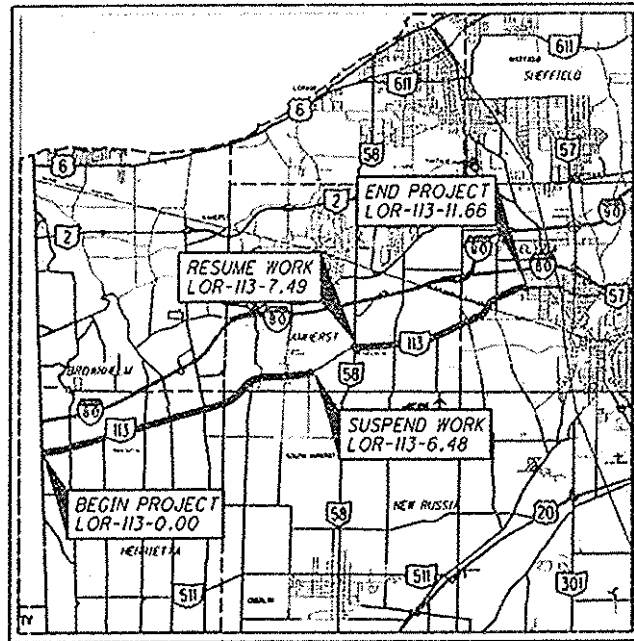


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-113-(0.00)(7.49)

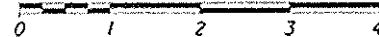
**VILLAGE OF SOUTH AMHERST
AMHERST TOWNSHIP
ELYRIA TOWNSHIP
HENRIETTA TOWNSHIP
LORAIN COUNTY**



LOCATION MAP

LATITUDE: N 41°23'9" LONGITUDE: W 82°10'54"

SCALE IN MILES



DESIGN DESIGNATION: LOR-113-0.00-4.62

CURRENT ADT (2017)	3,800
DESIGN YEAR ADT (2029)	4,000
DESIGN HOURLY VOLUME (2029)	400
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	7%
SPEED LIMIT:	
(SLM: 0.00 - 1.93)	55 MPH
(SLM: 1.93 - 2.86)	45 MPH
(SLM: 2.86 - 4.41)	55 MPH
(SLM: 4.41 - 4.62)	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
(SLM: 0.00 - 3.75)	MAJOR COLLECTOR
(SLM: 3.75 - 4.62)	MINOR ARTERIAL

DESIGN DESIGNATION: LOR-113-4.62-6.48

CURRENT ADT (2017)	4,800
DESIGN YEAR ADT (2029)	4,800
DESIGN HOURLY VOLUME (2029)	480
DIRECTIONAL DISTRIBUTION	56%
TRUCKS (24 HOUR B&C)	5%
SPEED LIMIT:	
(SLM: 4.62-6.36)	35 MPH
(SLM: 6.36-6.48)	45 MPH
(SLM: 7.45-7.48)	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
(SLM: 4.62-7.48)	MINOR ARTERIAL

DESIGN DESIGNATION: LOR-113-7.49-11.66

CURRENT ADT (2017)	6,800
DESIGN YEAR ADT (2029)	6,900
DESIGN HOURLY VOLUME (2029)	620
DIRECTIONAL DISTRIBUTION	51%
TRUCKS (24 HOUR B&C)	6%
SPEED LIMIT:	
(SLM: 7.49 - 11.66)	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
(SLM: 7.49 - 11.66)	MINOR ARTERIAL

NHS PROJECT: NO

DESIGN EXCEPTIONS: NONE

INDEX OF SHEETS:

TITLE SHEET	1
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ENGINEERS SEAL	STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS			
<p>SIGNED: Karla R. Bohmer DATE: 9/1/16</p>	BP-3.1	7/18/14	MT-95.30	7/15/16	TC-41.20	10/18/13	800-2016	10/21/16
	BP-4.1	7/19/13	MT-95.31	7/18/14	TC-42.20	10/18/13	821	4/20/12
	BP-9.1	7/19/13	MT-95.32	7/18/14	TC-52.10	10/18/13	830	1/17/14
	DM-4.3	1/15/16	MT-95.50	10/16/15	TC-61.30	7/18/14	832	1/17/14
	DM-4.4	1/15/16	MT-97.10	7/18/14	TC-65.10	1/17/14	847	1/15/16
	MGS-1.1	7/19/13	MT-99.20	7/19/13	TC-71.10	7/15/16		
	MGS-2.1	7/19/13	MT-101.70	1/17/14	TC-82.10	7/17/15		
	MGS-4.3	1/18/13	MT-101.75	7/15/16				
	MGS-5.2	7/15/16	MT-101.80	1/16/15				
	MGS-6.1	7/19/13	MT-101.90	7/17/15				
			MT-105.10	7/19/13				
	RM-1.1	7/18/14						
	RM-3.1	7/19/13	TBR-1-11	1/18/13				

PROJECT DESCRIPTION

THIS PROJECT WILL INCLUDE PAVEMENT REPAIRS, PAVEMENT PLANING AND RESURFACING WITH ASPHALT CONCRETE, GUARDRAIL WORK, STRUCTURE MAINTENANCE, CONCRETE MEDIAN REPLACEMENT AND PAVEMENT MARKINGS.

EARTH DISTURBED AREAS

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

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.

2016 SPECIFICATIONS

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

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

APPROVED:
DATE: 9/1/16 DISTRICT DEPUTY DIRECTOR

APPROVED:
DATE: 10-27-16 DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLANS PREPARED BY:

LOR - SR 113-00.00
160602 PID - 100771
Dist 3 12/1/2016

Contract Proposal Available @ www.Contracts.dot.state.oh.us/home

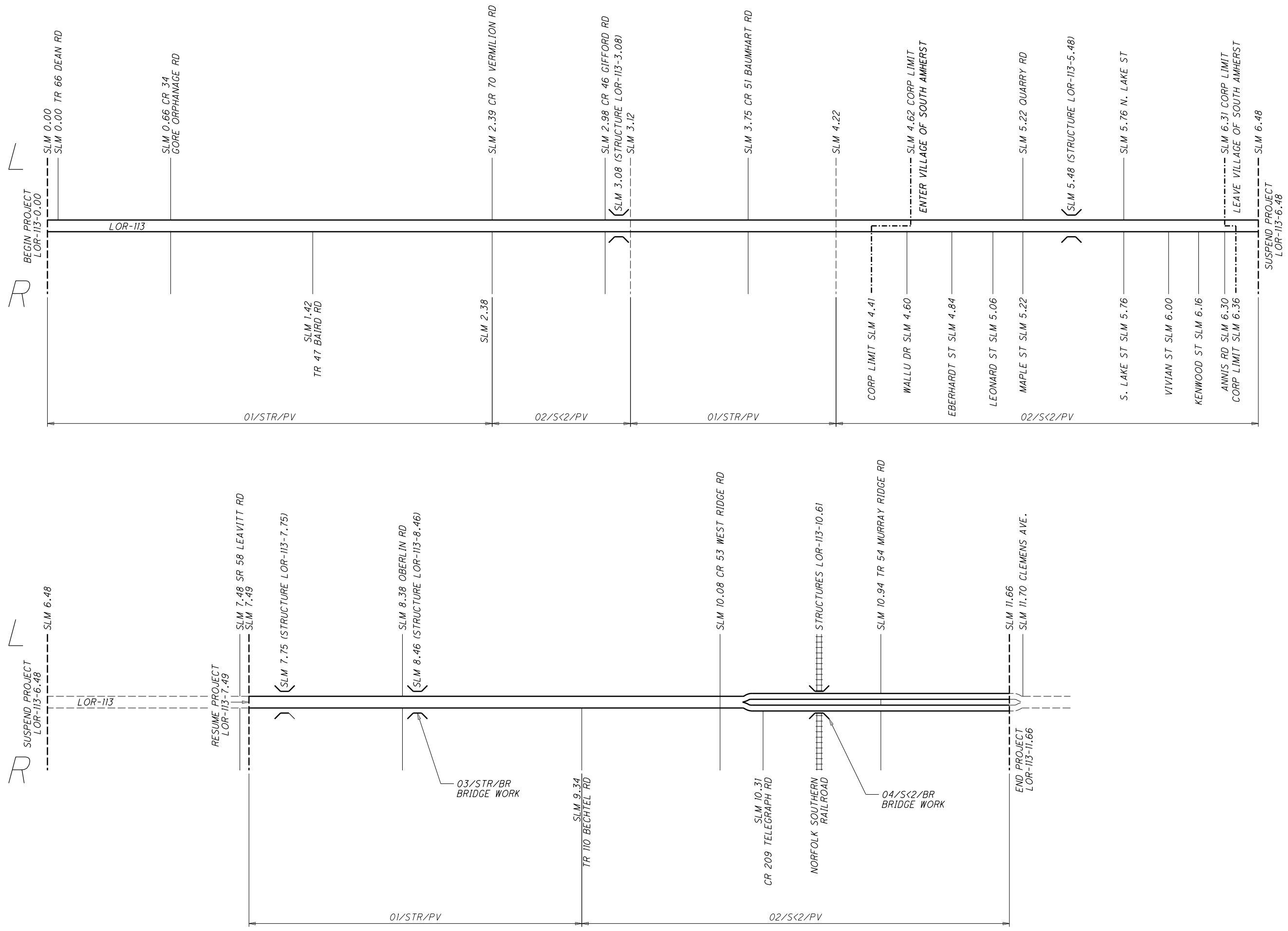
FEDERAL PROJECT NO.
E160746

PID NO.
100771

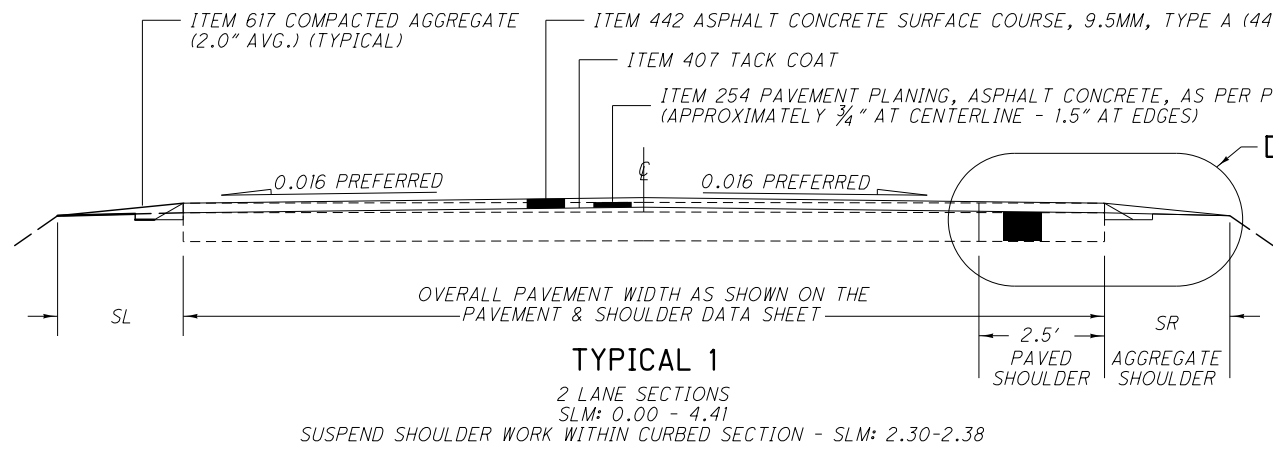
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NORFOLK SOUTHERN

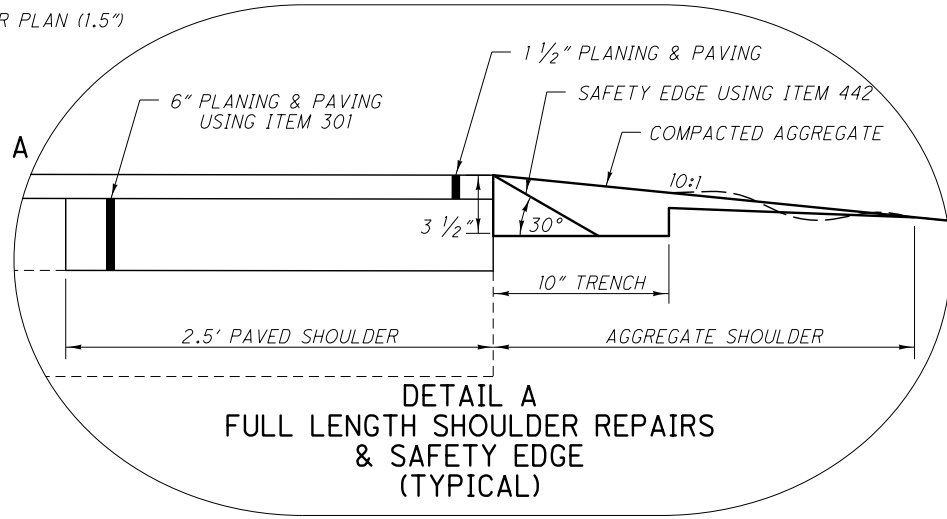
LOR-113-(0.00)(7.49)



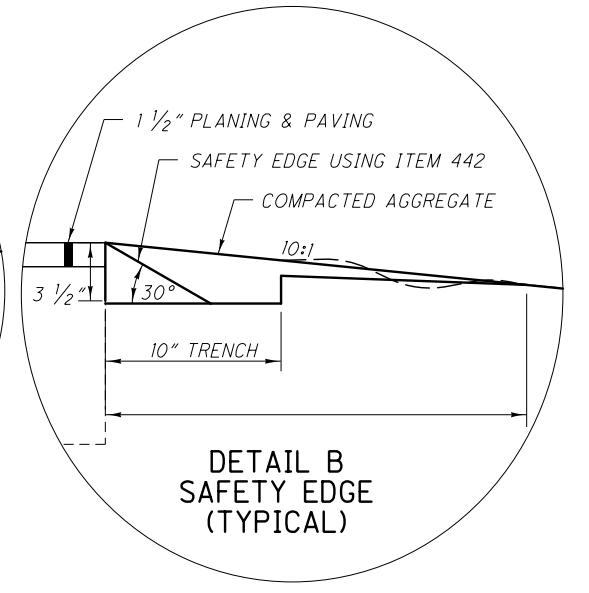
<p>LOR-113-(0.00)(7.49)</p>	<p>STRAIGHT LINE DIAGRAM LOR 113-0.00 - LOR-113-11.66</p>						
<table border="1" style="margin: auto;"> <tr> <td style="padding: 2px;">2</td> </tr> <tr> <td style="padding: 2px;">34</td> </tr> </table>	2	34	<table border="1" style="margin: auto;"> <tr> <td style="padding: 2px;">CALCULATED</td> </tr> <tr> <td style="padding: 2px;">JWS</td> </tr> <tr> <td style="padding: 2px;">CHECKED</td> </tr> <tr> <td style="padding: 2px;">XXX</td> </tr> </table>	CALCULATED	JWS	CHECKED	XXX
2							
34							
CALCULATED							
JWS							
CHECKED							
XXX							



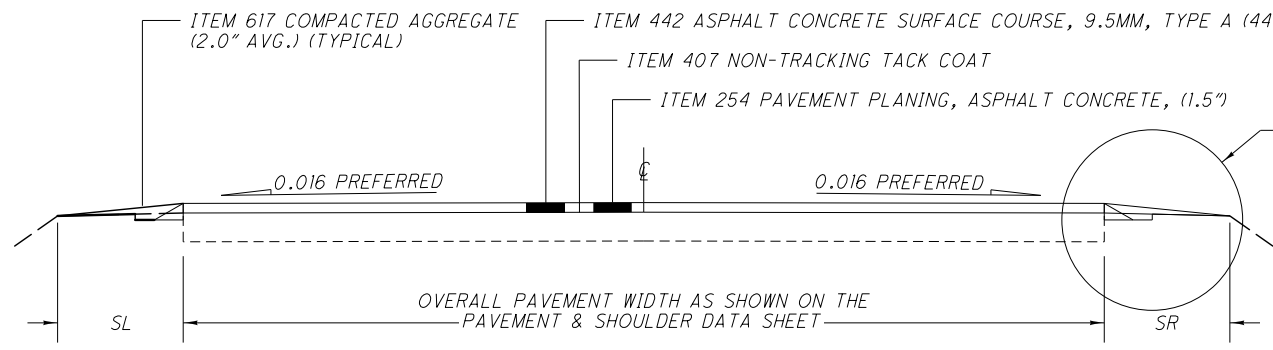
TYPICAL 1
2 LANE SECTIONS
SLM: 0.00 - 4.41
SUSPEND SHOULDER WORK WITHIN CURBED SECTION - SLM: 2.30-2.38



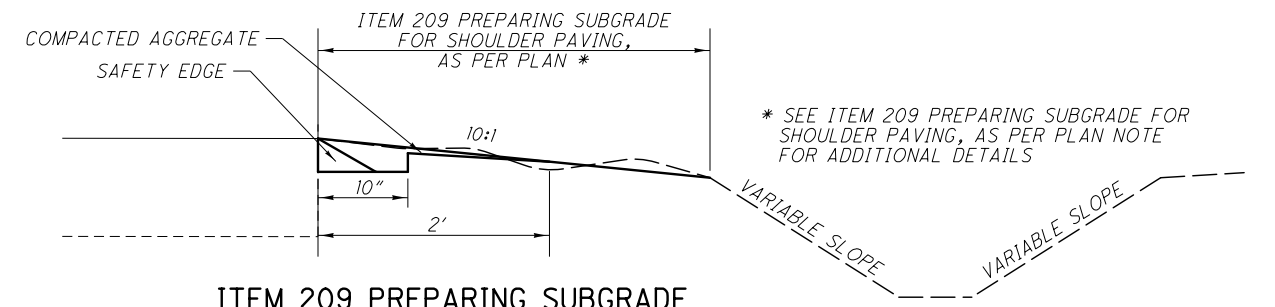
DETAIL A
FULL LENGTH SHOULDER REPAIRS
& SAFETY EDGE
(TYPICAL)



DETAIL B
SAFETY EDGE
(TYPICAL)

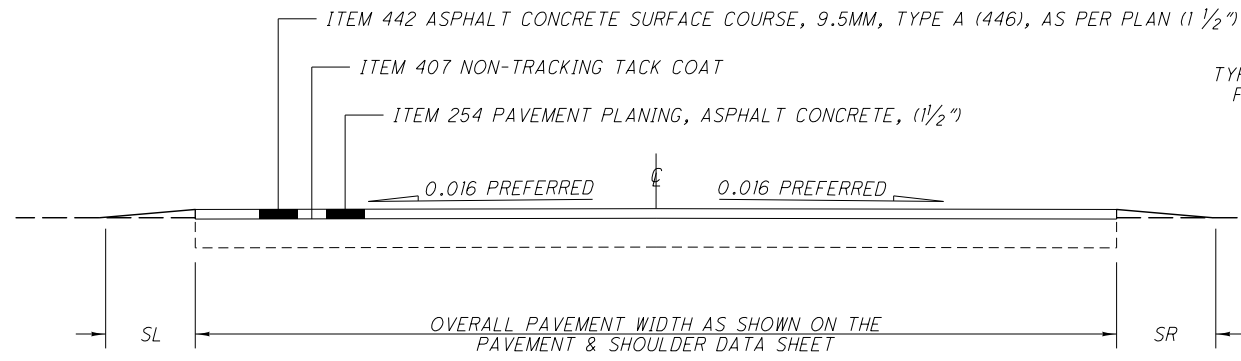


TYPICAL 2
2 LANE SECTIONS
SLM: 4.41 - 6.48 & 7.49 - 10.08

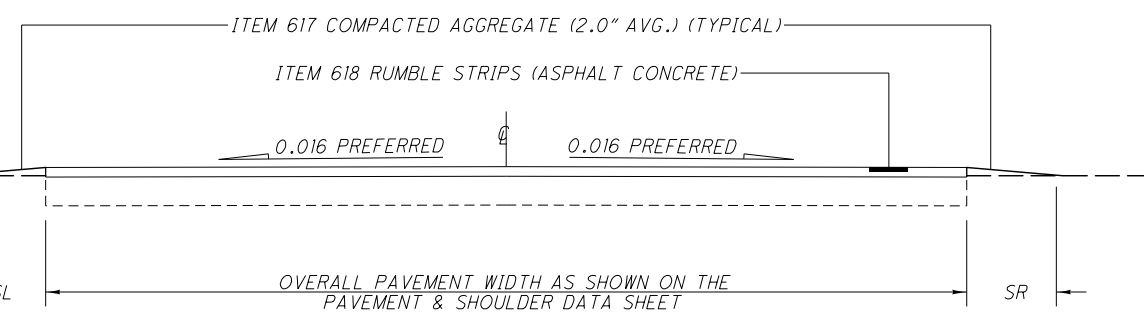


**ITEM 209 PREPARING SUBGRADE
FOR SHOULDER PAVING, AS PER PLAN**

* SEE ITEM 209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN NOTE FOR ADDITIONAL DETAILS



TYPICAL 3
4 LANE DIVIDED SECTIONS
SLM: 10.08 - 11.52



TYPICAL 4
4 LANE DIVIDED WITH CONCRETE MEDIAN SECTIONS
SLM: 11.52 - 11.66

TYPICAL SECTIONS

LOR-113-(0.00)(7.49)

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UTILITIES

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

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CABLE T.V.
Armstrong Utilities
 Tad Sedwick
 1215 Claremont Avenue
 Ashland, Ohio 44805
 419-289-0161 x. 50603

MISC
City of Elyria
 Tim Ujvari
 131 Court Street Suite 303
 Elyria, Ohio 44035
 440-326-1444

CABLE T.V.
CenturyLink
 Steve Walend
 203 W. 9th St.
 Lorain, Ohio 44052
 440-244-8423

MISC
City of Lorain
Dale Vandersommen, City Engineer
200 West Erie Avenue
Lorain, Ohio 44052
440-244-2003

CABLE T.V.
Charter Communications
 Paul Silvestro
 8150 Dow Circle
 Strongsville, Ohio 44136
 216-575-8016 ext. 2165555034

MISC
ODOT District 3
 Matt Blankenship
 806 Clark Ave.
 Ashland, Ohio 44805
 419-207-7045

CABLE T.V.
Oberlin Cable Co-Op
 Mr. Ralph Potts
 27 East College Street
 Oberlin, Ohio 44074
 440-775-4001

TELEPHONE
AT&T, consultant for AT&T
Mr. Bill Harkness
Metropolitan Communications Group
155 Commerce Park Drive
Suite # 1
Westerville, Ohio 43082
Cell: 770-316-5309

CABLE T.V.
Qwest National Network Services
 Christopher Strayer
 4650 Lakehurst Court
 Dublin, Ohio 43016
 614-215-5606

TELEPHONE
AT&T of Ohio
 Eric Johnston
 13630 Lorain Avenue, Room 350
 Cleveland, Ohio 44111-3436
 216-476-6141

ELECTRIC
Everstream
 800 W. St. Clair Avenue, 2nd Floor
 Cleveland, OH 44113
 216-923-2206

TELEPHONE
Frontier Communications
 Scott Wetzel
 83 Townsend Avenue
 Norwalk, Ohio 44857
 419-744-3613

ELECTRIC
Ohio Edison Company
 Jeff Hall, Supervisor
 6326 Lake Avenue
 Elyria, Ohio 44035
 440-326-3207

TELEPHONE
Verizon Business
 Allan Guest
 120 Ravine Street
 Akron, Ohio 44303
 330-253-8267

GAS
Columbia Gas of Ohio
 Adam Woodie, P.E..
 3101 North Ridge Road E
 Lorain, Ohio 44055
 (440) 240-6144

TELEPHONE
Windstream
 Geoff Hamm
 560 Ternes Ave.
 Elyria, Ohio 44035
 440-329-4245

GAS
Columbia Pipeline Group
 Russ Johnson
 589 North State Road
 Medina, Ohio 44256
 330-721-4163

WATER
Rural Lorain County Water Authority
 Jim Truesdell
 42401 S.R. 303, P.O. Box 567
 LaGrange, Ohio 44050
 440-355-6060

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

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.

EXISTING PLANS

EXISTING PLANS ENTITLED LOR-113-(10.09-11.64) (1969) MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND.

WORK LIMITS

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

CONSTRUCTION NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4305 OR EMAIL AT D03.PIO@DOT.STATE.OH.US

DISTRICT PERMIT SECTION BY FAX AT (614) 887-4318 OR EMAIL AT LOUIS.TUMBLIN@DOT.STATE.OH.US

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

RAILROAD WORK RESTRICTIONS FOR STRUCTURES AT LOR-113-10.61

ALL WORK ON, OVER, UNDER, OR ADJACENT TO NORFOLK SOUTHERN (NS) RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE NORFOLK SOUTHERN "SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS" (NS SPECIAL PROVISIONS), FOUND IN THE SPECIAL CLAUSES IN THE PROPOSAL.

"ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE TWO (2) DAYS IN ADVANCE OF THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE RAILROAD UNDERGROUND LINES ON RAILROAD PROPERTY. UPON REQUEST FROM THE CONTRACTOR OR AGENCY, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG RAILROAD UNDERGROUND SIGNAL, COMMUNICATION, AND POWER LINES IN THE AREA TO BE DISTURBED FOR THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD SIGNAL, COMMUNICATION, OR POWER LINE, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BY THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF A RAILROAD SIGNAL REPRESENTATIVE.

ALL WORK ON, OVER, UNDER OR ADJACENT TO NORFOLK SOUTHERN RIGHT-OF-WAY THAT IS NOT SPECIFICALLY DENOTED ON THE APPROVED PLANS SHALL BE SUBMITTED TO NORFOLK SOUTHERN FOR REVIEW AND APPROVAL PRIOR TO BEGINNING THE WORK.

PAVEMENT CORING INFORMATION

COUNTY	ROUTE	SLM	ASPHALT DEPTH (INCHES)	CONCRETE DEPTH (INCHES)	WHEEL PATH/ SHOULDER	DIRECTION	YEAR CORED
LOR	113	0.22	2.5		SH	EB	2014
LOR	113	0.22	13		RWP	EB	2014
LOR	113	0.22	7	9	LWP	EB	2014
LOR	113	0.79	5		SH	EB	2014
LOR	113	0.79	7	8	RWP	EB	2014
LOR	113	0.79	6	9	LWP	EB	2014
LOR	113	1.29	5.25		SH	EB	2014
LOR	113	1.29	5	7	RWP	EB	2014
LOR	113	1.29	4.5	9	LWP	EB	2014
LOR	113	1.78	5		SH	EB	2014
LOR	113	1.78	5	7.5	RWP	EB	2014
LOR	113	1.78	6	6	LWP	EB	2014
LOR	113	2.24	5		SH	EB	2014
LOR	113	2.24	6	7	RWP	EB	2014
LOR	113	2.24	6	7	LWP	EB	2014
LOR	113	2.73	7.5		SH	EB	2014
LOR	113	2.73	6	7	RWP	EB	2014
LOR	113	2.73	6	6	LWP	EB	2014
LOR	113	3.30	4.5		SH	EB	2014
LOR	113	3.30	6	7	RWP	EB	2014
LOR	113	3.30	6	8	LWP	EB	2014
LOR	113	3.89	5		SH	EB	2014
LOR	113	3.89	5	8	RWP	EB	2014
LOR	113	3.89	6	7	LWP	EB	2014
LOR	113	4.40	7		SH	EB	2014
LOR	113	4.40	6	7.5	RWP	EB	2014
LOR	113	4.40	6.5	8	LWP	EB	2014
LOR	113	5.00	3		SH	EB	2014
LOR	113	5.00	6.5	8	RWP	EB	2014
LOR	113	5.00	6	7	LWP	EB	2014
LOR	113	5.56	2		SH	EB	2014
LOR	113	5.56	5	7	RWP	EB	2014
LOR	113	5.56	4	7	LWP	EB	2014
LOR	113	5.95	3		SH	EB	2014
LOR	113	5.95	5.5	8	RWP	EB	2014
LOR	113	5.95	5.5	7.5	LWP	EB	2014
LOR	113	6.40	3		SH	EB	2014
LOR	113	6.40	12	8	RWP	EB	2014
LOR	113	6.40	10	7	LWP	EB	2014
LOR	113	7.75	7		SH	EB	2014
LOR	113	7.75	7	8	RWP	EB	2014
LOR	113	7.75	8	7	LWP	EB	2014
LOR	113	8.16	11		SH	EB	2014
LOR	113	8.16	10	8	RWP	EB	2014
LOR	113	8.16	10	7	LWP	EB	2014
LOR	113	8.78	6		SH	EB	2014
LOR	113	8.78	8	8	RWP	EB	2014
LOR	113	8.78	7.5	7.5	LWP	EB	2014
LOR	113	9.28	4.5		SH	EB	2014
LOR	113	9.28	8	8.5	RWP	EB	2014
LOR	113	9.28	8	8	LWP	EB	2014
LOR	113	9.72	5		SH	EB	2014
LOR	113	9.72	7.5	7.5	RWP	EB	2014
LOR	113	9.72	7.5	7	LWP	EB	2014
LOR	113	10.46	11		SH	EB	2014
LOR	113	10.46	11		RWP	EB	2014
LOR	113	10.46	11		LWP	EB	2014
LOR	113	11.12	11		SH	EB	2014
LOR	113	11.12	11		RWP	EB	2014
LOR	113	11.12	11.5		LWP	EB	2014
LOR	113	11.71	5.5		SH	EB	2014
LOR	113	11.71	11		RWP	EB	2014
LOR	113	11.71	11		LWP	EB	2014
LOR	113	12.35	5.5		SH	EB	2014
LOR	113	12.35	13		RWP	EB	2014
LOR	113	12.35	12.5		LWP	EB	2014

CALCULATED
 JWS
 CHECKED
 KRB

GENERAL NOTES

LOR - 113 - (0.00)(7.49)

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SAFETY EDGE

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETSLOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
www.transtechsys.com

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
www.advantedgepaving.com

CARLSON SAFETY EDGE END GATE
18450 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONICS LABORATORIES INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
www.troxlerlabs.com

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

IN-STREAM WORK RESTRICTIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID CONSTRUCTION IN AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING STREAMS OR WETLANDS. ANY MATERIAL THAT DOES FALL INTO STREAMS OR WETLANDS SHALL BE REMOVED AS SOON AS POSSIBLE.

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. IT IS ANTICIPATED THAT NO IN-STREAM WORK, OR WORK UNDER THE STREAM'S ORDINARY HIGH WATER MARK (OHWM) WILL BE NEEDED. THEREFORE NO WATERWAY PERMITS HAVE BEEN GRANTED AND NO IN-STREAM WORK IS ALLOWED.

SHOULD WORK (EITHER TEMPORARY OR PERMANENT) IN THE STREAM IS NEEDED; IT WILL REQUIRE A PERMIT AND AUTHORIZATION BY THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE). THE CONTRACTOR SHALL NOT UTILIZE FILLS BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. DETAILS OF THIS REQUIREMENT ARE DESCRIBED IN ODOT'S SUPPLEMENTAL SPECIFICATION 832.09

USACE DEFINITION OF OHWM - THE ORDINARY HIGH WATER MARK IS THE LINE ON THE SHORES ESTABLISHED BY THE FLUCTUATIONS OF WATER AND INDICATED BY PHYSICAL CHARACTERISTICS SUCH AS A CLEAR, NATURAL LINE IMPRESSED ON THE BANK; SHELVEING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR
ITEM 253 - PAVEMENT REPAIR

THESE ITEMS OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE. CORING HAS BEEN PERFORMED TO HELP DETERMINE THE COMPONENTS THAT MAY BE ENCOUNTERED DURING THIS ITEM OF WORK. THE PAVEMENT CORING INFORMATION IS SHOWN ON THE PREVIOUS PLAN SHEET.

PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING AND BEFORE PLACEMENT OF THE INTERMEDIATE AND/OR SURFACE COURSE. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH A MAXIMUM DEPTH OF 11", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 4" AND AN AVERAGE WIDTH OF 4 FT FOR ESTIMATING PURPOSES.

REPLACEMENT MATERIAL SHALL BE ITEM 301, OR ITEM 442 19MM, AS PER PLAN MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 442 19MM, AS PER PLAN CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 3". PG 64-22 ASPHALT BINDER SHALL BE USED FOR ALL OF THE ASPHALT CONCRETE MATERIALS FOR THESE REPAIRS.

FOR THE ITEM 442 19 MM, AS PER PLAN MATERIAL, REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR N_{des} USE 50 GYRATIONS, FOR N_{max} USE 75 GYRATIONS. USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 30 PERCENT.
APPLY 703.05 FOR COARSE AND FINE AGGREGATE EXCEPT GRADATION FOR FINE AGGREGATE DOES NOT APPLY.
QUALITY CONTROL: DO NOT PERFORM N_{max} IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. FOR PAYMENT PURPOSES ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR IS TO BE A MAXIMUM OF 4" DEEP AND ITEM 253 PAVEMENT REPAIR IS FOR DEPTHS GREATER THAN 4". PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR OR ITEM 253 - PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) (301):

01/STR/PV: 454 CY
02/S<2/PV: 1,070 CY
TOTAL: 1,524 CY

ITEM 253 - PAVEMENT REPAIR:

01/STR/PV: 20 CY
02/S<2/PV: 30 CY
TOTAL: 50 CY

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

THE INTENT OF THE PLANING IS TO MILL THE DEPTH SPECIFIED ON THE PAVEMENT AND SHOULDER DATA SHEET AT THE CENTER OF PAVEMENT AT NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO ALL CATCH BASINS AND INLETS.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN FOURTEEN (14) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1,000 PER DAY.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN

TAPER PLANING FROM 0.75" AT CENTERLINE TO 1.5" AT EDGE OF PAVEMENT FROM LOR-113-0.00 TO LOR-113-4.41.

THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO ALL CATCH BASINS AND INLETS.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN FOURTEEN (14) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1,000 PER DAY.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

ITEM 254 - PATCHING PLANED SURFACE

AN ESTIMATED QUANTITY OF ITEM 254 - PATCHING PLANED SURFACE HAS BEEN SET UP TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN CMS 254.04. THE LIMIT OF THE PATCHING DEPTH IS 0 TO 2 IN.

ITEM 611 - MANHOLE ADJUSTED TO GRADE

THE CASTING TO BE ADJUSTED TO GRADE MAY OR MAY NOT HAVE AN EXISTING FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING CASTING TO THE SATISFACTION OF THE ENGINEER. IT IS NOT INTENDED TO PLACE NEW FRAMES WHERE NONE CURRENTLY EXIST. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASINGS WITHOUT FRAMES.

APPROXIMATE LOCATION OF KNOWN CASTINGS ARE:

LOCATION	FUNDING SPLIT	QUANTITY
LOR-113, SLM 2.32	01/STR/PV	1 EACH
LOR-113, SLM 10.10	02/S<2/PV	1 EACH
LOR-113, SLM 10.12	02/S<2/PV	1 EACH
LOR-113, SLM 10.13	02/S<2/PV	1 EACH

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE

THE MONUMENT BOX TO BE ADJUSTED TO GRADE MAY OR MAY NOT HAVE AN EXISTING ADJUSTABLE FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING MONUMENT BOX TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT ADJUSTABLE FRAMES.

APPROXIMATE LOCATIONS OF KNOWN MONUMENT BOXES ARE:

01/STR/PV		02/S<2/PV
LOR-113, SLM 0.37	LOR-113, SLM 8.24	LOR-113, SLM 3.02
LOR-113, SLM 0.44	LOR-113, SLM 8.30	LOR-113, SLM 10.08
LOR-113, SLM 0.53	LOR-113, SLM 8.38	LOR-113, SLM 10.31
LOR-113, SLM 3.23	LOR-113, SLM 8.54	LOR-113, SLM 11.57
LOR-113, SLM 3.75		

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE:

01/STR/PV	9 EACH
02/S<2/PV	4 EACH
TOTAL	13 EACH

INTERSECTIONS AND DRIVES

RURAL-INTERSECTIONS SHALL BE PLANNED AND PAVED TO THE END OF THE RADII OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

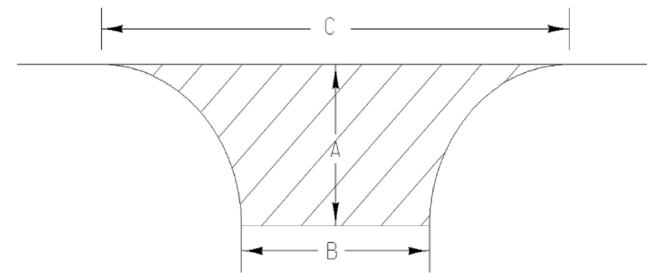
URBAN-INTERSECTIONS SHALL BE PLANNED AND PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

EXISTING PAVED DRIVES SHALL BE PAVED SO AS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE HIGHWAY AND THE DRIVE, (DISTANCE FROM EDGE OF ROADWAY MAY VARY AT EACH DRIVE) AS DIRECTED BY THE ENGINEER.

EXISTING AGGREGATE DRIVES SHALL BE PAVED WITH AN APRON AN AVERAGE WIDTH OF 4 FT. THE SLOPE OF THIS APRON SHALL BE THE SAME AS THE ADJACENT PAVEMENT SLOPE OR AS DIRECTED BY THE ENGINEER. ANY GRADING NEEDED TO PAVE THE APRON SHALL BE INCLUDED IN THE RELATED ASPHALT ITEM FOR PAYMENT. ITEM 617 COMPACTED AGGREGATE SHALL BE PLACED ADJACENT TO THIS APRON TO PROVIDE A SMOOTH TRANSITION FROM THE APRON TO THE EXISTING DRIVE, (WIDTH OF THIS 617 APPLICATION MAY VARY) AS DIRECTED BY THE ENGINEER. AN ADDITIONAL QUANTITY OF ITEM 617 HAS BEEN ESTIMATED TO COMPLETE THIS WORK AND IS SHOWN AS AN EXTRA AREA ON THE PAVEMENT & SHOULDER DATA SHEET.

ANY HAZARD OR UNSAFE CONDITION RESULTING FROM THE ABOVE WORK MUST BE CORRECTED IMMEDIATELY. THE CONTRACTOR IS REMINDED OF SECTIONS 105.01, 107.07 & 614.02A OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE PAVING DIMENSIONS FOR THE INTERSECTIONS ARE SHOWN IN THE CHART BELOW.



FUNDING SPLIT	Intersection Name	SLM	SIDE	A (ft.)	B (ft.)	C (ft.)	Area (sy)
	BEGIN PROJECT	0.00					
01/STR/PV	DEAN ROAD	0.00	L	0	0	0	0
01/STR/PV	GORE ORPHANAGE ROAD	0.66	R	12	26	50	45
01/STR/PV	GORE ORPHANAGE ROAD	0.66	L	12	25	77	56
01/STR/PV	BAIRD ROAD	1.42	R	10	23	54	37
02/S<2/PV	VERMILION ROAD	2.39	R	11	25	91	57
02/S<2/PV	VERMILION ROAD	2.39	L	14	21	95	71
02/S<2/PV	GIFFORD ROAD	2.98	R	15	23	66	62
02/S<2/PV	GIFFORD ROAD	2.98	L	14	24	55	53
01/STR/PV	BAUMHART ROAD	3.75	R	52	33	80	281
01/STR/PV	BAUMHART ROAD	3.75	L	13	37	100	84
02/S<2/PV	WALLU DRIVE	4.60	R	23	20	56	82
02/S<2/PV	EBERHARDT STREET	4.84	R	10	19	47	31
02/S<2/PV	LEONARD STREET	5.06	R	10	26	55	40
02/S<2/PV	MAPLE STREET	5.22	R	7	25	46	25
02/S<2/PV	QUARRY STREET	5.22	L	11	24	72	49
02/S<2/PV	SOUTH LAKE STREET	5.76	R	9	32	50	38
02/S<2/PV	NORTH LAKE STREET	5.76	L	11	23	23	28
02/S<2/PV	VIVIAN STREET	6.00	R	12	20	60	44
02/S<2/PV	KENWOOD STREET	6.16	R	7	24	60	28
02/S<2/PV	ANNIS ROAD	6.30	R	16	44	65	91
	SUSPEND PROJECT	6.48					
	SR 58 LEAVITT ROAD	7.48					
	RESUME PROJECT	7.49					
01/STR/PV	OBERLIN ROAD	8.38	R	23	52	113	185
01/STR/PV	OBERLIN ROAD	8.38	L	76	34	118	524
01/STR/PV	BETCHEL ROAD	9.34	R	18	30	77	91
02/S<2/PV	WEST RIDGE ROAD	10.08	R	25	55	135	227
02/S<2/PV	WEST RIDGE ROAD	10.08	L	15	61	135	143
02/S<2/PV	TELEGRAPH ROAD	10.31	R	17	35	133	128
02/S<2/PV	MURRAY RIDGE ROAD	10.94	R	14	47	102	102
02/S<2/PV	MURRAY RIDGE ROAD	10.94	L	30	40	99	199
	END PROJECT	11.66					
	Sub-Total (01/STR/PV)						1303
	Sub-Total (02/S<2/PV)						1498
	Total Intersection Areas						2801

ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05 OR AS DIRECTED BY THE ENGINEER. THE GRADED SHOULDER BEYOND THE 10 INCH WIDE AREA FOR THE SAFETY EDGE SHALL BE GRADED AT A 10:1 SLOPE, OR AS DIRECTED BY THE ENGINEER. THE INTENT IS TO PROVIDE AN UNOBSTRUCTED AND POSITIVE FLOW OF STORM WATER FROM THE PAVEMENT TO THE DITCH.

ITEM 209 - LINEAR GRADING

THE CONTRACTOR IS REQUIRED TO PERFORM LINEAR GRADING ON THE GRADED SHOULDER. IT IS ANTICIPATED THAT THERE ARE AREAS WHERE THE GRADED SHOULDER IS AT A HIGHER ELEVATION THAN THE ADJACENT PROPOSED PAVEMENT. A 10:1 SLOPE SHALL BE ESTABLISHED, OR AS DIRECTED BY THE ENGINEER, WHEN PERFORMING ITEM 209 LINEAR GRADING. THE INTENT IS TO PROVIDE AN UNOBSTRUCTED AND POSITIVE FLOW OF STORM WATER FROM THE PAVEMENT TO THE DITCH. THE LINEAR GRADING SHALL BE PERFORMED AFTER THE INTERMEDIATE COURSE HAS BEEN COMPLETED AND BEFORE THE SURFACE COURSE IS PLACED. ALL LABOR AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER MILE FOR ITEM 209 - LINEAR GRADING.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
MINIMUM VIRGIN PG BINDER CONTENT IS 5.0 PERCENT.
USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE GRAVITY LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (446), AS PER PLAN (SAFETY EDGE)

THE SAFETY EDGE SHALL BE INSTALLED AT THE SAME TIME AS THE SURFACE COURSE IS TO BE PLACED. THE SAFETY EDGE WILL NOT REQUIRE ANY DENSITY TESTING.

ROLLER REQUIREMENTS WITHIN THE VILLAGE OF SOUTH AMHERST

WITHIN THE CORPORATION LIMITS OF THE VILLAGE OF SOUTH AMHERST, THE CONTRACTOR SHALL NOT USE A VIBRATORY ROLLER TO COMPACT THE ASPHALT CONCRETE.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN (WITHIN THE VILLAGE OF SOUTH AMHERST)

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE GRAVITY LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

THE CONTRACTOR IS REQUIRED TO COMPLETE A TEST STRIP OF THE ITEM 442: ASPHALT CONCRETE SURFACE COURSE, 9.5 MM TYPE A (446), AS PER PLAN. THE TEST STRIP SHALL CONSIST OF 50 TO 100 TONS OF THE CONTRACT SPECIFIED ASPHALT SURFACE COURSE PLACED AND COMPACTED WITHOUT THE USE OF VIBRATORY ROLLERS. ENSURE BASIC COMPACTION PRACTICES SUCH AS PROPER MIX TEMPERATURES, ROLLERS TIGHT TO THE PAVER AND ADEQUATE NUMBER OF ROLLERS VS. PAVER SPEED ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN AND TEST 3 RANDOM CORES OF THE COMPACTED TEST STRIP. IF THE AVERAGE OF THE CORE RESULTS ARE BELOW 92.0 PERCENT ADJUST THE MIX OR COMPACTION AS NECESSARY AND ALLOWABLE PER SPECIFICATION AND REPEAT THE TEST STRIP. DO NOT BEGIN FULL PRODUCTION OF THE ASPHALT SURFACE COURSE UNTIL THE ENGINEER HAS ACCEPTED THE TEST STRIP. THE TEST STRIP WILL BE INCLUDED IN THE FIRST LOT FOR DETERMINING DENSITY FOR PAYMENT. TEST STRIPS ARE INCIDENTAL TO THE PAY ITEM.

CALCULATED
JWS
CHECKED
KRB

GENERAL NOTES

LOR-113-(0.00)(7.49)

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CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

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.

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.

SUGGESTED SEQUENCE OF GUARDRAIL WORK

1. GUARDRAIL WORK IS TO BEGIN AFTER ITEM 209 IS COMPLETED AND THE 617 MATERIAL IS PLACED.
2. REMOVE THE GUARDRAIL.
3. PERFORM THE RESHAPING UNDER GUARDRAIL INCLUDING COMPLETING THE EMBANKMENT, AS PER PLAN.
4. REBUILD/CONSTRUCT THE GUARDRAIL RUN.
5. INSTALL BARRIER REFLECTORS.

ITEM 203 - EMBANKMENT, AS PER PLAN

AT SPECIFIED LOCATIONS AND LOCATIONS AS DIRECTED BY THE ENGINEER, EMBANKMENT SHALL BE PLACED AS TO PROVIDE A SUITABLE AREA TO CONSTRUCT GUARDRAIL AND TO PROVIDE STRUCTURAL INTEGRITY OF THE ROADWAY SHOULDER.

AREAS WHERE EMBANKMENT MATERIAL IS TO BE PLACED SHALL BE SCALPED. THE REQUIREMENTS FOR BENCHING SHALL BE WAIVED. THE DEPTH OF LAYERS IN WHICH THE EMBANKMENT IS PLACED SHALL BE LIMITED TO EIGHT (8) INCHES IN THICKNESS. THE METHOD OF COMPACTION AND EQUIPMENT USED SHALL BE SUFFICIENT TO PROVIDE A MINIMUM OF 60 PERCENT OF RELATIVE COMPACTION.

AFTER THE EMBANKMENT HAS BEEN PLACED, THE AREAS SHALL BE FERTILIZED, SEEDED, MULCHED, AND WATERED AS PER ITEM 659. THE COST SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT.

THE METHOD OF MEASUREMENT FOR EMBANKMENT MATERIAL SHALL BE BY THE NUMBER OF CUBIC YARDS MEASURED BY LOOSE VOLUME IN THE CARRIER AT THE WORK SITE, IN LIEU OF THE REQUIREMENTS OF 203.09. PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 203 - EMBANKMENT, AS PER PLAN AND SHALL INCLUDE ALL WORK DESCRIBED ABOVE.

ITEM 209 - RESHAPING UNDER GUARDRAIL

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLANS.

THIS WORK SHALL BE COMPLETED AT LOCATIONS SPECIFIED FOR WORK AS WELL AS PER CMS 209.05 AND AS DESCRIBED HEREIN, AND SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

THE AREA IN FRONT OF, UNDER, AND BEHIND THE GUARDRAIL SHALL BE GRADED AND RESHAPED TO PROVIDE AN AREA THAT HAS A SLOPE OF 8:1 MAXIMUM (SEE THE GUARDRAIL DETAIL SHEETS FOR FURTHER DETAILS AND INFORMATION OF THE LIMITS OF THIS WORK).

EXCESS MATERIAL RESULTING SHALL BE USED ELSEWHERE FOR THIS ITEM IF SO DIRECTED OR DISPOSED OF PROPERLY. IF EXTRA MATERIAL IS REQUIRED IT SHALL BE PAID FOR WITH ITEM 203 - EMBANKMENT, AS PER PLAN. THIS WORK SHALL NOT BE STARTED UNTIL AFTER THE RESURFACING AND BERM WORK HAS BEEN COMPLETED.

THE ABOVE WORK SHALL BE PAID FOR PER STATION WITH ITEM 209, RESHAPING UNDER GUARDRAIL WITH THE EXCEPTION OF ANY EXTRA MATERIAL REQUIRED TO MEET THE SLOPE REQUIREMENTS WHICH SHALL BE PAID BY ITEM 203 - EMBANKMENT, AS PER PLAN.

ITEM 202 - ANCHOR ASSEMBLY REMOVED, TYPE A

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TYPE A, ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENTS, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING AFTER REMOVAL SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A.

ITEM 202 - ANCHOR ASSEMBLY REMOVED, TYPE T

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TYPE T, ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENTS, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING AFTER REMOVAL SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE T.

ITEM 606 - IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE 1 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1 [(UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

BRIDGE LOCATION MARKER SIGN

THE BRIDGE LOCATION MARKER SIGN INDICATES THE COUNTY, THE ROUTE, AND THE STRAIGHT LINE MILEAGE OF THE STRUCTURE. THE CONTRACTOR SHALL REMOVE THE EXISTING BRIDGE LOCATION MARKER SIGNS AND REERECT THE SIGNS IN KIND. IF THERE ARE ANY QUESTIONS ON THE LOCATION, PLEASE CONTACT THE DISTRICT BRIDGE ENGINEER.

ALL COSTS, INCLUDING THE SIGN REMOVAL, SIGN REERECTION, POST REMOVAL, AND POST INSTALLATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 606 - GUARDRAIL REBUILT, TYPE 5.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

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

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

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E. ALL WELDS ON THE EXTERIOR OF THE SALVAGED EXTRUDER SHALL NOT BE DAMAGED AND THE FEEDER SHUTE SHALL NOT BE BENT.

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 27 3/4 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 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, 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.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

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

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

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E. ALL WELDS ON THE EXTERIOR OF THE SALVAGED EXTRUDER SHALL NOT BE DAMAGED AND THE FEEDER SHUTE SHALL NOT BE BENT.

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 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.

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EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE BID EXAMINATION OF THE EXISTING STRUCTURES. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2003-2007 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI

STRUCTURAL STEEL - ASTM A709 GRADE 36 - YIELD STRENGTH 36,000 PSI

REFERENCE SHALL BE MADE TO STANDARD BRIDGE DRAWINGS:

STANDARD BRIDGE DRAWINGS: TBR-1-11 1/18/13

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS:

SUPPLEMENTAL SPECIFICATIONS: 847 7/15/2016

DECK PROTECTION METHOD:

SUPERPLASTICIZED DENSE CONCRETE OVERLAY

ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2.25" THICK, 1.25" THICK)

ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN

EACH ITEM SHALL BE USED AT THE LOCATIONS INDICATED IN THE PLANS.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN:

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.06 OR SUPPLY THE ENGINEER WITH "AS-BUILT" DRAWINGS MEETING 513.06 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM:
1.0" X 2.5" X 39' STEEL BARS (4 PCS)
1.0" X 7.5" X 39' STEEL BARS (4 PCS)

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

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

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: BACKWALL REPAIR

ITEM 511 - CLASS QC2 CONCRETE, MISC.: PARAPET REPAIR

EACH ITEM SHALL BE USED AT THE LOCATIONS INDICATED IN THE PLANS.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN

SALVAGE 200 TOTAL FEET OF EXISTING BRIDGE RAILING FROM THE LEFT AND RIGHT STRUCTURES AT LOR-113-10.61 FOR USE BY ODOT. ALL TUBING, RAIL AND POST COMPONENTS, EXCLUDING ANCHOR BOLTS SHALL BE REMOVED FOR STORAGE. ODOT WILL RETRIEVE THE STORED MATERIAL.

PICKUP OF STORED MATERIAL SHALL BE COORDINATED WITH: MARLIN WENGERD ODOT DISTRICT 3 BRIDGE ENGINEER (419) 207-7149

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR THE ABOVE ITEM, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN

THIS ITEM SHALL BE USED TO REMOVE AND REINSTALL THE EXISTING BRIDGE RAILING TO FACILITATE FULL WIDTH PAVING OVER THE STRUCTURE. BRIDGE RAILING POSTS ARE TO REMAIN IN PLACE. GUARDRAIL AND BRIDGE RAILING MUST BE IN PLACE IF TRAFFIC IS TO BE PERMITTED IN THE ADJACENT LANE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR THE ABOVE ITEM, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL - BALLAST PROTECTION

PROVIDE PROTECTION OF RAILWAYS TRACK BALLAST PER NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS, SECTION 5B "BALLAST PROTECTION", FOUND IN THE SPECIAL CLAUSES IN THE PROPOSAL. SEE NORFOLK SOUTHERN'S PUBLIC PROJECTS MANUAL TYPICAL DRAWINGS, GEOTEXTILE BALLAST PROTECTION DETAIL FOR THE REQUIRED BALLAST PROTECTION LIMITS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LUMP SUM FOR THE ABOVE ITEM, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 614 - MAINTAINING TRAFFIC FOR STRUCTURES LOR-113-10.61 LT AND LOR-113-10.61 RT

ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. LANE CLOSURES FOR WORK ON STRUCTURES LOR-113-10.61 LT AND LOR-113-10.61 RT SHALL FOLLOW STANDARD CONSTRUCTION DRAWING MT-95.40.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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.

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

STRUCTURE LOR-113-10.61 LT (04/S<2/BR):
ITEM 614 - WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL): 4 EACH
ITEM 614 - BARRIER REFLECTOR, TYPE B2: 24 EACH
ITEM 614 - OBJECT MARKER, ONE WAY: 24 EACH
ITEM 622 - PORTABLE BARRIER, 32": 740 FT
ITEM 622 - PORTABLE BARRIER, 32", BRIDGE MOUNTED (UNANCHORED): 450 FT

STRUCTURE LOR-113-10.61 RT (04/S<2/BR):
ITEM 614 - WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL): 4 EACH
ITEM 614 - BARRIER REFLECTOR, TYPE B2: 24 EACH
ITEM 614 - OBJECT MARKER, ONE WAY: 24 EACH
ITEM 622 - PORTABLE BARRIER, 32": 740 FT
ITEM 622 - PORTABLE BARRIER, 32", BRIDGE MOUNTED (UNANCHORED): 450 FT

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

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 - BARRIER REFLECTORS AND/OR OBJECT MARKERS:

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

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

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

CHRISTMAS FOURTH OF JULY
NEW YEARS LABOR DAY
MEMORIAL DAY THANKSGIVING

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

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

446 DENSITY ACCEPTANCE WITH FLAGGER CLOSING OF A 2-LANE HIGHWAY FOR PAVING OPERATIONS

THIS PLAN NOTE APPLIES ONLY TO A FLAGGER CLOSURE OF ONE LANE OF A 2-LANE HIGHWAY DURING PAVING OPERATIONS WHEN USING STANDARD CONSTRUCTION DRAWING MT-97.11 OR MT-97.12, AND ALLOWS A PAVING OPERATION TO PROCEED CONCURRENTLY WITH THE MARKING AND CUTTING OF CORES REQUIRED FOR 446 DENSITY ACCEPTANCE.

IN ALL CASES THE CONTRACTOR SHOULD LENGTHEN THEIR LANE CLOSURES TO THE MAXIMUM PERMISSIBLE LENGTH DETAILED IN THE ABOVE REFERENCED STANDARD CONSTRUCTION DRAWINGS TO ALLOW THE ENGINEER ADEQUATE TIME TO MARK THE REQUIRED CORE LOCATIONS AND FOR CORE CUTTING OPERATIONS.

THE CONTRACTOR WILL PROVIDE TO THE ENGINEER THE PLANNED QUANTITY THAT WILL BE PLACED FOR THE DAY'S PRODUCTION. EACH DAY'S PRODUCTION WILL BE CONSIDERED ONE LOT AND INCLUDES SHOULDERS. TEN CORES WILL BE OBTAINED BY THE CONTRACTOR FOR EACH LOT AT RANDOM LOCATIONS DETERMINED BY THE ENGINEER. THE ENGINEER WILL DIVIDE A LOT INTO FIVE EQUAL SUBLOTS AND CALCULATE TWO RANDOM CORE LOCATIONS IN EACH SUBLot AS DESCRIBED IN C&MS 446.05.

THE ENGINEER WILL MARK THE CORE LOCATIONS AFTER THE PAVING OPERATION (INCLUDING THE FINISH ROLLER) HAS COMPLETELY PASSED THE RANDOMLY SELECTED CORE LOCATION. THE CONTRACTOR SHOULD DETERMINE WHEN IT IS APPROPRIATE TO START THE CORE DRILL OPERATION AND BEGIN CUTTING CORES WHEN THE NEWLY PLACED PAVEMENT SURFACE TEMPERATURE IS LESS THAN 140°F. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LANE CLOSURE DURING ALL PAVING, CORE MARKING, AND CORING OPERATIONS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWING USED FOR THE PAVING OPERATION.

PLACEMENT OF ASPHALT CONCRETE (2 LANE SECTION)

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.

ITEM 614 - MAINTAINING TRAFFIC: GENERAL (4 LANE SECTION)

ONE 11' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS, AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION WITH THE LATEST REVISIONS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED ON THIS PLAN.

THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:
THE CONTRACTOR SHALL SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL.

NIGHT WORK IS PERMITTED.

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PAVEMENT THROUGHOUT THE PROJECT UNDER ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC DURING THE PERIOD FROM THE START OF WORK TO THE COMPLETION OF ALL WORK.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT UNIT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC SCHEME

THE CONTRACTOR SHALL SCHEDULE THEIR WORK AND METHODS IN ORDER TO MEET THE INTENT OF THE PLANS. THE PAVEMENT SURFACES TO BE USED BY THE TRAVELING PUBLIC SHALL BE ABLE TO DRAIN FREELY. ALL COSTS TO MAINTAIN THE ROADWAY AS PER THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AND THE PLANS SHALL BE INCLUDED IN ITEM 614 LUMP SUM MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

ITEM 614 - WORK ZONE MARKING SIGN

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 17 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 11 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 8 EACH

01/STR/PV TOTAL = 18 EACH
02/S<2/PV TOTAL = 18 EACH
TOTAL = 36 EACH

ITEM 614 - MAINTAINING TRAFFIC LANE CLOSURE/REDUCTION REQUIRED

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

BUTT JOINTS

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE USING ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

CONSTRUCTION "BUMP" (W8-1-36) AND "ADVISORY SPEED" (W13-1-24) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THE PERIOD THE BUTT JOINT IS LEFT OPEN. THESE SIGNS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF. THIS QUANTITY SHALL ALSO BE USED AT PLANED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS. BEFORE RESURFACING OF THE PAVEMENT, THE TEMPORARY WEDGE SHALL BE REMOVED AND THE COST SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
15 CY (01/STR/PV)
10 CY (02/S<S/PV)
TOTAL = 25 CU YD

ITEM 614 - MAINTAINING TRAFFIC

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHEN THEY ARE NOT APPLICABLE, WITH THE APPROVAL OF THE ENGINEER.

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OMTCD, AND SUCH FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ALL MAINTENANCE OF TRAFFIC SIGNS ARE PAID UNDER ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED
JWS
CHECKED
KRB

MAINTENANCE OF TRAFFIC NOTES

LOR-113-(0.00)(7.49)

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS WILL BE DETERMINED BY THE ENGINEER PRIOR TO BEGINNING WORK ON THIS PROJECT. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

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

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

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

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

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK. THE CONTRACTOR SHALL ONLY BE PAID FOR PCMS UNITS WHEN THEY ARE IN OPERATION ON THE PROJECT AS SPECIFIED IN THE PLANS OR BY THE ENGINEER.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
6 SIGN-MONTH (02/S<2/PV)

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

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS AS DIRECTED 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.

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

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. 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.

LEO'S 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 CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES AND PROVIDE 72 HOURS ADVANCE NOTICE AS REQUIRED BY THE HIGHWAY PATROL LISTED BELOW:

STATE HIGHWAY PATROL
ELYRIA PATROL POST
38000 CLETUS DRIVE
NORTH RIDGEVILLE, OHIO 44039
TELEPHONE NUMBER: (440) 365-5045

LAW ENFORCEMENT OFFICERS 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 QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
40 HOURS (01/STR/PV)
40 HOURS (02/S<2/PV)
40 HOURS (04/S<2/BR)
TOTAL = 120 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE.

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).
2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703- 235-0528.
3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-614-599-7915.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTS'S CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7) THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A CURRENT WTS CERTIFICATION (WITH AN EXPIRATION DATE NO MORE THAN 5 YEARS FROM THE DATE OF ISSUE) FROM ANY OF THE APPROVED ORGANIZATIONS.

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.
2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.
3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.
4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.
5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEO'S WHILE THEY ARE ON THE PROJECT.
6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEO'S AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.
7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.
8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.
9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:
 - A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).
 - B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.
 - C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.
 - D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.
 - E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.
 - F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.
10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.
11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL NOT PAY THE UNIT PRICE BID FOR THE WTS FOR ANY DAY ON WHICH THE CONTRACTOR FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR THE WORKSITE TRAFFIC SUPERVISOR:

ITEM 614 - WORKSITE TRAFFIC SUPERVISOR 3 MONTHS (02/S<2/PV)

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MAINTENANCE OF TRAFFIC NOTES

LOR-113-(0.00)(7.49)

ITEM SPECIAL, MAILBOX SUPPORT SYSTEM

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF EXISTING NON-STANDARD MAILBOX SUPPORTS AND FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED HARDWARE IN ACCORDANCE WITH THE DETAILS SHOWN, AND ATTACHING AN OWNER SUPPLIED MAILBOX, AT LOCATIONS DETERMINED BY THE ENGINEER.

IN ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE BOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO MAILBOXES MAY BE MOUNTED ON A SINGLE POST. [HARDWARE SHALL BE COMMERCIAL GRADE GALVANIZED STEEL.]

WOOD POSTS SHALL BE NOMINAL 4 IN. x 4 IN. (S4S) OR 4 1/2 IN. DIAMETER ROUND, AND CONFORM TO 710.14. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 IN. I.D., AND CONFORM TO AASHTO M 181.

POSTS SHALL BE SET AS PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH THE LOCAL POST MASTER AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

GROUP MAILBOX SUPPORTS SHALL BE PLACED ON 3 FT. CENTERS AND THE TURNOUT LENGTHENED TO ACCOMMODATE THE GROUPING.

WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL. SUPPORTS MUST STILL MEET THE BREAKAWAY REQUIREMENTS LISTED ABOVE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DESCRIBED ABOVE.

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE
01/STR/PV - S.R. 113 5 EACH
02/S<2/PV - S.R. 113 1 EACH

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, DOUBLE
01/STR/PV - S.R. 113 1 EACH

LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED

ADDRESSES AND/OR LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED:

- 52493 SR 113 - SLM: 0.554 (SINGLE)
- 52087 SR 113 - SLM: 0.825 (SINGLE)
- 51790-51780 SR 113 - SLM: 1.155 (DOUBLE)
- 51357 SR 113 - SLM: 1.587 (SINGLE)
- 51093 SR 113 - SLM: 1.837 (SINGLE)
- 50694 SR 113 - SLM: 2.178 (SINGLE)
- 44277 SR 113 - SLM: 9.374 (SINGLE)

MAILBOX APPROACHES

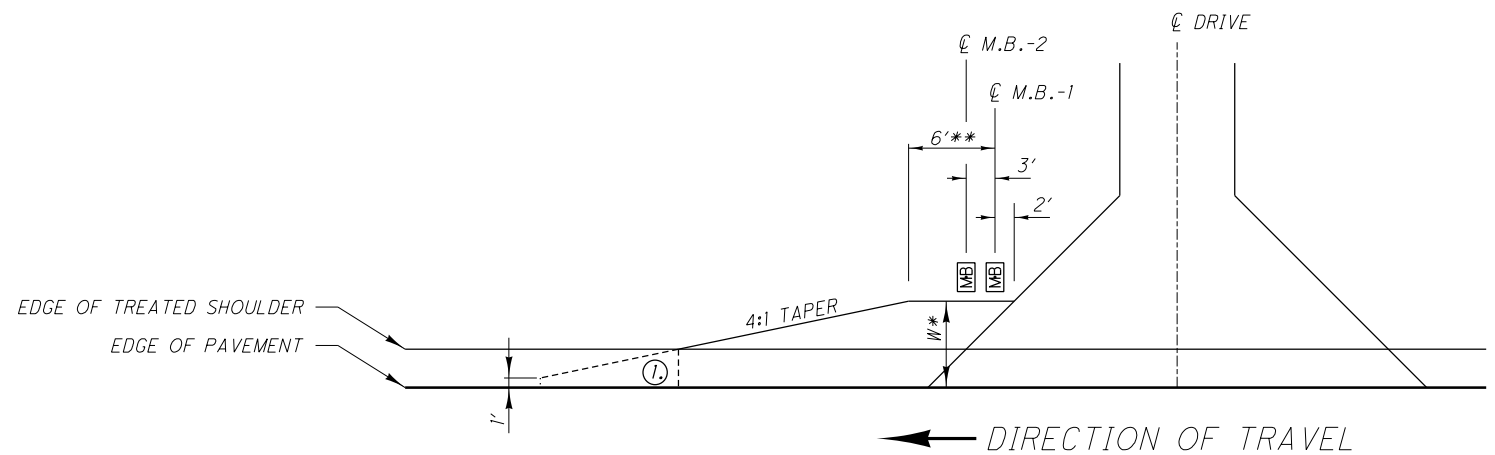
THE MAILBOX APPROACHES SHALL BE PAVED WITH THE CORRESPONDING MAINLINE PAVEMENT TREATMENT AS DETAILED IN THE TYPICAL SECTIONS. THEY SHALL CONFORM AS MUCH AS PRACTICAL TO STANDARD DRAWING BP-4.1 OR AS DIRECTED BY THE ENGINEER.

GRADING SHALL BE PERFORMED IN THESE AREAS TO OBTAIN A BASE WHICH WILL ALLOW THE FINISHED GRADE TO BE FLUSH WITH ADJACENT PAVEMENT. A QUANTITY OF ITEM 617 COMPACTED AGGREGATE HAS BEEN PROVIDED FOR AREAS WHERE THE SHOULDER IS LOW PRIOR TO GRADING AND/OR LOW AREAS CAUSED BY THE REMOVAL OF UNSUITABLE MATERIAL. QUANTITIES TO PERFORM THIS WORK HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE ESTIMATED AS FOLLOWS.

ITEM 209 - GRADING MAILBOX APPROACHES:
01/STR/PV - S.R. 113 46 EACH
02/S<2/PV - S.R. 113 32 EACH

ITEM 617 - COMPACTED AGGREGATE
01/STR/PV - S.R. 113 46 CU YD
02/S<2/PV - S.R. 113 32 CU YD

FOR DETAILS NOT SHOWN SEE STANDARD DRAWING BP-4.1



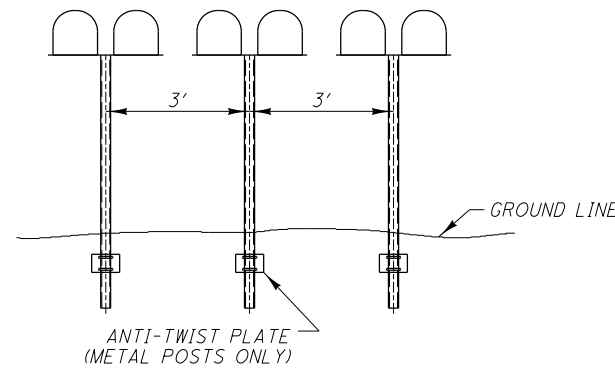
① END MAILBOX TURNOUT AT EDGE OF ASPHALT CONCRETE SHOULDER OR 1' FROM EDGE OF PAVEMENT IF TREATED SHOULDER IS AGGREGATE.

W* NOTES

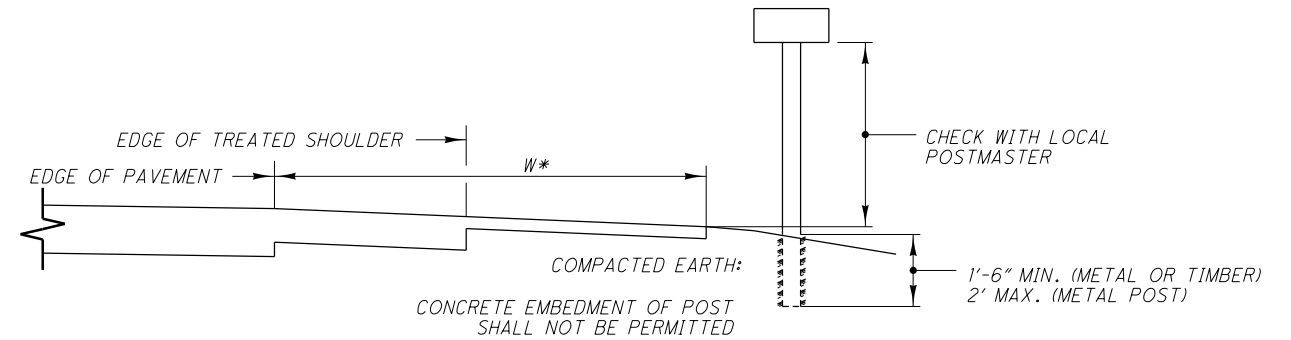
- 1) WHERE EXISTING STANDARD MAILBOX POSTS ARE BEHIND GUARDRAIL AND ARE TO REMAIN IN PLACE, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL.
- 2) WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT MAXIMUM OR TO FACE OF EXISTING STANDARD MAILBOX IF IT IS LESS THAN 6 FT.
- 3) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL AND MAILBOX SHALL BE INSTALLED BEHIND THE GUARDRAIL.
- 4) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT. MAXIMUM.

**** NOTE**

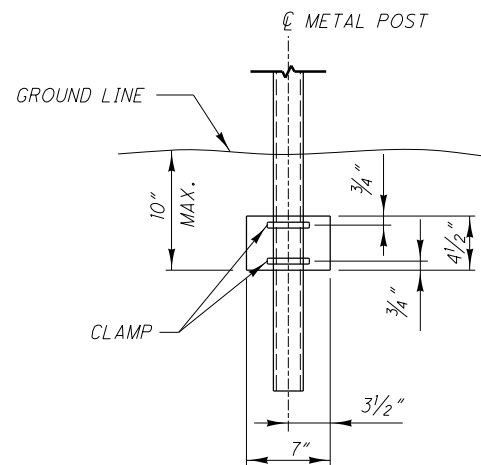
- 1) 6 FT FOR ONE MAILBOX SUPPORT, ADD 3 FT. FOR EACH ADDITIONAL MAILBOX SUPPORT.



GROUP MAILBOX INSTALLATION



CROSS SECTION / ELEVATION VIEW



ANTI-TWIST PLATE

CALCULATED
JWS
CHECKED
KRB

MAILBOX FACILITIES

LOR-113-(0.00)(7.49)

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SHEET NUM.											PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	9	10	11	14	15	16	20	21	27	28	01/STR/PV	02/S<2/PV	03/STR/BR	04/S<2/BR						
TRAFFIC SIGNALS																				
								58			24	34			632	26501	58	EACH	DETECTOR LOOP, AS PER PLAN	21
STRUCTURE REPAIR (LOR-113-8.46)																				
						50							50		202	38603	50	FT	BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN	8
STRUCTURE REPAIR (SFN: 4705521)																				
									2					2	202	11301	2	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	8
									304					304	202	38500	304	FT	BRIDGE RAILING REMOVED	
									100					100	202	38601	100	FT	BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN	8
									1					1	511	53012	1	CY	CLASS QC2 CONCRETE, MISC.: BACKWALL REPAIR	8
									1					1	511	53012	1	CY	CLASS QC2 CONCRETE, MISC.: PARAPET REPAIR	8
									2,675					2,675	513	10201	2,675	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	8
									130					130	516	31000	130	FT	JOINT SEALER	
									404					404	517	72750	404	FT	RAILING (THRIE BEAM RETROFIT)	
									LS					LS	SPECIAL	69098400	LS		BALLAST PROTECTION	8
									852					852	847	10201	852	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2.25 INCH THICK)	8
									145					145	847	10201	145	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (1.25 INCH THICK)	8
									6					6	847	20201	6	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	8
									LS					LS	847	30000	LS		TEST SLAB	
									255					255	847	50000	255	SY	HAND CHIPPING	
STRUCTURE REPAIR (SFN: 4705491)																				
									2					2	202	11301	2	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	8
									304					304	202	38500	304	FT	BRIDGE RAILING REMOVED	
									100					100	202	38601	100	FT	BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN	8
									1					1	511	53012	1	CY	CLASS QC2 CONCRETE, MISC.: BACKWALL REPAIR	8
									1					1	511	53012	1	CY	CLASS QC2 CONCRETE, MISC.: PARAPET REPAIR	8
									2,675					2,675	513	10201	2,675	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	8
									130					130	516	31000	130	FT	JOINT SEALER	
									404					404	517	72750	404	FT	RAILING (THRIE BEAM RETROFIT)	
									LS					LS	SPECIAL	69098400	LS		BALLAST PROTECTION	8
									852					852	847	10201	852	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2.25 INCH THICK)	8
									145					145	847	10201	145	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (1.25 INCH THICK)	8
									6					6	847	20201	6	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	8
									LS					LS	847	30000	LS		TEST SLAB	
									255					255	847	50000	255	SY	HAND CHIPPING	
MAINTENANCE OF TRAFFIC																				
		120									40	40		40	614	11110	120	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		3										3			614	11500	3	MNTH	WORKSITE TRAFFIC SUPERVISOR	
8														8	614	12336	8	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	36										18	18			614	12460	36	EACH	WORK ZONE MARKING SIGN	
	25										15	10			614	13000	25	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
48														48	614	13302	48	EACH	BARRIER REFLECTOR, TYPE B2	
48														48	614	13350	48	EACH	OBJECT MARKER, ONE WAY	
		6										6			614	18601	6	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	10
					5.86						0.12	5.74			614	20550	5.86	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT	
					18.72						10.66	8.06			614	21550	18.72	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
					12.06							12.06			614	22350	12.06	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
					2,160						569	1,591			614	23200	2,160	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
					2,160						569	1,591			614	23680	2,160	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
					635						227	408			614	26200	635	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
					635						227	408			614	26610	635	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
1,480														1,480	622	41000	1,480	FT	PORTABLE BARRIER, 32"	
900														900	622	41020	900	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED (UNANCHORED)	
INCIDENTALS																				
											LS	LS	LS	LS	614	11000	LS		MAINTAINING TRAFFIC	
											2	2			619	16010	5	MNTH	FIELD OFFICE, TYPE B	
											LS	LS	LS	LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS	LS	LS	LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

LOR-113-(0.00)(7.49)

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FUNDING SPLIT	COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		AVERAGE WIDTH	*TYPICAL	PAVEMENT AREA	254	254	254	254	254	407	407	442	442	AGGREGATE SHOULDER WIDTH		209	209.00	301	617	618			
			STRAIGHT LINE MILEAGE	MILE	FT	FT				SO YD	SY	SY	SY	SY	SY	GAL	GAL	1.5" THICK	CY	CY	SL	SR	MILE	MILE	CY	2" THICK AVE.	CY	MILE
01/STR/PV	LOR	113	0.00	2.30	2.30	12,144	26.0	1	35,083		6,747		35,083	351	2,807		1,462	66	2.0	2.0		4.60	1,124	300				
01/STR/PV	LOR	113	2.30	2.38	0.08	422	34.0	1	1,594		234		1,594	16	128		66	2	0	0			39	0				
02/S<2/PV	LOR	113	2.38	3.12	0.74	3,907	26.0	1	11,287		2,171		11,287	113	903		470	21	2.0	2.0		1.48	362	96				
01/STR/PV	LOR	113	3.12	3.22	0.10	528	32.0	1	1,877		293		1,877	19	150		78	3	2.0	2.0		0.20	49	13				
01/STR/PV	LOR	113	3.22	4.22	1.00	5,280	26.0	1	15,253		2,933		15,253	153	1,220		636	29	2.0	2.0		2.00	489	130				
02/S<2/PV	LOR	113	4.22	4.41	0.19	1,003	26.0	1	2,898		557		2,898	29	232		121	5	2.0	2.0		0.38	93	25				
02/S<2/PV	LOR	113	4.41	5.71	1.30	6,864	26.0	2	19,829	19,829			198		1,586		826	37	2.0	2.0		2.60		169				
02/S<2/PV	LOR	113	5.71	5.80	0.09	475	23.0	2	1,214	1,214			12		97		51	3										
02/S<2/PV	LOR	113	5.80	6.48	0.68	3,590	23.0	2	9,174	9,174			92		734		382	19	2.0	2.0		1.36			89			
SUSPEND/ RESUME			6.48	7.49	1.01	5,333																						
01/STR/PV	LOR	113	7.49	9.34	1.85	9,768	31.0	2	33,645	33,645			336		2,692		1,402	53	2.0	2.0		3.70			241			
02/S<2/PV	LOR	113	9.34	10.08	0.74	3,907	31.0	2	13,457	13,457			135		1,077		561	21	2.0	2.0		1.48			96			
02/S<2/PV	LOR	113	10.08	10.20	0.12	634	72.0	2	5,072	5,072			51		406		211		2.0	2.0	0.24				16	0.24		
BEGIN TWO-WAY DIVIDED (EASTBOUND)																												
02/S<2/PV	LOR	113 (EB)	10.20	10.56	0.36	1,901	34.0	3	7,182	7,182			72		575		299		2.0	2.0	0.72				47	0.36		
02/S<2/PV	LOR	113 (EB)	10.56	10.61	0.05	250	34.0	3	944			944	9		76		39		2.0	2.0	0.10				6	0.05		
CONCRETE STRUCTURES - (LOR-113-10.61)			10.61	10.66	0.05	252																						
02/S<2/PV	LOR	113 (EB)	10.66	10.71	0.05	250	34.0	3	944			944	9		76		39		2.0	2.0	0.10				6	0.05		
02/S<2/PV	LOR	113 (EB)	10.71	11.52	0.81	4,277	34.0	3	16,158	16,158			162		1,293		673		2.0	2.0	1.62				211	0.81		
02/S<2/PV	LOR	113 (EB)	11.52	11.66	0.14	739	34.0	4	2,792	2,792			28		223		116		0	2.0	0.14				9	0.14		
BEGIN TWO-WAY DIVIDED (WESTBOUND)													0															
02/S<2/PV	LOR	113 (WB)	10.20	10.56	0.36	1,901	34.0	3	7,182	7,182			72		575		299		2.0	2.0	0.72				47	0.36		
02/S<2/PV	LOR	113 (WB)	10.56	10.61	0.05	250	34.0	3	944			944	9		76		39		2.0	2.0	0.10				6	0.05		
CONCRETE STRUCTURES - (LOR-113-10.61)			10.61	10.66	0.05	252																						
02/S<2/PV	LOR	113 (WB)	10.66	10.71	0.05	250	34.0	3	944			944	9		76		39		2.0	2.0	0.10				6	0.05		
02/S<2/PV	LOR	113 (WB)	10.71	11.52	0.81	4,277	34.0	3	16,158	16,158			162		1,293		673		2.0	2.0	1.62				106	0.81		
02/S<2/PV	LOR	113 (WB)	11.52	11.66	0.14	739	34.0	4	2,792	2,792			28		223		116		2.0	0	0.14				9	0.14		
01/STR/PV	EXTRA AREA FOR INTERSECTIONS								1,303	1,303			13	40	64	54												
02/S<2/PV	EXTRA AREA FOR INTERSECTIONS								1,498	1,498			15	19	100	62												
01/STR/PV	EXTRA AREA FOR PAVED DRIVES								1,143	1,143			11	60	32	48												
02/S<2/PV	EXTRA AREA FOR PAVED DRIVES								1,746	1,746			17	24	115	73												
01/STR/PV	EXTRA AREA FOR AGGREGATE DRIVES								1,530																85			
02/S<2/PV	EXTRA AREA FOR AGGREGATE DRIVES								1,323															74				
01/STR/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES								1,230	1,230			12	64	34	51												
02/S<2/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES								810	810			8	11	53	34												
SUB-TOTAL FOR PLAN SPLIT (01/STR/PV)										37,321	10,208		53,807	911	4,469	2,821	3,797	152					10.50	1,701	769			
SUB-TOTAL FOR PLAN SPLIT (02/S<2/PV)										105,064	2,728	3,776	14,185	1,230	1,190	8,652	5,126	107				5.60	7.30	455	1,019	3.06		
TOTAL CARRIED TO THE GENERAL SUMMARY										142,385	12,936	3,776	67,992	2,141	5,659	11,473	8,923	259			5.60	17.80	2,156	1,788	3.06			

PAVEMENT AND SHOULDER DATA

LOR-113-(0.00)(7.49)

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AUXILIARY & LONG LINE MARKINGS

FUNDING	COUNTY	ROUTE	STATION / SLM		HIGHWAY MILES	DESCRIPTION	614, TYPE 1								642, TYPE 1				644								646 (EPOXY)														
			FROM	TO			MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	MILE	AUXILIARY MARKINGS								MILE	MILE														
																		WORK ZONE LANE LINE, CLASS III, 642 PAINT	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	EDGE LINE, 6"			LANE LINE, 6"	CENTER LINE, (SOLID LINE EQUIVALENT)	CENTER LINE, (TOTAL PAY QUANTITY)	CHANNELIZING LINE	STOP LINE	CROSS WALK	DIAGONAL LINE (YELLOW)	SCHOOL	CENTER	LEFT	RIGHT			
01/STR/PV	LOR	113	0.00	2.38	2.38	2 LANE ROADWAY		4.76					32	32	4.76	3.09	2.38		32																						
02/SK2/PV	LOR	113	2.38	3.12	0.74	2 LANE ROADWAY		1.48					50	50	1.48	0.63	0.74		50																						
01/STR/PV	LOR	113	3.12	4.22	1.10	2 LANE ROADWAY		2.20					75	75	2.20	1.33	1.10		75																						
02/SK2/PV	LOR	113	4.22	6.48	2.26	2 LANE ROADWAY		4.52					114	114	4.52	3.85	2.26		114	718		2																			
SUSPEND/RESUME			6.48	7.49		PROJECT SUSPENDED ON SR 113																																			
01/STR/PV	LOR	113	7.49	8.06	0.57	2 LANE ROADWAY	0.12	1.14			93	93	38	38	1.14	0.06	1.12	0.57	93	38			235																		
01/STR/PV	LOR	113	8.06	8.25	0.19	2 LANE ROADWAY		0.37							0.37	0.31	0.19																								
01/STR/PV	LOR	113	8.25	8.57	0.32	2 LANE ROADWAY		0.65			476	476	82	82	0.65	0.52	0.32		476	82			680																		
01/STR/PV	LOR	113	8.57	9.34	0.77	2 LANE ROADWAY		1.54							1.54	1.08	0.77																								
02/SK2/PV	LOR	113	9.34	10.08	0.74	2 LANE ROADWAY		1.48			123	123	55	55	1.48	0.06	0.74		123	55																					
02/SK2/PV	LOR	113	10.08	10.23	0.15	MULTI-LANE ROADWAY	0.20	0.58	0.58	1,014	1,014	81	81	0.29	0.10	0.05	0.15		1,014	81			145			6	6	7													
02/SK2/PV	LOR	113	10.23	10.29	0.07	MULTI-LANE DIVIDED	0.26		0.53						0.26	0.13																									
02/SK2/PV	LOR	113	10.29	10.36	0.07	MULTI-LANE DIVIDED	0.28		0.56	193	193	23	23	0.28	0.14				193	23																					
02/SK2/PV	LOR	113	10.36	10.61	0.25	MULTI-LANE DIVIDED	1.00		1.99						1.00	0.50																									
02/SK2/PV	LOR	113	10.61	10.66	0.05	CONCRETE STRUCTURES			0.40																																
02/SK2/PV	LOR	113	10.66	10.99	0.33	MULTI-LANE DIVIDED	1.32		2.65	261	261	85	85	1.32	0.66				261	85																					
02/SK2/PV	LOR	113	10.99	11.66	0.67	MULTI-LANE DIVIDED	2.68		5.35						2.68	1.34																									
01/STR/PV TOTALS TO GENERAL SUMMARY					5.33			0.12	10.66			569	569	227	227	10.66	0.06	7.45	5.33	569	227			915																	
02/SK2/PV TOTALS TO GENERAL SUMMARY					5.32			5.74	8.06	12.06		1,591	1,591	408	408	13.31	2.87	4.59	3.89	1,591	408	718	145	2	6	16	7														
TOTALS CARRIED TO GENERAL SUMMARY					10.65			5.86	18.72	12.06		2,160	2,160	635	635	23.97	2.93	12.04	9.22	2,160	635	718	1,060	2	6	26	7														

RAISED PAVEMENT MARKERS

FUNDING SPLIT	COUNTY	ROUTE	STATION/SLM		DETAIL	621		PRISMATIC RETRO-REFLECTOR TYPES					REMARKS	DETAIL	DESCRIPTION
			FROM	TO		RAISED PAVEMENT MARKER REMOVED	RPM	ONE-WAY	TWO-WAY						
									WHITE	YELLOW / YELLOW	WHITE / RED	YELLOW / RED			
01/STR/PV	LOR	113	0.00	2.38	GAP	155	155					155			CONTINUOUS ROUTE TREATMENT
02/SK2/PV	LOR	113	2.38	3.12	GAP	46	46					46			CONTINUOUS ROUTE TREATMENT
01/STR/PV	LOR	113	3.12	3.55	GAP	26	26					26			CONTINUOUS ROUTE TREATMENT
01/STR/PV	LOR	113	3.55	3.95	6	54	54	32				22			STOP APPROACH @ BAUMHART RD.
01/STR/PV	LOR	113	3.95	4.22	GAP	17	17					17			CONTINUOUS ROUTE TREATMENT
02/SK2/PV	LOR	113	4.22	4.69	GAP	31	31					31			CONTINUOUS ROUTE TREATMENT
02/SK2/PV	LOR	113	6.36	6.48	GAP	8	8					8			CONTINUOUS ROUTE TREATMENT
SUSPEND & RESUME			6.48	7.49											
01/STR/PV	LOR	113	7.49	7.64	GAP	27	27	16				11			STOP APPROACH/APPR W/ LT LANE
01/STR/PV	LOR	113	7.64	8.19	GAP	36	36					36			CONTINUOUS ROUTE TREATMENT
01/STR/PV	LOR	113	8.19	8.53	8	22	22					22			THRU APPROACHES @ OBERLIN RD.
01/STR/PV	LOR	113	8.53	9.34	GAP	53	53					53			CONTINUOUS ROUTE TREATMENT
02/SK2/PV	LOR	113	9.34	9.87	GAP	35	35					35			CONTINUOUS ROUTE TREATMENT
02/SK2/PV	LOR	113	9.87	10.36	7/9/11	225	225	101	76	42	6				L.T. LANES @ WEST RIDGE RD. & 2-4 LANE TRANSIT
02/SK2/PV	LOR	113	10.36	11.66	5	172	172					172			4-LANE DIVIDED
01/STR/PV SUB-TOTAL						390	390								
02/SK2/PV SUB-TOTAL						517	517								
TOTALS TO GENERAL SUMMARY						907	907								

NOTES
 1.) THRU LANES SHALL BE STRIPED TO MATCH EXISTING WIDTHS ACCORDING TO CMS 641.08A
 2.) FOR ALL WORK ZONE MARKINGS, THE 642 PAINT USED SHALL BE TYPE 1

PAVEMENT MARKING / RPM SUB-SUMMARY

LOR-113-(0.00)(7.49)

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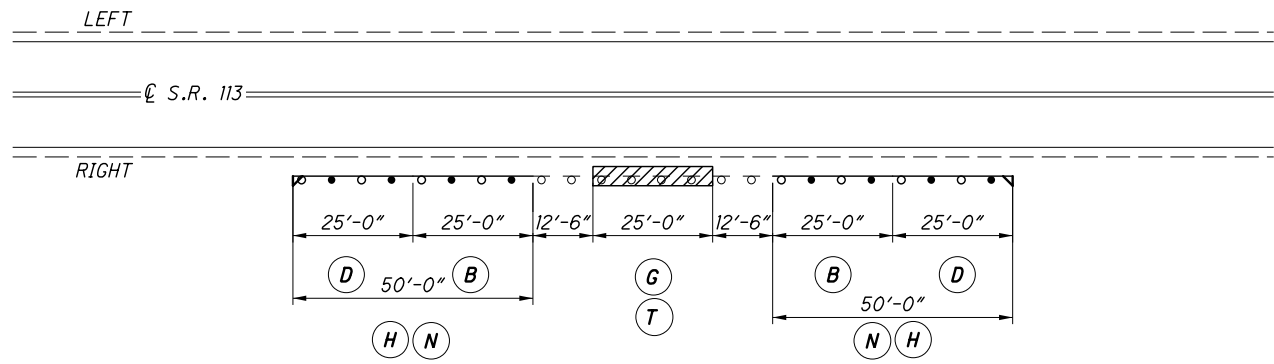
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				01/STR/PV	02/S<2/PV	03/STR/BR			
B	202	38000	GUARDRAIL REMOVED	75			17	3,412.5	FT
					50		18		
					3287.5		19		
C	202	38603	BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN			50	18	50	FT
D	202	42000	ANCHOR ASSEMBLY REMOVED, TYPE A	3			17	7	EACH
					2		18		
					2		19		
E	202	42040	ANCHOR ASSEMBLY REMOVED, TYPE T		2		19	2	EACH
F	202	42210	ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN		2		19	2	EACH
S	202	47000	BRIDGE TERMINAL ASSEMBLY REMOVED		6		19	6	EACH
G	203	20001	EMBANKMENT, AS PER PLAN	1	2		17	43	CY
					40		19		
H	209	15000	RESHAPING UNDER GUARDRAIL	1.50			17	37.75	STA
					1.25		18		
					35.00		19		
J	601	34400	ROCK CHANNEL PROTECTION, WITH GROUT, TYPE D		4		17	4	CY
K	606	13000	GUARDRAIL, TYPE 5		187.5		19	187.5	FT
L	606	15050	GUARDRAIL, TYPE MGS		25		18	3,012.5	FT
					2987.5		19		
M	606	15550	GUARDRAIL, BARRIER DESIGN, TYPE MGS		25		19	25	FT
N	606	26100	ANCHOR ASSEMBLY,TYPE E	3			17	3	EACH
O	606	26150	ANCHOR ASSEMBLY, MGS TYPE E		2		18	6	EACH
					4		19		
P	606	35120	BRIDGE TERMINAL ASSEMBLY, TYPE 3		6		19	6	EACH
R	606	60012	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)		2		19	2	EACH
T	617	10100	COMPACTED AGGREGATE	1	1		17	2	CY
	626	00100	BARRIER REFLECTOR	5			17	50	EACH
					3		18		
					42		19		

ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY SHEET

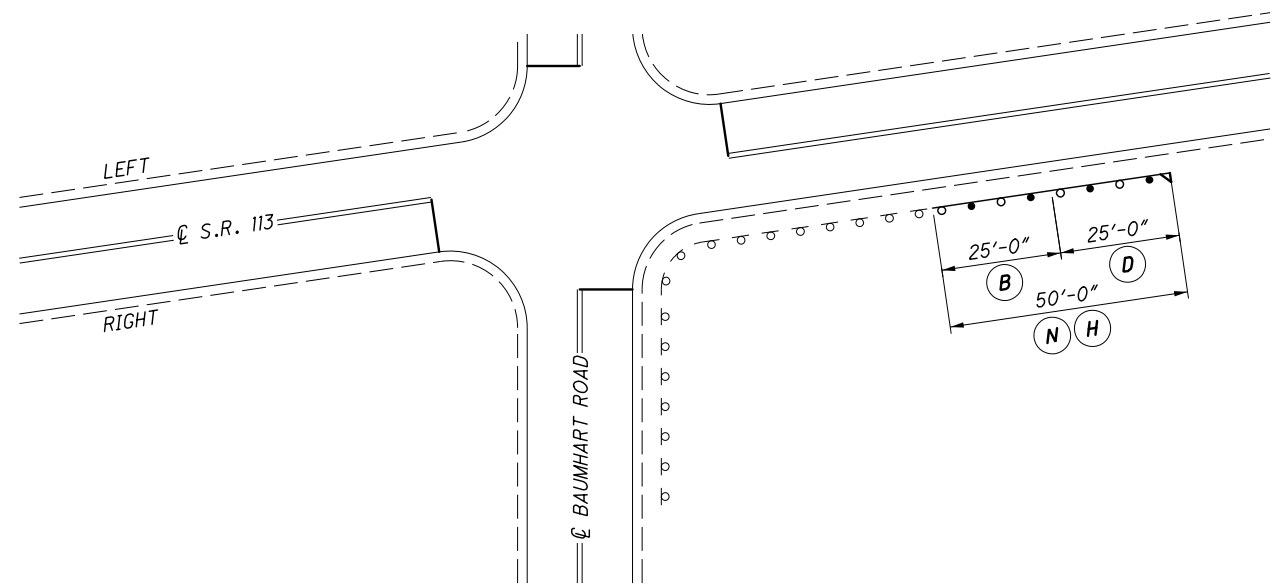
**GUARDRAIL
SUB-SUMMARY**

LOR-113-(0.00)(7.49)

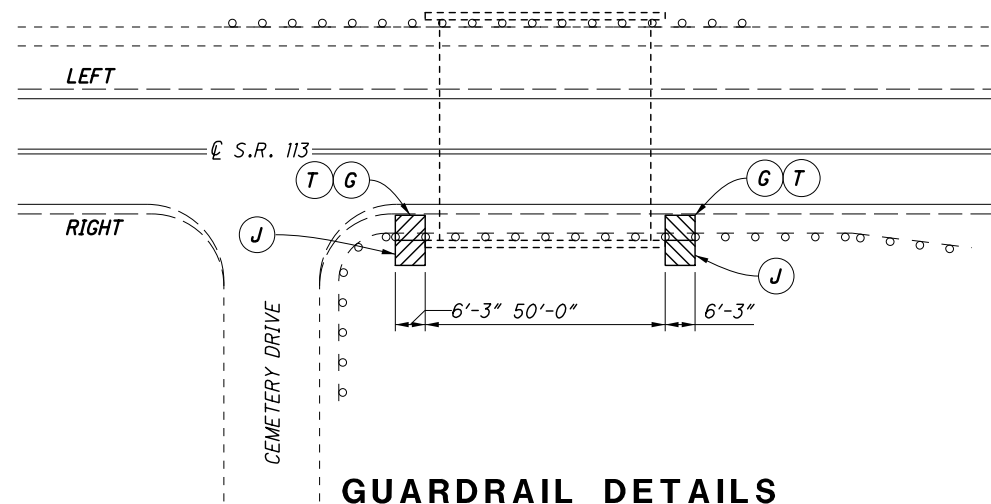
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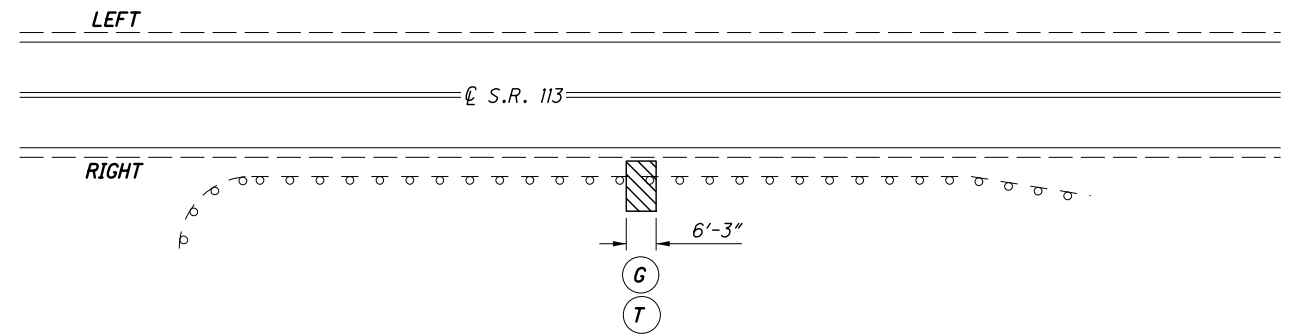
**GUARDRAIL DETAILS
LOR-113-0.87
(01/ STR/ PV)**



**GUARDRAIL DETAILS
LOR-113-3.76
(01/ STR/ PV)**



**GUARDRAIL DETAILS
LOR-113-5.48
(02/ S<2/ PV)**

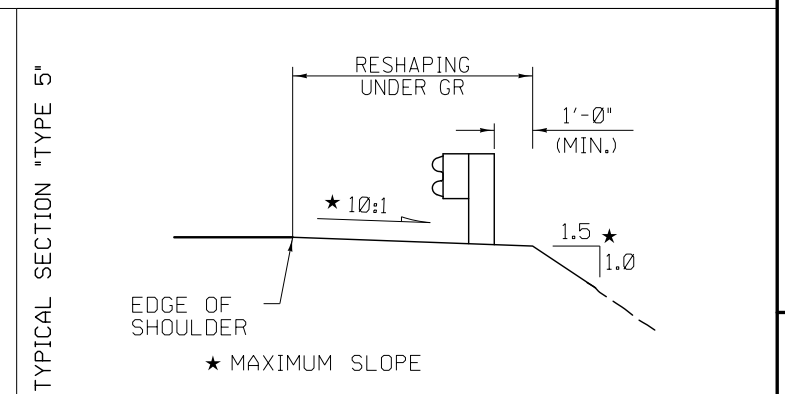
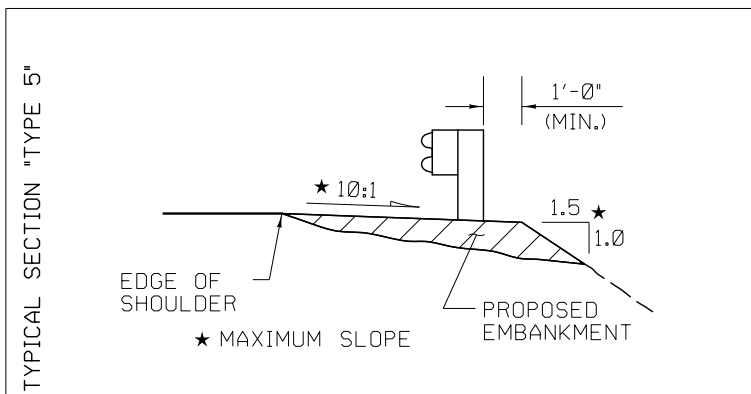


**GUARDRAIL DETAILS
LOR-113-5.60
(02/ S<2/ PV)**

NOTES
ALL PAVEMENT MARKINGS ARE FOR INFORMATIONAL PURPOSES ONLY. DO NOT APPLY PAVEMENT MARKINGS AS PER THIS SHEET; SEE PAVEMENT MARKING SUBSUMMARY FOR DETAILS.

KEY	ITEM	EXTENTION	DESCRIPTION	FUNDING SPLIT		TOTAL	UNIT
				01/STR/PV	02/S<2/PV		
B	202	38000	GUARDRAIL REMOVED	75		75	FT
D	202	42000	ANCHOR ASSEMBLY REMOVED, TYPE A	3		3	EACH
G	203	20001	EMBANKMENT, AS PER PLAN	1	2	3	CY
H	209	15000	RESHAPING UNDER GUARDRAIL	1.5		1.5	STA
J	601	34400	ROCK CHANNEL PROTECTION, WITH GROUT, TYPE D		4	4	CY
N	606	26100	ANCHOR ASSEMBLY, TYPE E	3		3	EACH
T	617	10100	COMPACTED AGGREGATE	1	1	2	CY
	626	00100	BARRIER REFLECTOR	5		5	EACH

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET



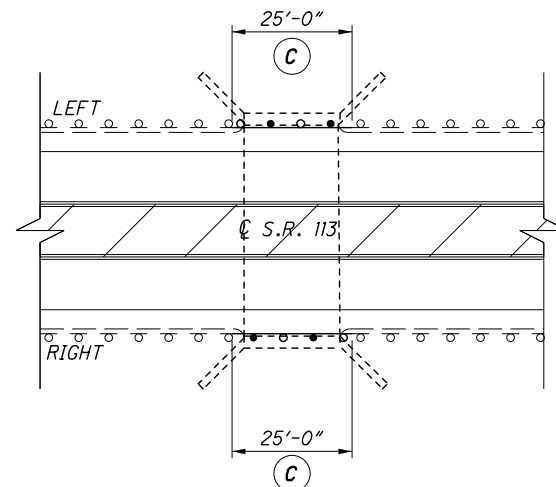
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GUARDRAIL DETAILS

LORAIN SR 113, SLM: 0.87, 3.76, 5.48, 5.60

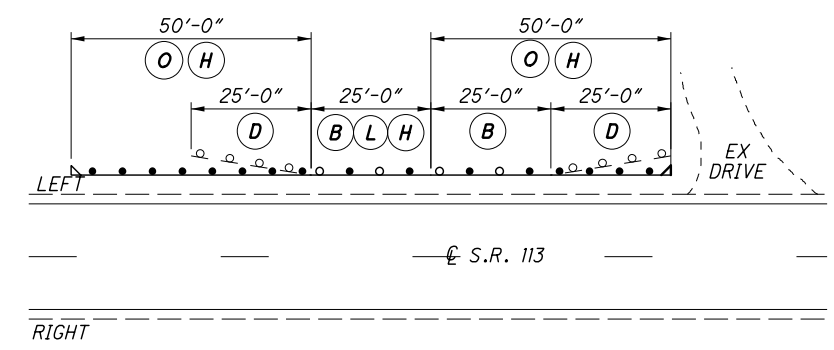
LOR-113-(0.00)(7.49)

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**GUARDRAIL DETAILS
LOR-113-8.46
(03/ STR/ BR)**

THIS WORK IS TO FACILITATE FULL WIDTH PAVING OVER THE STRUCTURE. THE INTENT IS TO REMOVE THE RAIL ELEMENTS ONLY DURING THE PLANING AND PAVING OPERATIONS. DO NOT ALLOW TRAFFIC IN THE LANE ADJACENT TO THE GUARDRAIL WHEN THE RAIL IS REMOVED. REINSTALL THE RAIL IF TRAFFIC IS TO BE PERMITTED IN THE ADJACENT LANE.

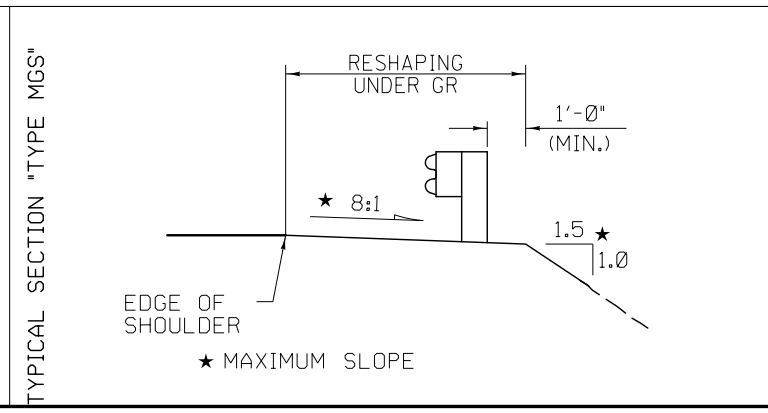
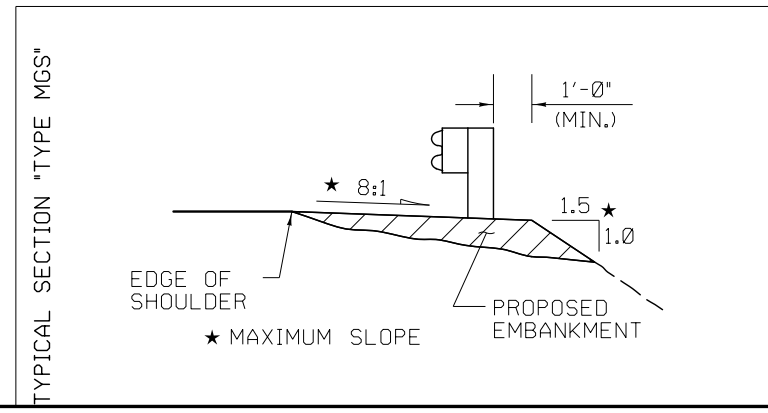


**GUARDRAIL DETAILS
LOR-113-9.56
(02/ S<2/ PV)**

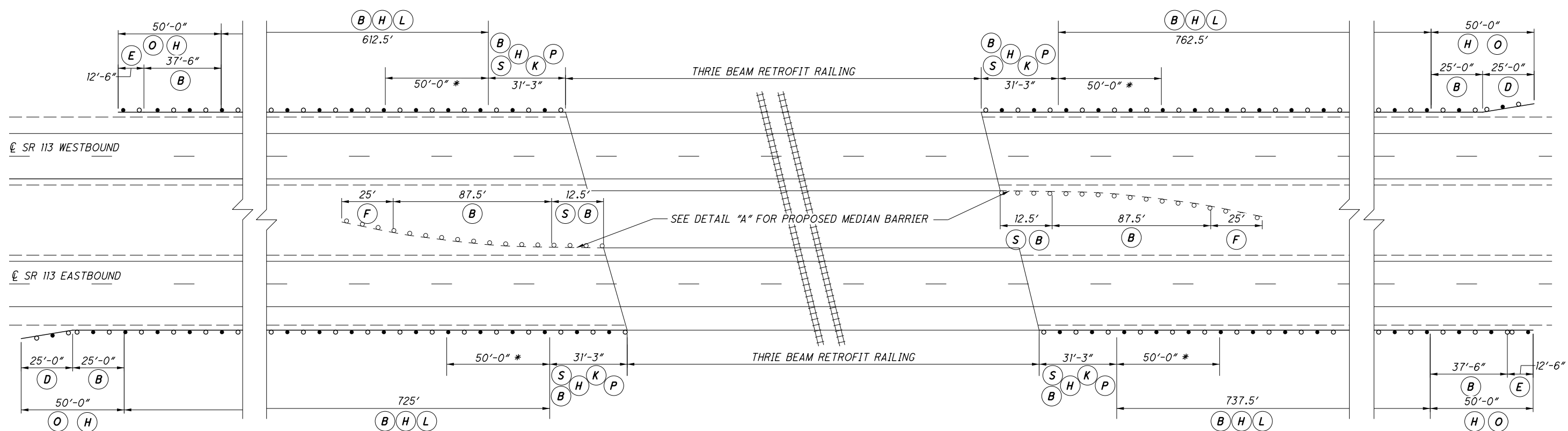
NOTES
ALL PAVEMENT MARKINGS ARE FOR INFORMATIONAL PURPOSES ONLY. DO NOT APPLY PAVEMENT MARKINGS AS PER THIS SHEET; SEE PAVEMENT MARKING SUBSUMMARY FOR DETAILS.

KEY	ITEM	EXTENTION	DESCRIPTION	FUNDING SPLIT		TOTAL	UNIT
				02/S<2/PV	03/STR/BR		
B	202	38000	GUARDRAIL REMOVED	50		50	FT
C	202	38603	BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN		50	50	FT
D	202	42000	ANCHOR ASSEMBLY REMOVED, TYPE A	2		2	EACH
H	209	15000	RESHAPING UNDER GUARDRAIL	1.25		1.25	STA
L	606	15050	GUARDRAIL, TYPE MGS	25		25	FT
O	606	26150	ANCHOR ASSEMBLY, MGS TYPE E	2		2	EACH
	626	00100	BARRIER REFLECTOR	3		3	EACH

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET



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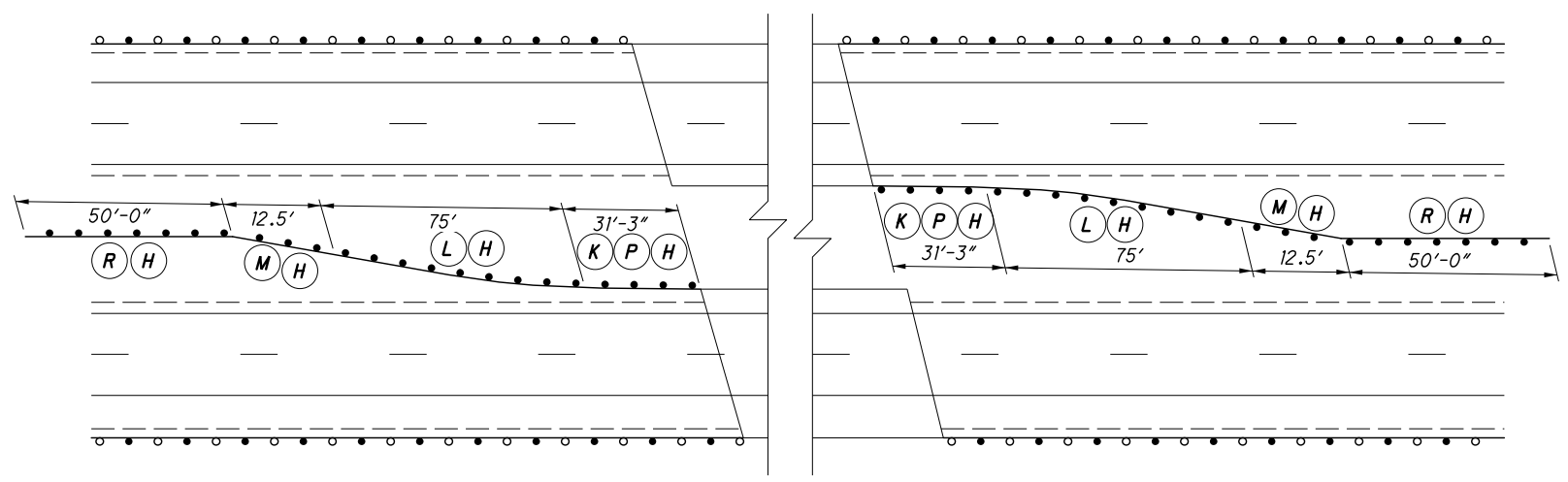


GUARDRAIL PLAN VIEW
 (02/S<2/PV)

- NOTE:
- * INDICATES MGS-4.3 HEIGHT TRANSITION.
 - EXISTING BRIDGE RAILING REMOVED FOR STORAGE AT ODOT AS PER AGREEMENT AT PRECONSTRUCTION MEETING.
 - SEE PREVIOUS SHEET FOR RESHAPING UNDER GUARDRAIL DETAIL.
 - SEE STRUCTURE DETAIL SHEETS FOR BRIDGE RAILING DETAILS.
 - ITEM 203 - EMBANKMENT, AS PER PLAN TO BE USED AS DIRECTED BY THE ENGINEER.

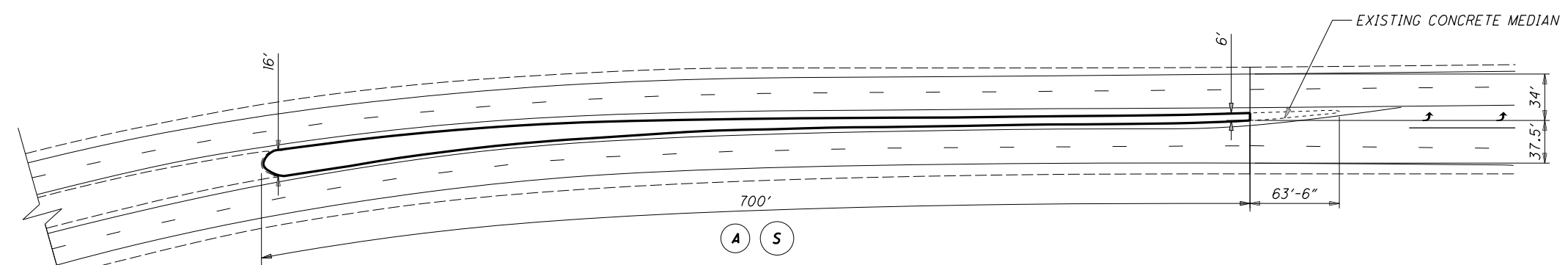
KEY	ITEM	EXTENTION	DESCRIPTION	TOTAL	UNIT
				02/S<2/PV	
B	202	38000	GUARDRAIL REMOVED	3287.5	FT
D	202	42000	ANCHOR ASSEMBLY REMOVED, TYPE A	2	EACH
E	202	42040	ANCHOR ASSEMBLY REMOVED, TYPE T	2	EACH
F	202	42210	ANCHOR ASSEMBLY REMOVED, BARRIER DESIGN	2	EACH
S	202	47000	BRIDGE TERMINAL ASSEMBLY REMOVED	6	EACH
203	20001		EMBANKMENT, AS PER PLAN	40	CY
H	209	15000	RESHAPING UNDER GUARDRAIL	35.00	STA
K	606	13000	GUARDRAIL, TYPE 5	187.5	FT
L	606	15050	GUARDRAIL, TYPE MGS	2987.5	FT
M	606	15550	GUARDRAIL, BARRIER DESIGN, TYPE MGS	25	FT
O	606	26150	ANCHOR ASSEMBLY, MGS TYPE E	4	EACH
P	606	35120	BRIDGE TERMINAL ASSEMBLY, TYPE 3	6	EACH
R	606	60012	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	2	EACH
626	00100		BARRIER REFLECTOR	42	EACH

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET

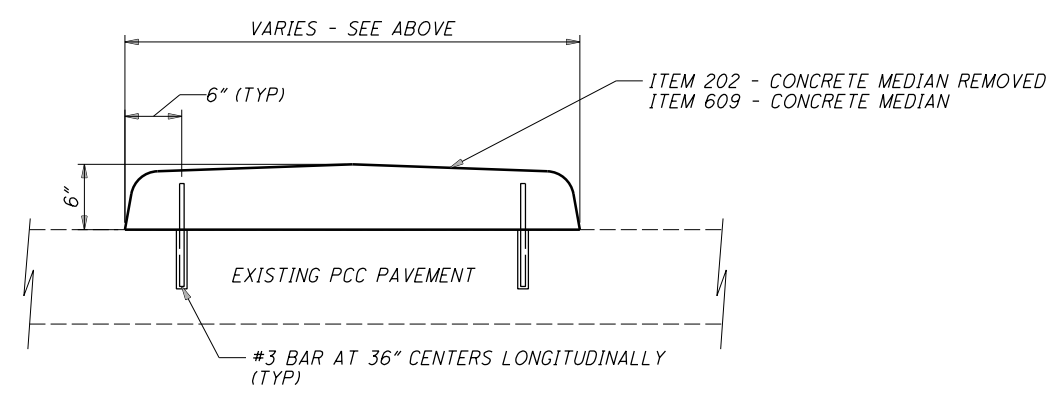


DETAIL "A"
 PROPOSED MEDIAN BARRIER DETAIL

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CONCRETE MEDIAN DETAILS
SLM: 11.62-11.66
(02 / S < 2 / PV)



TRANSVERSE SECTION OF
PROPOSED CONCRETE MEDIAN

NOTE:
 1. REPLACE CONCRETE MEDIAN AS SHOWN PER RM-3.1
 2. DO NOT DISTURB EXISTING MANHOLE IN MEDIAN.

KEY	ITEM	EXTENTION	DESCRIPTION	TOTAL 02/S<2/PV	UNIT
A	202	30600	CONCRETE MEDIAN REMOVED	800	SY
S	609	72100	CONCRETE MEDIAN	134	CY

ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY SHEET

CONCRETE MEDIAN DETAILS
LOR-113-11.62-11.66

LOR-113-(0.00)(7.49)

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ITEM 632- DETECTOR LOOP, AS PER PLAN

AN ESTIMATED QUANTITY OF ITEM 632, DETECTOR LOOP, AS PER PLAN, HAS BEEN PROVIDED FOR THE PURPOSE OF REPLACING DAMAGED DETECTOR LOOPS AND/OR UPGRADING DETECTOR LOOPS TO IMPROVE MOTORCYCLE DETECTION. IT IS IMPERATIVE THAT REPLACEMENT OF DETECTOR LOOPS BE INSTALLED AND FULLY FUNCTIONAL IN THE SHORTEST POSSIBLE TIME. THE CONTRACTOR SHALL HAVE REPLACEMENT DETECTOR LOOPS INSTALLED AND FULLY FUNCTIONAL WITHIN 7 CALENDAR DAYS OF DESTRUCTION OF THE EXISTING DETECTOR LOOPS.

THE CONTRACTOR SHALL NOTIFY MATT BLANKENSHIP, ODOT DISTRICT 3 ROADWAY SERVICES MANAGER, (PHONE 419-207-7045) 5 WORKING DAYS IN ADVANCE OF ANY PLANING OPERATIONS OR PAVEMENT REPAIR WORK. THIS NOTIFICATION IS NEEDED FOR DISTRICT 3 TO SCHEDULE TEMPORARY SIGNAL TIMING MODIFICATIONS FOR THE TIME PERIOD WHEN THE DETECTOR LOOPS ARE OUT OF OPERATION. THE CONTRACTOR SHALL THEN RENOTIFY MR. BLANKENSHIP WITHIN 2 WORKING DAYS AFTER THE NEW DETECTOR LOOPS ARE REPLACED SO THAT HE CAN RESCHEDULE DISTRICT CREWS TO RESTORE SIGNAL TIMINGS TO THE ORIGINAL SETTINGS. IN ADDITION, THE CONTRACTOR SHALL ALSO NOTIFY CRAIG DEVORE, ODOT DISTRICT 3 PLANNING AND ENGINEERING DEPT. (PHONE 419-207-7169) WHEN THE NEW LOOPS ARE INSTALLED.

FAILURE TO COMPLY WITH THE ABOVE STATED REQUIREMENTS WILL RESULT IN THE ASSESSMENT OF A DISINCENTIVE FEE OF \$500.00 PER DAY TO THE CONTRACTOR FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT.

THE NEW DETECTOR LOOPS SHALL BE PLACED PER THE PLAN DETAILS AFTER THE PLANING AND PAVEMENT REPAIR OPERATIONS ARE COMPLETED WITHIN THE AFFECTED AREAS. THE DETECTOR LOOPS SHALL NOT BE CUT INTO THE SURFACE COURSE.

IN ADDITION TO THE REQUIREMENTS OF CMS 632.11, THE CONTRACTOR SHALL PROVIDE A POSITIVE AND EFFECTIVE MEANS FOR REMOVAL OF SOLID RESIDUE RESULTING FROM THE DRY SAW BLADE CUTTING OF LOOP DETECTOR SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS, BEFORE IT IS BLOWN BY TRAFFIC ACTION OR WIND. RESIDUE FROM DRY CUTTING SHALL NOT BE REMOVED BY COMPRESSED AIR. AS AN ALTERNATE, THE CONTRACTOR MAY USE WET CUTTING.

LOOP DETECTOR WIRE TO LEAD-IN CABLE SPLICES WITHIN EPOXY ENCAPSULATED SPLICE ENCLOSURES SHALL BE JOINED BY AN APPROVED CONNECTOR AND SOLDERED PER CMS 632.23 & 725.15. ALL COSTS ASSOCIATED WITH THE SOLDERED SPLICE CONNECTION AND EPOXY SPLICE KIT SHALL BE INCLUDED WITH THE DETECTOR LOOP.

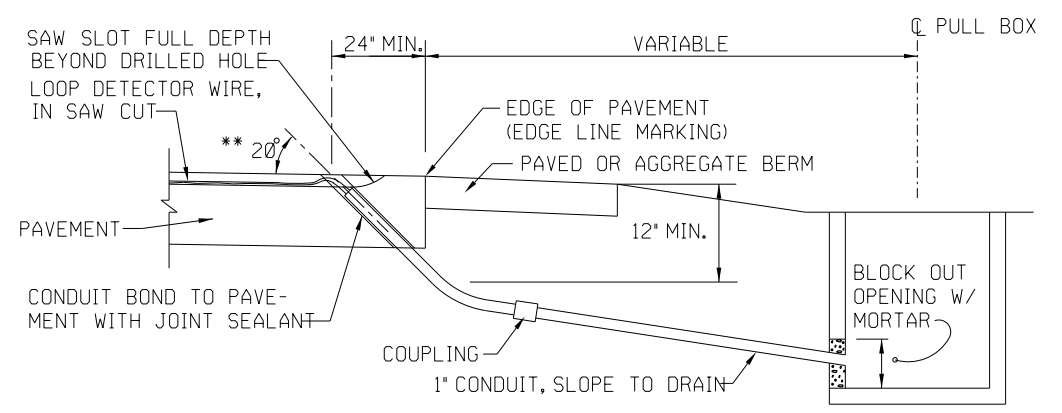
IF THE PULL BOX IS NOT SPECIFIED IN THE PLANS, THE SPLICE SHALL BE MADE IN THE FIRST ENTERED POLE OR PEDESTAL, EXCEPT WHERE THE CONTROLLER CABINET IS MOUNTED ON THE POLE OR PEDESTAL, IN WHICH CASE THE LOOP WIRES SHALL BE ROUTED DIRECTLY INTO THE CABINET UNLESS SPECIFIED DIFFERENTLY IN THE PLANS. LOOP DETECTOR WIRE ROUTED THROUGH CONDUIT, PULL BOXES, POLES, AND PEDESTALS SHALL BE TWISTED PER CMS 632.23.

FURNISH ALL MATERIALS ACCORDING TO THE DEPARTMENT'S QUALIFIED PRODUCTS LIST (QPL).

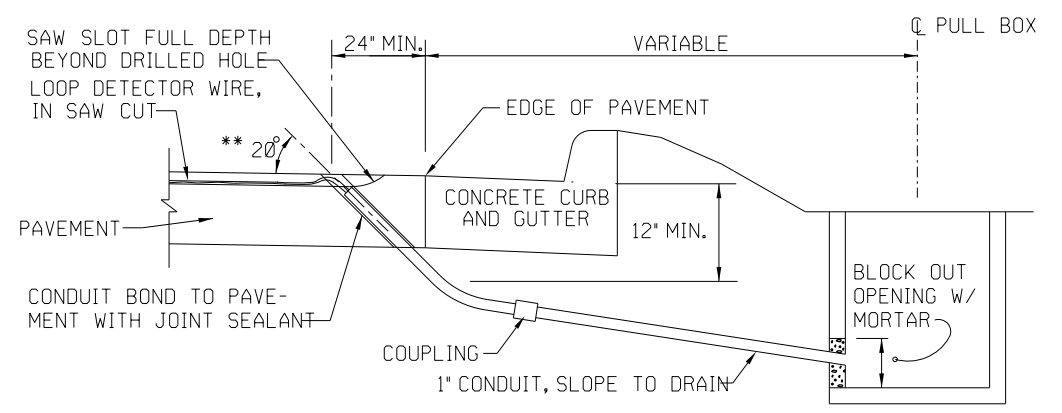
SEE DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.

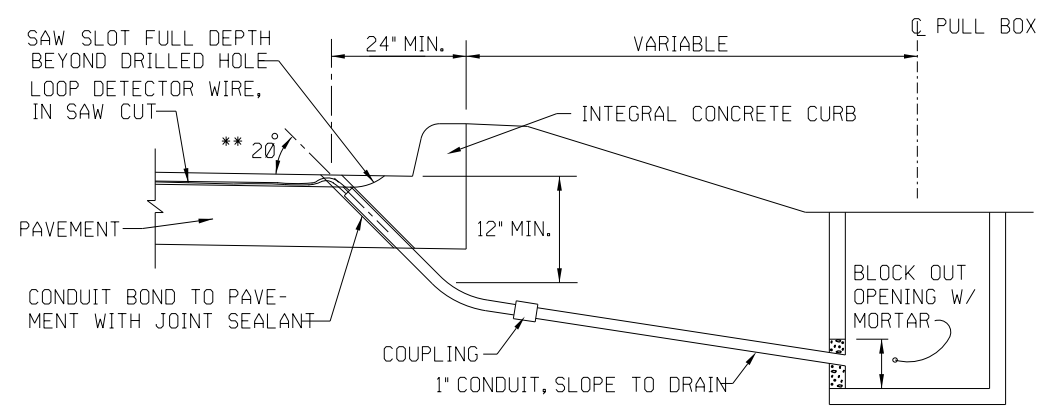
(01/STR/PV)	ITEM 632 - DETECTOR LOOP, AS PER PLAN	24 EACH
(02/S<2/PV)	ITEM 632 - DETECTOR LOOP, AS PER PLAN	34 EACH



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



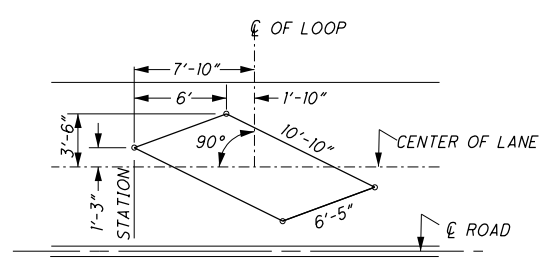
DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER



DRILLED HOLE LOCATION DETAIL WITH INTEGRAL CONCRETE CURB

* CONDUIT SHALL BE 1" DIAMETER 725.04.
* THE RANGE OF THIS ANGLE SHALL BE FROM 15 TO 30 DEGREES.

NOTE: SEE STANDARD DRAWING TC-82.10 FOR ADDITIONAL NOTES AND DETAILS



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL FOR LANE WIDTH 11' & LARGER

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DETECTOR LOOP REPLACEMENT

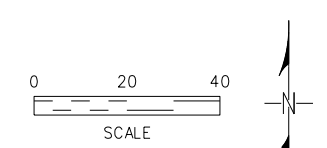
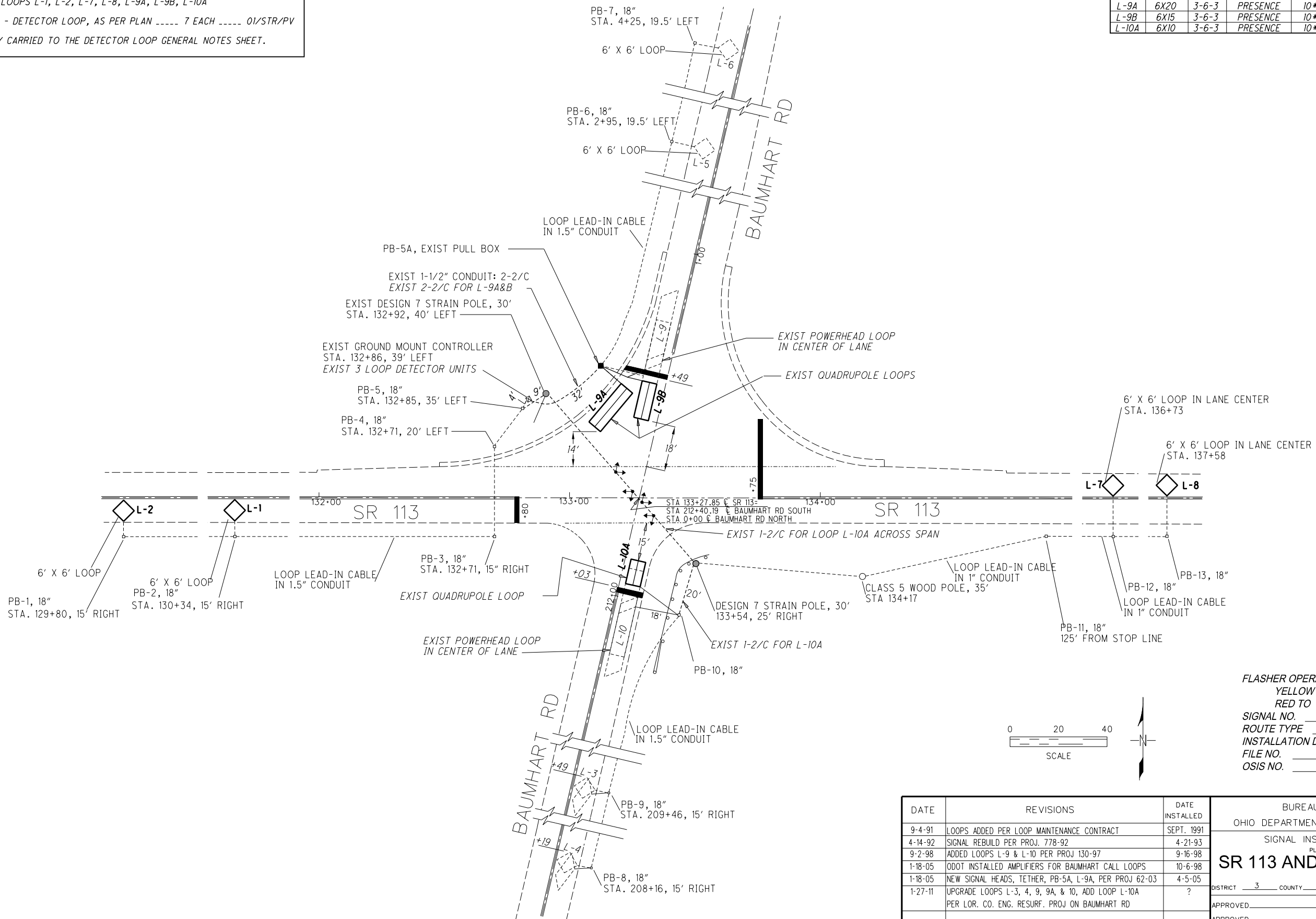
NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-1, L-2, L-7, L-8, L-9A, L-9B, L-10A
ITEM 632 - DETECTOR LOOP, AS PER PLAN ----- 7 EACH ----- 01/STR/PV
QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

LOOP DETECTOR CHART

LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	ASSOC. PHASE
L-1	6X6	3	PULSE		1	1
L-2	6X6	3	PULSE		1	1
L-7	6X6	3	PULSE		4	1
L-8	6X6	3	PULSE		4	1
L-9A	6X20	3-6-3	PRESENCE	10*	7	2
L-9B	6X15	3-6-3	PRESENCE	10*	8	2
L-10A	6X10	3-6-3	PRESENCE	10*	9	2

CALCULATED: JWS
 CHECKED: KRB
LOOP DETAILS SR 113 & BAUMHART ROAD
LOR-113-(0.00)(7.49)



FLASHER OPERATION
 YELLOW TO SR 113
 RED TO BAUMHART RD
 SIGNAL NO. LOR-113-0375S
 ROUTE TYPE 30
 INSTALLATION DATE 1-12-72
 FILE NO. 2495
 OSIS NO. 536

DATE	REVISIONS	DATE INSTALLED
9-4-91	LOOPS ADDED PER LOOP MAINTENANCE CONTRACT	SEPT. 1991
4-14-92	SIGNAL REBUILD PER PROJ. 778-92	4-21-93
9-2-98	ADDED LOOPS L-9 & L-10 PER PROJ 130-97	9-16-98
1-18-05	ODOT INSTALLED AMPLIFIERS FOR BAUMHART CALL LOOPS	10-6-98
1-18-05	NEW SIGNAL HEADS, TETHER, PB-5A, L-9A, PER PROJ 62-03	4-5-05
1-27-11	UPGRADE LOOPS L-3, 4, 9, 9A, & 10, ADD LOOP L-10A PER LOR. CO. ENG. RESURF. PROJ ON BAUMHART RD	?

BUREAU OF TRAFFIC
 OHIO DEPARTMENT OF TRANSPORTATION
 SIGNAL INSTALLATION PLAN
 PLAN REDRAWN
SR 113 AND BAUMHART RD
 DISTRICT 3 COUNTY LORAIN

APPROVED: _____ DATE _____
 APPROVED: _____ DATE _____
 APPROVED: _____ DATE _____
 ENGINEER OF TRAFFIC

DRAWN: RSS
 8/98

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DETECTOR LOOP REPLACEMENT

NOTE:
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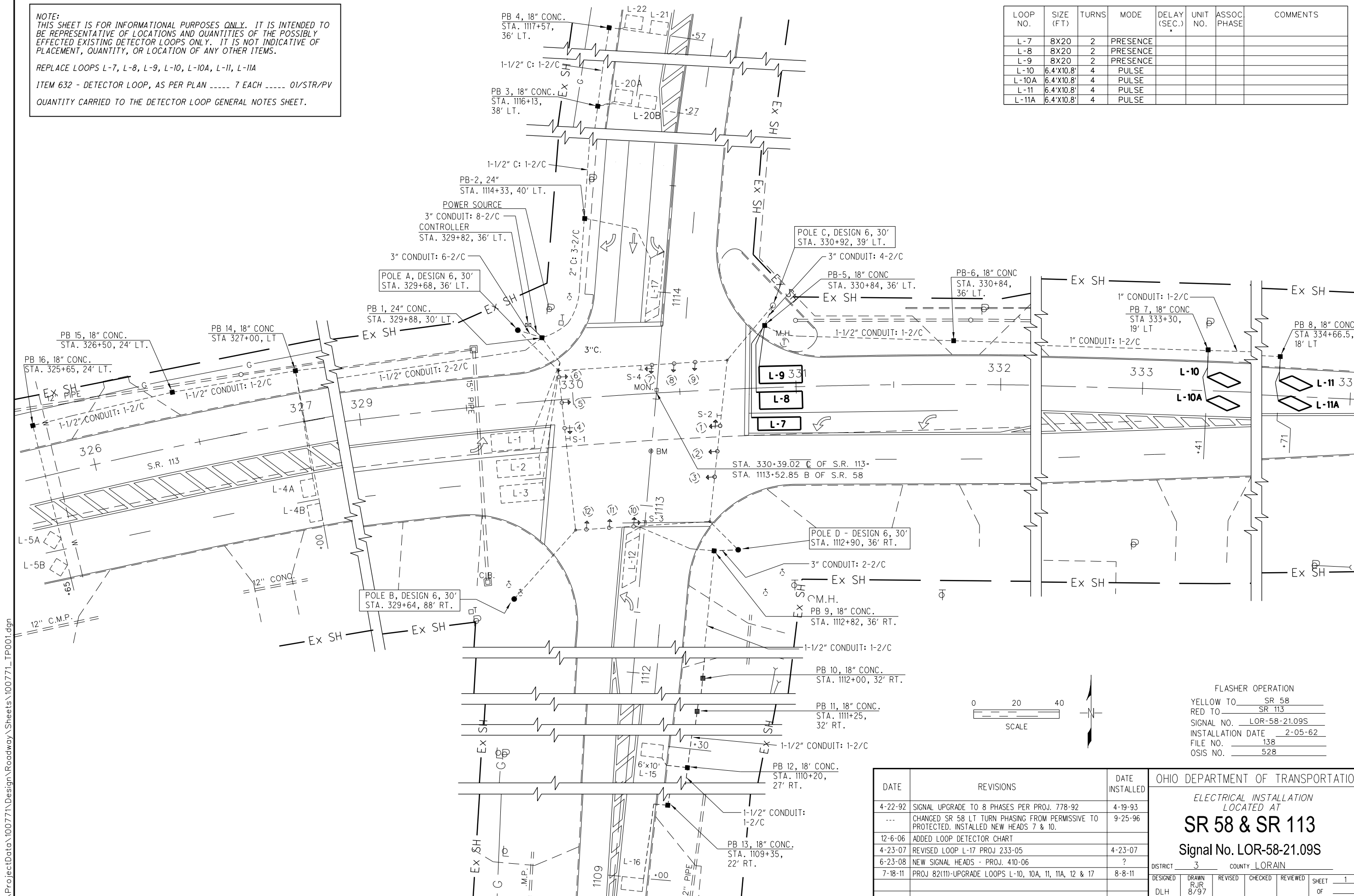
REPLACE LOOPS L-7, L-8, L-9, L-10, L-10A, L-11, L-11A

ITEM 632 - DETECTOR LOOP, AS PER PLAN 7 EACH 01/STR/PV

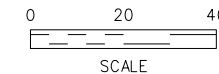
QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

LOOP DETECTOR CHART

LOOP NO.	SIZE (FT)	TURNS	MODE	DELAY (SEC.)	UNIT NO.	ASSOC PHASE	COMMENTS
L-7	8x20	2	PRESENCE				
L-8	8x20	2	PRESENCE				
L-9	8x20	2	PRESENCE				
L-10	6.4'x10.8'	4	PULSE				
L-10A	6.4'x10.8'	4	PULSE				
L-11	6.4'x10.8'	4	PULSE				
L-11A	6.4'x10.8'	4	PULSE				



**LOOP DETAILS
SR 113 & SR 58**



FLASHER OPERATION
 YELLOW TO SR 58
 RED TO SR 113
 SIGNAL NO. LOR-58-21.09S
 INSTALLATION DATE 2-05-62
 FILE NO. 138
 OSIS NO. 528

DATE	REVISIONS	DATE INSTALLED
4-22-92	SIGNAL UPGRADE TO 8 PHASES PER PROJ. 778-92	4-19-93
---	CHANGED SR 58 LT TURN PHASING FROM PERMISSIVE TO PROTECTED. INSTALLED NEW HEADS 7 & 10.	9-25-96
12-6-06	ADDED LOOP DETECTOR CHART	
4-23-07	REVISED LOOP L-17 PROJ 233-05	4-23-07
6-23-08	NEW SIGNAL HEADS - PROJ. 410-06	?
7-18-11	PROJ 82(11)-UPGRADE LOOPS L-10, 10A, 11, 11A, 12 & 17	8-8-11

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION
LOCATED AT

SR 58 & SR 113

Signal No. LOR-58-21.09S

DISTRICT 3 COUNTY LORAIN

DESIGNED	DLH	DRAWN	RJR	8/97	REVISED		CHECKED		REVIEWED		SHEET	1
											OF	

LOR-113-(0.00)(7.49)

23
34

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DETECTOR LOOP REPLACEMENT

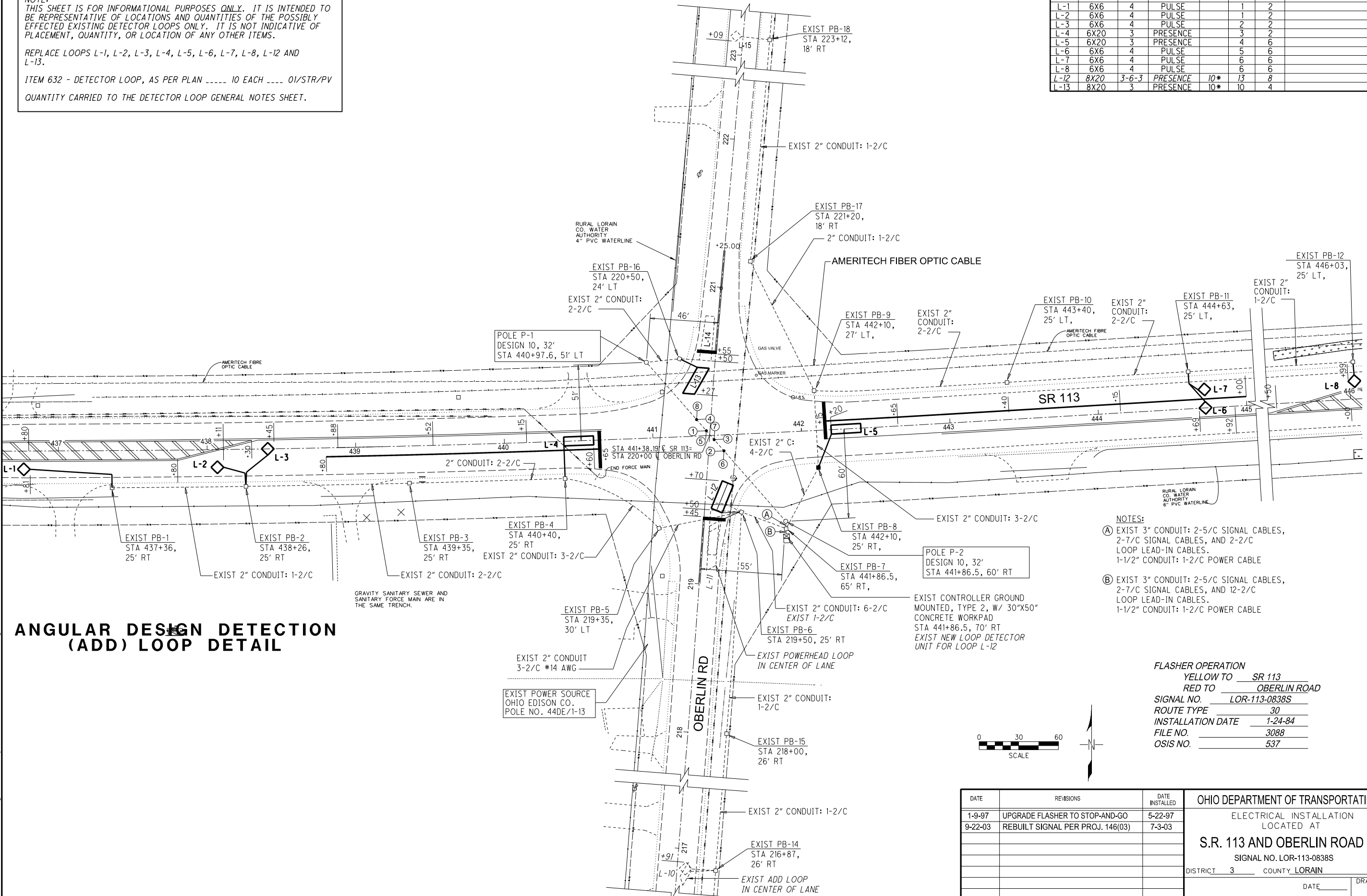
NOTE:
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT IS INTENDED TO BE REPRESENTATIVE OF LOCATIONS AND QUANTITIES OF THE POSSIBLY EFFECTED EXISTING DETECTOR LOOPS ONLY. IT IS NOT INDICATIVE OF PLACEMENT, QUANTITY, OR LOCATION OF ANY OTHER ITEMS.

REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-12 AND L-13.

ITEM 632 - DETECTOR LOOP, AS PER PLAN ----- 10 EACH ----- 01/STR/PV QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

LOOP DETECTOR CHART

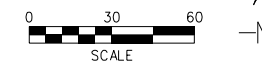
LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	ASSOC. PHASE	COMMENTS
L-1	6X6	4	PULSE		1	2	
L-2	6X6	4	PULSE		1	2	
L-3	6X6	4	PULSE		2	2	
L-4	6X20	3	PRESENCE		3	2	
L-5	6X20	3	PRESENCE		4	6	
L-6	6X6	4	PULSE		5	6	
L-7	6X6	4	PULSE		6	6	
L-8	6X6	4	PULSE		6	6	
L-12	8X20	3-6-3	PRESENCE	10*	13	8	
L-13	8X20	3	PRESENCE	10*	10	4	



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL

- NOTES:
- (A) EXIST 3" CONDUIT: 2-5/C SIGNAL CABLES, 2-7/C SIGNAL CABLES, AND 2-2/C LOOP LEAD-IN CABLES. 1-1/2" CONDUIT: 1-2/C POWER CABLE
 - (B) EXIST 3" CONDUIT: 2-5/C SIGNAL CABLES, 2-7/C SIGNAL CABLES, AND 12-2/C LOOP LEAD-IN CABLES. 1-1/2" CONDUIT: 1-2/C POWER CABLE

FLASHER OPERATION
 YELLOW TO SR 113
 RED TO OBERLIN ROAD
 SIGNAL NO. LOR-113-0838S
 ROUTE TYPE 30
 INSTALLATION DATE 1-24-84
 FILE NO. 3088
 OSIS NO. 537



DATE	REVISIONS	DATE INSTALLED
1-9-97	UPGRADE FLASHER TO STOP-AND-GO	5-22-97
9-22-03	REBUILT SIGNAL PER PROJ. 146(03)	7-3-03

OHIO DEPARTMENT OF TRANSPORTATION	
ELECTRICAL INSTALLATION LOCATED AT	
S.R. 113 AND OBERLIN ROAD	
SIGNAL NO. LOR-113-0838S	
DISTRICT 3	COUNTY LORAIN
DATE	DRAWING NO.
DESIGNED	DRAWN
REVISED	CHECKED
REVIEWED	SHEET 1 OF 1

LOOP DETAILS
 SR 113 & OBERLIN ROAD

LOR-113-(0.00)(7.49)

24
 34

DETECTOR LOOP REPLACEMENT

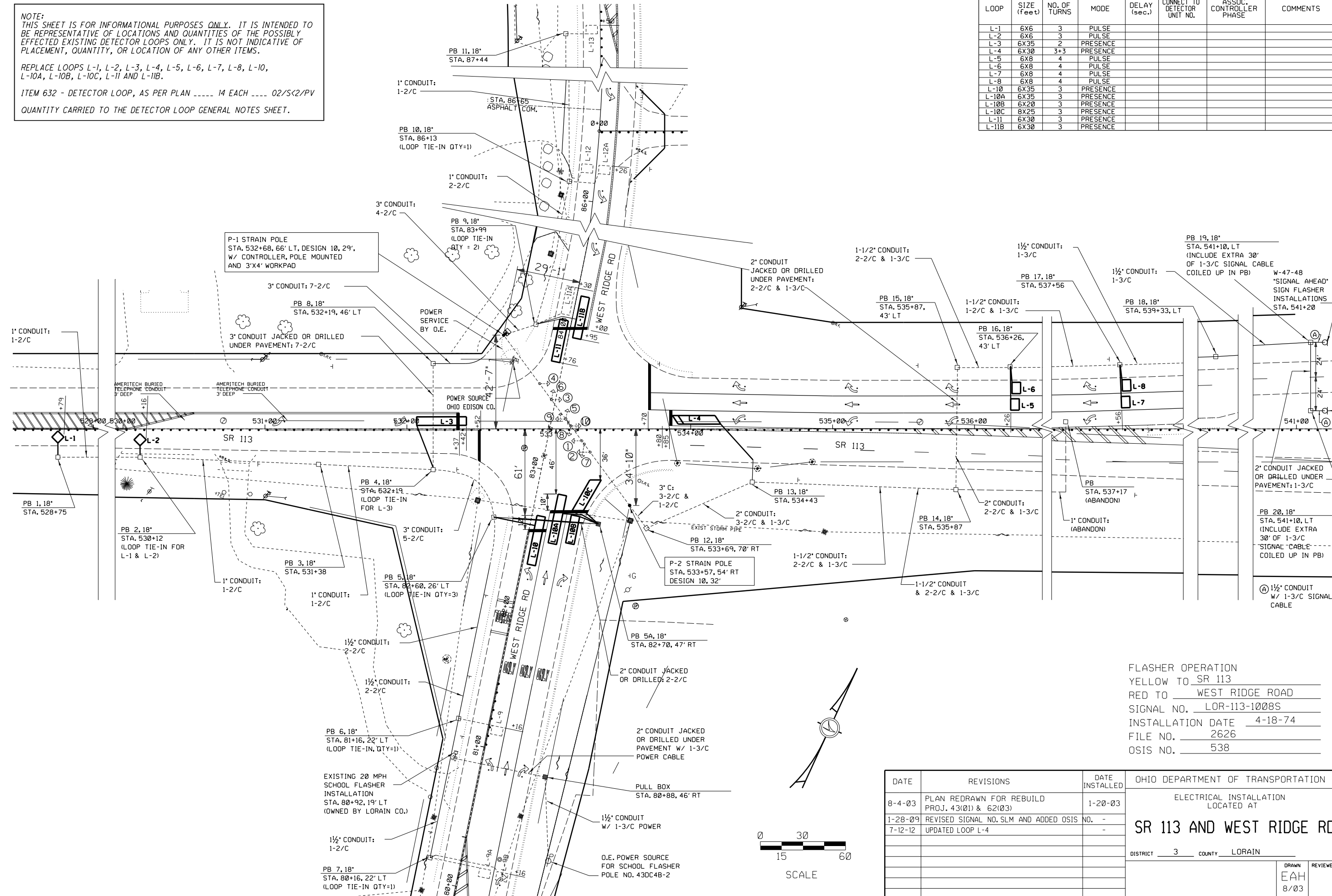
NOTE:
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REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-10, L-10A, L-10B, L-10C, L-11 AND L-11B.

ITEM 632 - DETECTOR LOOP, AS PER PLAN ----- 14 EACH ----- 02/S<2/PV
QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

LOOP DETECTOR CHART

LOOP	SIZE (feet)	NO. OF TURNS	MODE	DELAY (sec.)	CONNECT TO DETECTOR UNIT NO.	ASSOC. CONTROLLER PHASE	COMMENTS
L-1	6X6	3	PULSE				
L-2	6X6	3	PULSE				
L-3	6X35	2	PRESENCE				
L-4	6X30	3+3	PRESENCE				
L-5	6X8	4	PULSE				
L-6	6X8	4	PULSE				
L-7	6X8	4	PULSE				
L-8	6X8	4	PULSE				
L-10	6X35	3	PRESENCE				
L-10A	6X35	3	PRESENCE				
L-10B	6X20	3	PRESENCE				
L-10C	8X25	3	PRESENCE				
L-11	6X30	3	PRESENCE				
L-11B	6X30	3	PRESENCE				



CALCULATED: JWS
 CHECKED: KRB
LOOP DETAILS SR 113 & WEST RIDGE ROAD
LOR-113-(0.00)(7.49)

FLASHER OPERATION
 YELLOW TO SR 113
 RED TO WEST RIDGE ROAD
 SIGNAL NO. LOR-113-1008S
 INSTALLATION DATE 4-18-74
 FILE NO. 2626
 OSIS NO. 538

DATE	REVISIONS	DATE INSTALLED
8-4-03	PLAN REDRAWN FOR REBUILD PROJ. 43(01) & 62(03)	1-20-03
1-28-09	REVISED SIGNAL NO. SLM AND ADDED OSIS NO.	-
7-12-12	UPDATED LOOP L-4	-

OHIO DEPARTMENT OF TRANSPORTATION

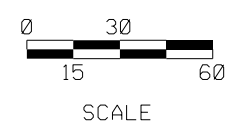
ELECTRICAL INSTALLATION LOCATED AT

SR 113 AND WEST RIDGE RD

DISTRICT 3 COUNTY LORAIN

DRAWN: EAH 8/03

REVIEWED: [Signature]



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DETECTOR LOOP REPLACEMENT

NOTE:
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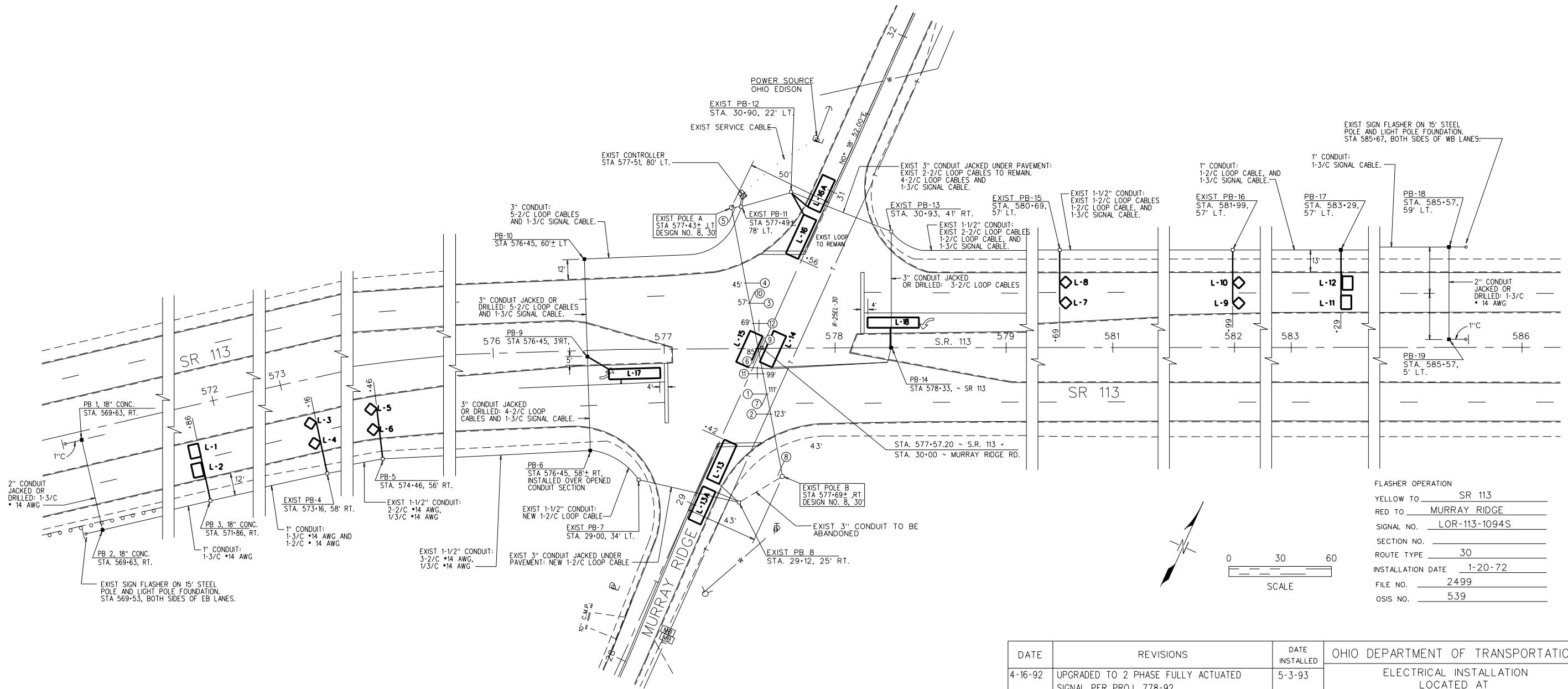
REPLACE LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-13A, L-14, L-15, L-16, L-16A, L-17, L-18

ITEM 632 - DETECTOR LOOP, AS PER PLAN ----- 20 EACH ----- 02/SK2/PV

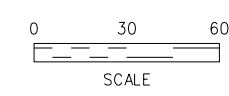
QUANTITY CARRIED TO THE DETECTOR LOOP GENERAL NOTES SHEET.

LOOP DETECTOR CHART

LOOP	SIZE (FT.)	NO. OF TURNS	MODE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE	COMMENTS
L-1	6X8	3	PULSE				
L-2	6X8	3	PULSE				
L-3	6X6	3	PULSE				
L-4	6X6	3	PULSE				
L-5	6X6	3	PULSE				
L-6	6X6	3	PULSE				
L-7	6X6	3	PULSE				
L-8	6X6	3	PULSE				
L-9	6X6	3	PULSE				
L-10	6X6	3	PULSE				
L-11	6X8	3	PULSE				
L-12	6X8	3	PULSE				
L-13	8X25	2	PRESENCE				
L-13A	8X20	2	PRESENCE				
L-14	8X20	2	PRESENCE				
L-15	8X20	2	PRESENCE				
L-16	8X25	2	PRESENCE				
L-16A	8X20	2	PRESENCE				
L-17	6X30	2	PRESENCE				
L-18	6X30	2	PRESENCE				



FLASHER OPERATION
 YELLOW TO SR 113
 RED TO MURRAY RIDGE
 SIGNAL NO. LOR-113-1094S
 SECTION NO. _____
 ROUTE TYPE 30
 INSTALLATION DATE 1-20-72
 FILE NO. 2499
 OSIS NO. 539



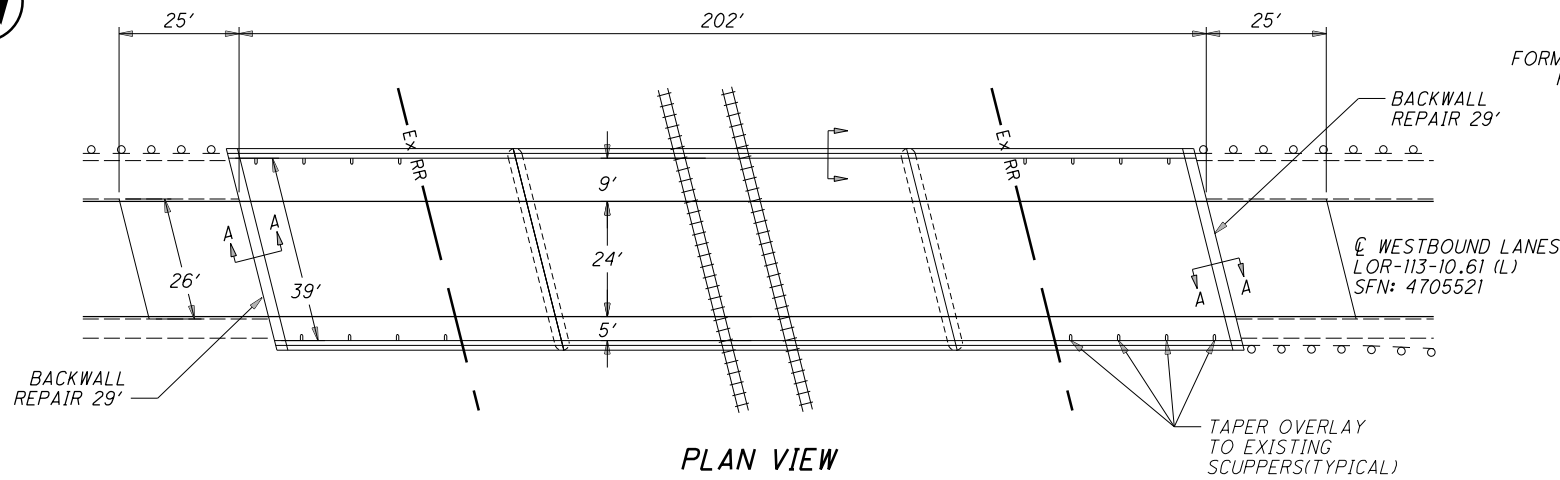
DATE	REVISIONS	DATE INSTALLED	OHIO DEPARTMENT OF TRANSPORTATION
4-16-92	UPGRADED TO 2 PHASE FULLY ACTUATED SIGNAL PER PROJ. 778-92	5-3-93	ELECTRICAL INSTALLATION LOCATED AT SR 113 AND MURRAY RIDGE RD. DISTRICT 3 COUNTY LORAIN
9-25-96	UPGRADED TO 8 PHASE OPERATION, ADDED 3RD SET EXT. LOOPS ON SR 113 AND SIGN FLASHERS.	2-20-97	
1-28-09	REVISED SIGNAL NO. SLM AND ADDED OSIS NO.	-	
APPROVED _____ DATE _____			DRAWN RJR
APPROVED _____ DATE _____			REVIEWED _____
ADMINISTRATOR, OFFICE OF TRAFFIC ENGINEERING			

LOOP DETAILS SR 113 & MURRAY RIDGE ROAD

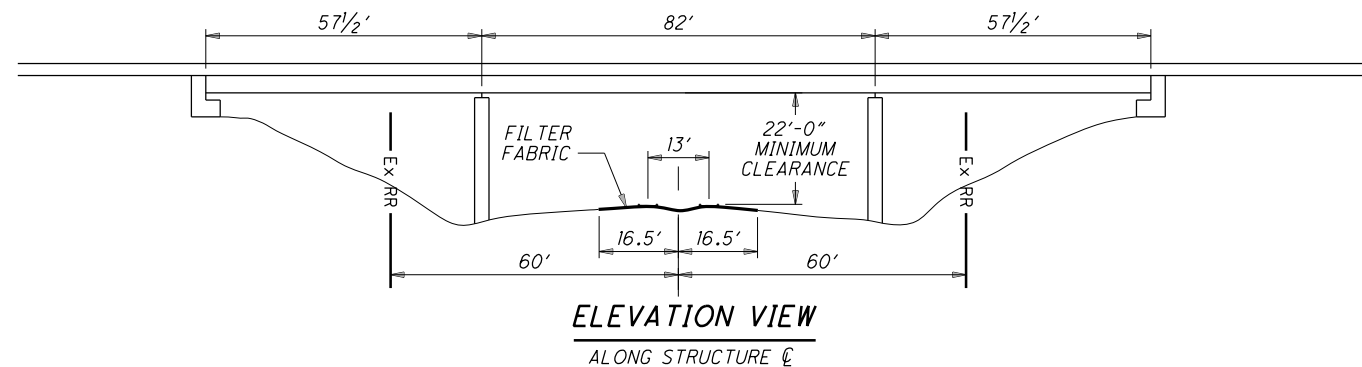
LOR-113-(0.00)(7.49)

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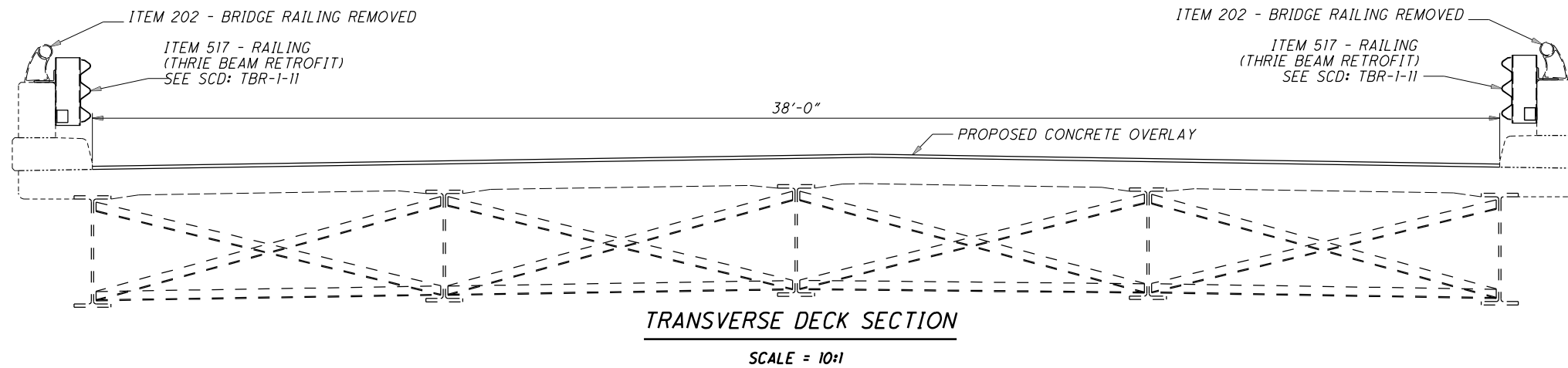
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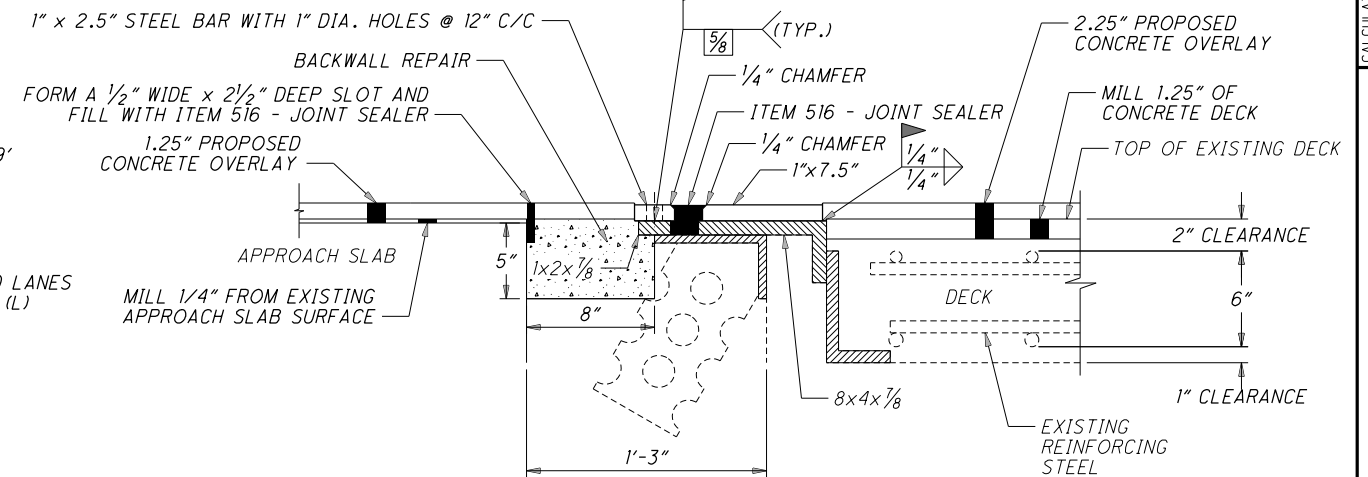
PLAN VIEW
RIGHT STRUCTURE NOT SHOWN



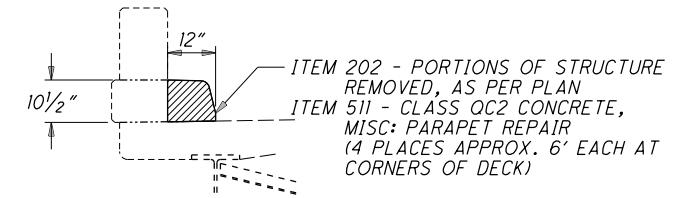
ELEVATION VIEW
ALONG STRUCTURE C/L



TRANSVERSE DECK SECTION
SCALE = 10:1



SECTION A-A
TYPICAL EXPANSION JOINT DETAIL
SCALE = 40:1



SECTION B-B
TYPICAL PARAPET REPAIR DETAIL
SCALE = 10:1

ESTIMATED QUANTITIES (04/S<2/BR) SFN: 4705521			
ITEM	QUANTITY	UNIT	DESCRIPTION
202	2	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	304	FT	BRIDGE RAILING REMOVED
202	100	FT	BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN
511	1	CY	CLASS QC2 CONCRETE, MISC: BACKWALL REPAIR
511	1	CY	CLASS QC2 CONCRETE, MISC: PARAPET REPAIR
513	2,675	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN
516	130	FT	JOINT SEALER
517	404	FT	RAILING (THRIE BEAM RETROFIT)
690	1	LUMP	SPECIAL - BALLAST PROTECTION
847	852	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2.25 INCH THICK)
847	145	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (1.25 INCH THICK)
847	6	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
847	1	LUMP	TEST SLAB
847	255	SY	HAND CHIPPING

ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY.

NOTES:

- MILLING SHALL BE USED TO REMOVE 1.25" CONCRETE FROM EXISTING DECK SURFACE.
- PLACE CONCRETE OVERLAY A THICKNESS OF 2.25" ON DECK SURFACE.
- MILLING SHALL BE USED TO REMOVE 0.25" CONCRETE FROM EXISTING FORWARD AND REAR APPROACH SLAB SURFACES.
- PLACE CONCRETE OVERLAY A THICKNESS OF 1.25" ON FORWARD AND REAR APPROACH SLAB SURFACES.
- 1.0" THICK STEEL BARS SHALL BE WELDED ONTO THE EXISTING EXPANSION JOINT STEELS AS SHOWN IN THE EXPANSION JOINT DETAIL.
- A MINIMUM VERTICAL CLEARANCE OF 22'-0" ABOVE TOP OF THE HIGHEST RAIL AND A MINIMUM HORIZONTAL CLEARANCE OF 13'-0" FROM THE CENTERLINE OF TRACK SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL HORIZONTAL CLEARANCES MAY BE REQUIRED IN SPECIAL CASES TO BE SAFE FOR OPERATING CONDITIONS. THE ADDITIONAL CLEARANCE WILL BE DETERMINED BY THE RAILROAD ENGINEER.
- PROVIDE PROTECTION OF RAILWAYS TRACK BALLAST PER "NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS", SECTION 5.B "BALLAST PROTECTION".
- SALVAGE 100' OF EXISTING BRIDGE RAILING FOR ODOT USE.

EXISTING STRUCTURE

- SCOPE OF WORK:**
- MILL EXISTING DECK AND FORWARD AND REAR APPROACH SLABS.
 - OVERLAY DECK AND FORWARD AND REAR APPROACH SLABS.
 - PATCH CONCRETE CURB.
 - RAISE EXISTING FORWARD AND REAR EXPANSION JOINT STEEL 1.0".
 - REPAIR TOP OF FORWARD AND REAR BACKWALL.
 - REPLACE BRIDGE RAILING AND BRIDGE TERMINAL ASSEMBLIES.

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 57.5', 82', 57.5'

ROADWAY: 38'-0" F/F SAFETY CURB

LOADING: CF400 (57)

SKREW: 14°-03'-50" RF

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-67 (25' LONG)

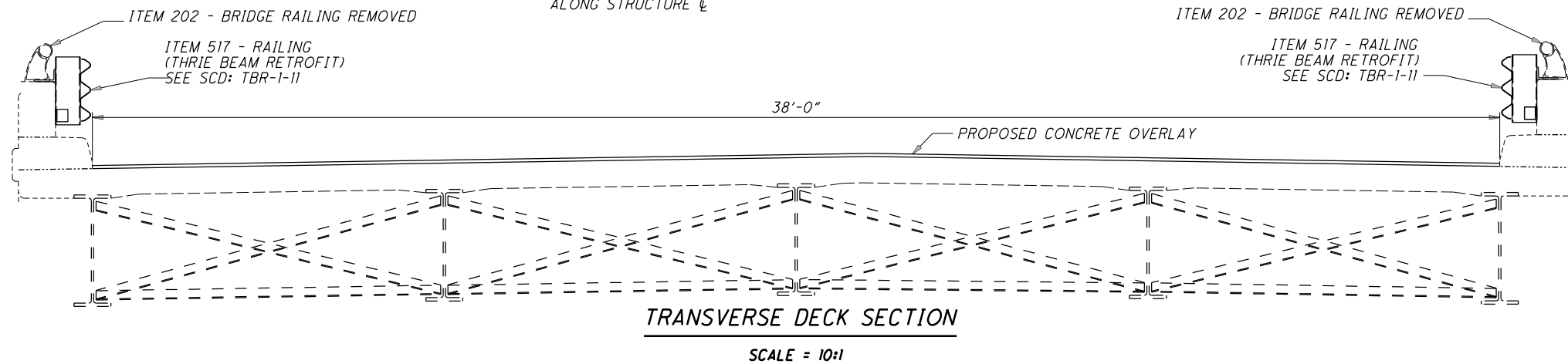
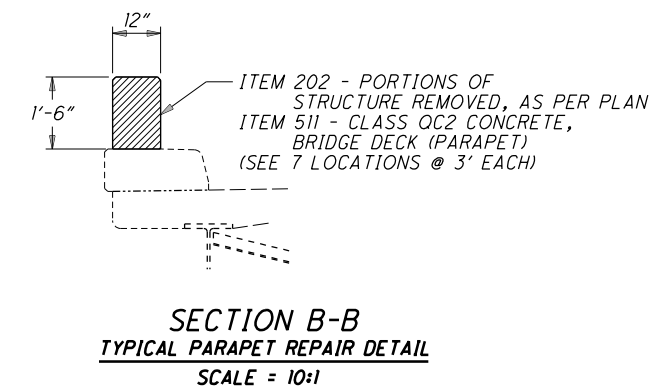
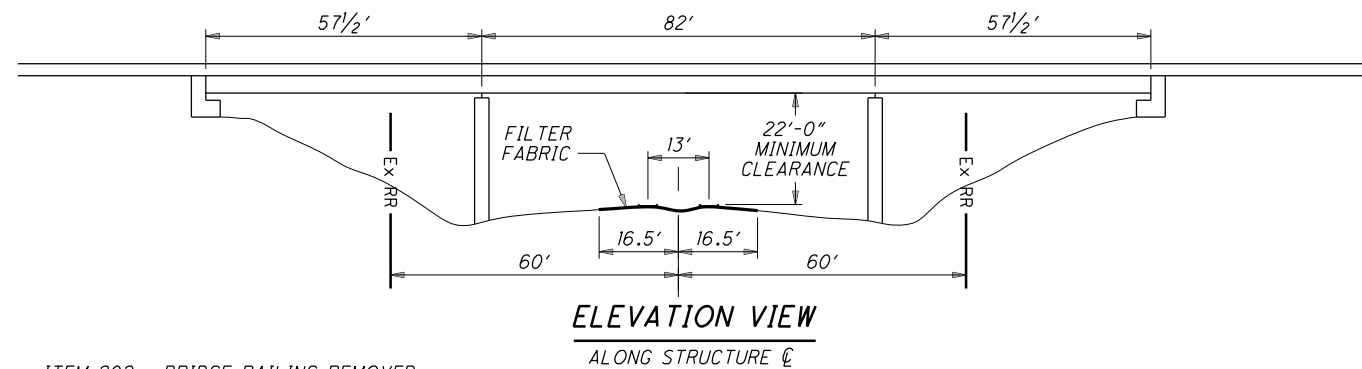
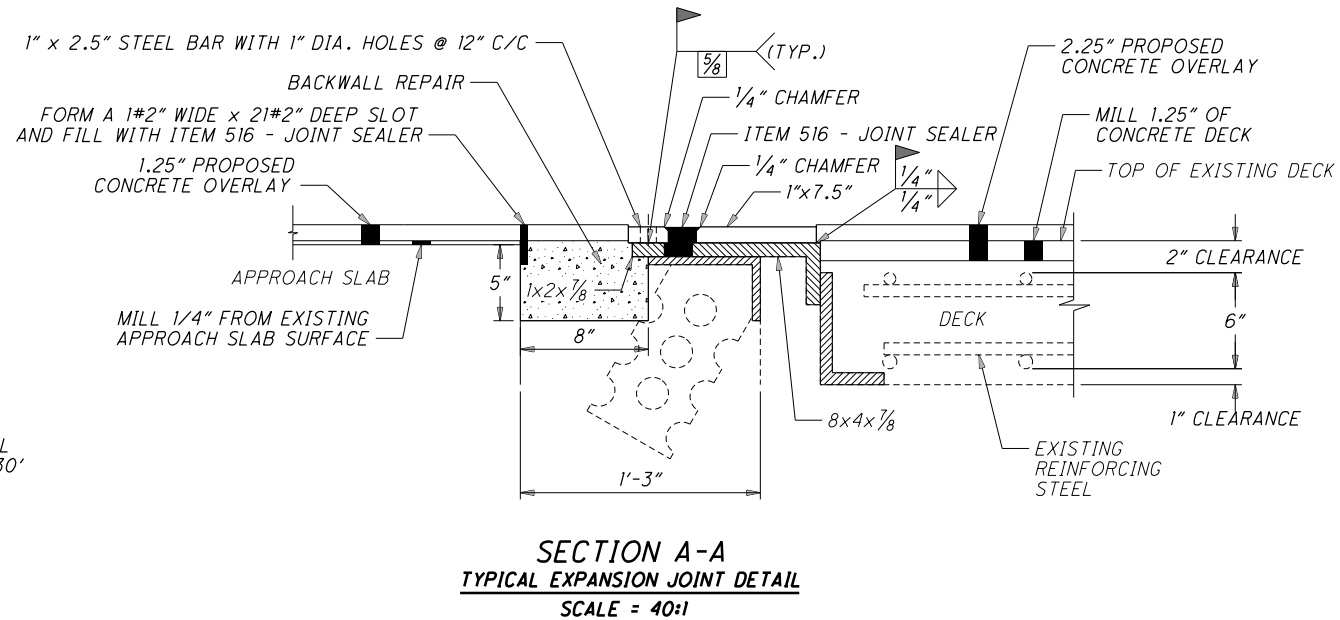
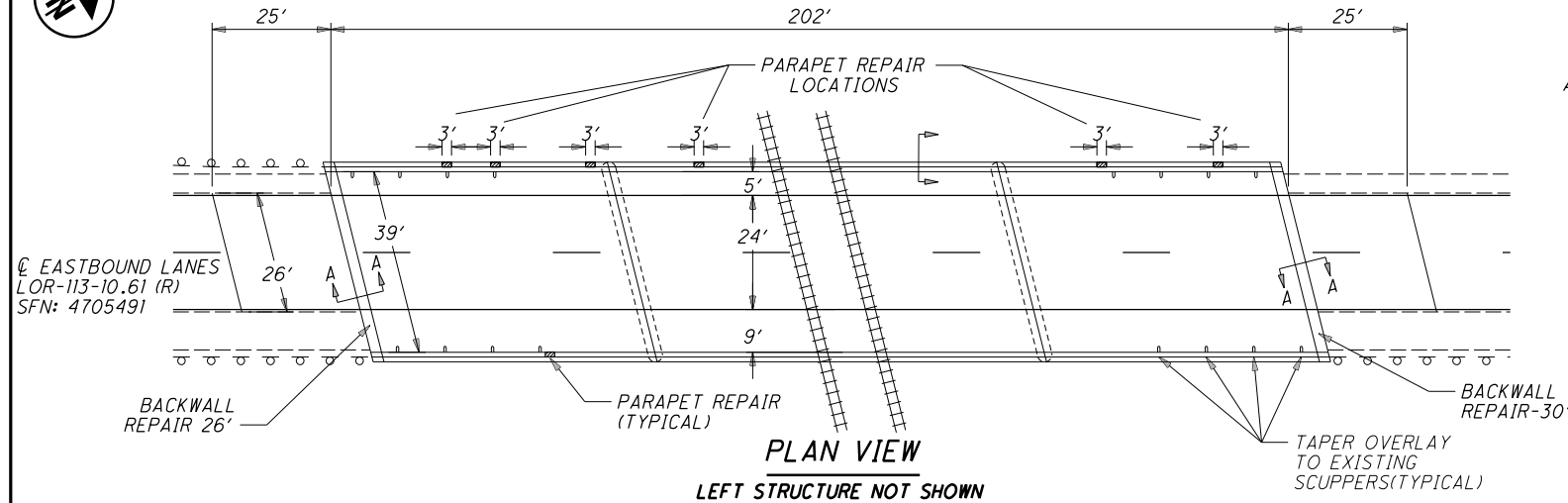
ALIGNMENT: TANGENT

CROWN: 0.016

STRUCTURAL FILE NUMBER: 4705521

DATE BUILT: 7/1/1970

LATITUDE/ LONGITUDE: N 41°-22'-43" W 82°-09'-16"



ESTIMATED QUANTITIES (04/S<2/BR) SFN: 4705491			
ITEM	QUANTITY	UNIT	DESCRIPTION
202	2	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	304	FT	BRIDGE RAILING REMOVED
202	100	FT	BRIDGE RAILING REMOVED FOR STORAGE, AS PER PLAN
511	1	CY	CLASS OC2 CONCRETE, MISC: BACKWALL REPAIR
511	1	CY	CLASS OC2 CONCRETE, MISC: PARAPET REPAIR
513	2,675	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN
516	130	FT	JOINT SEALER
517	404	FT	RAILING (THRIE BEAM RETROFIT)
690	1	LUMP	SPECIAL - BALLAST PROTECTION
847	852	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2.25 INCH THICK)
847	145	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (1.25 INCH THICK)
847	6	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
847	1	LUMP	TEST SLAB
847	255	SY	HAND CHIPPING

- NOTES:
- MILLING SHALL BE USED TO REMOVE 1.25" CONCRETE FROM EXISTING DECK SURFACE.
 - PLACE CONCRETE OVERLAY A THICKNESS OF 2.25" ON DECK SURFACE.
 - MILLING SHALL BE USED TO REMOVE 0.25" CONCRETE FROM EXISTING FORWARD AND REAR APPROACH SLAB SURFACES.
 - PLACE CONCRETE OVERLAY A THICKNESS OF 1.25" ON FORWARD AND REAR APPROACH SLAB SURFACES.
 - 1.0" THICK STEEL BARS SHALL BE WELDED ONTO THE EXISTING EXPANSION JOINT STEELS AS SHOWN IN THE EXPANSION JOINT DETAIL.
 - SEAL JOINTS BETWEEN BACKWALL AND DECK WITH RUBBERIZED CRACK SEALER USING ITEM 516 - JOINT SEALER.
 - PROVIDE PROTECTION OF RAILWAYS TRACK BALLAST PER "NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS", SECTION 5.B "BALLAST PROTECTION".
 - A MINIMUM VERTICAL CLEARANCE OF 22'-0" ABOVE TOP OF THE HIGHEST RAIL AND A MINIMUM HORIZONTAL CLEARANCE OF 13'-0" FROM THE CENTERLINE OF TRACK SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL HORIZONTAL CLEARANCES MAY BE REQUIRED IN SPECIAL CASES TO BE SAFE FOR OPERATING CONDITIONS. THE ADDITIONAL CLEARANCE WILL BE DETERMINED BY THE RAILROAD ENGINEER.
 - SALVAGE 100' OF EXISTING BRIDGE RAILING FOR ODOT USE.

EXISTING STRUCTURE

SCOPE OF WORK:

- MILL EXISTING DECK AND FORWARD AND REAR APPROACH SLABS.
- OVERLAY DECK AND FORWARD AND REAR APPROACH SLABS.
- PATCH CONCRETE CURB.
- RAISE EXISTING FORWARD AND REAR EXPANSION JOINT STEEL 1.0".
- REPAIR TOP OF FORWARD AND REAR BACKWALL.
- REPLACE BRIDGE RAILING AND BRIDGE TERMINAL ASSEMBLIES.

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 57.5', 82', 57.5'

ROADWAY: 38'-0" F/F SAFETY CURB

LOADING: CF400 (57)

SKEW: 14°-03'-50" RF

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-67 (25' LONG)

ALIGNMENT: TANGENT

CROWN: 0.016

STRUCTURAL FILE NUMBER: 4705491

DATE BUILT: 7/1/1970

LATITUDE/ LONGITUDE: N 41°-22'-43" W 82°-09'-16"

ALL QUANTITIES CARRIED TO THE STRUCTURE GENERAL SUMMARY.

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CALCULATED: JWS
 CHECKED: KRB
 LOR-113-10.61 (R) STRUCTURE DETAIL
 OVER NORFOLK SOUTHERN RAILROAD
 LOR-113-(0.00)(7.49)
 PID: 100771
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 34

NOTES

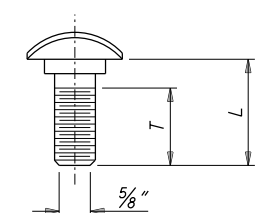
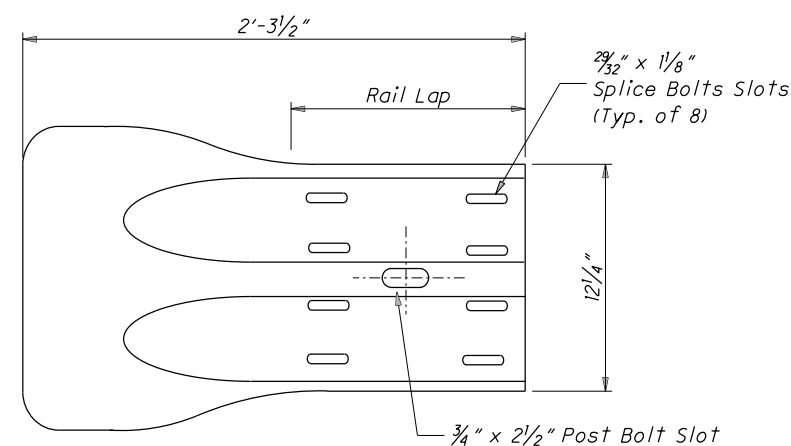
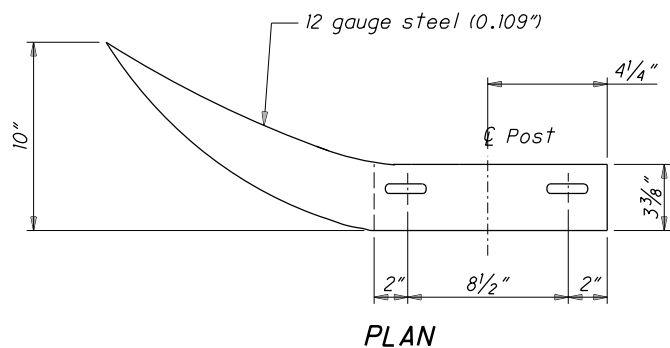
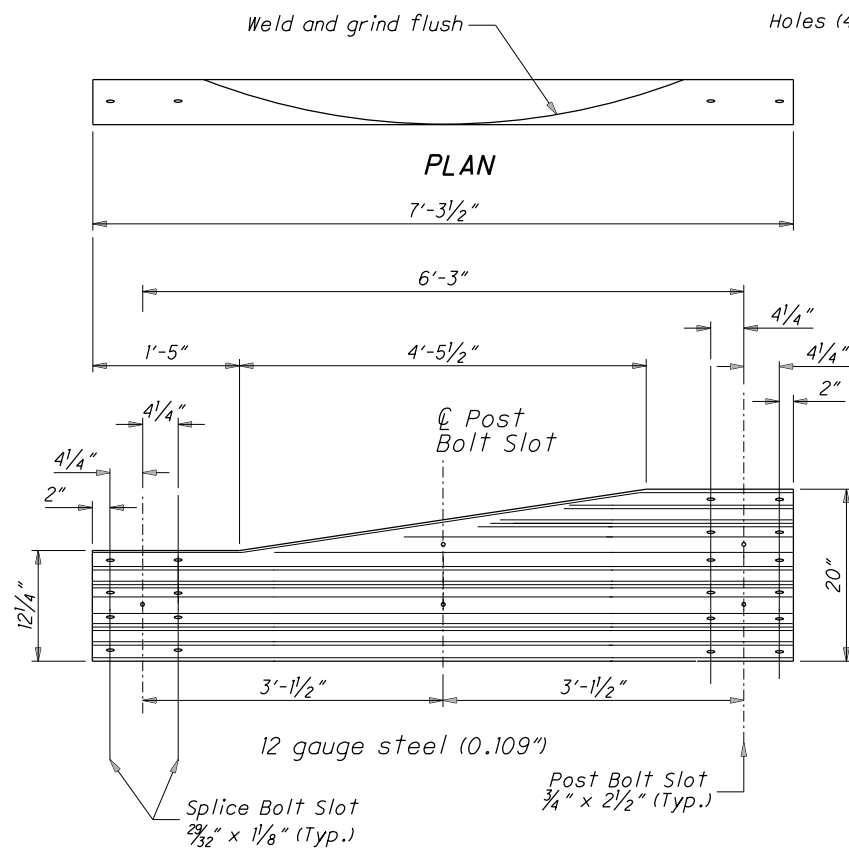
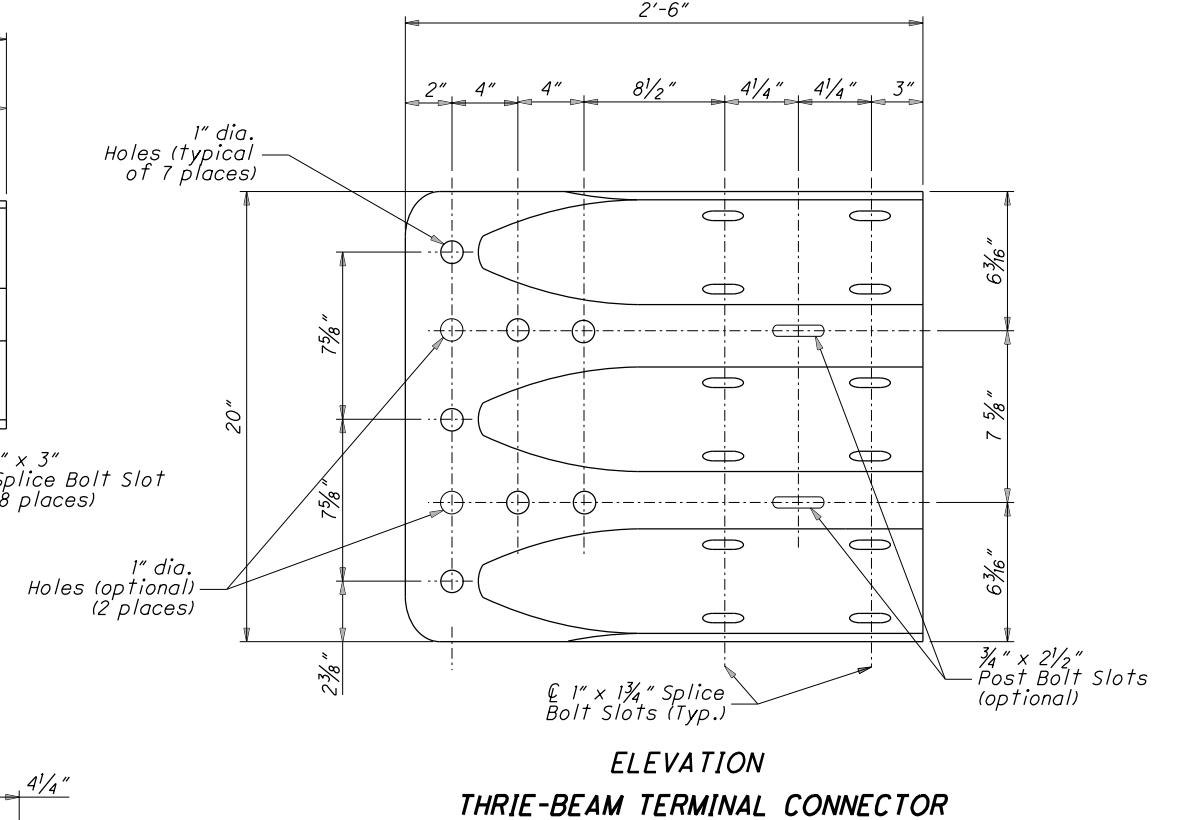
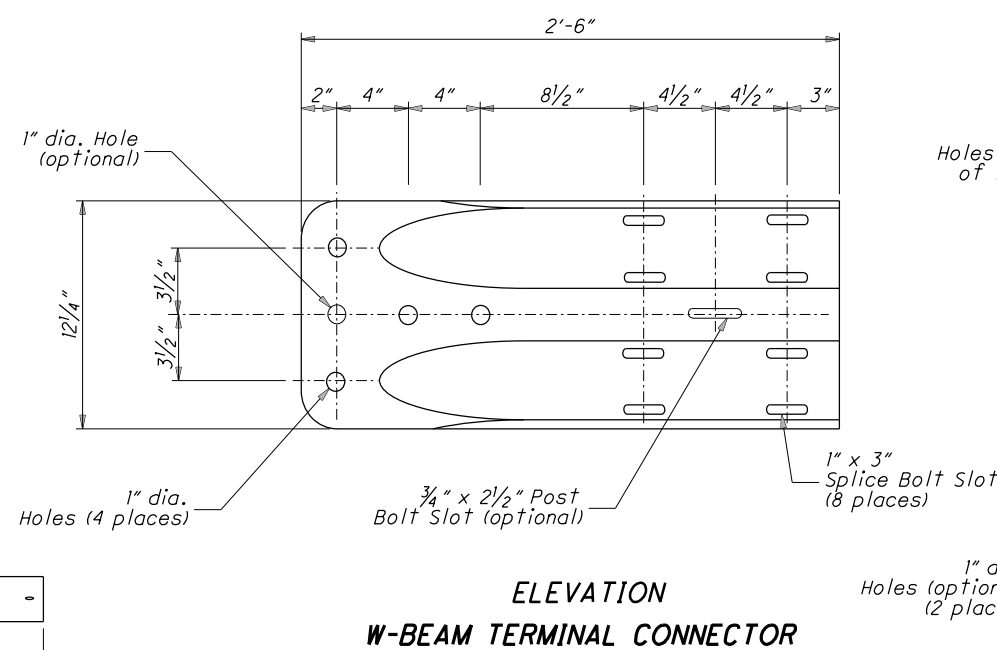
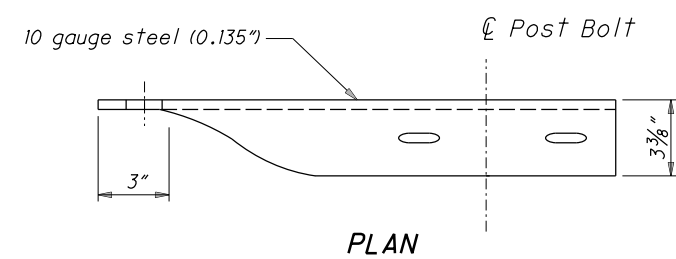
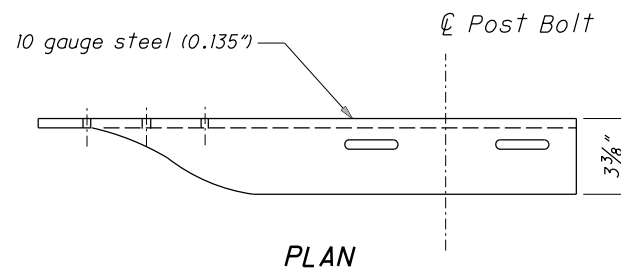
GENERAL: Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See CMS 606 for guardrail specifications not covered on these drawings.

Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

RAIL ELEMENTS: W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with $\frac{3}{4}$ " x $2\frac{1}{2}$ " post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

RAIL SPLICES: Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.



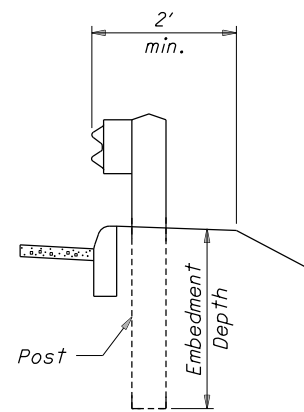
GUARDRAIL BOLT (For Post and Splice Bolts)		
L	T min.	Bolt Use
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1 1/4"	1 1/8"	Splice Bolt

WP = Wood Post WB = Wood Blockout
 SP = Steel Post PB = Plastic Blockout

Longer Bolt may be needed for round Wood Post larger than 8" dia.

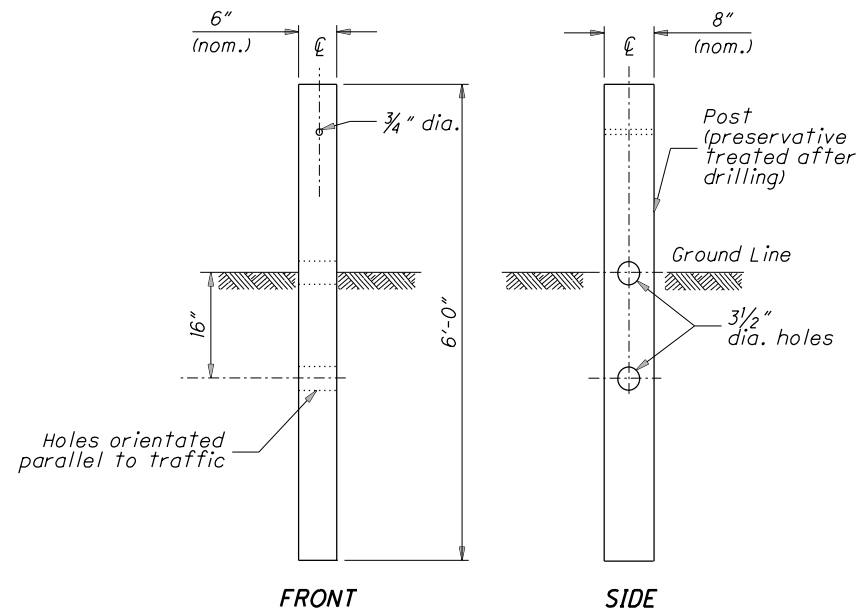
For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.

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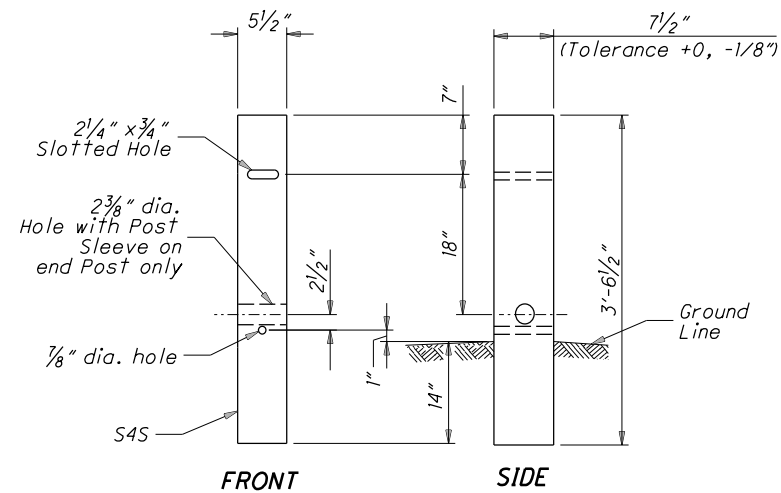


DETAIL A

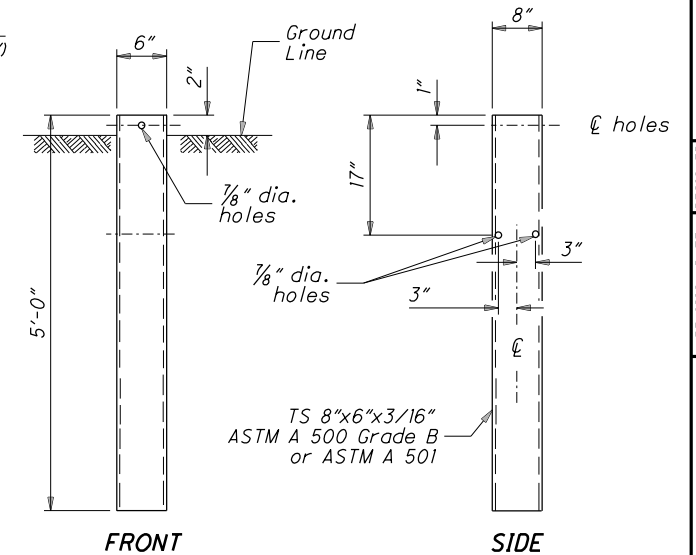
See POST EMBEDMENT DEPTH Note



TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE

NOTES

GUARDRAIL HEIGHT: For initial installation, construct the guardrail within $\pm 1"$ of the standard height, h , or **29"** to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)

When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within $\pm 2.5"$ of the standard height.

POST EMBEDMENT DEPTH: Standard embedment is 3'-5" min. Where less than 2' of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5'-5" embedment depth is provided. Payment for the longer posts will be made at the unit price bid for **ITEM 606 - GUARDRAIL POST, 9', Each.**

SPECIAL POST MOUNTINGS: Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on **SCD GR-2.2.**

Install posts located over a footing with a cover of less than 2'-6" with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of **SCD GR-2.2,** may be used as an alternative attachment method.) Where the cover is between 2'-6" and 3'-5", the footing anchor may be omitted and the post encased instead with 4" (min.) of concrete.

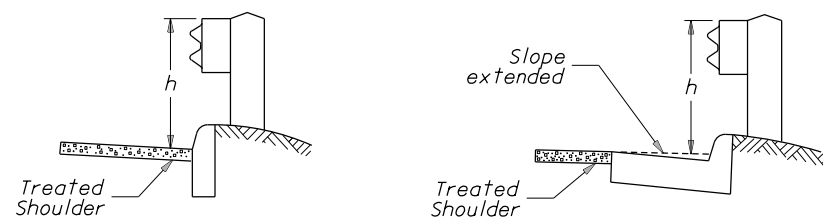
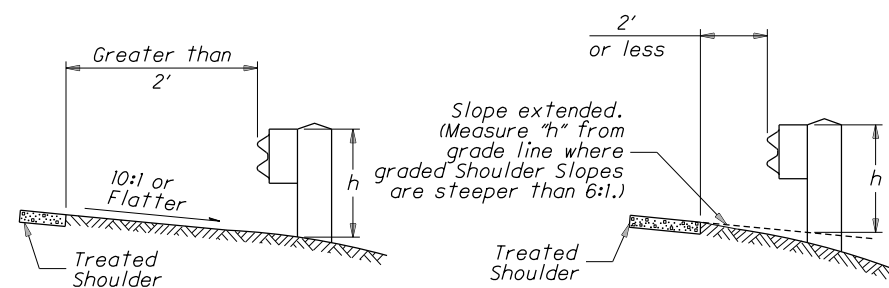
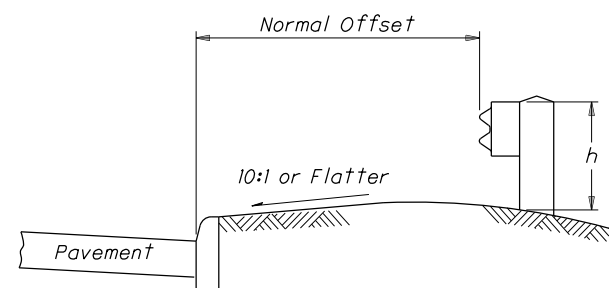
Do not drive posts located over a culvert with less than 4'-3" of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

ANCHORS: Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.

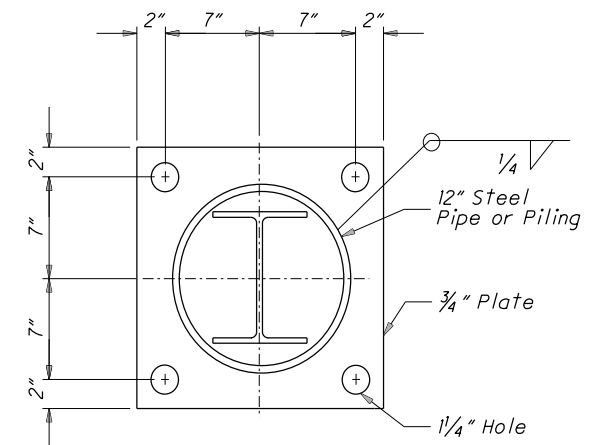
Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)

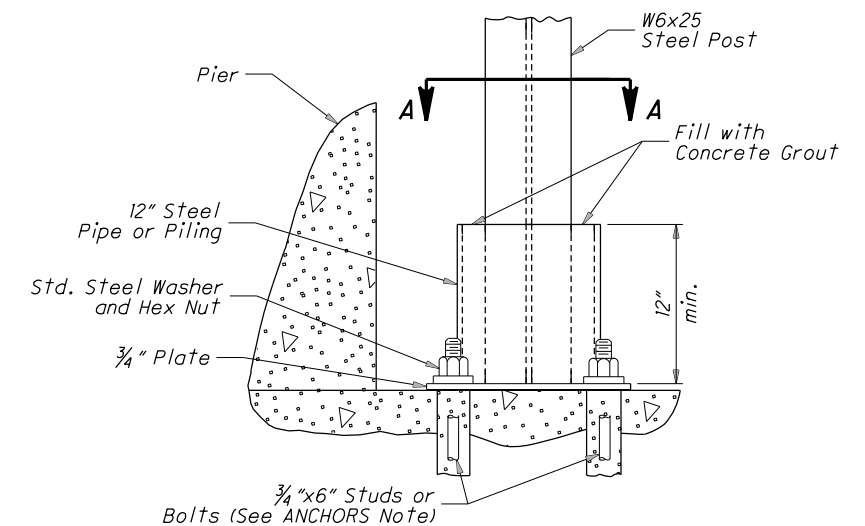


h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT



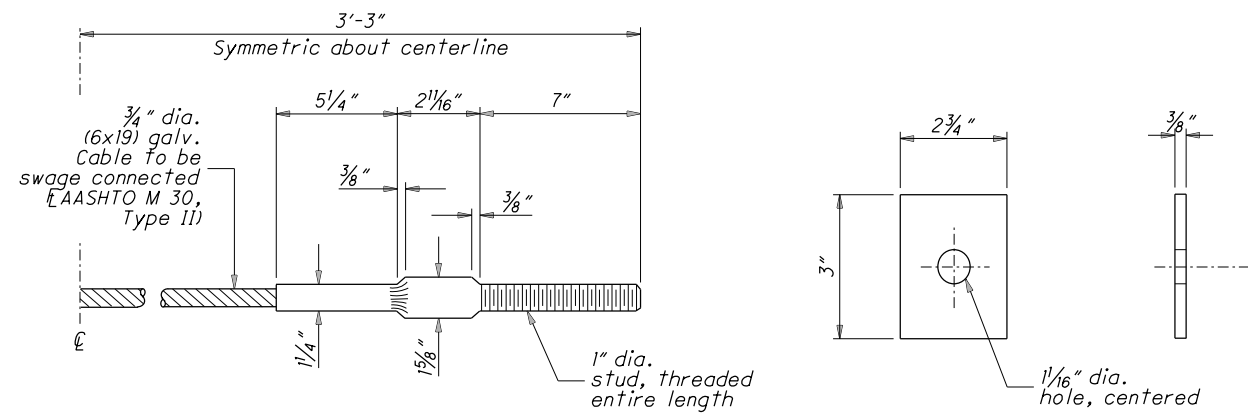
SECTION A-A



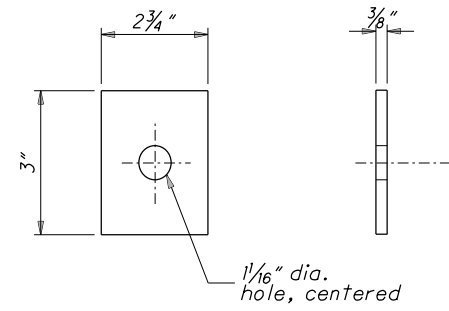
ELEVATION FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

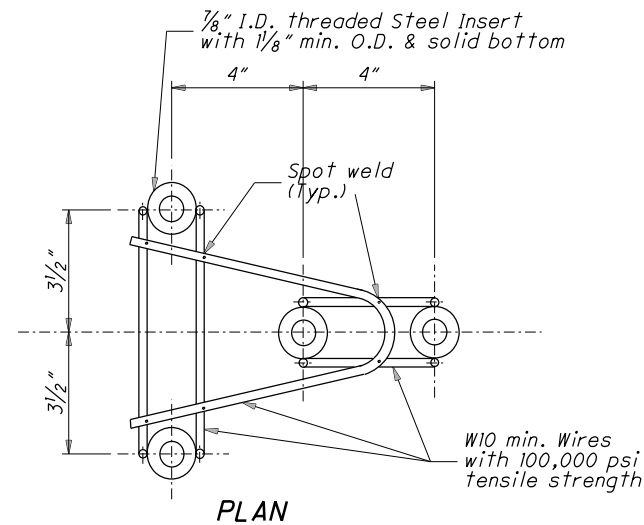
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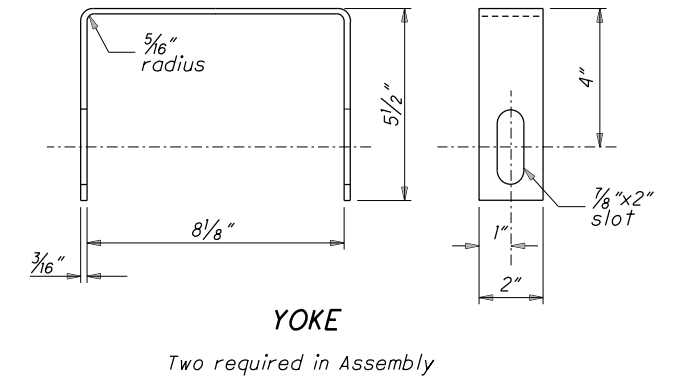
STANDARD SWAGED FITTING AND STUD
CABLE ANCHOR



END PLATE

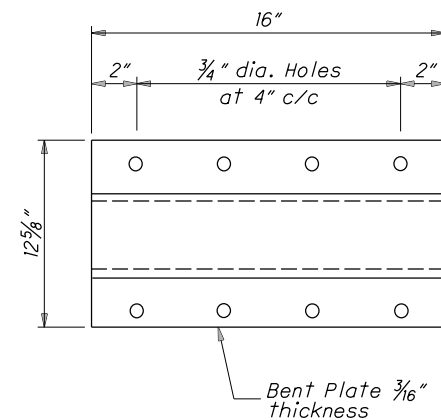


PLAN

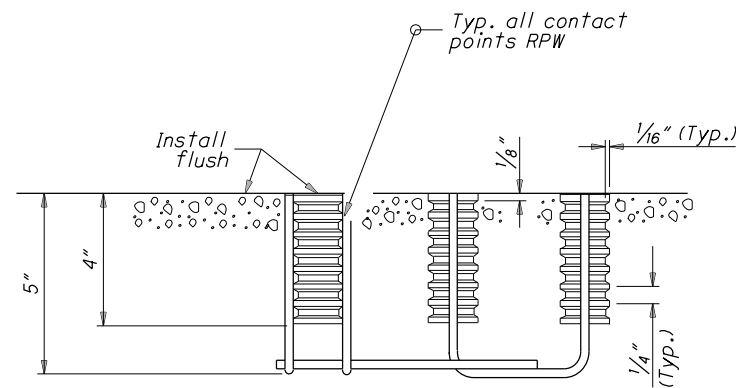
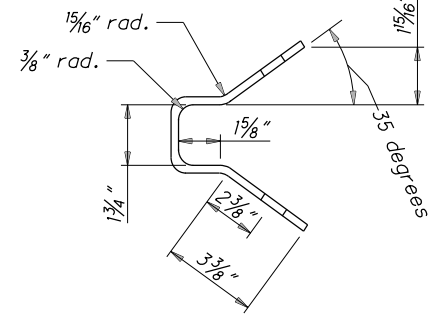


YOKE

Two required in Assembly



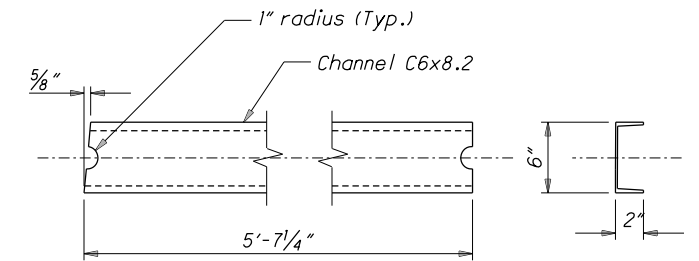
ANCHOR BRACKET



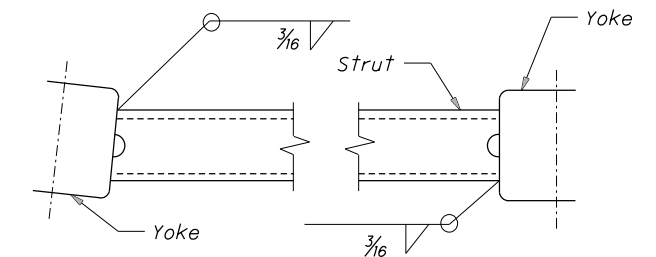
Four 7/8" Bolts required
ELEVATION

CONCRETE INSERT ANCHOR ASSEMBLY
(W-BEAM ONLY)

See ANCHORS and PROTECTIVE
COATINGS Notes on Sheet 2

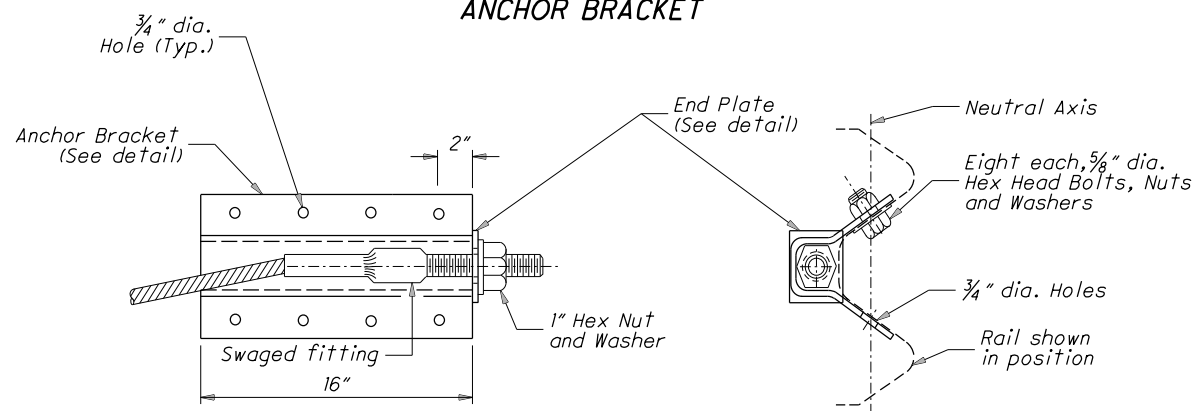


STRUT

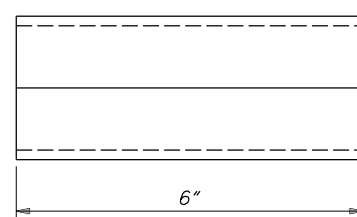


Channel legs shown down. For opposite
hand, install Channel legs up.

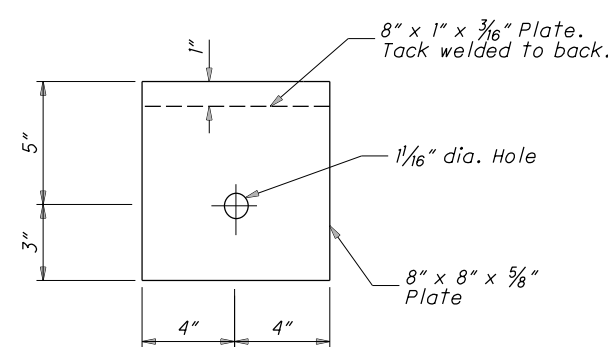
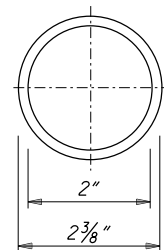
STRUT AND YOKE ASSEMBLY



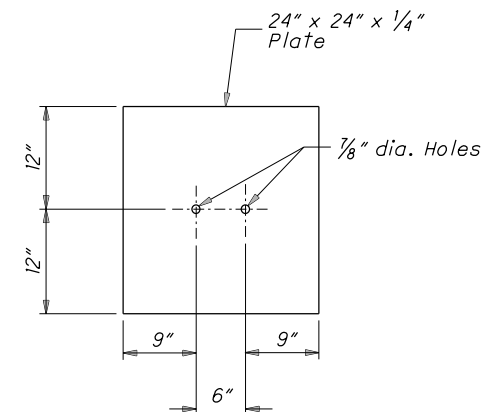
ANCHOR BRACKET ASSEMBLY DETAILS



POST SLEEVE



BEARING PLATE

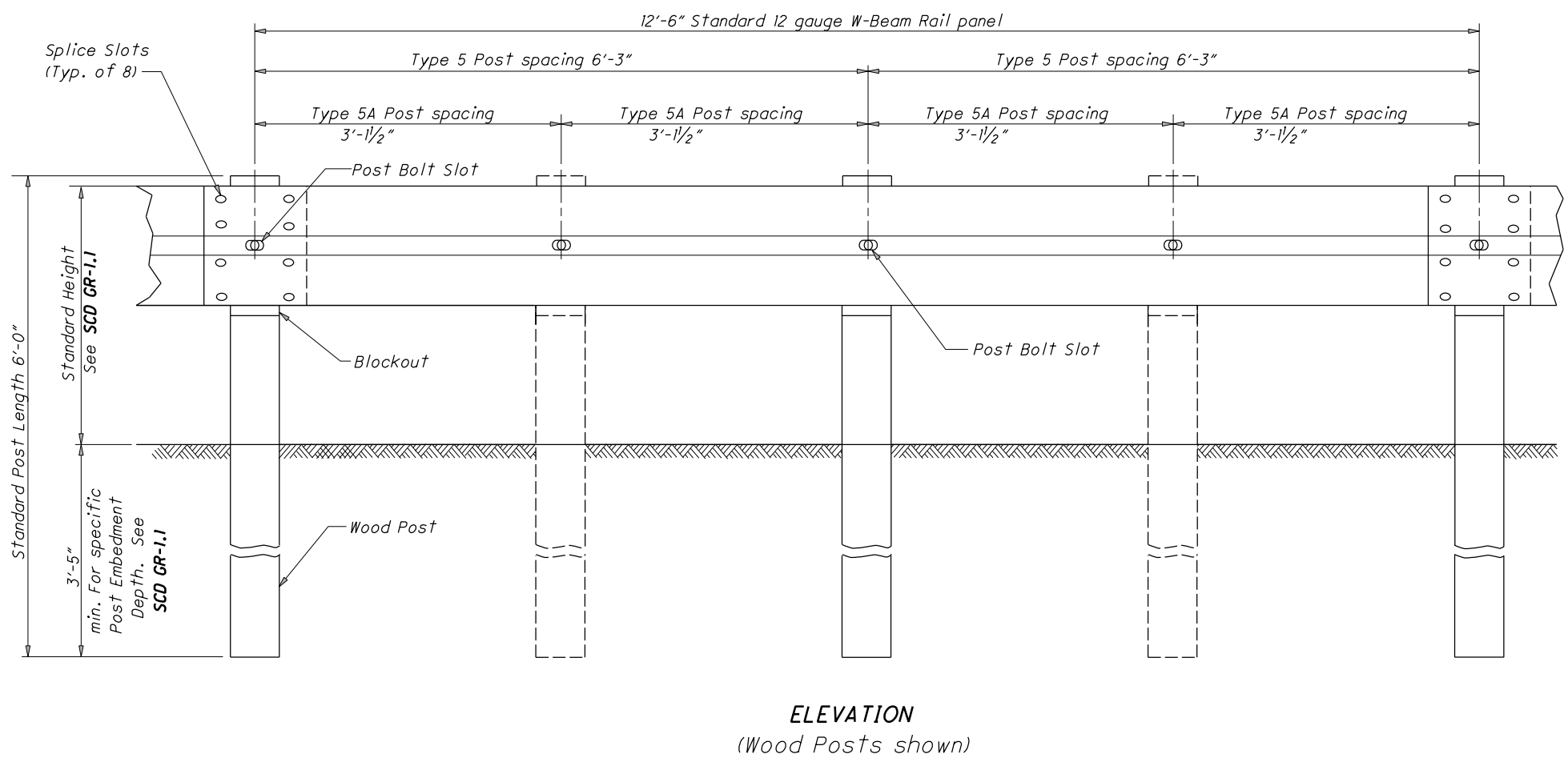
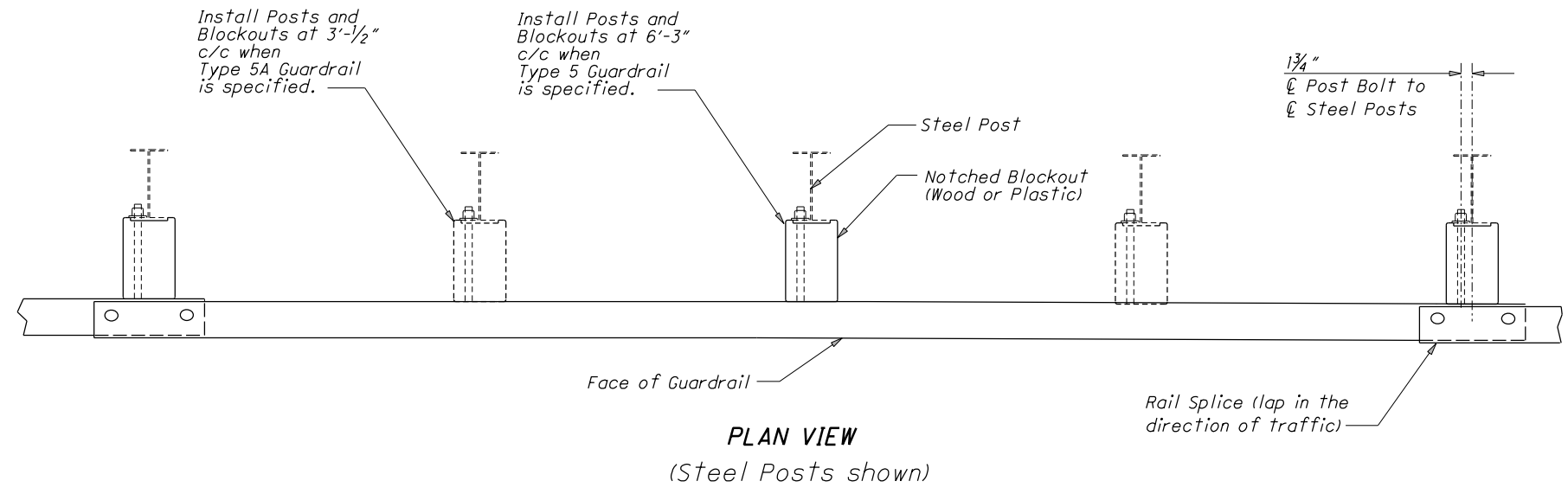


SOIL PLATE

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DESIGNED	XXX
REVISION DATE	1/18/2013
CHECKED	XXX
REVIEWED	XXX
CHECKED	XXX

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NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"±1 in diameter at the top and not more than 3" larger at the butt with a uniform Taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:

- Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
- Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.
- Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the **Office of Materials Management's** Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the **Office of Roadway Engineering**.

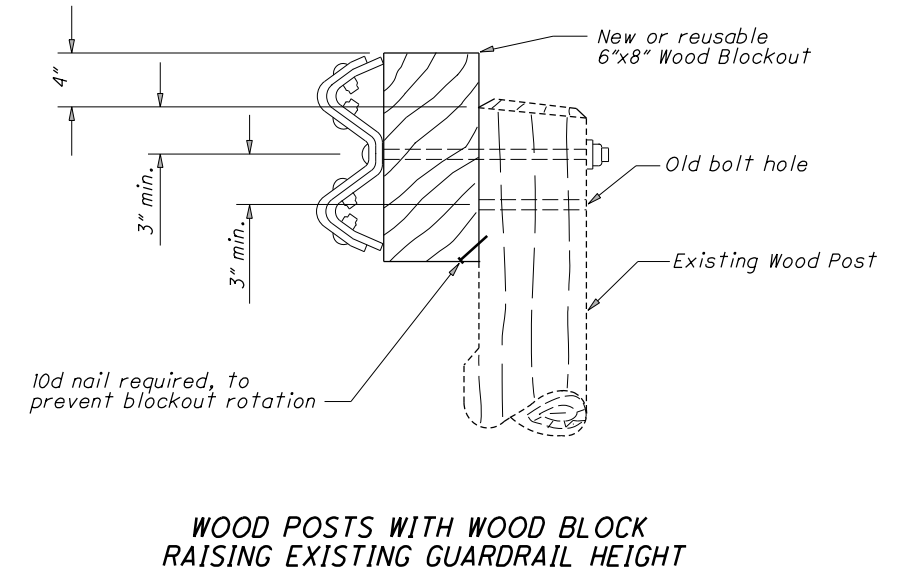
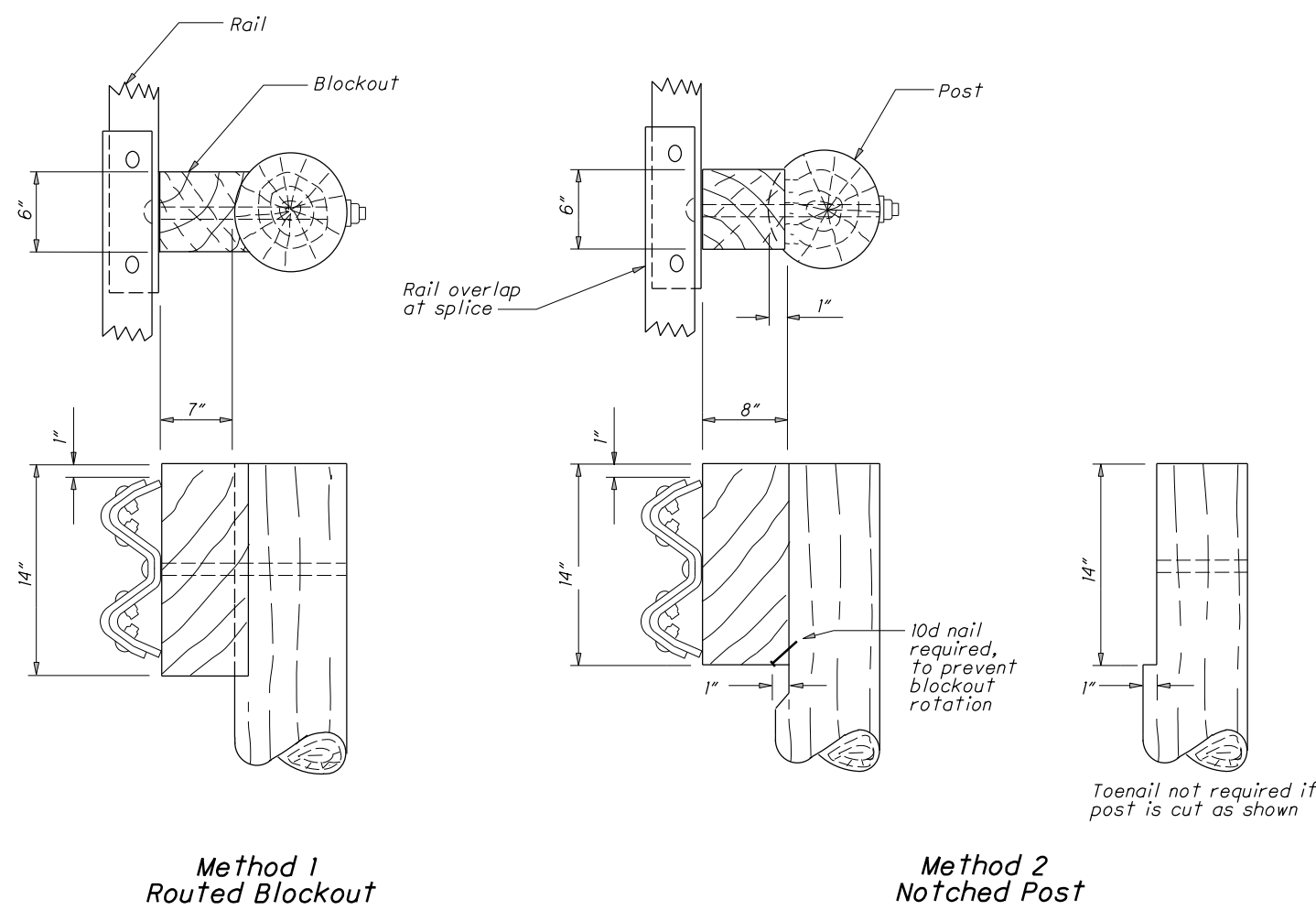
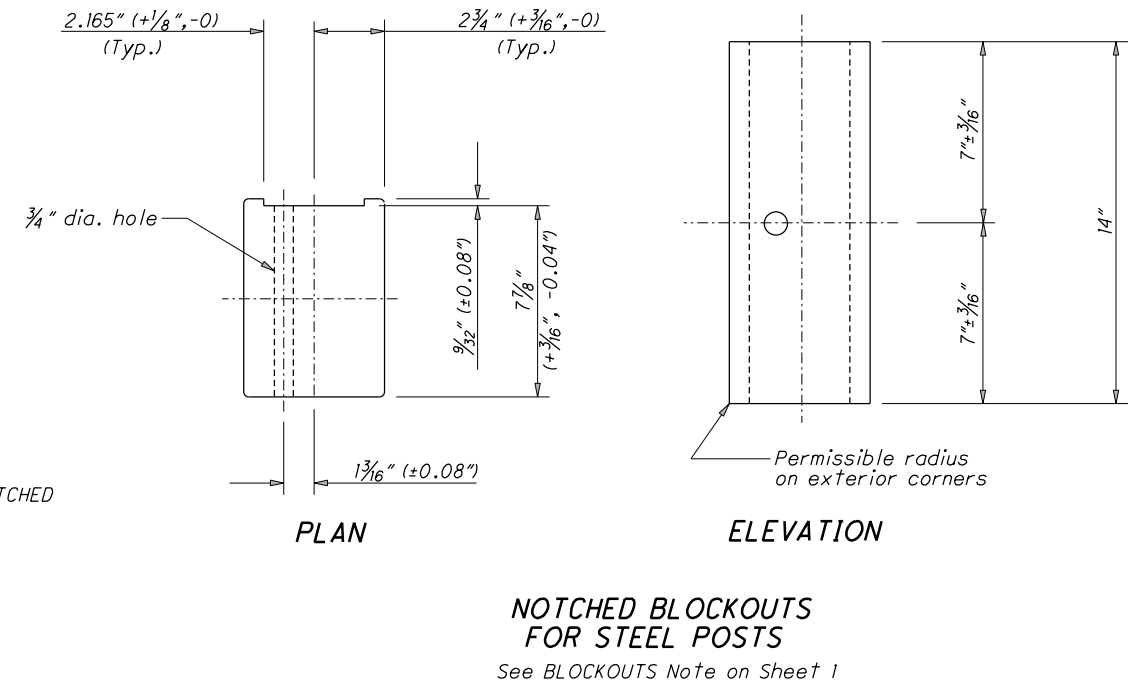
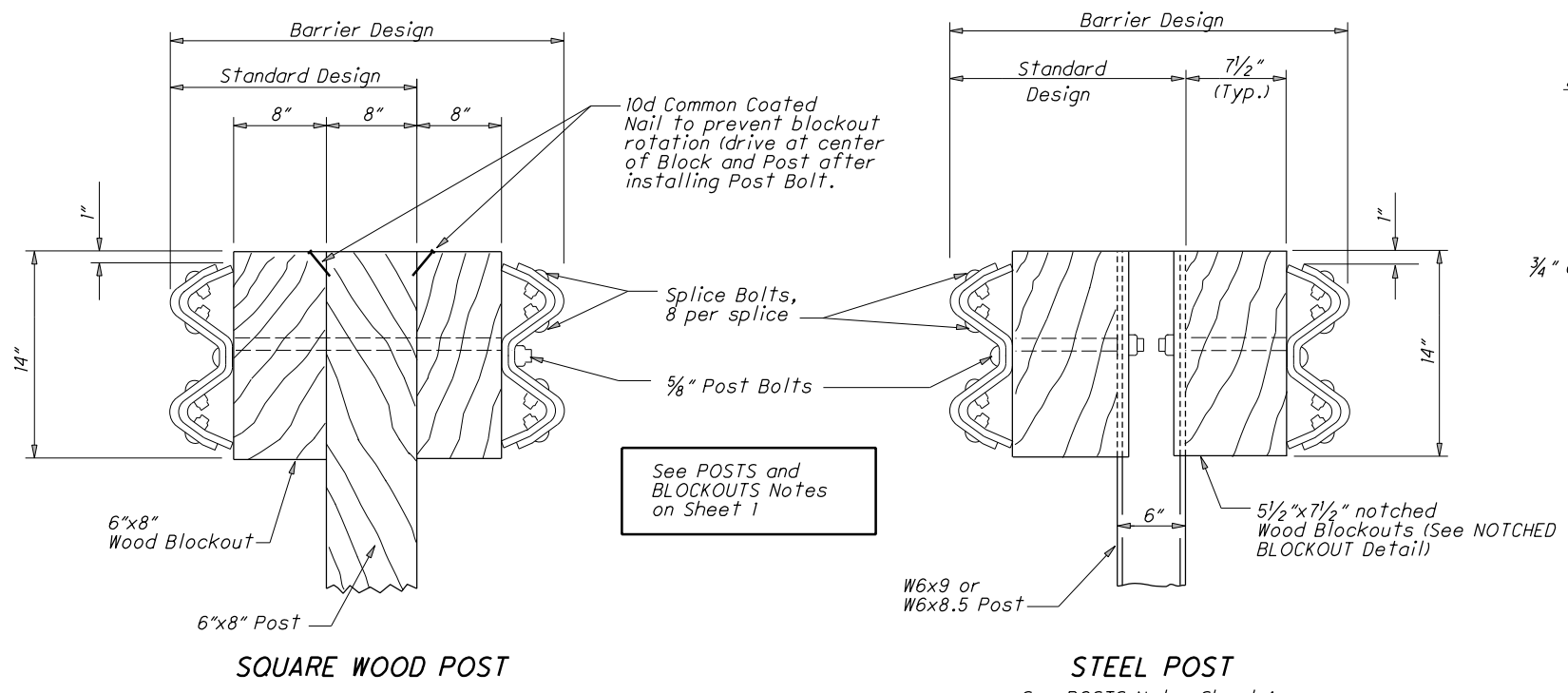
WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

MISCELLANEOUS: For other guardrail details, see SCD GR-1.1.

STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

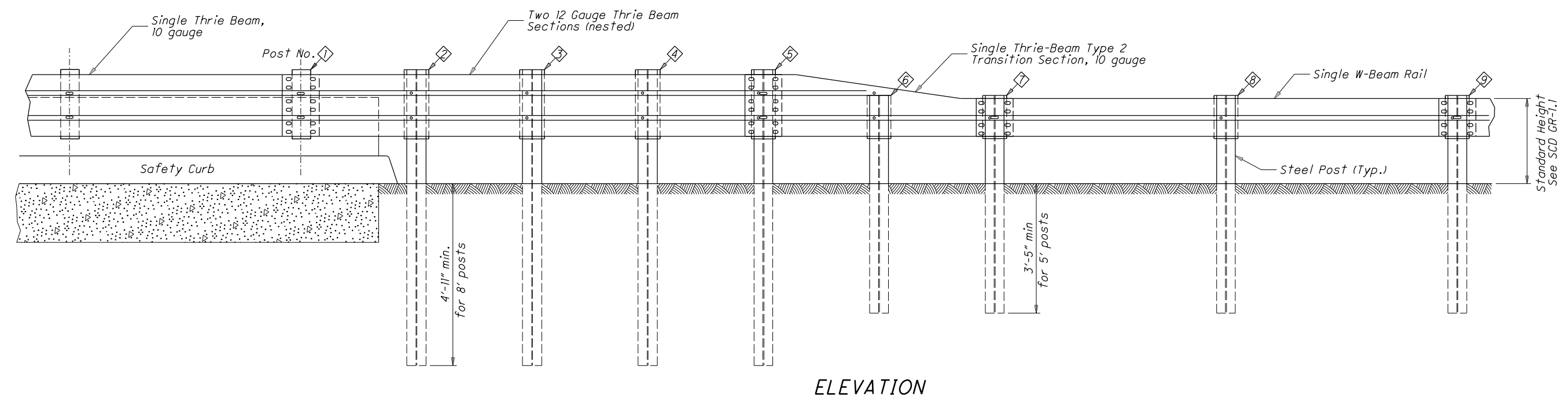
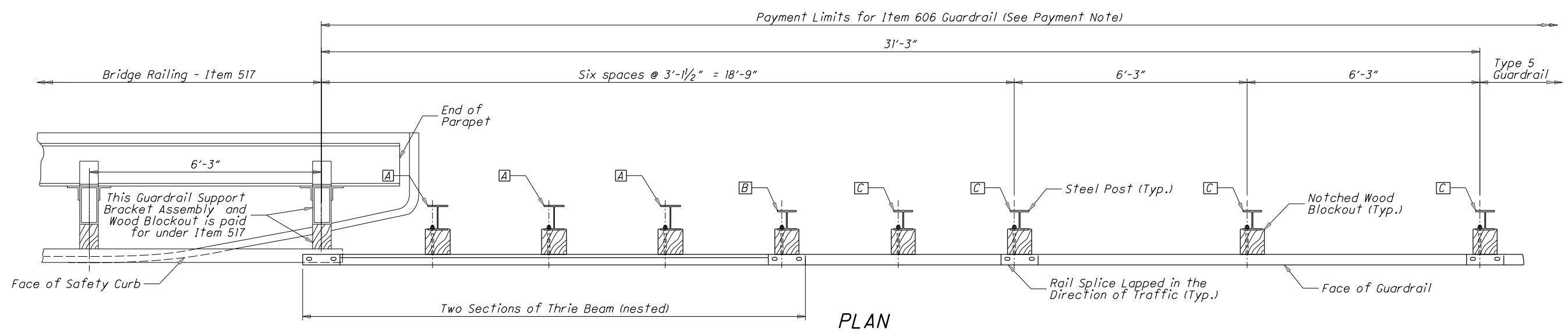
DESIGNED	XXX
REVISION DATE	1/18/2013
CHECKED	XXX
REVIEWED	XXX



Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

ROUND WOOD POSTS
Single Sided runs only (Standard Design)

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NOTES

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

APPLICATION: Use Type 3 Bridge Terminal Assembly to connect guardrail runs for both the approach and trailing ends of Thrie Beam Bridge Railings. The design detailed on this sheet is approved to NCHRP 350 Test Level 3. See **Structural Engineering's SCD TBR-1-II** for the associated Bridge Railing.

THRIE BEAM TRANSITION: The asymmetrical W-Beam to Thrie Beam transition panel shall be 10 gauge.

FLARED GUARDRAIL: Start Standard Guardrail Flares as shown on **SCD GR-5.1** at or beyond Post No. 9; However, where sight constraints exist, the flare may begin at Post No. 7.

POSTS: - Use steel posts only. Wood posts are not permitted in this design. Posts may be set in drilled holes or driven to grade. After placing posts in drilled holes, backfill and tamp disturbed soil. See **SCD GR-1.1** for additional post embedment details.

BLOCKOUTS: Steel posts in this design require the use of notched wood blockouts similar to those shown on **SCD GR-2.1**. The Blockout's notch shall be sized to accept the post's flange. Steel or plastic blockouts are not permitted.

PAYMENT: ITEM 606 - Bridge Terminal Assembly, Type 3, Each, includes the cost of extra components, in excess of normal guardrail, for additional and different types of posts and blockouts, nested Thrie-Beam, transition and connector sections, and other hardware.

LEGEND

- [A] Posts 2, 3, & 4:
W8x24x8'-0" Steel Post with
8"x8"x22 1/2" Notched Wood Blockout
- [B] Post 5:
W6x25x8'-0" Steel Post with
8"x8"x22 1/2" Notched Wood Blockout
- [C] Post 6, 7, 8, & 9:
W6x25x6'-0" Steel Post with
8"x8"x14" Notched Wood Blockout

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