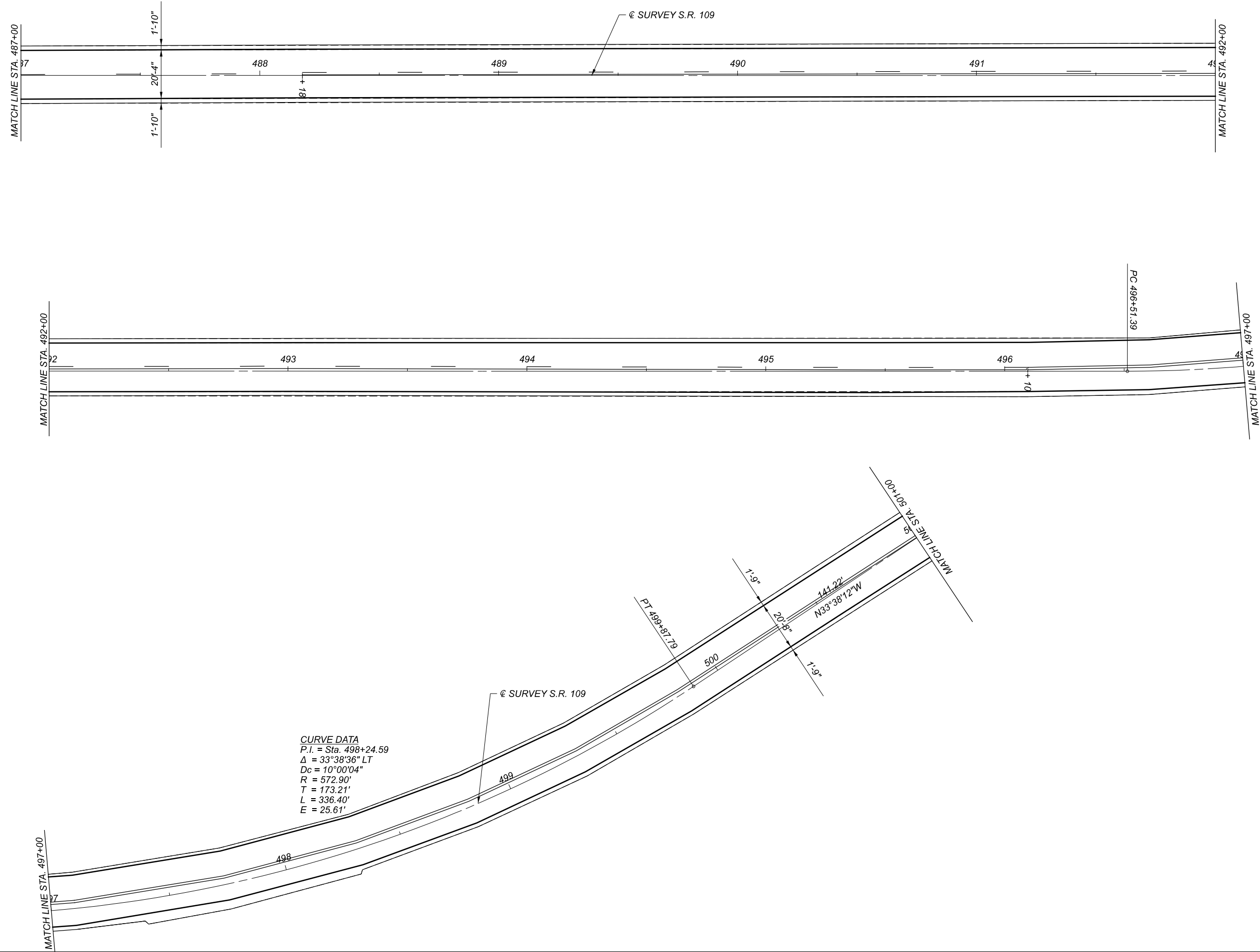


PLAN - SR 109  
 STA. 472+00 TO STA. 487+00

DESIGN AGENCY

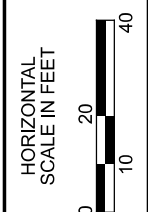
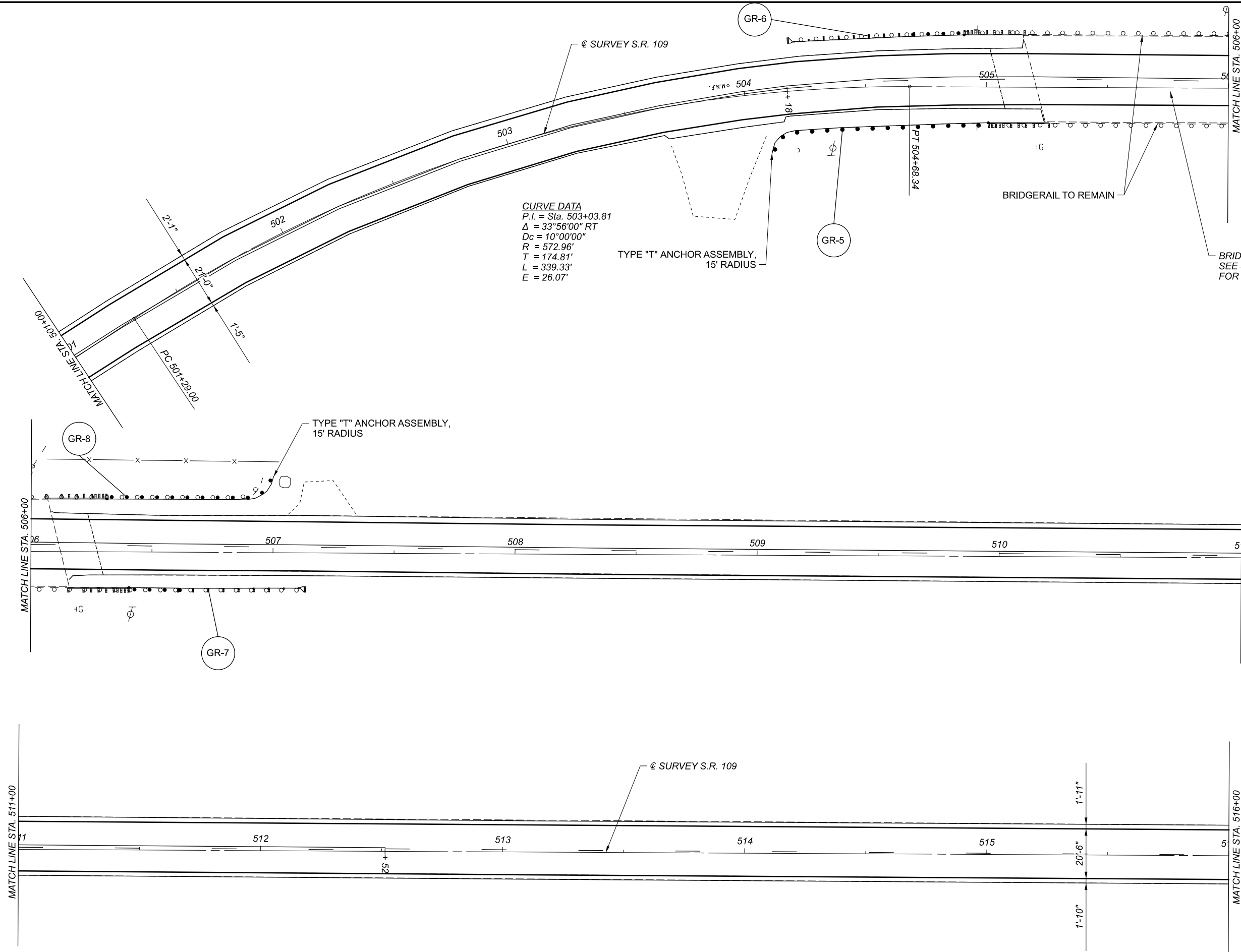


DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
26	52



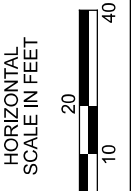
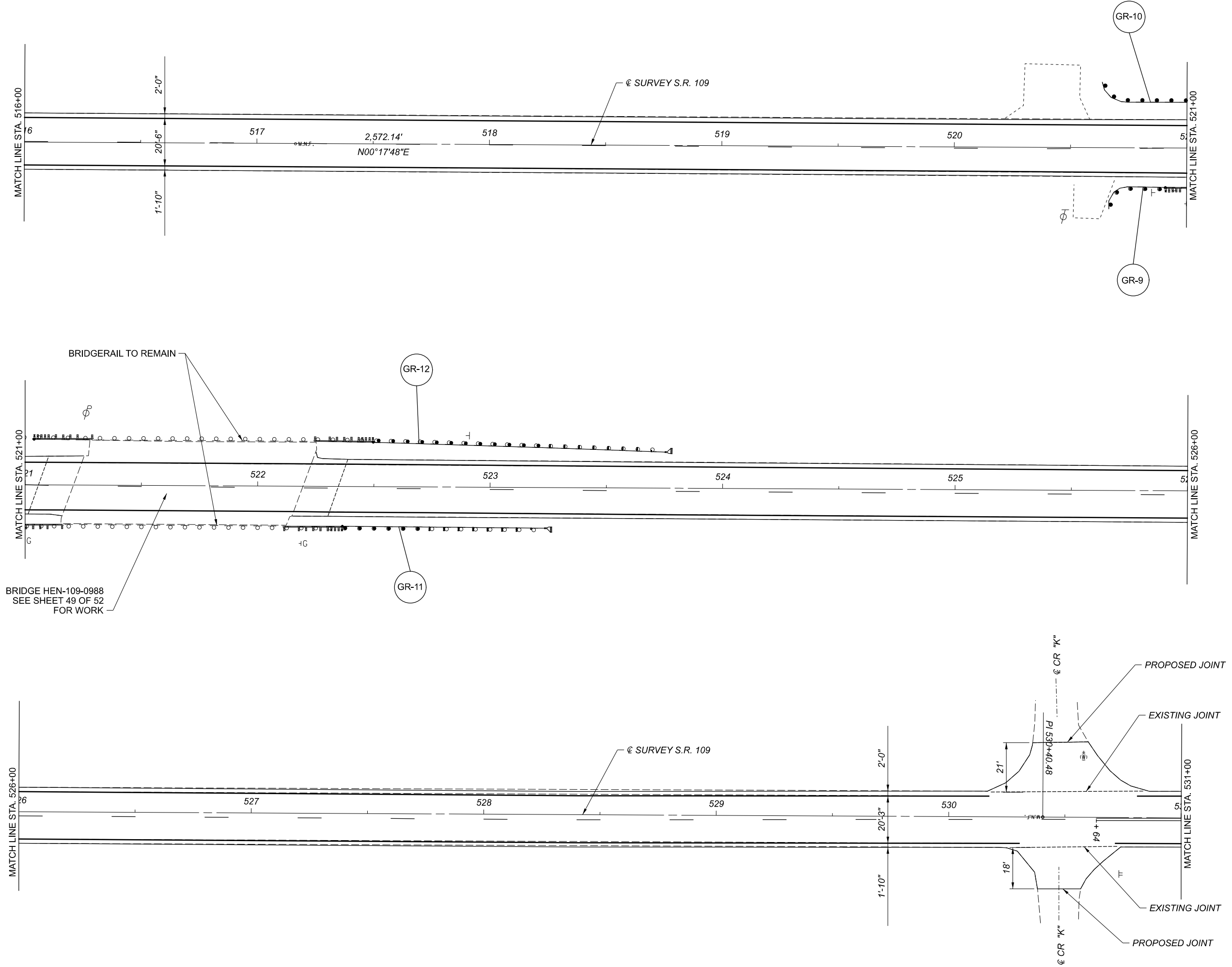
PLAN -SR 109  
 STA. 487+00 TO STA. 501+00

DESIGN AGENCY	
DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
27	52



PLAN - SR 109  
 STA. 501+00 TO STA. 516+00

DESIGN AGENCY	
DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
28	52



PLAN - SR 109  
 STA. 516+00 TO STA. 531+00

DESIGN AGENCY

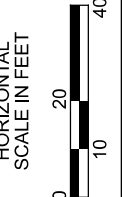
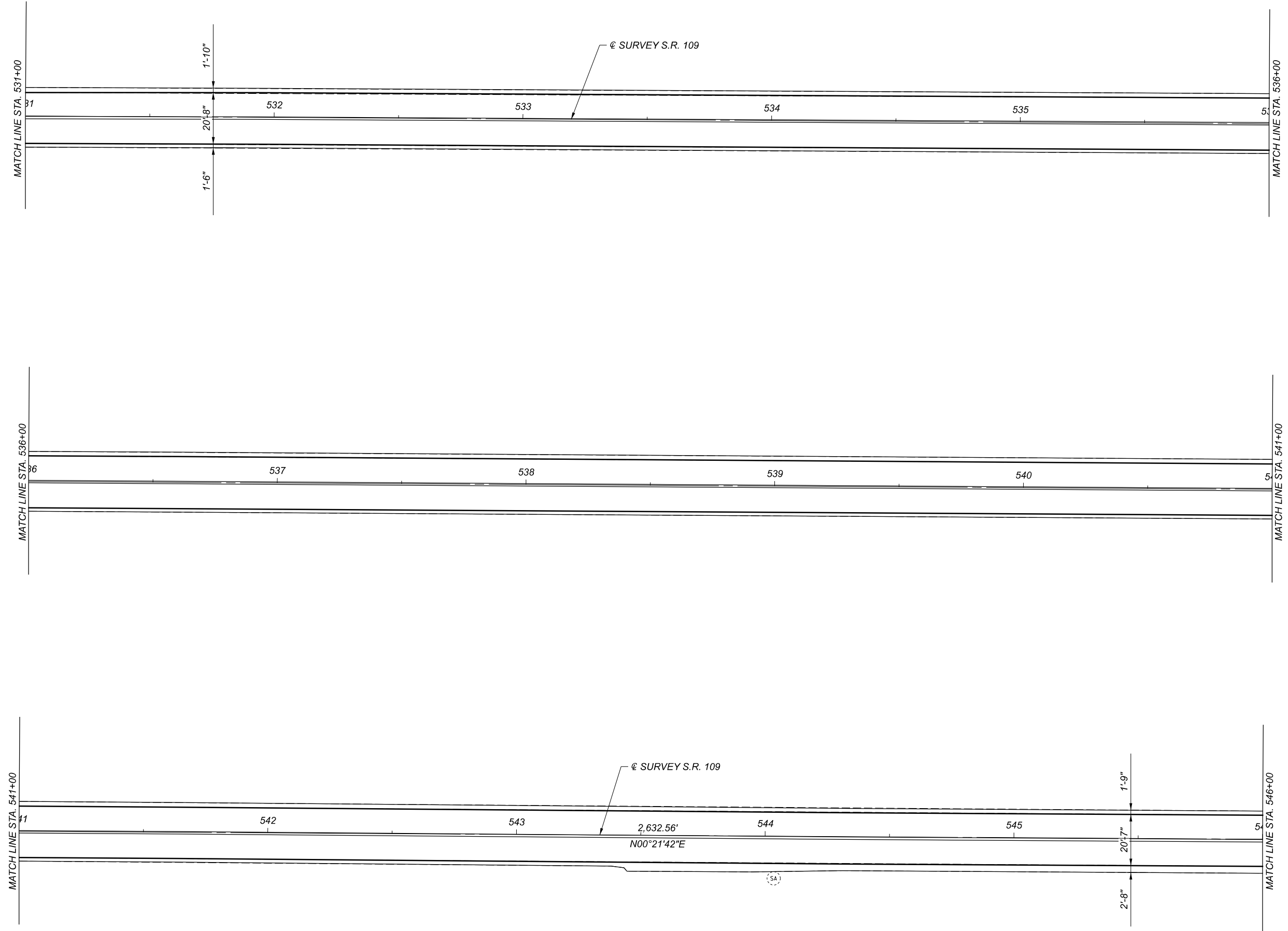


DESIGNER  
 MRC

REVIEWER  
 JMF MM-DD-YY

PROJECT ID  
 99587

SHEET	TOTAL
29	52



PLAN - SR 109  
 STA. 531+00 TO STA. 546+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

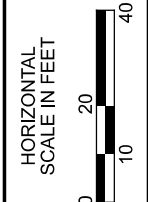
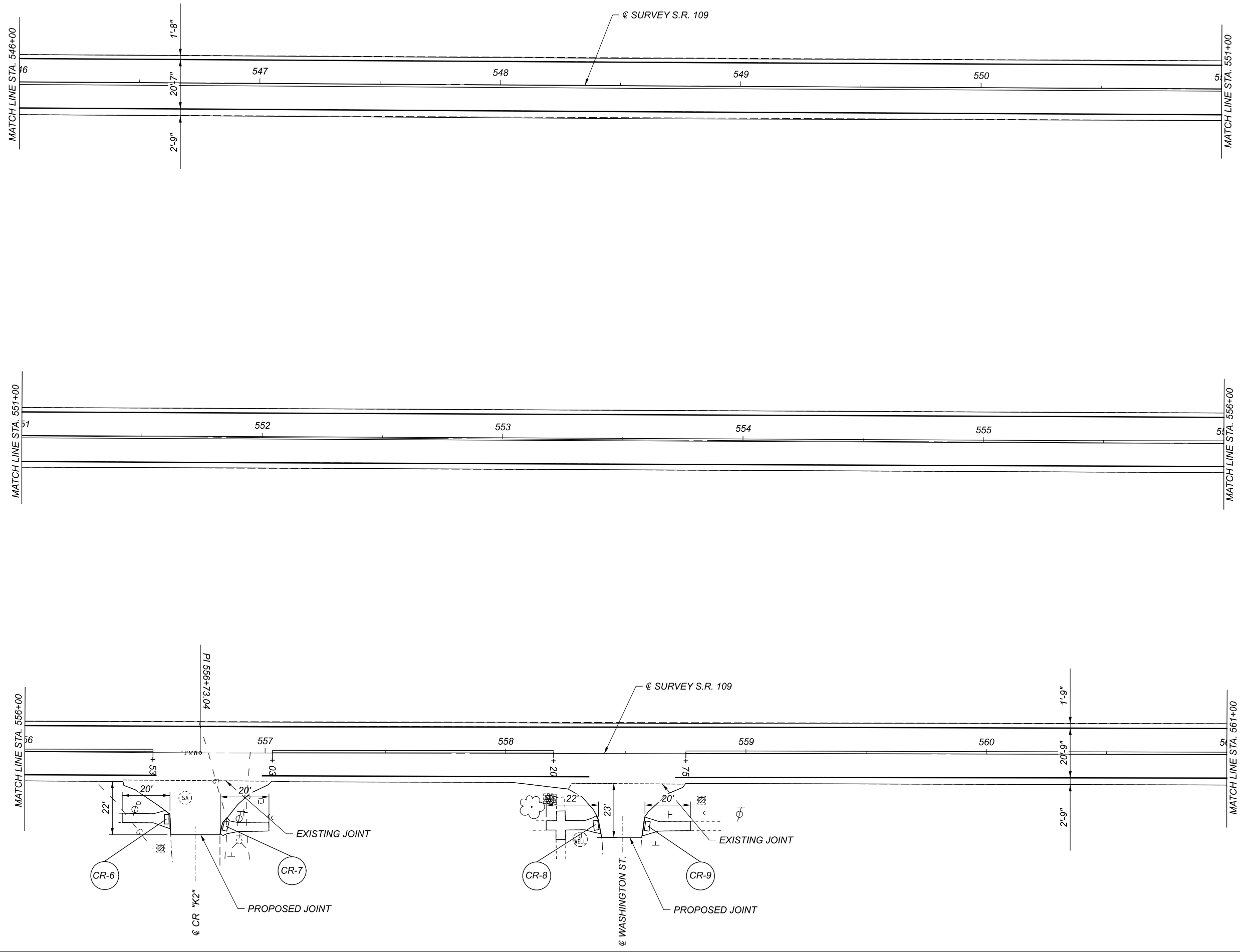
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SHEET

30

TOTAL

52

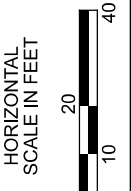
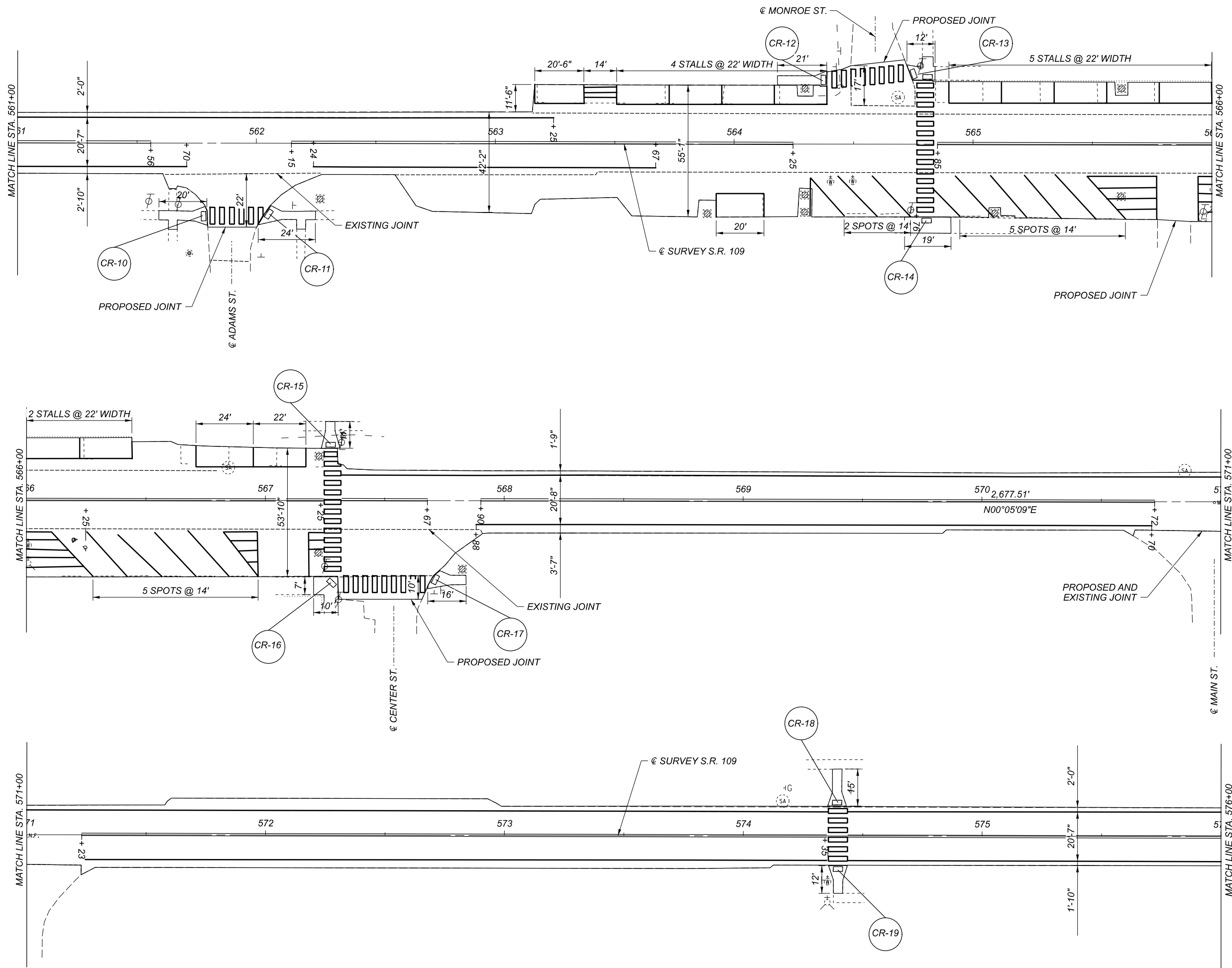


PLAN - SR 109  
 STA. 546+00 TO STA. 561+00

DESIGN AGENCY



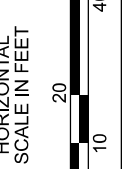
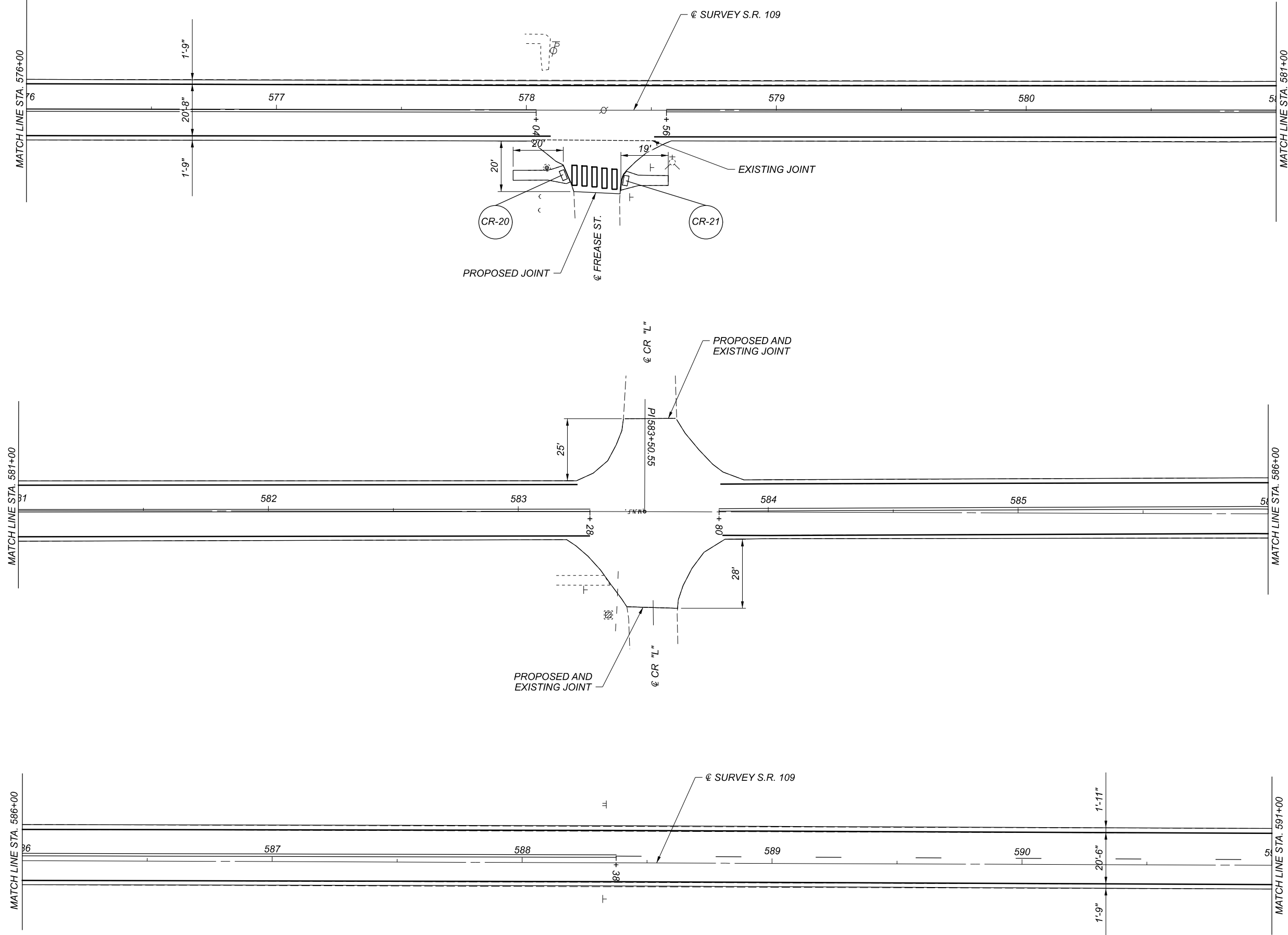
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REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
31	52



PLAN - SR 109  
STA. 561+00 TO STA. 576+00

DESIGN AGENCY	
DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
32	52





PLAN - SR 109  
 STA. 576+00 TO STA. 591+00

DESIGN AGENCY

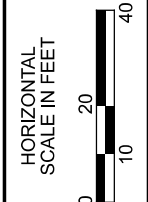
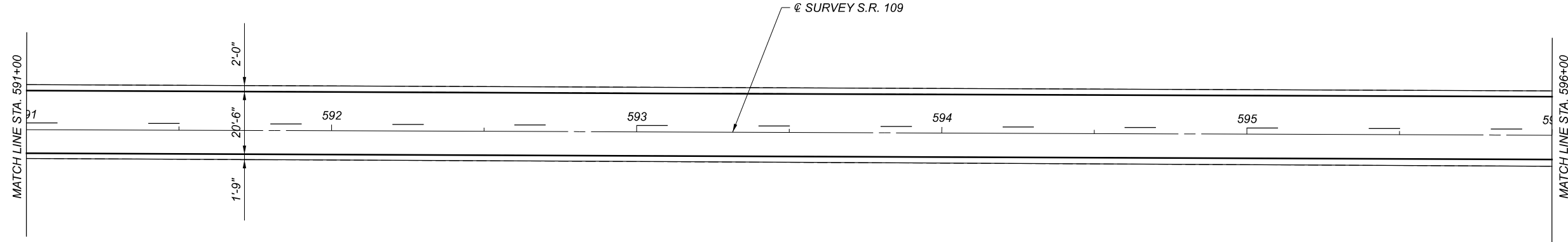
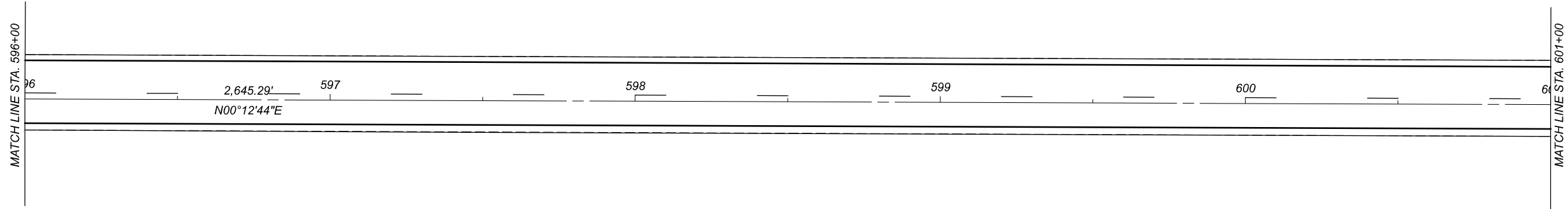
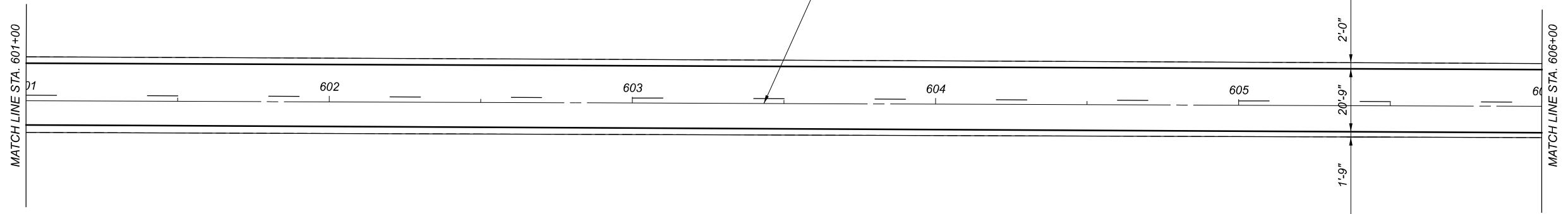


DESIGNER  
 MRC

REVIEWER  
 JMF MM-DD-YY

PROJECT ID  
 99587

SHEET	TOTAL
33	52



PLAN - SR 109  
STA. 591+00 TO STA. 606+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

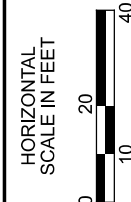
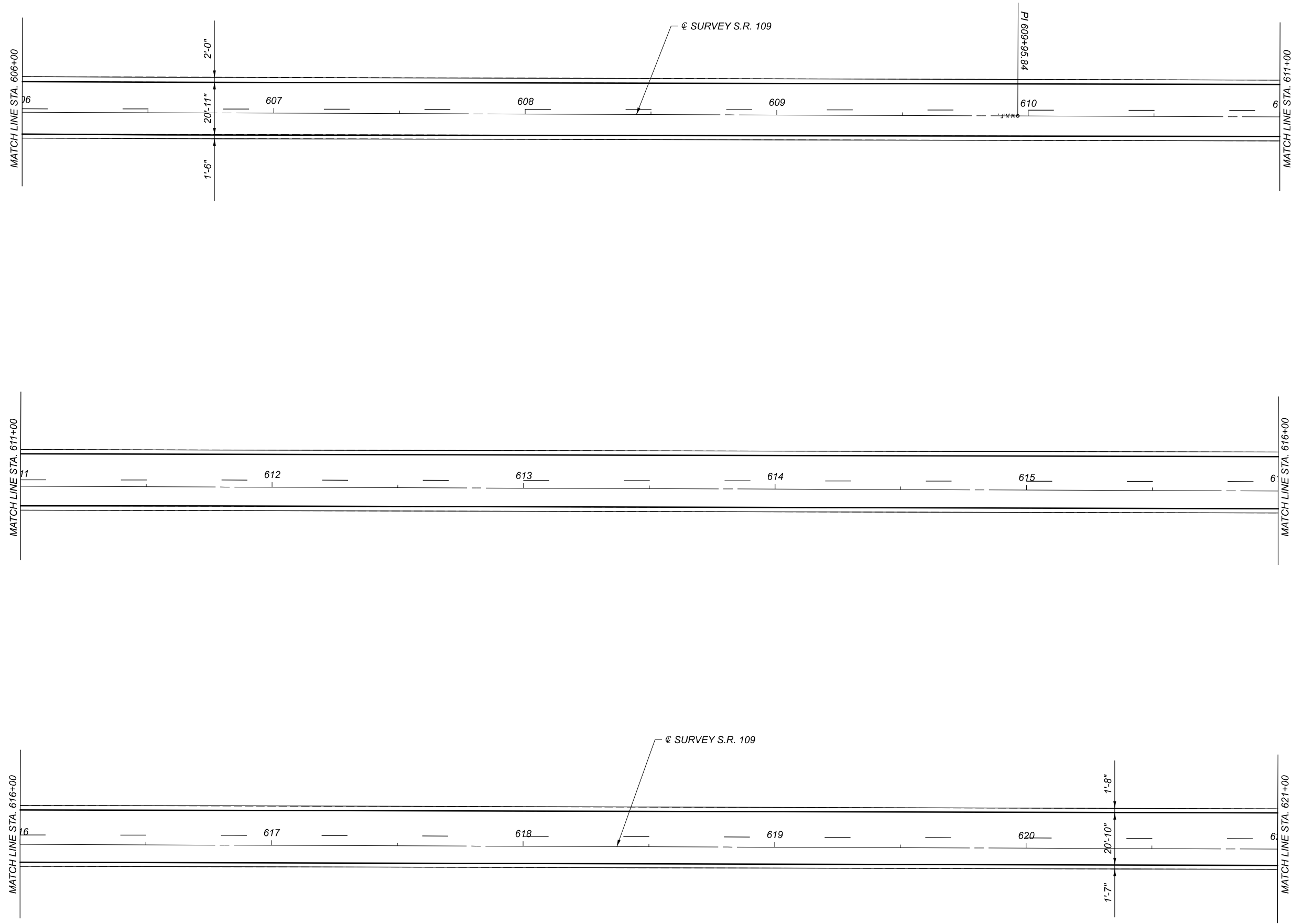
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PROJECT ID

99587

SHEET TOTAL

34 52



PLAN - SR 109  
STA. 606+00 TO STA. 621+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

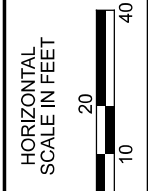
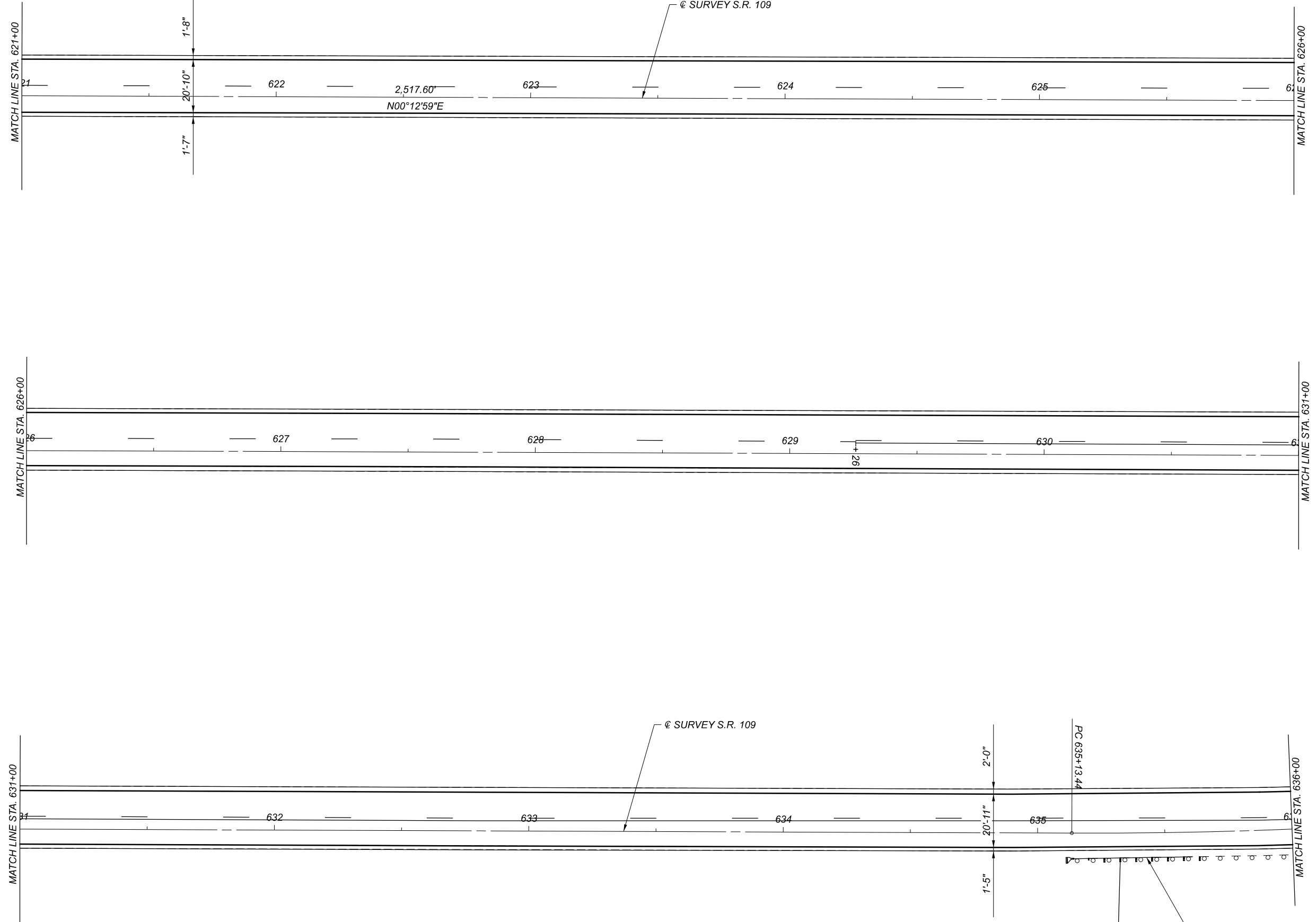
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SHEET

35

TOTAL

52



PLAN - SR 109  
STA. 621+00 TO STA. 636+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

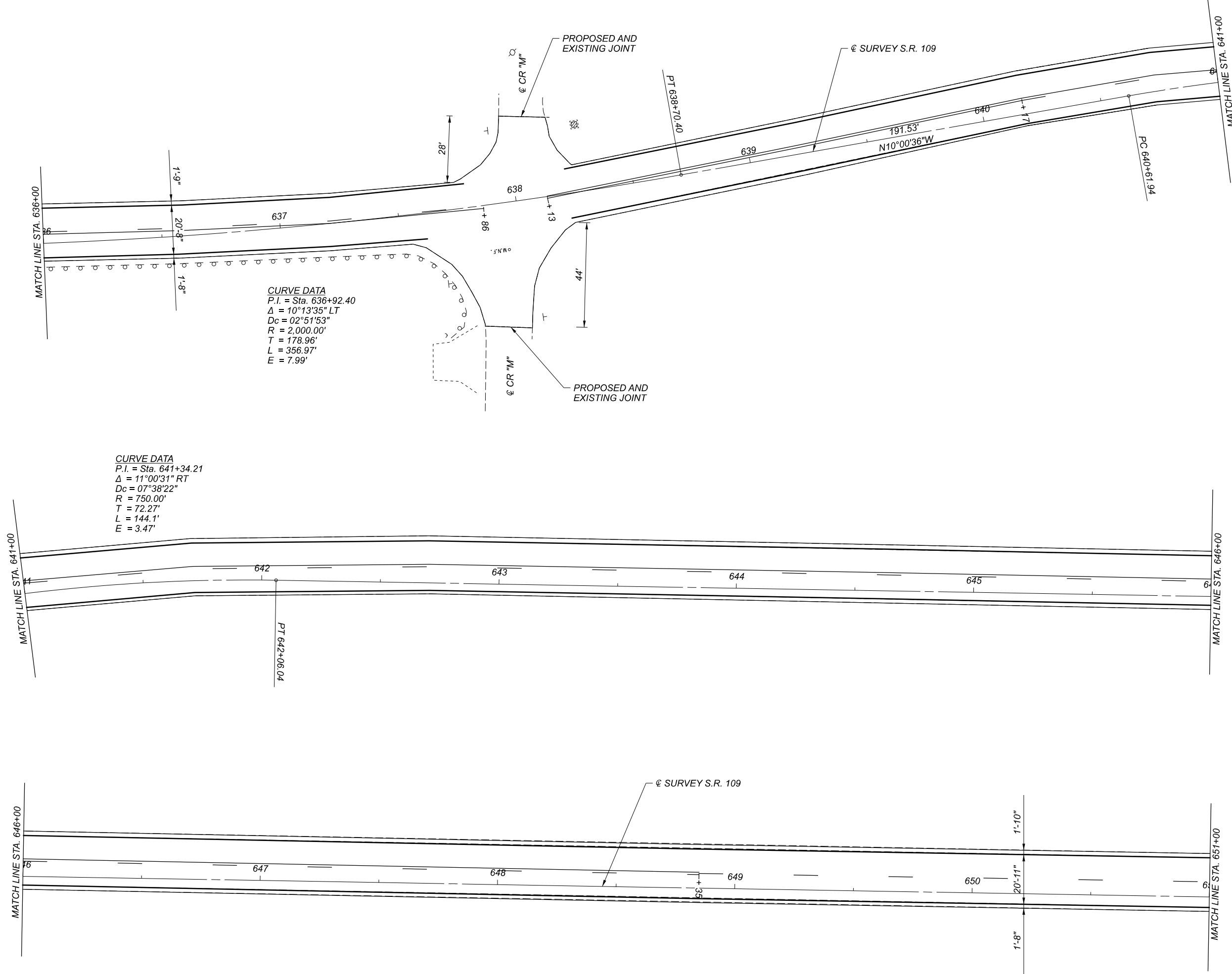
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SHEET TOTAL

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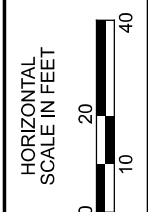
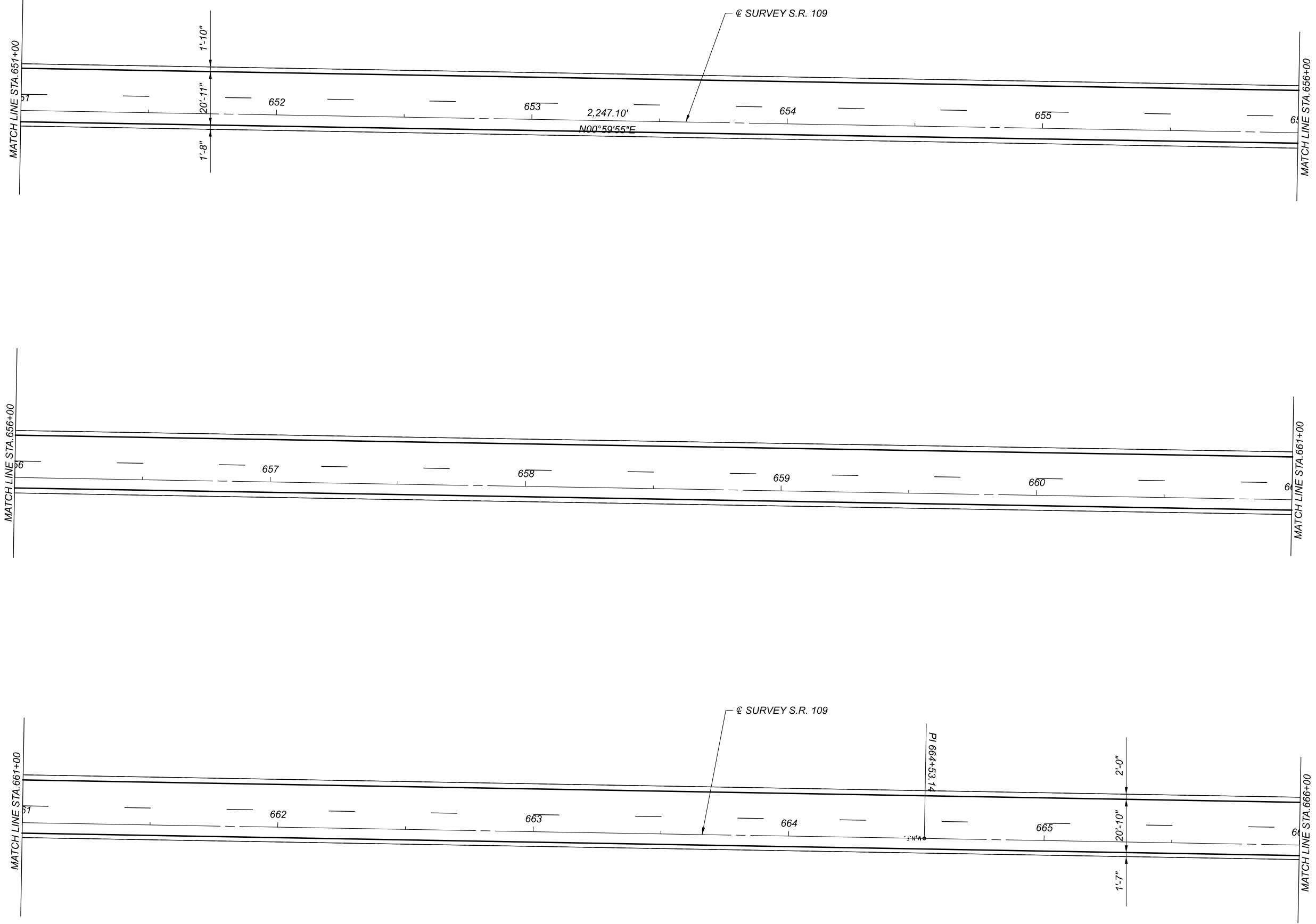
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REMOVE AND REPLACE  
TYPE "E" GUARDRAIL END



PLAN - SR 109  
 STA. 636+00 TO STA. 651+00

DESIGN AGENCY	
DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
37	52

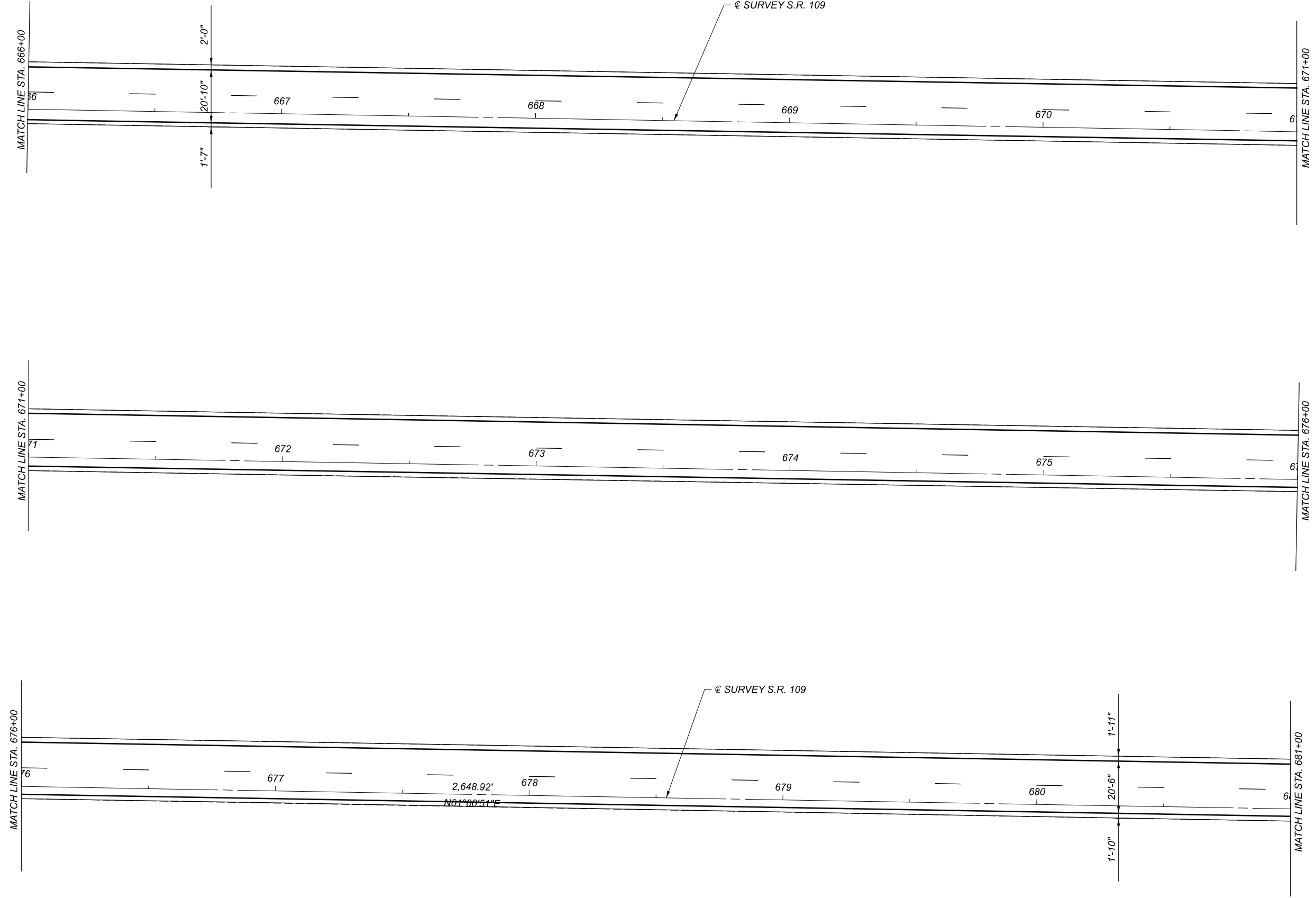


PLAN - SR 109  
STA. 651+00 TO STA. 666+00

DESIGN AGENCY



DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
38	52



PLAN - SR 109  
 STA. 666+00 TO STA. 681+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

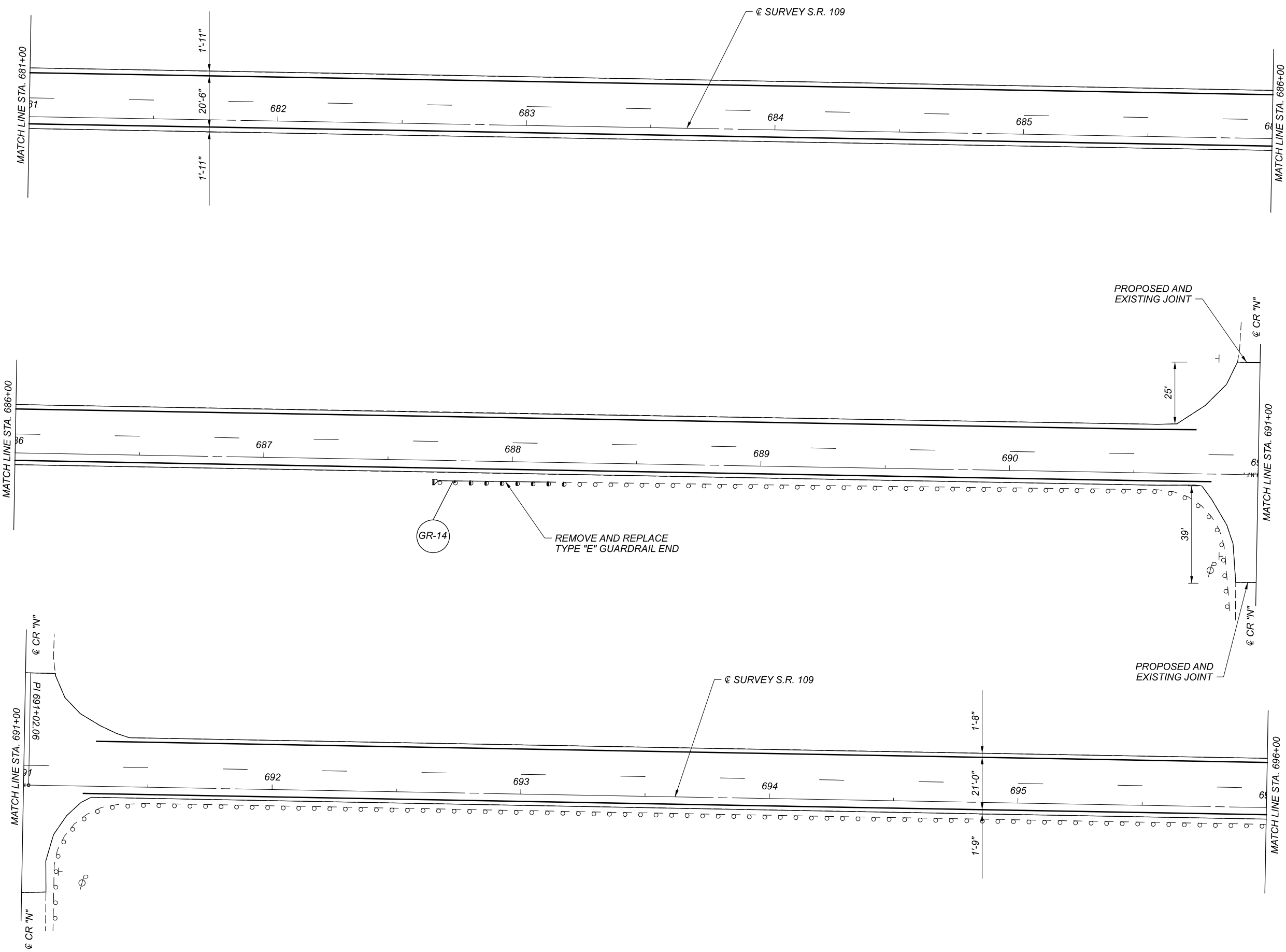
JMF MM-DD-YY

PROJECT ID

99587

SHEET TOTAL

39 52



PLAN - SR 109  
STA. 681+00 TO STA. 696+00

DESIGN AGENCY



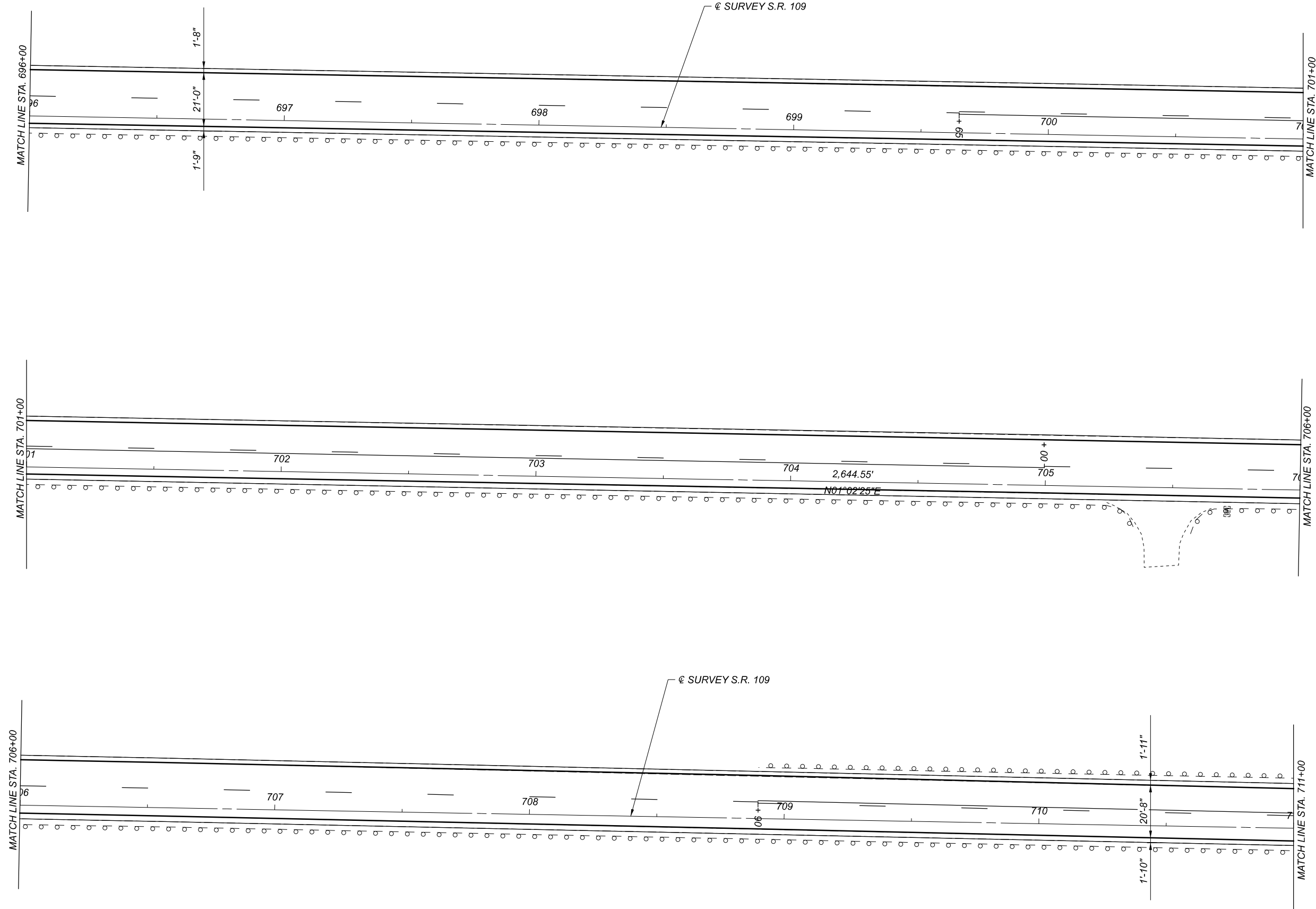
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REVIEWER  
JMF MM-DD-YY

PROJECT ID  
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SHEET	TOTAL
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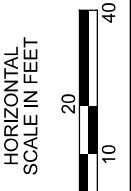
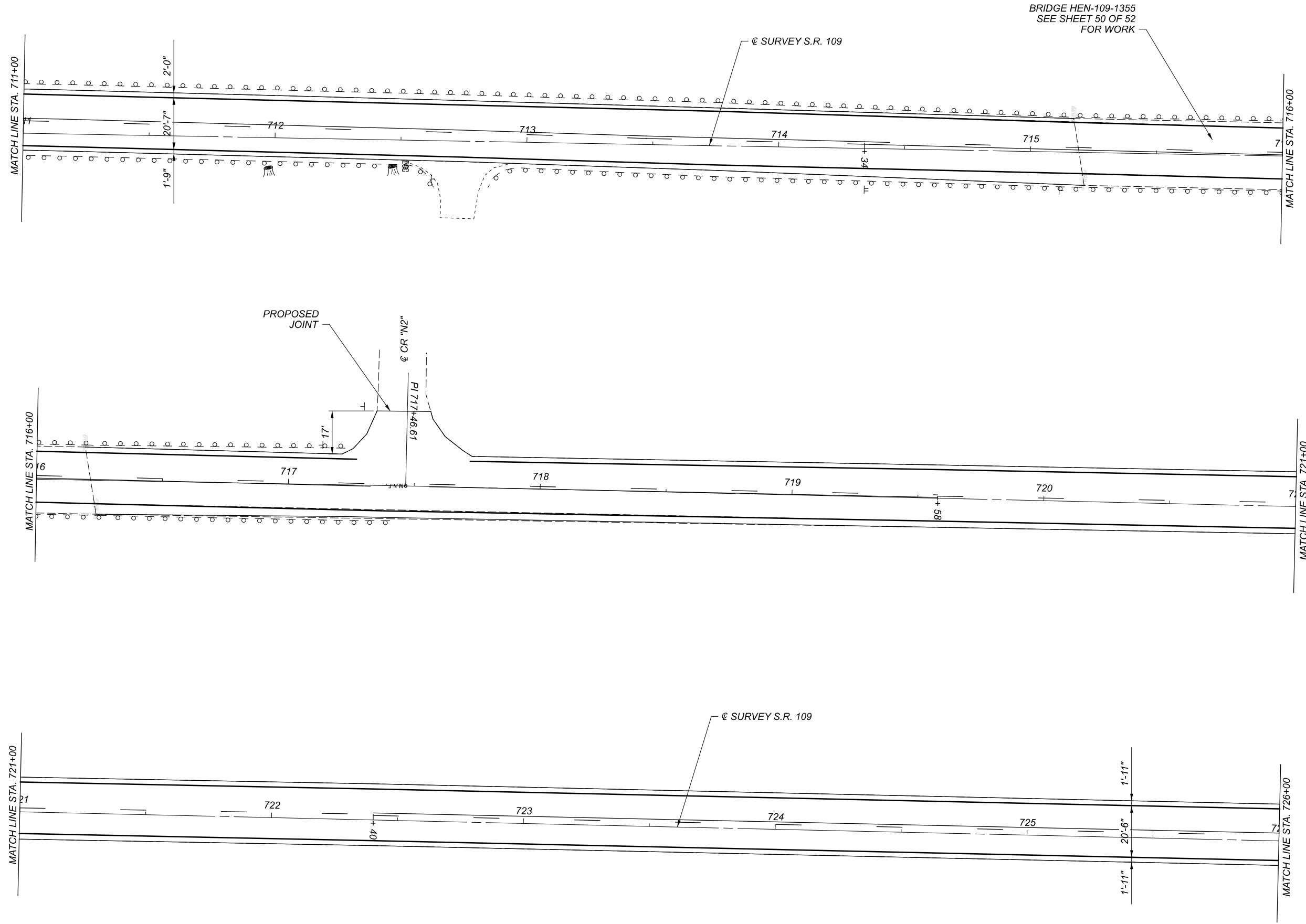


PLAN - SR 109  
STA. 696+00 TO STA. 711+00

DESIGN AGENCY



DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
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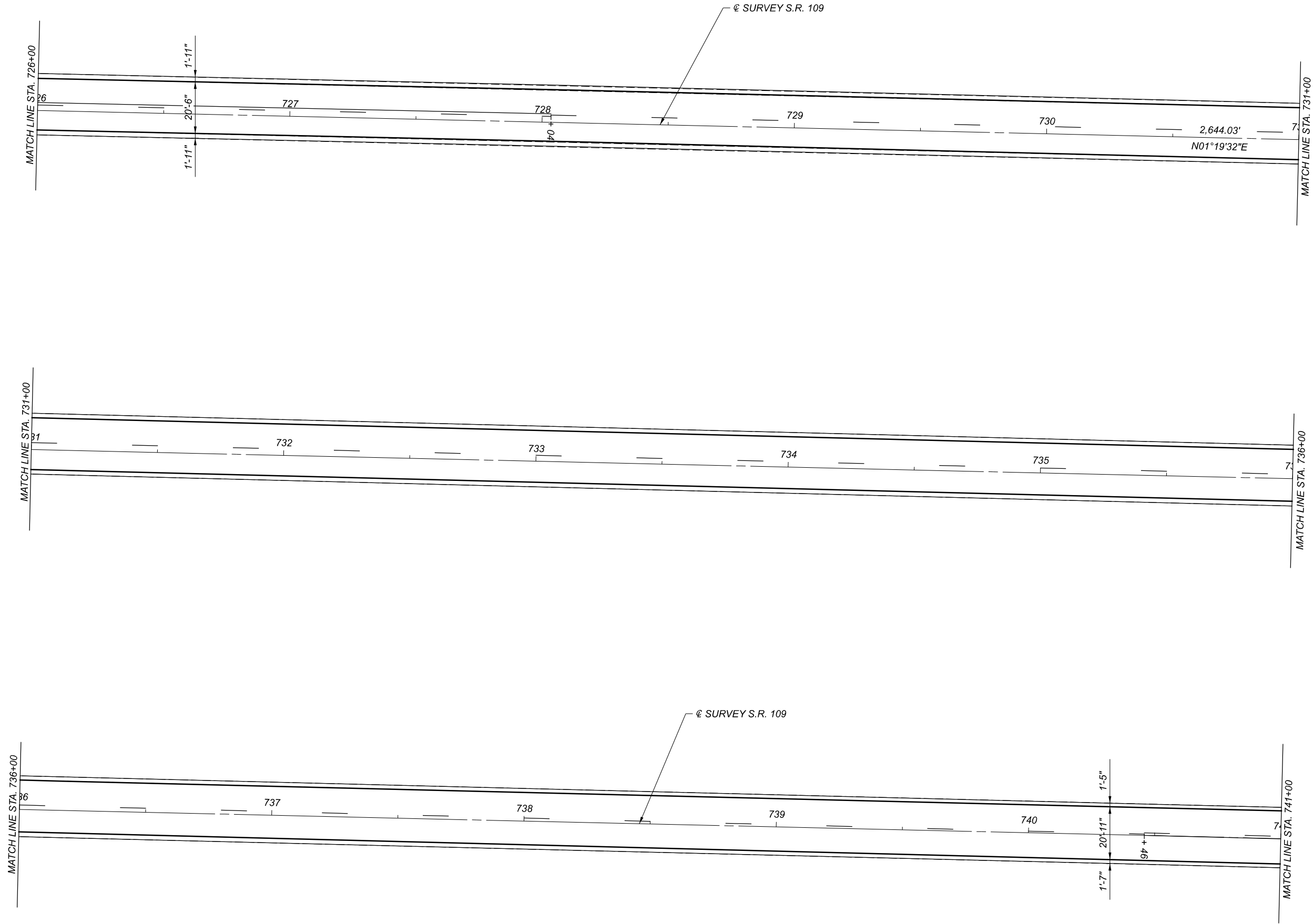


PLAN - SR 109  
STA. 711+00 TO STA. 726+00

DESIGN AGENCY



DESIGNER	MRC
REVIEWER	JMF MM-DD-YY
PROJECT ID	99587
SHEET	TOTAL
42	52



PLAN - SR 109  
STA. 726+00 TO STA. 741+00

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

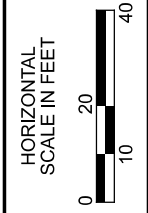
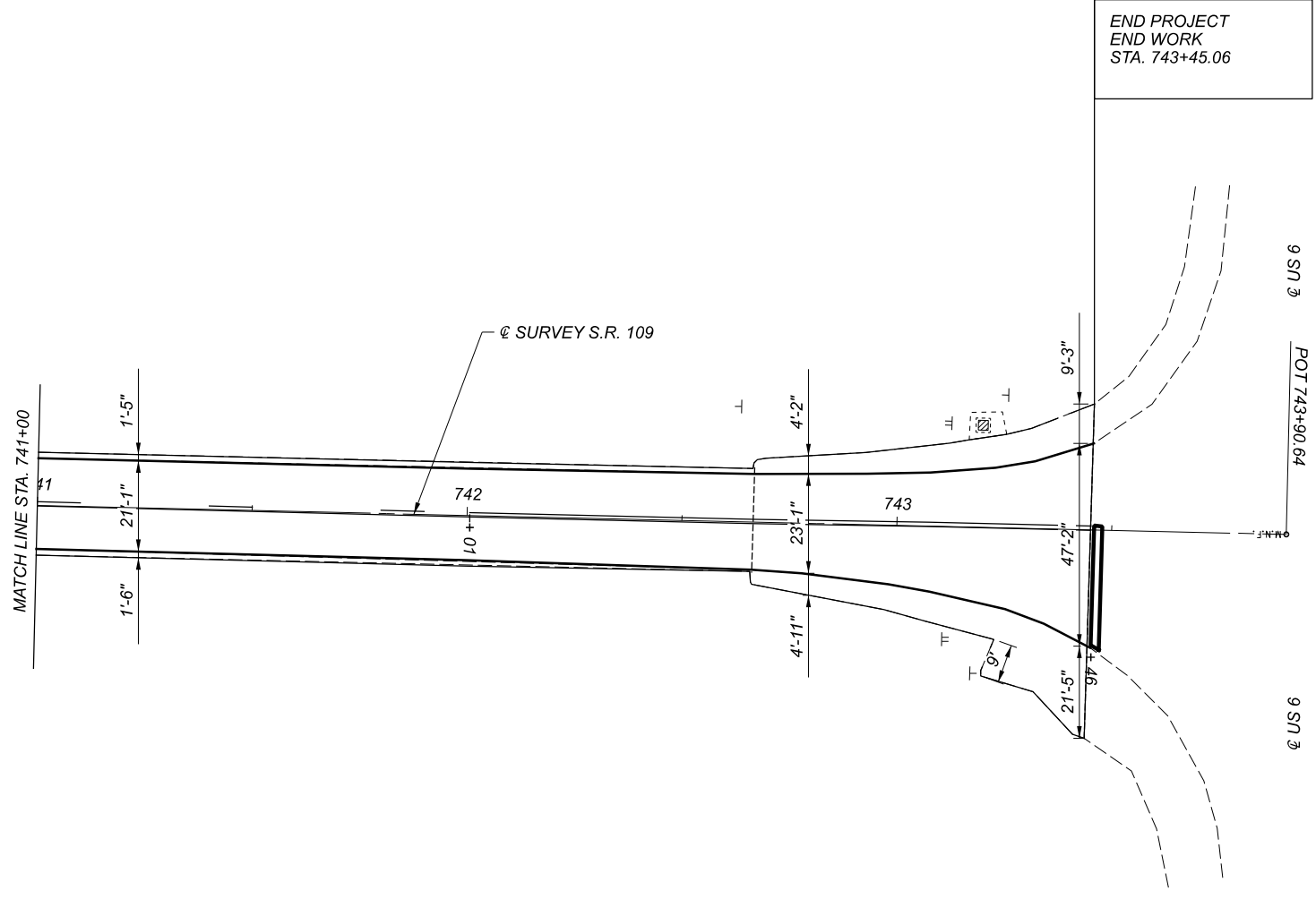
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SHEET

43

TOTAL

52



PLAN - SR 109  
STA. 741+00 TO STA 743+90.64

DESIGN AGENCY



DESIGNER

MRC

REVIEWER

JMF MM-DD-YY

PROJECT ID

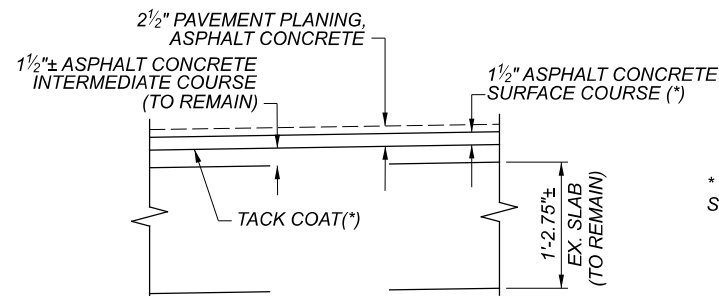
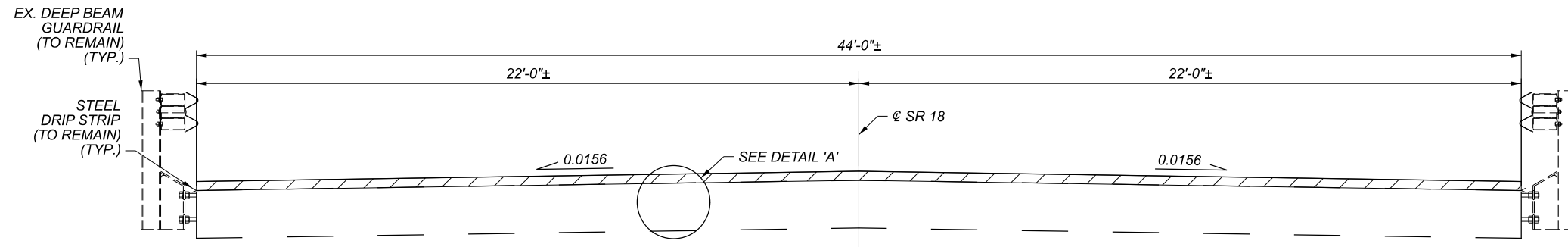
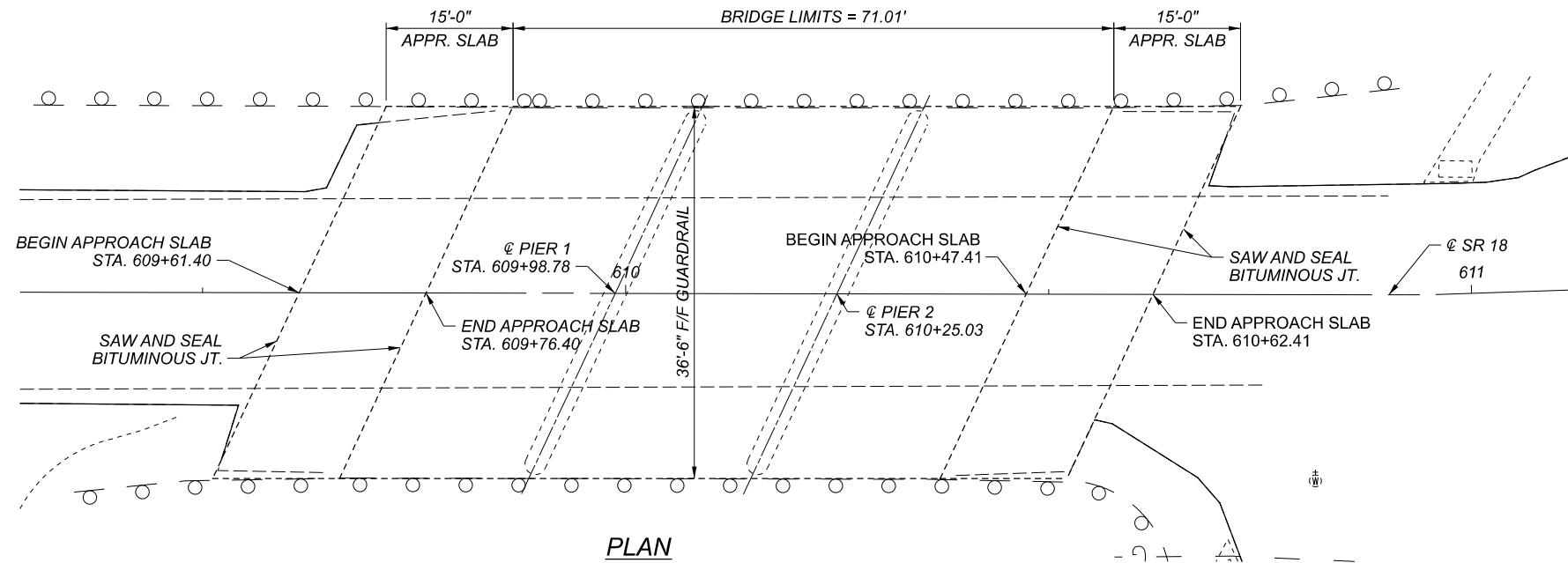
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SHEET TOTAL

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\* QUANTITIES FOR TACK COAT AND ASPHALT CONCRETE SURFACE COURSE ARE CARRIED IN THE PAVEMENT SUBSUMMARY

**ESTIMATED QUANTITIES (01/STR/05)**

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
254	01000	496	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 2.5"			348	148	
SPECIAL	51631200	192	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS				192	

**PROPOSED WORK**

- MILL 2 1/2" OF EXISTING ASPHALT CONCRETE
- PLACE 1 1/2" ASPHALT CONCRETE SURFACE COURSE (WHILE PLACING ASPHALT ON APPROACH ROADWAY)
- SAW AND SEAL BITUMINOUS JOINTS

**EXISTING STRUCTURE**

TYPE: THREE SPAN CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE WITH CAPPED PILE SUBSTRUCTURES

SPANS: 21'-0"; 26'-3"; 21'-0" C/C BEARINGS

ROADWAY: 44'-0" F/F GUARDRAIL

LOADING: HS20-44 AND ALTERNATE MILITARY LOADING

SKEW: 25° L.F.

WEARING SURFACE: ASPHALT CONCRETE

APPROACH SLABS: 15'-0" LONG (AS-1-72)

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT

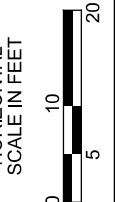
STRUCTURE FILE NUMBER: 3501124

DECK AREA: 3,124 SF

DATE BUILT: 1978

DISPOSITION: GOOD

COORDINATES: LATITUDE N 41°13'54.16"  
 LONGITUDE W 84°00'43.09"



SITE PLAN  
 BRIDGE NO. HEN-18-1158  
 OVER SOUTH TURKEYFOOT CREEK

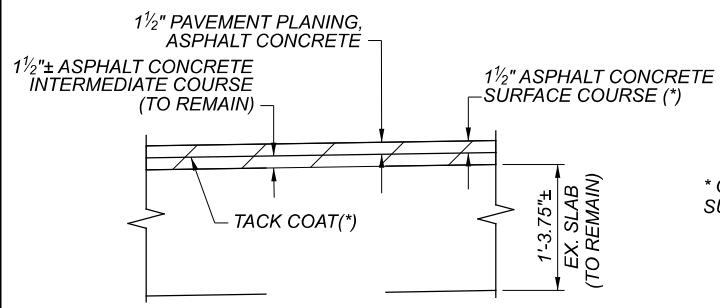
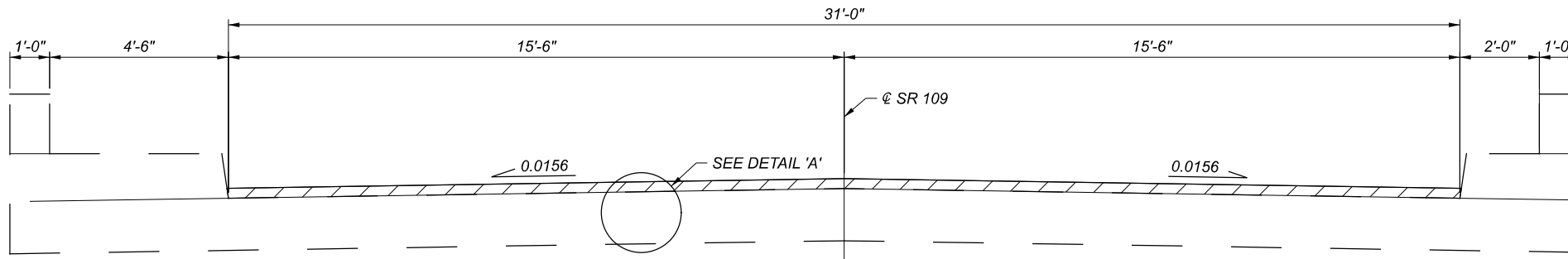
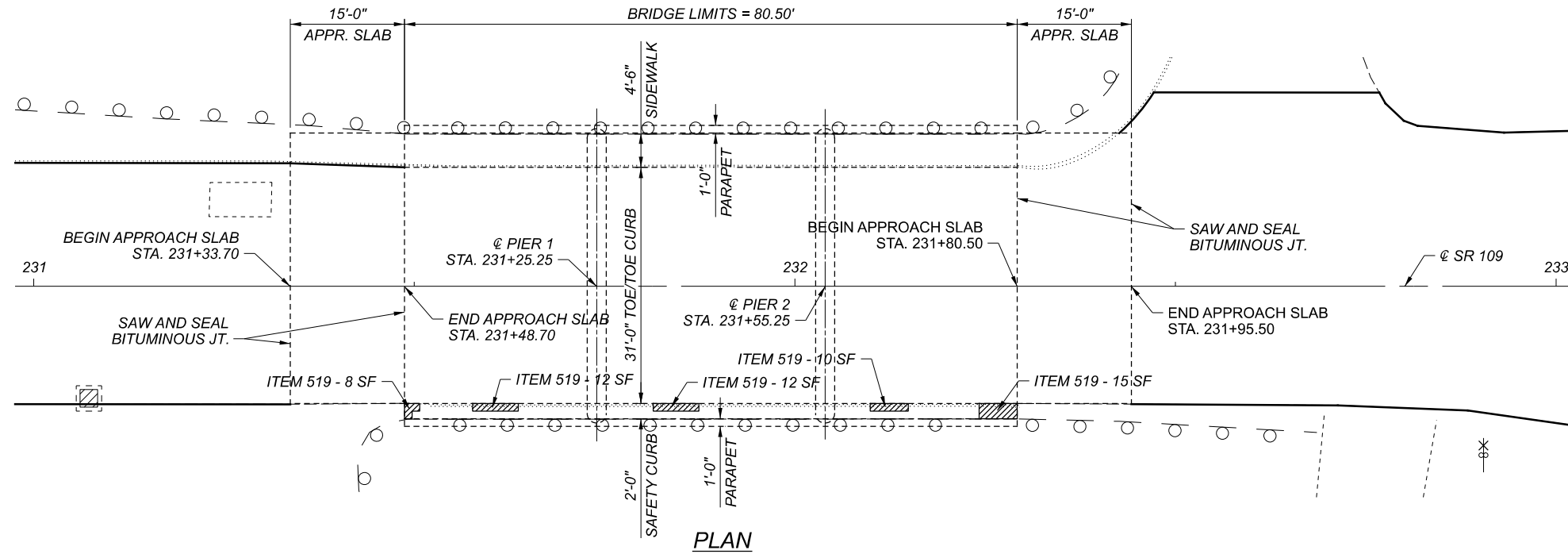
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 DESIGN AGENCY



DESIGNER	CHECKER
DJG	XXX
REVIEWER	
NMS MM-DD-YY	
PROJECT ID	
99587	
SUBSET	TOTAL
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SHEET	TOTAL
45	52

HEN-18/109-9.96/4.01

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\* QUANTITIES FOR TACK COAT AND ASPHALT CONCRETE SURFACE COURSE ARE CARRIED IN THE PAVEMENT SUBSUMMARY

**ESTIMATED QUANTITIES (01/STR/05)**

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
254	01000	382	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"			278	104	
SPECIAL	51631200	137	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS				137	
519	11100	57	SF	PATCHING CONCRETE STRUCTURE			57		

**PROPOSED WORK**

1. MILL 1 1/2" OF EXISTING ASPHALT CONCRETE
2. PATCH SAFETY CURB AS PER ITEM 519
3. PLACE 1 1/2" ASPHALT CONCRETE SURFACE COURSE (WHILE PLACING ASPHALT ON APPROACH ROADWAY)
4. SAW AND SEAL BITUMINOUS JOINTS

**EXISTING STRUCTURE**

TYPE: THREE SPAN CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE ON CAPPED PILE PIERS AND ABUTMENTS  
 SPANS: 24'-0"; 30'-0"; 24'-0" C/C BEARINGS  
 ROADWAY: 31'-0" FACE OF SIDEWALK TO FACE OF SAFETY CURB  
 LOADING: HS20-44 & ALT. MILITARY LOADING  
 SKEW: NONE  
 WEARING SURFACE: ASPHALT CONCRETE  
 APPROACH SLABS: 15'-0" LONG (AS-1-72)  
 ALIGNMENT: TANGENT  
 CROWN: 0.0156 FT/FT  
 STRUCTURE FILE NUMBER: 3502805  
 DECK AREA: 3,180 SF  
 DATE BUILT: 1978  
 DISPOSITION: SATISFACTORY  
 COORDINATES: LATITUDE N 41°13'49.72"  
 LONGITUDE W 84°02'10.20"

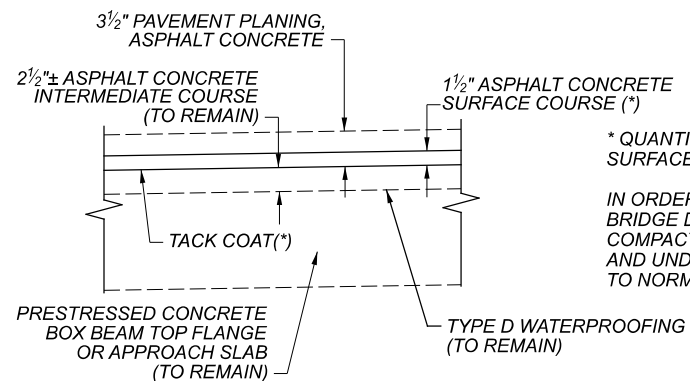
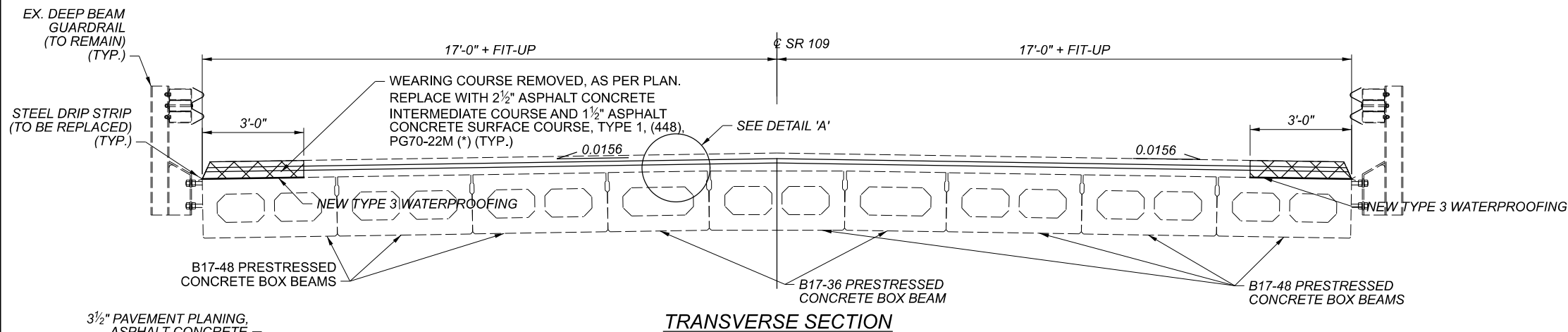
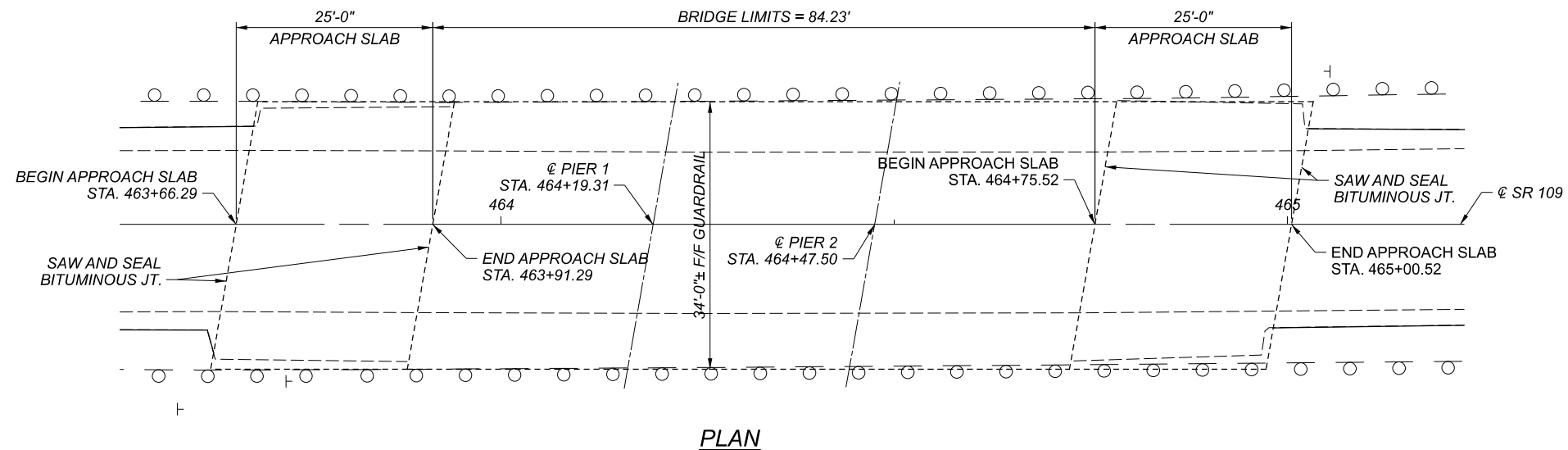


SITE PLAN  
 BRIDGE NO. HEN-109-0438  
 OVER SOUTH TURKEYFOOT CREEK

SFN 3502805	
DESIGN AGENCY	
DESIGNER	CHECKER
DJG	XXX
REVIEWER	
XXX MM-DD-YY	
PROJECT ID	
99587	
SUBSET	TOTAL
1	1
SHEET	TOTAL
46	52

HEN-18/109-9.96/4.01

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\* QUANTITIES FOR TACK COAT AND ASPHALT CONCRETE SURFACE COURSE ARE CARRIED IN THE PAVEMENT SUBSUMMARY

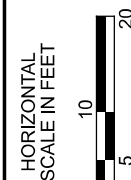
IN ORDER TO ACHIEVE ASPHALT DENSITY ON THE EDGE OF THE BRIDGE DECK, THE CONTRACTOR MAY UTILIZE A SMALL MECHANICAL COMPACTOR FOR THE OUTSIDE FEW INCHES ON THE DECK AROUND AND UNDERNEATH THE EXISTING BRIDGE RAILING IF INACCESSIBLE TO NORMAL COMPACTION EQUIPMENT.

**ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN**

THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN REMOVING THE EXISTING ASPHALT CONCRETE FROM THE EXISTING PRESTRESSED CONCRETE BOX BEAMS. THE CONTRACTOR SHALL VERIFY THE GRINDER DEPTH TO ENSURE THAT NO DAMAGE FROM OVER GRINDING WILL OCCUR, INCLUDING TO THE EXISTING WATERPROOFING. DAMAGE TO EXISTING ITEMS TO REMAIN FROM REMOVAL OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE OPTION OF THE ENGINEER. ALL COSTS FOR REPAIRS OR REPLACEMENT DUE TO IMPROPER REMOVAL PROCEDURES SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

**ESTIMATED QUANTITIES (01/STR/05)**

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	23501	56	SY	WEARING COURSE REMOVED, AS PER PLAN			56		1
254	01000	510	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.5"			320	190	
512	33010	56	SY	TYPE 3 WATERPROOFING			56		
SPECIAL	51631200	138	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS				138	
SPECIAL	51822300	210	FT	STEEL DRIP STRIP			210		
519	12300	5	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B			5		



SITE PLAN  
 BRIDGE NO. HEN-109-0878  
 OVER SOUTH TURKEYFOOT CREEK

**PROPOSED WORK**

- MILL 3 1/2" OF EXISTING ASPHALT CONCRETE
- REMOVE 3' OF EXISTING ASPHALT CONCRETE ON EDGES OF DECK, INCLUDING REMOVAL OF EXISTING STEEL DRIP STRIP
- PATCH TOP FLANGE OF PRESTRESSED CONCRETE BOX BEAMS AS DIRECTED BY THE ENGINEER
- INSTALL NEW TYPE 3 WATERPROOFING AND STEEL DRIP STRIP
- PLACE 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE ON DECK EDGES
- PLACE 1 1/2" ASPHALT CONCRETE SURFACE COURSE (WHILE PLACING ASPHALT ON APPROACH ROADWAY)
- SAW AND SEAL BITUMINOUS JOINTS

**EXISTING STRUCTURE**

TYPE: THREE SPAN PRESTRESSED CONCRETE BOX BEAM BRIDGE ON CAPPED PILE PIERS AND ABUTMENTS

SPANS: 26'-8"; 26'-8"; 26'-8" C/C BEARINGS  
 ROADWAY: 34'-0" F/F GUARDRAIL  
 LOADING: HS20-44 & ALT. MILITARY LOADING  
 SKEW: 10° L.F.  
 WEARING SURFACE: ASPHALT CONCRETE  
 APPROACH SLABS: 25'-0" LONG (AS-1-81)  
 ALIGNMENT: TANGENT  
 CROWN: 0.0156 FT/FT  
 STRUCTURE FILE NUMBER: 3502899  
 DECK AREA: 2,864 SF  
 DATE BUILT: 1988  
 DISPOSITION: GOOD  
 COORDINATES: LATITUDE N 41°17'39.12"  
 LONGITUDE W 84°02'11.92"

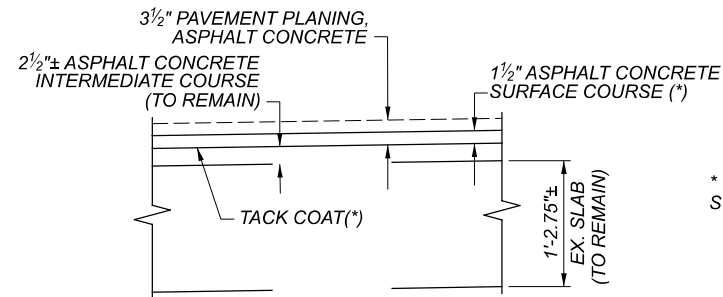
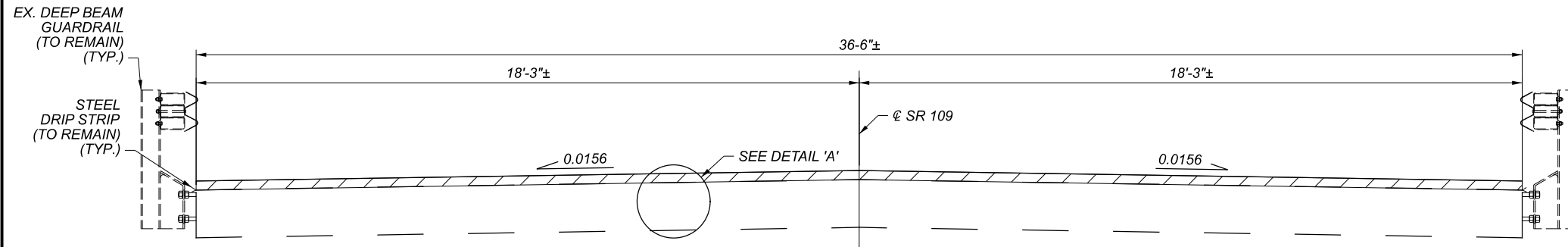
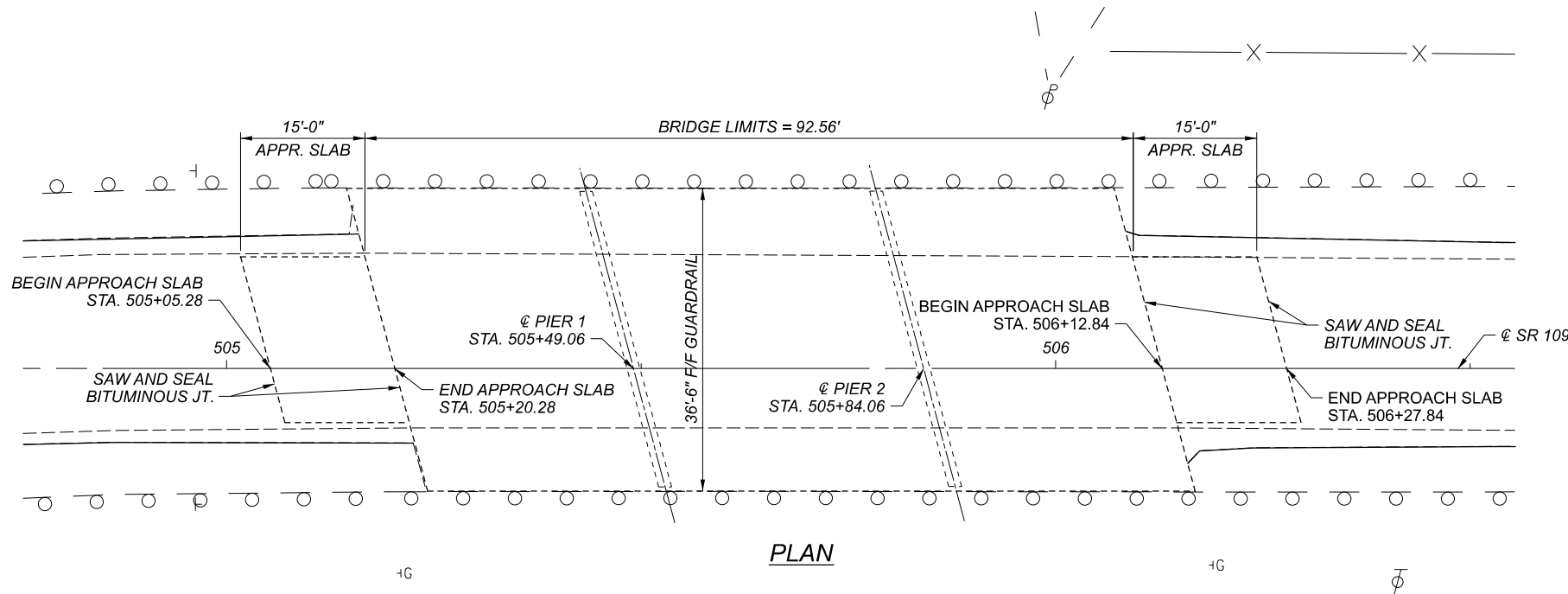
SFN  
 3502899  
 DESIGN AGENCY



DESIGNER	CHECKER
DJG	XXX
REVIEWER	
NMS MM-DD-YY	
PROJECT ID	
99587	
SUBSET	TOTAL
1	1
SHEET	TOTAL
47	52

HEN-18/109-9.96/4.01

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\* QUANTITIES FOR TACK COAT AND ASPHALT CONCRETE SURFACE COURSE ARE CARRIED IN THE PAVEMENT SUBSUMMARY

**ESTIMATED QUANTITIES (01/STR/05)**

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
254	01000	461	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.5"			376	85	
SPECIAL	51631200	108	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS				108	

**PROPOSED WORK**

- MILL 3 1/2" OF EXISTING ASPHALT CONCRETE
- PLACE 1 1/2" ASPHALT CONCRETE SURFACE COURSE (WHILE PLACING ASPHALT ON APPROACH ROADWAY)
- SAW AND SEAL BITUMINOUS JOINTS

**EXISTING STRUCTURE**

TYPE: THREE SPAN CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE WITH REINFORCED CONCRETE SUBSTRUCTURES

SPANS: 28'-0"; 35'-0"; 28'-0" C/C BEARINGS

ROADWAY: 36'-6" F/F GUARDRAIL

LOADING: S-15-40

SKEW: 15° R.F.

WEARING SURFACE: ASPHALT CONCRETE

APPROACH SLABS: 15'-0" LONG (AS-44-S)

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT

STRUCTURE FILE NUMBER: 3502910

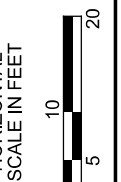
DECK AREA: 3,378 SF

DATE BUILT: 1946

DISPOSITION: SATISFACTORY

COORDINATES: LATITUDE N 41°18'19.05"

LONGITUDE W 84°02'14.66"



SITE PLAN  
 BRIDGE NO. HEN-109-0957  
 OVER SOUTH TURKEYFOOT CREEK

SFN

3502910

DESIGN AGENCY



DESIGNER

DJG

CHECKER

XXX

REVIEWER

NMS MM-DD-YY

PROJECT ID

99587

SUBSET

TOTAL

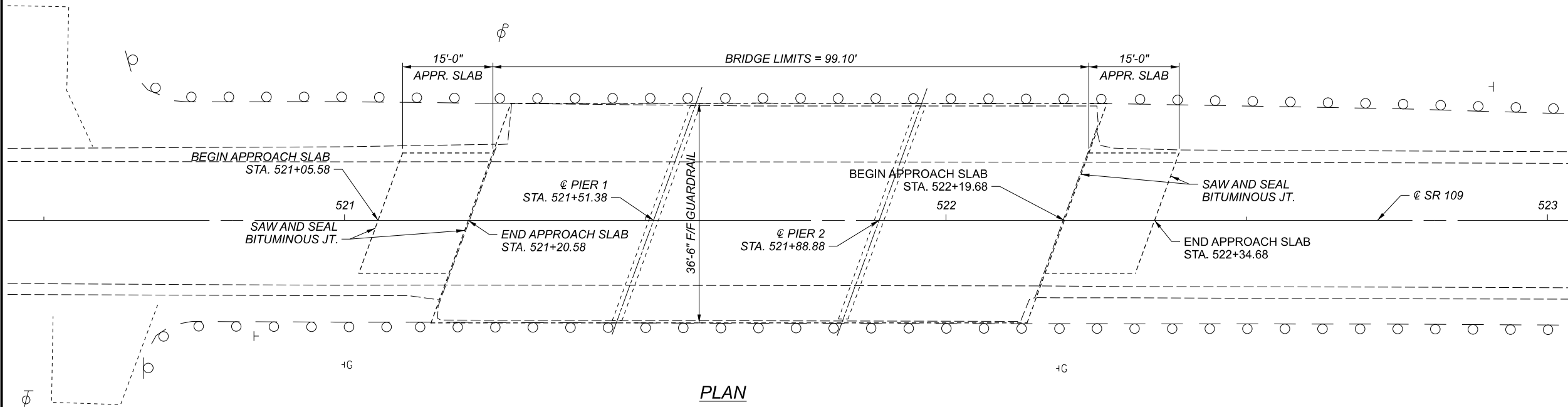
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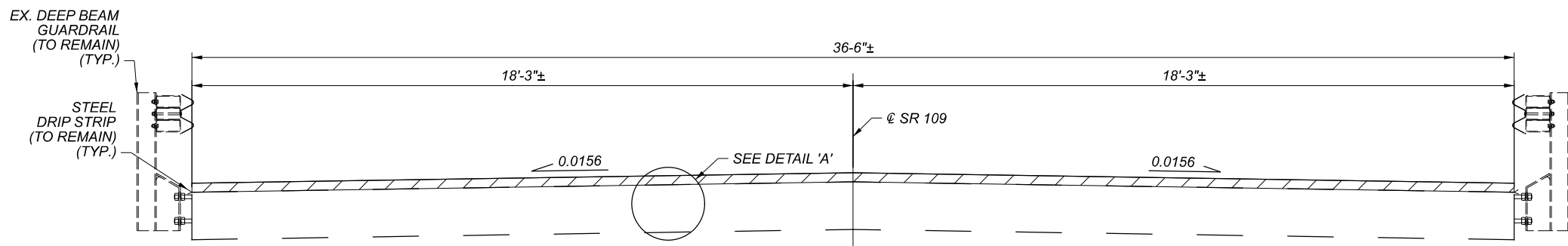
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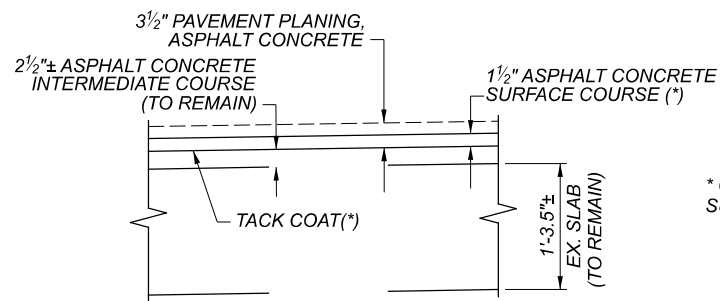




PLAN



TRANSVERSE SECTION



DETAIL 'A'

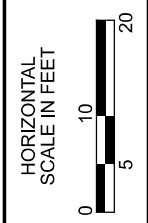
\* QUANTITIES FOR TACK COAT AND ASPHALT CONCRETE SURFACE COURSE ARE CARRIED IN THE PAVEMENT SUBSUMMARY

**ESTIMATED QUANTITIES (01/STR/05)**

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
254	01000	487	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.5"			402	85	
SPECIAL	51631200	104	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS				104	

PROPOSED WORK
1. MILL 3 1/2" OF EXISTING ASPHALT CONCRETE
2. PLACE 1 1/2" ASPHALT CONCRETE SURFACE COURSE (WHILE PLACING ASPHALT ON APPROACH ROADWAY)
3. SAW AND SEAL BITUMINOUS JOINTS

EXISTING STRUCTURE
TYPE: THREE SPAN CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE WITH REINFORCED CONCRETE SUBSTRUCTURES
SPANS: 30'-0"; 37'-6"; 30'-0" C/C BEARINGS
ROADWAY: 36'-6" F/F GUARDRAIL
LOADING: S-15-40
SKEW: 20° L.F.
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLABS: 15'-0" LONG (AS-44-S)
ALIGNMENT: TANGENT
CROWN: 0.0156 FT/FT
STRUCTURE FILE NUMBER: 3502945
DECK AREA: 3,617 SF
DATE BUILT: 1946
DISPOSITION: SATISFACTORY
COORDINATES: LATITUDE N 41°18'34.89"
LONGITUDE W 84°02'14.86"

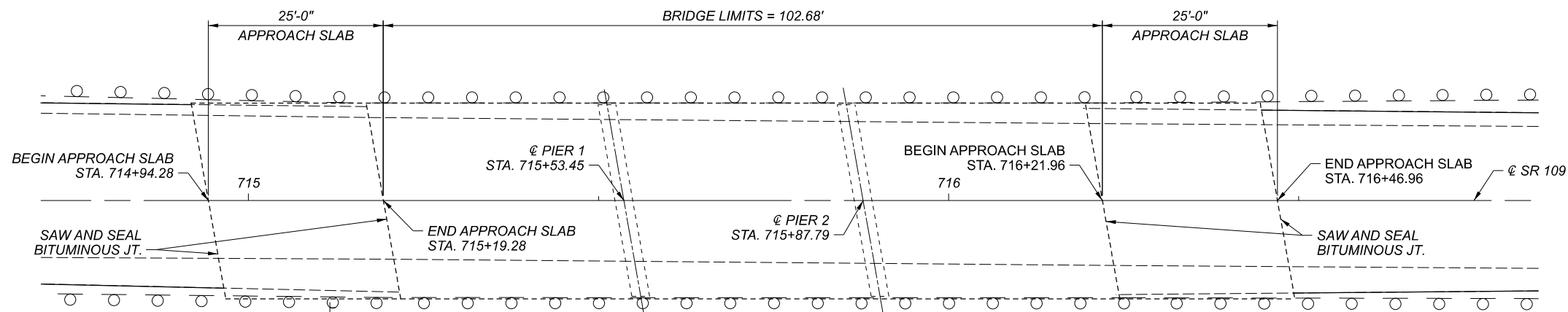


**SITE PLAN**  
 BRIDGE NO. HEN-109-0988  
 OVER SOUTH TURKEYFOOT CREEK

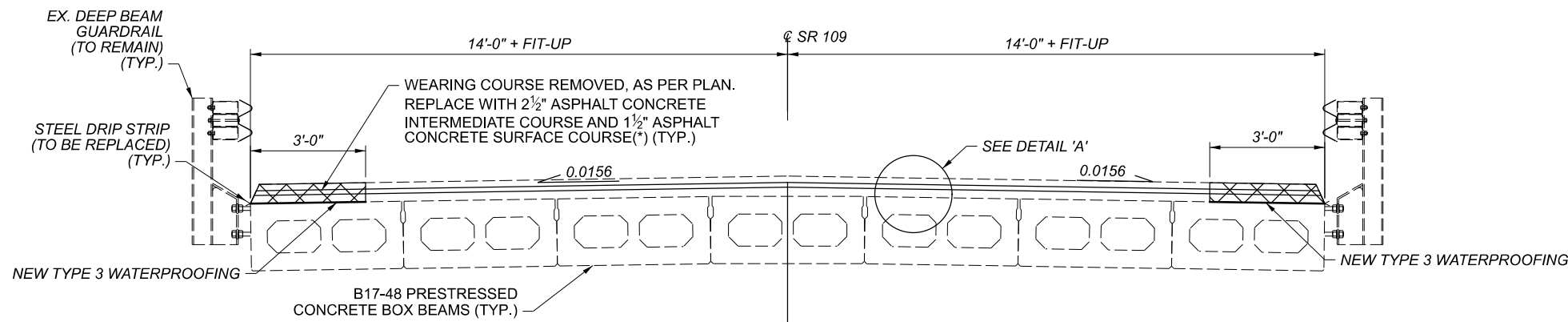
SFN	3502945
DESIGN AGENCY	
DESIGNER	DJG
CHECKER	XXX
REVIEWER	
NMS MM-DD-YY	
PROJECT ID	99587
SUBSET	TOTAL
1	1
SHEET	TOTAL
49	52

HEN-18/109-9.96/4.01

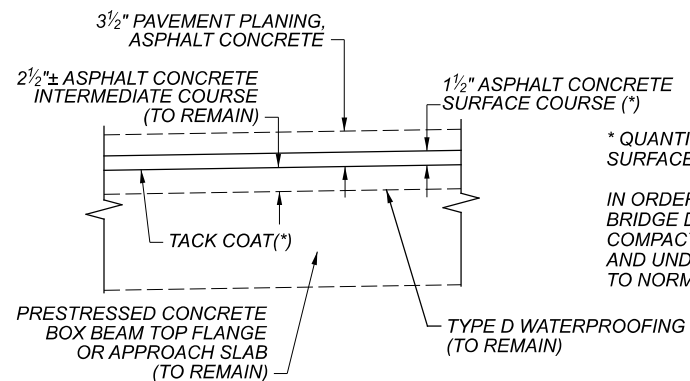
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PLAN



TRANSVERSE SECTION



DETAIL 'A'

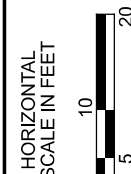
\* QUANTITIES FOR TACK COAT AND ASPHALT CONCRETE SURFACE COURSE ARE CARRIED IN THE PAVEMENT SUBSUMMARY  
 IN ORDER TO ACHIEVE ASPHALT DENSITY ON THE EDGE OF THE BRIDGE DECK, THE CONTRACTOR MAY UTILIZE A SMALL MECHANICAL COMPACTOR FOR THE OUTSIDE FEW INCHES ON THE DECK AROUND AND UNDERNEATH THE EXISTING BRIDGE RAILING IF INACCESSIBLE TO NORMAL COMPACTION EQUIPMENT.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN REMOVING THE EXISTING ASPHALT CONCRETE FROM THE EXISTING PRESTRESSED CONCRETE BOX BEAMS. THE CONTRACTOR SHALL VERIFY THE GRINDER DEPTH TO ENSURE THAT NO DAMAGE FROM OVER GRINDING WILL OCCUR, INCLUDING TO THE EXISTING WATERPROOFING. DAMAGE TO EXISTING ITEMS TO REMAIN FROM REMOVAL OPERATIONS SHALL BE REPAIRED OR REPLACED AT THE OPTION OF THE ENGINEER. ALL COSTS FOR REPAIRS OR REPLACEMENT DUE TO IMPROPER REMOVAL PROCEDURES SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

ESTIMATED QUANTITIES (01/STR/05)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	23501	68	SY	WEARING COURSE REMOVED, AS PER PLAN			68		1
254	01000	476	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.5"			320	156	
512	33010	68	SY	TYPE 3 WATERPROOFING			68		
SPECIAL	51631200	228	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS				228	
SPECIAL	51822300	254	FT	STEEL DRIP STRIP			254		
519	12300	5	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B			5		



SITE PLAN  
 BRIDGE NO. HEN-109-1355  
 OVER SOUTH TURKEYFOOT CREEK

PROPOSED WORK

- MILL 3 1/2" OF EXISTING ASPHALT CONCRETE
- REMOVE 3" OF EXISTING ASPHALT CONCRETE ON EDGES OF DECK, INCLUDING REMOVAL OF EXISTING STEEL DRIP STRIP
- PATCH TOP FLANGE OF PRESTRESSED CONCRETE BOX BEAMS AS DIRECTED BY THE ENGINEER
- INSTALL NEW TYPE 3 WATERPROOFING AND STEEL DRIP STRIP
- PLACE 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE ON DECK EDGES
- PLACE 1 1/2" ASPHALT CONCRETE SURFACE COURSE (WHILE PLACING ASPHALT ON APPROACH ROADWAY)
- SAW AND SEAL BITUMINOUS JOINTS

EXISTING STRUCTURE

TYPE: THREE SPAN PRESTRESSED CONCRETE BOX BEAM BRIDGE ON CAPPED PILE PIERS AND ABUTMENTS

SPANS: 32'-10"; 32'-10"; 32'-10" C/C BEARINGS

ROADWAY: 28'-0" F/F GUARDRAIL

LOADING: HS20-44 & ALT. MILITARY LOADING

SKEW: 10° R.F.

WEARING SURFACE: ASPHALT CONCRETE

APPROACH SLABS: 25'-0" LONG (AS-1-81)

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT

STRUCTURE FILE NUMBER: 3502996

DECK AREA: 2,875 SF

DATE BUILT: 1984

DISPOSITION: GOOD

COORDINATES: LATITUDE N 41°21'46.46"

LONGITUDE W 84°02'18.06"

SFN 3502996

DESIGN AGENCY



DESIGNER CHECKER

DJG XXX

REVIEWER

NMS MM-DD-YY

PROJECT ID

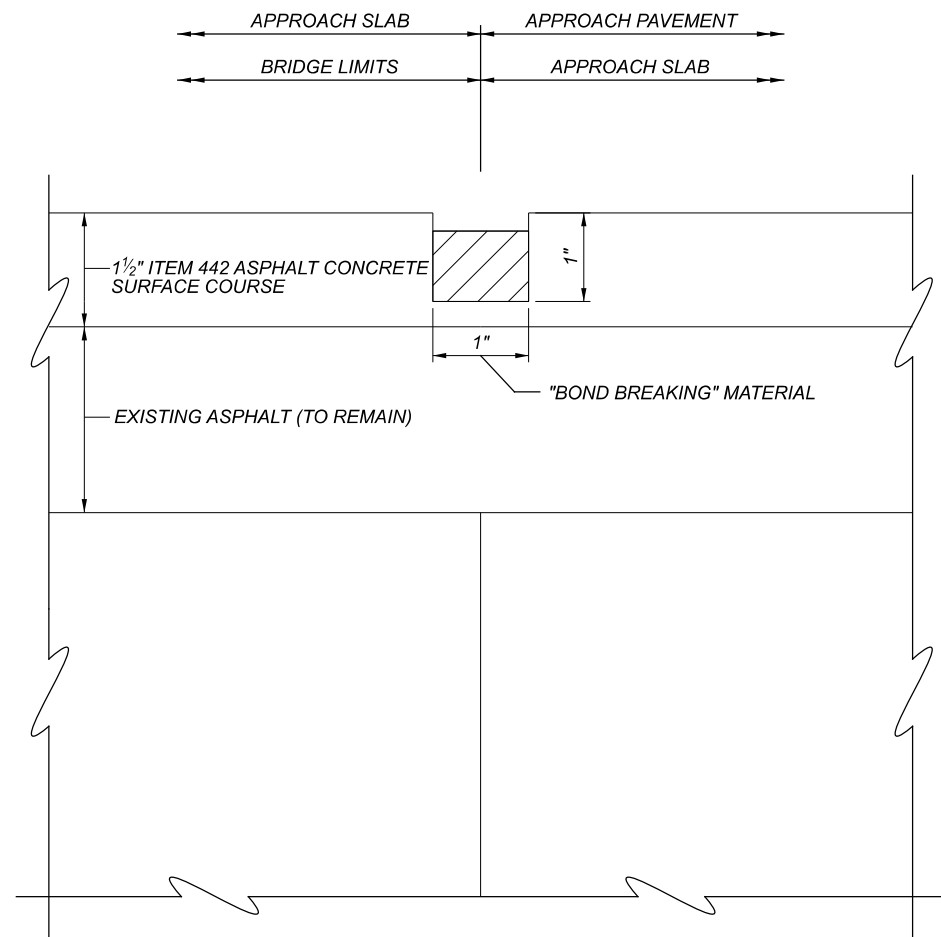
99587

SUBSET TOTAL

1 1

SHEET TOTAL

50 52



SEALING OF JOINTS AT ABUTMENTS AND ENDS OF APPROACH SLABS

ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

1) DESCRIPTION:

THIS WORK SHALL CONSIST OF CUTTING AND SEALING TRANSVERSE JOINTS IN THE NEW BITUMINOUS CONCRETE OVERLAY. BITUMINOUS CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE JOINT OF THE APPROACH SLAB & APPROACH PAVEMENT.

2) MATERIALS:

THE JOINT SEALANT SHALL MEET THE REQUIREMENTS OF ITEM 705.04, JOINT SEALANTS, HOT-POURED, FOR CONCRETE AND ASPHALT PAVEMENTS. ACCEPTABLE ALTERNATE MATERIALS ARE:

A SILICONE SEALANT MEETING FEDERAL SPECIFICATIONS TT-S-001543A CLASS A (ONE-PART SILICONE SEALANTS) AND TT-S-00230C CLASS A (ONE-COMPONENT SEALANTS), SUCH AS THOSE MANUFACTURED BY GENERAL ELECTRIC, SILICONE PRODUCTS DIVISION, 4015 EXECUTIVE PARK DRIVE, CINCINNATI, OHIO 45242 (513-243-1953) OR DOW CORNING, 400 TECHNE CENTER, SUITE 103, MILFORD, OHIO 45150 (513-831-3586); OR SOF-SEAL, A COLD-APPLIED, LOW-MODULUS, TWO-COMPONENT POLYMERIC COMPOUND HORIZONTAL SEALANT AS MANUFACTURED BY W.R.MEADOWS, INC., P.O.BOX 543, ELGIN, ILLINOIS 60121 (800-342-5976).

3) CONSTRUCTION DETAILS:

A) GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT THE CUTTING, CLEANING AND SEALING OF TRANSVERSE JOINTS IS A CONTINUOUS OPERATION THAT WILL BE PERFORMED AS SOON AS PRACTICAL AFTER THE PAVING, BUT NO LATER THAN FOUR (4) DAYS AFTER PLACEMENT OF THE ASPHALT CONCRETE SURFACE COURSE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE JOINT CUT PRIOR TO SEALING.

B) CUTTING OF TRANSVERSE JOINTS: THE CONTRACTOR SHALL SAW OR ROUT TRANSVERSE JOINTS TO THE DIMENSIONS SHOWN IN THE DETAILS ON THIS SHEET. THE CUT JOINTS SHALL LIE DIRECTLY ABOVE EACH APPROACH SLAB END. THE BLADE OR BLADES SHALL BE OF SUCH SIZE THAT THE FULL WIDTH AND DEPTH OF THE CUT CAN BE MADE WITH ONE PASS. DRY OR WET CUTTING WILL BE ALLOWED. JOINTS SHALL EXTEND THE FULL WIDTH OF THE BRIDGE.

C) CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH A SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE ANY DIRT, DUST, OR DELETERIOUS MATTER. WET SAWED JOINTS SHALL BE WASHED CLEAN OF ALL CUTTINGS BY FLUSHING WITH A JET OF WATER AND WITH OTHER TOOLS AS NECESSARY. AFTER FLUSHING, THE JOINT SHALL BE BLOWN OUT WITH COMPRESSED AIR HAVING A PRESSURE OF AT LEAST 90 P.S.I. SHALL BE USED TO BLOW OUT THE JOINT AND REMOVE ALL TRACES OF DUST.

IN THE EVENT FRESHLY CUT JOINTS BECOME CONTAMINATED BEFORE THEY ARE SEALED, THEY SHALL BE RECLEANED OF ALL FOREIGN MATERIAL BY HIGH PRESSURE WATER JET.

D) SEALING JOINT: THE JOINT SHALL BE THOROUGHLY DRY WHEN THE SEALANT IS PLACED. AFTER CLEANING AND DRYING, A BOND-BREAKER MATERIAL SHALL BE APPLIED TO THE BOTTOM OF THE GROOVE.

HOT-POURED JOINT SEALANT MATERIAL SHALL BE HEATED IN A KETTLE OR MELTER CONSTRUCTED AS A DOUBLE BOILER, WITH THE SPACE BETWEEN THE INNER AND OUTER SHELLS FILLED WITH OIL OR HEAT TRANSFER MEDIUM. POSITIVE TEMPERATURE CONTROL AND MECHANICAL AGITATION SHALL BE PROVIDED. HEATING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. JOINT SEALER MATERIAL SHALL NEVER BE KEPT HEATED AT THE POURING TEMPERATURE FOR MORE THAN FOUR (4) HOURS AND SHALL NEVER BE REHEATED. SEALER LEFT IN THE APPLICATOR AT THE END OF A DAY'S WORK SHALL NOT BE USED.

HOT-POURED SEALANT SHALL BE APPLIED IMMEDIATELY THROUGH A NOZZLE, WHICH MUST PROJECT INTO THE SAWED JOINT. FILLING FROM THE BOTTOM UP THE SEALANT SHALL COMPLETELY FILL THE JOINT IN SUCH A MANNER THAT, AFTER COOLING, THE LEVEL OF THE SEALANT WILL NOT BE HIGHER THAN 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE COOLED SEAL GREATER THAN 3/16" SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT-POURED SEALANT. CARE SHALL BE TAKEN IN THE SEALING OF THE JOINTS SO THAT THE FINAL APPEARANCE WILL PRESENT A NEAT FINE LINE.

THE COLD APPLIED SEALANT MATERIALS (POLYURETHANE, SILICONE, AND POLYMERIC COMPOUNDS) SHALL BE INSTALLED AS PER MANUFACTURES' RECOMMENDATIONS, EXCEPT AS MODIFIED BY THIS DRAWING. THE SEALANT SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES F OR HIGHER. TRAFFIC SHALL NOT BE ALLOWED ON THE JOINT FOR ONE HOUR AFTER APPLICATION OF THE SEALANT.

4) METHOD OR MEASUREMENT:

THE QUANTITY TO BE PAID FOR UNDER THIS ITEM WILL BE THE NUMBER OF LINEAR FEET OF JOINTS SAWED AND SEALED AS PER THE ABOVE REQUIREMENTS.

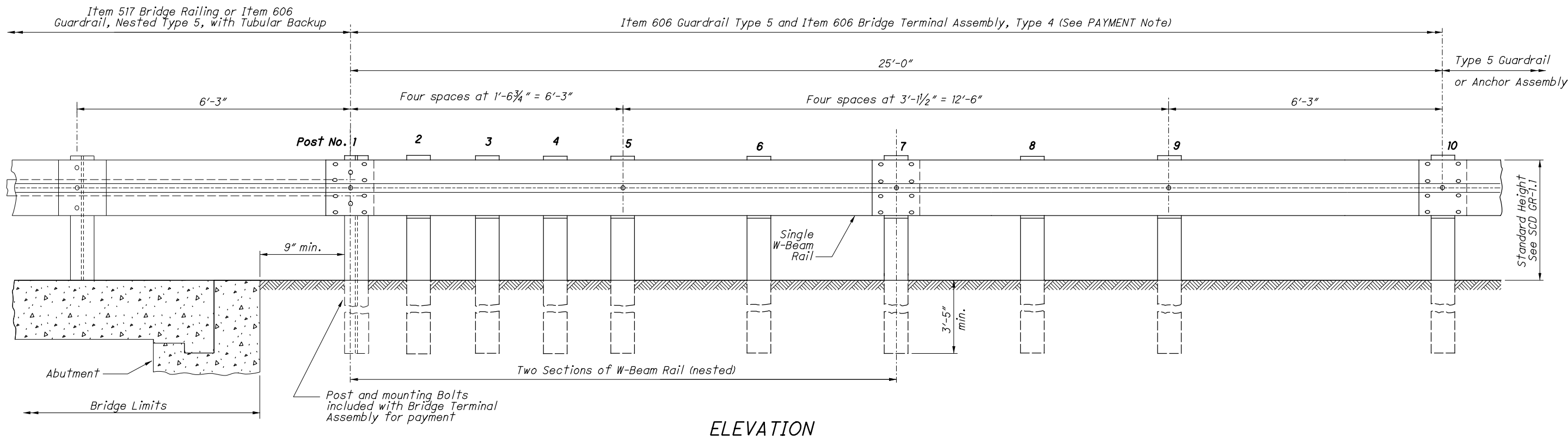
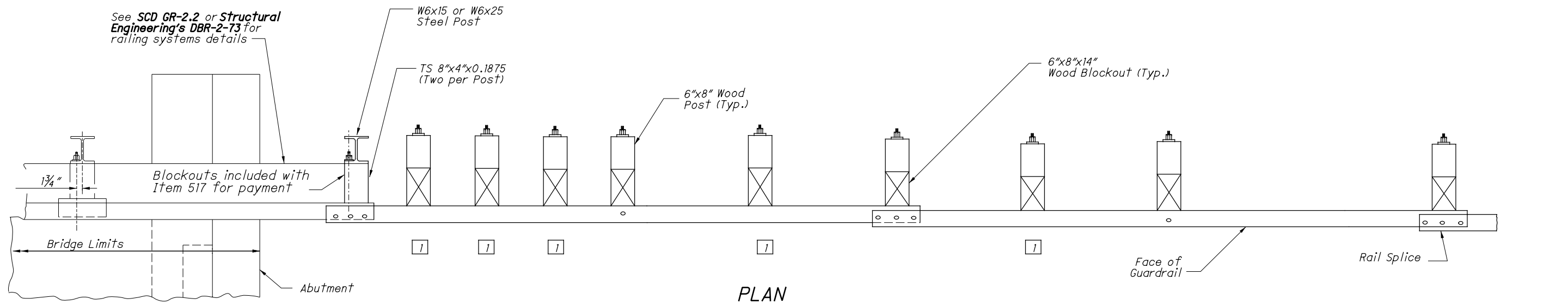
5) BASIS OF PAYMENT:

THE UNIT PRICE PER LINEAR FOOT FOR ITEM SPECIAL-"SAWING AND SEALING BITUMINOUS CONCRETE JOINTS" SHALL INCLUDE THE

THIS ITEM SHALL MEET THE MATERIAL (SECTION 2) AND SEALING (SECTION 3D) SPECIFICATIONS OF ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS.



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**NOTES**

**GENERAL:** For additional details, see SCD GR-1.1.

**APPLICATION:** The Type 4 Bridge Terminal Assembly shall connect Type 5 Guardrail runs to Type 5 Guardrail with Tubular Backup or to Deep Beam Bridge Guardrail (as shown on Structural Engineering SCD DBR-2-73).

**DETAIL INFORMATION:** The first post off the bridge shall be steel (W6x15 or W6x25). All holes in the off-structure end of the approach panel rail section spanning the abutment are slotted 3/4"x2 1/2". Tighten the bolts as specified for expansion joints in Item 606.05.

**POSTS:** Posts may be set in drilled holes or driven to grade. See SCD GR-1.1 for additional Post embedment details. Guardrail is not attached to certain posts (see LEGEND).

**WOOD POSTS -** Use square sawed pressure treated wood as specified in CMS 710.14 and fabricated with square ends. Bore bolt holes and trim the tops of posts, if required after the posts are set.

**STEEL POSTS -** are allowed as an alternate. Use W6x9 or W6x8.5 in lieu of the 6"x8" wood post. Use same post material through-out assembly.

**BLOCKOUTS:** Approved alternate blockouts can be found on the Office of Roadway Engineering website. Steel blockouts are not permitted.

**FLARED GUARDRAIL:** Start Standard Guardrail Flares as shown on SCD GR-5.1 at or beyond Post No. 10; however, the flare may begin at Post No. 7.

**PAYMENT: Item 606 - Bridge Terminal Assembly, Type 4, Each,** includes the cost of extra components in excess of normal guardrail, such as additional posts and other hardware. The TS 8"x4" spacers and tubular backup rail extending to the first post off the bridge is included with **Item 517 - Railing, or Item 606 - Guardrail, Nested Type 5 with Tubular Backup,** for payment.

**LEGEND**

1 Guardrail is not attached to posts at Posts 2, 3, 4, 6, and 8. Blockout is fastened to post with standard Post Bolt.

DESIGNED	XXX
REVISION DATE	7 / 20 / 2018
CHECKED	XXX
REVIEWED	XXX
CHECKED	XXX