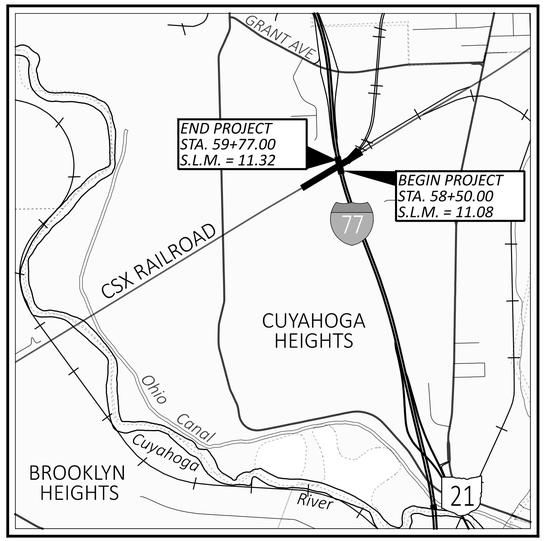
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-77-11.11

VILLAGE OF CUYAHOGA HEIGHTS

CUYAHOGA COUNTY



LOCATION MAP

LATITUDE: 41°26'04" LONGITUDE: 81°38'57"

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

DESIGN DESIGNATION

CURRENT ADT (2023)	118,520
DESIGN YEAR ADT (2043)	125,530
DESIGN HOURLY VOLUME (2043)	11,550
DIRECTIONAL DISTRIBUTION	61%
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	70 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION: 01 INTERSTATE (URBAN)	
NHS PROJECT	YES

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
SHOULDER WIDTH	8/21/2023	P.003

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:
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

INDEX OF SHEETS:

FEDERAL PROJECT NUMBER

E040 (459)

RAILROAD INVOLVEMENT

CSX R.R.

PROJECT DESCRIPTION

REPLACE THE CSX RAILROAD BRIDGE OVER IR-77 LOCATED SOUTH OF GRANT AVENUE IN CUYAHOGA HEIGHTS. THE NEW STRUCTURE WILL BE LONGER WITH NO CENTER PIER TO ACCOMODATE FUTURE ROADWAY WIDENING PROJECT.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	2.26 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.66 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	2.92 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.

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT WITH THE EXCEPTION OF ALL RAILROAD WORK. CSX DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS, DATED MARCH 1, 2021 AND AREMA 2023 REQUIREMENTS, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS OR CHANGES LISTED IN THE PROPOSAL, SHALL TAKE PRECEDENCE OVER ANY ODOT SPECIFICIATIONS THAT MAY BE RELEVANT TO THE PROPOSED RAILROAD WORK.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET P.007, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

John Picuri, P.E., S.I.
District 12 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-2.3	7/18/14	HL-30.21	4/17/20	MT-101.60	4/21/23	TC-72.20	7/21/23	800-2023	10/20/23	
BP-3.1	1/21/22	HL-30.22	1/15/21	MT-101.70	4/21/23			807	1/21/22	
BP-5.1	7/15/22	HL-50.11	1/16/15	MT-101.75	7/21/23			809	10/20/23	
		HL-50.21	7/15/22	MT-101.90	7/17/20			832	7/21/23	
DM-4.3	1/15/16	HL-60.11	7/21/17	MT-102.10	7/21/23			869	10/17/14	
DM-4.4	1/15/16			MT-104.10	4/21/23					
		ITS-14.10	4/21/23	MT-105.10	1/17/20					
F-1.1	7/19/13									
F-3.1	7/19/13	MT-95.45	7/21/23	TC-41.20	10/18/13					
F-3.3	7/19/13	MT-98.20	4/19/19	TC-41.40	10/18/13					
		MT-98.29	1/17/20	TC-42.20	10/18/13					
RM-4.2	4/17/20	MT-98.30	7/16/21	TC-52.10	10/18/13					
		MT-99.20	4/19/19	TC-52.20	1/15/21					
HL-10.13	1/20/23	MT-99.30	1/17/20	TC-61.10	4/21/23					
HL-20.11	7/21/23	MT-99.50	1/17/20	TC-61.30	7/19/19					
HL-30.11	7/21/23	MT-99.60	7/15/16	TC-65.11	7/15/22					

ENGINEER'S SEAL	ENGINEER'S SEAL
ROADWAY, BRIDGE, MOT, LIGHTING, TRACKWORK	TEMPORARY SHORING
STATE OF OHIO · NABIL F. FARAH · E-54420 · REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO · JAWDAT SIDDIQI · E-54891 · REGISTERED PROFESSIONAL ENGINEER

TITLE SHEET

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER NFF 10/27/23
PROJECT ID 21788
SHEET P.001 TOTAL 199

CUY-77-11.11

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/6/2024 TIME: 5:27:56 AM USER: mswhitt
pw:\\hq-pwint01.a-e.transystems.com:transystemscorp-pw1\Documents\Projects_2018\CL402\402180012\Agency_Folders\400-Engineering\Roadway\Sheets\21788_GT001.dgn

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE

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 OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, 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 OMUTCD, 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 500 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 - WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING 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.

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621. RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER C&MS 621.08.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS FOR THE REMOVAL AND INSTALLATION OF WZRPM FOR PAVEMENT REPAIRS:

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE	20 SQ YD
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447)	2.0 CU YD
ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, A.P.P.	716 EA

ITEM 614 - DETOUR SIGNING

SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE OMUTCD SECTIOW GF.03, SECTION 2A.11 AND TABLE 6F.01.

DETOUR SIGNING SHALL PROVIDE DRIVERS ADEQUATE TIME TO CLEARLY READ THE SIGNS AND MAKE THE PROPER DECISIONS AT EACH REQUIRED TURNING MOVEMENT, THE DESIGNATED DETOUR ROUTE SHALL BE SIGNED IN ACCORDANCE WITH THE REQUIREMENTS BELOW:

APPROXIMATELY 1500 FEET PRIOR TO TIP OF THE PAINTED GORE AT AN INTERCHANGE WHEN EXITING A HIGH SPEED (45 MPH OR HIGHER) FACILITY.

- AT OR NEAR THE EXISTING SIGN IN THE GORE OF AN INTERCHANGE RAMP.

- AT OR NEAR THE FIRST EXISTING LANE ASSIGNMENT SIGN ON AN INTERCHANGE EXIT RAMP.

- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT THE END OF AN EXIT RAMP

- APPROXIMATELY 500 FEET PRIOR TO A REQUIRED TURN AT AN INTERSECTION NOT CONTROLLED BY A STOP SIGN (FOR 45 MPH OR HIGHER ONLY).

- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT AN INTERSECTION.

- EVERY TWO MILES ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS OUTSIDE A CITY.

- EVERY TWO BLOCKS ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS WITHIN A CITY.

- AT ANY OTHER INTERSECTION OR DECISION POINT WHERE THE DETOUR ROUTE IS CONTRARY TO THE NORMAL, EXPECTED TURNING MANEUVER OR OTHERWISE UNCLEAR.

DETOUR SIGNS SHALL BE PLACED, WHEN POSSIBLE, NEXT TO BUT NOT BLOCKING EXISTING ROUTE MARKERS OR LANE ASSIGNMENT SIGNS. DETOUR SIGNS SHALL NOT OBSCURE OR BE OBSCURED BY OTHER EXISTING OR TEMPORARY SIGNS.

DETOUR SIGNS SHALL BE ERECTED AND/OR UNCOVERED PRIOR TO THE ROAD OR RAMP BEING CLOSED TO TRAFFIC BUT NO EARLIER THAN FOUR HOURS PRIOR TO THE CLOSURE. DETOUR SIGNS SHALL BE COVERED AND/OR REMOVED NO LATER THAN FOUR HOURS FOLLOWING THE ROAD OR RAMP RE-OPENING TO TRAFFIC.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, PROPER SIGN PLACEMENT AND SIZING, TIMELY ERECTING AND/OR UNCOVERING OF SIGNS, MAINTAINING SIGNS, AND TIMELY COVERING AND/OR REMOVING SIGNS AND SUPPORTS.

REMOVAL AND DISPOSAL OF EXISTING DETOUR SIGNAGE FROM THIS PROJECT AND ANY FROM OLDER PROJECT UTILZING THE IR-77 CLOSURE SHALL BE INCLUDED AND INCIDENTAL TO THIS PAY ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - DETOUR SIGNING (LUMP SUM)

MAINTENANCE OF TRAFFIC GENERAL NOTES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER SS

REVIEWER NFF 10/27/23

PROJECT ID 21788

SHEET P.009 TOTAL 199

CUY-77-11.11
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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.008	P.009	P.010	P.022	P.042	P.045	P.048							01/IMS/10						
																		LIGHTING	
						18							18	625	00450	18	EACH	CONNECTION, FUSED PULL APART	
						24							24	625	00480	24	EACH	CONNECTION, UNFUSED PERMANENT	
						99							99	625	23200	99	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
						441							441	625	23304	441	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
						124							124	625	25200	124	FT	CONDUIT, 1-1/4", 725.04	
						483							483	625	25400	483	FT	CONDUIT, 2", 725.04	
						4							4	625	27503	4	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN (240 VOLT)	P.047
						2							2	625	27520	2	EACH	REMOVAL OF LUMINAIRE AND REERECTION	
						483							483	625	29000	483	FT	TRENCH	
						6							6	625	29920	6	EACH	STRUCTURE JUNCTION BOX	
						6							6	625	30700	6	EACH	PULL BOX, 725.08, 18"	
						2							2	625	30706	2	EACH	PULL BOX, 725.08, 24"	
						2							2	625	32000	2	EACH	GROUND ROD	
						1							1	625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
						483							483	625	36010	483	FT	UNDERGROUND WARNING/MARKING TAPE	
																		TRAFFIC SURVEILLANCE	
					514								514	625	25504	514	FT	CONDUIT, 3", 725.051	
					720								720	625	25910	720	FT	CONDUIT CLEANED AND CABLES REMOVED	
					257								257	625	29000	257	FT	TRENCH	
					2								2	625	30706	2	EACH	PULL BOX, 725.08, 24"	
					2								2	625	39520	2	EACH	PULL BOX CLEANED	
																		TRAFFIC CONTROL	
				10									10	614	13350	10	EACH	OBJECT MARKER, ONE WAY	
				10									10	626	00110	10	EACH	BARRIER REFLECTOR, TYPE 2 (ONE WAY)	
				0.87									0.87	646	10010	0.87	MILE	EDGE LINE, 6"	
				1.28									1.28	646	10110	1.28	MILE	LANE LINE, 6"	
				877									877	646	20504	877	FT	DOTTED LINE, 6"	
																		STRUCTURE OVER 20 FOOT SPAN (CUY-00077-11.119)	P.060
																		STRUCTURE OVER 20 FOOT SPAN (CUY-00077-11.126)	P.060
																		MAINTENANCE OF TRAFFIC	
	20												20	254	01000	20	SY	PAVEMENT PLANING, ASPHALT CONCRETE (DEPTH = 1.5")	
	2												2	442	10300	2	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447)	
	500												500	614	11110	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
			8										8	614	12380	8	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
	LS												LS	614	12420	LS		DETOUR SIGNING	
	716												716	614	12801	716	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	P.009
			104										104	614	13310	104	EACH	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	
			104										104	614	13350	104	EACH	OBJECT MARKER, ONE WAY	
120													120	614	18601	120	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	P.008
			1.28										1.28	614	20056	1.28	MILE	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	
			2.2										2.2	614	22056	2.2	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT	
		0.87											0.87	614	22110	0.87	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	
			13,194										13,194	614	23110	13,194	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	
		6,758											6,758	614	23210	6,758	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	
			738										738	614	24102	738	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	
50													50	616	10000	50	MGAL	WATER	
			5,130										5,130	622	41100	5,130	FT	PORTABLE BARRIER, UNANCHORED	

GENERAL SUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
NFF 10/27/23

PROJECT ID
21788

SHEET P.028 TOTAL 199

CUY-77-11.11

MODEL: Sheet2 PAPERSIZE: 34x22 (in.) DATE: 5/3/2024 TIME: 10:19:31 AM USER: mswhitt
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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.005	P.006	P.131											01/IMS/10						
																		ITEMS OF WORK (TRACKWORK)	
		3,000											3,000	202	98500	3,000	CY	REMOVAL MISC.: TOP SOIL	P.123
		20,000											20,000	203	10000	20,000	CY	EXCAVATION	
		30,400											30,400	203	20001	30,400	CY	EMBANKMENT, AS PER PLAN	P.123
		8,100											8,100	607	98000	8,100	FT	FENCE, MISC.: SILT FENCE	P.123
		LS											LS	624	10000	LS		MOBILIZATION (FOR TRACKWORK)	
		25,000											25,000	659	10000	25,000	SY	SEEDING AND MULCHING (FOR SUBBALLAST)	
		10											10	SPECIAL	90011000	10	EACH	TURNOUT INSTALLATION	P.123
		10											10	SPECIAL	90011000	10	EACH	TURNOUT REMOVAL	P.123
		1,800											1,800	SPECIAL	90012000	1,800	TKFT	SUBBALLAST	P.123
		7,945											7,945	SPECIAL	90012000	7,945	TKFT	TRACK INSTALLATION	P.123
		8,150											8,150	SPECIAL	90012000	8,150	TKFT	TRACK REMOVAL	P.123
																		INCIDENTALS	
													LS	100	00300	LS		PREMIUM ON RAILROADS' PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE	
													75,000	100	51100	75,000	EACH	DEPARTMENT'S SHARE OF THE DISPUTE RESOLUTION BOARD	
													9,250	SPECIAL	11110100	9,250	EACH	DEPARTMENTS SHARE FACILITATED PARTNERING COSTS	
	LS												LS	614	11000	LS		MAINTAINING TRAFFIC	
31													31	619	16021	31	MNTH	FIELD OFFICE, TYPE C, AS PER PLAN	P.005
													LS	623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	P.005
													LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

CUY-77-11.11

MODEL: Sheet3 PAPERSIZE: 34x22 (in.) DATE: 5/6/2024 TIME: 5:10:18 AM USER: mswhitt
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW

REVIEWER NFF 10/27/23

PROJECT ID 21788

SHEET P.029 TOTAL 199

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION FROM	STATION TO STATION TO	SIDE		625 CONDUIT, 3" , 725.051 FT	625 CONDUIT CLEANED AND CABLES REMOVED FT	625 PULL BOX, 725.08, 24" EACH	625 PULL BOX CLEANED EACH	625 TRENCH FT
			BRIDGE NO. CUY-00077-11.119								
ITS-1	P.046	IR-77	57+69.70		LT				1		
ITS-2	P.046	IR-77	57+69.70	59+89.90	LT		446				223
ITS-3	P.046	IR-77	59+89.90		LT				1		
ITS-4	P.046	IR-77	59+89.90	60+23.00	LT		68				34
ITS-5	P.046	IR-77	56+71.00		LT					1	
ITS-6	P.046	IR-77	60+23.00		LT					1	
ITS-7	P.046	IR-77	56+71.00	60+23.00	LT			720			
TOTALS CARRIED TO GENERAL SUMMARY							514	720	2	2	257

ITS (TRAFFIC SURVEILLANCE) - SUBSUMMARY

CUY-77-11.11

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/3/2024 TIME: 9:14:34 AM USER: ssaduseil
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2018\CL402\402180012\Agency_Folders\400-Engineering\Signals\Sheets\21788_CS001.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER HBB

REVIEWER SS 10/27/23

PROJECT ID 21788

SHEET P.045 TOTAL 199

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE	625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 CONDUIT, 1-1/4", 725.04	625 CONDUIT, 2", 725.04	625 LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN 240 VOLT	625 REMOVAL OF LUMINAIRE AND REERECTION	625 TRENCH	625 STRUCTURE JUNCTION BOX	625 PULL BOX, 725.08, 18"	625 PULL BOX, 725.08, 24"	625 GROUND ROD	625 STRUCTURE GROUNDING SYSTEM	625 UNDERGROUND WARNING/MARKING TAPE				
			FROM	TO		EACH	EACH	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT				
			IR-77																					
L-1	P.049	IR-77	57+56.00	58+12.00	RT		3				56			56		1				56				
L-2	P.049	IR-77	57+70.00	59+90.00	LT		3				223			223		1				223				
L-3	P.049	IR-77	57+96.00		LT		3									1								
L-4	P.049	IR-77	58+20.00		RT								1					1						
L-5	P.049	IR-77	59+73.00		LT		3									1								
L-6	P.049	IR-77	59+80.00		LT								1					1						
L-7	P.049	IR-77	59+90.00	60+19.00	LT		3				34			34		1				34				
L-8	P.049	IR-77	60+09.00		RT		3									1								
L-8A	P.049	IR-77	57+56.00	59+54.00	RT						170			170						170				
			BRIDGE NO. CUY-00077-11.119/11.126																1					
L-9	P.049	IR-77	58+64.00		LT							1												
L-10	P.049	IR-77	59+06.00		RT							1												
L-11	P.049	IR-77	NYC-UP-1	JB-0	LT	3									1									
L-12	P.049	IR-77	CR-UP-1	JB-5	RT	3									1									
L-13	P.049	IR-77	NYC-UP-1	NYC-UP-2	LT					47														
L-14	P.049	IR-77	NYC-UP-1	NYC-UP-2	RT				170															
L-15	P.049	IR-77	CR-UP-1	CR-UP-2	LT					47														
L-16	P.049	IR-77	CR-UP-1	CR-UP-2	RT				170															
L-17	P.049	IR-77	JB-1	JB-2	LT	3									1									
L-18	P.049	IR-77	JB-3	JB-4	RT	3									1									
L-19	P.049	IR-77	JB-0	U-1	LT				47															
L-20	P.049	IR-77	JB-5	U-2	RT				53															
L-21	P.049	IR-77	U-1	PB-0	LT			50																
L-22	P.049	IR-77	U-2	PB-1	RT			50																
L-23	P.049	IR-77	JB-0	PB-0	LT					15														
L-24	P.049	IR-77	JB-5	PB-1	RT					15														
L-25	P.049	IR-77	U-1	PB-0	LT		3										1							
L-26	P.049	IR-77	U-2	PB-1	RT		3										1							
L-27	P.049	IR-77	JB-0	NYC-UP-2	LT	3									1									
L-28	P.049	IR-77	JB-5	CR-UP-2	RT	3									1									
L-29	P.049	IR-77	59+10.00		LT							1												
L-30	P.049	IR-77	59+54.00		RT							1												
TOTALS CARRIED TO GENERAL SUMMARY						18	24	99	441	124	483	4	2	483	6	6	2	2	1	483				

LIGHTING SUBSUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HBB

REVIEWER
SS 10/27/23

PROJECT ID
21788

SHEET P.048 TOTAL 199

CUY-77-11.11

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/3/2024 TIME: 9:11:40 AM USER: ssadusei
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2018\CL40\2402180012\Agency_Folders\400-Engineering\Lighting\Sheets\21788_LS001.dgn

STRUCTURE GENERAL NOTES

REFER TO THE FOLLOWING ODOT SUPPLEMENTAL SPECIFICATIONS:

869 REVISED 10/17/2014

DESIGN SPECIFICATIONS:

THESE STRUCTURES CONFORM TO THE REQUIREMENTS OF THE "MANUAL FOR RAILWAY ENGINEERING" BY THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION, 2023 EDITION, AND CSX PUBLIC PROJECT INFORMATION MANUAL, MAY, 2023.

CONSTRUCTION AND MATERIAL SPECIFICATIONS:

STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 2023. (AS SUPPLEMENTED BY CSX DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS, MARCH 1, 2021), WITH THE EXCEPTION OF ALL RAILROAD WORK. CSX DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS, DATED MARCH 1, 2021 AND AREMA 2023 REQUIREMENTS, INCLUDING ANY SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS OR CHANGES LISTED IN THE PROPOSAL, SHALL TAKE PRECEDENCE OVER ANY ODOT SPECIFICIATIONS THAT MAY BE RELEVANT TO THE PROPOSED RAILROAD WORK.

DESIGN DATA:

DESIGN LOADING - COOPER E90 WITH DIESEL IMPACT AND ALTERNATE LIVE LOAD. DEAD LOAD INCLUDES 2'-0" OF ADDITIONAL BALLAST FOR FUTURE TRACK SURFACING.

CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (ABUTMENT PILE CAP)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CONCRETE FACING, ABUTMENT BACKWALL, AND SOLDIER PILE WINGWALL DRILLED SHAFT)

CONCRETE CLASS QC5, WITH $\frac{3}{8}$ INCH MAXIMUM AGGREGATE - COMPRESSIVE STRENGTH 4.5 KSI (ABUTMENT DRILLED SHAFT)

CONCRETE REINFORCEMENT: EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI. FOR MEMBER TOUGHNESS REQUIREMENTS, SEE SHEET 45 OF 68 .

STEEL SOLDIER PILES - ASTM A572 - YIELD STRENGTH 50 KSI

PERMANENT STEEL CASING FOR ABUTMENT DRILLED SHAFTS - ASTM A252 GRADE 3 - YIELD STRENGTH 45 KSI

MAINTENANCE OF TRAFFIC:

THE CONSTRUCTION PROGRAM WILL REQUIRE CLOSE COORDINATION AND COOPERATION WITH CSXT PERSONNEL FOR ALL OPERATIONS THAT INVOLVE TRACK WORK AND RAIL SERVICE. THE TIME OF SPECIFIC TRACK CLOSINGS, OPENINGS, SWITCHING, AND OTHER REQUIRED RAIL, TIE, AND BALLAST WORK IN ALL CASES SHALL BE SUBJECT TO CSXT APPROVAL.

THE BRIDGE CONSTRUCTION REQUIRES COORDINATION OF RAIL TRAFFIC TO ENSURE CONTINUITY OF SAFE OPERATIONS AND MINIMUM INTERFERENCE. FOR SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION, SEE SHEET P.061 . FOR ROADWAY MAINTENANCE OF TRAFFIC NOTES AND PLANS, SEE SHEETS P.006 THROUGH P.026 . FOR RAILROAD PHASING DETAILS, SEE SHEETS P.132 THROUGH P.155 .

CONSTRUCTION CLEARANCE:

MAINTAIN A CONSTRUCTION CLEARANCE OF 25 FEET FOR OBSTRUCTIONS ABOVE THE TOP OF RAIL AND 10 FEET FOR EXCAVATIONS BELOW THE TOP OF RAIL MEASURED HORIZONTALLY FROM THE CENTER OF TRACKS. MAINTAIN A CONSTRUCTION CLEARANCE OF 23 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AT ALL TIMES.

RAILROAD AERIAL LINES:

RAILROAD AERIAL LINES WILL BE RELOCATED BY THE RAILROAD. USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION WILL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

DIMENSIONS:

DIMENSIONS ARE MEASURED HORIZONTALLY AND AT 60 DEGREES FAHRENHEIT UNLESS NOTED OTHERWISE.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS OF THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OH, 44125, AND ARE AVAILABLE FOR REFERENCE.

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 ODOT 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 THAT HAVE BEEN VERIFIED IN THE FIELD.

ASBESTOS NOTIFICATION:

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT 750 SQUARE FEET OF ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE. ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM OHIO EPA, DAPC
P.O. BOX 1049
COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM OHIO EPA, DAPC
50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE:
1) THE CONTRACTORS NAME AND ADDRESS
2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND
3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.

COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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

ALL REMOVAL SHALL BE IN ACCORDANCE WITH ODOT CMS 202 WITH THE FOLLOWING ADDITIONS. THIS WORK SHALL INCLUDE THE PHASED REMOVAL OF THE EXISTING STRUCTURE AS DETAILED IN THE PLANS. THE WORK INCLUDES ALL ELEMENTS NOT SEPARATELY LISTED FOR PAYMENT. THE STRUCTURE SHALL BE CAREFULLY REMOVED BY PHASED CONSTRUCTION METHODS. THE USE OF EXPLOSIVES AND HEADACHE BALLS WILL NOT BE PERMITTED FOR ANY DEMOLITION OF THE EXISTING STRUCTURE. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH ODOT CMS 501.05.

PHASED CONCRETE DECK REMOVAL:

WHEN NO LONGER REQUIRED TO MAINTAIN TRAIN TRAFFIC, REMOVE THE CONCRETE DECK SLAB IN ACCORDANCE WITH THE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION DETAILED IN THE PLANS. HOWEVER, BEFORE THE REMOVAL OF PORTIONS OF THE CONCRETE DECK REQUIRED BY THE PHASED CONSTRUCTION, THE CONTRACTOR SHALL DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK TO BE REMOVED. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB AND DURING DECK PICKING OPERATIONS TO AVOID DAMAGING EXISTING STEEL MEMBERS THAT ARE TO REMAIN DURING PHASE 2 CONSTRUCTION. WHILE NO EXISTING STEEL WILL BE INCORPORATED INTO THE NEW STRUCTURES, THE ABOVE PROCEDURE IS INTENDED TO FOSTER A SAFE AND ORDERLY PHASED REMOVAL OF EXISTING SUPERSTRUCTURE SO THAT PORTIONS OF THE EXISTING STRUCTURE BEING TEMPORARILY MAINTAINED OR ANY PORTION OF NEW CONSTRUCTION ARE NOT DAMAGED.

PHASED SUBSTRUCTURE CONCRETE REMOVAL:

THE EXISTING SUBSTRUCTURE SHALL BE REMOVED IN PHASES WHEN IT IS NO LONGER NEEDED TO MAINTAIN TRAIN TRAFFIC, AS DETAILED IN THE PLANS. WHEN PORTIONS OF THE EXISTING STRUCTURE ARE TO REMAIN TO MAINTAIN TRAIN TRAFFIC DURING PHASED CONSTRUCTION, HOE-RAM TYPE HAMMERS ARE NOT PERMITTED WITHIN 2 FEET OF THE PORTION TO BE TEMPORARILY PRESERVED. HAMMERS NOT EXCEEDING 90 POUNDS MAY BE USED TO REMOVE THE REMAINING 2 FEET PORTION OF CONCRETE WITH CARE NOT TO DAMAGE THE REINFORCING STEEL AND CONCRETE OF THE PORTION OF STRUCTURE TO BE PRESERVED.

EXISTING SUBSTRUCTURES THAT ARE NO LONGER NEEDED TO MAINTAIN TRAIN TRAFFIC MAY BE REMOVED USING HOE-RAM TYPE HAMMERS AND PNEUMATIC TYPE HAMMERS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT NEW AND EXISTING CONCRETE STRUCTURES DURING THE PHASED CONSTRUCTION PROCESS. THE CONTRACTOR SHALL PERFORM DEMOLITION OPERATIONS SUCH THAT THERE IS NOT ANY DAMAGE TO THE NEW STRUCTURE OR TO PORTIONS OF THE EXISTING STRUCTURE BEING TEMPORARILY MAINTAINED.

MEASUREMENT & PAYMENT:

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

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALLS):

THIS ITEM SHALL INCLUDE THE INSTALLATION, MODIFICATION, PARTIAL REMOVAL OF DRILLED SHAFTS, WALKWAYS, TEMPORARY HANDRAILS, AND LEAVING IN PLACE OF THE TEMPORARY WALLS AS SHOWN IN THE PLANS.

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION, WALKWAY, AND HANDRAIL IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, WALKWAY, AND HANDRAIL, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH ODOT CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION, WALKWAY, AND HANDRAIL AT THE CONTRACT LUMP SUM PRICE BID FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN. ALTERNATE DESIGNS MUST BE APPROVED BY THE RAILROAD AND MEET ALL REQUIREMENTS OF THE CSX PUBLIC PROJECT INFORMATION MANUAL, APPENDIX CONSTRUCTION SUBMISSION CRITERIA, SECTION VI. THE DEPARTMENT WILL NOT PROVIDE ADDITIONAL COMPENSATION OR CONSIDER DELAY TIMES CAUSED BY THE RAILROAD REVIEW AND ACCEPTANCE OF ALTERNATE TEMPORARY SUPPORT OF EXCAVATION, WALKWAY, AND HANDRAIL DESIGNS. IF AN ALTERNATIVE DESIGN IS ACCEPTED, THE CONTRACTOR WILL ASSUME ALL RESPONSIBILITY FOR THE DESIGN INCLUDING ANY ADDITIONAL COST THAT MAY ARISE FROM THE ASSOCIATED TRACK MONITORING.

ITEM 507 -STEEL PILES, MISC.: SOLDIER PILES: W24x103
ITEM 507 -STEEL PILES, MISC.: SOLDIER PILES: W24x162
ITEM 507 -STEEL PILES, MISC.: SOLDIER PILES: W30x235
ITEM 507 -STEEL PILES, MISC.: SOLDIER PILES: W30x292
ITEM 507 -STEEL PILES, MISC.: SOLDIER PILES: W33x263
ITEM 507 -STEEL PILES, MISC.: SOLDIER PILES: W36x330

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH ODOT CMS 711.01. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W24x103, ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W24x162, ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W30x235, ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W30x292, ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W33x263, ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W36x330.

ITEM 511 - CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA, AS PER PLAN:
ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN:
ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, SUBSTRUCTURE, AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 511, THE CONTRACTOR SHALL ALSO COMPLY WITH ALL REQUIREMENTS OF CSX DESIGN AND CONSTRUCTION STANDARD SPECIFICATIONS SECTION 070105. THIS INCLUDES, BUT IS NOT LIMITED TO, USE OF FLY ASH AS A SUBSTITUTE FOR PORTLAND CEMENT IS PROHIBITED. WHERE A CONFLICT EXISTS BETWEEN ODOT CMS AND CSX SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL RAILROAD REQUIREMENTS AND SPECIFICATIONS RELATED TO CONCRETE.

GENERAL NOTES - 1
BRIDGE NO. CUY-00077-11.119 AND CUY-00077-11.126
CSXT RAILROAD OVER IR-77

SFN 1806271
SFN 1806272
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER BTA
REVIEWER NFF 10/27/23
PROJECT ID 21788
SUBSET 5 | TOTAL 68
SHEET P.056 | TOTAL 199

CUY-77-11.11

ITEM SPECIAL - STRUCTURES, SURVEY AND MONITORING OF TRACK AND TEMPORARY WALLS:

PART 1: QUALIFICATION OF PERSONNEL
PROVIDE QUALIFIED PERSONNEL UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF OHIO WITH A MINIMUM OF TWO YEARS EXPERIENCE IN DEFORMATION MONITORING FOR STRUCTURES. SUBMIT THE NAMES, DUTIES, AND QUALIFICATIONS OF THE PERSONNEL AT LEAST FOUR WEEKS PRIOR TO COMMENCEMENT OF MONITORING. INCLUDE THE EQUIPMENT TO BE USED, INCLUDING INSTRUMENT CALIBRATION AND THE FORM IN WHICH INFORMATION WILL BE PRESENTED TO THE ENGINEER. INCLUDE THE LOCATIONS AND METHODS THAT WILL BE USED TO MAINTAIN PERMANENT REFERENCE POINTS. THE ENGINEER MAY REQUEST A MEETING WITH THE MONITORING PERSONNEL WHEN EVALUATING THEIR QUALIFICATIONS. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER PRIOR TO COMMENCEMENT OF MONITORING. CONTRACTOR WILL BE REQUIRED TO SUBMIT A TRACK MONITORING PLAN TO CSX FOR APPROVAL.

PART 2: MONITORING MOVEMENT OF TRACK
1) DESCRIPTION
THIS WORK IS THE MONITORING OF VERTICAL AND HORIZONTAL MOVEMENT OF EXISTING, TEMPORARY, AND PERMANENT TRACKS DURING THE TIME PERIOD OVER WHICH THE TRACKS ARE SUPPORTED BY TEMPORARY WALLS AND WHILE EMBANKMENT BENCHING OPERATIONS ARE ONGOING. COORDINATE INSTRUMENTATION MONITORING WITH THE PROVISIONS FOR MONITORING MOVEMENT OF TEMPORARY WALLS.

2) CONSTRUCTION
A) MONITORING
SURVEY THE TOP OF RAILS OF ANY TRACKS EXTENDING FROM THE FURTHEST POINT OF RAILROAD EMBANKMENT WIDENING (FINAL TRACK M2 STA. 45+75) TO 100 FEET BEYOND THE END OF THE TEMPORARY WALL AT THE REAR ABUTMENT (FINAL TRACK M2 STA. 30+70). WHERE MORE THAN ONE TRACK MAY BE AFFECTED, ESTABLISH MONITORING POINTS ON EACH TRACK. COMPLETE THIS SURVEY BEFORE ANY WORK FOR TEMPORARY WALLS (EXCAVATION OR PLACEMENT OF WALLS) OR EMBANKMENT BENCHING HAS BEGUN. PROVIDE THE SURVEY INFORMATION TO THE ENGINEER TO USE AS A REFERENCE FOR FUTURE SURVEYS TO ESTABLISH WHETHER MOVEMENT HAS OCCURRED.

SURVEY EACH TOP OF RAIL AT A MAXIMUM SPACING OF 25 FEET BETWEEN MONITORING POINTS. WHERE THE CONSTRUCTION ACTIVITIES ARE CLOSE TO THE TRACKS, AS DETERMINED BY CSXT, MONITORING POINTS MAY BE REQUIRED AT A MAXIMUM SPACING OF 10 FEET OR CLOSER. PROVIDE A SECOND SET OF BASELINE READINGS TO CONFIRM REPEATABILITY OF THE BASELINE READINGS WITHIN 24 HOURS AFTER THE INITIAL BASELINE SURVEY AT THE SAME MONITORING POINTS. PROVIDE ADDITIONAL MONITORING SURVEY(S) IMMEDIATELY PRIOR TO AND AFTER WALL INSTALLATION AND EMBANKMENT BENCHING OPERATIONS. FIELD-MARK AND LOCATE VERTICAL MONITORING POINTS WITH PAINT OR CRAYON ON THE FIELD SIDE OF THE RAIL AND A POINT ON THE TIE FOR HORIZONTAL MEASUREMENT TO ASSURE THAT SUCCESSIVE READINGS ARE MEASURED AT THE SAME LOCATION(S).

THE CONTRACTOR SHALL IDENTIFY, SET, AND MAINTAIN AN APPROPRIATE NUMBER OF FIXED BENCHMARKS, REFERENCE POINTS, ETC. TO FACILITATE THE SURVEYING OF THE TOP OF RAILS. ALL FIXED POINTS SHALL BE LOCATED OUTSIDE OF THE AREA OF INFLUENCE OF CONSTRUCTION ACTIVITIES OR TO BE SUBJECT TO SETTLEMENT OF ANY MAGNITUDE.

B) MONITORING FREQUENCY
AS SOON AS ANY TRACK IS PARTIALLY SUPPORTED BY TEMPORARY WALLS, OR EMBANKMENT BENCHING OPERATIONS ARE UNDERWAY, BEGIN THE MONITORING SURVEYS.

DURING THE FIRST THREE DAYS THAT THE TRACK IS SUPPORTED BY THE TEMPORARY WALLS OR EMBANKMENT BENCHING OPERATIONS HAVE BEGUN, SURVEY THE TOP OF RAIL LOCATIONS. A MINIMUM OF THREE TIMES PER DAY WITH EACH SURVEY BEING APPROXIMATELY EIGHT HOURS APART. SURVEY THE TRACKS AT THE SAME LOCATIONS AS THE INITIAL SURVEY.

THE FREQUENCY, AMOUNT, AND DURATION OF MONITORING MAY BE MODIFIED AT THE SOLE DISCRETION OF THE RAILROAD.

ITEM SPECIAL - STRUCTURES, SURVEY AND MONITORING OF TRACK AND TEMPORARY WALLS (CONTINUED):

IF IT IS ESTABLISHED BY THE ENGINEER THAT NO MOVEMENT OF THE TRACKS IS OCCURRING, REDUCE THE FREQUENCY OF THE SURVEYS TO ONCE A DAY FOR THE NEXT FOUR CALENDAR DAYS. IF, AFTER THIS PERIOD OF TIME, NO MOVEMENT OF THE TRACKS HAS OCCURRED, REDUCE THE FREQUENCY OF THE MONITORING SURVEY TO ONCE A WEEK UNTIL THE WALLS ARE REMOVED, THE EMBANKMENT BENCHING IS COMPLETED, OR AS DIRECTED BY THE ENGINEER.

IF ANY VERTICAL OR HORIZONTAL MOVEMENT OF THE TRACK OCCURS AS DETERMINED BY THE ENGINEER, IMMEDIATELY MAKE DIRECT CONTACT AND NOTIFY THE REPRESENTATIVE OF CSXT. IF DEFLECTION CONTINUES TO INCREASE, DO NOT RESUME WORK UNTIL CSXT HAS INSPECTED THE SITE AND APPROVED.

CSXT, AT ITS SOLE DISCRETION, SHALL HAVE THE RIGHT TO IMMEDIATELY REQUIRE ALL CONTRACTOR OPERATIONS TO BE CEASED, HAVE THE EXCAVATED AREA IMMEDIATELY BACKFILLED, AND/OR DETERMINE WHAT CORRECTIVE ACTION IS REQUIRED. ANY CORRECTIVE ACTION REQUIRED BY CSXT, OR PERFORMED BY CSXT, INCLUDING THE MONITORING OR CORRECTIVE ACTION OF THE CONTRACTOR, WILL BE AT THE PROJECT'S EXPENSE, UNLESS AN ALTERNATIVE COFFERDAM AND EXCAVATION BRACING PLAN IS SUBMITTED BY THE CONTRACTOR, IN WHICH CASE THE CORRECTIVE ACTION WILL BE AT THE CONTRACTOR'S EXPENSE.

PART 3: MONITORING MOVEMENT OF TEMPORARY WALLS
1) DESCRIPTION
THIS WORK IS THE MONITORING OF BOTH VERTICAL AND HORIZONTAL MOVEMENTS OF TEMPORARY WALLS DURING CONSTRUCTION. COORDINATE INSTRUMENTATION MONITORING WITH THE PROVISIONS FOR MONITORING MOVEMENT OF TRACK AND ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALLS).

2) CONSTRUCTION
A) MONITORING
FOR TEMPORARY WALLS SUPPORTING TRACKS, SURVEY THE TOP OF WALLS AT MONITORING POINTS THAT ARE SPACED AT MAXIMUM INTERVALS OF 10 FEET. ESTABLISH REFERENCE POINTS AT A MINIMUM OF THREE LOCATIONS, WHICH INCLUDE BOTH ENDS AND A THIRD POINT NEAR MID-LENGTH, ALONG EACH WALL LINE. LOCATE THESE REFERENCE POINTS RELATIVE TO THE SUPPORTED TRACK. PROVIDE A DIRECT LINE OF SIGHT ALONG THE TOP OF THE WALLS BETWEEN THESE REFERENCE POINTS AND MEASURE THE WALL DEFLECTION AT EACH MONITORING POINT RELATIVE TO THIS REFERENCE LINE. MEASURE THE PLUMBNESS OF THE WALL AT EACH OF THESE MONITORING LOCATIONS. COMPLETE THIS SURVEY BEFORE ANY EXCAVATION IN FRONT OF THE WALLS HAS BEGUN. PROVIDE THE SURVEY INFORMATION TO THE ENGINEER TO USE AS A REFERENCE FOR FUTURE SURVEYS TO ESTABLISH WHETHER MOVEMENT HAS OCCURRED.

THE CONTRACTOR SHALL IDENTIFY, SET, AND MAINTAIN AN APPROPRIATE NUMBER OF FIXED BENCHMARKS, REFERENCE POINTS, ETC. TO FACILITATE THE SURVEYING OF THE TOP OF TEMPORARY WALLS. ALL FIXED POINTS SHALL BE LOCATED OUTSIDE OF THE AREA OF INFLUENCE OF CONSTRUCTION ACTIVITIES OR TO BE SUBJECT TO SETTLEMENT OF ANY MAGNITUDE.

B) MONITORING FREQUENCY
AS SOON AS TRACKS ARE PARTIALLY SUPPORTED BY THE TEMPORARY WALLS, BEGIN THE MONITORING SURVEYS.

DURING THE FIRST THREE DAYS THAT THE TRACKS ARE SUPPORTED BY THE TEMPORARY WALLS, SURVEY THE TOP OF WALL LOCATIONS A MINIMUM OF THREE TIMES PER DAY WITH EACH SURVEY BEING APPROXIMATELY EIGHT HOURS APART. SURVEY THE TOP OF WALLS AT THE SAME LOCATIONS AS THE INITIAL SURVEY.

IF IT IS ESTABLISHED THAT NO EXCESSIVE MOVEMENT OF THE WALLS IS OCCURRING, REDUCE THE FREQUENCY OF THE SURVEYS TO ONCE A DAY FOR THE NEXT FOUR CALENDAR DAYS. IF, AFTER THIS PERIOD OF TIME, NO MOVEMENT OF THE WALLS HAS OCCURRED, REDUCE THE FREQUENCY OF THE SURVEYING TO ONCE A WEEK UNTIL THE COMPLETION OF THAT PHASE OF CONSTRUCTION.

IF LATERAL MOVEMENT OF THE WALLS IS EQUAL TO OR GREATER THAN ½ INCH, IMMEDIATELY MAKE DIRECT CONTACT AND NOTIFY THE REPRESENTATIVE OF CSXT. IF DEFLECTION CONTINUES TO INCREASE, DO NOT RESUME WORK UNTIL CSXT HAS INSPECTED THE SITE AND APPROVED.

ITEM SPECIAL - STRUCTURES, SURVEY AND MONITORING OF TRACK AND TEMPORARY WALLS (CONTINUED):

CSXT, AT ITS SOLE DISCRETION, SHALL HAVE THE RIGHT TO IMMEDIATELY REQUIRE ALL CONTRACTOR OPERATIONS TO BE CEASED, HAVE THE EXCAVATED AREA IMMEDIATELY BACKFILLED, AND/OR DETERMINE WHAT CORRECTIVE ACTION IS REQUIRED. ANY CORRECTIVE ACTION REQUIRED BY CSXT, OR PERFORMED BY CSXT, INCLUDING THE MONITORING OR CORRECTIVE ACTION OF THE CONTRACTOR, WILL BE AT THE PROJECT'S EXPENSE, UNLESS AN ALTERNATIVE COFFERDAM AND EXCAVATION BRACING PLAN IS SUBMITTED BY THE CONTRACTOR, IN WHICH CASE THE CORRECTIVE ACTION WILL BE AT THE CONTRACTOR'S EXPENSE.

THE FREQUENCY, AMOUNT, AND DURATION OF MONITORING MAY BE MODIFIED AT THE SOLE DISCRETION OF CSXT.

PART 4: REPORTING AND INTERPRETATION OF RESULTS
1) MONITORING REPORT
RECORD AND STORE RAW INSTRUMENTATION DATA IN STANDARD UNIT OF MEASURE. REDUCE AND PRESENT INSTRUMENTATION DATA IN A CONSISTENT SPREADSHEET FORMAT. FURNISH A SUMMARY REPORT TO THE ENGINEER WITHIN 24 HOURS AFTER COLLECTION THAT INCLUDES THE TABULATED RAW DATA, REDUCED RESULTS, AND SUMMARY PLOTS. PROVIDE DATA IN A CHRONOLOGICAL FORMAT REPORTING ALL PREVIOUSLY REPORTED VALUES. PROVIDE THE REPORT IN BOTH HARD COPY AND DIGITAL FORMAT. HIGHLIGHT ANY CHANGES IN MEASURED VALUES AND NOTE WHAT CONSTRUCTION OR ENVIRONMENTAL CHANGES OCCURRED THAT COULD HAVE PRODUCED THE CHANGES IN VALUES.

2) INTERPRETATION OF RESULTS
THE ENGINEER WILL INTERPRET THE INSTRUMENTATION RESULTS AND WILL MAKE SUCH INTERPRETATIONS AVAILABLE TO THE CONTRACTOR. DO NOT DISCLOSE MONITORING DATA TO THIRD PARTIES WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.

PART 5: MEASUREMENT AND PAYMENT
THE COST SHALL INCLUDE BASELINE READINGS AND SPECIFIED INSTRUMENT READING SETS FOR ALL SUPPORTED TRACKS AND ASSOCIATED TEMPORARY WALLS. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR ADDITIONAL READING SETS THAT ARE NOT AUTHORIZED BY THE ENGINEER. THE ADJUSTMENT OF THE UNIT OF MEASUREMENT SHALL BE EXEMPT FROM ODOT CMS 104.02. ADEQUATE MATERIAL AND EQUIPMENT REQUIRED SHALL BE FURNISHED AND INCLUDED IN THE COST.

ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURES, SURVEY AND MONITORING OF TRACK AND TEMPORARY WALLS FOR PAYMENT. PAYMENT FOR THE DESCRIBED WORK SHALL BE PAID FOR AS LUMP SUM.

ITEM SPECIAL - STRUCTURES, TIMBER LAGGING SYSTEM:

THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE ABUTMENT DRILLED SHAFT PERMANENT CASINGS LOCATED AT THE PHASE CONSTRUCTION LINE (DS-8 AND DS-17 AT THE REAR ABUTMENT; AND DS-16 AND DS-25 AT THE FORWARD ABUTMENT), AND BETWEEN THE FIRST SOLDIER PILE WINGWALL AND ABUTMENT DRILLED SHAFT PERMANENT CASINGS (DS-1, DS-9, DS-24, AND DS-32). FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 4 INCHES. TO PERMIT DRAINAGE, PROVIDE ¼ INCH TO ½ INCH SPACES BETWEEN LAGGING BOARDS USING ⅜ INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER. PERFORM EXCAVATION FOR PLACEMENT OF THE LAGGING IN SUCH A MANNER THAT THE LAGGING IS TIGHT AGAINST THE EXCAVATION CUT FACE. BACKFILL ANY VOIDS BEHIND THE LAGGING WITH A SUITABLE COMPACTED GRANULAR MATERIAL CONFORMING TO ODOT CMS 703.16C ACCEPTABLE TO THE ENGINEER. THE COST OF ANY SUCH BACKFILLED REQUIRED, INCLUDING MATERIAL, PLACEMENT AND COMPACTION, IS INCIDENTAL TO THE COST OF THE LAGGING.

THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PERFORMANCE OF THE LAGGING SYSTEM. SUBMIT DESIGN CALCULATIONS AND DETAILS PREPARED BY AN OHIO LICENSED PROFESSIONAL ENGINEER FOR THE LAGGING, INCLUDING THE ATTACHMENT OF THE LAGGING TO THE DRILLED SHAFT PERMANENT CASINGS, FOR APPROVAL BY THE ENGINEER. THE COST OF SUBMITTING AND OBTAINING APPROVAL OF THE LAGGING SYSTEM IS INCLUDED WITH THIS WORK.

THE DEPARTMENT WILL PAY FOR TIMBER LAGGING AT THE CONTRACT UNIT PRICE BID PER LUMP SUM FOR ITEM SPECIAL - STRUCTURES, TIMBER LAGGING SYSTEM.

ITEM SPECIAL - RETAINING WALL, TIMBER LAGGING:

THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING BETWEEN THE WINGWALL SOLDIER PILES AS TEMPORARY SUPPORT FOR THE RETAINED SOIL. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MINIMUM THICKNESS OF 3 INCHES. TO PERMIT DRAINAGE, PROVIDE ¼ INCH TO ½ INCH SPACES BETWEEN LAGGING BOARDS USING ⅜ INCH THICK SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER. PLACE THE LAGGING BOARDS BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 2 INCHES AT BOTH ENDS OF THE LAGGING BOARDS. PERFORM EXCAVATION FOR PLACEMENT OF THE LAGGING IN SUCH A MANNER THAT THE LAGGING IS TIGHT AGAINST THE EXCAVATION CUT FACE. BACKFILL ANY VOIDS BEHIND THE LAGGING WITH A SUITABLE COMPACTED GRANULAR MATERIAL CONFORMING TO ODOT CMS 703.16.C ACCEPTABLE TO THE ENGINEER. THE COST OF ANY SUCH BACKFILLING REQUIRED, INCLUDING MATERIAL, PLACEMENT AND COMPACTION, IS INCIDENTAL TO THE COST OF THE LAGGING.

THE DEPARTMENT WILL PAY FOR TIMBER LAGGING AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM SPECIAL - RETAINING WALL, TIMBER LAGGING.

ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS:

ALL NECESSARY CHANGES MADE IN THE FIELD DURING CONSTRUCTION SHALL BE CAREFULLY DOCUMENTED AND PRESENTED TO CSXT AT THE CONCLUSION OF THIS PROJECT. THEREFORE, STRICT ADHERENCE TO THE PLANS IS IN THE BEST INTEREST OF ALL PARTIES. HOWEVER, IF CHANGES MUST BE MADE IN THE FIELD, THE CONTRACTOR SHALL CAREFULLY AND CLEARLY RECORD THEM. AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT THESE CHANGES (IF ANY) TO THE PROJECT ENGINEER IN AN ELECTRONIC DOCUMENT SIGNED, DATED, AND SEALED BY A PROFESSIONAL ENGINEER OR SURVEYOR IN THE STATE OF OHIO. THE PROJECT ENGINEER SHALL SUBMIT THE ELECTRONIC SET OF AS-BUILT PLANS TO CSXT. ALL CHANGES (IF ANY) SHALL BE NOTED AND CLEARLY CALLED OUT ON A REDLINED SET OF AS-BUILT PLANS. ALL PAGES SHALL BE CLEARLY MARKED "AS-BUILT", AND INCLUDE THE DATE OF COMPLETION. AS-BUILT PLANS SHALL ALSO CONTAIN COMPLETE INFORMATION CONCERNING THE ABUTMENT DRILLED SHAFTS, THE LOCATION OF THE DEMONSTRATION DRILLED SHAFTS, AND INFORMATION CONCERNING THE SOLDIER PILE WINGWALL DRILLED SHAFTS.

ALL LABOR, MATERIALS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS FOR PAYMENT.

ABBREVIATIONS:

ABUT.	ABUTMENT
℄	BASELINE
BTM.	BOTTOM
BRG.	BEARING
℄	CENTERLINE
C.I.P.	CAST-IN-PLACE
CMS	CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONSTR.	CONSTRUCTION
DIA.	DIAMETER
E.E.	END-TO-END
E.F.	EACH FACE
EL.	ELEVATION
E.S.	EACH SIDE
EX.	EXISTING
F.F.	FAR FACE
FWD.	FORWARD
INV.	INVERT
KSI	KIPS PER SQUARE INCH
LSM	LOW STRENGTH MORTAR
MAX.	MAXIMUM
MIN.	MINIMUM
MISC.	MISCELLANEOUS
N.F.	NEAR FACE
ODOT	OHIO DEPARTMENT OF TRANSPORTATION
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
PSI	POUNDS PER SQUARE INCH
R	RADIUS
SPA.	SPACING
STA.	STATION
TEMP.	TEMPORARY
TYP.	TYPICAL

GENERAL NOTES - 4

BRIDGE NO. CUY-00077-11.119 AND CUY-00077-11.126
CSXT RAILROAD OVER IR-77

SFN 1806271
SFN 1806272

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	BTA

REVIEWER
NFF 10/27/23

PROJECT ID
21788

SUBSET	TOTAL
8	68

SHEET	TOTAL
P.059	199

CUY-77-11.11

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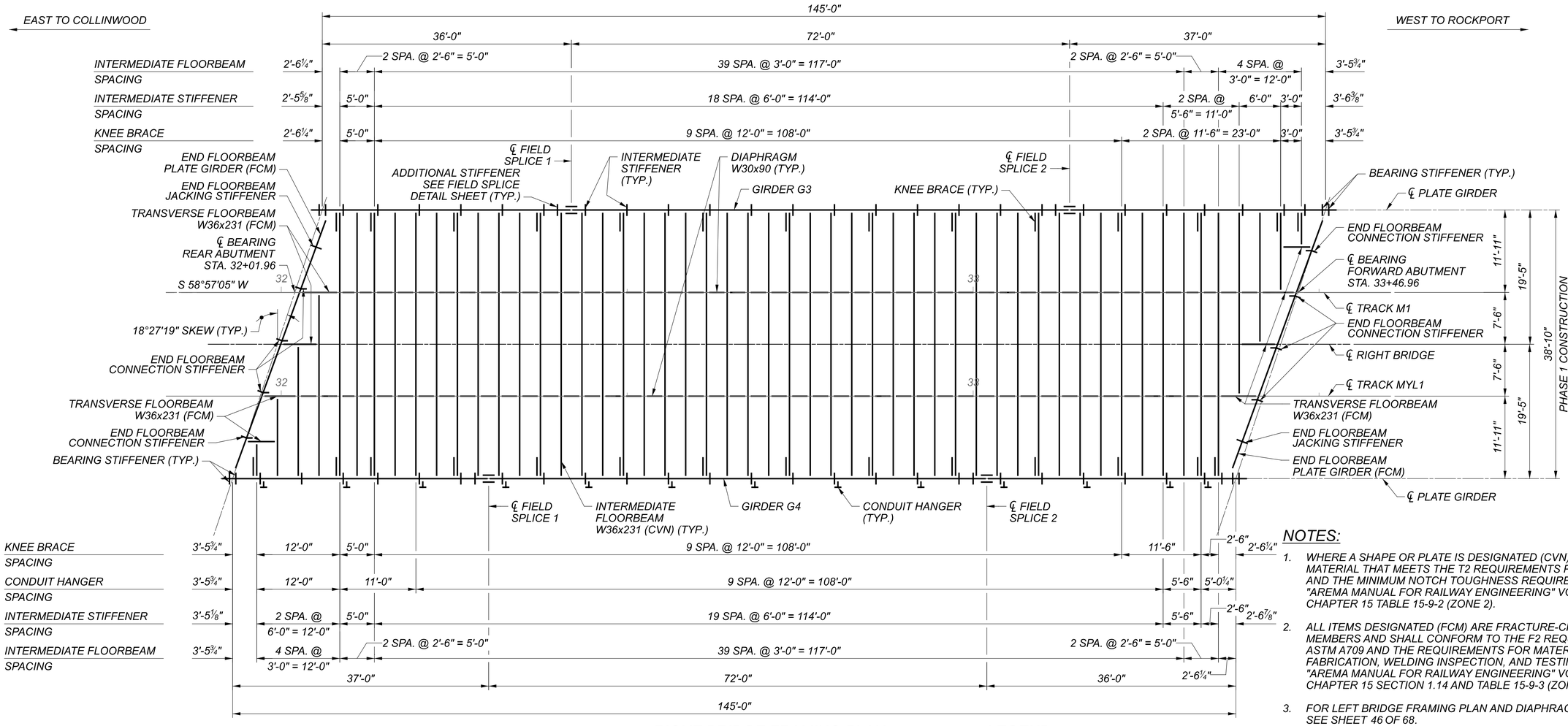
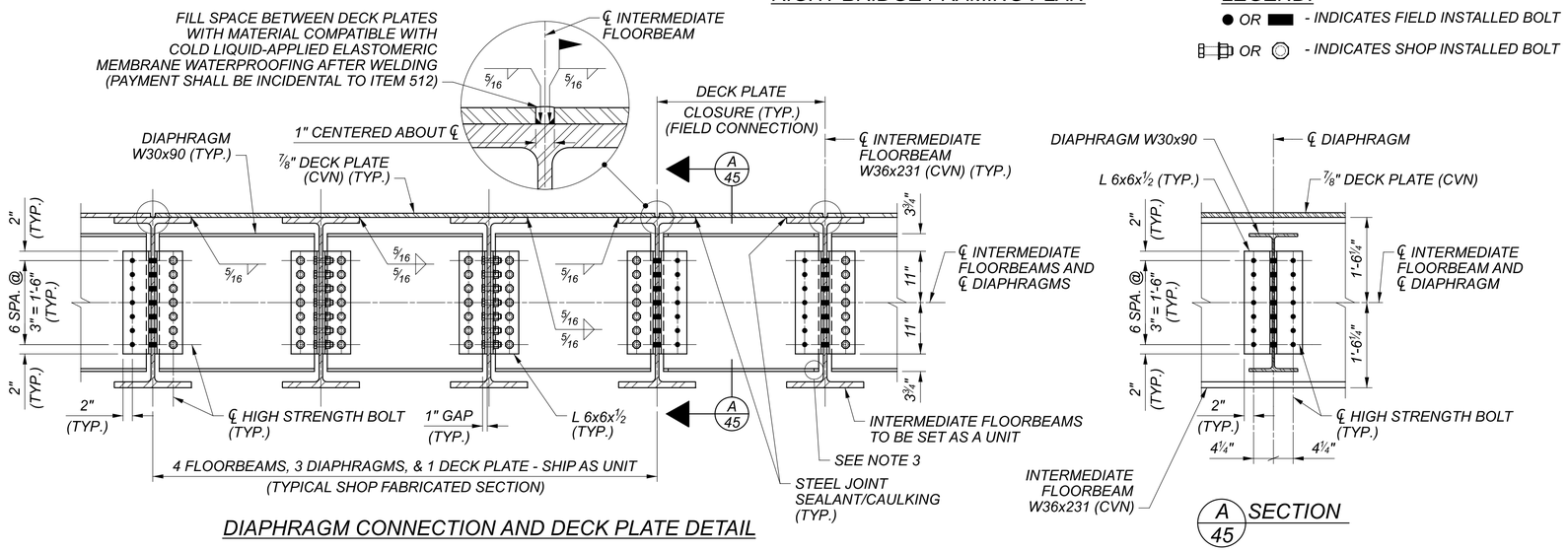


RIGHT BRIDGE FRAMING PLAN



DIAPHRAGM CONNECTION AND DECK PLATE DETAIL

LEGEND:

● OR ■ - INDICATES FIELD INSTALLED BOLT

OR ○ - INDICATES SHOP INSTALLED BOLT

NOTES:

1. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE T2 REQUIREMENTS PER ASTM A709 AND THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS PER "AREMA MANUAL FOR RAILWAY ENGINEERING" VOLUME 2, CHAPTER 15 TABLE 15-9-2 (ZONE 2).
2. ALL ITEMS DESIGNATED (FCM) ARE FRACTURE-CRITICAL MEMBERS AND SHALL CONFORM TO THE F2 REQUIREMENTS PER ASTM A709 AND THE REQUIREMENTS FOR MATERIAL FABRICATION, WELDING INSPECTION, AND TESTING SPECIFIED IN "AREMA MANUAL FOR RAILWAY ENGINEERING" VOLUME 2, CHAPTER 15 SECTION 1.14 AND TABLE 15-9-3 (ZONE 2).
3. FOR LEFT BRIDGE FRAMING PLAN AND DIAPHRAGM CLIP DETAIL, SEE SHEET 46 OF 68.
4. FOR GIRDER G3 AND G4 ELEVATION, SEE SHEETS 47 THROUGH 52 OF 68.
5. FOR FIELD SPLICE DETAILS, SEE SHEET 53 OF 68.
6. FOR PLATE GIRDER DETAILS, SEE SHEET 54 OF 68.
7. FOR FLOORBEAM DETAILS, SEE SHEET 55 OF 68.
8. FOR END FLOORBEAM DETAILS, SEE SHEETS 56 AND 57 OF 68.
9. FOR KNEE BRACE DETAILS, SEE SHEET 58 OF 68.
10. FOR DECK PLATE DETAILS, SEE SHEETS 61 AND 62 OF 68.
11. HIGH STRENGTH BOLTS SHALL BE 1" DIA. ASTM F3125 GRADE A325, TYPE 1, UNLESS NOTED OTHERWISE, AND SHALL MEET THE REQUIREMENTS OF ODOT CMS 711.09. THE TURN-OF-THE-NUT METHOD OF BOLT INSTALLATION SHALL BE UTILIZED AND THE HIGH STRENGTH BOLTS SHALL NOT BE RE-USED. HOLES SHALL BE 1⅛" DIA. UNLESS NOTED OTHERWISE.
12. ALL NUTS FOR THE HIGH STRENGTH BOLTS SHALL BE GRADE DH AND ALL WASHERS FOR THE HIGH STRENGTH BOLTS SHALL BE TYPE 1. NUTS AND WASHERS SHALL MEET THE REQUIREMENTS OF ODOT CMS 711.09.
13. ALL HIGH STRENGTH BOLTS (EXCEPT A490 BOLTS), NUTS, AND WASHERS SHALL BE MECHANICALLY ZINC COATED IN ACCORDANCE WITH ODOT CMS 711.02.
14. CONTACT SURFACES OF BOLTED CONNECTIONS SHALL MEET CLASS A REQUIRMENTS FOR SLIP-CRITICAL CONNECTIONS PER "AREMA MANUAL FOR RAILWAY ENGINEERING" VOLUME 2, CHAPTER 15 TABLE 15-1-11A, UNLESS NOTED OTHERWISE.

RIGHT BRIDGE FRAMING PLAN
BRIDGE NO. CUY-00077-11.119 AND CUY-00077-11.126
CSXT RAILROAD OVER IR-77

SFN 1806271
SFN 1806272

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	JPD

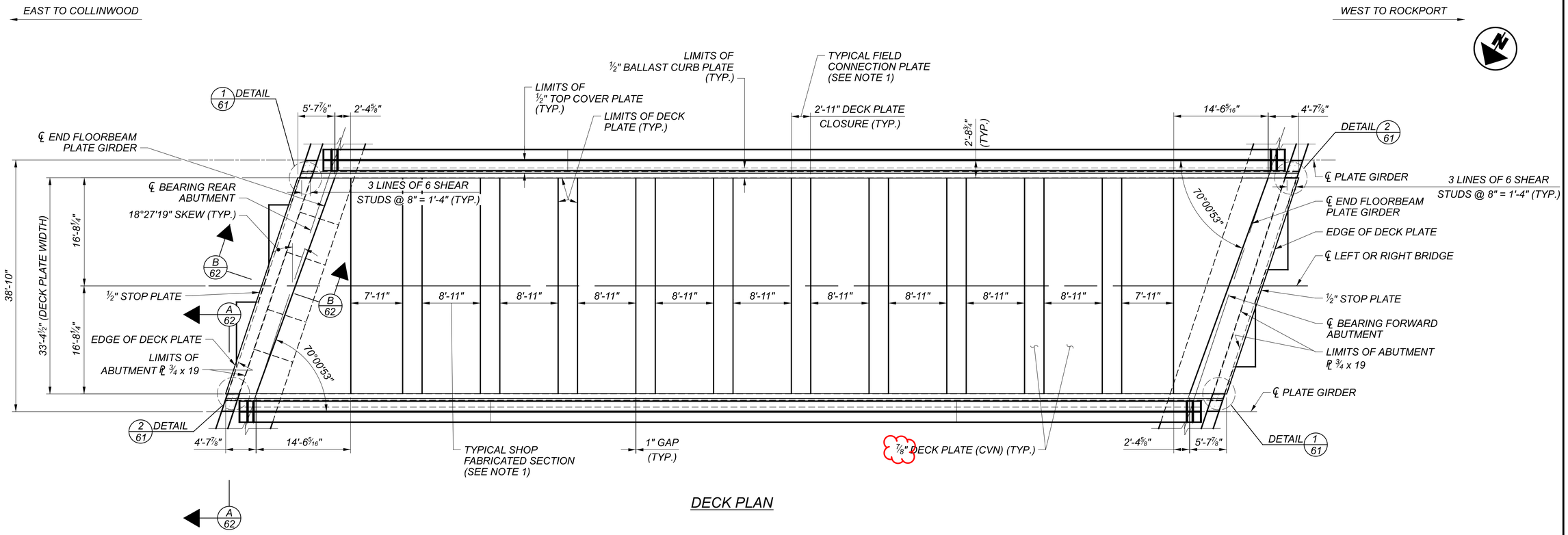
REVIEWER: NFF 10/27/23

PROJECT ID: 21788

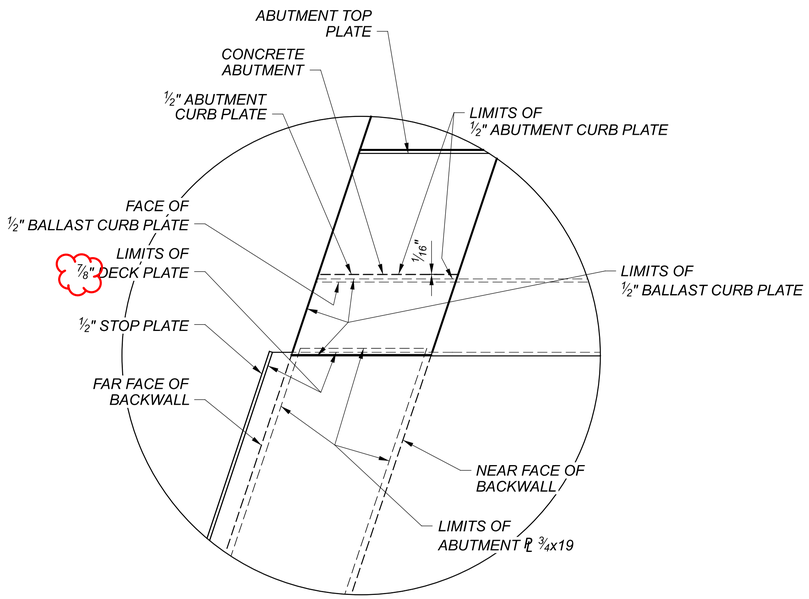
SUBSET	TOTAL
45	68

SHEET	TOTAL
P.096	199

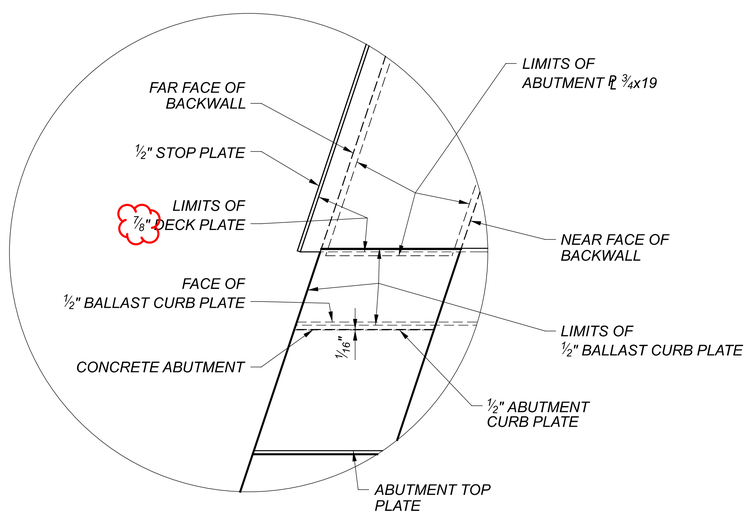
CUY-77-11.11



DECK PLAN



1 61 DETAIL
REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND



2 61 DETAIL
REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND

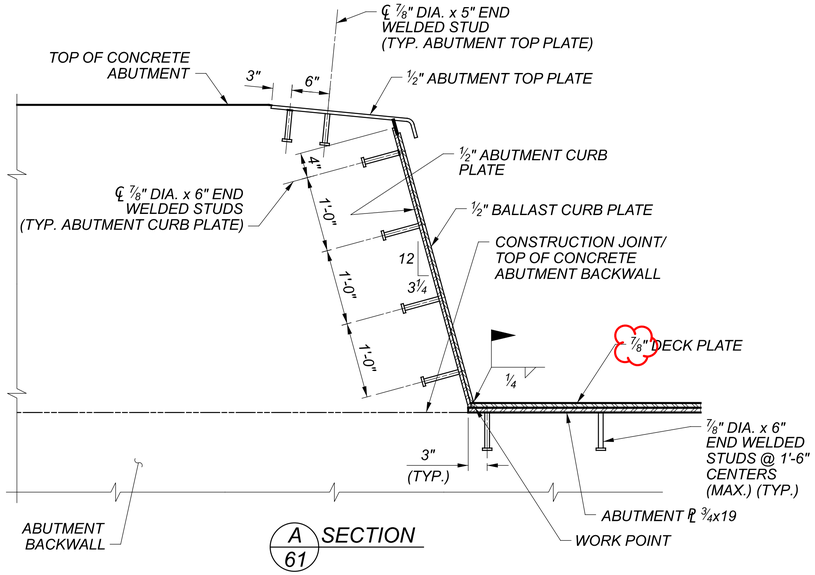
NOTES:

1. FOR TYPICAL SHOP FABRICATED SECTION AND FIELD CONNECTION PLATE, SEE DIAPHRAGM CONNECTION AND DECK PLATE DETAIL ON SHEET 45 OF 68.
2. FOR BALLAST CURB PLATE TO DECK PLATE CONNECTION DETAILS, SEE SHEET 58 OF 68.
3. FOR ADDITIONAL TOP COVER PLATE DETAILS, SEE SHEET 59 OF 68.
4. FOR ADDITIONAL BALLAST CURB PLATE DETAILS, SEE SHEET 60 OF 68.

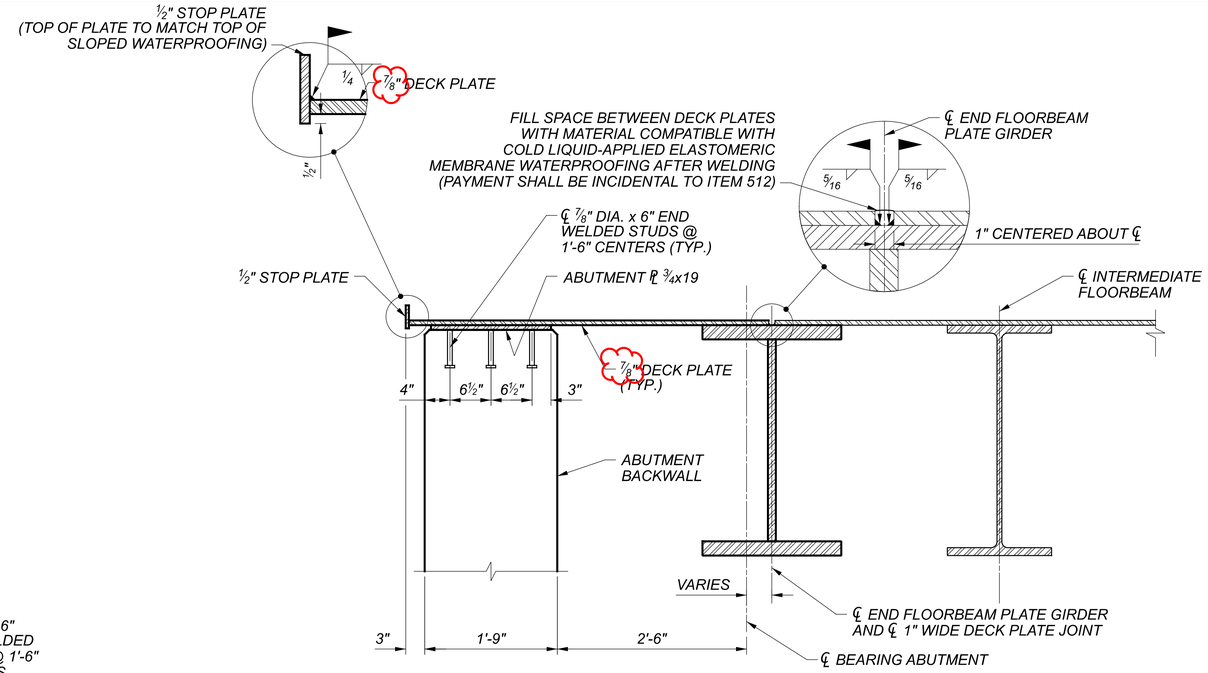
DECK PLATE PLAN
BRIDGE NO. CUY-00077-11.119 AND CUY-00077-11.126
CSXT RAILROAD OVER IR-77

SFN	1806271
SFN	1806272
DESIGN AGENCY	TRANSYSTEMS 1100 SUPERIOR AVE., E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	MWR
REVIEWER	NFF 10/27/23
PROJECT ID	21788
SUBSET	61
TOTAL	68
SHEET	P.112
TOTAL	199

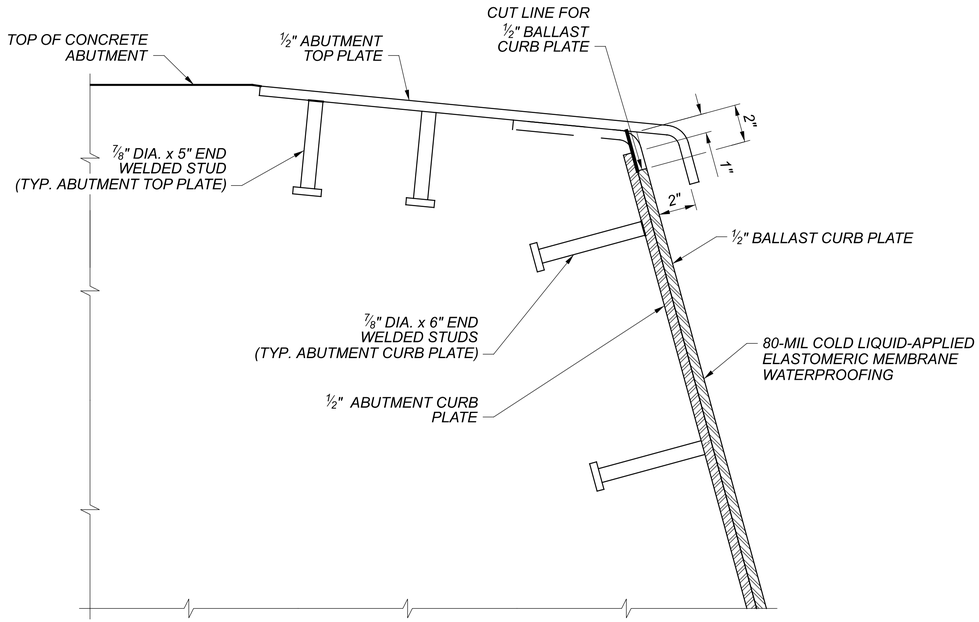
CUY-77-11.11



A 61 SECTION



B 61 SECTION



BALLAST CURB PLATE DETAIL

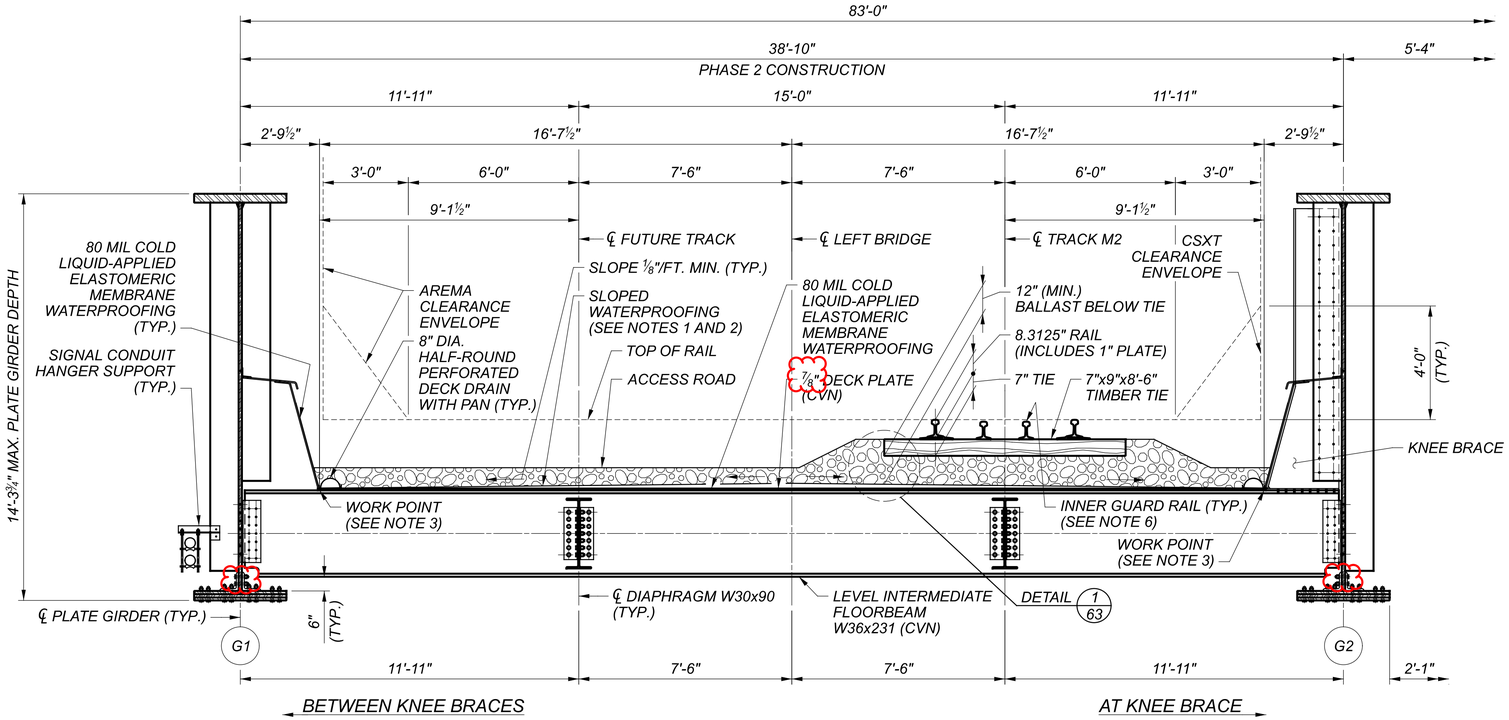
NOTES:

1. FOR DECK PLATE PLAN AND ADDITIONAL NOTES, SEE SHEET 61 OF 68.
2. FOR ADDITIONAL ABUTMENT PLATE DETAILS, SEE SHEET 37 OF 68.

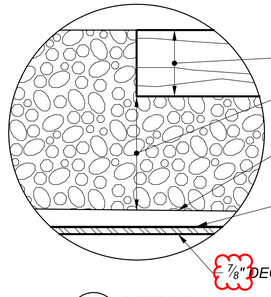
DECK PLATE DETAILS
BRIDGE NO. CUY-00077-11.119 AND CUY-00077-11.126
CSXT RAILROAD OVER IR-77

SFN	1806271
SFN	1806272
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	MWR
REVIEWER	NFF 10/27/23
PROJECT ID	21788
SUBSET	62
TOTAL	68
SHEET	P.113
TOTAL	199

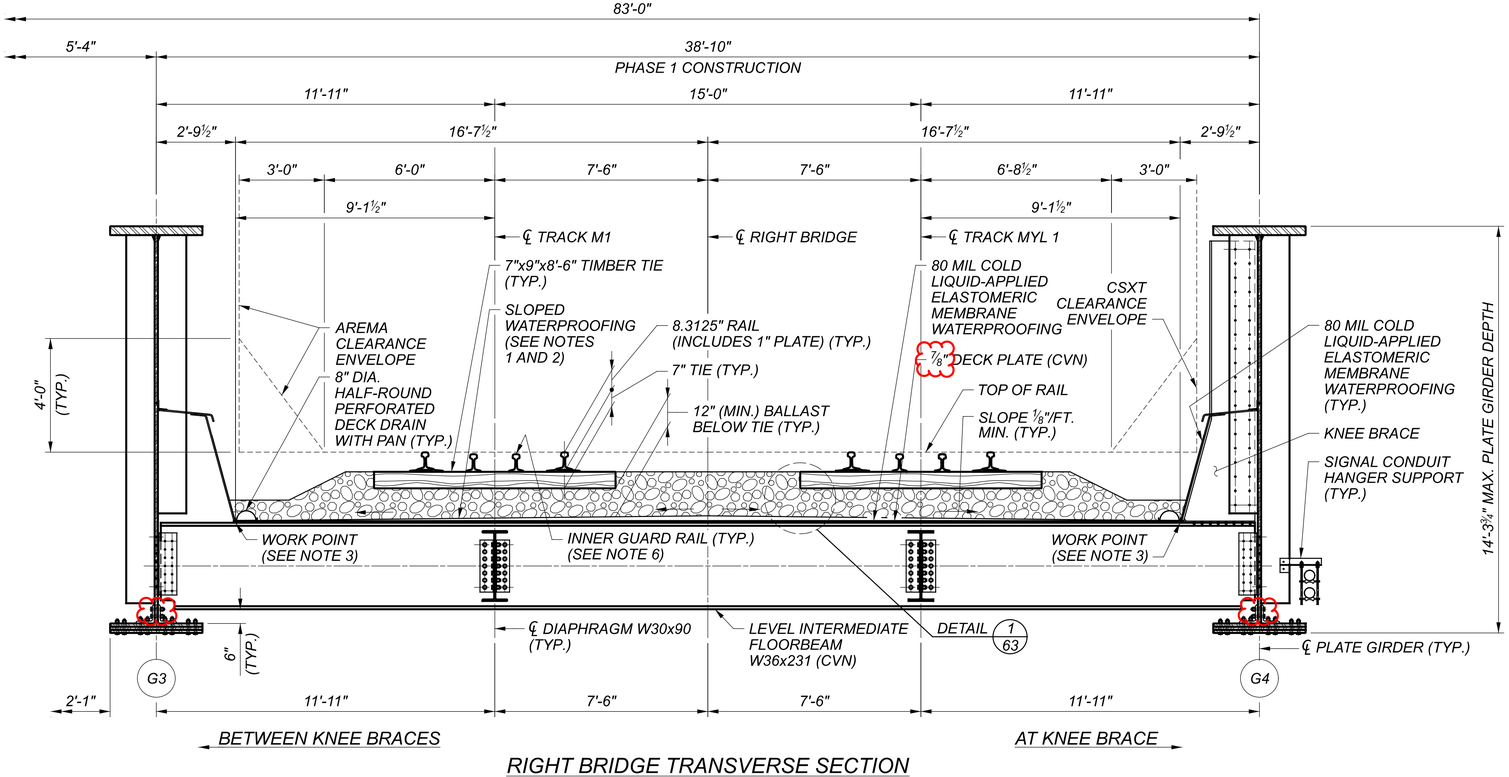
CUY-77-11.11



LEFT BRIDGE TRANSVERSE SECTION



1/63 DETAIL



RIGHT BRIDGE TRANSVERSE SECTION

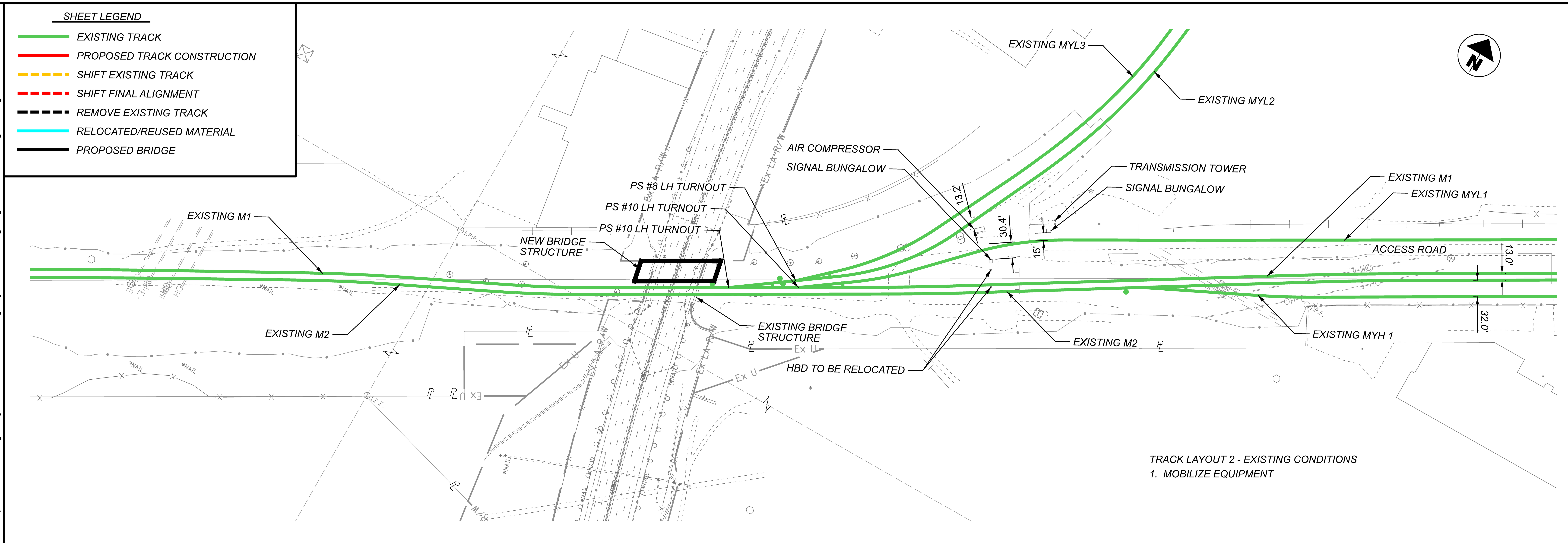
NOTES:

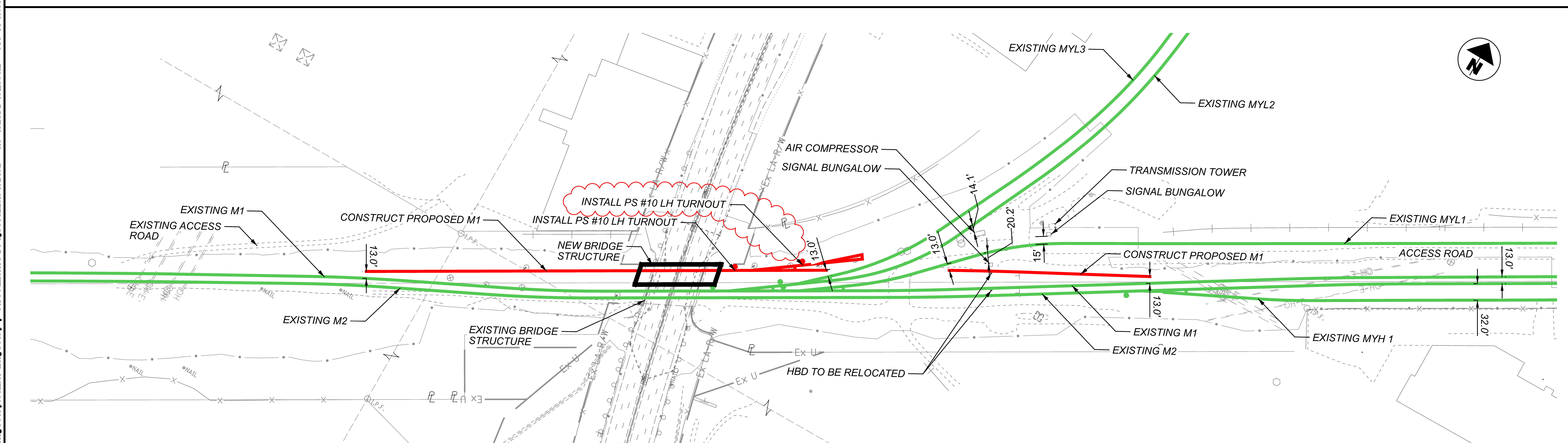
1. CROWN THE SLOPED WATERPROOFING BY SETTING THE THICKNESS TO 2⅜" AT THE ℄ OF BRIDGE. TRANSITION THE SLOPED WATERPROOFING THICKNESS TO ¼" AT THE TOE OF THE BALLAST CURB PLATE. THE SLOPED WATERPROOFING IS IN ADDITION TO THE UNIFORM 80 MIL COLD LIQUID-APPLIED ELASTOMERIC MEMBRANE WATERPROOFING APPLIED DIRECTLY TO THE STEEL DECK PLATE.
2. SLOPED WATERPROOFING SHALL BE COMPRISED OF BRIDGE PRESERVATION'S SLOPED BALLAST MAT, OR A CSXT APPROVED EQUAL.
3. FOR ADDITIONAL DETAILS OF THE WORK POINT, SEE SHEET 58 OF 68.
4. FOR RIGHT BRIDGE FRAMING PLAN AND ADDITIONAL NOTES, SEE SHEET 45 OF 68.
5. FOR LEFT BRIDGE FRAMING PLAN, SEE SHEET 46 OF 68.
6. FOR ADDITIONAL DETAILS AND PAYMENT OF THE INNER GUARD RAIL, SEE RAIL PLANS.

TRANSVERSE SECTION
BRIDGE NO. CUY-00077-11.119 AND CUY-00077-11.126
CSXT RAILROAD OVER IR-77

SFN	1806271
SFN	1806272
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE., E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	MWR
REVIEWER	NFF 10/27/23
PROJECT ID	21788
SUBSET	63
TOTAL	68
SHEET	P.114
TOTAL	199

CUY-77-11.11





SHEET NOTES:

1. CSX TO INSPECT AND DETERMINE WHAT TRACK AND MATERIAL CAN BE SALVAGED BETWEEN TRACK LAYOUTS. CONTRACTOR AND RAILROAD TO AGREE PRIOR TO COMMENCEMENT OF WORK FOR EACH TRACK LAYOUT.
2. CONTRACTOR TO SUBMIT FINAL TRACK LAYOUT PLANS FOR CSX APPROVAL PRIOR TO COMMENCEMENT OF WORK.

TRACK LAYOUT 2 - STAGE 1

1. CONSTRUCT APPROX. 1400 LF OF MAINLINE 1 TRACK TO 13 FT CLEAR POINT
2. INSTALL (2) PROPOSED PS #10 LH TURNOUT

HORIZONTAL SCALE IN FEET 0 50 100 200

TRACK LAYOUT PLAN
TRACK LAYOUT 2 - EXISTING CONDITION / STAGE 1

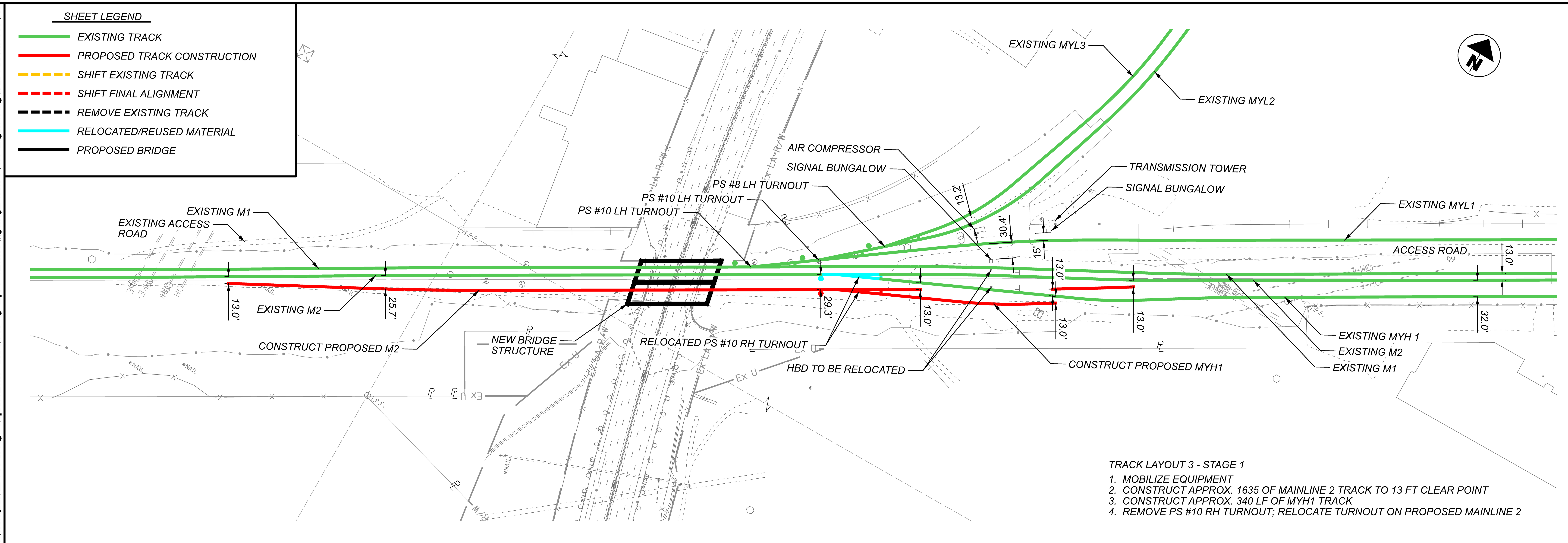
CUY-77-11.11

DESIGN AGENCY: TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114

DESIGNER: AJG
REVIEWER: DRC 10/27/23
PROJECT ID: 21788
SHEET P.127 TOTAL 199

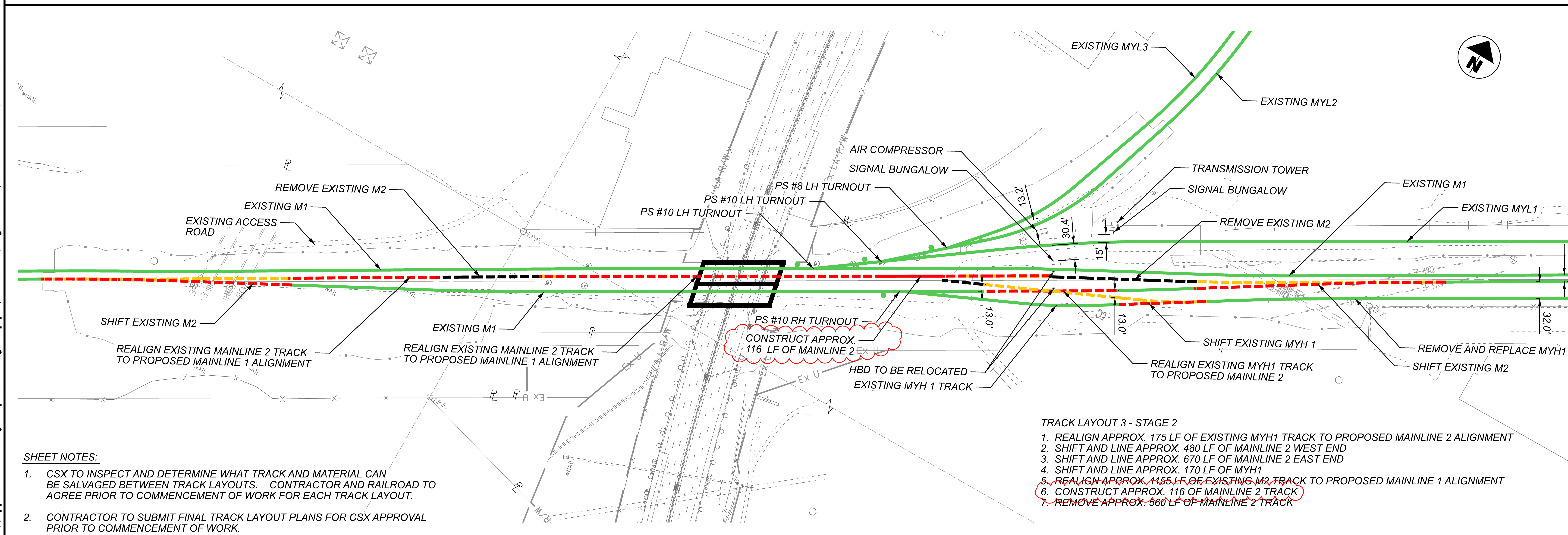
SHEET LEGEND

- EXISTING TRACK
- PROPOSED TRACK CONSTRUCTION
- SHIFT EXISTING TRACK
- SHIFT FINAL ALIGNMENT
- REMOVE EXISTING TRACK
- RELOCATED/REUSED MATERIAL
- PROPOSED BRIDGE



TRACK LAYOUT 3 - STAGE 1

1. MOBILIZE EQUIPMENT
2. CONSTRUCT APPROX. 1635 OF MAINLINE 2 TRACK TO 13 FT CLEAR POINT
3. CONSTRUCT APPROX. 340 LF OF MYH1 TRACK
4. REMOVE PS #10 RH TURNOUT; RELOCATE TURNOUT ON PROPOSED MAINLINE 2



TRACK LAYOUT 3 - STAGE 2

1. REALIGN APPROX. 175 LF OF EXISTING MYH1 TRACK TO PROPOSED MAINLINE 2 ALIGNMENT
2. SHIFT AND LINE APPROX. 480 LF OF MAINLINE 2 WEST END
3. SHIFT AND LINE APPROX. 670 LF OF MAINLINE 2 EAST END
4. SHIFT AND LINE APPROX. 170 LF OF MYH1
5. ~~REALIGN APPROX. 1155 LF OF EXISTING M2 TRACK TO PROPOSED MAINLINE 1 ALIGNMENT~~
6. CONSTRUCT APPROX. 116 OF MAINLINE 2 TRACK
7. ~~REMOVE APPROX. 560 LF OF MAINLINE 2 TRACK~~

SHEET NOTES:

1. CSX TO INSPECT AND DETERMINE WHAT TRACK AND MATERIAL CAN BE SALVAGED BETWEEN TRACK LAYOUTS. CONTRACTOR AND RAILROAD TO AGREE PRIOR TO COMMENCEMENT OF WORK FOR EACH TRACK LAYOUT.
2. CONTRACTOR TO SUBMIT FINAL TRACK LAYOUT PLANS FOR CSX APPROVAL PRIOR TO COMMENCEMENT OF WORK.

HORIZONTAL SCALE IN FEET 0 50 100 200

TRACK LAYOUT PLAN
TRACK LAYOUT 3 - STAGE 1 / STAGE 2

DESIGN AGENCY: TRANSYSTEMS, 1100 SUPERIOR AVE E, STE 1000, CLEVELAND, OHIO 44114

DESIGNER	AJG
REVIEWER	DRC 10/27/23
PROJECT ID	21788
SHEET	P.130
TOTAL	199

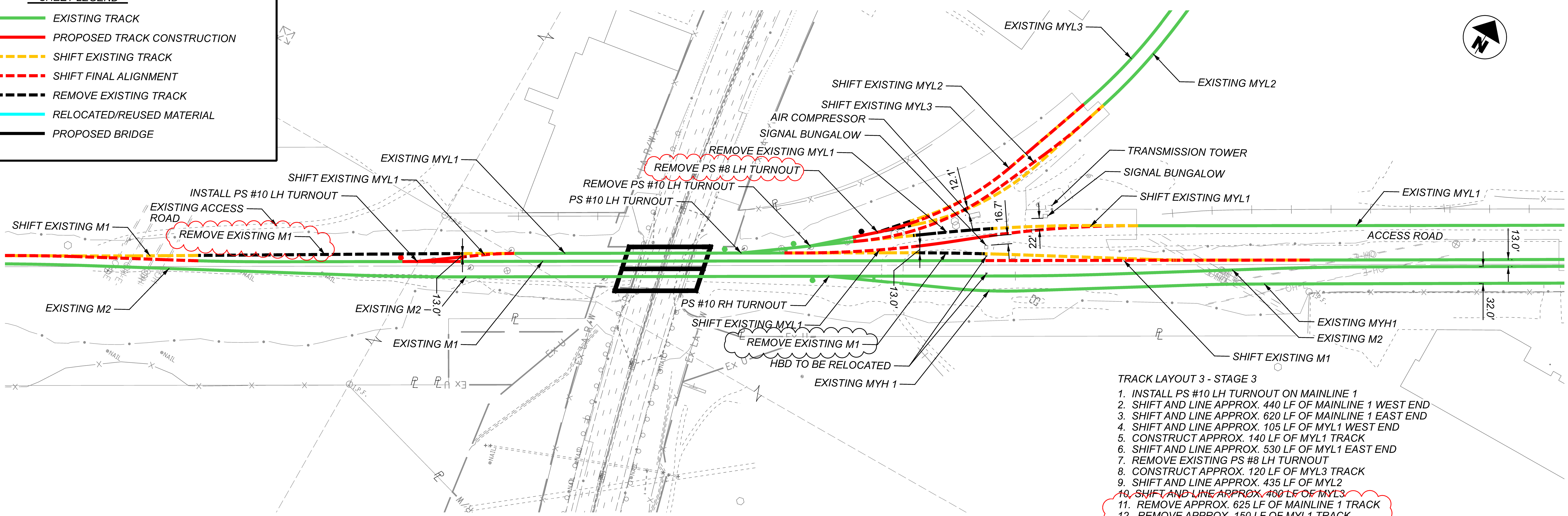
CUY-77-11.11

MODEL: Phasing Plan - PP01(Sheet) PAPERSIZE: 34x22 (in.) DATE: 5/3/2024 TIME: 3:23:15 PM USER: AJRodson

CUY-77-11.11

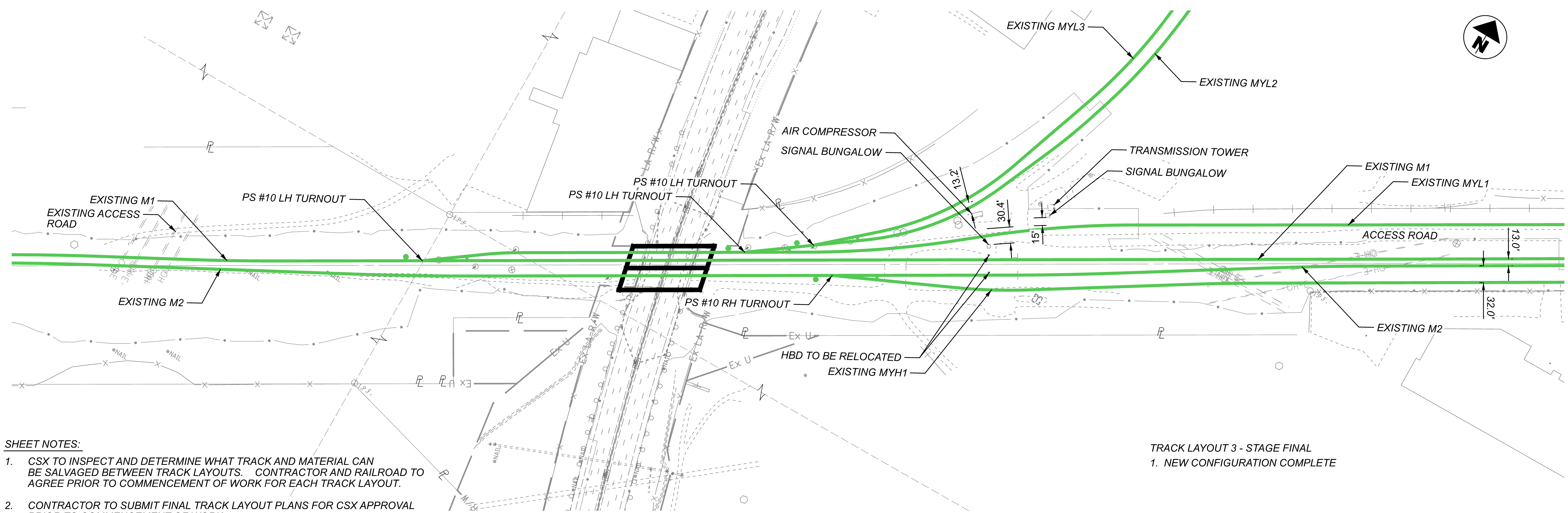
SHEET LEGEND

- EXISTING TRACK
- PROPOSED TRACK CONSTRUCTION
- SHIFT EXISTING TRACK
- SHIFT FINAL ALIGNMENT
- REMOVE EXISTING TRACK
- RELOCATED/REUSED MATERIAL
- PROPOSED BRIDGE



TRACK LAYOUT 3 - STAGE 3

1. INSTALL PS #10 LH TURNOUT ON MAINLINE 1
2. SHIFT AND LINE APPROX. 440 LF OF MAINLINE 1 WEST END
3. SHIFT AND LINE APPROX. 620 LF OF MAINLINE 1 EAST END
4. SHIFT AND LINE APPROX. 105 LF OF MYL1 WEST END
5. CONSTRUCT APPROX. 140 LF OF MYL1 TRACK
6. SHIFT AND LINE APPROX. 530 LF OF MYL1 EAST END
7. REMOVE EXISTING PS #8 LH TURNOUT
8. CONSTRUCT APPROX. 120 LF OF MYL3 TRACK
9. SHIFT AND LINE APPROX. 435 LF OF MYL2
10. ~~SHIFT AND LINE APPROX. 400 LF OF MYL3~~
11. REMOVE APPROX. 625 LF OF MAINLINE 1 TRACK
12. REMOVE APPROX. 150 LF OF MYL1 TRACK



TRACK LAYOUT 3 - STAGE FINAL

1. NEW CONFIGURATION COMPLETE

SHEET NOTES:

1. CSX TO INSPECT AND DETERMINE WHAT TRACK AND MATERIAL CAN BE SALVAGED BETWEEN TRACK LAYOUTS. CONTRACTOR AND RAILROAD TO AGREE PRIOR TO COMMENCEMENT OF WORK FOR EACH TRACK LAYOUT.

2. CONTRACTOR TO SUBMIT FINAL TRACK LAYOUT PLANS FOR CSX APPROVAL PRIOR TO COMMENCEMENT OF WORK.

HORIZONTAL SCALE IN FEET
0 50 100 200

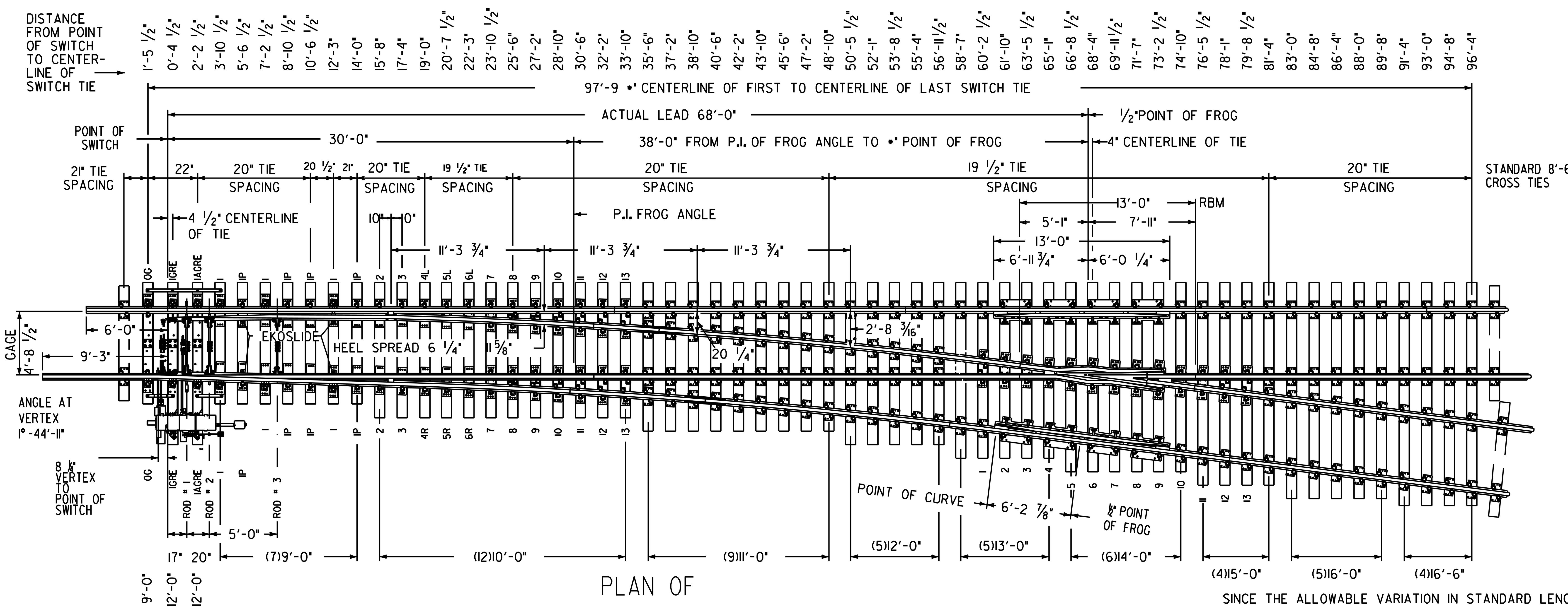
TRACK LAYOUT PLAN
TRACK LAYOUT 3 - STAGE 3 / STAGE FINAL

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	AJG
REVIEWER	DRC 10/27/23
PROJECT ID	21788
SHEET	P.130A
TOTAL	199

Diagram: Number 8 Turnout and Crossover (2220)

2220



PLAN OF RIGHT HAND TURNOUT

SWITCH PLATE AND TIE LAYOUT ARRANGED FOR POWER THROW MECHANISM PER SIGNAL SECTION DRAWING NO. SD-1513

BILL OF SWITCH TIES			
LENGTH	TURNOUT ONLY	CROSSOVER 14'-0"	CROSSOVER 15'-0"
9'-0"	8	16	16
10'-0"	12	24	24
11'-0"	9	18	18
12'-0"	5	10	10
12'-0"(Dapped)•	2	4	4
13'-0" •	5	10	10
14'-0"	6	18	12
15'-0"	4	0	8
16'-0" •	5	0	0
16'-6"	4	0	0
23'-0"	0	8	9
TOTAL NO.	60	108	111
BOARD MEAS.	3825.3	6894.5	7204.3

ALL SWITCH TIES ARE 7"X 9"

• ADJUST THE NUMBER OF 12'-0" DAPPED TIES IF LAYOUT REQUIRES THE USE OF 13'-0", 14'-0", OR 16'-0" HEAD BLOCK TIES.

TURNOUT DATA				
		RBM	quan	BILL OF TRACK MATERIAL — DESCRIPTION
FROG	NUMBER	8	1	NO.8 RAILBOUND MANGANESE STEEL FROG, COMPLETE, PER DRAWING 2420 BONDED FOR SIGNALS.
FROG	TOTAL LENGTH	13'-0"		
FROG	TOE LENGTH	5'-1"		
FROG	HEEL LENGTH	7'-11"	2	GUARD RAILS, COMPLETE, WITH A 7'-0" MINIMUM STRAIGHT GUARDING FACE FOR USE WITH RBM FROG.
FROG	TOE SPREAD	7 1/8"		
FROG	HEEL SPREAD	12 3/8"	1	39'-0" STRAIGHT STOCK RAIL PER DRAWING 2307.
FROG	ANGLE	7° -9'-10"	1	39'-0" BENT STOCK RAIL PER DRAWING 2307.
SWITCH	LENGTH OF SWITCH POINT	16'-6"	170	FEET OF PREMIUM RAIL
SWITCH	HEEL SPREAD	6 1/4"	1	16'-6" STRAIGHT SPLIT SWITCH, COMPLETE, WITH UNIFORM RISERS, PER DRAWINGS 2307, 2317, 2325, 2326, 2335, 2336, & 2337.
SWITCH	SWITCH ANGLE	1° -44'-11"		
SWITCH	THICKNESS OF POINT	1/4"		
SWITCH	VERTEX DISTANCE	8 1/4"	112	PANDROL TIE PLATES
ACTUAL LEAD		68'-0"	APROX 1	KEG, TRACK SPIKES, 100 POUND
RADIUS OF CENTERLINE		462.73	10	JOINTS, COMPLETE
DEGREE OF CURVE		12° -24'-23"	2	INSULATED JOINTS, COMPLETE IF REQUIRED
•"PT. TO PT. OF CURVE		6'-2 7/8"	256	ANCHORS IF PANDROL PLATES NOT USED
STRAIGHT CLOSURE LENGTH		46'-5"	366	PANDROL CLIPS
CURVED CLOSURE LENGTH		46'-7 7/16"	740	7 1/2" EVERGRIP SPIKES

ORDERING INFORMATION		
CLASS	ITEM	DESCRIPTION
010	6650240	TURNOUT PANELED RH 136RE NO 8 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2220 & 2221 WITHOUT INSULATED JOINTS
010	6650155	TURNOUT, PANELED, RH, 136RE, NO 8 W/RBM FROG MACHINE OPERATED W/PANDROL STYLE PLATES & FASTENERS CSX DWG 2220 & 2221 INSULATED JOINTS INCLUDED
010	6650110	TURNOUT, PANELED, RH, 136RE NO 8 W/SGM FROG HAND OPERATED PER CSX DWG 2203 & 2301 INSULATED JOINTS NOT INCLUDED WITH TURNOUT
010	6650115	TURNOUT PANELED RH 136RE NO 8 W/SGM FROGMACHINE OPERATED PER CSX DWG 2203 & 2302 INSULATED JOINT INCLUDED IN TURNOUT
010	6650165	TURNOUT PANELED LH 136RE NO 8 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2220 & 2221 WITHOUT INSULATED JOINTS
010	6650120	TURNOUT, PANELED, LH, 136RE NO 8 W/SGM FROG HAND OPERATED PER CSX DWG 2203 & 2301 INSULATED JOINTS NOT INCLUDED WITH TURNOUT
010	6650125	TURNOUT PANELED LH 136RE NO 8 W/SGM FROGMACHINE OPERATED PER CSX DWG 2203 & 2302 INSULATED JOINT INCLUDED IN TURNOUT
010	6650245	TURNOUT PANELED LH 136RE NO 8 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2220 & 2221 WITHOUT INSULATED JOINTS

SINCE THE ALLOWABLE VARIATION IN STANDARD LENGTHS OF RAILS, FROGS AND SWITCH POINTS IS GREATER THAN THE NORMAL EXPANSION GAPS AT RAIL JOINTS AND THICKNESS OF FIBRE END POST IN INSULATED JOINTS, NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.

GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.

RBM FROG USES MILLED SEAT AND FLAT PLATES WITH WELDED PANDROL SHOULDERS PER DRAWING 2430.

ON PLATES WHERE THERE ARE 3 ADJACENT ROUND HOLES, THE CENTER HOLE IS RESERVED FOR FUTURE MAINTENANCE.

SWITCH HAS PRS CLAMPTITE. ALTERNATE IS NORTRAK CLICKTITE.

RAIL ANCHORS ARE NOT TO BE USED IF PANDROL TIE PLATES ARE INSTALLED.

IF PANDROL PLATES ARE NOT USED, ALL TIES IN THE TURNOUT TO WHICH AN ANCHOR CAN BE APPLIED WILL BE BOX ANCHORED ON BOTH THE THROUGH TRACK AND DIVERGING TRACK. EVERY TIE WILL BE BOXED ANCHORED FOR A DISTANCE OF 130 TIES AHEAD OF THE SWITCH POINT. EVERY TIE ON BOTH TRACKS WILL BE BOX ANCHORED FOR A DISTANCE OF 130 TIES BEYOND THE END OF SWITCH TIES ON THE FROG END OF TURNOUT. DO NOT PLACE ANCHORS WHERE THEY MAY INTERFERE WITH MOVING PARTS.

ALL FROG PLATES TO BE MILLED SEAT 3/4" UNDER RAIL BASE

WORKMANSHIP AND MATERIALS, INCLUDING BEVELING AND HARDENING RAIL ENDS, SHALL BE PER CURRENT AREMA SPECIFICATIONS

FOR STRAIGHT AND CURVED CLOSURE RAILS, AND STRAIGHT AND CURVED LEAD RAILS, SEE DRAWING 2221.

NUMBER 8 TURNOUT AND CROSSOVER
RAILBOUND MANGANESE FROG
FOR 136RE RAIL

APPROVED – DIRECTOR ENGINEERING STANDARDS

APPROVED – CHIEF ENGINEER ENGINEERING SERVICES

PREPARED BY, M.E. AUSTIN

ISSUED: APRIL 17, 2001
REVISED: NOVEMBER 29, 2016

HORIZONTAL SCALE IN FEET 0 50 100 200

RAIL PHASING PLAN
TURNOUT NO. 8 DETAIL

DESIGN AGENCY: TRANSYSTEMS, 1100 SUPERIOR AVE E. STE 1000 CLEVELAND, OHIO 44114

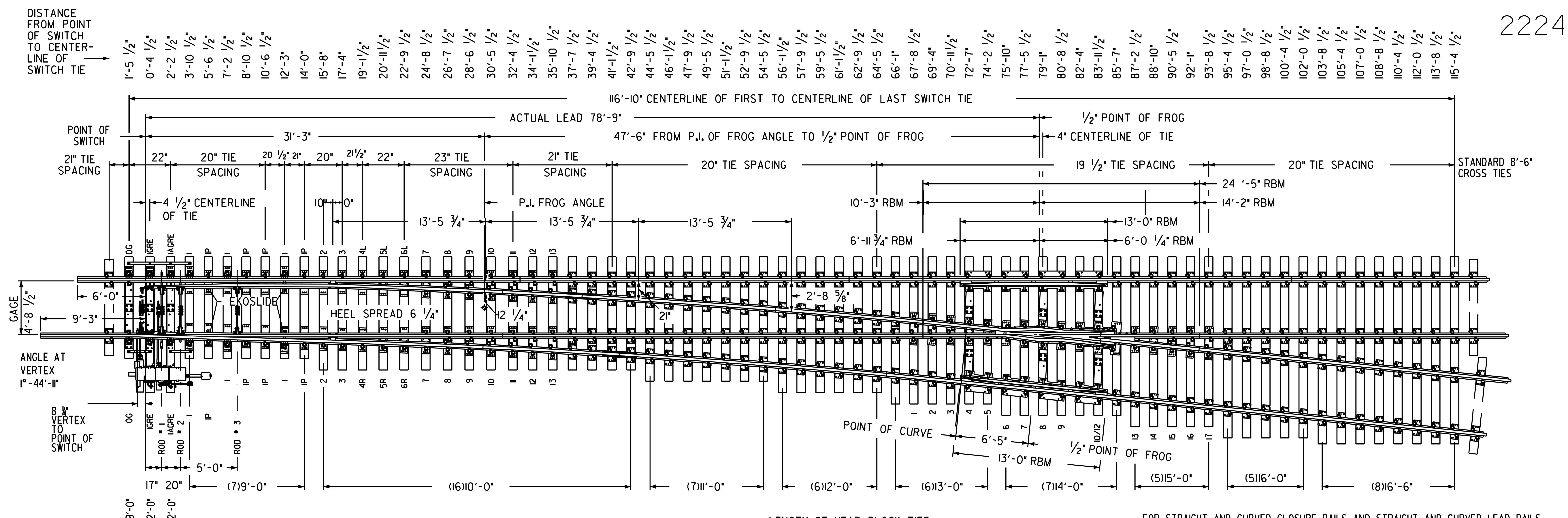
DESIGNER: SGK
REVIEWER: DRC 10/27/23
PROJECT ID: 21788
SHEET: P.130B TOTAL: 199

CUY-77-11.11

Office of: Vice President—Engineering
CSX Transportation

Diagram: Number 10 Turnout and Crossover (2224)

2224



PLAN OF RIGHT HAND TURNOUT

SWITCH PLATE AND TIE LAYOUT ARRANGED FOR POWER THROW MECHANISM PER SIGNAL SECTION DRAWING NO. SS001

LENGTH OF HEAD BLOCK TIES
13'-0" FOR HAND OPERATED
14'-0" FOR HAND OPERATED WITH CIRCUIT CONTROLLER
12'-0" FOR MACHINE OPERATED
16'-0" FOR SPRING SWITCH

VERTICAL SWITCH RODS SHOWN

FOR STRAIGHT AND CURVED CLOSURE RAILS, AND STRAIGHT AND CURVED LEAD RAILS, SEE DRAWING 2225.

SWITCH HAS ADJUSTABLE BOLTLESS BRACES.PREFERRED SWITCH BRACE IS PRS CLAMPTITE. ALTERNATE IS BETHLEHEM BOLTLESS.

RBM FROG USES MILLED SEAT PLATES WITH WELDED PANDROL SHOULDERS PER DRAWING 2431.

ON PLATES WHERE THERE ARE 3 ADJACENT HOLES, THE CENTER HOLE IS RESERVED FOR FUTURE MAINTENANCE.

RAIL ANCHORS ARE NOT TO BE USED IF PANDROL TIE PLATES ARE INSTALLED.

IF PANDROL PLATES ARE NOT USED, ALL TIES IN THE TURNOUT TO WHICH AN ANCHOR CAN BE APPLIED WILL BE BOX ANCHORED ON BOTH THE THROUGH TRACK AND DIVERGING TRACK. EVERY TIE WILL BE BOXED ANCHORED FOR A DISTANCE OF 130 TIES AHEAD OF THE SWITCH POINT. EVERY TIE ON BOTH TRACKS WILL BE BOX ANCHORED FOR A DISTANCE OF 130 TIES BEYOND THE END OF SWITCH TIES ON THE FROG END OF TURNOUT. DO NOT PLACE ANCHORS WHERE THEY MAY INTERFERE WITH MOVING PARTS.

ALL FROG PLATES TO BE MILLED SEAT 1" THICK 1/4" MILLED

WORKMANSHIP AND MATERIALS SHALL BE PER CURRENT AREMA SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.

SINCE THE ALLOWABLE VARIATION IN STANDARD LENGTHS OF RAILS, FROGS AND SWITCH POINTS IS GREATER THAN THE NORMAL EXPANSION GAPS AT RAIL JOINTS AND THICKNESS OF FIBRE END POST IN INSULATED JOINTS, NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.

BILL OF SWITCH TIES

LENGTH	TURNOUT ONLY	CROSSOVER 14'-0"	CROSSOVER 15'-0"
9'-0"	8	16	16
10'-0"	16	32	32
11'-0"	7	14	14
12'-0"	6	12	12
12'-0"(Dapped)•	2	4	4
13'-0" •	6	12	12
14'-0"	7	22	14
15'-0"	5	0	16
16'-0" •	5	0	0
16'-6"	8	0	0
23'-0"	0	10	8
TOTAL NO.	70	122	128
BOARD MEAS.	4549.8	7881.5	8312.0

ALL SWITCH TIES ARE 7"X 9"

• ADJUST THE NUMBER OF 12'-0" DAPPED TIES IF LAYOUT REQUIRES THE USE OF 13'-0", 14'-0", OR 16'-0" HEAD BLOCK TIES.

TURNOUT DATA

		RBM
FROG	NUMBER	10
FROG	TOTAL LENGTH	24'-5"
FROG	TOE LENGTH	10'-3"
FROG	HEEL LENGTH	14'-2"
FROG	TOE SPREAD	11 13/16"
FROG	HEEL SPREAD	17 1/2"
FROG	ANGLE	5°-43'-29"
SWITCH	LENGTH OF SWITCH POINT	16'-6"
SWITCH	HEEL SPREAD	6 1/4"
SWITCH	SWITCH ANGLE	1°-44'-11"
SWITCH	THICKNESS OF POINT	1/4"
SWITCH	VERTEX DISTANCE	8 1/4"
ACTUAL LEAD		78'-9"
RADIUS OF CENTERLINE		779.39
DEGREE OF CURVE		7°-21'-24"
1/2" PT. TO PT. OF CURVE		6'-5"
STRAIGHT CLOSURE LENGTH		52'-0"
CURVED CLOSURE LENGTH		52'-2"

BILL OF TRACK MATERIAL

QUANTITY	DESCRIPTION
1	NO.10 RAILBOUND MANGANESE STEEL FROG, COMPLETE, PER DRAWING 2422 BONDED FOR SIGNALS.
2	GUARD RAILS COMPLETE. WITH A 7'-0" MINIMUM STRAIGHT GUARDING FACE.
1	39'-0" STRAIGHT STOCK RAIL PER DRAWING 2307.
1	39'-0" BENT STOCK RAIL PER DRAWING 2307.
1	16'-6" LONG RAIL STRAIGHT SPLIT SWITCH, COMPLETE, WITH UNIFORM RISERS, PER DRAWINGS 2307, 2317, 2325, 2326, 2335, 2336, & 2337.
1	FRONT ROD ASSEMBLY PER SS001 AND SS044
1	35'-8"RAIL WITH INSULATED JT.12'-1"-23-7"LEGS
1	37'-2"RAIL WITH INSULATED JT.7'-0"-30'-2"LEGS
11	JOINTS, COMPLETE INCL. J CLIPS AND BOLTS
200 lbs	TRACK SPIKES
144	PANDROL TIE PLATES
434	PANDROL CLIPS
884	6 1/2" SCREW SPIKES OR 7 1/2" EVERGRIP SCREWS
223	FEET OF PREMIUM RAIL

ORDERING INFORMATION

CLASS	ITEM	DESCRIPTION
010	6650171	TURNOUT PANELED RH 136RE NO 10 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2224 & 2225 WITH INSULATED JOINTS
010	6650170	TURNOUT PANELED RH 136RE NO 10 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2224 & 2225 WITHOUT INSULATED JOINTS
010	6650250	TURNOUT PANELED RH 136RE NO 10 W/RBM FROG MACHINE OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2224 & 2225 WITH INSULATED JOINTS
010	6650180	TURNOUT PANELED LH 136RE NO 10 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATE & FASTENERS CSX DWG 2224 & 2225 WITHOUT INSULATED JOINTS
010	6650181	TURNOUT PANELED LH 136RE NO 10 W/RBM FROG HAND OPERATED W/PANDROL STYLE PLATE & FASTENERS CSX DWG 2224 & 2225 W/INSULATED JOINTS
010	6650255	TURNOUT PANELED LH 136RE NO 10 W/RBM FROG MACHINE OPERATED W/PANDROL STYLE PLATES AND FASTENERS CSX DWG 2224 & 2225 WITH INSULATED JOINTS

CSX TRANSPORTATION

NUMBER 10 TURNOUT AND CROSSOVER
RAILBOUND MANGANESE FROG FOR 136RE RAIL

APPROVED – DIRECTOR
ENGINEERING STANDARDS & CAPITAL PLANNING

D.L. Moss, Jr
APPROVED – CHIEF ENGINEER
MAINTENANCE OF WAY

PREPARED BY,
M.G. SCHWARTZ

ISSUED: APRIL 17, 2001
REVISED: AUGUST 8, 2021

Standard Specifications for Private Sidetracks
August 23, 2023

CUY-77-11.11

MODEL: Phasing Plan - PP04 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 5/5/2024 TIME: 9:22:47 PM USER: AJodeon

HORIZONTAL SCALE IN FEET
0 50 100 200

RAIL PHASING PLAN
TURNOUT NO. 10 DETAIL

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E. STE 1000 CLEVELAND, OHIO 44114

DESIGNER	SGK
REVIEWER	DRC 10/27/23
PROJECT ID	21788
SHEET	P.130C
TOTAL	199

RAILROAD SUBSUMMARY

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE	202	203	203		607	624	659		SPECIAL	SPECIAL	SPECIAL	SPECIAL	SPECIAL					
						REMOVAL MISC.: TOP SOIL	EXCAVATION	EMBANKMENT, AS PER PLAN		FENCE, MISC.: SILT FENCE	MOBILIZATION (FOR TRACKWORK)	SEEDING AND MULCHING (FOR SUBBALLAST)		SUBBALLAST	TRACK INSTALLATION	TURNOUT INSTALLATION	TRACK REMOVAL	TURNOUT REMOVAL					
			FROM	TO		CY	CY	CY		FT	LS	SY		TKFT	TKFT	EA	TKFT	EA					
M-101			15+83.74	46+20.27							1												
R-101	P.124	MYH1															2,270						
R-102	P.125	M1, M2, MYL1, MYL2															935						
R-103	P.126	M1, MYL1, MYL3															1,765						
R-104	P.128	M1, M2, MYL1, MYL3															705						
R-105	P.129	M2															1,140						
R-106	P.130	M2															560						
R-107	P.130A	M1, MYL1															775						
R-108	P.125	M2																1					
R-109	P.125	MYL1, MYL2																2					
R-110	P.126	MYL3																1					
R-111	P.128	MYL3																1					
R-112	P.128	M1																2					
R-113	P.128	M2																1					
R-114	P.130	M2																1					
R-115	P.130A	MYL3																1					
R-116	P.101	M1	34+00	46+00	LT	3,000																	
E-101	P.102	M1	21+00	46+00			20,000																
E-102	P.102	M1	21+00	46+00				30,400															
SF-101	P.101	M1	16+50	46+50	LT					3,800.00													
SF-102	P.101	M1	16+50	46+50	RT					4,300.00													
SM-101	P.101	M1	21+00	46+00								25,000.0											
T-101	P.124	MYH1													1020								
T-102	P.125	M1, M2, MYL1-3													2185								
T-103	P.127	M1													1400								
T-104	P.128	M2, MYL1, MYH1													1105								
T-105	P.130	M2,MYH1													1975								
T-106	P.130A	MYL1													260								
T-107	P.131	MYL1	24+06.57													1							
T-108	P.136	MYL1	30+69.13													1							
T-109	P.137	MYL2	30+73.20													1							
T-110	P.137	MYL2	32+05.13													1							
T-111	P.139	M2	24+06.57													1							
T-112	P.140	M1	31+62.33													1							
T-113	P.144	MYL1	30+30.90													1							
T-114	P.145	MYL2	28+99.48													1							
T-115	P.147	M2	29+96.14													1							
T-116	P.149	M1	37+74.75													1							
T-117	P.101													1800									
TOTALS CARRIED TO GENERAL SUMMARY						3000	20000	30400		8100	LS	25000		1800	7945	10	8150	10					

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
TGR

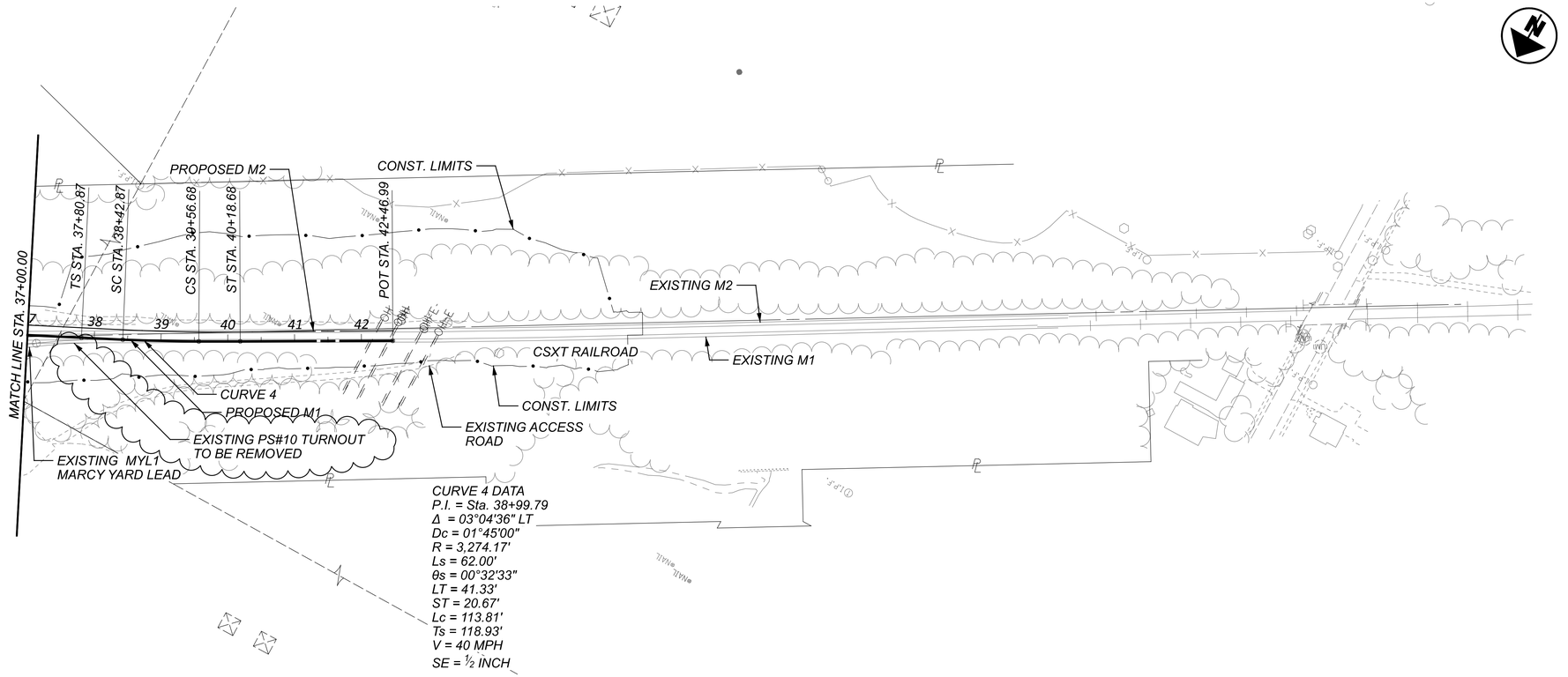
REVIEWER
DRC 10/27/23

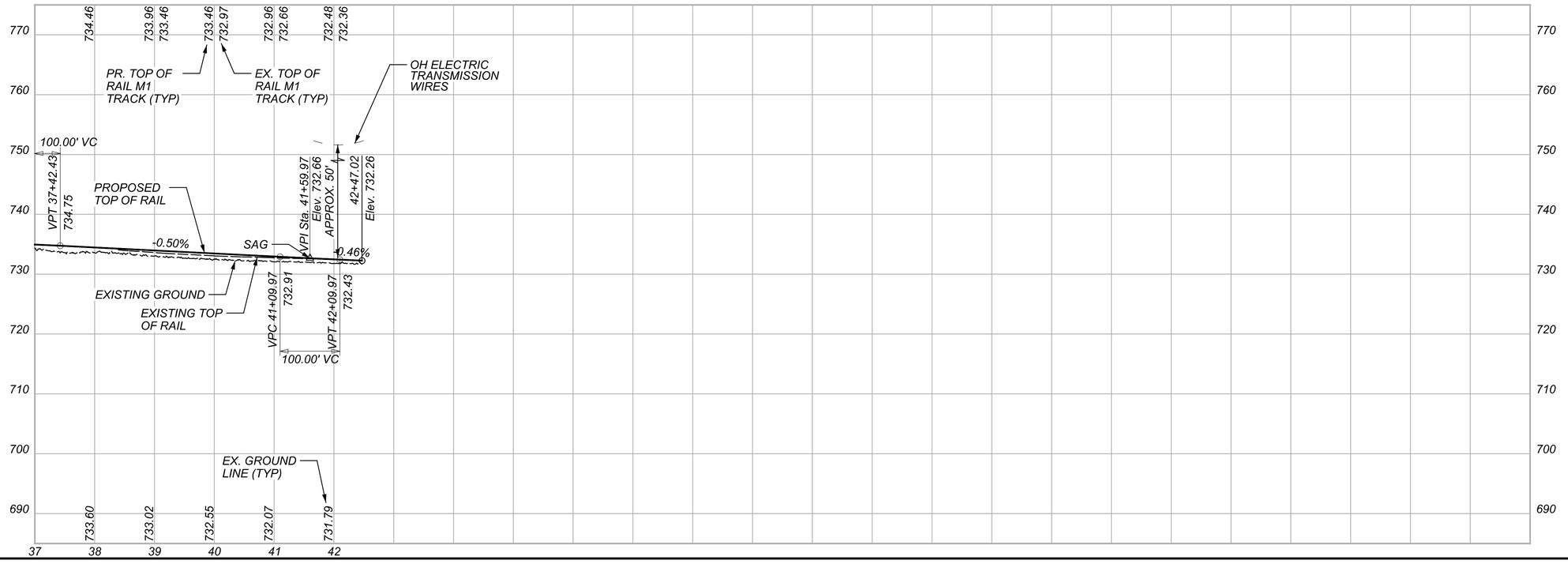
PROJECT ID
21788

SHEET P.131 TOTAL 199

CUY-77-11.11

CUY-77-11.11





HORIZONTAL SCALE IN FEET
0 50 100 200

RAIL PLAN AND PROFILE M1
PHASE 1 STA 37+00.00 TO STA 42+47.02

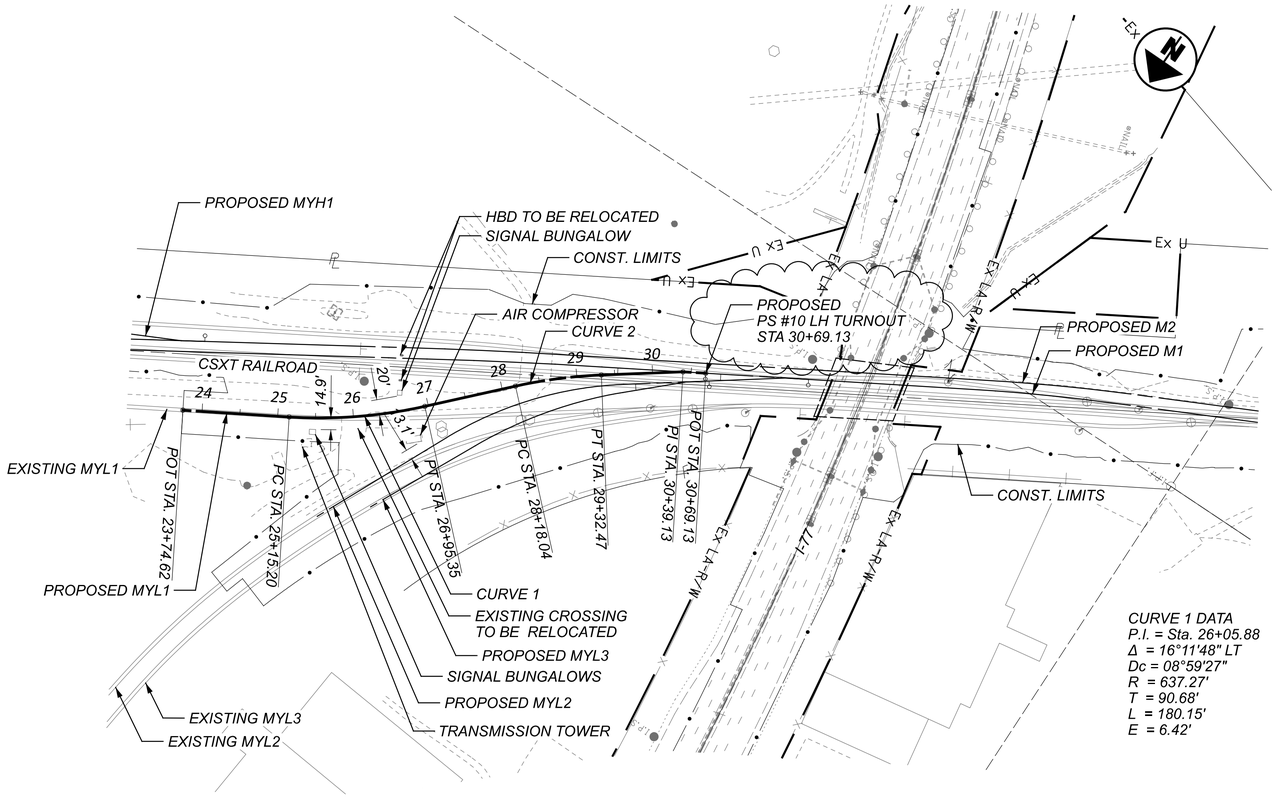
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
SGK

REVIEWER
DRC 10/27/23

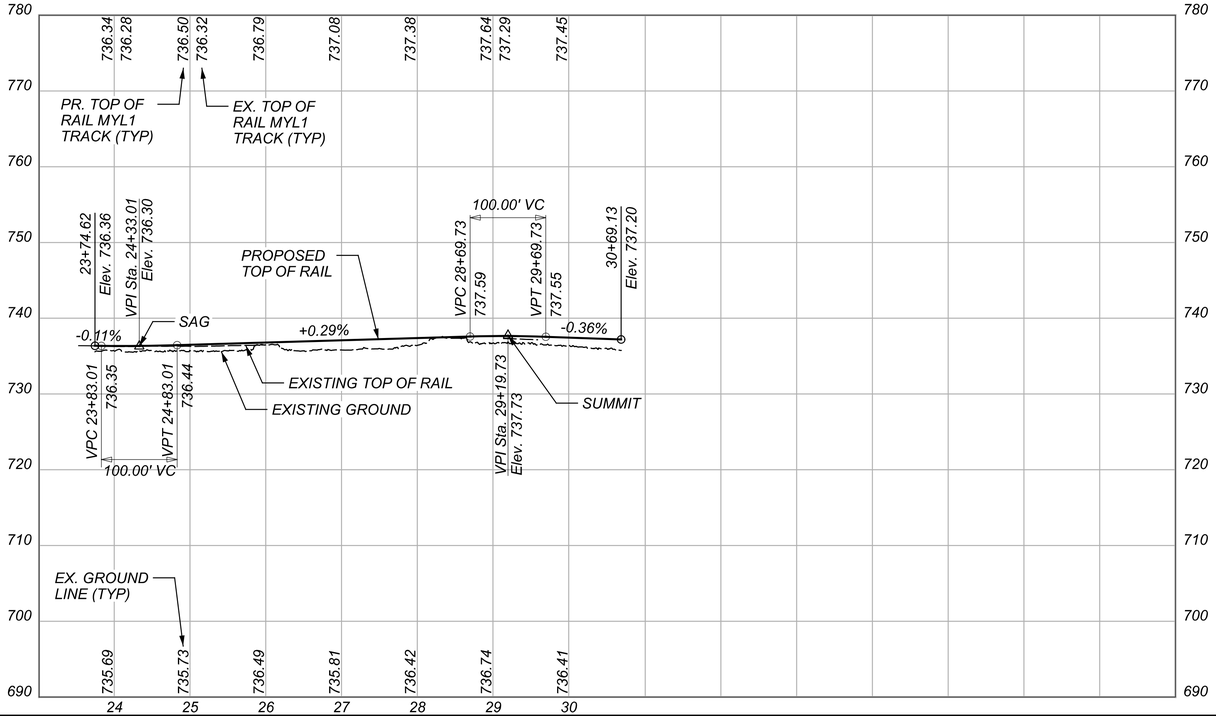
PROJECT ID
21788

SHEET P.133 TOTAL 199



CURVE 1 DATA
P.I. = Sta. 26+05.88
Δ = 16°11'48" LT
Dc = 08°59'27"
R = 637.27'
T = 90.68'
L = 180.15'
E = 6.42'

CURVE 2 DATA
P.I. = Sta. 28+75.41
Δ = 10°17'17" RT
Dc = 08°59'27"
R = 637.27'
T = 57.37'
L = 114.43'
E = 2.58'



RAIL PLAN AND PROFILE MYL1
PHASE 1 STA 23+73.76 TO STA 30+69.13

HORIZONTAL SCALE IN FEET
0 50 100 200

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER SGK
REVIEWER DRC 10/27/23
PROJECT ID 21788
SHEET P.136 TOTAL 199

CUY-77-11.11