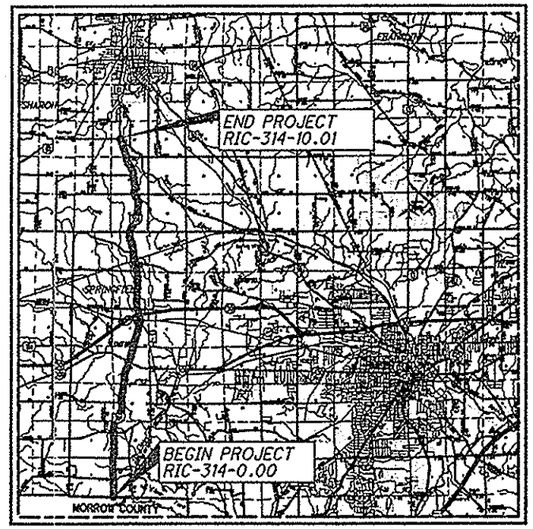


LOCATION MAP

LATITUDE: N 40° 46' 50" LONGITUDE: W 82° 39' 10"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

SEE SHEET 2

DESIGN EXCEPTIONS

NONE

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

RIC-314-0.00

CITY OF ONTARIO

TROY TOWNSHIP
SPRINGFIELD TOWNSHIP
SHARON TOWNSHIP

RICHLAND COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT WILL INCLUDE PAVEMENT REPAIR, RESURFACING WITH ASPHALT CONCRETE, GUARDRAIL WORK, PLACEMENT OF PAVEMENT MARKINGS, A SAFETY EDGE, AND STRUCTURE MAINTENANCE.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: N/A (MAINTENANCE PROJECT)

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

2013 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 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 _____ DISTRICT DEPUTY DIRECTOR
DATE 6-29-15

APPROVED _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION
DATE 8-4-15

ENGINEERS SEAL:

STATE OF OHIO
CRAIG A. DEVORE
E-70370
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: _____
DATE: 6-29-2015

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/18/14	BP-3.1	7/18/14	TC-65.10	1/17/14				
BP-4.1	7/19/13	BP-4.1	7/19/13	TC-65.11	7/18/14				
				TC-71.10	1/17/14				
		MT-95.30	7/18/14	TC-82.10	10/18/13				
		MT-95.31	7/18/14						
		MT-95.32	7/18/14						
		MT-95.50	7/19/13						
		MT-95.60	7/19/13						
		MT-97.10	7/18/14						
		MT-97.12	7/18/14						
		MT-99.20	7/19/13						
		MT-99.30	1/16/15						
		MT-101.60	7/19/13						
		MT-101.70	1/17/14						
		MT-101.80	1/16/15						
		MT-105.10	7/19/13						

SUPPLEMENTAL SPECIFICATIONS

800	07/17/15
832	01/17/14
848	04/18/14

SPECIAL PROVISIONS

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

PLANS PREPARED BY:

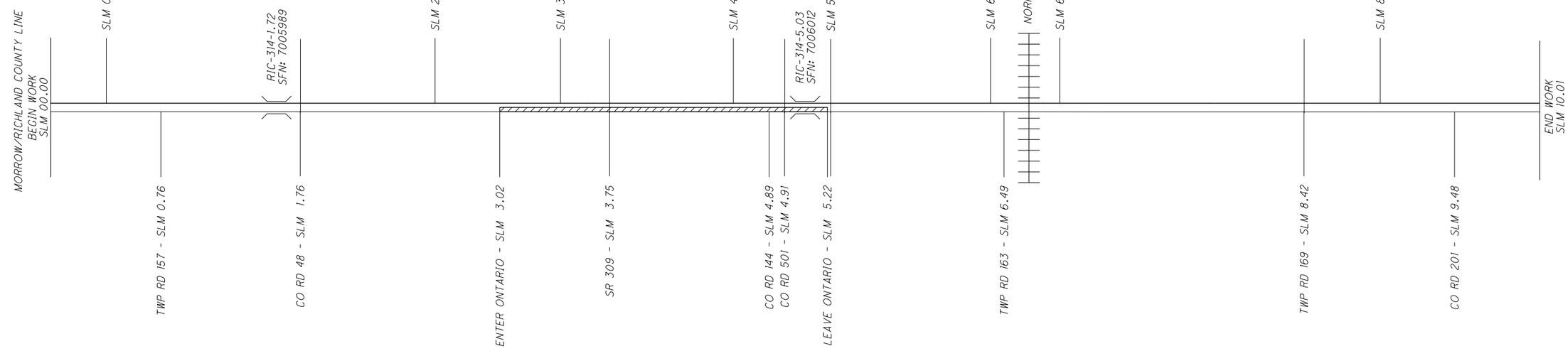
ODOT DISTRICT THREE
PLANNING & ENGINEERING DEPT.

FEDERAL PROJECT NO. E130831
PID NO. 93122
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NORFOLK SOUTHERN
RIC-314-0.00
1/33

DESIGN FILE: I:\projects\93
WORKSTATION: devore
DATE: 07/29/2015
MODELNAME:

RIC - SR 314-00.00
150522 PID - 93122
Dist 3 9/24/2015

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



S.R. 314

- CORPORATION LIMIT

DESIGN DESIGNATION	RIC- 314- 0.00-3.75	RIC- 314- 3.75-5.03	RIC- 314- 5.03-10.01
CURRENT YEAR ADT (2016)	3400	2600	2300
DESIGN YEAR ADT (2028)	3900	3000	2400
DESIGN HOURLY VOLUME (2028)	390	300	240
DIRECTIONAL DISTRIBUTION	0.7	0.7	0.53
TRUCKS (24 HOUR B&C)	0.08	0.07	0.13
Td	0.05	0.04	0.1
NHS PROJECT	NO	NO	NO
DESIGN FUNCTIONAL CLASSIFICATION	RURAL MAJOR COLLECTOR	RURAL MAJOR COLLECTOR	RURAL MAJOR COLLECTOR

SPEED LIMITS

ROUTE	SLM	MPH
RIC 314	0.00-1.77	55
RIC 314	1.77-5.24	50
RIC 314	5.24-10.01	55

CALCULATED MAE
CHECKED CAD

STRAIGHT LINE DIAGRAM & DESIGN DESIGNATION

RIC-314-0.00

DESIGN FILE:i:\projects\93122\roadway\sheets\93122GB001.dgn MODELNAME:Design
WORKSTATION:cdevore DATE:6/30/2015

GENERAL

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
TIME WARNER CABLE
DAVE ROUSH
1575 LEXINGTON AVENUE
MANSFIELD, OHIO 44901
419-756-6091 EXT. 419-555-5136

ELECTRIC
OHIO EDISON COMPANY
RICH HAAS
1717 ASHLAND ROAD
MANSFIELD, OHIO 44905
419-521-6275

ELECTRIC
AMERICAN ELECTRIC POWER
PAM MASON
2622 SOUTH S.R. 100
TIFFIN, OHIO 44883
419-443-4626

CITY
CITY OF SHELBY
23 WEST MAIN STREET
SHELBY, OHIO 44875
419-347-5131

TELEPHONE
FRONTIER COMMUNICATIONS
JIM SAUBER
1534 S.R. 511 SOUTH
ASHLAND, OHIO 44805
419-282-6551

TELEPHONE
CENTURYLINK
TIM BOWSER
175 ASHLAND ROAD, P.O. BOX 3555
MANSFIELD, OHIO 44907
419-755-7956

CITY
CITY OF MANSFIELD
30 NORTH DIAMOND STREET
MANSFIELD, OHIO 44902
419-755-9626

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.

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.

PROGRESSION OF WORK

GUARDRAIL SHALL BE REMOVED PRIOR TO ANY EMBANKMENT WORK AT THE GUARDRAIL RUN. GUARDRAIL WORK SHALL BE DONE AFTER RESURFACING AND BERM WORK SO AS TO ESTABLISH PROPER GRADES FROM WHICH TO CONSTRUCT THE RAIL.

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.

ROADWAY

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.

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 ADVENT-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.advantageedgepaving.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 (200 TO 300 MM) AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE

ALL WORK RELATED TO ADJUSTING MONUMENT BOXES TO GRADE WILL BE IN ACCORDANCE TO SECTIONS 623.04 AND 623.05 OF THE 2013 ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE MONUMENT BOX TO BE ADJUSTED 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 LOCATION OF KNOWN MONUMENTS (01/STR/PV):

SLM 0.41
SLM 3.51
SLM 3.58
SLM 3.61
SLM 5.02
SLM 5.09
SLM 5.13 (BURIED)
SLM 5.62 (BURIED)
SLM 5.76 (BURIED)
SLM 5.79 (BURIED)
SLM 6.02 (BURIED)
SLM 6.07 (BURIED)
SLM 9.93
SLM 9.96
SLM 9.98

TOTAL = 15 EACH

PAVING AT RAILROAD CROSSINGS

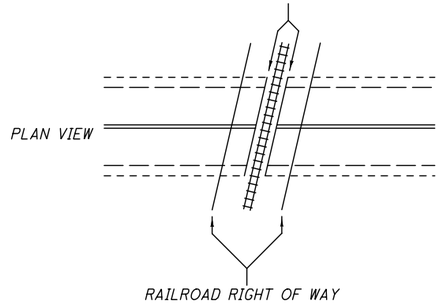
PRIOR TO ANY WORK AT RAILROAD CROSSINGS THE CONTRACTOR SHALL CONTACT THE AFFECTED RAILROAD AUTHORITY SO AS TO MAKE THEM AWARE OF THE PROGRESS AND SCHEDULE OF WORK. THE CONTRACTOR SHALL COOPERATE WITH THE RAILROAD SO AS TO ELIMINATE ANY SAFETY CONCERNS. FLAGGING WILL BE REQUIRED BY THE RAILROAD. ODOT WILL BE RESPONSIBLE FOR PAYING THE RAILROAD FOR ALL FLAGGING COSTS. REFER TO THE RAILROAD SPECIAL CLAUSES IN THE PROPOSAL.

THE CROWN SHALL BE WORKED OUT OF THE RESURFACED PAVEMENT ON EACH SIDE OF THE RAILROAD CROSSING, BEGINNING 50 FEET FROM THE NEAREST RAIL, BY RAISING THE EDGES OF THE RESURFACED PAVEMENT TO MEET THE PLATFORM ELEVATION.

SUSPEND AND RESUME RESURFACING AT THE EDGE OF THE EXISTING CROSSING SURFACE ON BOTH SIDES OF THE TRACK.

DETAIL - PAVING AT RAILROAD CROSSING

BUTT JOINT/BEGIN AND END RESURFACING



NOTE:
1.) DO NOT DISTURB RAILROAD GATES

2.) RE-INSTALL PAVEMENT MARKINGS

3.) RAILROAD MAY DIRECT ENGINEER ON THE LOCATION OF BUTT JOINTS. OTHERWISE OMIT AND RESUME RESURFACING AT AT THE EDGE OF THE EXISTING CROSSING SURFACE ON BOTH SIDES OF THE TRACK.

CALCULATED MAE
CHECKED CAD

GENERAL NOTES

RIC-314-0.00

3
33

DESIGN FILE: ii:\projects\93122\roadway\sheets\93122GN001.dgn MODEL NAME: Default
WORKSTATION: cdevore DATE: 6/30/2015

DRAINAGE

ITEM 611 - CASTINGS ADJUSTED TO GRADE

THE CASTING TO BE ADJUSTED 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 CASTINGS WITHOUT FRAMES.

CATCHBASIN ADJUSTED TO GRADE:
(01/STR/PV)
RIC-314 1 EACH

APPROXIMATE LOCATIONS OF KNOWN CASTINGS

RIC-314: 0.00-10.01

CATCHBASIN:
RIC-314-5.23

VALVE:
RIC-314-5.23

PAVEMENT

PAVEMENT CORING INFORMATION

COUNTY	ROUTE	SLM	ASPHALT	CONCRETE	BRICK	LOCATION	DIRECTION	YEAR
RIC	314	0	9	0	0	Inside	NB	2003
RIC	314	0	6	0	0	Outside	NB	2003
RIC	314	1	11	0	0	Inside	NB	2003
RIC	314	2	12	0	0	Outside	NB	2003
RIC	314	3	10	0	0	Inside	NB	2003
RIC	314	4	14	0	0	Outside	NB	2003
RIC	314	5	8.5	0	0	Inside	NB	2003
RIC	314	6	8.5	0	0	Outside	NB	2003
RIC	314	7	8.5	0	0	Inside	NB	2003
RIC	314	8	9	0	0	Outside	NB	2003
RIC	314	9	9	0	0	Inside	NB	2003
RIC	314	9.8	12	0	0	N/A	NB	2003

PROFILE AND ALIGNMENT

PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

INTERSECTIONS AND DRIVES

RURAL-INTERSECTIONS SHALL BE PLANED 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).

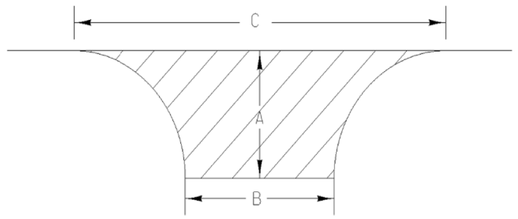
URBAN-INTERSECTIONS (INCLUDED ALLEYWAYS) SHALL BE PLANED AND PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

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.

S.R. 314 INTERSECTION AREA CALCULATIONS



Intersection Name	A (ft.)	B (ft.)	C (ft.)	Area (sy)
TWP RD 46 (LT)	36	26	71	164
TWP RD 157 (RT)	59	23	115	352
CO RD 48 (LT)	31	25	64	131
CO RD 48 (RT)	25	25	66	107
TWP RD 158 (LT)	49	21	91	241
TOMMY LANE (LT)	29	17	60	101
SR 309 (LT)	63	32	110	406
	SUSPEND & RESUME AT EXISTING JOINT			
SR 309 (RT)	40	30	89	221
KINGS POINTE (LT)	24	20	61	90
CO RD 144 (RT)	25	26	51	95
CO RD 501 (LT)	40	54	128	350
	SUSPEND & RESUME AT EXISTING JOINT			
CO RD 501 (RT)	57	54	130	502
TWP RD 165 (LT)	38	19	69	151
TWP RD 165 (RT)	40	19	63	150
CO RD 51 (LT)	40	22	68	166
TWP RD 163 (RT)	28	25	59	113
CO RD 52 (LT)	24	24	66	101
TWP RD 169 (LT)	33	26	76	156
TWP RD 169 (RT)	36	26	83	180
CO RD 170 (LT)	34	23	72	149
CO RD 201 (RT)	42	25	92	221
Total Intersection Areas				**4147**

PAVEMENT

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 PLAN SHEET 4.

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 12", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 4" AND AN AVERAGE WIDTH OF 4 FT FOR ESTIMATING PURPOSES.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 2 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE, PG64-22 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 448 TYPE 2 OR ITEM 442 19MM CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 5" WITH A MAXIMUM PAVEMENT LIFT OF 3". THE CONTRACTOR HAS THE OPTION OF USING EITHER ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL WHEN THE PAVEMENT REPAIR IS BETWEEN 3" AND 5" DEEP. ITEM 448 TYPE 2 OR ITEM 442 19MM MATERIAL SHALL BE PG64-22 FOR MEDIUM MIX DESIGN PAVEMENTS AND PG64-28 FOR HEAVY MIX DESIGN PAVEMENTS.

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:

SR 314 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (01/STR/PV) 965 CU YD
0.00-1.76 182 CU YD
5.22-6.00 100 CU YD
6.00-7.00 134 CU YD
7.00-8.00 251 CU YD
8.00-9.00 210 CU YD
9.00-9.49 88 CU YD

SR 314 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (03/S<2/PV/ONT) 185 CU YD
3.02-4.00 NB 96 CU YD
4.00-5.22 NB 89 CU YD

SR 314 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (04/S<2/PV) 350 CU YD
1.76-2.00 39 CU YD
2.00-3.02 103 CU YD
3.02-4.00 SB 27 CU YD
4.00-5.22 SB 39 CU YD
9.49-10.01 142 CU YD

TOTAL = 1500 CY

CALCULATED MAE
CHECKED CAD

GENERAL NOTES

RIC-314-0.00

DESIGN FILE:i:\projects\93122\roadway\sheets\93122GN001.dgn MODELNAME: Default
WORKSTATION:tdevore DATE:6/30/2015

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (NON-CURBED SECTION)

THE INTENT OF THE PLANING IS TO MILL THE SPECIFIED DEPTH 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.

ON THE STRUCTURES REQUIRING PAVEMENT PLANING OVER THE STRUCTURE, THE CONTRACTOR SHALL PLANE DECK FULL WIDTH FROM EDGE TO EDGE OF DECK.

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 $1000 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 - 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 3 IN.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN (1.5")

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.

ON THE STRUCTURES REQUIRING THE PLACEMENT OF ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (446), AS PER PLAN OVER THE STRUCTURE, THE CONTRACTOR SHALL PAVE DECK FULL WIDTH FROM EDGE TO EDGE OF DECK.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD OF ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (446), AS PER PLAN.

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 CITY OF ONTARIO

WITHIN THE CITY OF ONTARIO (APP. SLM 3.02 TO 5.22), 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 CITY OF ONTARIO RIC-314-3.02 TO 5.22

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.

TABLE 446.05-1 FOR LOTS WITH 3 COLD JOINT CORES

Mean of Cores [1]	Pay Factor	
	Surface Course	Intermediate Course
98.0% or greater	[2]	[2]
97.0 to 97.9%	0.94	[2]
96.0 to 96.9%	1	0.94
93.4 to 95.9%	1.04 [4]	1
92.4 to 93.3%	1.02 [4]	1
91.4 to 92.3%	1	1
90.4 to 91.3%	0.9	0.94
89.4 to 90.3%	0.8	0.88
88.4 to 89.3%	[3]	[3]
Less than 88.4%	[2]	[2]

[1] Mean of cores as percent of average MSG for the production day.

[2] For surface courses, remove and replace. For other courses, the District will determine whether the material may remain in place. If the District determines the course should be removed and replaced, the Contractor will remove and replace this course and all courses paved on this course. The pay factor for material allowed to remain in place is 0.60.

[3] The District will determine whether the material may remain in place. If the District determines the course should be removed and replaced, the Contractor will remove and replace this course and all courses paved on this course. The pay factor for such material allowed to remain in place is 0.70.

[4] No incentive will be paid if any single cold joint core is less than 90.5%.

WATER WORK

ITEM 638 - VALVE BOX ADJUSTED TO GRADE

THE CASTINGS TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING ADJUSTABLE FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING VALVE 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 LOCATION OF KNOWN VALVE BOXES (SEE SHEET 4)

VALVE BOXES ADJUSTED TO GRADE: (01/STR/PV) 1 EACH

MAINTENANCE OF TRAFFIC

PLACEMENT OF ASPHALT CONCRETE

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

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
(01/STR/PV): 15 CY
(02/S<2/PV): 5 CY
(04/S<2/PV): 5 CY

TOTAL = 25 CY

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE (1) LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES USING FLAGGERS.

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.

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.

S.R. 314 (01/STR/PV)
WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 8 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 14 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 14 EACH

S.R. 314 (02/S<2/PV)
WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 3 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 3 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 3 EACH

S.R. 314 (04/S<2/PV)
WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 1 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 5 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 5 EACH

TOTAL = 56 EACH

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.

CALCULATED MAE CHECKED CAD

GENERAL NOTES

RIC-314-0.00

DESIGN FILE:i:\projects\93122\roadway\sheets\93122GN001.dgn MODEL NAME: Default
WORKSTATION:cdevore DATE:6/30/2015

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 APPROPIATE 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.

CALCULATED MAE
CHECKED CAD

GENERAL NOTES

RIC-314-0.00

DESIGN FILE: i:\projects\93122\roadway\sheets\93122GN001.dgn
WORKSTATION: cdevore DATE: 6/30/2015 MODEL NAME: Default

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 4½ 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.

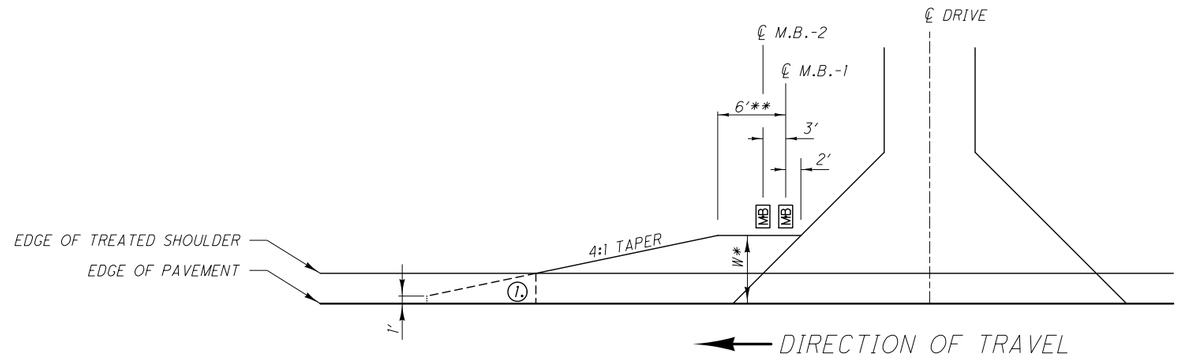
THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH THE LOCAL POST MASTER AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

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.

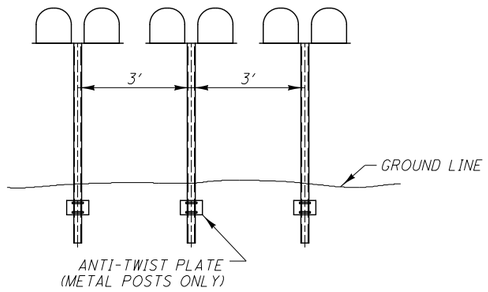
ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE
TOTAL (01/STR/PV) ..... 1 EACH



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

MAILBOX APPROACHES

THE MAILBOX APPROACHES SHALL BE PAVED WITH THE COORESPONDING 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:
S.R. 314 (01/STR/PV) ..... 90 EACH
S.R. 314 (04/S<2/PV) ..... 40 EACH

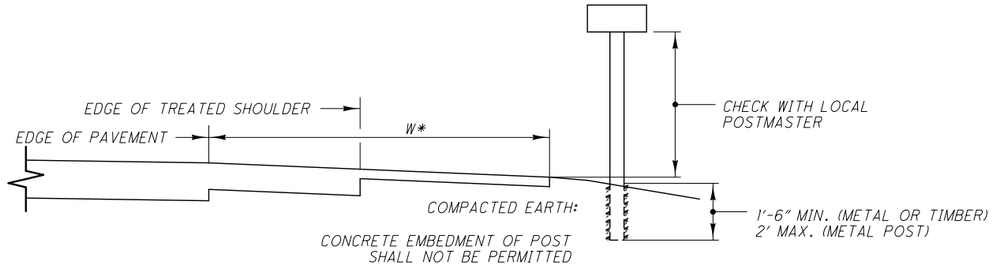
ITEM 617 - COMPACTED AGGREGATE:
S.R. 314 (01/STR/PV) ..... 180 CU YD
S.R. 314 (04/S<2/PV) ..... 80 CU YD

LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED

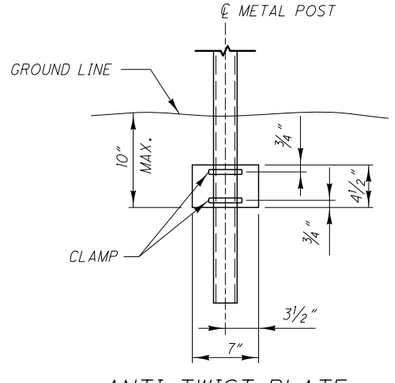
ADDRESSES AND/OR LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED:

1306 S.R. 314, SLM 5.53

FOR DETAILS NOT SHOWN SEE STANDARD DRAWING BP-4.1



CROSS SECTION / ELEVATION VIEW



ANTI-TWIST PLATE

CALCULATED MAE CHECKED CAD

MAILBOX FACILITIES

RIC-314-0.00

7
33

DESIGN FILE: i:\projects\93122\roadway\sheets\93122GM001.dgn MODELNAME: Sheet
WORKSTATION: dedevore DATE: 6/30/2015

SHEET NUMBER									PARTICIPATION					ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	7	9	12	15	16		01/STR/PV	02/S<2/PV	03/S<2/PV/ONT	04/S<2/PV	05/NHS/BR						
																		ROADWAY	
					600				425			175		202	38200	600	FT	GUARDRAIL REMOVED FOR REUSE	
					8				6			2		202	42810	8	EACH	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E	
					47.5				28.5			19		203	20001	47.5	CY	EMBANKMENT, AS PER PLAN	11
					7.02				5.02			2		209	15000	7.02	STA	RESHAPING UNDER GUARDRAIL	
			130						90			40		209	80000	130	EACH	GRADING MAILBOX APPROACHES	
					600				425			175		606	16500	600	FT	GUARDRAIL REBUILT, TYPE 5	
					8				6			2		606	27850	8	EACH	ANCHOR ASSEMBLY REBUILT, TYPE E	
15									6			9		623	39500	15	EACH	MONUMENT BOX ADJUSTED TO GRADE	3
					11				9			2		626	00100	11	EACH	BARRIER REFLECTOR	
			1						1					SPECIAL	69050100	1	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	7
																		DRAINAGE	
	1								1					611	98630	1	EACH	CATCH BASIN ADJUSTED TO GRADE	4
																		PAVEMENT	
				19.46					11.52	2.2		5.74		209	72051	19.46	MILE	**PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN**	3
	1500								965		185	350		251	01010	1500	CY	PARTIAL DEPTH PAVEMENT REPAIR	
				154076					89284	18211		46581		254	01000	154076	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
				1539					892	182		465		254	01600	1539	SY	**PATCHING PLANED SURFACE**	
				12435					7218	1463		3754		407	10000	12435	GAL	TACK COAT	
				7900					3848	2093		1959		442	00201	7900	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN	5
				278					164	32		82		442	00201	278	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN (SAFETY EDGE)	3, 5
			260	838					681	91		326		617	10100	1098	CY	COMPACTED AGGREGATE	
				24072					14350	2627		7095		617	20000	24072	SY	SHOULDER PREPARATION	
																		WATER WORK	
		1							1					638	10800	1	EACH	VALVE BOX ADJUSTED TO GRADE	
																		TRAFFIC CONTROL	
						956			574			382		621	00100	956	EACH	RPM	
						956			574			382		621	54000	956	EACH	RAISED PAVEMENT MARKER REMOVED	
						24.42			12.06	4.4		7.96		642	00104	24.42	MILE	**EDGE LINE, 6", TYPE 1**	
						12.21			6.03	2.2		3.98		642	00300	12.21	MILE	CENTER LINE, TYPE 1	
						274			202	36		36		644	00500	274	FT	STOP LINE	
						2			2					644	01000	2	EACH	RAILROAD SYMBOL MARKING	
																		STRUCTURE 20 FOOT SPAN AND OVER RIC-314-5.03 SFN 7006012	
							8.5						8.5	202	11301	8.5	CY	**PORTIONS OF STRUCTURE REMOVED, AS PER PLAN**	18
							3.8						3.8	511	45711	3.8	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN(RECONSTRUCTION)	19
							3.6						3.6	511	53012	3.6	CY	CLASS QC2 CONCRETE, MISC.:APPROACH SLAB REPAIR	19
							4.6						4.6	511	34410	4.6	CY	**CLASS QC2 CONCRETE, SUPERSTRUCTURE(REPAIR)**	
							3.6						3.6	512	33300	3.6	SY	TYPE A WATERPROOFING	
							34						34	512	73500	34	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
							48						48	516	31000	48	FT	JOINT SEALER	
																		MAINTENANCE OF TRAFFIC	
		56							36	9		11		614	12460	56	EACH	WORK ZONE MARKING SIGN	
		25							15	5		5		614	13000	25	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
						24.42			12.06	4.4		7.96		614	21100	24.42	MILE	**WORK ZONE CENTER LINE, CLASS I, 642 PAINT**	
						274			202	36		36		614	26200	274	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
									LS					614	11000	LS		MAINTAINING TRAFFIC	
									5					619	16010	5	MNTH	FIELD OFFICE, TYPE B	
									LS					623	10000	LS		**CONSTRUCTION LAYOUT STAKES AND SURVEYING**	
									LS					624	10000	LS		MOBILIZATION	

CALCULATED MAE CHECKED CAD

GENERAL SUMMARY

RIC-314-0.00

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DESIGN FILE: i:\projects\93122\roadway\sheets\93122GG001.dgn MODELNAME: Design
WORKSTATION: tdevore DATE: 6/30/2015

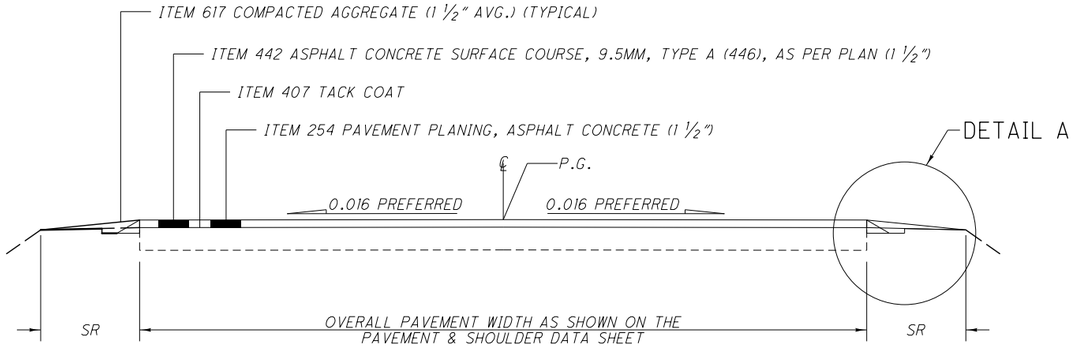
COUNTY	ROUTE	LOG POINT TO LOG POINT	LENGTH MILE	LENGTH FEET	WIDTH FEET AVG.	*TYPICAL	PAVEMENT AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE (1.50")		254 PATCHING PLANED SURFACE	407 TACK COAT @ 0.08 GAL/SY		442 ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN			442 ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN (SAFETY EDGE)				AGGREGATE SHOULDER PROPOSED WIDTH SL	AGGREGATE SHOULDER PROPOSED WIDTH SR	AGGREGATE SHOULDER AREA	209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN		617 COMPACTED AGGREGATE 1.25 INCHES AVG. THICKNESS	617 SHOULDER PREPARATION
		STRAIGHT LINE MILEAGE					SQ YD	SQ.YD		SQ.YD	GALLON		INCH	CU.YD.			CU. YD.				FT	FT	SQ YD	MILE		CU YD	SQ.YD
01/STR/PV																											
RIC	314	0.00	0.50	0.50	2640	26.5	1	7,773	7,773		78	622		1.5	324			14.26				2.0	2.0	1,173	1.00		41	1,173
		0.50	1.00	0.50	2640	26.0		7,627	7,627		76	610		1.5	318			14.26				2.0	2.0	1,173	1.00		41	1,173
		1.00	1.50	0.50	2640	26.0		7,627	7,627		76	610		1.5	318			14.26				2.0	2.0	1,173	1.00		41	1,173
		1.50	1.76	0.26	1373	25.0		3,814	3,814		38	305		1.5	159			7.42				2.0	2.0	610	0.52		21	610
		5.22	5.50	0.28	1478	25.5		4,188	4,188		42	335		1.5	174			7.98				2.0	2.0	657	0.56		23	657
		5.50	6.00	0.50	2640	25.5		7,480	7,480		75	598		1.5	312			14.26				2.0	2.0	1,173	1.00		41	1,173
		6.00	6.50	0.50	2640	25.0		7,333	7,333		73	587		1.5	306			14.26				2.0	2.0	1,173	1.00		41	1,173
		6.50	7.00	0.50	2640	25.5		7,480	7,480		75	598		1.5	312			14.26				2.0	2.0	1,173	1.00		41	1,173
		7.00	7.50	0.50	2640	24.5		7,187	7,187		72	575		1.5	299			14.26				2.0	2.0	1,173	1.00		41	1,173
		7.50	8.00	0.50	2640	25.0		7,333	7,333		73	587		1.5	306			14.26				2.0	2.0	1,173	1.00		41	1,173
		8.00	8.50	0.50	2640	26.0		7,627	7,627		76	610		1.5	318			14.26				2.0	2.0	1,173	1.00		41	1,173
		8.50	9.00	0.50	2640	25.5		7,480	7,480		75	598		1.5	312			14.26				2.0	2.0	1,173	1.00		41	1,173
		9.00	9.49	0.49	2587	24.0		6,899	6,899		69	552		2.5	479			13.97				2.0	2.0	1,150	0.98		40	1,150
02/S<2/PV																											
		3.02[R]	3.50[R]	0.48	2534	12.8		3,590	3,590		36	287		2.5	249			6.84					2.0	563	0.48		20	563
		3.50[R]	4.00[R]	0.50	2640	12.8		3,740	3,740		37	299		3.5	364			7.13					2.0	587	0.50		20	587
		4.00[R]	4.50[R]	0.50	2640	12.5		3,667	3,667		37	293		4.5	458			7.13					2.0	587	0.50		20	587
		4.50[R]	5.00[R]	0.50	2640	15.0		4,400	4,400		44	352		5.5	672			7.13					2.0	587	0.50		20	587
		5.00[R]	5.22[R]	0.22	1162	12.8		1,646	1,646		16	132		6.5	297			3.14					2.0	258	0.22		9	258
04/S<2/PV																											
		1.76	2.00	0.24	1267	26.5		3,731	3,731		37	298		1.5	155			6.84				2.0	2.0	563	0.48		20	563
		2.00	2.50	0.50	2640	25.0		7,333	7,333		73	587		1.5	306			14.26				2.0	2.0	1,173	1.00		41	1,173
		2.50	3.00	0.50	2640	25.0		7,333	7,333		73	587		1.5	306			14.26				2.0	2.0	1,173	1.00		41	1,173
		3.00[L]	3.50[L]	0.50	2640	12.8		3,740	3,740		37	299		1.5	156			7.13				2.0		587	0.50		20	587
		3.50[L]	4.00[L]	0.50	2640	12.8		3,740	3,740		37	299		1.5	156			7.13				2.0		587	0.50		20	587
		4.00[L]	4.50[L]	0.50	2640	12.5		3,667	3,667		37	293		1.5	153			7.13				2.0		587	0.50		20	587
		4.50[L]	5.00[L]	0.50	2640	15.0		4,400	4,400		44	352		1.5	183			7.13				2.0		587	0.50		20	587
		5.00[L]	5.22[L]	0.22	1162	12.8		1,653	1,653		17	132		1.5	69			3.14				2.0		258	0.22		9	258
		9.49	10.01	0.52	2746	28.0		8,543	8,543		85	683		1.5	356			14.83				2.0	2.0	1,220	1.04		42	1,220
		01/STR/PV																									
		EXTRA AREA FOR INTERSECTIONS						2,141	2,141		21	171		1.5	89													
		EXTRA AREA FOR PAVED DRIVES						315	315		3	25		1.5	13													
		EXTRA AREA FOR AGGREGATE DRIVES						837				67		1.5	35									837			29	837
		EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES						900	780		8	72		1.5	38													
		02/S<2/PV																									
		EXTRA AREA FOR INTERSECTIONS						818	818		8	65		1.5	34													
		EXTRA AREA FOR PAVED DRIVES						180	180		2	14		1.5	8													
		EXTRA AREA FOR AGGREGATE DRIVES						45				4		1.5	2									45			2	45
		EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES						210	170		2	17		1.5	9													
		04/S<2/PV																									
		EXTRA AREA FOR INTERSECTIONS						1188	1188		12	95		1.5	50													
		EXTRA AREA FOR PAVED DRIVES						603	603		6	48		1.5	25													
		EXTRA AREA FOR AGGREGATE DRIVES						360				29		1.5	15									360			13	360
		EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES						700	650		7	52		1.5	29													
		TOTAL: (01/STR/PV)							93,084		930	7,522			4,112			171.97						14,984	12.06		523	14,984
		TOTAL: (02/S<2/PV)							18,211		182	1,463			2,093			31.37						2,627	2.20		91	2,627
		TOTAL: (04/S<2/PV)							46,581		465	3,754			1,959			81.85						7,095	5.74		246	7,095
		GRAND TOTAL							**157,876**		**1,577**	**12,739**			**8,164**			285						**24,706**	**20.00**		**860**	**24,706**

CALCULATED ERS
CHECKED CAD

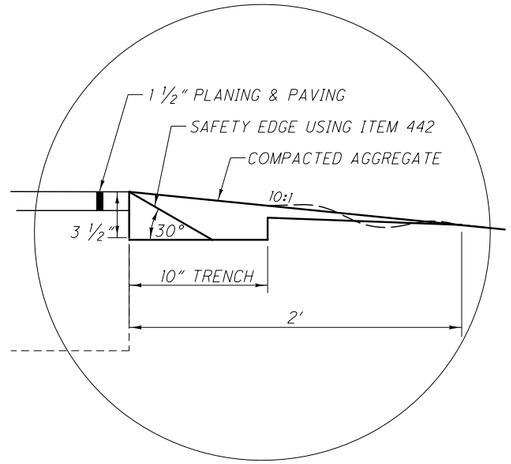
PAVEMENT AND SHOULDER DATA

RIC-314-0.00

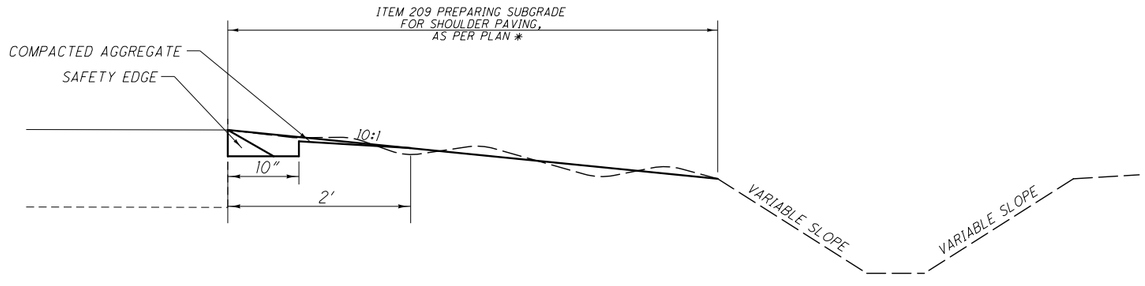
DESIGN FILE: i:\projects\93122\roadway\sheets\93122G0001.dgn
MODEL NAME: Design
WORKSTATION: devore
DATE: 6/30/2015



TYPICAL 1



DETAIL A
SAFETY EDGE



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

CALCULATED MAE
CHECKED CAD

TYPICAL SECTIONS

RIC-314-0.00

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DESIGN FILE: I:\projects\93122\roadway\sheets\93122GY001.dgn
WORKSTATION: cdevore DATE: 6/30/2015

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 THE LINEAR GRADING 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 202 - ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E-98

THIS ITEM CONSISTS OF REMOVING AN EXISTING ANCHOR ASSEMBLY, AND SALVAGING FOR REUSE AT A LOCATION SHOWN ON THE PLANS. THE RESULTING HOLES SHALL BE BACKFILLED AND COMPACTED. ELEMENTS THAT ARE NOT SALVAGEABLE SHALL BE DISPOSED OF PER 202.02.

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 10:1 MAXIMUM (SEE DETAIL BELOW AS WELL AS THE GUARDRAIL DETAIL SHEETS FOR FURTHER DETAILS AND INFORMATION OF THE LIMITS OF THIS WORK).

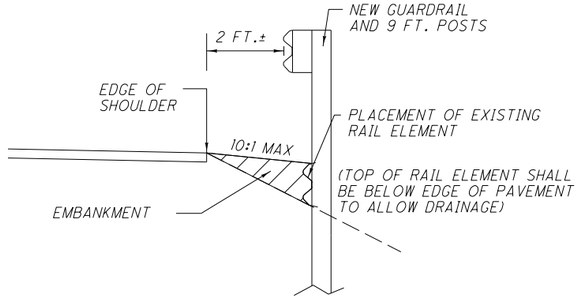
EXCESS MATERIAL RESULTING SHALL BE USED ELSEWHERE FOR THIS ITEM IF SO DIRECTED OR DISPOSED OF PROPERLY. IF EXTRA MATERIAL IS REQUIRED IT SHALL BE PAID FOR WITH ITEM 203 - EMBANKMENT, AS PER PLAN. THIS WORK SHALL NOT BE STARTED UNTIL AFTER THE RESURFACING AND BERM WORK HAS BEEN COMPLETED.

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 - GUARDRAIL REMOVED FOR REUSE, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF THE EXISTING GUARDRAIL AS PER 202.09. THE RAIL ELEMENT SHALL BE STORED BY THE CONTRACTOR FOR REUSE, AS SHOWN BELOW.

THE EXISTING RAIL ELEMENT SHALL BE PLACED ON THE GROUND ADJACENT TO NEW GUARDRAIL POST. THE RAIL ELEMENT MAY REQUIRE TO BE FASTENED TO THE POST TO FACILITATE PLACEMENT OF EMBANKMENT. THE CONTRACTOR MAY DETERMINE THIS METHOD OF FASTENING. THE ITEMS DESCRIBED ABOVE AND SHOWN BELOW (NOT INCLUDING NEW RAIL, 9 FOOT POSTS, AND EMBANKMENT) SHALL BE PAID FOR UNDER THE UNIT BID PRICE FOR ITEM 202 - GUARDRAIL REMOVED FOR REUSE, AS PER PLAN.



ITEM 606 - GUARDRAIL REBUILT, TYPE 5

THIS ITEM SHALL BE USED WHEN GUARDRAIL REQUIRES REPAIRS IN WHICH THE RAIL ELEMENT IS REUSABLE. ALSO, THIS ITEM WILL BE USED TO RE-ALIGN GUARDRAIL RUNS, AS DIRECTED BY THE ENGINEER.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT, AS DESCRIBED IN 606.05 FOR ITEM 606 GUARDRAIL REBUILT, TYPE 5.

ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE E

THIS ITEM SHALL CONSIST OF REUSING SALVAGED ELEMENTS FROM AN EXISTING ANCHOR ASSEMBLY, AND CONSTRUCTING A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY AT A LOCATION SHOWN IN THE PLANS.

THE ANCHOR ASSEMBLY SHALL BE RECONSTRUCTED AS PER 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 REBUILT, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO RECONSTRUCT 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.

CALCULATED MAE
CHECKED CAD

GUARDRAIL NOTES

RIC-314-0.00

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DESIGN FILE:i:\projects\93122\roadway\sheets\93122GR_GN.dgn MODELNAME: Sheet
WORKSTATION:tdevore DATE:6/30/2015

SHEET	LOCATION	FUNDING SPLIT		202 GUARDRAIL REMOVED FOR REUSE, AS PER PLAN FEET	202 ANCHOR ASSEMBLY REMOVED, TYPE A EACH	202 BRIDGE TERMINAL ASSEMBLY REMOVED EACH	202 ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E EACH	202 GUARDRAIL REMOVED FEET	202 BRIDGE TERMINAL ASSEMBLY REMOVED FOR REUSE EACH	202 WALK REMOVED SQ FT	202 CURB REMOVED FT	203 EMBANKMENT, AS PER PLAN CU YD	209 RESHAPING UNDER GUARDRAIL STATION	606 GUARDRAIL REBUILT, TYPE 5 FEET	606 GUARDRAIL REBUILT, TYPE 5, USING 9 FOOT POSTS FEET	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST EACH	606 ANCHOR ASSEMBLY REBUILT, TYPE E EACH	606 ANCHOR ASSEMBLY, TYPE T EACH	606 GUARDRAIL, TYPE 5 FEET	606 RAISING TYPE 5 GUARDRAIL FEET	606 BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 4 EACH	608 CURB RAMP, TYPE A2 SQ FT	608 CURB RAMP, TYPE B1, AS PER PLAN SQ FT	608 CURB RAMP, TYPE D SQ FT	626 BARRIER REFLECTOR EACH	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH
	RIC-314-0.43	01/STR/PV		125.00			4					6.0	1.76	125.00			4									4		
	RIC-314-0.83	01/STR/PV		150.00			1					7.0	1.63	150.00			1									2		
	RIC-314-1.65	01/STR/PV		150.00			1					15.5	1.63	150.00			1									3		
	RIC-314-4.60	04/S<2/PV		175.00			2					19.0	2.00	175.00			2									2		
	TOTAL CARRIED TO GENERAL SUMMARY 01/STR/PV & 04/S<2/PV			***600.00***			***8***					***47.5***	***7.02***	***600.00***			***8***									***11***		

CALCULATED MAE
CHECKED CAD

ROADWAY SUB-SUMMARY

RIC-314-0.00

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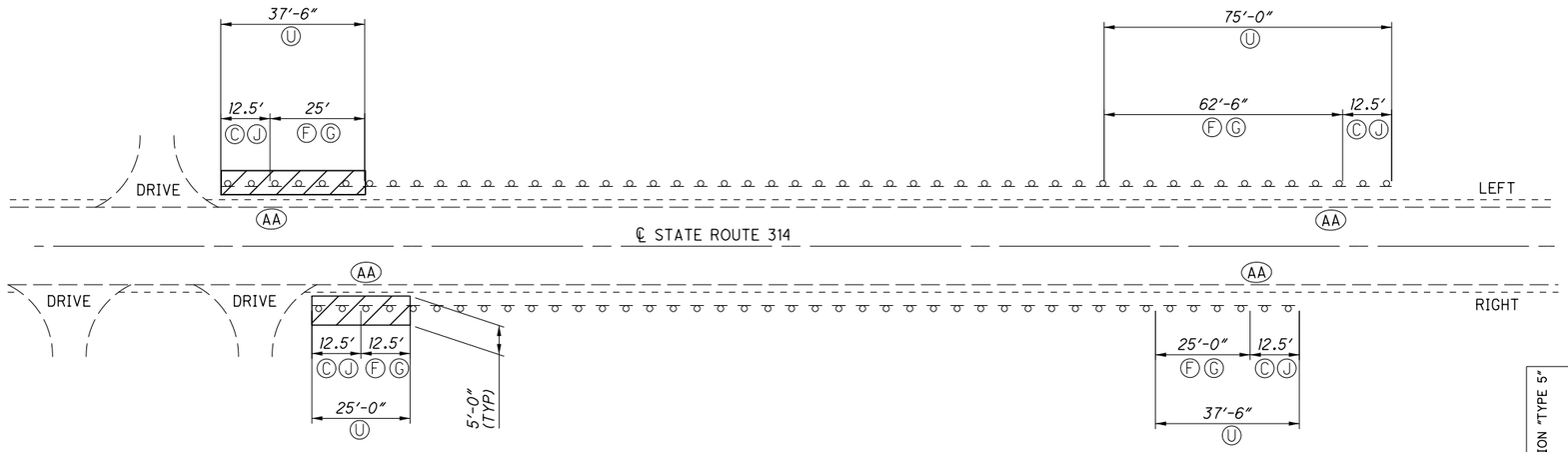
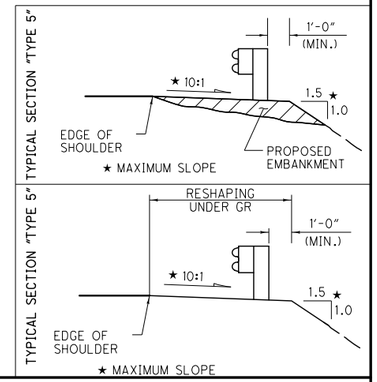
DESIGN FILE: ii:\projects\93122\roadway\sheets\93122GS001.dgn
WORKSTATION: cdevore
DATE: 6/30/2015
MODEL NAME: Design

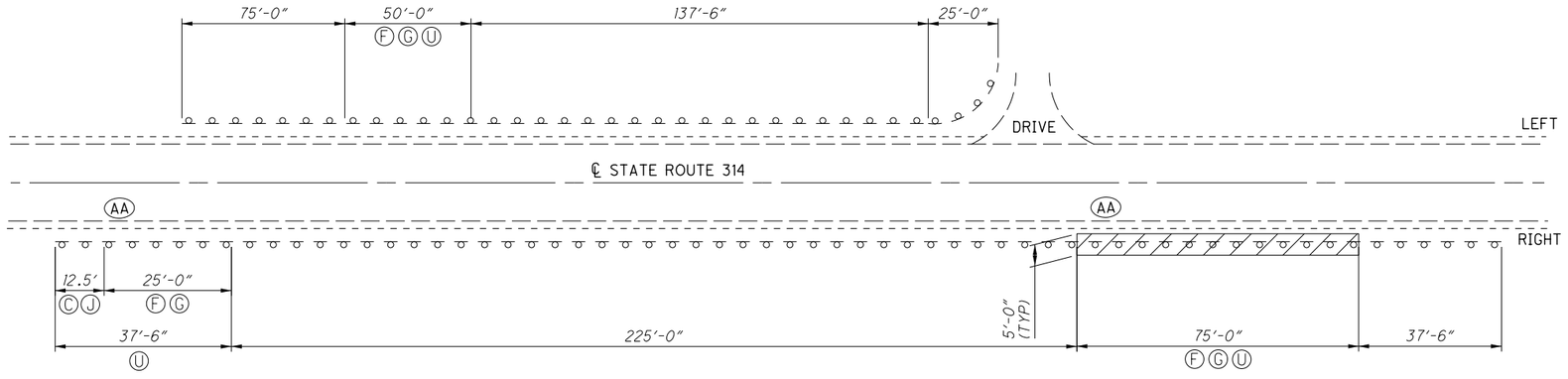


LOCATION	ITEM	UNIT	QUANTITY			DESCRIPTION
			LEFT	RIGHT	TOTAL	
Ⓤ	209	STA	1.13	0.63	1.76	RESHAPING UNDER GUARDRAIL
Ⓕ	202	FEET	87.50	37.50	125.00	GUARDRAIL REMOVED FOR REUSE, AS PER PLAN
Ⓖ	606	FEET	87.50	37.50	125.00	GUARDRAIL REBUILT, TYPE 5
Ⓒ	202	EACH	2.00	2.00	4.00	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E
Ⓙ	606	EACH	2.00	2.00	4.00	ANCHOR ASSEMBLY REBUILT, TYPE E
//////	203	CU YD	3.50	2.50	6.00	EMBANKMENT, AS PER PLAN
ⒶⒶ	626	EACH	2	2	4	BARRIER REFLECTOR

ALL QUANTITIES CARRIED TO THE ROADWAY SUB-SUMMARY.

GUARDRAIL AT SLM 0.43

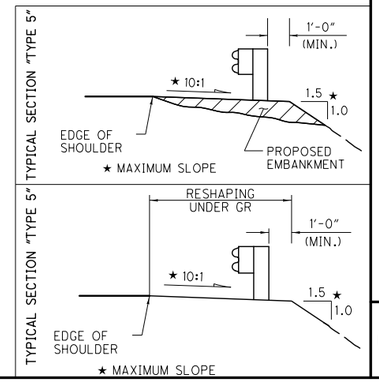




LOCATION	ITEM	UNIT	QUANTITY			DESCRIPTION
			LEFT	RIGHT	TOTAL	
Ⓤ	209	STA	0.50	1.13	1.63	RESHAPING UNDER GUARDRAIL
Ⓕ	202	FEET	50.00	100.00	150.00	GUARDRAIL REMOVED FOR REUSE, AS PER PLAN
Ⓖ	606	FEET	50.00	100.00	150.00	GUARDRAIL REBUILT, TYPE 5
Ⓒ	202	EACH		1.00	1.00	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E
Ⓙ	606	EACH		1.00	1.00	ANCHOR ASSEMBLY REBUILT, TYPE E
//////	203	CU YD		7.00	7.00	EMBANKMENT, AS PER PLAN
ⒶⒶ	626	EACH		2	2	BARRIER REFLECTOR

ALL QUANTITIES CARRIED TO THE ROADWAY SUB-SUMMARY.

GUARDRAIL AT SLM 0.83



CALCULATED MAE
CHECKED ---

GUARDRAIL DETAILS

RIC-314-0.00

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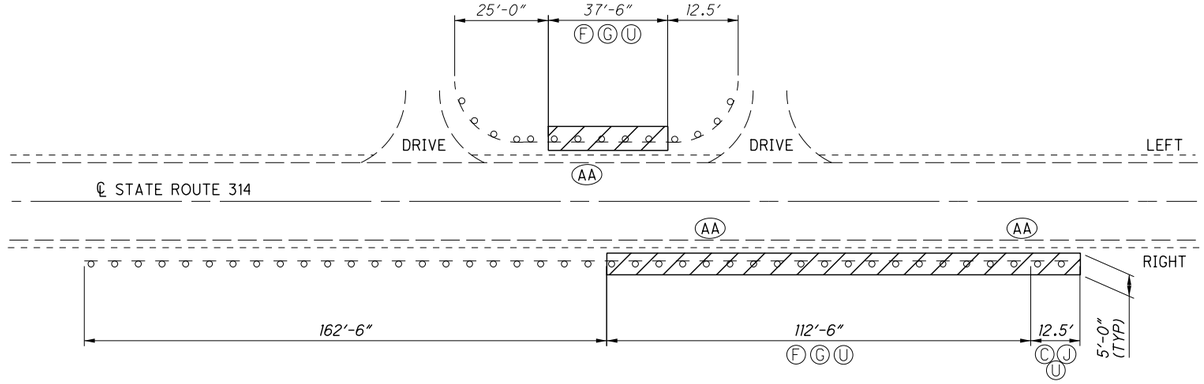
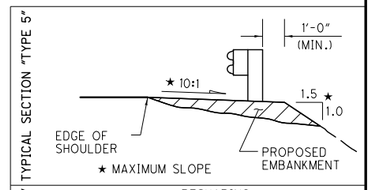
DESIGN FILE: i:\projects\93122\roadway\sheets\93122GR001.dgn
WORKSTATION: cdevore
DATE: 6/30/2015
MODEL NAME: Design

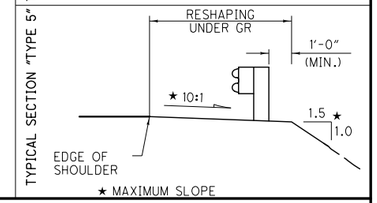


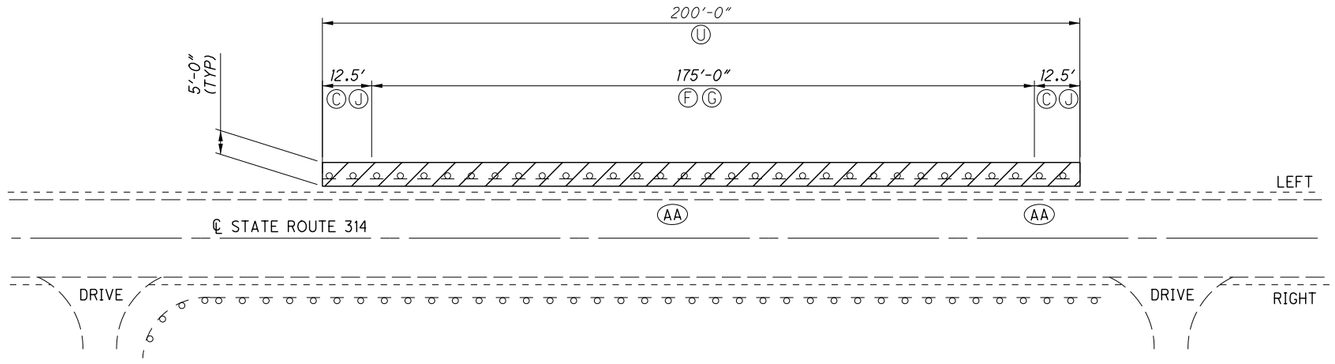
LOCATION	ITEM	UNIT	QUANTITY			DESCRIPTION
			LEFT	RIGHT	TOTAL	
Ⓤ	209	STA	0.38	1.25	1.63	RESHAPING UNDER GUARDRAIL
Ⓕ	202	FEET	37.50	112.50	150.00	GUARDRAIL REMOVED FOR REUSE, AS PER PLAN
Ⓖ	606	FEET	37.50	112.50	150.00	GUARDRAIL REBUILT, TYPE 5
Ⓒ	202	EACH		1.00	1.00	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E
Ⓙ	606	EACH		1.00	1.00	ANCHOR ASSEMBLY REBUILT, TYPE E
//////	203	CU YD	3.50	12.00	15.50	EMBANKMENT, AS PER PLAN
ⒶⒶ	626	EACH	1	2	3	BARRIER REFLECTOR

ALL QUANTITIES CARRIED TO THE ROADWAY SUB-SUMMARY.

GUARDRAIL AT SLM 1.65



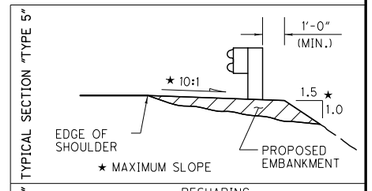


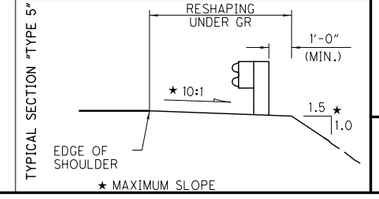


LOCATION	ITEM	UNIT	QUANTITY			DESCRIPTION
			LEFT	RIGHT	TOTAL	
Ⓤ	209	STA	2.00		2.00	RESHAPING UNDER GUARDRAIL
Ⓕ	202	FEET	175.00		175.00	GUARDRAIL REMOVED FOR REUSE, AS PER PLAN
Ⓖ	606	FEET	175.00		175.00	GUARDRAIL REBUILT, TYPE 5
Ⓒ	202	EACH	2.00		2.00	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E
Ⓙ	606	EACH	2.00		2.00	ANCHOR ASSEMBLY REBUILT, TYPE E
//////	203	CU YD	19.00		19.00	EMBANKMENT, AS PER PLAN
ⒶⒶ	626	EACH	2		2	BARRIER REFLECTOR

ALL QUANTITIES CARRIED TO THE ROADWAY SUB-SUMMARY.

GUARDRAIL AT SLM 4.60





CALCULATED MAE
CHECKED ---

GUARDRAIL DETAILS

RIC-314-0.00

14
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DESIGN FILE: i:\projects\93122\roadway\sheets\93122GR001.dgn
WORKSTATION: cdevore
DATE: 6/30/2015
MODELNAME: Design

AUXILIARY & LONG LINE MARKINGS

COUNTY	ROUTE	SLM FROM	SLM TO	HIGHWAY MILES	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS II, 642 PAINT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	642 EDGE LINE, 6" TOTAL (PAY QUANTITY) (WHITE)	642 EDGE LINE, 6" TOTAL (PAY QUANTITY) (YELLOW)	642 LANE LINE, 6"	642 CHANNELIZING LINE	642 CENTER LINE SOLID LINE EQUIVALENT	642 CENTER LINE TOTAL (PAY QUANTITY)	644 AUXILIARY MARKINGS (740.04) CHANNELIZING LINE 12"	644 STOP LINE 24"	644 TRANSVERSE / DIAGONAL LINE, TYPE A	644 RAILROAD SYMBOL MARKING	644 PARKING LOT STALL MARKING	644 LANE ARROW LEFT	644 LANE ARROW RIGHT	644 LANE ARROW THROUGH	644 LANE ARROW COMBINATION	644 WORD ON PAVEMENT "ONLY" 72 INCH	644 WORD ON PAVEMENT "ONLY" 96 INCH	644 DOTTED LINE, 4"	644 HANDICAP SYMBOL MARKING	SPECIAL AIR SPEED ZONE MARKING
		FROM	TO	MILE	MILE	MILE	FT	FT	MILE	MILE	MILE	FT	MILE	MILE	FT	FT	SQ FT	EACH	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH
01/STR/PV																												
RIC	314	0.00	1.76	1.76		3.52		70	3.52				3.52	1.76		70												
RIC	314	5.22	9.49	4.27		8.54		132	8.54				8.54	4.27		132		2										
02/S<2/PV																												
RIC	314	3.02[R]	5.22[R]	2.20		4.40		36	4.40				4.40	2.20		36												
04/S<2/PV																												
RIC	314	1.76	3.02	1.26		2.52		12	2.52				2.52	1.26		12												
RIC	314	3.02[L]	5.22[L]	2.20		4.40		24	4.40				4.40	2.20		24												
RIC	314	9.49	10.01	0.52		1.04			1.04				1.04	0.52														
TOTAL TO GENERAL SUMMARY						**24.42**		**274**	**24.42**				**24.42**	**12.21**		**274**		**2**										

RAISED PAVEMENT MARKERS

COUNTY	ROUTE	STATION/SLM FROM	STATION/SLM TO	DETAIL	621 RAISED PAVEMENT MARKER REMOVED	621 RPM	PRISMATIC RETRO-REFLECTOR TYPES ONE-WAY WHITE	TWO-WAY YELLOW / YELLOW	TWO-WAY WHITE / RED	TWO-WAY YELLOW / RED	TWO-WAY BLUE / BLUE	REMARKS
		FROM	TO		EACH	EACH	EACH					
01/STR/PV AND 04/S<2/PV												
RIC	SR 314	0.00	0.91	GAP	58	58		58				CONTINUOUS ROUTE TREATMENT
		0.91	1.28	15	54	54		54				2 CURVES
		1.28	1.60	GAP	21	21		21				CONTINUOUS ROUTE TREATMENT
		1.60	1.94	8	22	22		22				THRU APPROACHES @ MILLSBORO RD.
		1.94	2.17	15	17	17		17				CURVE (OVERLAPS TREATMENT @ MILLSBORO RD.)
		2.17	2.87	15	93	93		93				3 CURVES
		2.87	3.57	GAP	47	47		47				CONTINUOUS ROUTE TREATMENT
		3.57	3.97	6	54	54	32	22				STOP APPROACHES @ SR 309
		3.97	4.73	GAP	50	50		50				CONTINUOUS ROUTE TREATMENT
		4.73	5.13	6	54	54	32	22				STOP APPROACHES @ 4TH ST.
		5.13	5.31	GAP	10	10		10				CONTINUOUS ROUTE TREATMENT
		5.31	5.52	15	26	26		26				CONTINUOUS ROUTE TREATMENT
		5.52	6.16	GAP	43	43		43				CONTINUOUS ROUTE TREATMENT
		6.16	6.39	15	30	30		30				CONTINUOUS ROUTE TREATMENT
		6.39	6.81	GAP	25	25		25				CONTINUOUS ROUTE TREATMENT
		6.81	7.51	15	96	96		96				4-CURVES
		7.51	7.82	GAP	20	20		20				CONTINUOUS ROUTE TREATMENT
		7.82	8.76	15	127	127		127				4-CURVES
		8.76	9.04	GAP	15	15		15.00				CONTINUOUS ROUTE TREATMENT
		9.04	9.49	15	60	60		60.00				2-CURVES
		9.49	9.85	GAP	23	23		23				CONTINUOUS ROUTE TREATMENT
		9.85	10.00	6	11	11		11				STOP APPROACH @ SR 61
TOTAL TO GENERAL SUMMARY					**956**	**956**						

DETAIL	DESCRIPTION
1	MULTILANE UNDIVIDED TYPICAL SPACING
2	TAPERED ACCEL. LANE
3	DECELERATION LANE
4	PARALLEL ACCEL LANE
5	MULTILANE DIVIDED/EXPRESSWAY
6	STOP APPROACH
7	2 LANE APPR. WITH TURN LANE
8	THROUGH APPROACH
9	3 LANE APPR. WITH TURN LANE
10	3 LANE DIVIDED TO 2 LANE TRANSITION
11	3 LANE UNDIVIDED TO 2 LANE TRANSITION
12	TWO LNAE NARROW BRIDGE
13	TWO WAY LEFT TURN LANE
14	ONE LANE BRIDGE
15	HORIZONTAL CURVE
16	HORIZONTAL CURVE ALT.
17	STOP APPROACH ALT.
18	FIRE HYDRANT
GAP	CENTER LINE AT 80 FT. TYP.

NOTES:

1) THRU LANES SHALL BE 11'-0" WIDE IN NON-CURBED SECTIONS AND STRIPED ACCORDING TO CMS 641.08A.

2) FOR ALL WORK ZONE MARKINGS, THE 642 PAINT USED SHALL BE TYPE 1.

3)STOP LINES & CENTER LINES SHALL BE STRIPED ALONG THE PROPOSED OVERLAY PORTIONS OF THE FOLLOWING SIDE ROADS:

4) BLOOMINGTON RD
5) WOLF SCHOOL RD
6) MILLSBORO RD
7) FLOWERS RD
8) TOMMY LN
9) STATE ROUTE 309
10) SHELBY ONTARIO RD
11) W 4TH ST
12) BEAM RD
13) COOKTON GRANG RD
14) RAIL ROAD TRACKS
15) HOOK RD
16) STEIN RD
17) SETTLEMENT EAST RD
18) MYERS RD

CALCULATED MAE CHECKED CAD

PAVEMENT MARKING / RPM SUB-SUMMARY

RIC-314-0.00

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DESIGN FILE:i:\projects\93122\roadway\sheets\93122TS001.dgn MODELNAME: Design
WORKSTATION:tdevore DATE:6/30/2015

RIC-314-5.03 S.F.N. 7006012 (05/NHS/BR)

7005989 RIC-314-1.72

No work, plane & pave same as roadway

7006012 RIC-314-5.03

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	8.5	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	18
511	45711	3.8	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)	19
511	53012	3.6	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR	19
511	34410	4.6	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)	19
512	33300	3.6	SY	TYPE A WATERPROOFING	
512	73500	34	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
516	31000	48	FT	JOINT SEALER	

DESIGN FILE: i:\projects\93122\structures\93122GG001.dgn
WORKSTATION: tdevore DATE: 6/30/2015 MODELNAME: Design

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE
OF PLANNING & ENGINEERING

DESIGNED MAE | DRAWN MAE | REVIEWED --- | DATE --/--
CHECKED --- | REVISED

STRUCTURE

RIC-314-0.00

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BRIDGE DECK DATA								ROADWAY DATA		
COUNTY, ROUTE, BRIDGE NO.	LOCATION	STRUCTURE TYPE	LENGTH (BRIDGE DECK)	WIDTH (BRIDGE DECK)	BRIDGE DECK AREA	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	EXISTING APPROACH SLAB WIDTH	EXISTING APPROACH SLAB LENGTH
			FT.	FT.	SQ. YD.			FT.	FT.	FT.
** RIC-314-1.72	OVER SMALL CREEK	TWIN 10' X 5' PRECAST CONCRETE CULVERT			0.0	30°	ASPHALT	32.0		
* RIC-314-5.03	OVER US 30	4-SPAN STEEL BEAM	270.0	44.0	1320.0	7°	CONCRETE	42.0	24.0	20.0

* REPAIR APPROACH SLAB FULL WIDTH AT JUNCTION TO DECK. REPAIR BACKWALL ENTIRE WIDTH & ADDITIONAL WEARING SURFACE SPOT PATCHING (SEE STRUCTURE SHEETS FOR STRUCTURE QUANTITIES).
SEAL JOINT BETWEEN APPROACH SLAB AND BACKWALL WITH ITEM 516 JOINT SEALER.

** PLANE AND PAVE OVER STRUCTURE BASED ON MAIN LINE PAVEMENT TREATMENT. NO STRUCTURE WORK. (SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES).

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE OF PLANNING AND ENGINEERING

REVIEWED --- DATE --/--/--
DRAWN MAE REVISED
DESIGNED MAE CHECKED ---

STRUCTURE TREATMENT

RIC-314-0.00

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DESIGN FILE: il:\projects\93122\structures\93122MD001.dgn
WORKSTATION: cdevore DATE: 6/30/2015 MODELNAME: Design

REFERENCES SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS

SUPPLEMENTAL SPECIFICATIONS: 848 DATED 4/18/2014

REFERENCES SHALL BE MADE TO STANDARD BRIDGE DRAWINGS

STANDARD BRIDGE DRAWINGS:

AS-1-54	DATED 12/1/54
CSB-1-55	DATED 12/3/56
DBR-2-73	DATED 7/19/02
DBR-3-11	DATED 7/15/11
GSD-1-96	DATED 7/19/02
TST-1-99	DATED 1/17/14

DESIGN SPECIFICATIONS

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 QC1 - COMPRESSIVE STRENGTH 4,000 PSI
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI
REINFORCING STEEL - ASTM A615 OR A998, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI
STRUCTURAL STEEL - ASTM A709 GRADE 36 - YIELD STRENGTH 36,000 PSI

EXISTING PLANS

THE FOLLOWING EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND, OHIO.

STRUCTURE #:	PLAN NAME:	DATE:
RIC-314-5.03	RIC-30-3.74	1976

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 PREBID EXAMINATION OF THE EXISTING STRUCTURES. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE BUTT JOINT TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

IN-STREAM WORK RESTRICTION

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 BE 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; SHELVING; 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 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. THE WEIGHT OF THE HAMMERS SHALL NOT BE MORE THAN 60 POUNDS. DO NOT PLACE PNEUMATIC HAMMERS 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 OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE
OF PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
MAE	MAE	---	--/--
CHECKED	REVISED		

STRUCTURE NOTES

RIC-314-0.00

DESIGN FILE: i:\projects\93122\structures\93122GN001.dgn
WORKSTATION: devore
DATE: 6/30/2015
MODEL NAME: Design

ITEM 511 - CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)

THIS ITEM SHALL BE USED AT THE LOCATIONS INDICATED IN THE PLANS. ALL EXCAVATION AND EMBANKMENT SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE COST OF ITEM 511 - CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION).

THE COARSE AGGREGATE SHALL BE LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, PAINT, RUST AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

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

ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN (RECONSTRUCTION)
ITEM 511 - CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR

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

THE CONCRETE SHALL BE CLASS QC2 WITH THE COARSE AGGREGATE BEING LIMESTONE.

ALL EXISTING SURFACES TO WHICH THE CONCRETE IS TO BOND SHALL BE CLEANED BY ABRASIVE BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE, PAINT, RUST AND OTHER CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

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

ITEM 614 - MAINTAINING TRAFFIC FOR STRUCTURE RIC-314-5.03

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT TRAFFIC ON THIS STRUCTURE SHALL HAVE A S.R. DETOUR AS SHOWN ON SHEET 20 FOR A MAXIMUM OF 21 CONSECUTIVE CALENDAR DAYS.
THE 21 CONSECUTIVE DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 21 CALENDAR DAYS THAT THE HIGHWAY REMAINS IN A SIGNALIZED CLOSURE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE OF $1,000 A DAY.

ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES AS PER 614.02 (A).

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 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE
OF PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
MAE	MAE	---	--/--
CHECKED	REVISED		

STRUCTURE NOTES

RIC-314-0.00

DESIGN FILE: ii:\projects\93122\structures\93122GN001.dgn
WORKSTATION: cdevore DATE: 6/30/2015 MODEL NAME: Design

ITEM 614 - MAINTAINING TRAFFIC

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON STRUCTURE RIC-314-5.03 WILL BE DETOURED AS SHOWN ON THIS SHEET FOR A MAXIMUM OF 14 CONSECUTIVE CALENDAR DAYS. THE 14 DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108), AND FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF $1000 PER DAY.

THE CONTRACTOR SHALL NOTIFY THE ROADWAY SERVICES MANAGER, IN WRITING, A MINIMUM OF 14 DAYS IN ADVANCE OF THE DETOUR BEING PLACED.

THE CONTRACTOR SHALL ALSO NOTIFY, IN WRITING, THE FOLLOWING AGENCIES AT LEAST 14 DAYS PRIOR TO THE TIME WHEN THE DETOUR WILL BE IMPLEMENTED:

RICHLAND COUNTY ENGINEER
TOWNSHIP TRUSTEES FOR TOWNSHIP ROADS ONLY
LOCAL FIRE, EMS, AND POLICE DEPARTMENT(S)
LOCAL SCHOOL DISTRICT(S)
RICHLAND COUNTY SHERIFF

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING AS DETAILED ON THIS SHEET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE END OF THE WORK AREA AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATION, 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 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES, AS PER SECTION 614.02 (A).

PROJECT DETOUR LIMITATIONS

THE ROADWAY SHALL NOT BE CLOSED TO TRAFFIC FOR THE REMOVAL OR MODIFICATION OF THE EXISTING STRUCTURE, CONDUIT, OR PARTS OF THE STRUCTURE UNTIL PRECAST STRUCTURAL MATERIALS (EG.: CONDUIT, HEADWALLS, ETC.) NECESSARY TO PLACE THE ROADWAY BACK INTO SERVICE HAVE BEEN TESTED, APPROVED AND ARE READY FOR DELIVERY TO THE PROJECT SITE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

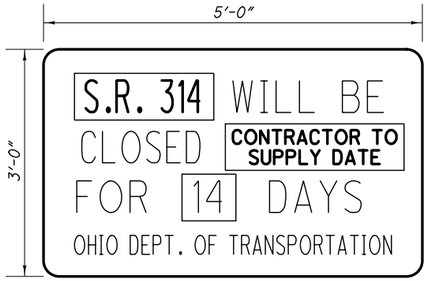
DETOUR SIGNING

THE FOLLOWING QUANTITY IS INCLUDED FOR THE CONTRACTOR TO PROVIDE THE DETOUR SIGNING AS SHOWN AS PER 614.06 (B):

(05/NHS/BR)
ITEM 614, DETOUR SIGNING - LUMP

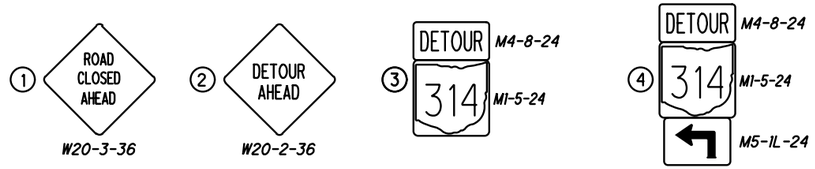
NOTICE OF CLOSURE SIGNS

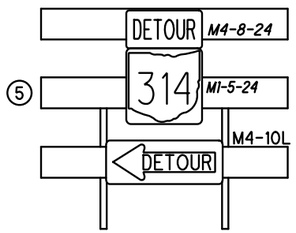
THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC, AND IT SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS AND SUPPORTS.



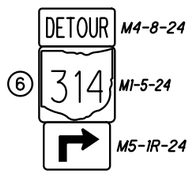
W20-H14-60

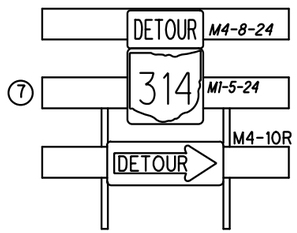
SIGN LEGEND



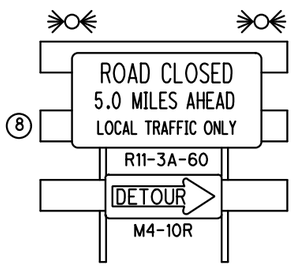


TYPE III BARRICADES

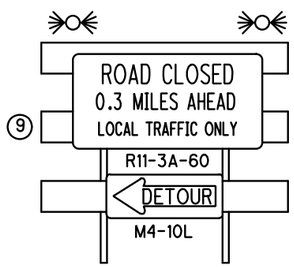




TYPE III BARRICADES



TYPE III BARRICADES
W/ TYPE A FLASHING LIGHTS



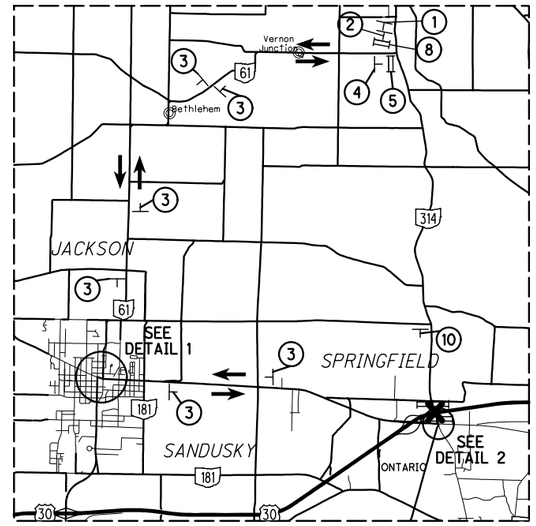
TYPE III BARRICADES
W/ TYPE A FLASHING LIGHTS

W20-H16-48

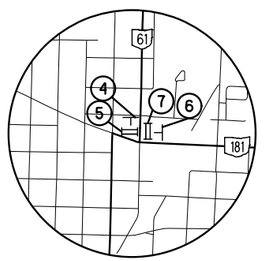
MAINTENANCE OF DETOUR ROUTE

DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THE ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER. THE DESIGNATED DETOUR ROUTE IS TO BE REVIEWED AND REPAIRED PRIOR TO THE ASPHALT CONTRACTOR OR SUBCONTRACTOR LEAVING THE PROJECT.

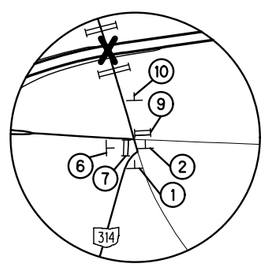
PAYMENT FOR THE WORK NECESSARY TO REPAIR THE DETOUR ROUTE WILL BE PERFORMED BY CHANGE ORDER.



SCALE IN MILES
0 1 2 3 4



DETAIL 1



DETAIL 2

MAP LEGEND

- PROJECT LOCATION
- OFFICIAL STATE SIGNED DETOUR
- GATES AND BARRICADES, AS PER MT-101.60

SCALE IN MILES
0 0.25 0.50 0.75 1.00

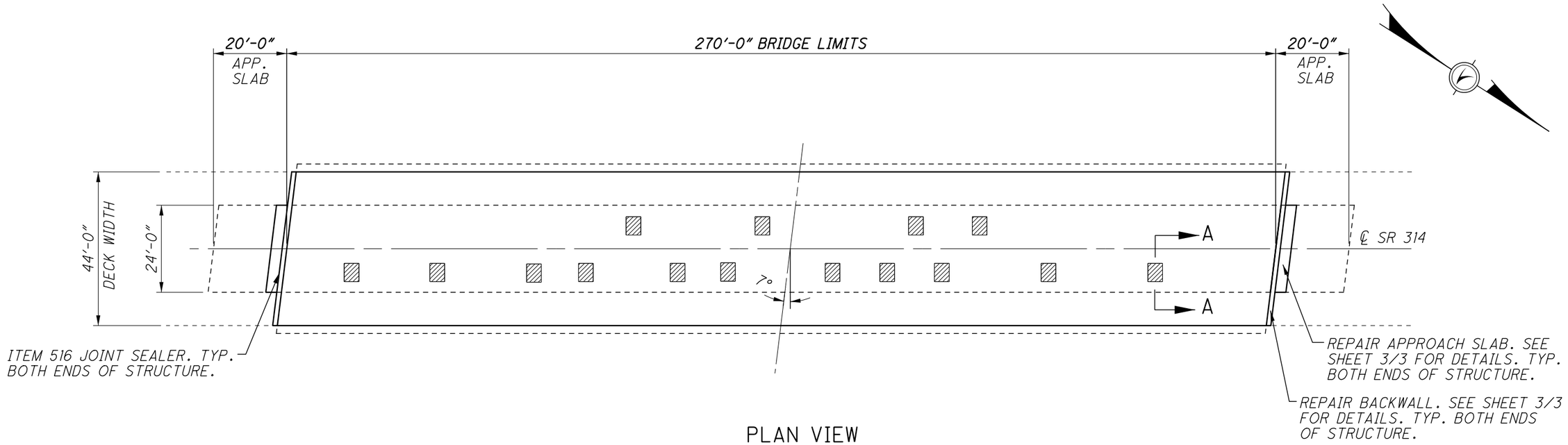
CALCULATED MAE
CHECKED ---

MAINTENANCE OF TRAFFIC
DETOUR PLAN FOR STR. RIC-314-5.03

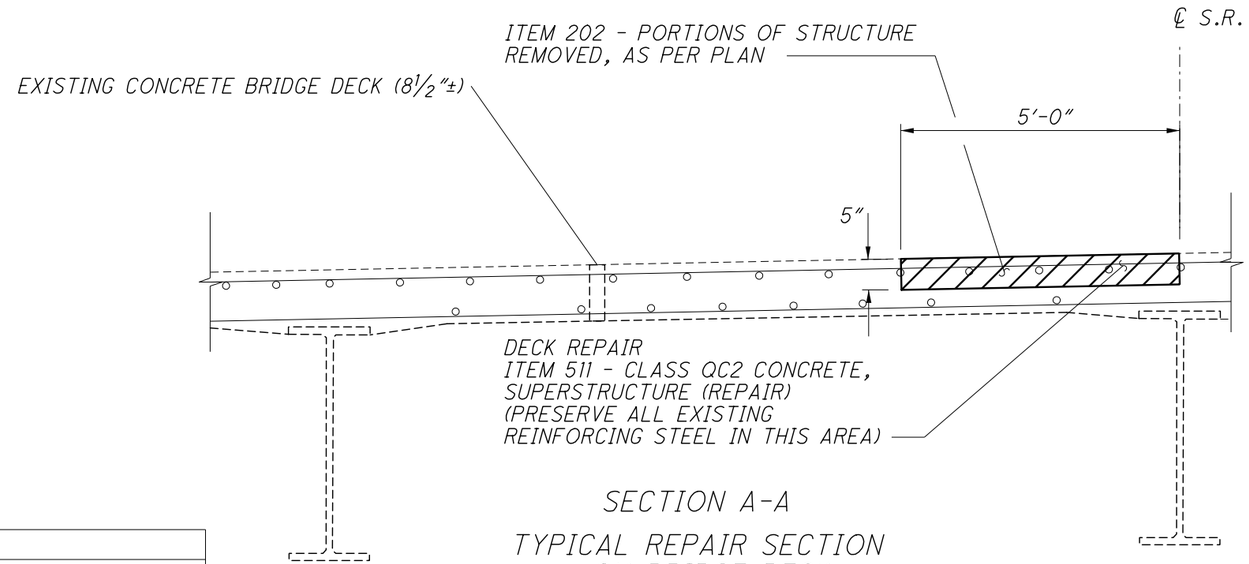
RIC-314-0.00

20
33

DESIGN FILE: i:\projects\93122\roadway\sheets\93122MD001.dgn MODELNAME: Design
WORKSTATION: tdevore DATE: 6/30/2015



PLAN VIEW



SECTION A-A

TYPICAL REPAIR SECTION
ON BRIDGE DECK

(REPAIR LENGTH = 4'-0"±)

ITEM	QUANTITY	UNIT	DESCRIPTION
202	8.5	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
511	3.8	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
511	3.6	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
511	4.6	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)
512	3.6	SY	TYPE A WATERPROOFING
512	34	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
516	48	FT	JOINT SEALER

ALL QUANTITIES CARRIED TO THE STRUCTURE SUMMARY.

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE
OF PLANNING AND ENGINEERING

REVIEWED --- DATE --/--/--
STRUCTURE FILE NUMBER 7006012

DRAWN MAE REVISED
DESIGNED MAE CHECKED ---

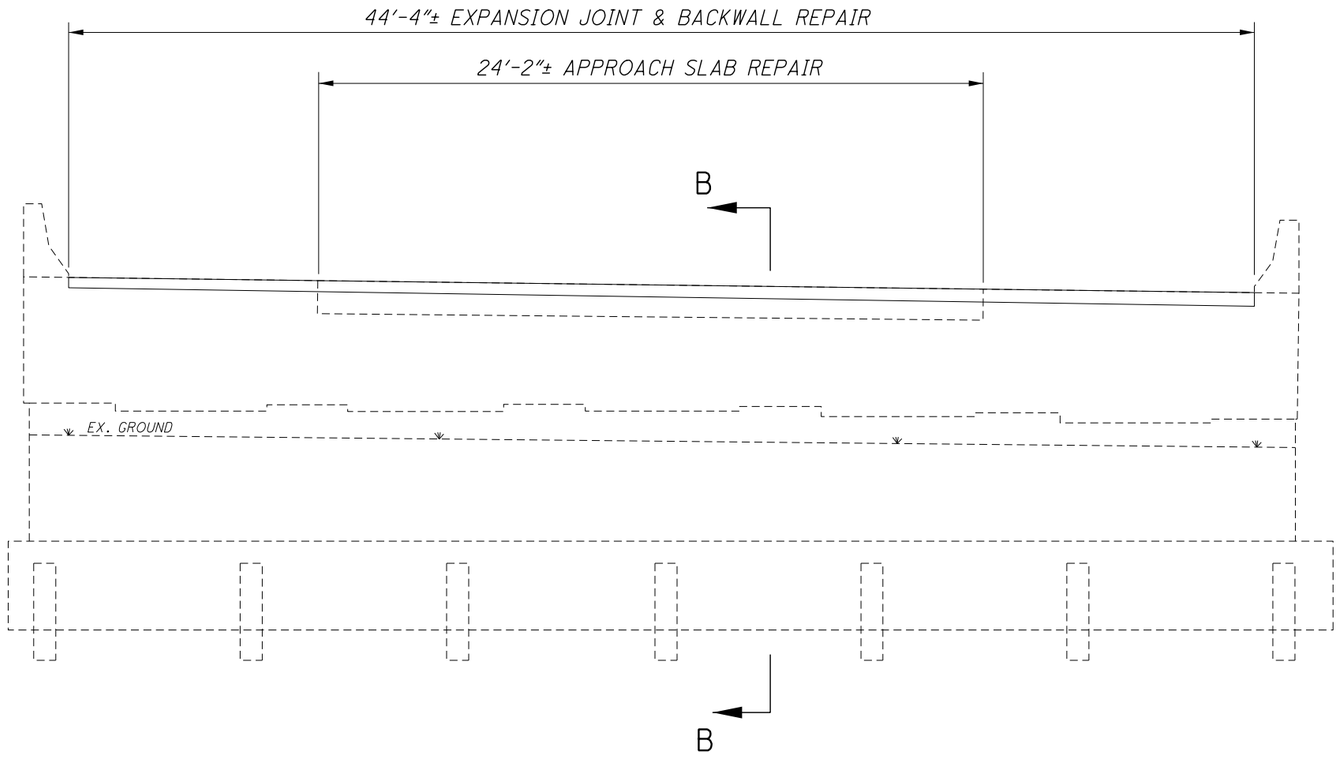
STRUCTURE DETAILS
RIC-314-5.03
OVER US 30

RIC-314-5.03

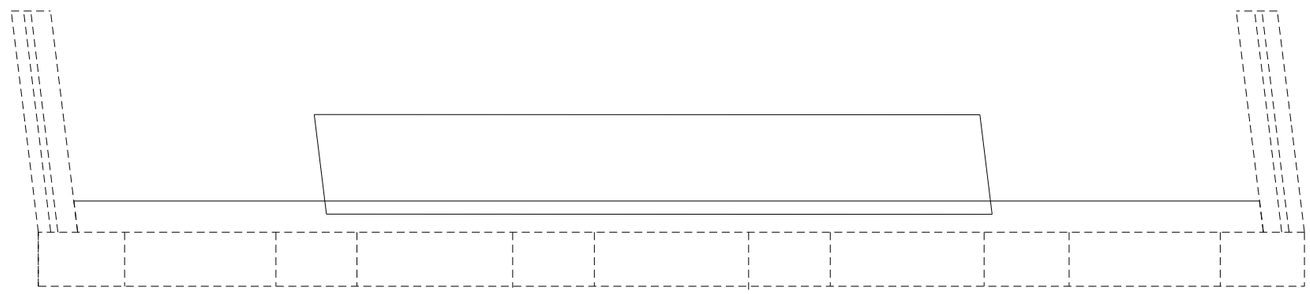
1 / 3

21
33

DESIGN FILE: ii:\projects\93122\structures\RIC-314-5.03\RIC-314-5.03.dgn
WORKSTATION: cdevore
DATE: 6/30/2015
MODELNAME: Design



ABUTMENT ELEVATION
EXPANSION JOINT, BACKWALL & APPROACH SLAB REPAIR



ABUTMENT PLAN
EXPANSION JOINT, BACKWALL & APPROACH SLAB REPAIR

NOTES:

1) DIMENSIONS SHOWN ON THIS SHEET WERE MEASURED ALONG THIS SKEWED 7°CENTERLINE OF THE BRIDGE.

2) FOR SECTION B-B VIEW SEE SHEET 3/3.

DESIGN FILE: I:\projects\93122\structures\RIC-314-5.03\RIC-314-5.03.dgn
WORKSTATION: tdevore
DATE: 6/30/2015
MODELNAME: Design

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE
OF PLANNING AND ENGINEERING

REVIEWED --- DATE --/--
STRUCTURE FILE NUMBER 7006012

DRAWN MAE
REVISED

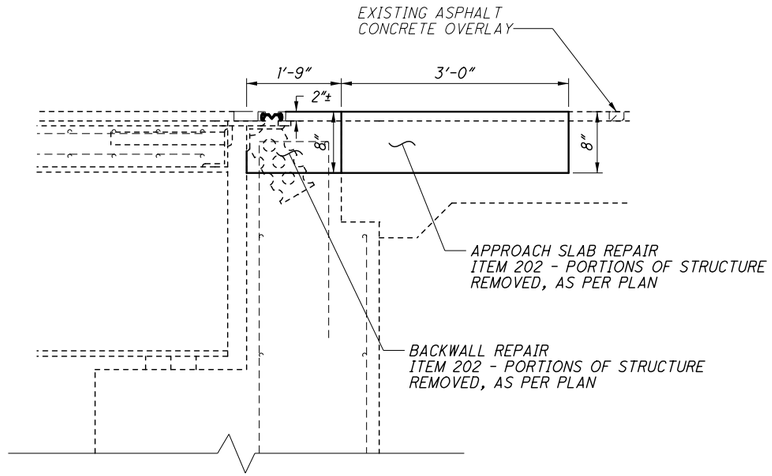
DESIGNED MAE
CHECKED ---

STRUCTURE DETAILS
RIC-314-5.03
OVER US 30

RIC-314-5.03

2 / 3

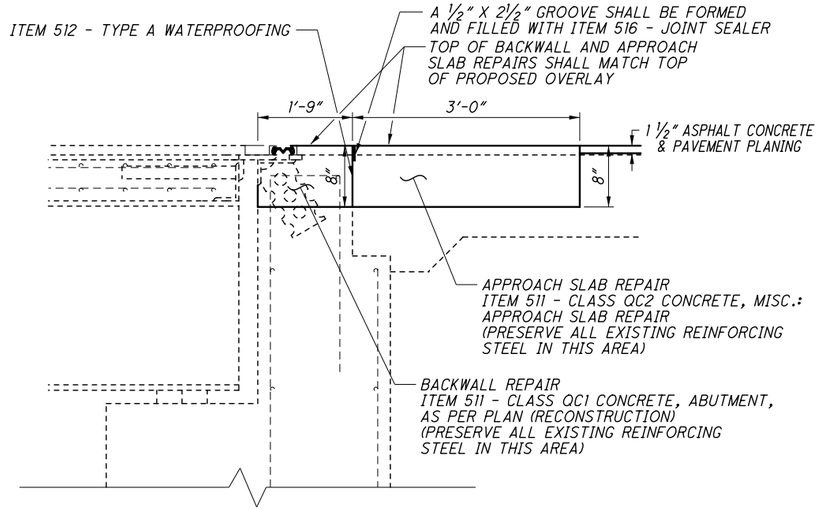
22
33



EXISTING SECTION B-B VIEW

EXPANSION JOINT, BACKWALL & APPROACH SLAB REPAIR

LENGTH = 44'-0"± (TYP. BOTH ENDS)



PROPOSED SECTION B-B VIEW

EXPANSION JOINT, BACKWALL & APPROACH SLAB REPAIR

LENGTH = 44'-0"± (TYP. BOTH ENDS)

NOTES:

1) ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED.

ITEM	QUANTITY	UNIT	DESCRIPTION
202	8.5	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
511	3.8	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
511	3.6	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
512	3.6	SY	TYPE A WATERPROOFING
516	48	FT	JOINT SEALER

ALL QUANTITIES CARRIED TO THE STRUCTURE SUMMARY.

DESIGN AGENCY
ODOT DISTRICT THREE OFFICE
OF PLANNING AND ENGINEERING

REVIEWED --- DATE --/--/--
STRUCTURE FILE NUMBER 7006012

DRAWN MAE
REVISED

DESIGNED MAE
CHECKED ---

EXPANSION JOINT, BACKWALL & APPROACH REPAIR DETAILS
RIC-314-5.03
OVER US 30

RIC-314-5.03

3 / 3

23
33

DESIGN FILE: I:\projects\93122\structures\RIC-314-5.03\RIC-314-5.03MD001.dgn
WORKSTATION tdevore DATE: 6/30/2015 MODEL NAME: Design

NOTES

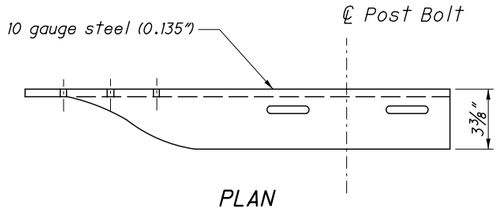
GENERAL: *Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.*

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

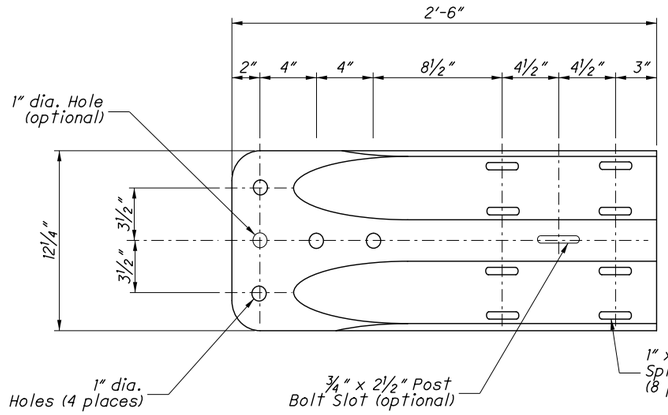
Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

RAIL ELEMENTS: *W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with ¾" x 2½" 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.*

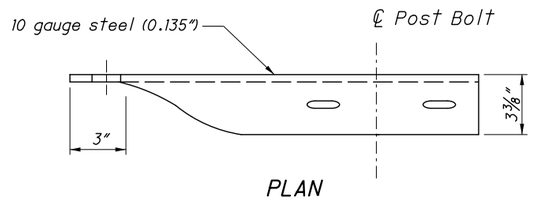


PLAN

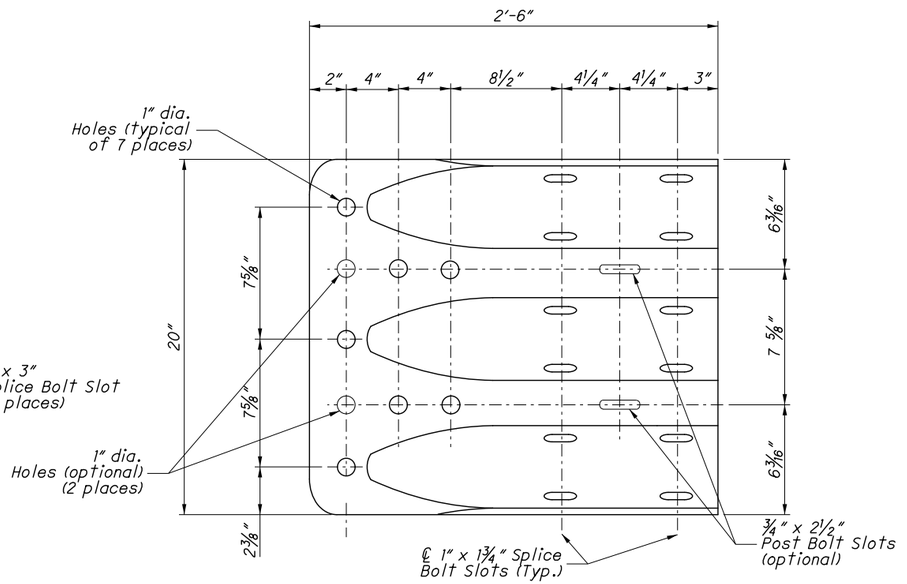


ELEVATION

W-BEAM TERMINAL CONNECTOR

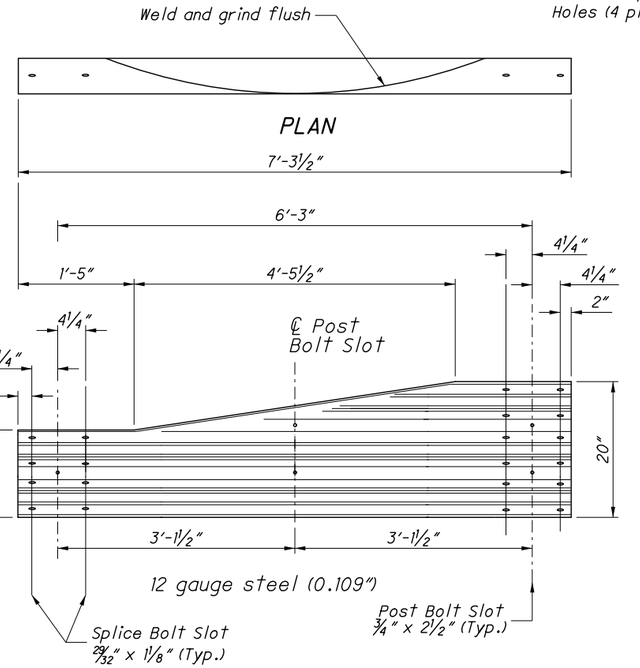


PLAN



ELEVATION

THRIE-BEAM TERMINAL CONNECTOR

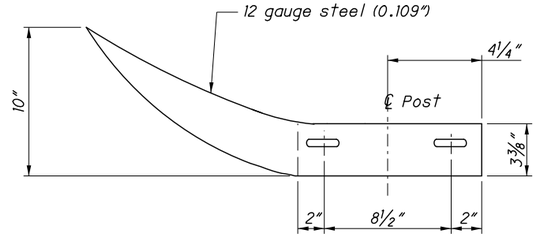


ELEVATION

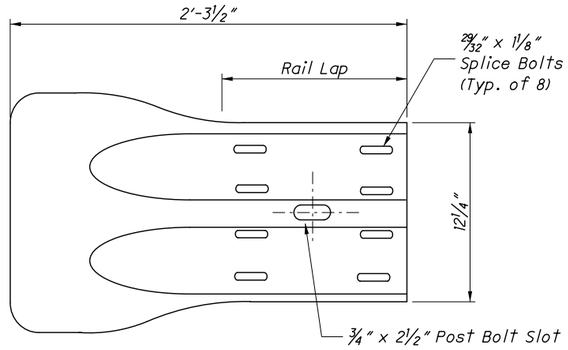
TYPE 2 TRANSITION SECTION

(Asymmetric W to Thrie-Beam)

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

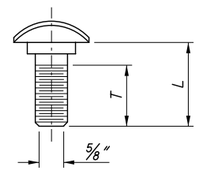


PLAN



ELEVATION

W-BEAM FLARED END SECTION



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
1¼"	1⅛"	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.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER GR-1.1

PLAN INSERT SHEET

GUARDRAIL DETAILS (Rail Components)

RIC-314-0.00

1 / 3

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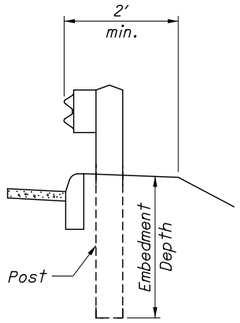
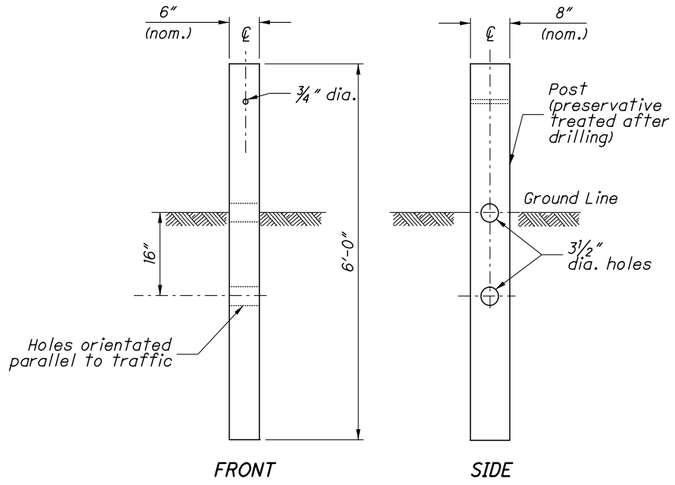
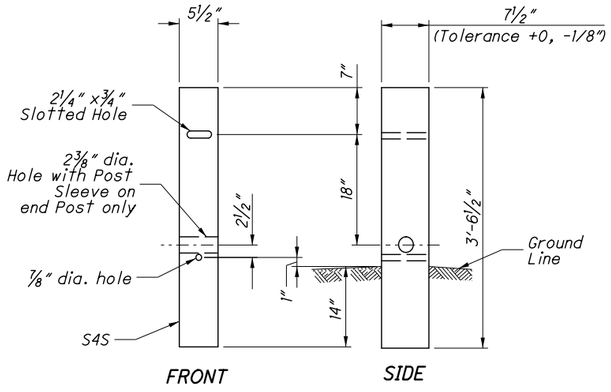


DETAIL A

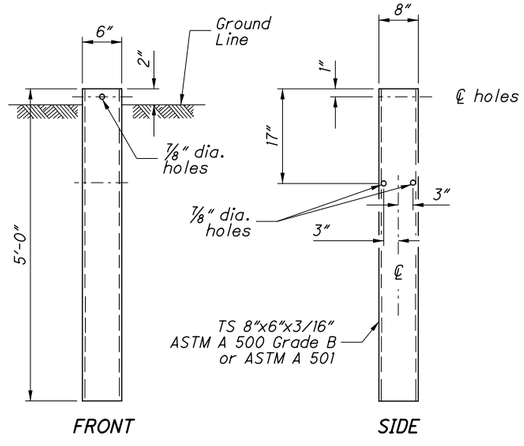
See POST EMBEDMENT DEPTH Note



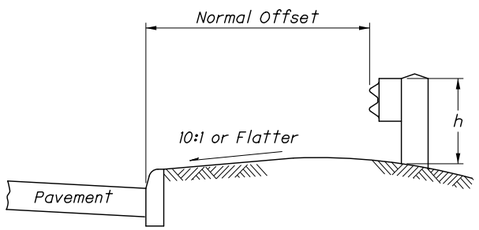
TYPE 1 BREAKAWAY CRT POST

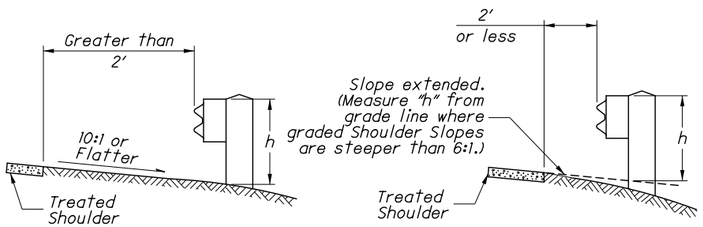


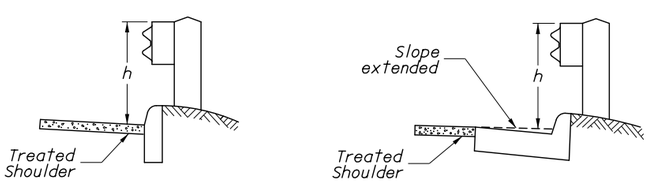
TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE







h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT

NOTES

GUARDRAIL HEIGHT: *For initial installation, construct the guardrail within ± 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 ±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.*

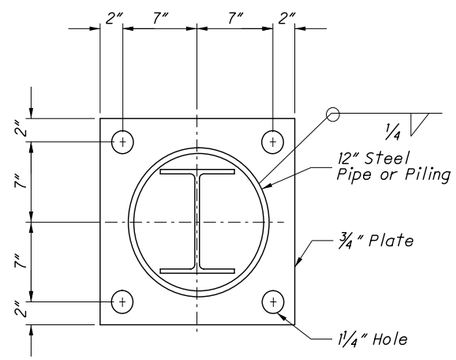
Do not drive posts located over a culvert with less than 4′-3″ of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3′-5″, encase the post with a minimum of 4″ concrete.

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.*

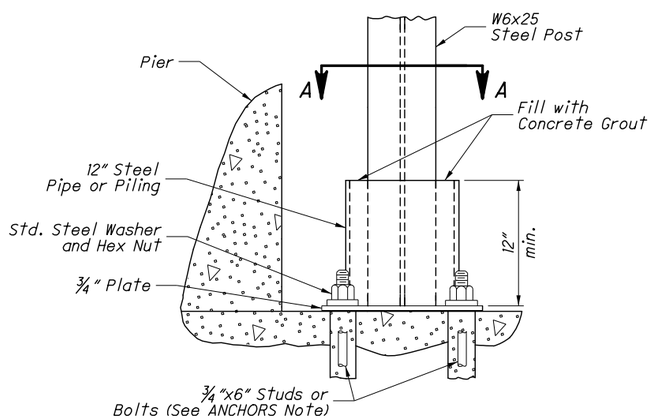
Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

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.)*



Footing Anchor and hardware need not be galvanized

SECTION A-A



ELEVATION
FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

OFFICE OF ROADWAY ENGINEERING

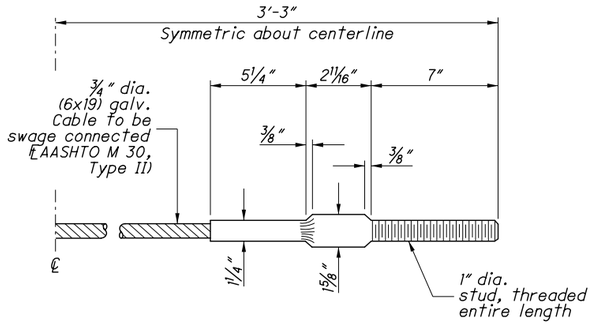
DESIGNED | REVIEWED
REVISION DATE | CHECKED
PIS NUMBER GR-1.1

PLAN INSERT SHEET
GUARDRAIL DETAILS (Rail Components)

RIC-314-0.00

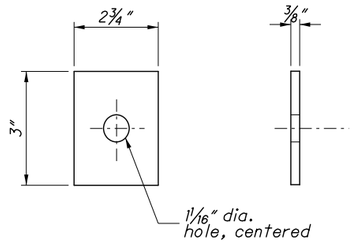
2 / 3

25 / 33

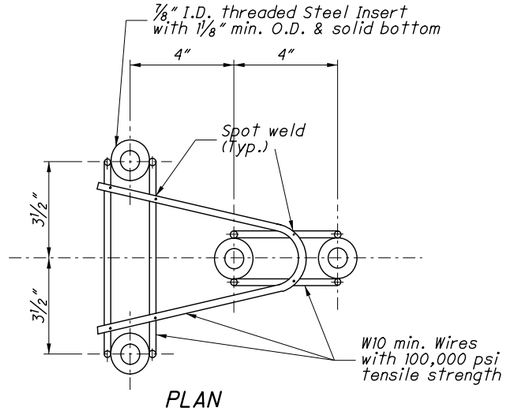


STANDARD SWAGED FITTING AND STUD

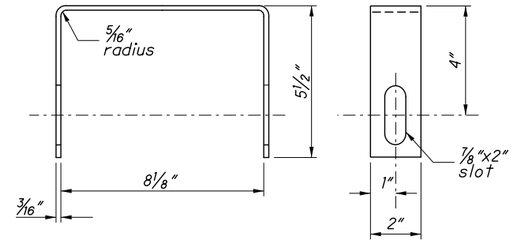
CABLE ANCHOR



END PLATE

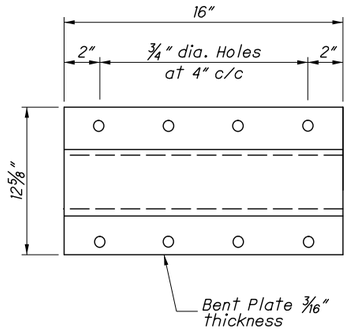


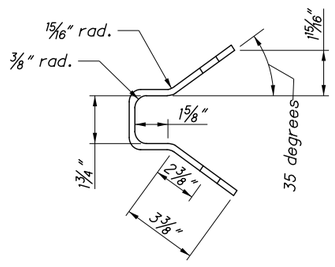
PLAN



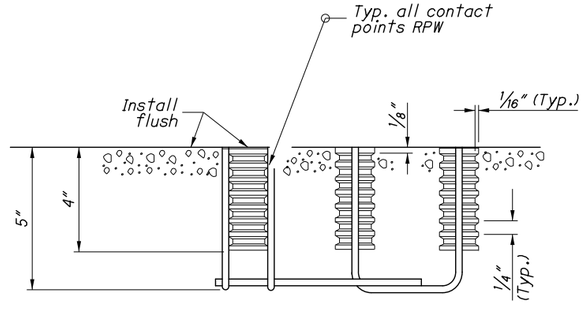
YOKE

Two required in Assembly



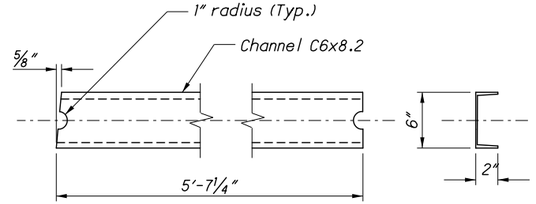


ANCHOR BRACKET



Four 7/8" Bolts required

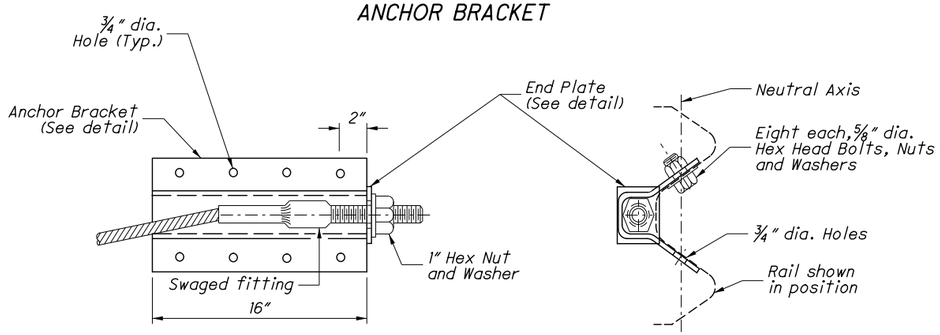
ELEVATION



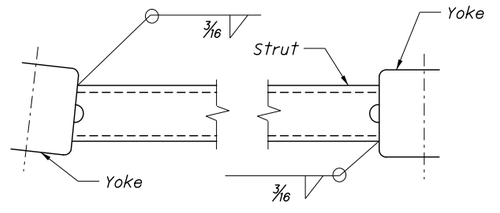
STRUT

CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2

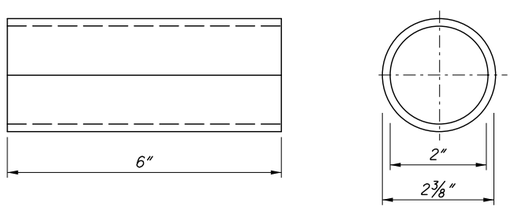


ANCHOR BRACKET ASSEMBLY DETAILS

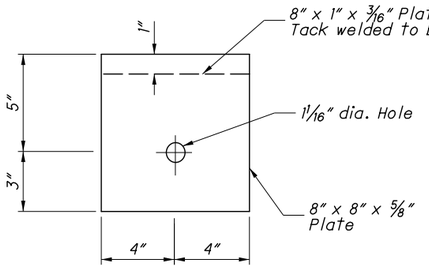


Channel legs shown down. For opposite hand, install Channel legs up.

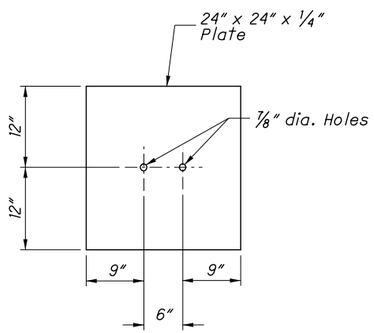
STRUT AND YOKE ASSEMBLY



POST SLEEVE



BEARING PLATE



SOIL PLATE

PLAN INSERT SHEET

GUARDRAIL DETAILS (Rail Components)

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PIS NUMBER GR-1.1

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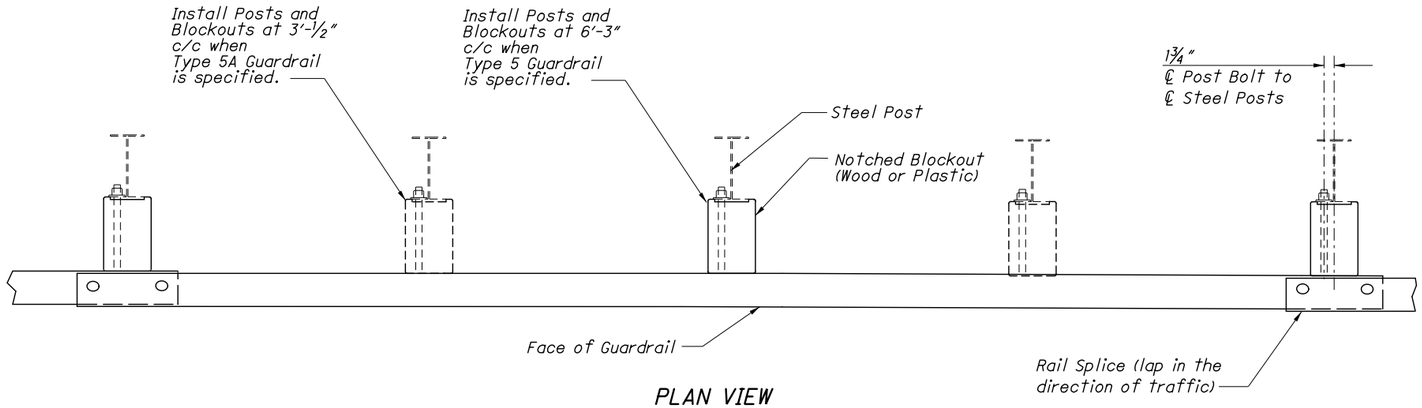
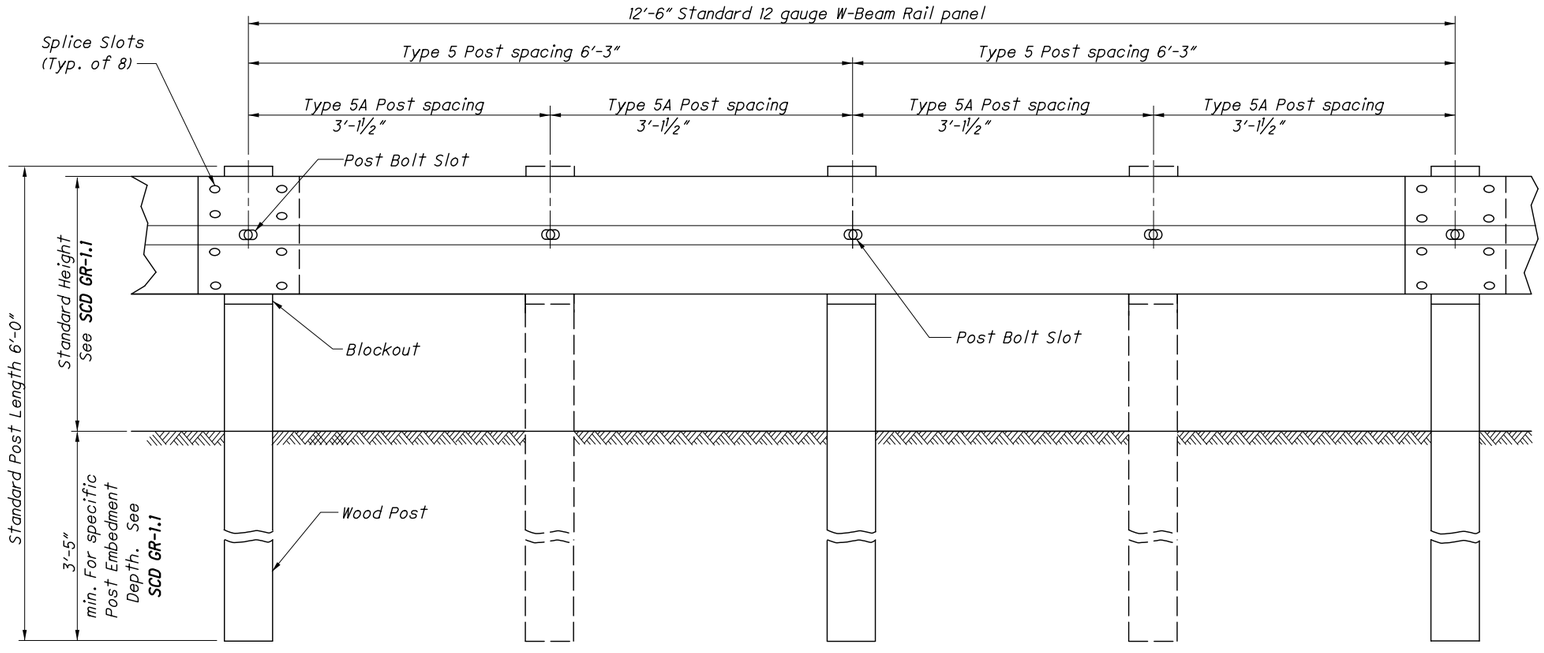


PLAN VIEW
(Steel Posts shown)



ELEVATION
(Wood Posts shown)

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"*

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GUARDRAIL TYPE 5 & 5A

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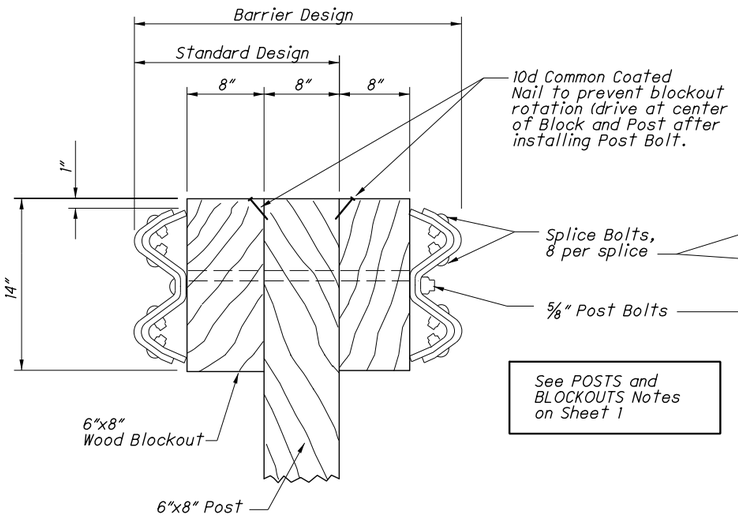
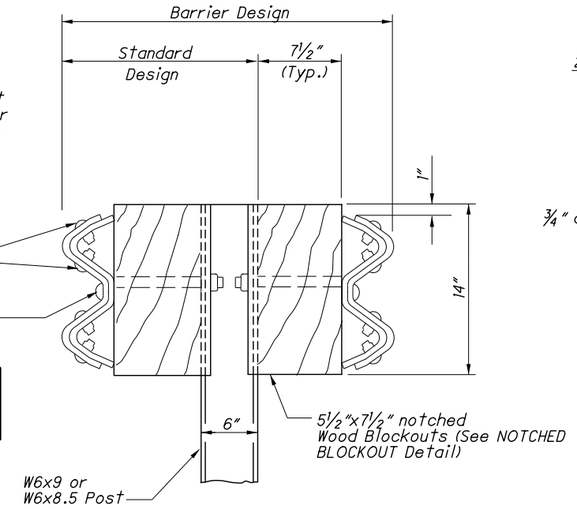
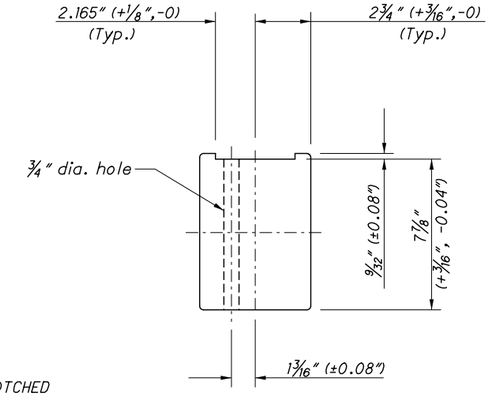


SQUARE WOOD POST

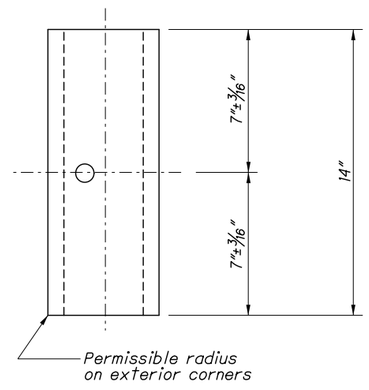


STEEL POST

See POSTS Note, Sheet 1



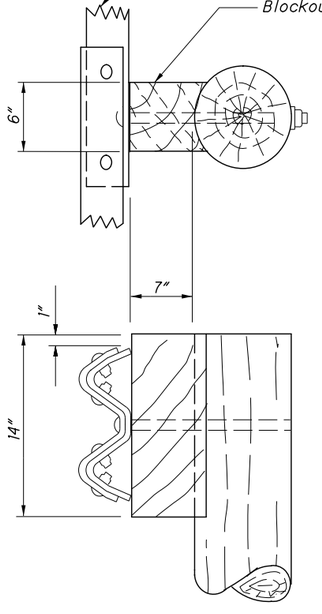
PLAN



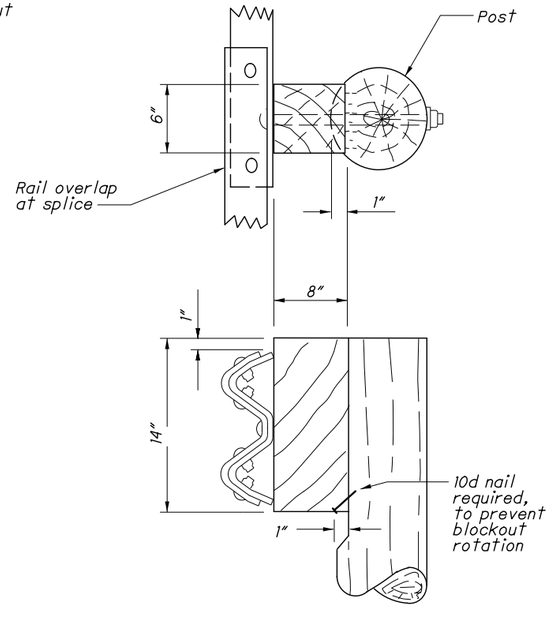
ELEVATION

NOTCHED BLOCKOUTS FOR STEEL POSTS

See BLOCKOUTS Note on Sheet 1



Method 1
Routed Blockout

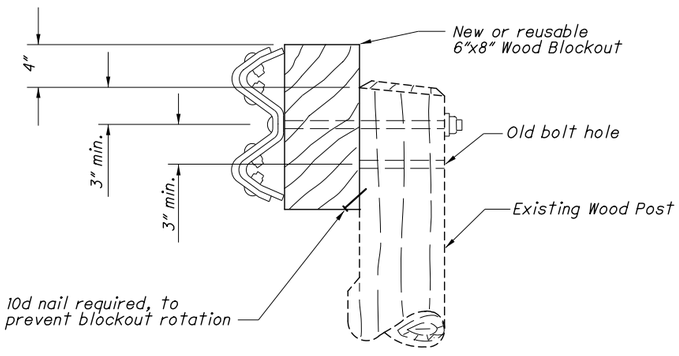


Method 2
Notched Post

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)



WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT

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PLAN INSERT SHEET

GUARDRAIL TYPE 5 & 5A

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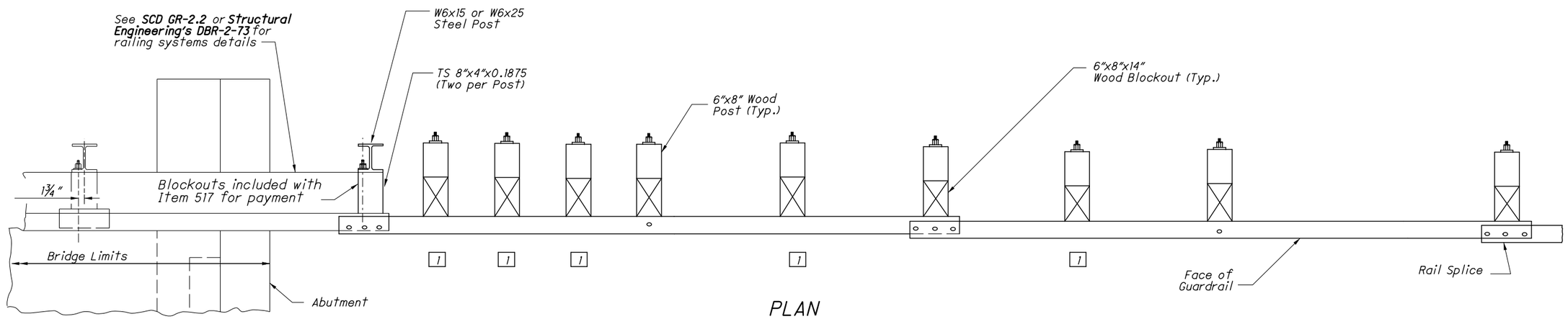
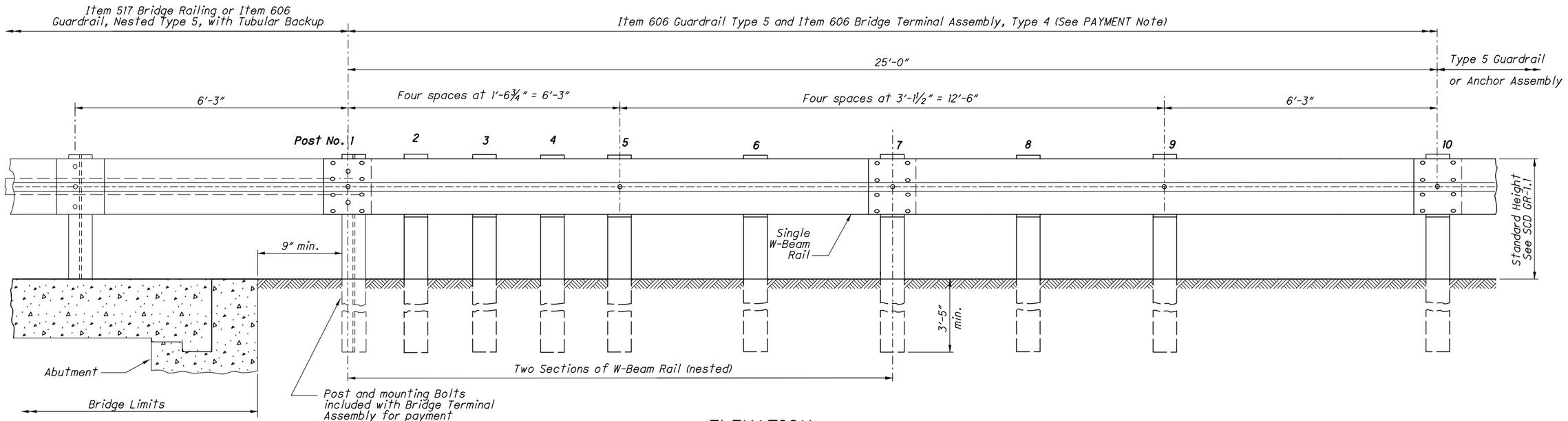


PLAN



ELEVATION

NOTES

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

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

DETAIL INFORMATION: *The first post off the bridge shall be steel (W6x15 or W6x25). All holes in the off-structure end of the approach panel rail section spanning the abutment are slotted ¾"x2½". Tighten the bolts as specified for expansion joints in Item 606.05.*

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

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

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

BLOCKOUTS: *Use wood blockouts only. Steel or plastic blockouts are not permitted. Notched wood blockouts are used with steel posts.*

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

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

LEGEND

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

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PID NUMBER GR-3.4

PLAN INSERT SHEET

BRIDGE TERMINAL ASSEMBLY, TYPE 4

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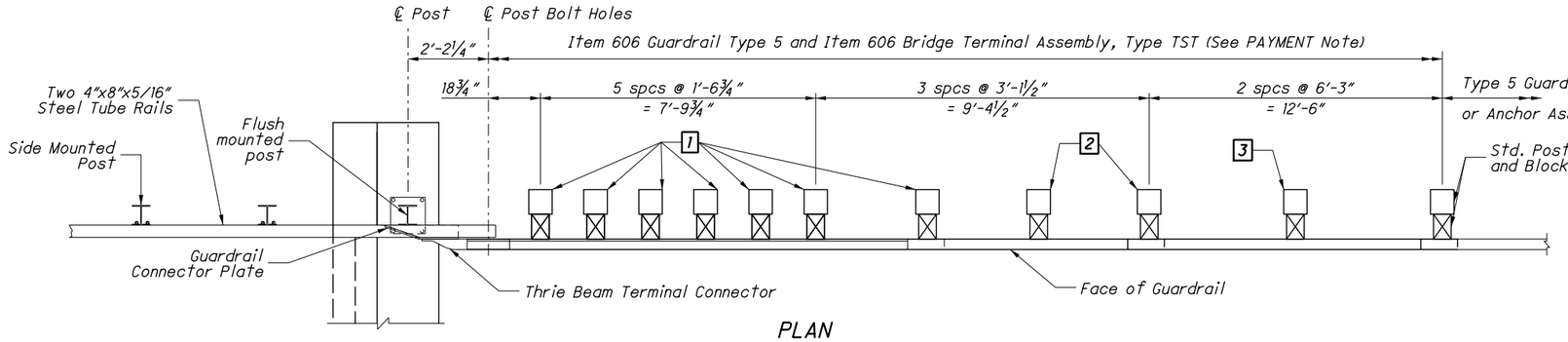
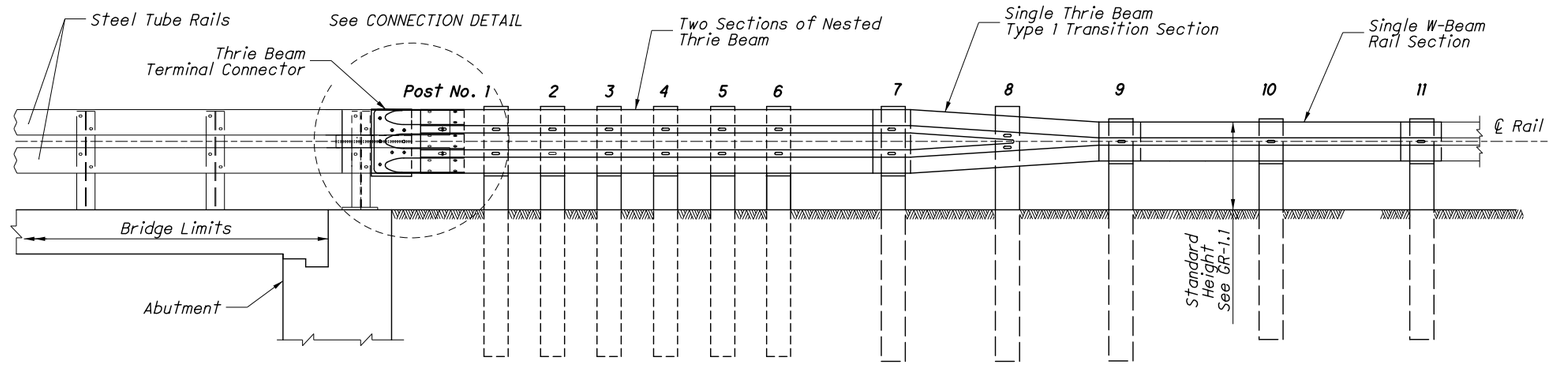
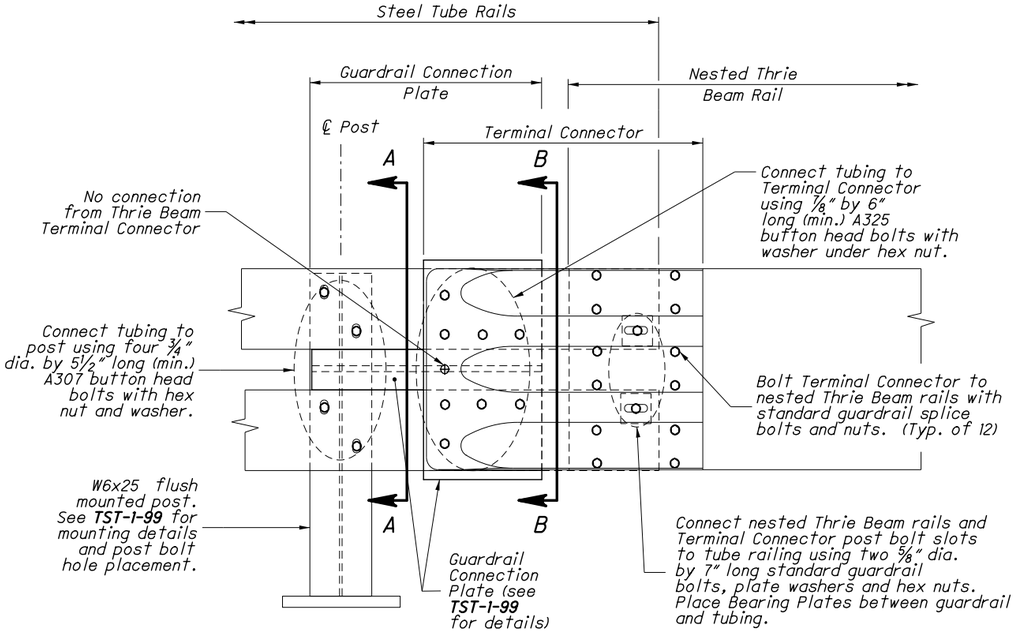


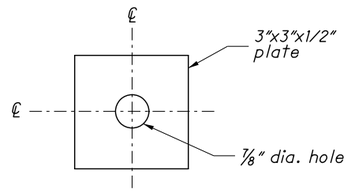
PLAN



ELEVATION

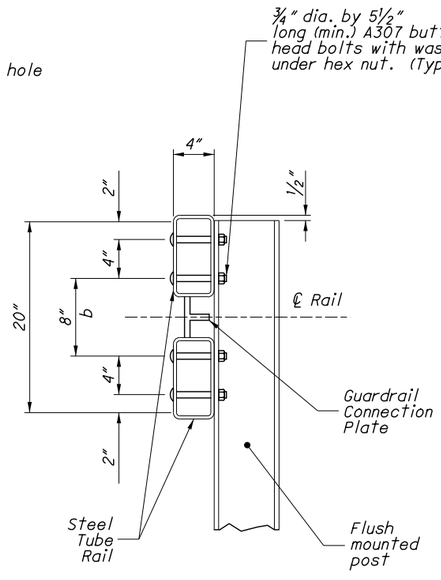


CONNECTION DETAILS

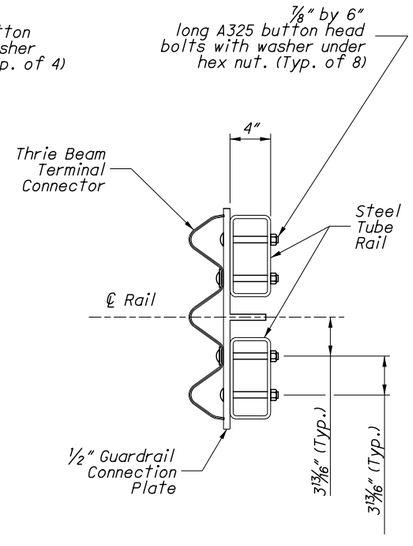


AASHTO/AGC/ARTBA
Standardized Hardware Guide part FWR09

BEARING PLATE



SECTION A-A
Section through Tubing at Post



SECTION B-B
Section through Tubing at Terminal Connector

NOTES

GENERAL: *For additional guardrail details, including Thrie Beam Terminal Connector, see* ***SCD's GR-1.1.***

APPLICATION: *The Type TST Bridge Terminal Assembly shall be used to connect guardrail runs to both the approach and trailing ends of twin steel tube bridge railings.*

See ***Structural Engineering's SCD TST-1-99*** *for Flush Mounted post and Guardrail Connection Plate and tubing details, (including tubing bolt hole placement).*

POSTS: *Posts may be set in drilled holes or driven to grade.*

WOOD POSTS shall be square, sawed pressure treated wood per CMS 710.14 and fabricated with square ends. Bolt holes shall be bored and taps of posts trimmed, if required, after posts are set.

STEEL POSTS: W6x9 (or W6x8.5) posts may be substituted for 6x8 wood posts. Notched wood blockouts, as shown on ***SCD GR-2.1*** *(except 22" long for posts 1 thru 7), are to be used with steel posts. Plastic blockouts are not permitted.*

PAYMENT: Item 606 - Bridge Terminal Assembly, Type TST, Each, *shall include the extra cost, in excess of normal guardrail costs, for additional and different type posts and blockouts, nested Thrie Beam sections, Transition sections, Terminal Connector, bearing plates, bolts, nuts, washers and other hardware.*

LEGEND

1 — *Posts 1 thru 7: 6"x8"x6'-6" Wood Posts with 6"x8"22" Wood Blockouts*

2 — *Posts 8 & 9: 6"x8"x6'-6" Wood Posts with 6"x8"x14" Wood Blockouts*

3 — *Post 10: 6"x8"x6'-0" Wood Post with 6"x8"x14" Wood Blockout*

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PLAN INSERT SHEET

BRIDGE TERMINAL ASSEMBLY, TYPE TST

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1 / 1

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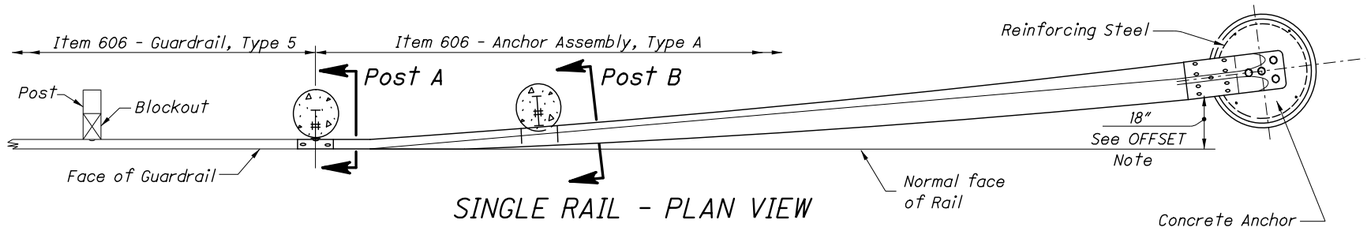
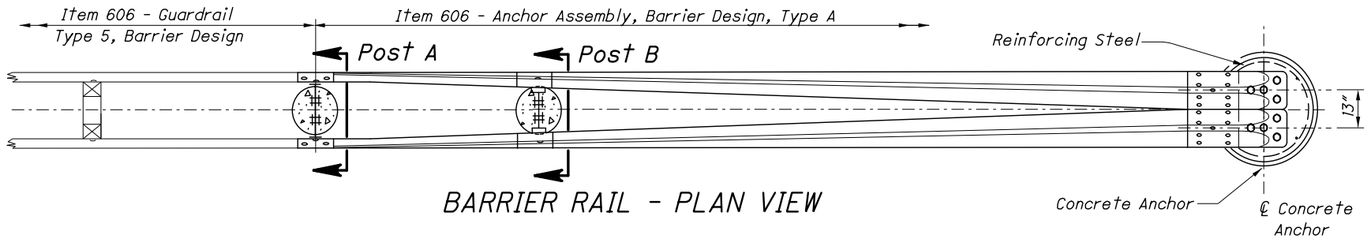
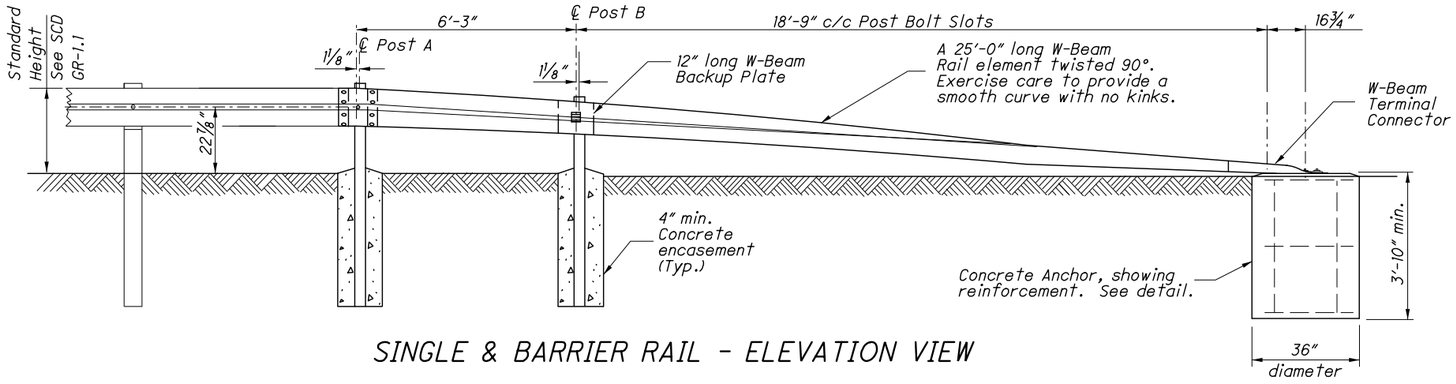


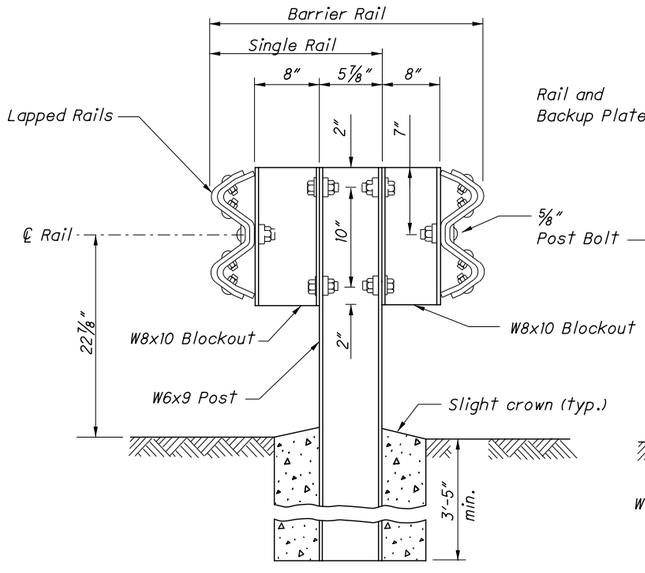
SINGLE RAIL - PLAN VIEW



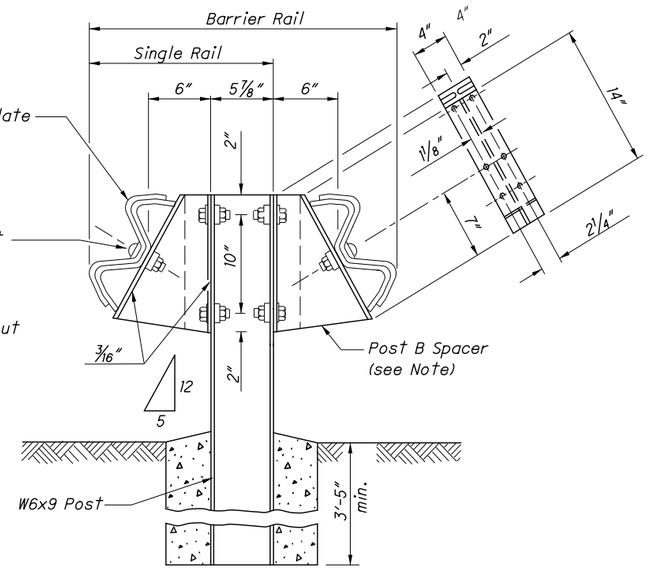
BARRIER RAIL - PLAN VIEW



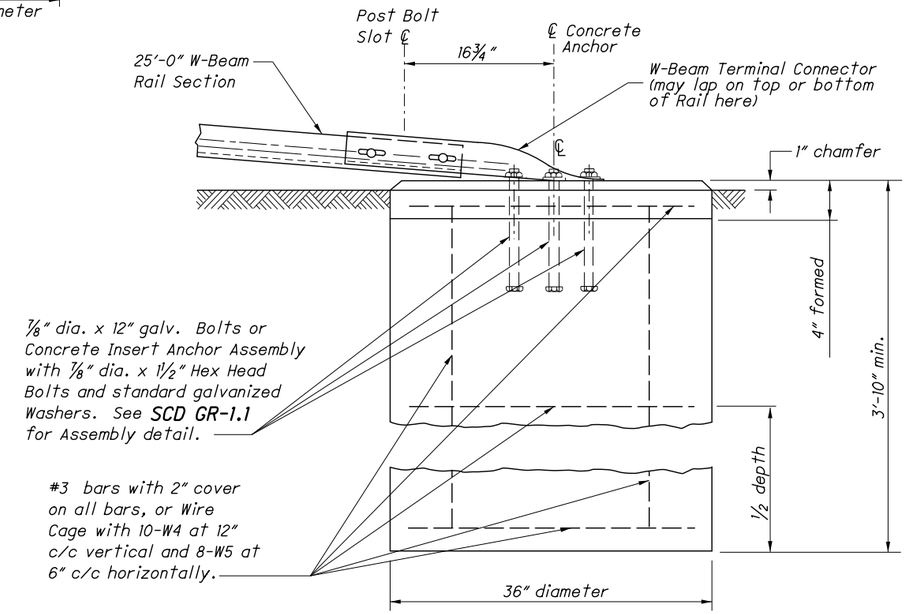
SINGLE & BARRIER RAIL - ELEVATION VIEW



POST A



POST B



CONCRETE ANCHOR

NOTES

APPLICATION: *On Non-NHS roadways it may be used in the clear zone, with restrictions. See Section 603.* ***Location & Design Manual, Volume 1.***

GENERAL: *For details not shown, see* ***SCD GR-1.1*** *and other Drawings pertaining to specific guardrail type. Galvanize all steel parts.*

OFFSETS: *See* ***SCD GR-5.1*** *for Standard Guardrail Flare. The 18" flare offset from normal face of rail, shown in the plan view (for single rail installations) will be utilized only where shoulder is insufficient for providing standard flares.*

POSTS: *Steel posts W6x9 are shown, but W6x8.5 posts are also permitted. See* ***SCD GR-1.1*** *for additional embedment details.*

SPACERS: *Post B Spacers shall be made of 3/16" Steel Plate as specified in CMS 710.15 or tow sections of W6x9 or W8x10 cut in the web (see dashed line on POST B Detail) and welded together on both sides.*

All steel spacers and posts may be provided with additional bolt holes so that these items will not be required to be made right and left handed.

Spacers shall be fastened to Posts with two ⅝" hex head bolts and nuts with standard washers on both sides.

WASHERS: *All washers indicated on this drawing are standard galvanized steel of the appropriate size.*

CONCRETE ANCHOR: *Form top 4" of anchor and slope the top to conform to slope of the adjacent ground. The 36" diameter anchor may be replaced by a 2'-6" square anchor at the contractor's option.*

PAYMENT: *include all materials and labor for the 25'-0" Single Rail, Type A Anchor Assembly in the unit price bid for* ***Item 606 - Anchor Assembly, Type A, Each.*** *Pay for all materials and labor for the 25'-0" Barrier Rail under the unit bid price* ***Item 606 - Anchor Assembly, Barrier Design, Type A, Each.***

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PLAN INSERT SHEET

TYPE A ANCHOR ASSEMBLY

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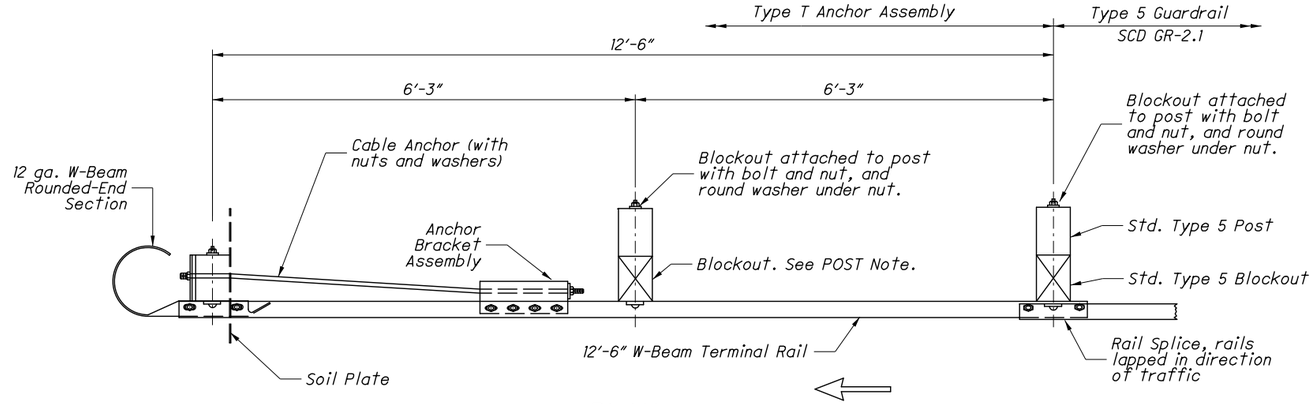
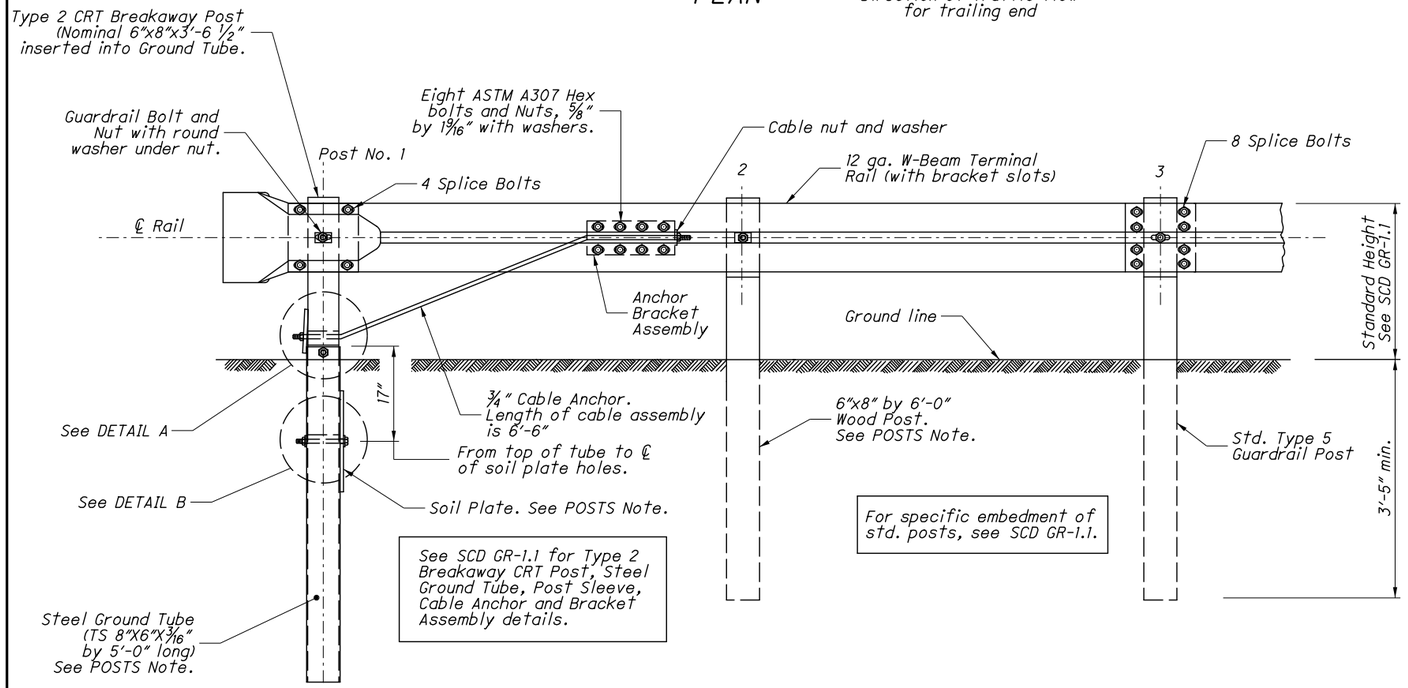
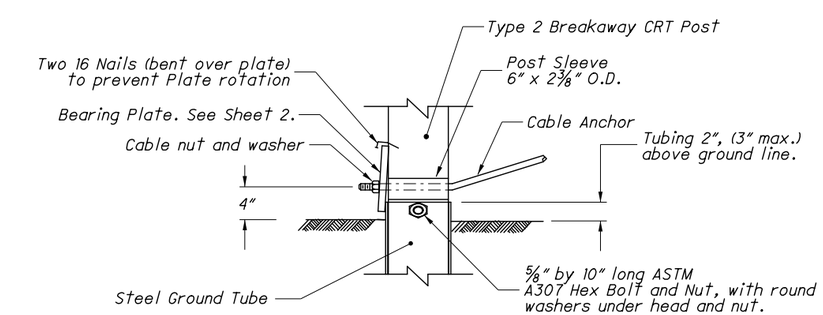


PLAN

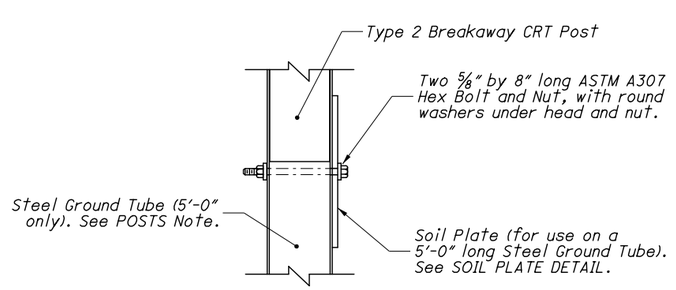
Direction of Traffic flow for trailing end



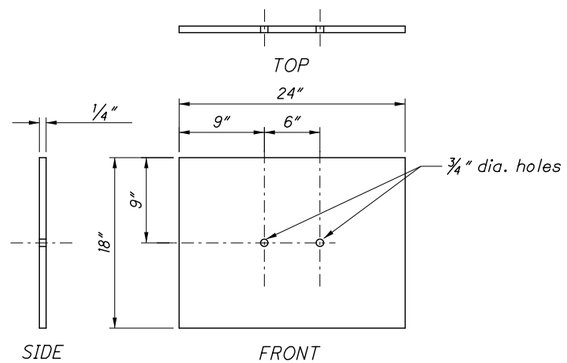
ELEVATION - FOUNDATION TUBE



DETAIL A



DETAIL B



SOIL PLATE DETAIL

NOTES

APPLICATION: *Use Type T Anchor Assemblies on the trailing end of guardrail runs, located outside of the clear zone of opposing traffic. The assembly is 12'-6" long, none of which can be considered the Length of Need for the guardrail run.*

For termination requirements at driveways, see DRIVEWAY OPENING Detail on Sheet 2. For side road approaches and Terminals at Structures, see Location & Design Manual, Volume 1, Figure 603-3.

ANCHORING OPTIONS: *Contractor may choose either the foundation tube (shown on this Sheet) or the concrete footing option (Sheet 2) to construct this anchor assembly.*

If the foundation tube option is chosen, the contractor will take proper care to insure that the Soil Plate fasteners are not broken during the driving process.

Concrete footings may be cast-in-place or precast. Compact fill after placing precast unit.

MATERIALS: *See **SCD GR-1.1** for parts used on this anchor, including the CRT Breakaway Posts, Steel Ground Tube, Post Sleeve, Cable Anchor and Bracket Assembly.*

Bearing Plate and Soil Plate is ASTM A709 Grade 36. Steel Ground Tube shall be ASTM A500, Grade B, and meet CMS 707.10. All angles, channels and plates shall meet CMS 711.01. All structural steel shall be galvanized as specified in CMS 711.02. All bolt washers indicated are standard galvanized steel of the appropriate size.

Concrete shall be class C.

*Components on this anchor that are not detailed on SCD GR-1.1 include: 1) 12'-6" W-Beam Terminal Rail (standard part RWM14a), and 2) W-Beam Rounded End Section (RWE03a). For complete details and specifications, see part descriptions in the **AASHTO/AGC/ARTBA Standardized Hardware Guide.***

POSTS: *Post No. 1 may be an 8'-0" long Steel Ground Tube without a Soil Plate in lieu of the 5'-0" tube with Soil Plate.*

Post No. 2 can be W6x9 (or W6x8.5) with notched wood blockouts or a standard Type 5 post and blockout. Recycled plastic blockouts are permitted.

PAYMENT: *All labor and materials, including the W-Beam Rounded End Section and the W-Beam Terminal Rail for the 12'-6" anchor assembly shall be included in the unit price bid for*

Item 606 - Anchor Assembly, Type T, Each.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER GR-4.2

PLAN INSERT SHEET

TYPE T ANCHOR ASSEMBLY (Foundation Tube Option)

RIC-314-0.00

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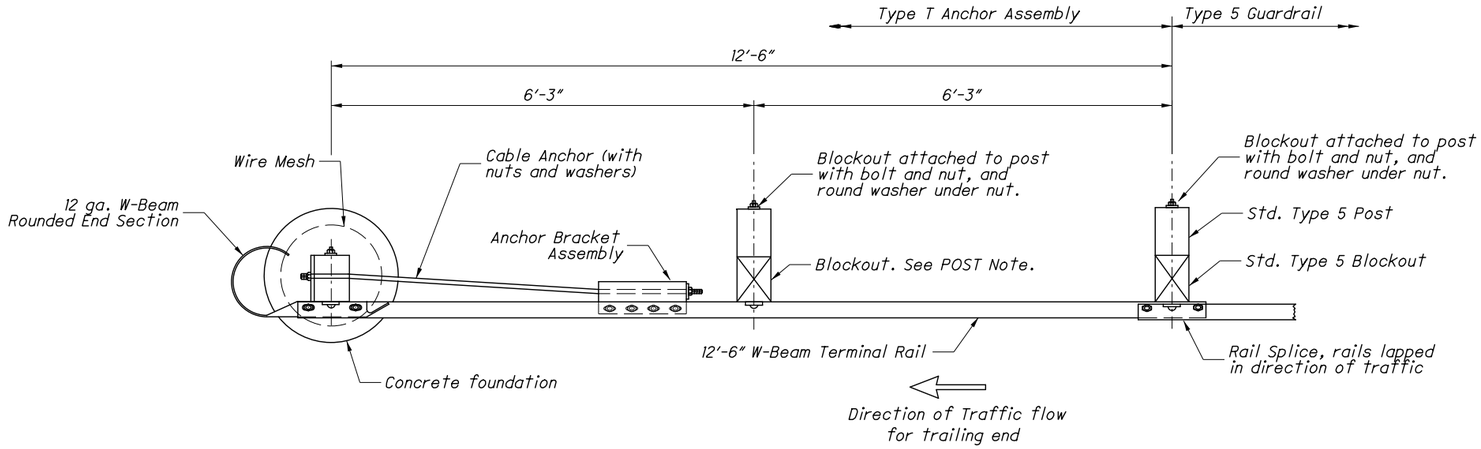
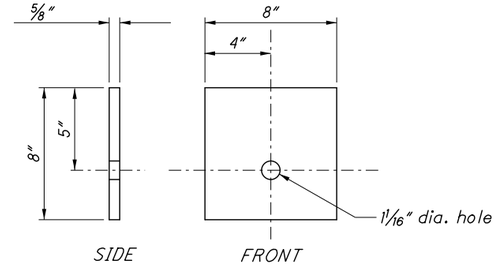
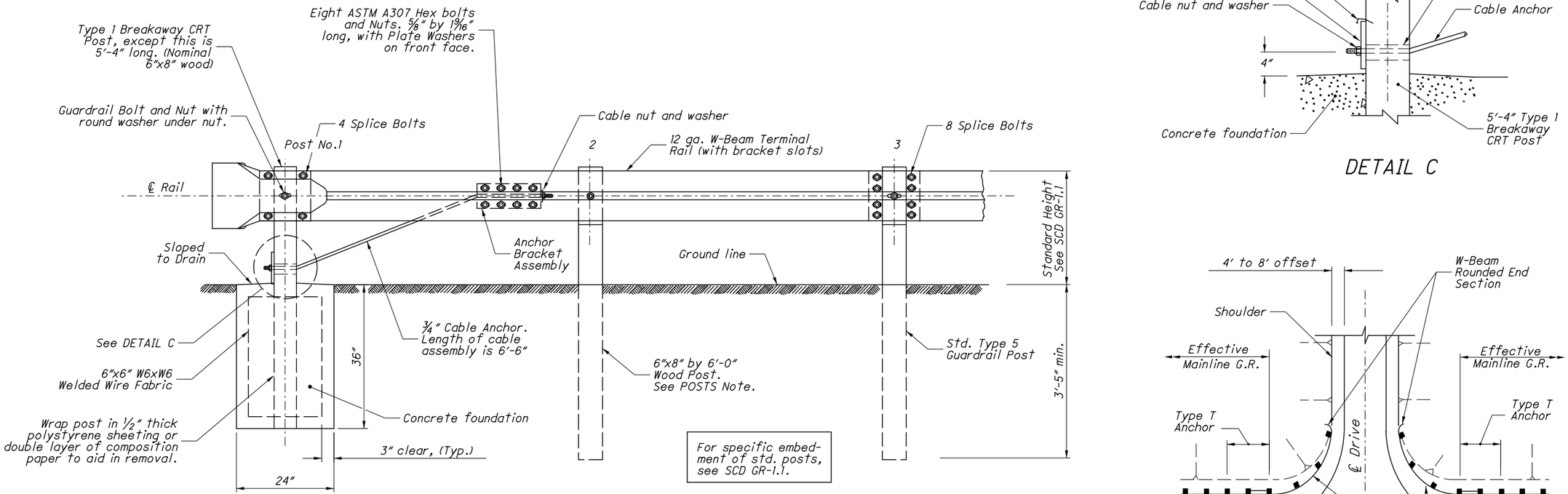


PLAN

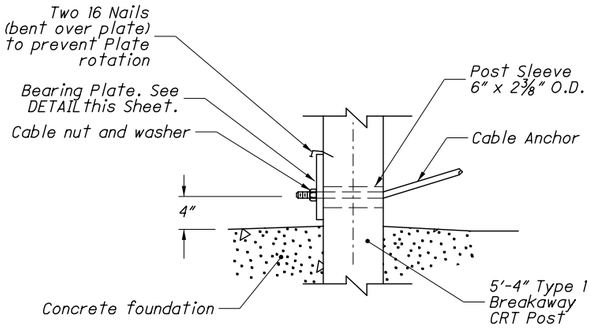


BEARING PLATE DETAIL

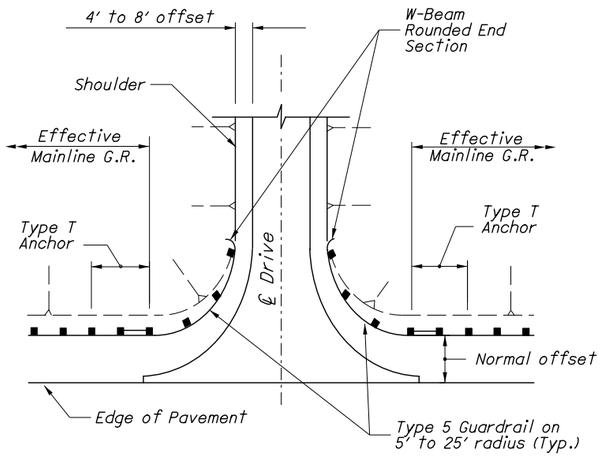


See SCD GR-1.1 for Type 1 Breakaway CRT Post, Steel Ground Tube, Post Sleeve, Cable Anchor and Bracket Assembly details.

ELEVATION - CONCRETE FOOTER



DETAIL C



DRIVEWAY OPENING

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER GR-4.2

PLAN INSERT SHEET

TYPE T ANCHOR ASSEMBLY (Foundation Tube Option)

RIC-314-0.00

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