

GENERAL

ROUNDING (G101)

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

UTILITIES (G102A2)

THERE ARE NO KNOWN UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER, OR ADJACENT TO, THE WORK AREA.

WORK LIMITS (G106)

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.

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

EROSION CONTROL

ITEM 659 – SEEDING AND MULCHING E101A

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

659	COMMERCIAL FERTILIZER	0.40	TON
659	LIME	0.60	ACRE
659	WATER	16.08	M GAL
659	REPAIR SEEDING AND MULCHING	145	SQ YD
659	INTERSEEDING	145	SQ YD
659	TOPSOIL	323	CU YD
659	SOIL ANALYSIS TEST	2	EACH
659	SEEDING AND MULCHING	2906	SQ YD

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

ENVIRONMENTAL/REMEDATION

ITEM 201 – TREE REMOVAL RESTRICTIONS

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT. NO TREES SHALL BE REMOVED TO CONSTRUCT THE PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. 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.

COMPLIANCE MEASURE:

ALL TREES WITHIN THE PROJECT AREA TO BE CLEARED BETWEEN OCTOBER 1 AND MARCH 31. NO ADDITIONAL TREES ARE TO BE CUT BETWEEN APRIL 1 AND SEPTEMBER 30. THE CONTRACTOR SHALL REMOVE ALL TREES LOCATED BELOW THE ROCK FACES, ON THE ACTUAL ROCK FACES, ON THE BENCH BETWEEN THE ROCK FACES, AND ALSO WITHIN FIVE (5) FEET BEYOND THE TOP OF THE ROCK FACES. TREES ARE ONLY TO BE CUT FROM THE ROCKFACE; THE STUMPS ARE TO REMAIN. ALL CUT TREES WILL HAVE TO BE HAULED OFF-SITE. ALL STUMPS ARE TO BE SPRAYED TO PREVENT FUTURE GROWTH.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO CUT AND DISPOSE OF THE TREES AS DETAILED ABOVE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER LUMP SUM OF ITEM 201 – CLEARING & GRUBBING.

GUARDRAIL

CONNECTING GUARDRAIL TO EXISTING RAIL

IN LOCATIONS WHERE TYPE 5 GUARDRAIL, TERMINAL ASSEMBLIES, ETC. ARE TO BE CONNECTED TO EXISTING RAIL SOME MODIFICATIONS MAY BE REQUIRED, INCLUDING EXTRA POSTS, DRILLING HOLES AND POSSIBLY PARTIAL SECTIONS OF ADDITIONAL RAIL ELEMENTS. THE COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR TYPE 5 GUARDRAIL. IF ADDITIONAL PORTIONS OF RAIL ELEMENT ARE USED THE LINEAL MEASUREMENT OF THIS ADDITIONAL PORTION SHALL BE ADDED FOR PAYMENT.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL (R111)

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.

LOCATIONS OF GUARDRAIL

THE GUARDRAIL PROTECTION PROVIDED IN THIS PLAN SHALL BE LOCATED IN THE FIELD TO ASSURE THAT THE INSTALLATION WILL AFFORD THE MAXIMUM PROTECTION FOR TRAFFIC. THIS LOCATION SHALL BE POSITIONED AS FAR AS POSSIBLE FROM THE EDGE OF PAVEMENT WHILE MAINTAINING PROPER GRADE IN FRONT OF GUARDRAIL AS PER STANDARD DRAWINGS AND PLAN DETAILS.

ITEM 606 – ANCHOR ASSEMBLY, MGS TYPE E (R113A)

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 RE-ROUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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

ROADWAY

ITEM 622 – CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN ITEM 622 – BARRIER TRANSITION, AS PER PLAN ITEM 622 – CONCRETE BARRIER END SECTION, TYPE D (REINFORCED) ITEM 622 – CONCRETE BARRIER, END ANCHORAGE REINFORCED TYPE D, AS PER PLAN

THESE ITEMS SHALL CONFORM TO THE STANDARD CONSTRUCTION DRAWINGS AND SPECIFICATIONS EXCEPT THE HEIGHT DIMENSIONS WHICH ARE SHOWN IN STANDARD CONSTRUCTION DRAWINGS RM-4.4, AND RM-4.5 AS 42" SHALL BE REVISED TO 50".

CONSTRUCT THE BARRIER WITH REINFORCEMENT AS DETAILED ON CONCRETE BARRIER DETAIL SHEETS 14-15.

THE CONTRACTOR WILL CONSTRUCT DRAINAGE SLOTS AT THE BASE OF THE BARRIER AT INTERVALS NOT EXCEEDING 100 FEET. THE SLOTS WILL BE LOCATED FLUSH WITH THE BASE OF THE BARRIER AND BE 4" HIGH AND 5' LENGTH FOR THE FULL WIDTH OF THE BARRIER.

BARRIER EXPANSION JOINTS SHALL BE INSTALLED AT A MAXIMUM SPACING OF 90'-0". SEE BARRIER DETAIL SHEET FOR ADDITIONAL INFORMATION.

APPROXIMATE LOCATIONS FOR DRAINAGE SLOTS AND EXPANSION JOINTS FOR REFERENCE ARE SHOWN IN THE PLANS AND BELOW. MINOR ADJUSTMENTS CAN BE MADE TO AVOID REINFORCING STEEL CONFLICTS.

DRAINAGE SLOT LOCATIONS ESTIMATED BASED UPON 90-FOOT BARRIER SECTIONS ARE AS FOLLOWS:

STA. 834+12	STA. 840+42	STA. 846+72
STA. 835+02	STA. 841+32	STA. 847+62
STA. 835+92	STA. 842+22	STA. 848+52
STA. 836+82	STA. 843+12	STA. 849+42 SB ONLY
STA. 837+72	STA. 844+02	STA. 850+32 SB ONLY
STA. 838+62	STA. 849+92	
STA. 839+52	STA. 845+82	

ON EACH SIDE OF EXPANSION JOINT AND DRAINAGE SLOT, PLACE THE REINFORCEMENT AS DETAILED ON BARRIER DETAIL SHEETS.

UNLESS ITEMIZED SEPARATELY ALL ACTIVITIES INCLUDING EXCAVATION, PAVEMENT REMOVAL, SUBGRADE COMPACTION, AGGREGATE BASE, REINFORCING STEEL, EXPANSION JOINTS, CONCRETE PAVEMENT, FULL DEPTH PAVEMENT SAWING, JOINT SEALER, AND BACKFILL NECESSARY TO CONSTRUCT THESE ITEMS SHALL BE AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 622, CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN, PER EACH FOR ITEM 622, BARRIER TRANSITION, AS PER PLAN, PER EACH FOR ITEM 622, CONCRETE BARRIER END SECTION, TYPE D (REINFORCED) AND PER EACH ITEM 622 – CONCRETE BARRIER, END ANCHORAGE REINFORCED TYPE D, AS PER PLAN.

THESE ITEMS SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO PERFORM THE WORK.

ITEM 862 - EXCAVATION

REMOVAL OF ALL WASTE MATERIAL INCLUDING SCALED MATERIAL FROM ROCK SLOPES. LIMITS ARE DETERMINED FOR ESTIMATING PURPOSES AND WILL BE ADJUSTED BASED ON ACTUAL FIELD CONDITIONS.

THE EXCAVATION QUANTITY WILL BE DETERMINED BY THE "THREE-DIMENSIONAL VOLUME" METHOD PER SS 862 VIA A PRE AND POST CONSTRUCTION SURVEY SCAN.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO EXCAVATE AND DISPOSE OF THE MATERIALS AND ASSOCIATED DEBRIS. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD OF ITEM 862 – EXCAVATION. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED FOR EXCAVATION FROM STA. 832+25 TO STA. 851+50 AND SHALL BE CARRIED TO THE GENERAL SUMMARY:

FROM SCALING:	
ITEM 862 – EXCAVATION	125 CU YD

AN ESTIMATED QUANTITY OF 125 CU YDS SHALL BE CARRIED TO THE GENERAL SUMMARY.

ITEM 862 - SCALING

SLOPES BETWEEN STA. 832+25 AND STA. 851+50 ARE TO BE HAND SCALED AND NOT MECHANICALLY SCALED DUE TO THE NATURE OF THE SLOPE. THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR ITEM 862 – SCALING:


ITEM 862 – SCALING	125 HRS
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AN ESTIMATED QUANTITY OF 125 HOURS SHALL BE CARRIED TO THE GENERAL SUMMARY.

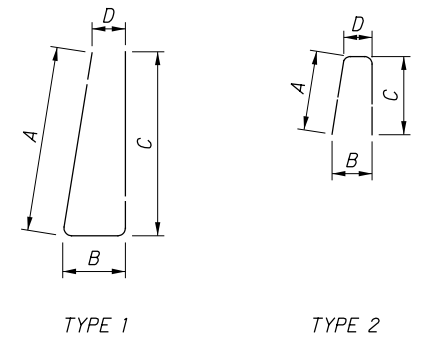
GENERAL NOTES

RIC-71-15.76

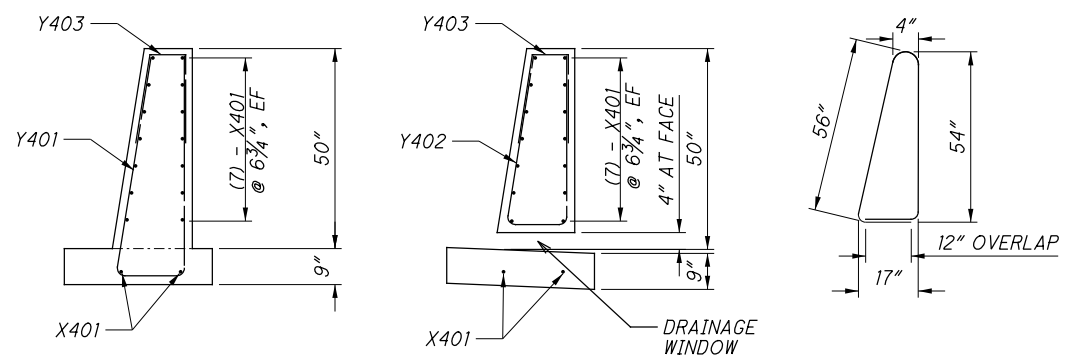
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DESIGN AGENCY	DISTRICT 3
	
ENGINEERING TEAM FOUR	
DESIGNER	NRF
REVIEWER	JLB 9-15-24
PROJECT ID	119727
SHEET	TOTAL
P.004	15

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS			
	TOTAL				A	B	C	D
Y401	51+51	10'-4"	699	1	4'-7"	1'-5"	4'-7"	8"
Y402	7	8'-1"	38	1	3'-6"	1'-3"	3'-6"	8"
Y403	24+24+1	4'-1"	134	2	1'-10"	1'-0"	1'-10"	8"
X401	16	19'-6"	209	STR				
X402	16+16	14'-10"	318	STR				
X403	16+16	25'-0"	536					
SUB-TOTAL			1934*					



BENDING DIAGRAMS



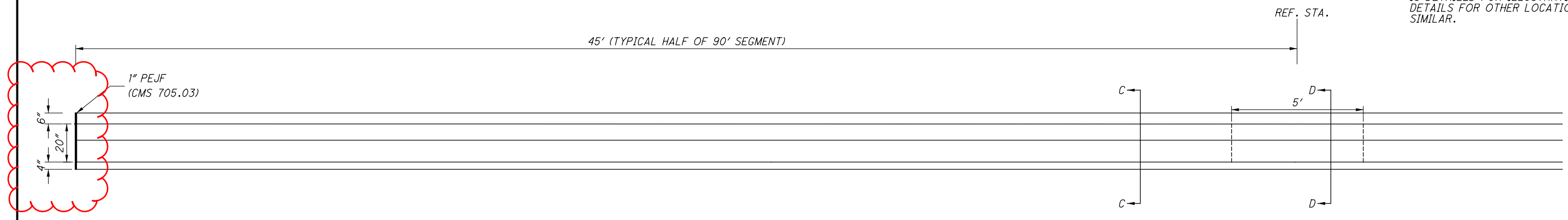
SECTION C-C

SECTION D-D

Y511 BENDING DIAGRAM

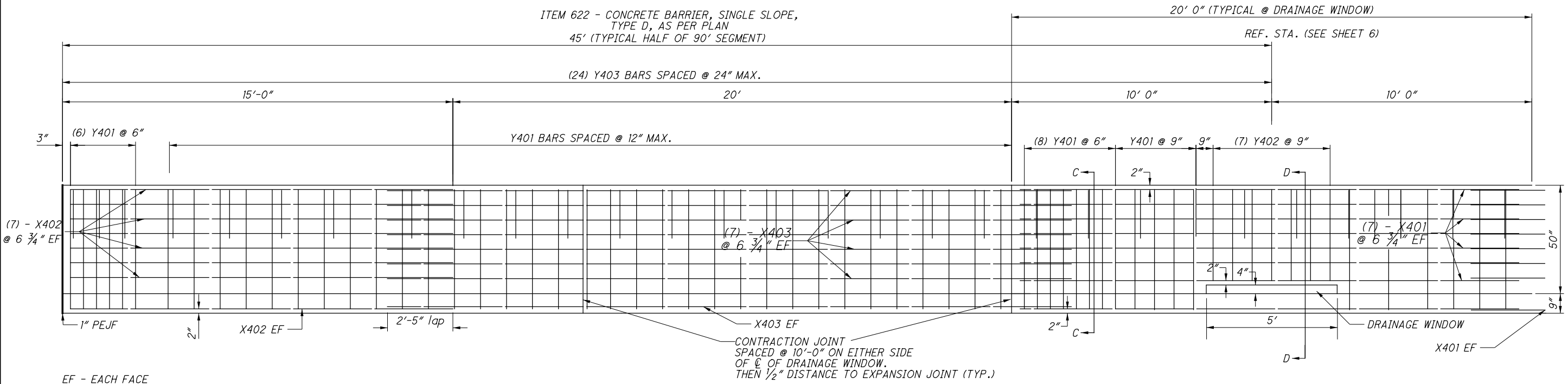
NOTE: AT THE OPTION TO THE CONTRACTOR, Y411 CAN BE USED IN LIEU OF OTHER VERTICAL REINFORCING. THE FULL SIZE BAR IS DETAILED FOR ILLUSTRATION. DETAILS FOR OTHER LOCATIONS SIMILAR.

* STEEL WEIGHT IS FOR TYPICAL 90 FT BARRIER SEGMENT AND FOR INFORMATION ONLY
 THE BARRIER SEGMENT DETAILS ARE SYMMETRICAL ABOUT THE REFERENCE STATION
 USE CMS ITEM 509 EPOXY COATED REINFORCING STEEL, GRADE 60.



PLAN VIEW

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN
 45' (TYPICAL HALF OF 90' SEGMENT)



ELEVATION

BARRIER DETAILS

DESIGN AGENCY
DISTRICT 3

ENGINEERING
TEAM FOUR

DESIGNER
NRF

REVIEWER
JLB 9-15-24

PROJECT ID
119727

SHEET TOTAL
P.014 15