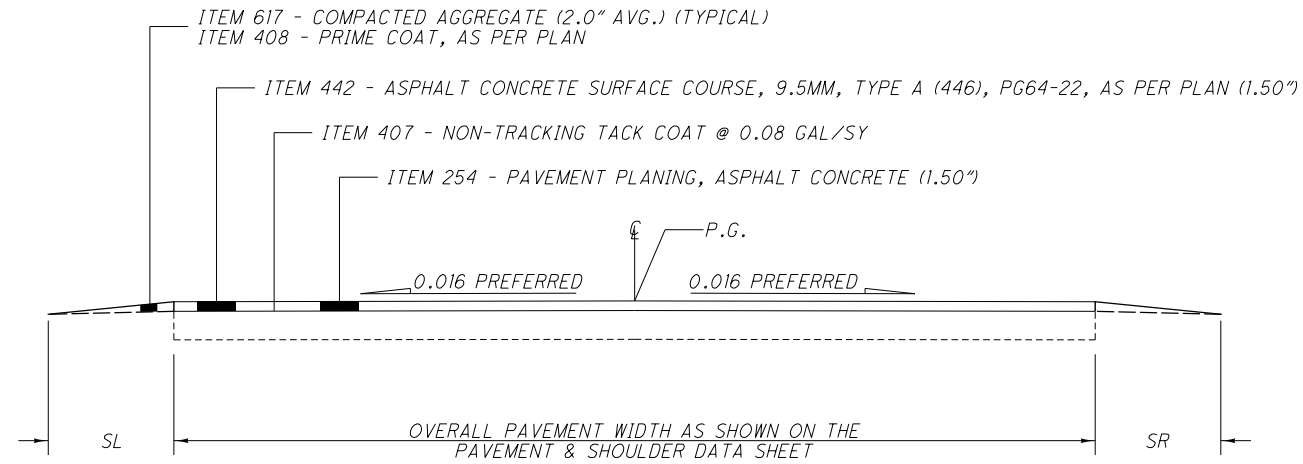


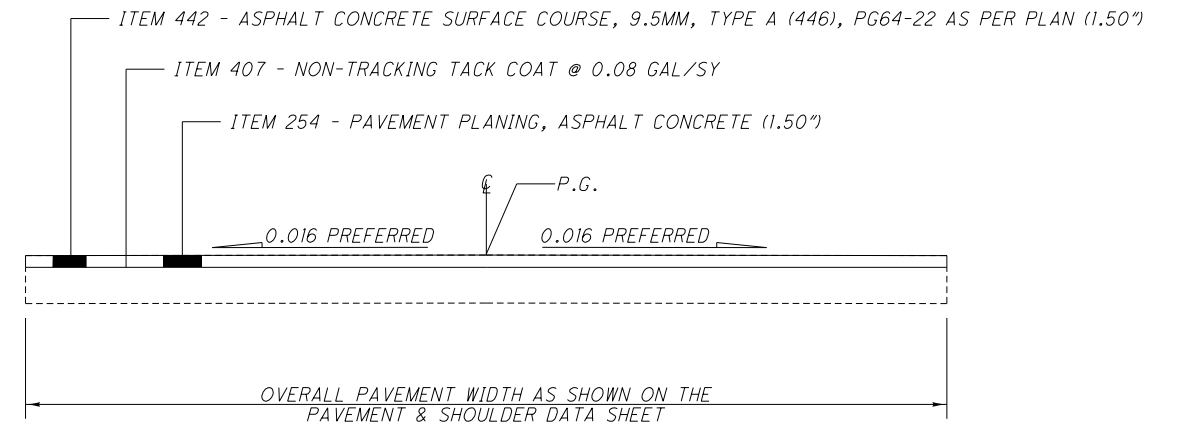
DESIGN DESIGNATION	WAY - 585 - 2.22 - 2.38	WAY - 585 - 3.41 - 3.98	WAY - 585 - 3.98 - 5.20	WAY - 585 - 5.20 - 6.03	WAY - 585 - 6.03 - 11.89
CURRENT YEAR ADT (2019)	6,800	6,800	6,800	7,700	7,700
DESIGN YEAR ADT (2031)	6,900	6,900	6,900	8,400	8,400
DESIGN HOURLY VOLUME (2031)	600	600	600	750	750
DIRECTIONAL DISTRIBUTION	58%	58%	58%	54%	54%
TRUCKS (24 HOUR B&C)	10%	10%	10%	11%	11%
NHS PROJECT	NO	NO	YES	YES	NO
DESIGN FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	MINOR ARTERIAL	MINOR ARTERIAL	MINOR ARTERIAL	MINOR ARTERIAL

SPEED LIMITS		
ROUTE AND LOCATION	MPH	
WAY - 585 - 2.22 - 2.38	50	
WAY - 585 - 3.41 - 4.32	55	
WAY - 585 - 4.32 - 4.81	50	
WAY - 585 - 4.81 - 5.30	35	
WAY - 585 - 5.30 - 5.41	25	
WAY - 585 - 5.41 - 6.04	35	
WAY - 585 - 6.04 - 7.30	45	
WAY - 585 - 7.30 - 11.89	55	

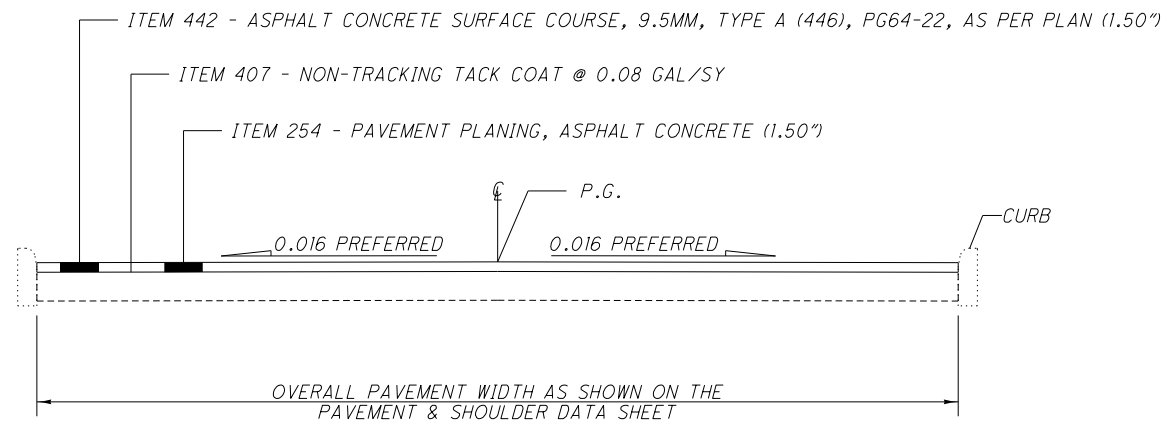


TYPICAL 1

SLM 2.22-2.38  
 3.41-5.15  
 5.85-8.55  
 8.64-11.89



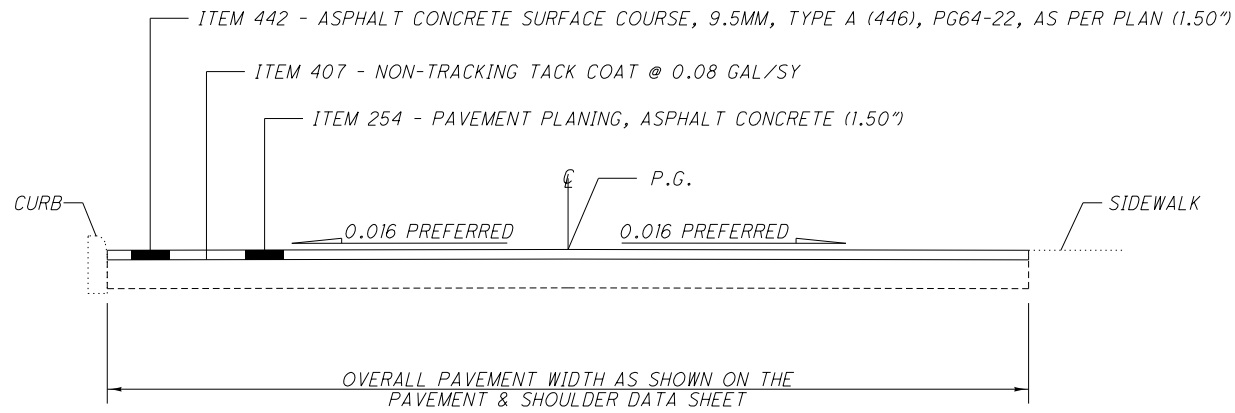
TYPICAL 2  
 STRUCTURE WAY-585-5.14 (BRIDGE DECK ONLY)  
 (EXISTING BRIDGE RAIL NOT SHOWN)



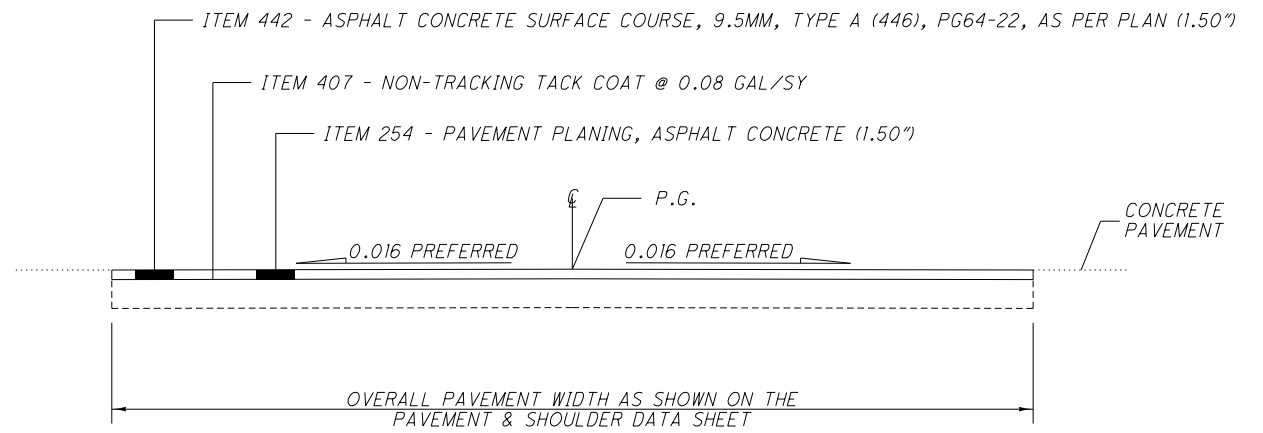
TYPICAL 3

SLM 5.17-5.78

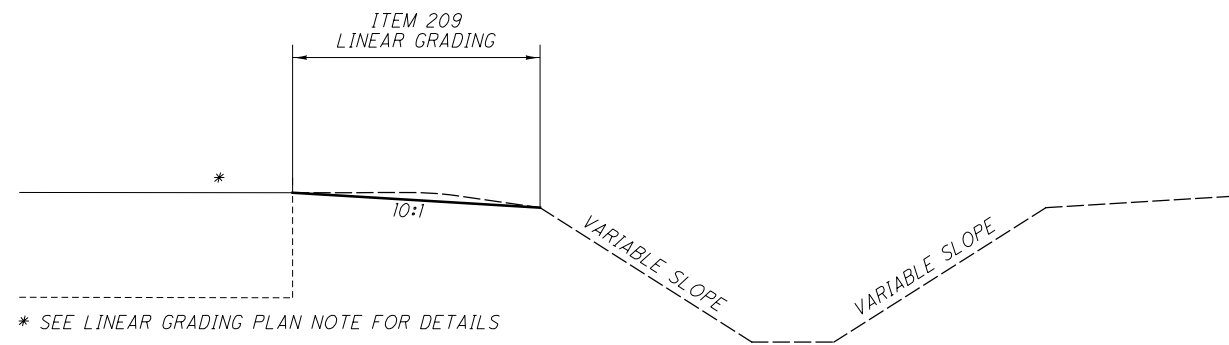
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TYPICAL 4  
SLM 5.80-5.85



TYPICAL 5  
SLM 8.55-8.64



LINEAR GRADING DETAIL

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**UTILITIES**

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

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

CABLE ARMSTRONG CABLE 1141 LAFAYETTE ROAD MEDINA, OHIO 44256 330.722.3141	GAS ENERVEST 1748 SALTWELL RD DOVER, OH 44622 330.602.5551
GAS C & C PRODUCING 157 MYERS STREET CRESTON, OH 44217 330.435.4458	CABLE MASSILON CABLE TELEVISION P.O. BOX 917 WOOSTER, OH 44691 330.345.5110
COMMUNICATION DOYLESTOWN TELEPHONE CO. 28 EAST MARION STREET DOYLESTOWN, OH 44230 330.658.6666	GAS DOMINION 320 SPRINGSIDE DRIVE, SUITE 320 AKRON, OH 44333 800.362.7557
GAS ASPIRE ENERGY 300 TRACY BIRDGE ROAD ORRVILLE, OH 44667 330.682.7726	GAS MS PRODUCING 1153 EAST PLEASANT HOME RD CRESTON, OH 44217 330.621.1255
GAS NORTHEAST OHIO NATURAL GAS 9081 STATE ROUTE 250 STRASBURG, OH 44680 330.878.5589	TRAFFIC ODOT DISTRICT THREE 906 CLARK AVENUE ASHLAND, OH 44805 419.207.7045
ELECTRIC OHIO EDISON 1717 ASHLAND ROAD MANFIELD, OH 44905 419.521.6213	ELECTRIC AEP OHIO 500 MAPLE STREET WOOSTER, OH 44691 330.202.3047
CITY CITY OF ORRVILLE UTILITIES 207 NORTH MAIN STREET ORRVILLE, OH 44667 330.684.5000	GAS SPELMAN PIPELINE 9081 STATE ROUTE 250 STRASBURG, OH 44680 800.848.5589
COMMUNICATION CENTURYLINK 175 ASHLAND ROAD, P.O. BOX 3555 MANFIELD, OH 44907 419.755.7956	WATER VILLAGE OF SMITHVILLE P.O BOX 517 SMITHVILLE, OH 44677 330.669.2311

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

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

**ROUTINE MAINTENANCE**

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

**EXISTING PLANS**

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT THREE OFFICE IN ASHLAND.	
TITLE	DATE
WAY-585-2.14	2002
WAY-585-2.56	2010

**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.

**PROFILE AND ALIGNMENT**

PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. (PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 3 OFFICE). PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

**PAVING AT RAILROAD CROSSINGS**

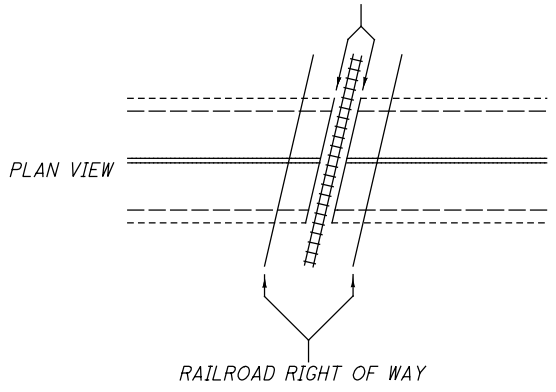
PRIOR TO ANY WORK AT RAILROAD CROSSINGS THE CONTRACTOR SHALL CONTACT THE AFFECTED RAILROAD AUTHORITY SO AS TO MAKE THEM AWARE OF THE PROGRESS AND SCHEDULE OF WORK. THE CONTRACTOR SHALL COOPERATE WITH THE RAILROAD SO AS TO ELIMINATE ANY SAFETY CONCERNS. FLAGGING WILL BE REQUIRED BY THE RAILROAD. ODOT 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:
- DO NOT DISTURB RAILROAD GATES
  - RE-INSTALL PAVEMENT MARKINGS
  - RAILROAD MAY DIRECT ENGINEER ON THE LOCATION OF BUTT JOINTS. OTHERWISE OMIT AND RESUME RESURFACING AT THE EDGE OF THE EXISTING CROSSING SURFACE ON BOTH SIDES OF THE TRACK.

**PAVEMENT CORING INFORMATION**

County	Route	SLM	Asphalt	Concrete	Brick	Location	Direction	Year Cored
WAY	585	3.48	10.5	0.0	3.5	LWP	NB/EB	2017
WAY	585	3.48	9.5	0.0	0.0	RWP	NB/EB	2017
WAY	585	3.48	6.5	0.0	0.0	SH	NB/EB	2017
WAY	585	4.41	9.5	0.0	0.0	LWP	NB/EB	2017
WAY	585	4.41	8.0	0.0	0.0	RWP	NB/EB	2017
WAY	585	4.41	6.5	0.0	0.0	SH	NB/EB	2017
WAY	585	5.44	6.0	3.0	0.0	LWP	NB/EB	2017
WAY	585	5.44	10.5	0.0	0.0	RWP	NB/EB	2017
WAY	585	5.44	4.0	7.0	0.0	SH	NB/EB	2017

**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).

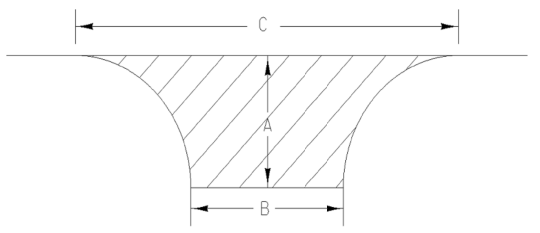
URBAN-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

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.

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



Intersection Name	SLM	SIDE	A (ft.)	B (ft.)	C (ft.)	Area (sy)
N HONEYTOWN RD	3.98	RT	31	33	79.5	167
N HONEYTOWN RD	3.99	LT	29.5	38.5	103	197
CHARLES AVE	4.76	RT	64	21	22	152
E SMITHVILLE WESTERN RD	4.79	LT	72	21	102	384
DAVID AVE	4.88	RT	21.5	23.5	50	77
FAIRLAWN ST	4.97	RT	17	25	45	60
MILL ST	5.05	LT	13	22.5	49.5	45
MILL ST	5.05	RT	19	22	50	66
SUMMIT ST	5.20	LT	38	25	67	165
SUMMIT ST	5.20	RT	TAPER TO CONCRETE			
MILTON ST	5.33	LT	PAVE TO SHOULDER			
MILTON ST	5.33	RT				64
CHURCH ST	5.50	LT	17.5	17	24.5	38
E PROSPECT ST	5.57	LT	16.5	23.5	39.5	53
NORTHEAST ST	5.65	RT	46	20	67.5	183
WELLER DR	5.86	RT	14	27	37	47
APPLE CREEK RD	6.49	LT	25	27.5	57.5	104
APPLE CREEK RD	6.49	RT	44.5	28	100	257
E HUTTON RD	7.30	LT	24.5	32.5	82.5	134
EGYPT RD	7.81	LT	27	23	62	108
EGYPT RD	7.81	RT	30	30	75.5	151
FOX LAKE RD	8.07	LT	31	22	66	126
FOX LAKE RD	8.07	RT	38	22	57	142
BLOUGH RD	8.63	LT	40.5	22.5	142	280
FULTON RD	9.33	LT	27.5	22	85	131
FULTON RD	9.33	RT	38	27	80	189
YODER RD	9.93	LT	25	22	75	110
YODER RD	9.93	RT	20	23	52	73
E PLEASANT HOME RD	10.61	LT	81	27	190	732
BENNER RD	10.94	LT	60	24	100	329
BENNER RD	10.94	RT	42	22	78	190
E PLEASANT HOME RD	11.17	RT	60	18	99	300
Total Intersection Areas						5054

**GENERAL NOTES**

**WAY - 585 - 2.22**

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**AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS**

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 25 FEET WITHIN THE LIMITS OF WAY-585-8.61 TO WAY-585-11.11. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, THE CONTRACTOR IS ADVISED THAT FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NO. (SEE BELOW LIST) IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED. COPIES OF THE ALTERATION AND FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

THE CONTRACTOR IS FURTHER ADVISED THAT THE FAA APPROVAL WILL TAKE A MINIMUM OF 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:

EXPRESS PROCESSING CENTER THE FEDERAL AVIATION ADMINISTRATION SOUTHWEST REGIONAL OFFICE OBSTRUCTION EVALUATION SERVICE, AJR-32 2601 MEACHAN BLVD. FORT WORTH, TX 76137-0520	ODOT OFFICE OF AVIATION 2829 W DUBLIN-GRANVILLE RD. COLUMBUS, OH 43235 614.793.5046
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AERONAUTICAL STUDY NUMBER	COUNTY	ROUTE	STRAIGHT LINE MILE	LAT-LONG	
				LATITUDE	LONGITUDE
2018-AGL-22007	WAY	585	8.61	40.894235	-81.812590
2018-AGL-17843	WAY	585	9.11	40.899136	-81.805697
2018-AGL-17844	WAY	585	9.61	40.905382	-81.800745
2018-AGL-17845	WAY	585	10.11	40.911416	-81.795512
2018-AGL-17846	WAY	585	10.61	40.916464	-81.788685
2018-AGL-17847	WAY	585	11.11	40.9167	-81.779226

**ITEM 209 - LINEAR GRADING**

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

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

**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 5.

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

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

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

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. FOR PAYMENT PURPOSES ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) 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 (ASPHALT CONCRETE BASE) OR ITEM 253 - PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

01/STR/PV:  
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) 1,000 CY  
ITEM 253 - PAVEMENT REPAIR 370 CY

02/SK2/PV:  
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) 700 CY  
ITEM 253 - PAVEMENT REPAIR 260 CY

04/SK2/PV:  
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) 50 CY  
ITEM 253 - PAVEMENT REPAIR 20 CY

**ITEM 254 - PATCHING PLANED SURFACE**

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

**ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE**

THE INTENT OF THE PLANING IS TO MILL 1.50 INCHES AT THE CENTER OF PAVEMENT AT NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES.

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

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

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

DRAINAGE SLOTS SHALL BE CUT INTO THE SHOULDER(S) AT THE LOW POINT OF EACH PLANED SECTION TO PREVENT TRAPPED WATER PUDDLES, AND REFILLED DURING RESURFACING. CUTTING AND FILLING DRAINAGE SLOTS SHALL BE INCLUDED IN PAYMENT WITH ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE.

THE AMOUNT OF GRINDINGS RESULTING FROM THIS WORK MAY PRODUCE UNEXPECTED VOLUMES OF GRINDINGS DUE TO THE EXISTING TRANSVERSE SLOPE OF THE PAVEMENT.

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

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

THE INTENT OF THE PLANING IS TO MILL THE SPECIFIED DEPTH ALONG THE CURB CONTINGENT ON THE FOLLOWING: THE MAXIMUM CROSS SLOPE SHALL BE 0.02 WHILE THE MINIMUM CROSS SLOPE SHALL BE 0.01. THE PREFERRED CROSS SLOPE IS 0.016. THE CROWN OF THE PAVEMENT SHALL BE LOCATED BETWEEN THE TRAVELED LANES, OR AS DIRECTED BY THE ENGINEER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CURB, TO PRODUCE A CROSS SLOPE IN CONFORMANCE WITH THE ABOVE GUIDELINES.

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

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

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

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 408 - PRIME COAT, AS PER PLAN**

THE CONTRACTOR SHALL APPLY ONE COAT OF MC-70 (AS PER SECTION 702) AT A RATE OF 0.40 GAL/SY TO THE COMPLETED AGGREGATE SHOULDER (ITEM 617) AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF PAVEMENT OR EDGE LINE. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

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

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

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

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:  
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS. CHOOSE OPTIMUM BINDER CONTENT AT DESIGN AIR VOIDS OF 3.5%.  
MINIMUM TOTAL PG BINDER CONTENT IS 6.3 PERCENT.  
MINIMUM VIRGIN PG BINDER CONTENT IS 5.2 PERCENT.  
USE A PG 64-22 BINDER.  
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.

CALCULATED  
STO  
CHECKED  
CAD

GENERAL NOTES

WAY - 585 - 2.22

6  
39

**ROLLER REQUIREMENTS WITHIN THE VILLAGE OF SMITHVILLE**

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

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

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. CHOOSE OPTIMUM BINDER CONTENT AT DESIGN AIR VOIDS OF 3.5%. MINIMUM TOTAL PG BINDER CONTENT IS 6.3 PERCENT. MINIMUM VIRGIN PG BINDER CONTENT IS 5.2 PERCENT. USE A PG 64-22 BINDER.  
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.

**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.

CATCH BASINS	MANHOLES	VALVE BOXES
4.88(x2) 5.57	4.77	5.05(x4)
4.96 5.60(x2)	4.88	5.20(x3)
5.05 5.69(x2)	4.96	5.50
5.17(x2) 5.71	5.05(x3)	5.57
5.21 5.73(x2)	5.20	5.86(x3)
5.25 5.81(x2)	5.65	
5.30(x2) 5.82	5.80	
5.39(x2) 5.95	5.95	
5.43 9.32	6.02	
5.53(x2)		

ITEM 611 - CATCH BASIN ADJUSTED TO GRADE	01/STR/PV:	1 EACH
	02/S<2/PV:	27 EACH
ITEM 611 - MANHOLE ADJUSTED TO GRADE	02/S<2/PV:	11 EACH
ITEM 638 - VALVE BOX ADJUSTED TO GRADE	02/S<2/PV:	12 EACH

**ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE**

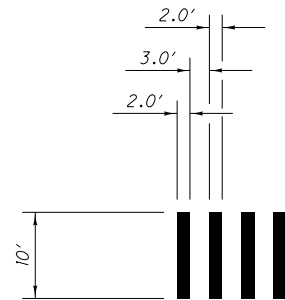
ALL WORK RELATED TO ADJUSTING MONUMENT BOXES TO GRADE WILL BE IN ACCORDANCE TO SECTIONS 623.04 AND 623.05 OF THE 2016 ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.

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.

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE  
01/STR/PV: 1 EACH (SLM 10.94)

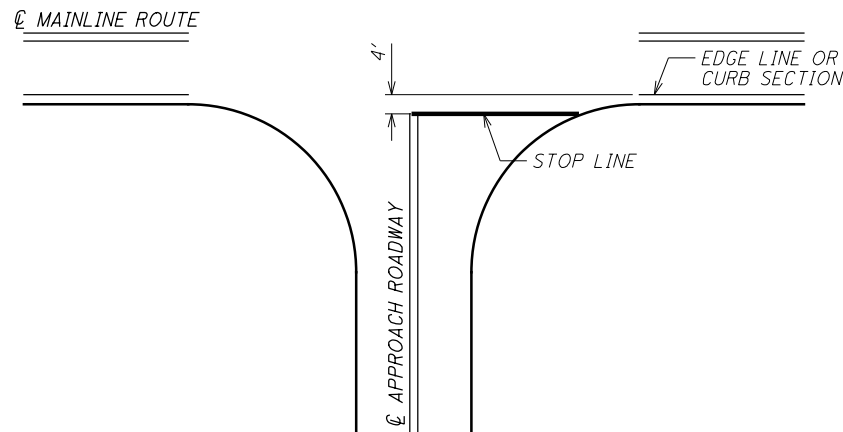
**ITEM 642 - CROSSWALK LINE, AS PER PLAN**

THE MARKING DETAIL SHOWN BELOW SHALL ONLY BE APPLIED TO WAY-585 MAINLINE IN THE SCHOOL ZONE TO IMPROVE DRIVER AWARENESS OF THE PEDESTRIAN CROSSINGS IN THE VILLAGE OF SMITHVILLE.



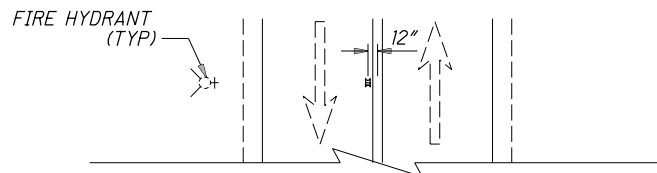
**STOP BAR PLACEMENT DETAILS**

AT NORMAL STOP CONTROLLED INTERSECTIONS, THE STOP BAR SHOULD BE PLACED 4 FEET FROM THE EDGE LINE OF THE INTERSECTING ROADWAY IN ORDER TO ACHIEVE MAXIMUM INTERSECTION SIGHT DISTANCE.



**RPMS FOR FIRE HYDRANTS (TWO-LANE UNDIVIDED)**

INSTALL ONE BLUE/BLEU RAISED PAVEMENT MARKER ALONG THE CENTERLINE OF THE ROADWAY IN FRONT OF ALL FIRE HYDRANTS WITHIN THE PROJECT LIMITS, EXCLUDING THE VILLAGE OF SMITHVILLE, AS LISTED ON THE RPM SUB-SUMMARY. OFFSET THESE RPMS A DISTANCE OF 12 INCHES, MEASURED FROM THE CENTER OF THE CENTERLINE TO THE CENTER OF THE RPM, LATERALLY FROM THE CENTERLINE OF THE ROADWAY, TOWARD THE MARKED FIRE HYDRANT. SEE THE DETAIL BELOW AS INFORMATION. THESE RPMS SHOULD BE ADDED IN ADDITION TO THE STANDARD LONG LINE MARKING PLAN; THEY SHOULD NOT REPLACE ANY YELLOW, RED, OR WHITE MARKINGS.



**CURB RAMP AND SIDEWALK REPAIRS**

EXISTING NON-ADA COMPLIANT CURB RAMPS ARE TO BE REMOVED AND REPLACED PER ODOT STANDARD CONSTRUCTION DRAWING BP-7.1. LOCATIONS OF CURB RAMPS AND SIDEWALK TO BE REPLACED ARE TO BE DETERMINED BY THE ENGINEER. THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO REPLACE NON-COMPLIANT CURB RAMPS WITHIN THE VILLAGE OF SMITHVILLE:

02/S<2/PV	
ITEM 202 - WALK REMOVED	350 SF
ITEM 608 - 4" CONCRETE WALK	200 SF
ITEM 608 - CURB RAMP	150 SF
ITEM 609 - CURB, TYPE 6	100 FT



**CONNECTING GUARDRAIL TO EXISTING RAIL**

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

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

**LOCATIONS OF GUARDRAIL**

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

**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.

**BRIDGE LOCATION MARKER SIGN**

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

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

**ITEM 202 - ANCHOR ASSEMBLY REMOVED, TYPE A**

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

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

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

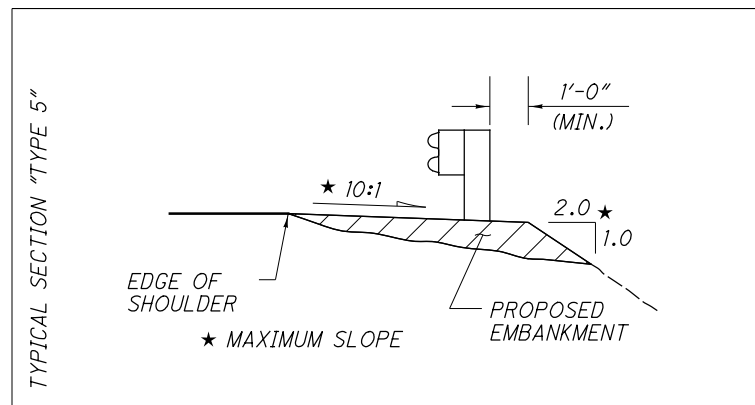
**ITEM 203 - EMBANKMENT, AS PER PLAN**

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, SEEDDED, 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**

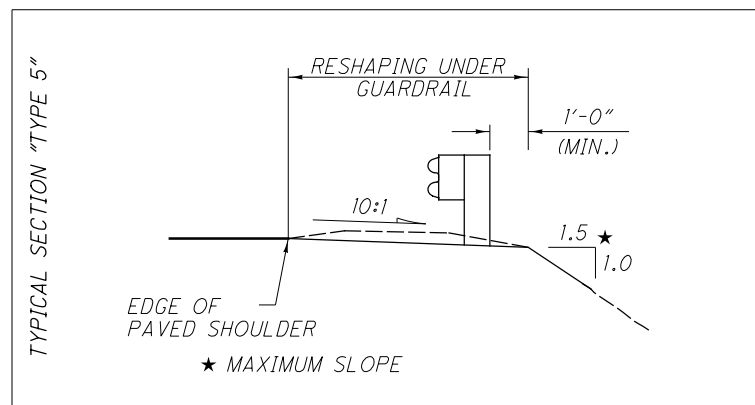
THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLANS.

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 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 - RAISING TYPE 5 GUARDRAIL**

WHERE DESIGNATED ON THE PLAN, THE EXISTING TYPE 5 GUARDRAIL SHALL BE RAISED ON THE EXISTING WOOD POSTS AS PER STANDARD DRAWING GR-2.1 SO AS TO OBTAIN THE STANDARD 29 IN. HEIGHT. THE RAIL SHALL BE RE-ATTACHED TO THE POSTS USING NEW POST BOLTS.

THE RAIL SHALL BE DISMANTLED ONLY TO THE EXTENT NECESSARY TO FIELD BORE NEW BOLT HOLES IN THE WOOD POSTS, AND TO RECONNECT THE RAIL AND BLOCK TO THE EXISTING POSTS.

THE EXISTING TYPE "A" ANCHOR ASSEMBLIES THAT ARE TO REMAIN SHALL NOT BE ADJUSTED. THE LAST RAIL ELEMENT SHALL BE TRANSITIONED TO MEET THESE ASSEMBLIES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT OF ITEM 606 - RAISING TYPE 5 GUARDRAIL, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 606 - ANCHOR ASSEMBLY, TYPE B**

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

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 29 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.

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

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ITEM 606 - ANCHOR ASSEMBLY, TYPE E**

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

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 29 INCHES FROM THE EDGE OF THE SHOULDER.

ON SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



**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.

**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.

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

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

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

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

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

**WORK RESTRICTION (WAY-585-5.00 TO WAY-585-6.00)**

ALL WORK ON THIS PROJECT WITHIN THE LIMITS OF WAY-585-5.00 TO WAY-585-6.00 SHALL BE COMPLETED BETWEEN THE DATES OF JUNE 1, 2019 AND AUGUST 15, 2019. FOR EACH CALENDAR DAY THAT THE WORK RESTRICTION IN THIS AREA IS VIOLATED, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF \$1,000.

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

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

CHRISTMAS                      FOURTH OF JULY  
NEW YEARS                      LABOR DAY  
MEMORIAL DAY                      THANKSGIVING

VILLAGE OF SMITHVILLE GARAGE SALE (LAST WEEKEND IN APRIL)

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

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

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

**NOTIFICATIONS OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE DISTRICT OFFICE AND THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE DISTRICT TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW. NOTIFICATIONS SHALL BE SENT TO THE EMAIL ADDRESS D03.DeTour.Notification@dot.ohio.gov AND THE PROJECT ENGINEER. PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE NOTIFICATION SIGNS OR MESSAGE BOARDS. UPON RECEIPT OF NOTIFICATION BY THE CONTRACTOR, THE DISTRICT OFFICE WILL ARRANGE NOTIFICATION OF THE FOLLOWING ORGANIZATIONS, IN WRITING, IN ACCORDANCE WITH THE BELOW TABLE:

- WAYNE COUNTY ENGINEER'S OFFICE
- THE VILLAGE OF SMITHVILLE
- TOWNSHIP TRUSTEES (TOWNSHIP ROADS ONLY)
- LOCAL POLICE, FIRE, AND EMERGENCY MEDICAL SERVICES
- LOCAL SCHOOL DISTRICTS
- WAYNE COUNTY SHERIFF'S OFFICE
- ODOT DISTRICT THREE OFFICE OF ROADWAY SERVICES
- ODOT DISTRICT THREE PUBLIC INFORMATION OFFICE
- SPECIAL HAULING PERMITS SECTION (Hauling.Permits@dot.ohio.gov)

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

**NOTIFICATION TIME TABLE**

ITEM	DURATION OF CLOSURE	NOTICE LEAD TIME REQUIRED*
RAMP AND/OR ROAD CLOSURES	TWO WEEKS OR GREATER	21 CALENDAR DAYS
	12 HOURS TO TWO WEEKS	14 CALENDAR DAYS
	12 HOURS OR LESS	4 BUSINESS DAYS
LANE CLOSURES AND RESTRICTIONS	TWO WEEKS OR GREATER	14 CALENDAR DAYS
	LESS THAN TWO WEEKS	5 BUSINESS DAYS
START OF CONSTRUCTION AND TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

\* - PRIOR TO CLOSURE DATE, UNLESS NOTED OTHERWISE

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

**ITEM 614 - MAINTAINING TRAFFIC**

A MINIMUM OF ONE (1) LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES USING FLAGGERS FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES, EXCEPT AS NOTED IN THE STRUCTURE PLAN NOTES FOR STRUCTURES WAY-585-5.78 AND WAY-585-8.61, WHERE A SIGNALIZED CLOSURE IS EXPECTED.

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 - 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 PLANNED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF. THIS QUANTITY SHALL ALSO BE USED AT PLANNED 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 CU YD  
02/S<2/PV: 10 CU YD

**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.

- 01/STR/PV WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 20 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
- 02/S<2/PV WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 20 EACH
- WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 8 EACH
- WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 8 EACH
- 03/S<2/PV WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 2 EACH
- WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 2 EACH
- WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 2 EACH

01/STR/PV = 48 EACH  
02/S<2/PV = 36 EACH  
03/S<2/PV = 6 EACH  
TOTAL = 90 EACH

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

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

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

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

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEO'S SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

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

STATE HIGHWAY PATROL  
1786 DOVER ROAD  
WOOSTER, OHIO 44691  
330.264.0575

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE  
02/S<2/PV - 30 HOURS

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

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

CALCULATED  
JLL  
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MAINTENANCE OF TRAFFIC NOTES

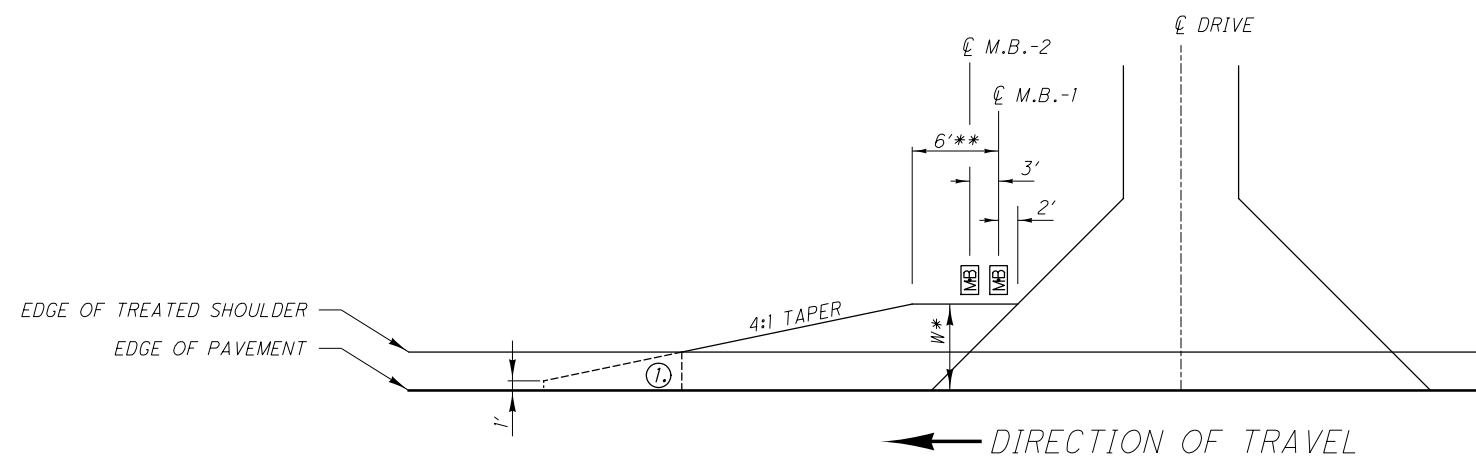
WAY - 585 - 2.22

**MALBOX APPROACHES**

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

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

ITEM 209 - GRADING MAILBOX APPROACHES	
01/STR/PV	12 EACH
02/S<2/PV	11 EACH
ITEM 617 - COMPACTED AGGREGATE	
01/STR/PV	12 CU YD
02/S<2/PV	11 CU YD



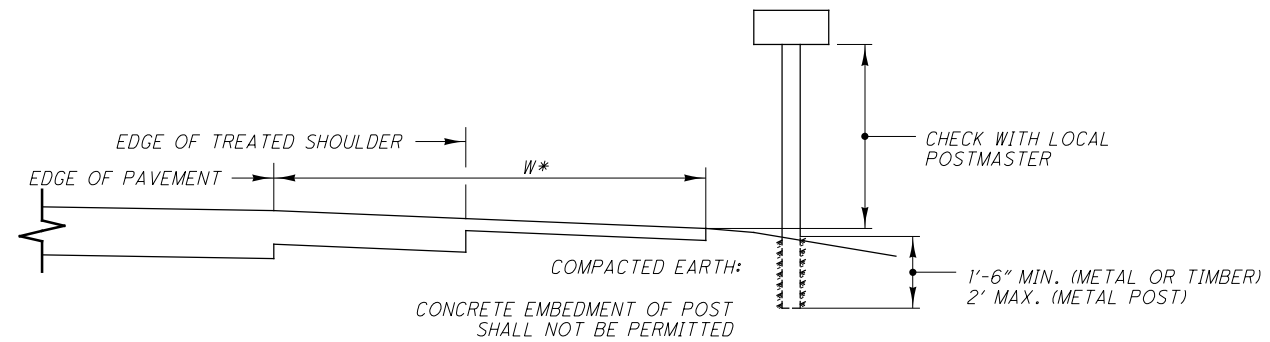
① END MAILBOX TURNOUT AT EDGE OF ASPHALT CONCRETE SHOULDER OR 1' FROM EDGE OF PAVEMENT IF TREATED SHOULDER IS AGGREGATE.

**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.



CROSS SECTION / ELEVATION VIEW

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MAILBOX FACILITIES

WAY - 585 - 2.22





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PLAN SPLIT	COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		AVERAGE WIDTH	TYPICAL	PAVEMENT AREA	254	254		407		442	AGGREGATE SHOULDER PROPOSED WIDTH		AGGREGATE SHOULDER AREA	209	408	617	617	
					PAVEMENT PLANING, ASPHALT CONCRETE (1.50")	PATCHING PLANED SURFACE					NON-TRACKING TACK COAT (@ 0.08 GAL/SY)		ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), PG64-22, AS PER PLAN (1.50")	SL	SR	LINEAR GRADING	PRIME COAT, AS PER PLAN (0.40 GAL/SY)		COMPACTED AGGREGATE	SHOULDER PREPARATION			
			STRAIGHT LINE MILEAGE	MILE	FEET	FT	SY	SY	SY	GAL	CY	FT	FT	SY	MILE	GAL	CY	SY					
03/S<2/PV	WAY	585	2.22	2.38	0.16	845	26.5	1	2,487	2,487	12		199		104	2.0	2.0	375	0.32	150	21	375	
01/STR/PV	WAY	585	3.41	3.98	0.57	3,010	26.5	1	8,862	8,862	44		709		369	2.0	2.0	1,338	1.14	535	74	1,338	
02/S<2/PV	WAY	585	3.98	5.15	1.17	6,178	26.5	1	18,190	18,190	91		1,455		758	2.0	2.0	2,746	2.34	1,098	153	2,746	
CONCRETE APPROACH SLAB					0.004	20	44.0																
02/S<2/PV	STRUCTURE WAY-585-5.14				0.02	81	44.0	2	396	396	2		32		17								
CONCRETE APPROACH SLAB					0.004	20	44.0																
02/S<2/PV	WAY	585	5.17	5.28	0.11	565	36.0	3	2,262	2,262	11		181		94								
02/S<2/PV	WAY	585	5.28	5.39	0.11	581	47.0	3	3,033	3,033	15		243		126								
02/S<2/PV	WAY	585	5.39	5.72	0.33	1,742	36.0	3	6,970	6,970	35		558		290								
02/S<2/PV	WAY	585	5.72	5.78	0.06	317	40.0	3	1,408	1,408	7		113		59								
CONCRETE STRUCTURE WAY-585-5.78					0.02	97	40.0																
02/S<2/PV	WAY	585	5.80	5.85	0.05	273	42.5	4	1,287	1,287	6		103		54								
02/S<2/PV	WAY	585	5.85	5.90	0.05	264	26.0	1	763	763	4		61		32	2.0	2.0	117	0.10	47	7	117	
SUSPEND/RESUME AT WHEELING & LAKE ERIE RR																							
02/S<2/PV	WAY	585	5.90	7.38	1.48	7,814	26.0	1	22,575	22,575	113		1,806		941	2.0	2.0	3,473	2.96	1,389	193	3,473	
01/STR/PV	WAY	585	7.38	8.55	1.17	6,178	26.0	1	17,846	17,846	89		1,428		744	2.0	2.0	2,746	2.34	1,098	153	2,746	
01/STR/PV	WAY	585	8.55	8.60	0.05	264	25.5	5	748	748	4		60		31								
CONCRETE STRUCTURE WAY-585-8.61					0.03	139	40.0																
01/STR/PV	WAY	585	8.63	8.64	0.01	72	25.5	5	205	205	1		16		9								
01/STR/PV	WAY	585	8.64	8.81	0.17	898	29.0	1	2,892	2,892	14		231		121	2.0	2.0	399	0.34	160	22	399	
01/STR/PV	WAY	585	8.81	11.89	3.08	16,262	26.0	1	46,980	46,980	235		3,758		1,958	2.0	2.0	7,228	6.16	2,891	402	7,228	
01/STR/PV	EXTRA AREA FOR INTERSECTIONS								2,861	2,861	14		229		119								
01/STR/PV	EXTRA AREA FOR PAVED DRIVES								72	72	1		6		3								
01/STR/PV	EXTRA AREA FOR AGGREGATE DRIVES								711	711			57		30		711		284	40			
01/STR/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES								450	450	2		36		19								
02/S<2/PV	EXTRA AREA FOR INTERSECTIONS								2,193	2,193	11		175		91								
02/S<2/PV	EXTRA AREA FOR PAVED DRIVES								621	621	3		50		26								
02/S<2/PV	EXTRA AREA FOR AGGREGATE DRIVES								738	738			59		31		738		295	41			
02/S<2/PV	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES								450	450	2		36		19								
SUBTOTAL (01/STR/PV)										80,916	404		6,530		3,403			9.98	4,968	691	11,711		
SUBTOTAL (02/S<2/PV)										60,148	300		4,872		2,538			5.40	2,829	394	6,336		
SUBTOTAL (03/S<2/PV)										2,487	12		199		104			0.32	150	21	375		
TOTALS CARRIED TO THE GENERAL SUMMARY										143,551	716		11,601		6,045			15.70	7,947	1,106	18,422		

PAVEMENT & SHOULDER DATA

WAY - 585 - 2.22

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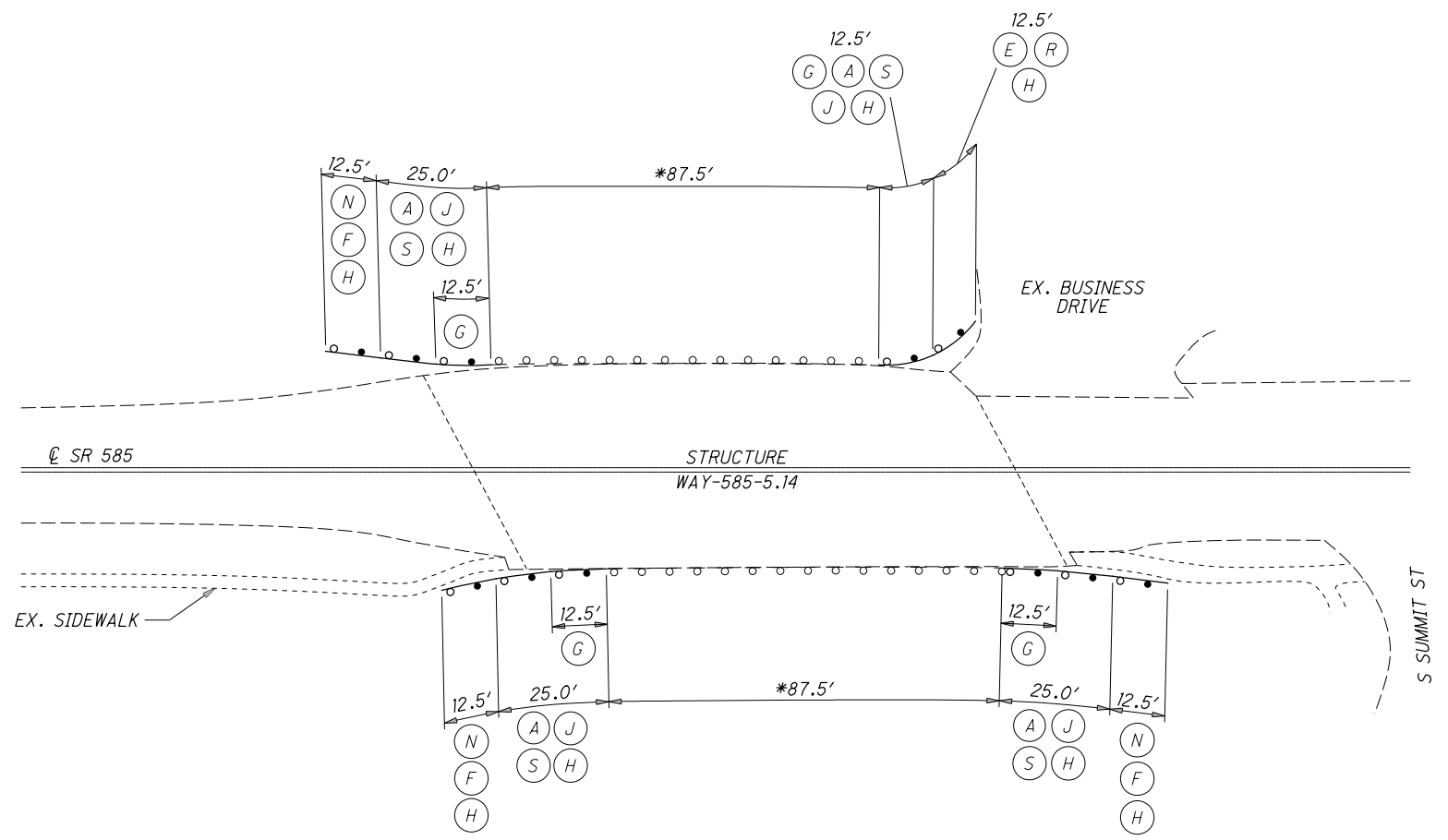
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SHEET	LOCATION	PLAN SPLIT	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S		
			202	202	202	202	202	202	202	202	202	203	209	606	606	606	606	606	606	606	606
			GUARDRAIL REMOVED	GUARDRAIL REMOVED FOR REUSE	ANCHOR ASSEMBLY REMOVED, TYPE A	ANCHOR ASSEMBLY REMOVED, TYPE E	ANCHOR ASSEMBLY REMOVED, TYPE T	ANCHOR ASSEMBLY REMOVED, TYPE B	BRIDGE TERMINAL ASSEMBLY REMOVED	EMBANKMENT, AS PER PLAN	RESHAPING UNDER GUARDRAIL	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE MGS	GUARDRAIL REBUILT, TYPE 5	RAISING TYPE 5 GUARDRAIL	ANCHOR ASSEMBLY, TYPE B	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, MGS TYPE E	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 4	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)
			FT	FT	EACH	EACH	EACH	EACH	EACH	CU YD	STATION	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH
15	WAY-585-5.14	02/S<2/PV	87.5				1	3	4		1.375	87.5				3			1	4	4
16	WAY-585-5.78	02/S<2/PV	62.5		3				3		1.500	112.5							3	3	4
17	WAY-585-8.61	01/STR/PV	93.75	25.0	1	1	2		4		3.563	118.75		25.0	125	1	1		2	4	6
18	WAY-585-8.99	01/STR/PV	112.5			2					2.125		112.5				2				4
19	WAY-585-10.97	01/STR/PV			1					9	0.625				12.5		1				1
20	WAY-585-11.13	01/STR/PV				2					1.000						2				2
SUBTOTAL (01/STR/PV)			206.25	25.0	2	5	2		4	9	7.313	118.75	112.5	25.0	137.5	1	4	2	2	4	13
SUBTOTAL (02/S<2/PV)			150.0		3		1	3	7		2.875	200.0				3			4	7	8
TOTALS CARRIED TO THE GENERAL SUMMARY			356.25	25.0	5	5	3	3	11	9	10.188	318.75	112.5	25.0	137.5	4	4	2	6	11	21

GUARDRAIL SUB-SUMMARY

WAY - 585 - 2.22

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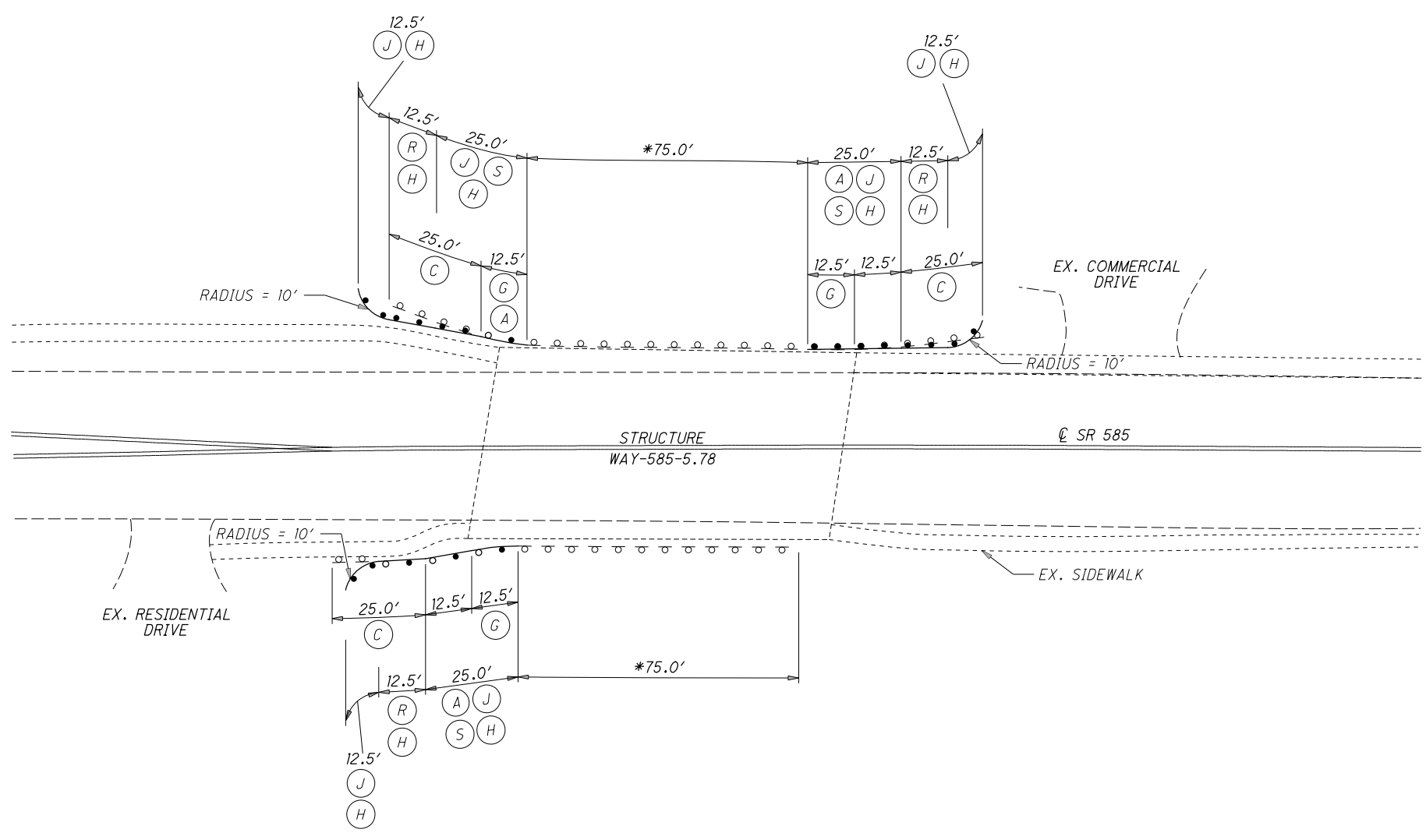
NOTES:  
 1.) \*EXISTING DEEP BEAM BRIDGE RAILING WITH TUBULAR BACKUP

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
A	202	GUARDRAIL REMOVED	FT	37.5	50.0	87.5
E	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1		1
F	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	2	3
G	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	2	4
H	209	RESHAPING UNDER GUARDRAIL	STA	0.625	0.750	1.375
J	606	GUARDRAIL, TYPE 5	FT	37.5	50.0	87.5
N	606	ANCHOR ASSEMBLY, TYPE B	EACH	1	2	3
R	606	ANCHOR ASSEMBLY, TYPE T	EACH	1		1
S	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
	626	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	EACH	2	2	4

ALL QUANTITIES CARRIED TO THE SUB-SUMMARY

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NOTES:  
 1.) \*EXISTING DEEP BEAM BRIDGE RAILING WITH TUBULAR BACKUP

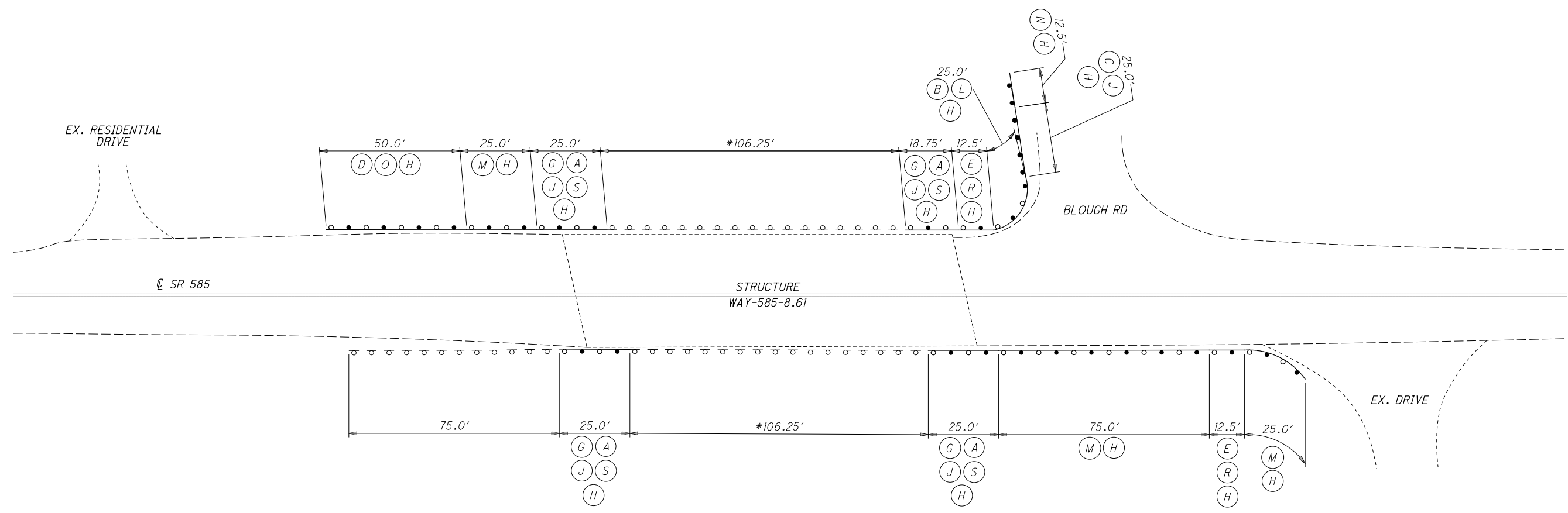
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
A	202	GUARDRAIL REMOVED	FT	37.5	25.0	62.5
C	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	2	1	3
G	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	1	3
H	209	RESHAPING UNDER GUARDRAIL	STA	1.000	0.500	1.500
J	606	GUARDRAIL, TYPE 5	FT	75.0	37.5	112.5
R	606	ANCHOR ASSEMBLY, TYPE T	EACH	2	1	3
S	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	1	3
	626	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	EACH	2	2	4

ALL QUANTITIES CARRIED TO THE SUB-SUMMARY

**GUARDRAIL DETAIL**  
**WAY 585 - 5.78**

**WAY - 585 - 2.22**

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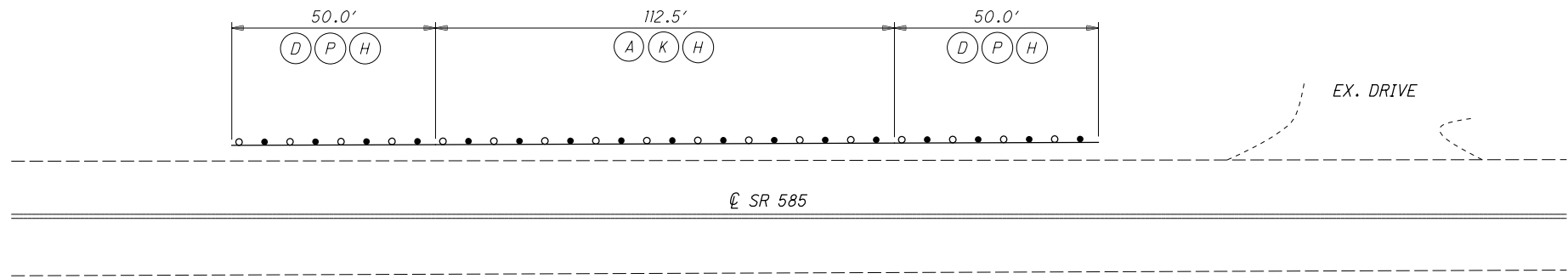
NOTES:
   
 1.) \*EXISTING DEEP BEAM BRIDGE RAILING WITH TUBULAR BACKUP

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
A	202	GUARDRAIL REMOVED	FT	43.75	50.0	93.75
B	202	GUARDRAIL REMOVED FOR REUSE	FT	25.0		25.0
C	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	1		1
D	202	ANCHOR ASSEMBLY REMOVED, TYPE E	EACH	1		1
E	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1	1	2
G	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	2	4
H	209	RESHAPING UNDER GUARDRAIL	STA	1.938	1.625	3.563
J	606	GUARDRAIL, TYPE 5	FT	68.75	50.0	118.75
L	606	GUARDRAIL REBUILT, TYPE 5	FT	25.0		25.0
M	606	RAISING TYPE 5 GUARDRAIL	FT	25.0	100.0	125.0
N	606	ANCHOR ASSEMBLY, TYPE B	EACH	1		1
O	606	ANCHOR ASSEMBLY, TYPE E	EACH	1		1
R	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
S	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
	626	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	EACH	3	3	6

ALL QUANTITIES CARRIED TO THE SUB-SUMMARY

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LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
A	202	GUARDRAIL REMOVED	FT	112.5		112.5
D	202	ANCHOR ASSEMBLY REMOVED, TYPE E	EACH	2		2
H	209	RESHAPING UNDER GUARDRAIL	STA	2.125		2.125
K	606	GUARDRAIL, TYPE MGS	FT	112.5		112.5
P	606	ANCHOR ASSEMBLY, MGS TYPE E	EACH	2		2
	626	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	EACH	4		4

ALL QUANTITIES CARRIED TO THE SUB-SUMMARY

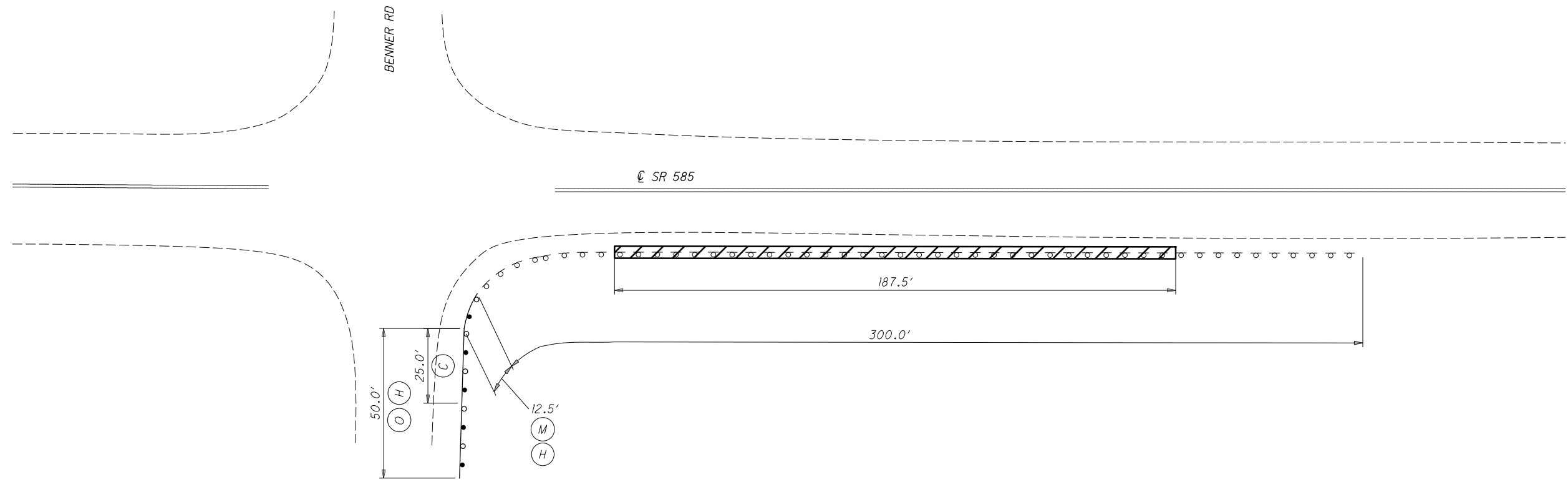


CALCULATED  
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**GUARDRAIL DETAIL**  
**WAY 585 - 8.99**

**WAY - 585 - 2.22**

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LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
C	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH		1	1
	203	EMBANKMENT, AS PER PLAN	CY		9	9
H	209	RESHAPING UNDER GUARDRAIL	STA		0.625	0.625
M	606	RAISING TYPE 5 GUARDRAIL	FT		12.5	12.5
O	606	ANCHOR ASSEMBLY, TYPE E	EACH		1	1
	626	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	EACH		1	1

ALL QUANTITIES CARRIED TO THE SUB-SUMMARY

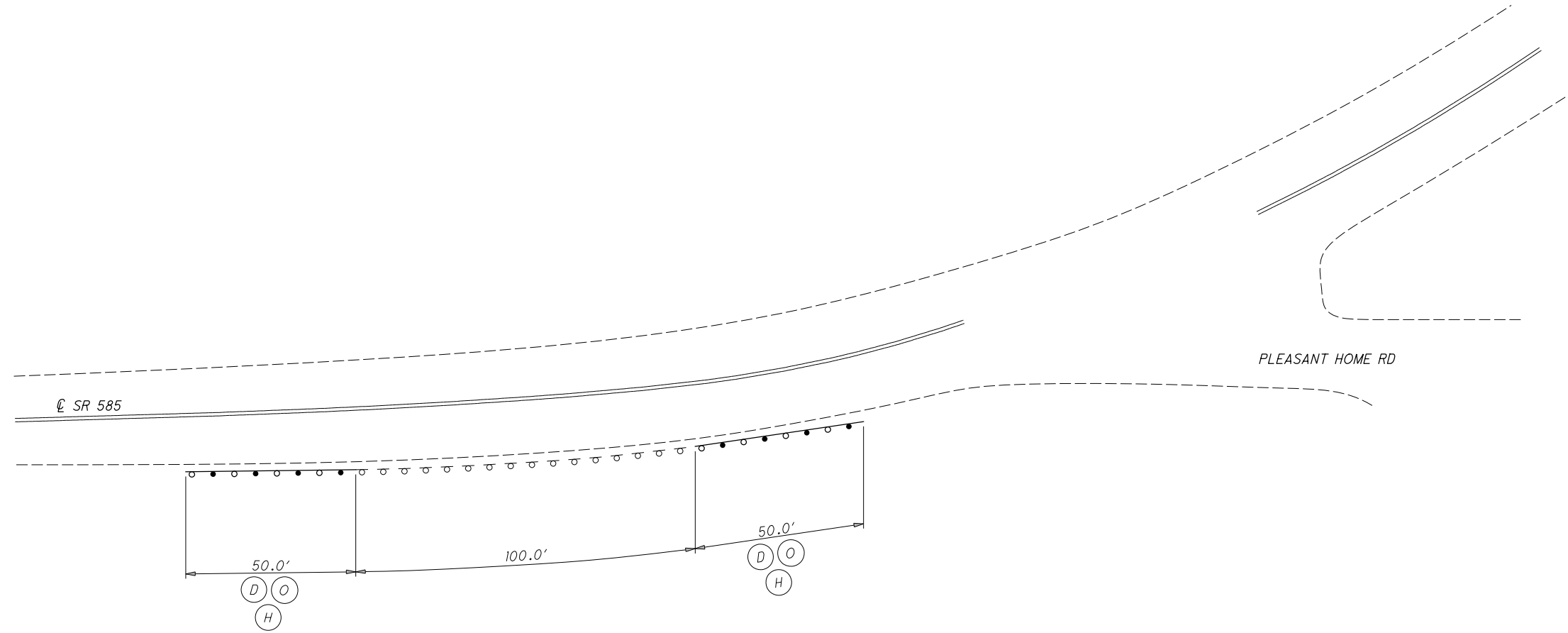
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0 20 40  
HORIZONTAL  
SCALE IN FEET

**GUARDRAIL DETAIL**  
**WAY 585 - 10.97**

**WAY - 585 - 2.22**

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LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
D	202	ANCHOR ASSEMBLY REMOVED, TYPE E	EACH		2	2
H	209	RESHAPING UNDER GUARDRAIL	STA		1.000	1.000
O	606	ANCHOR ASSEMBLY, TYPE E	EACH		2	2
	626	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	EACH		2	2

ALL QUANTITIES CARRIED TO THE SUB-SUMMARY

CALCULATED  
JLL  
CHECKED  
CAD

0 20 40  
HORIZONTAL  
SCALE IN FEET

**GUARDRAIL DETAIL**  
**WAY 585 - 11.13**

**WAY - 585 - 2.22**



WAY-585-5.14 SFN 8505942 (06/S<2/BR)

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	1	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	23
202	98200	102	FT	REMOVAL, MISC.: JOINT SEALER	23
511	53012	1	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR	23
516	31000	102	FT	JOINT SEALER	
517	75601	175	FT	DEEP BEAM BRIDGE RETROFIT RAILING, AS PER PLAN	23

WAY-585-5.78 SFN 8505977 (06/S<2/BR)

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	8	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	23
202	98200	84	FT	REMOVAL, MISC.: JOINT SEALER	23
509	10000	432	LB	EPOXY COATED REINFORCING STEEL	
510	09950	70	EACH	DOWEL HOLES WITH CEMENT GROUT	
511	34410	4	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)	23
511	34444	2	CY	CLASS QC2 CONCRETE, BRIDGE DECK	23
511	45711	4	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)	23
511	53012	2	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR	23
512	73501	10	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN, AS PER PLAN	23
516	31000	84	FT	JOINT SEALER	
519	11100	90	SF	PATCHING CONCRETE STRUCTURE	
601	27000	24	CY	DUMPED ROCK FILL, TYPE C	
SPECIAL	518E61400	20	EACH	KEYWAY DRAIN	

WAY-585-8.61 SFN 8506019 (05/STR/BR)

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	98200	84	FT	REMOVAL, MISC.: JOINT SEALER	23
509	10000	341	LB	EPOXY COATED REINFORCING STEEL	
510	09950	56	EACH	DOWEL HOLES WITH CEMENT GROUT	
511	45711	3	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)	23
512	73500	440	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
516	31000	84	FT	JOINT SEALER	
517	75600	213	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
601	27000	33	CY	DUMPED ROCK FILL, TYPE C	

ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY

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DESIGN AGENCY  
ODOT DISTRICT THREE  
OFFICE OF ENGINEERING

REVIEWED  
CAD  
STRUCTURE FILE NUMBER  
DATE 11/2018  
VARIOUS

DRAWN  
JLL  
REVISED

DESIGNED  
JLL  
CHECKED

STRUCTURE SUB-SUMMARY  
QUANTITIES FOR ALL STRUCTURE WORK FOR  
ALL STRUCTURES LOCATED ON THIS PROJECT

WAY-585-2.22  
PID No. 98492

1 / 1

22  
39



**REFERENCES MADE TO STANDARD BRIDGE DRAWING(S)**

STANDARD BRIDGE DRAWING(S) DBR-3-11 DATED 7/15/11

**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 AND 105.02.

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.

**EXISTING PLANS**

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

STRUCTURE NAME:	EXISTING PLAN NAME:	DATE:
WAY-585-5.14	WAY-585-5.13	1989
WAY-585-5.78	WAY-5-7.49	1955
WAY-585-8.61	WAY-5-10.17	1955

**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.

**DECK PROTECTION METHOD**

ASPHALT CONCRETE OVERLAY  
SEALING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN

**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

**UTILITIES**

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

**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; SHELVEING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

**PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES**

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

**PLACEMENT OF ADJACENT CONCRETE POURS**

DO NOT PLACE ADJACENT CONCRETE POURS SIMULTANEOUSLY. ALLOW SUFFICIENT TIME FOR THE FIRST POUR TO CURE TO THE POINT FORMS CAN BE STRIPPED WITHOUT DETRIMENT TO THE POUR BEFORE PLACING THE SECOND POUR. ALL CONSTRUCTION JOINTS NOT SPECIFICALLY LABELED IN THE PLANS AS OPTIONAL ARE TO BE PERFORMED AS DETAILED ABOVE. SHOULD THE CONTRACTOR FAIL TO PERFORM THE CONSTRUCTION JOINT AS DESCRIBED, THE ENGINEER WILL DIRECT THE CONTRACTOR TO REMOVE THE INADEQUATELY PLACED CONCRETE AND REPLACE IT AS DESCRIBED ABOVE AT NO COST TO THE DEPARTMENT. PAYMENT WILL NOT BE MADE FOR INADEQUATELY PLACED CONCRETE NOT REPLACED.

ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NEEDED TO PERFORM THE DESCRIBED WORK IS TO BE CONSIDERED INCIDENTAL TO THE RESPECTIVE 511 CONCRETE ITEMS) AND WILL BE PAID FOR UNDER THAT (THOSE) CONTRACT BID PRICE(S).

**PAVING AT STRUCTURES**

STRUCTURE WAY-585-5.14  
SUSPEND AND RESUME AT CONCRETE APPROACH SLABS. PLANE AND PAVE 1.50" ON BRIDGE DECK ONLY.

STRUCTURES WAY-585-5.78, WAY-585-8.61  
SUSPEND AND RESUME AT CONCRETE BRIDGE DECK AND APPROACH SLABS.

STRUCTURE WAY-585-10.97  
PLANE AND PAVE SAME AS ROADWAY.

**ITEM 202. PORTIONS OF STRUCTURE REMOVED, AS PER PLAN**

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

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

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

**ITEM 202 - REMOVAL MISC.: JOINT SEALER**

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING JOINT SEALER LOCATED BETWEEN THE APPROACH SLAB AND THE DECK OR BACKWALL.

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

**ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)**

**ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK**

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

**ITEM 511 - CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR**

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

THE COARSE AGGREGATE SHALL BE LIMESTONE.

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

**ITEM 512 - TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN, AS PER PLAN**

THIS WORK CONSISTS OF PREPARING AND TREATING THE CONCRETE BRIDGE DECK CRACKS WITH A GRAVITY FED CRACK WELDING SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S RECOMMENDATIONS AS DIRECTED BY THE ENGINEER.

SEAL THE DECK CRACKS AS SHOWN ON THE INDIVIDUAL STRUCTURE DETAIL SHEETS. THE QUANTITY OF MATERIAL WILL BE MEASURED IN SQUARE YARDS OF THE EXPOSED SURFACE, IRRESPECTIVE OF THE DEPTH OF THE CRACK, COMPLETE, IN PLACE, AND ACCEPTED.

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 512 - TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN, AS PER PLAN WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 517 - DEEP BEAM BRIDGE RETROFIT RAILING, AS PER PLAN**

REMOVE THE EXISTING DEEP BEAM BRIDGE RAILING RAIL ELEMENTS FOR STORAGE TO ALLOW FOR FULL WIDTH PAVING OPERATIONS ON THE EFFECTED BRIDGE. DO NOT ALLOW TRAFFIC TO RUN ADJACENT TO THE REMOVED GUARDRAIL RUN. SHOULD THE ADJACENT LANE BE REOPENED PRIOR TO COMPLETING THE PLANING AND PAVING OPERATION, REINSTALL THE RAIL ELEMENTS PRIOR TO REOPENING THE LANE TO TRAFFIC.

AFTER THE PLANING & PAVING OPERATIONS ARE COMPLETED OVER THE STRUCTURE, THE GUARDRAIL SHALL BE REINSTALLED. THE REMOVAL AND REPLACEMENT OF THE BRIDGE RAIL SHALL BE PERFORMED IN THE SAME DAY. DO NOT LEAVE THE REMOVED RAILING OFF THE STRUCTURE WHEN WORK ACTIVITIES ARE NOT ACTIVELY TAKING PLACE. FOR ADDITIONAL RETROFIT DETAILS, SEE SBD DBR-3-11.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR ITEM 517 - DEEP BEAM BRIDGE RETROFIT RAILING, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 614 - MAINTAINING TRAFFIC FOR STRUCTURES WAY-585-5.78, WAY-585-8.61**

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON THESE STRUCTURES SHALL HAVE A SIGNALIZED LANE CLOSURE AS SHOWN ON SHEETS 28 AND 31 FOR A MAXIMUM OF 30 CONSECUTIVE CALENDAR DAYS (TOTAL BOTH PHASES). THE 30 CONSECUTIVE DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 30 DAYS THAT THE HIGHWAY REMAINS IN A SIGNALIZED CLOSURE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1,000 PER DAY.

NO EQUIPMENT OR MATERIAL SHALL BE LOCATED OTHER THAN BEHIND THE DRUMS.

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

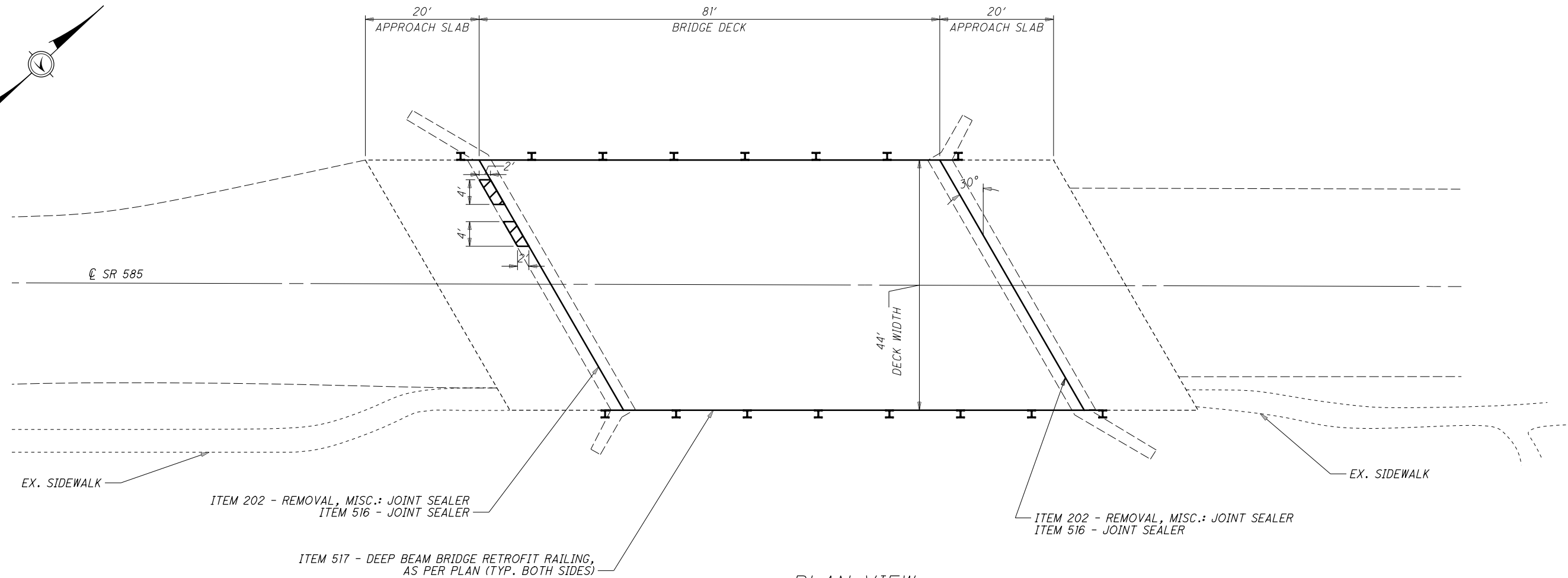
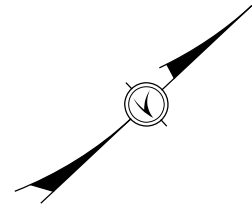
**ITEM SPECIAL - KEYWAY DRAIN**

DRILL 1" DIAMETER POLYVINYL CHLORIDE (PVC) TUBES INTO THE ABUTMENT KEYWAY AS SHOWN ON SHEET 27. SPACE THE TUBES 5 FT CENTER TO CENTER.


PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT BID PRICE PER EACH FOR THE ABOVE ITEM WHICH INCLUDES ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NEEDED TO COMPLETE THE STATED WORK.

DESIGNED	JLL	CHECKED	STRUCTURE NOTES NOTES APPLYING TO ALL STRUCTURES LOCATED ON THIS PROJECT
	JLL	REVISED	
	JLL	REVIEWED	
	CAD	STRUCURE FILE NUMBER	
DATE	11/2018	VARIOUS	
DESIGN AGENCY	ODOT DISTRICT THREE OFFICE OF ENGINEERING		
WAY - 585 - 2.22	PID No. 98492		
1 / 1	23 / 39		

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PLAN VIEW

 ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN  
 ITEM 511 - CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR

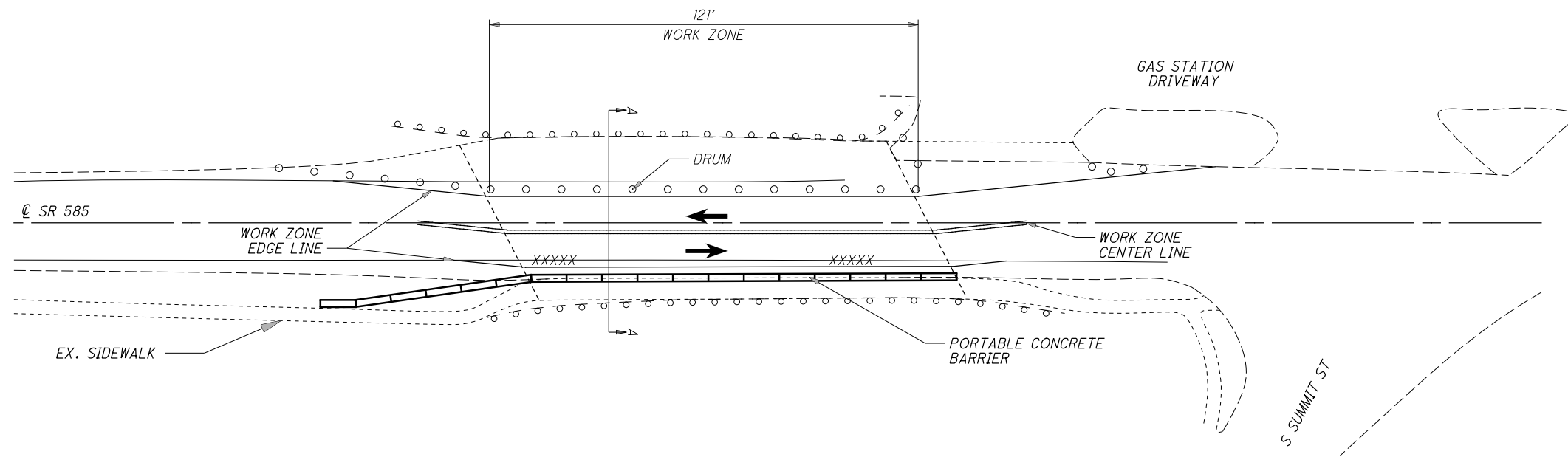
NOTES:

- 1) REPAIR LOCATIONS ARE FOR REFERENCE USE ONLY. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- 2) ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED.
- 3) CONCRETE REPAIRS SHALL HAVE A DEPTH OF 5".

ITEM	QUANTITY	UNIT	DESCRIPTION
202	1	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	102	FT	REMOVAL, MISC.: JOINT SEALER
511	1	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
516	102	FT	JOINT SEALER
517	175	FT	DEEP BEAM BRIDGE RETROFIT RAILING, AS PER PLAN

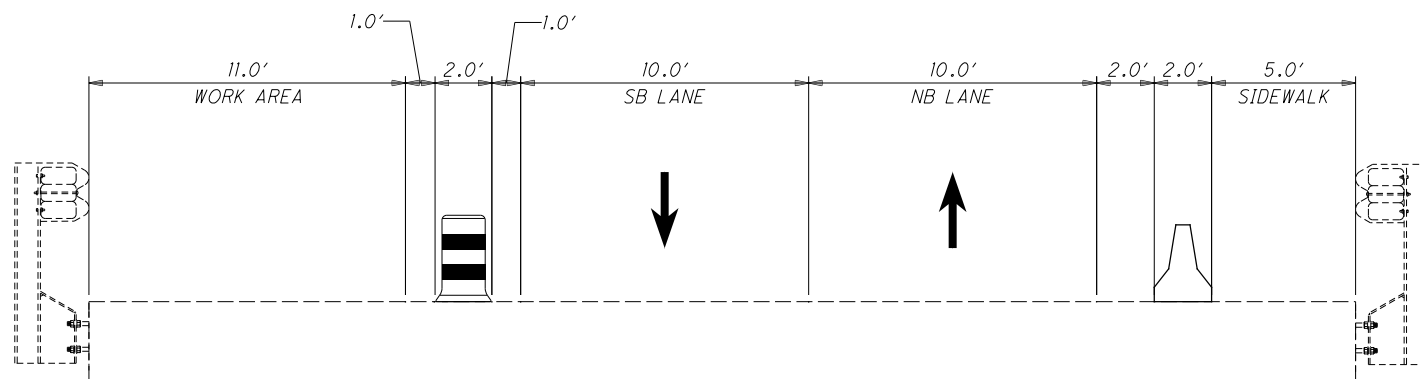
ALL QUANTITIES CARRIED TO THE STRUCTURE SUMMARY

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ESTIMATED QUANTITIES (06/S<2/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
614	0.03	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I
614	0.08	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I
622	60	FT	PORTABLE CONCRETE BARRIER, 32"
622	120	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (UNANCHORED)

ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY



SECTION A-A

**MAINTENANCE OF TRAFFIC**  
STRUCTURE WAY-585-S.14  
OVER SUGAR CREEK

**WAY-585-2.22**  
PID No. 98492

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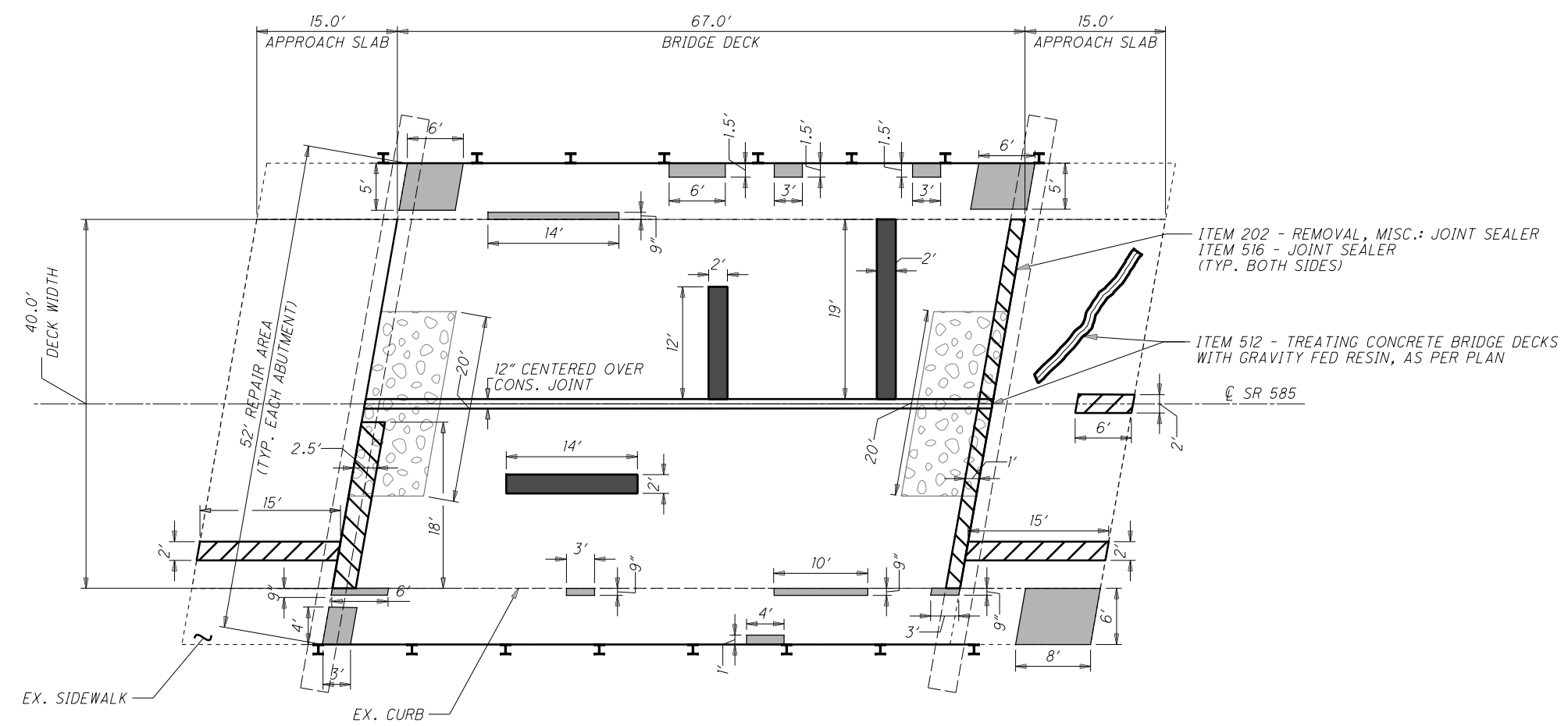
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DESIGN AGENCY  
ODOT DISTRICT THREE  
OFFICE OF ENGINEERING

REVIEWED  
DATE 11/2018  
CAD  
STRUCTURE FILE NUMBER 8505942

DRAWN  
JLL  
REVISED

DESIGNED  
JLL  
CHECKED

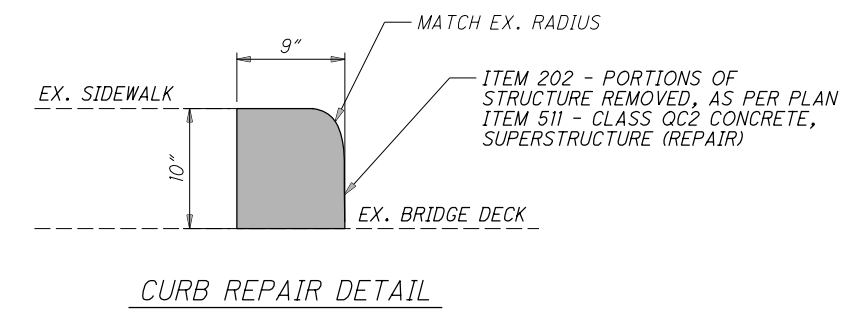
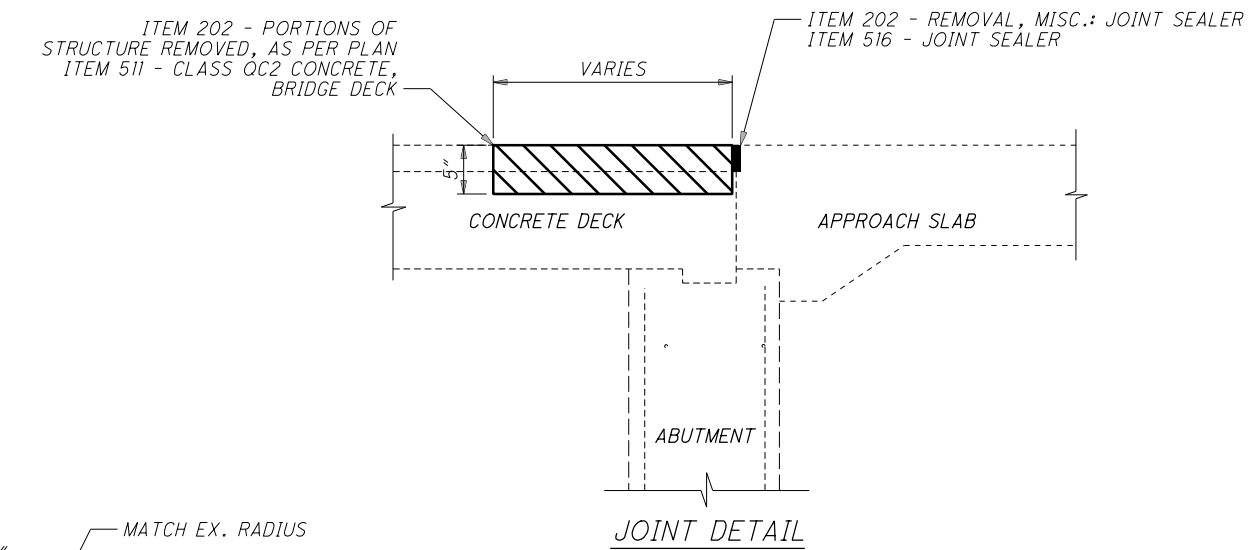


-  ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN  
ITEM 511 - CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
-  ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN  
ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK
-  ITEM 519 - PATCHING CONCRETE STRUCTURE
-  ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN  
ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)
-  ITEM 601 - DUMPED ROCK FILL, TYPE C

- NOTES:
- 1.) LOCATIONS OF CRACKS SHOWN ON PLAN SHEET ARE NOT ACCURATE AND ARE FOR REPRESENTATION ONLY. FIELD VERIFY THE LOCATIONS TO BE SEALED AND OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO BEGINNING WORK. AN ESTIMATED LENGTH OF 85 FEET HAS BEEN USED FOR ESTIMATING PURPOSES ONLY.
  - PREPARE THE AREA TO BE TREATED WITH GRAVITY FED RESIN AS PER C&MS 512. PREPARE A SECTION SIX INCHES OUTSIDE OF THE AREAS TO BE TREATED ON ALL SIDES. THE AREAS TO BE TREATED ARE VARIOUS CRACKS IN THE BRIDGE DECK OF VARYING LENGTH. TREAT EACH CRACK USING GRAVITY FED RESIN WITH A TWELVE INCH WIDE STRIP OF MATERIAL, CENTERED ON THE CRACK/JOINT.
  - PROVIDE NEW PAVEMENT MARKINGS AS DETAILED ON THE PAVEMENT MARKING DATA SHEET.
  - 2.) CONCRETE REPAIR LOCATIONS ARE FOR REFERENCE USE ONLY. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
  - 3.) CONCRETE REPAIRS SHALL HAVE A DEPTH OF 5".
  - 4.) ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED.
  - 5.) SIDEWALK REPAIRS DO NOT INVOLVE GUARDRAIL ANCHORS.
  - 6.) SEE SHEET 2/3 FOR ABUTMENT REPAIR DETAILS.

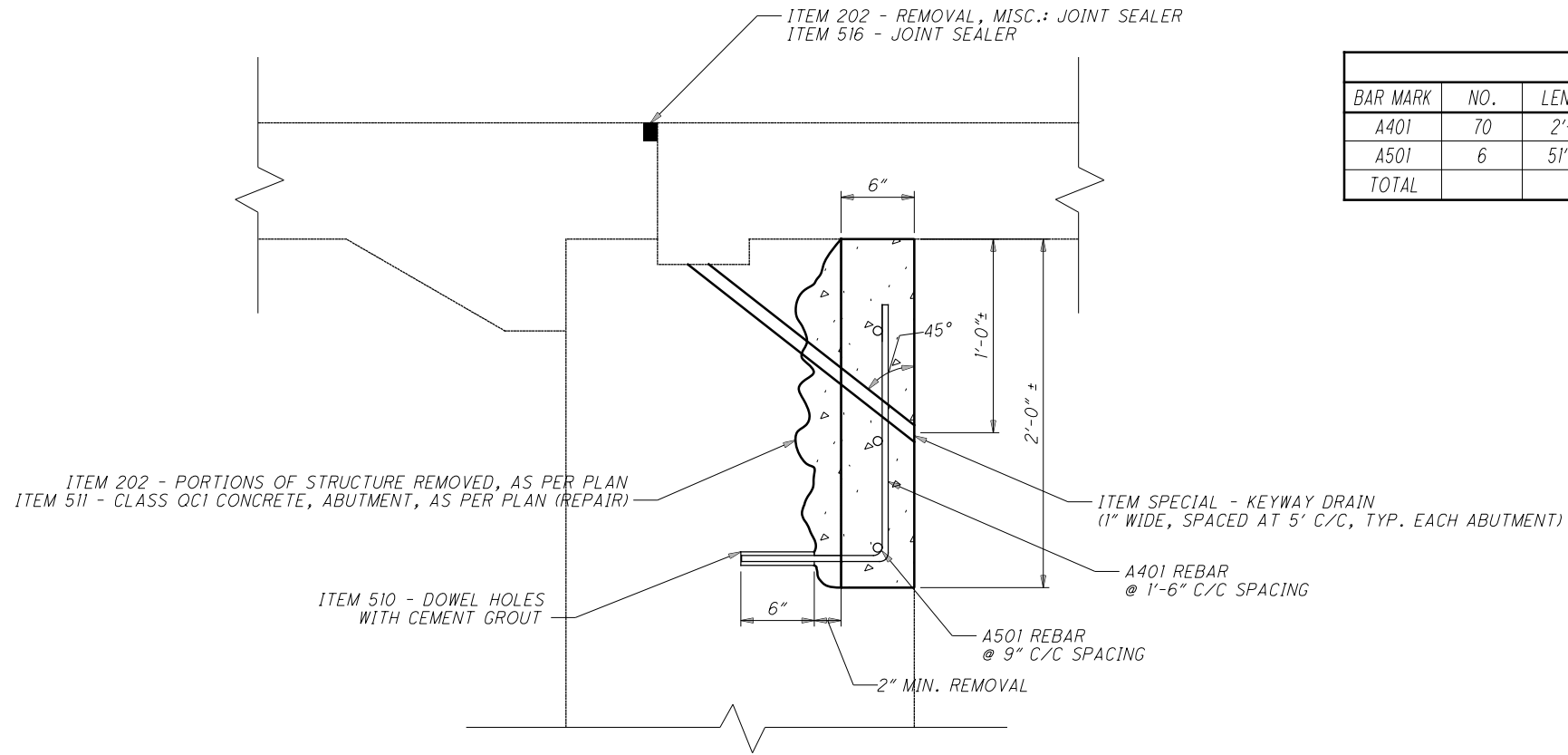
ITEM	QUANTITY	UNIT	DESCRIPTION
202	8	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	84	FT	REMOVAL, MISC.: JOINT SEALER
509	432	LB	EPOXY COATED REINFORCING STEEL
510	70	EACH	DOWEL HOLES WITH CEMENT GROUT
511	4	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)
511	2	CY	CLASS QC2 CONCRETE, BRIDGE DECK
511	4	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)
511	2	CY	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
512	10	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN, AS PER PLAN
516	84	FT	JOINT SEALER
519	90	SF	PATCHING CONCRETE STRUCTURE
601	24	CY	DUMPED ROCK FILL, TYPE C
SPECIAL	20	EACH	KEYWAY DRAIN

ALL QUANTITIES CARRIED TO THE STRUCTURE SUMMARY



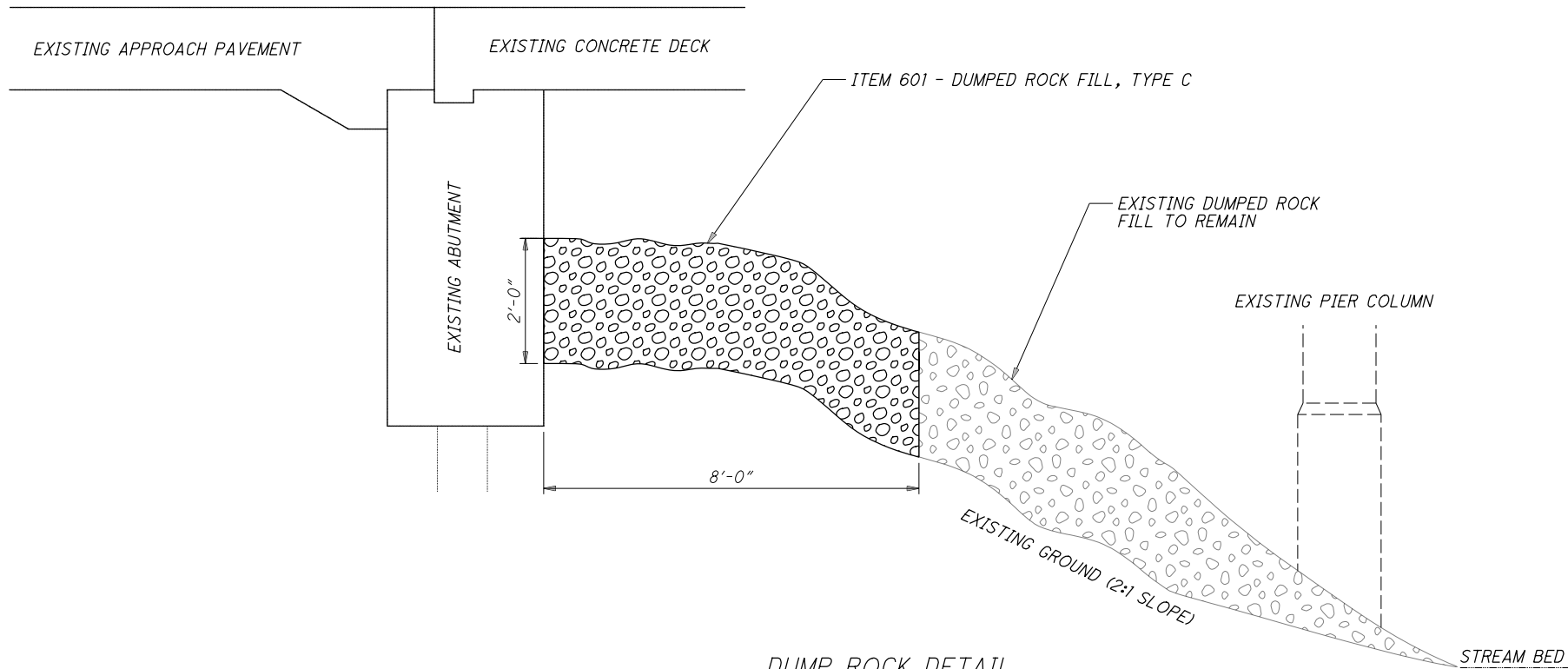
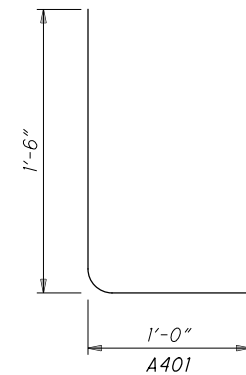
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ABUTMENT REPAIR DETAIL

ITEM 509 REINFORCING TABLE					
BAR MARK	NO.	LENGTH	SHAPE	WEIGHT	DESCRIPTION
A401	70	2'-5"	BENT	114	#4 EPOXY COATED REINFORCING STEEL @ 0.67 LB/FT
A501	6	51'-0"	STRAIGHT	318	#5 EPOXY COATED REINFORCING STEEL @ 1.04 LB/FT
TOTAL				432	



DUMP ROCK DETAIL

BOTH ABUTMENTS

DESIGN AGENCY  
ODOT DISTRICT THREE  
OFFICE OF ENGINEERING

DESIGNED  
JLL  
CHECKED

DRAWN  
JLL  
REVISED

REVIEWED  
CAD  
STRUCTURE FILE NUMBER  
8505977

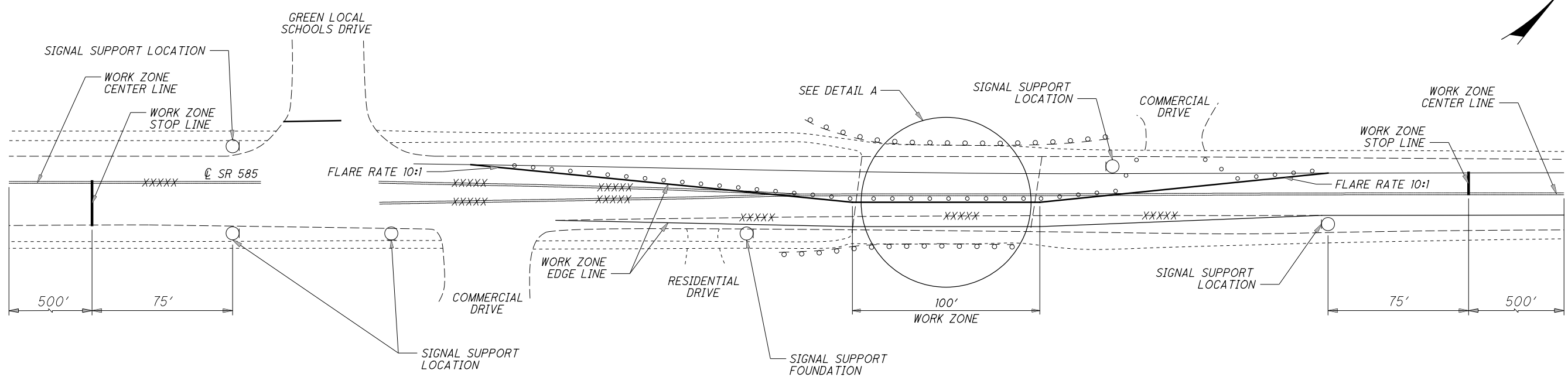
DATE  
11/2018

STRUCTURE DETAILS  
STRUCTURE WAY-585-5.78  
OVER BRANCH OF SUGAR CREEK

WAY - 585 - 2.22  
PID No. 98492

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M.O.T. DETAIL  
 PHASE A - SHOWN  
 PHASE B - SIMILAR

**SIGNAL TIMING**

A THREE PHASE CONTROLLER WITH CABINET CAPABLE OF BEING SET WITH THE FOLLOWING SPLITS SHALL BE FURNISHED

CYCLE LENGTH: 140 SECONDS

	GREEN	YELLOW	RED
PHASE A (EB)	40	5	10
PHASE B (SB)*15	5	10	
PHASE C (WB)	40	5	10

THE ABOVE TIMING MAY BE CHANGED WITH THE APPROVAL OF THE ENGINEER.

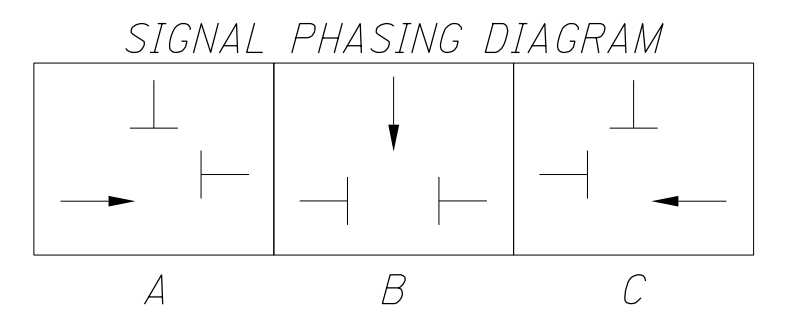
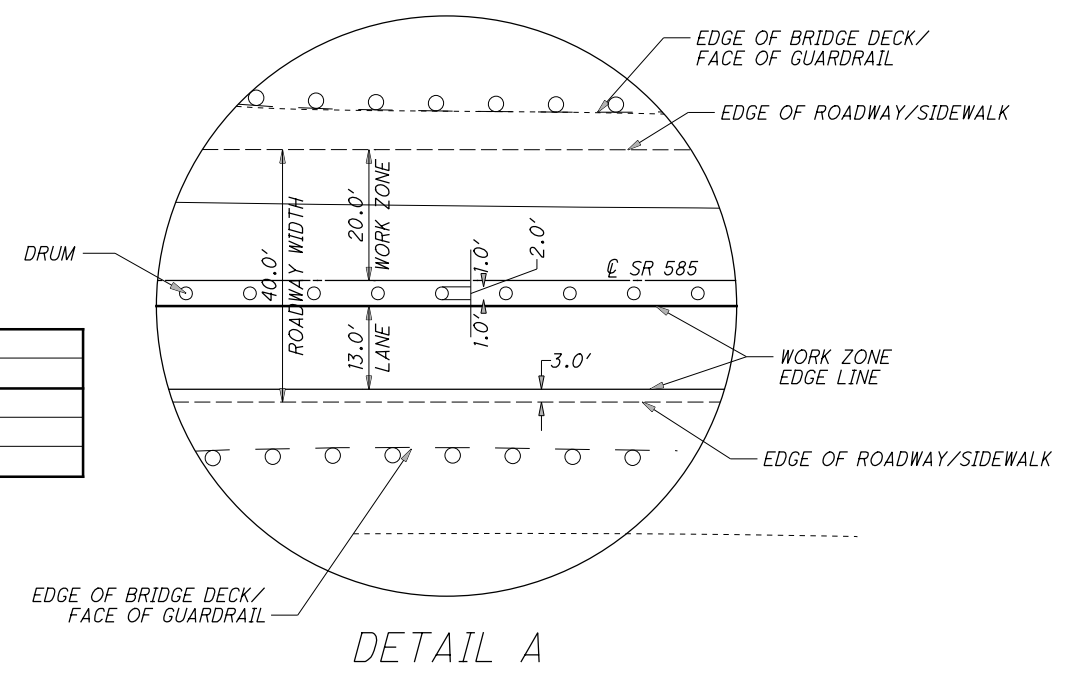
\*PHASES ARE ACTUATED ONLY (SKIPPED IF NO VEHICLE PRESENT)

ESTIMATED QUANTITIES (06/S<2/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
614	0.19	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I
614	0.34	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I
614	39	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I

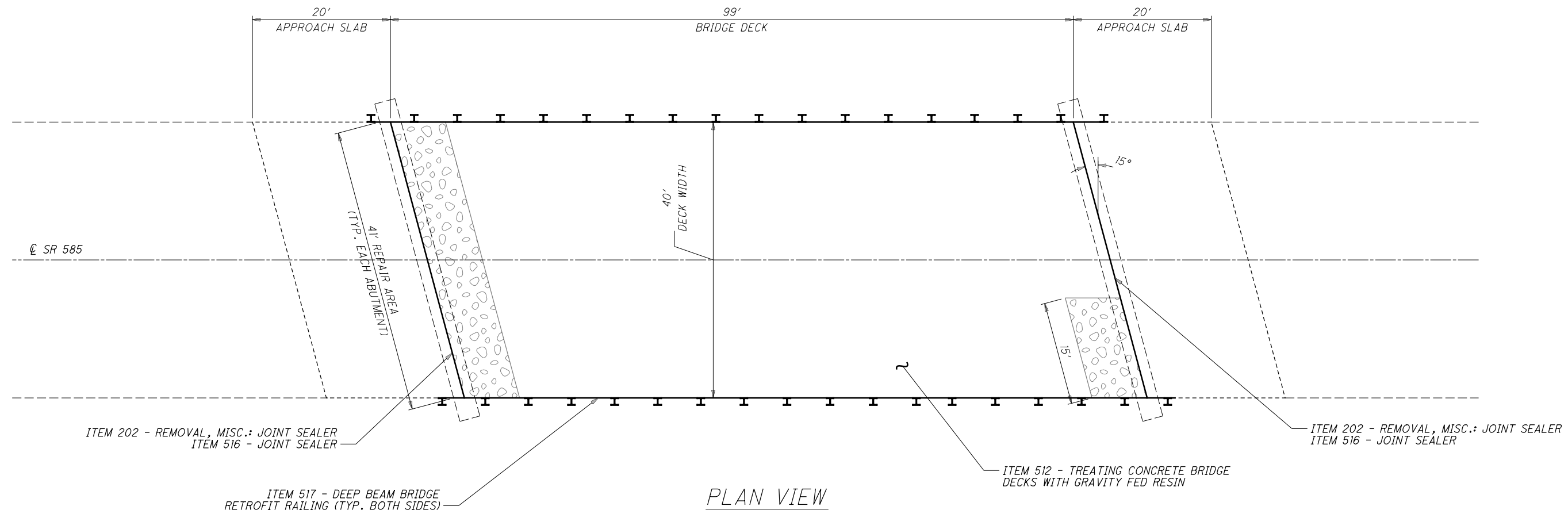
ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY

**NOTES:**

- 1.) STEEL PLATES SHALL BE PLACED OVER THE CONCRETE REPAIR AREAS PRIOR TO CONCRETE CURING.
- 2.) FOR ADDITIONAL DETAILS, SEE SCDs MT-96.11, MT-96.20, AND MT-96.26 AND ALSO SUPPLEMENTAL SPECIFICATION 961.
- 3.) ACCESS TO ALL DRIVES SHALL BE MAINTAINED.



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PLAN VIEW

 ITEM 601 - DUMPED ROCK FILL, TYPE C

- NOTES:  
 1.) ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED.  
 2.) SEAL ENTIRE DECK WITH ITEM 512 - TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN.  
 3.) SEE SHEET 2/3 FOR ABUTMENT REPAIR DETAILS.

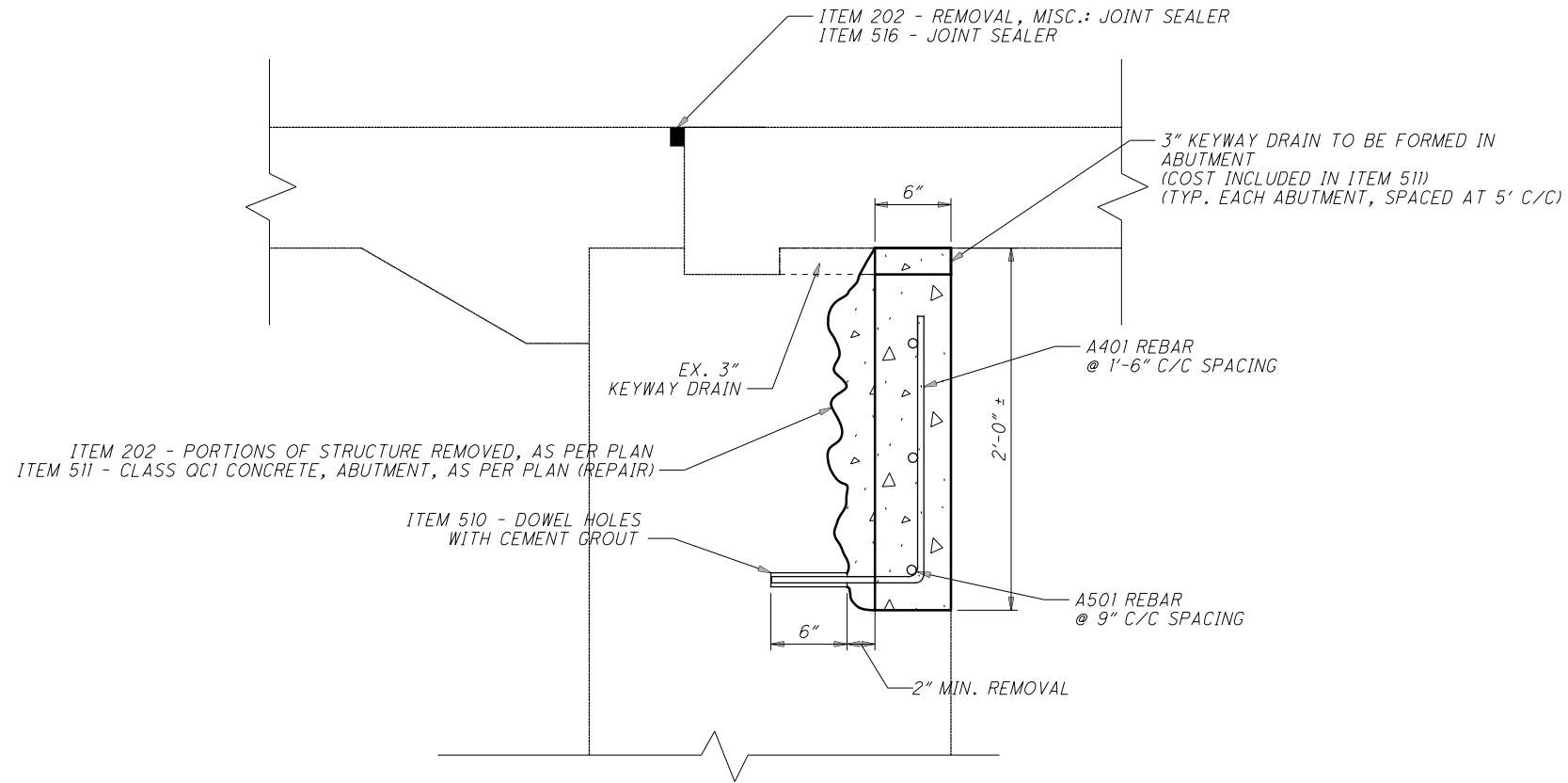
ITEM	QUANTITY	UNIT	DESCRIPTION
202	84	FT	REMOVAL, MISC.: JOINT SEALER
509	341	LB	EPOXY COATED REINFORCING STEEL
510	56	EACH	DOWEL HOLES WITH CEMENT GROUT
511	3	CY	CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)
512	440	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN
516	84	FT	JOINT SEALER
517	213	FT	DEEP BEAM BRIDGE RETROFIT RAILING
601	33	CY	DUMPED ROCK FILL, TYPE C

ALL QUANTITIES CARRIED TO THE STRUCTURE SUMMARY

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<b>STRUCTURE DETAILS</b>	DESIGN AGENCY ODOT DISTRICT THREE OFFICE OF ENGINEERING
STRUCTURE WAY-585-8.61 OVER LITTLE CHIPPEWA CREEK	DATE 11/2018
REVIEWED CAD	STRUCTURE FILE NUMBER 8506019
DRAWN JLL	REVISED
DESIGNED JLL	CHECKED
<b>WAY - 585 - 2.22</b>	<b>PID No. 98492</b>
1 / 3	29 39

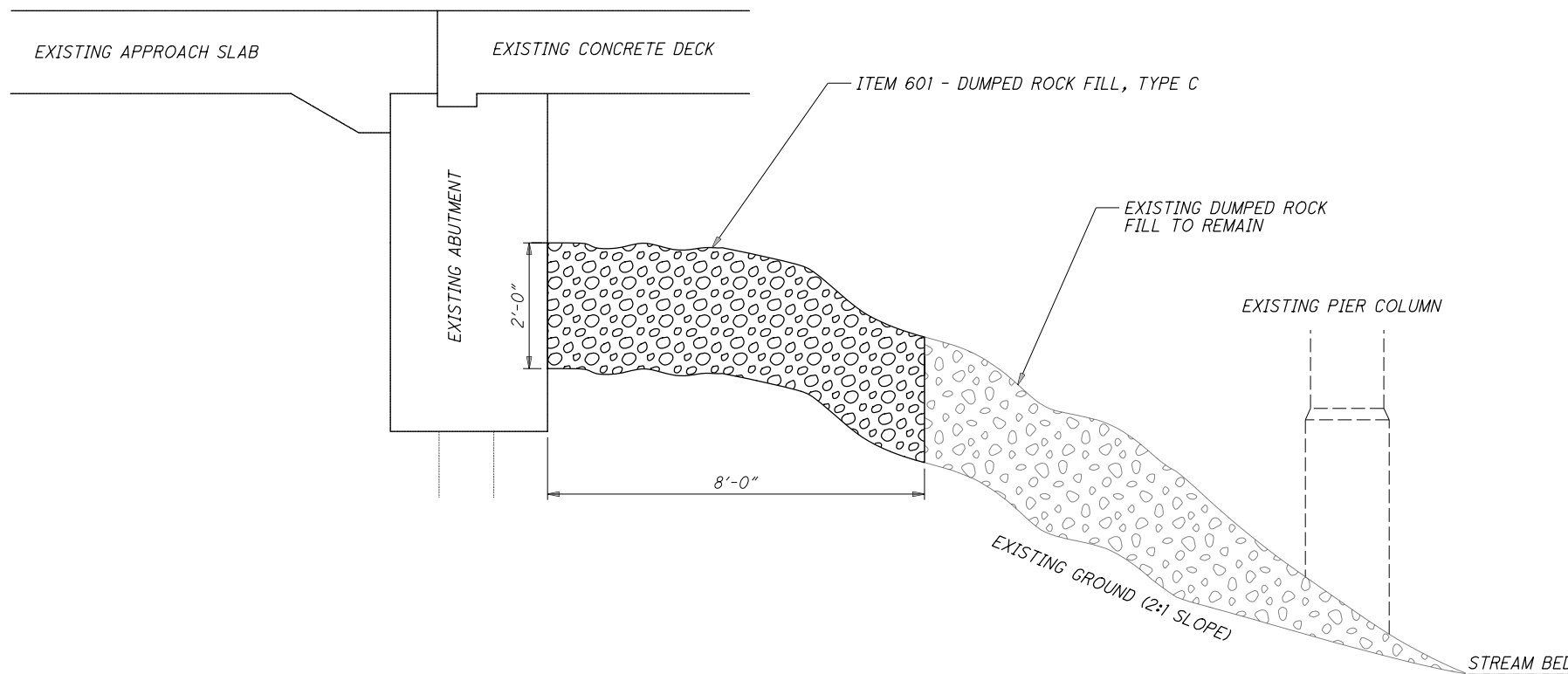
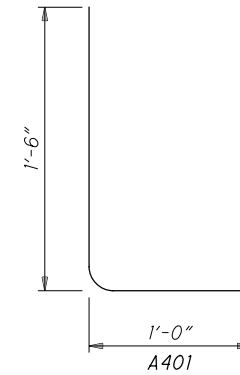




ABUTMENT REPAIR DETAIL

ITEM 509 REINFORCING TABLE

BAR MARK	NO.	LENGTH	SHAPE	WEIGHT	DESCRIPTION
A401	56	2'-5"	BENT	91	#4 EPOXY COATED REINFORCING STEEL @ 0.67 LB/FT
A501	6	40'-0"	STRAIGHT	250	#5 EPOXY COATED REINFORCING STEEL @ 1.04 LB/FT
TOTAL				341	



DUMP ROCK DETAIL

BOTH ABUTMENTS

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DESIGN AGENCY  
ODOT DISTRICT THREE  
OFFICE OF ENGINEERING

REVIEWED  
DATE 11/2018  
CAD  
STRUCTURE FILE NUMBER 8506019

DRAWN  
JLL  
REVIS

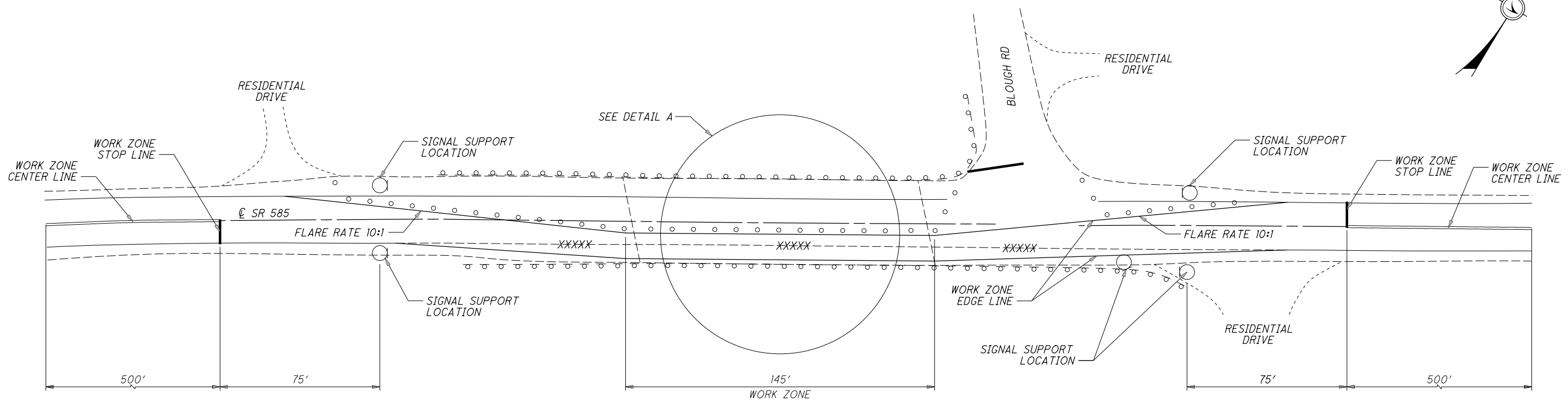
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JLL  
CHECKED

STRUCTURE DETAILS  
STRUCTURE WAY-585-8.61  
OVER LITTLE CHIPPEWA CREEK

WAY-585-2.22  
PID No. 98492

2 / 3

30  
39



M.O.T. DETAIL  
 PHASE A - SHOWN  
 PHASE B - SIMILAR

**SIGNAL TIMING**

A THREE PHASE CONTROLLER WITH CABINET CAPABLE OF BEING SET WITH THE FOLLOWING SPLITS SHALL BE FURNISHED

CYCLE LENGTH: 120 SECONDS

	GREEN	YELLOW	RED
PHASE A (EB)	30	5	10
PHASE B (SB)*	15	5	10
PHASE C (WB)	30	5	10

THE ABOVE TIMING MAY BE CHANGED WITH THE APPROVAL OF THE ENGINEER.

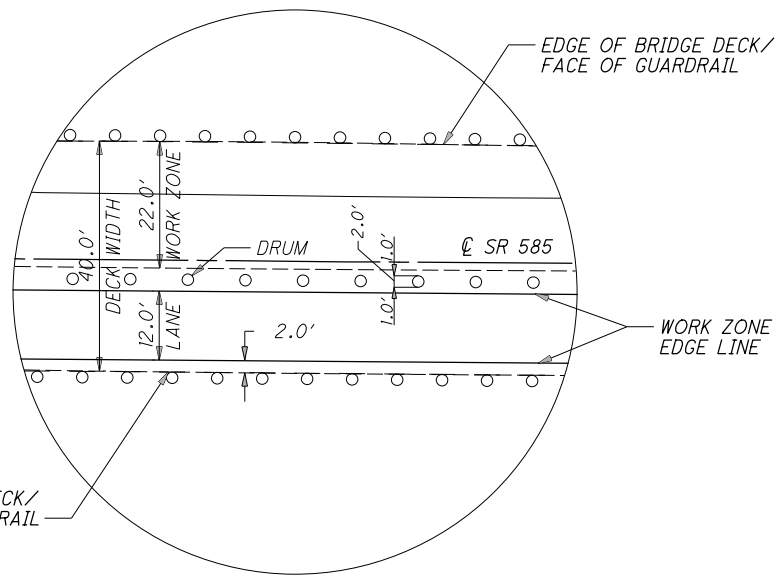
\*PHASES ARE ACTUATED ONLY (SKIPPED IF NO VEHICLE PRESENT)

ESTIMATED QUANTITIES (05/STR/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
614	0.19	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I
614	0.34	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I
614	23	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I

ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY

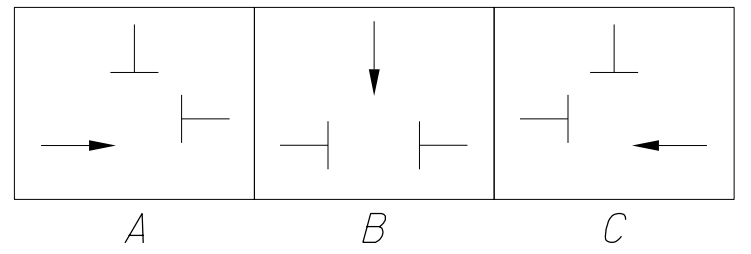
**NOTES:**

- 1.) STEEL PLATES SHALL BE PLACED OVER THE CONCRETE REPAIR AREAS PRIOR TO CONCRETE CURING.
- 2.) FOR ADDITIONAL DETAILS, SEE SCDs MT-96.11, MT-96.20, AND MT-96.26 AND ALSO SUPPLEMENTAL SPECIFICATION 961.
- 3.) ACCESS TO ALL DRIVES SHALL BE MAINTAINED.



DETAIL A

**SIGNAL PHASING DIAGRAM**



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**NOTES**

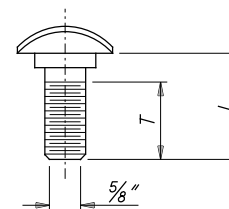
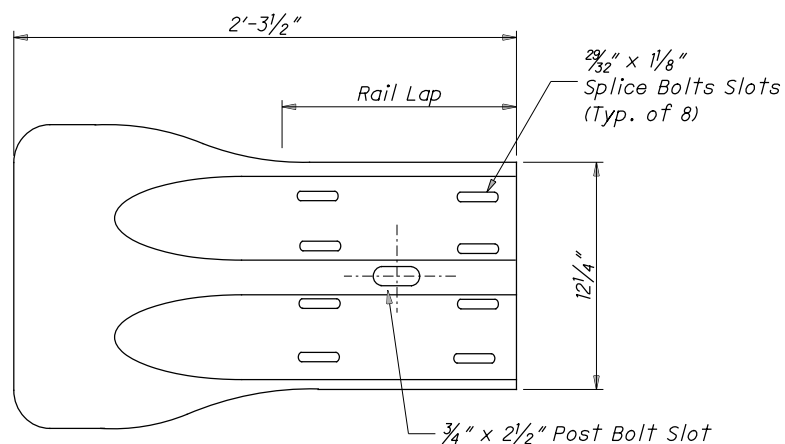
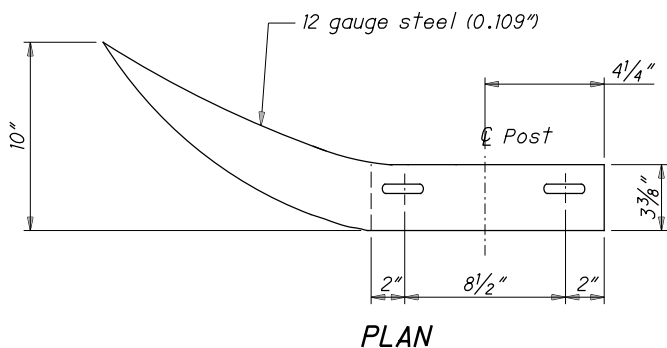
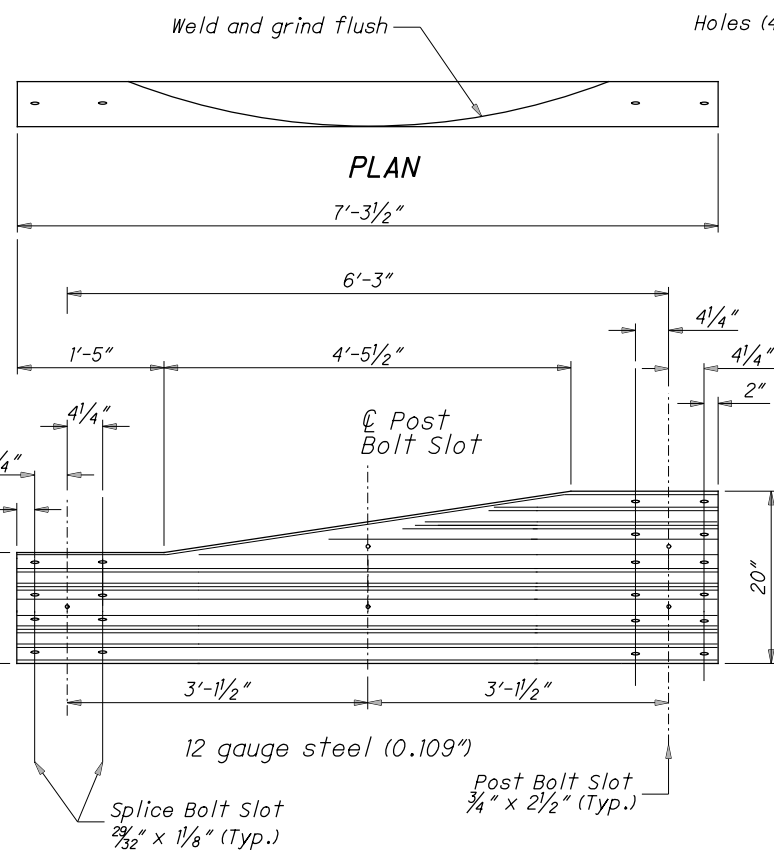
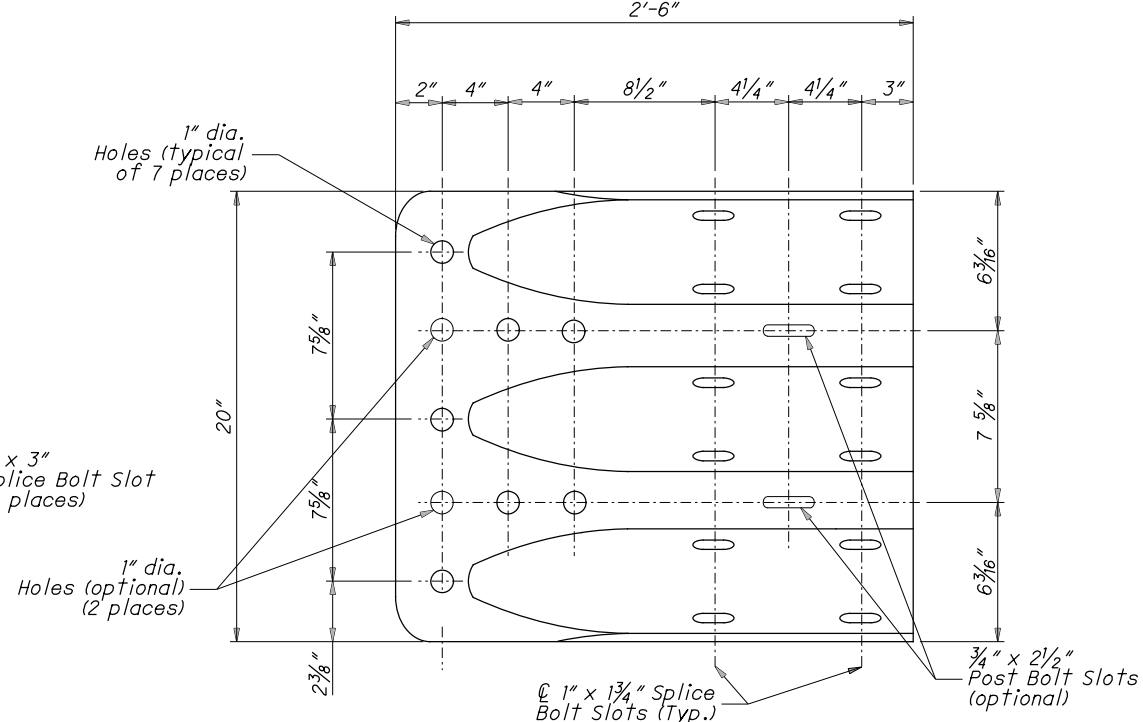
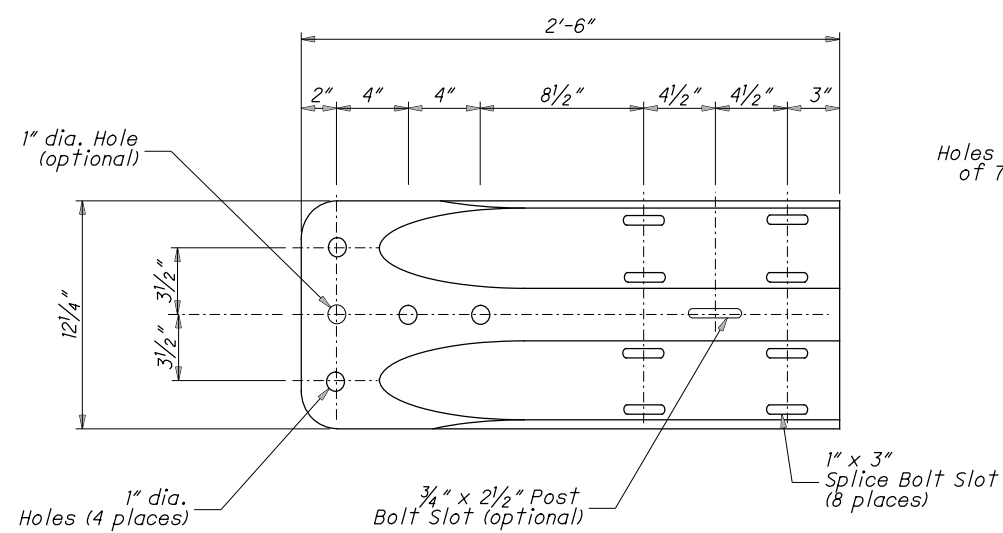
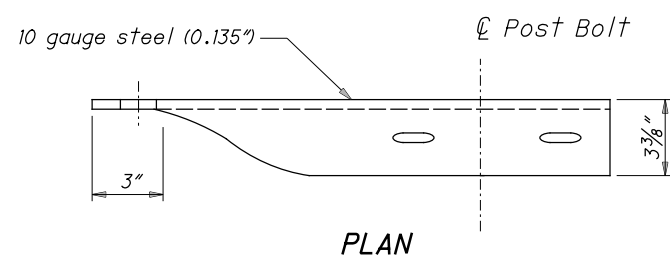
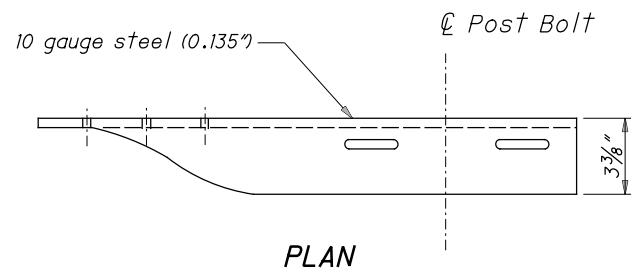
**GENERAL:** Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

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 3/4" x 2 1/2" post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

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



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

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

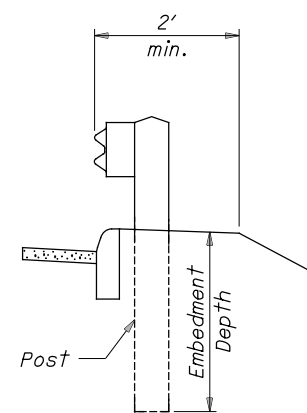
Longer Bolt may be needed for round Wood Post larger than 8" dia.

**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.

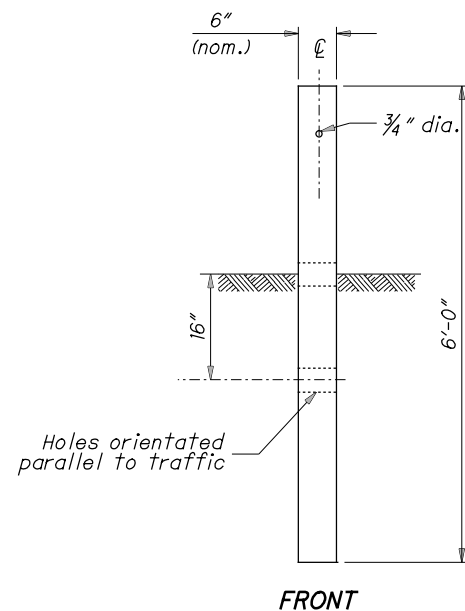
**ELEVATION  
W-BEAM FLARED END SECTION**

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**DETAIL A**

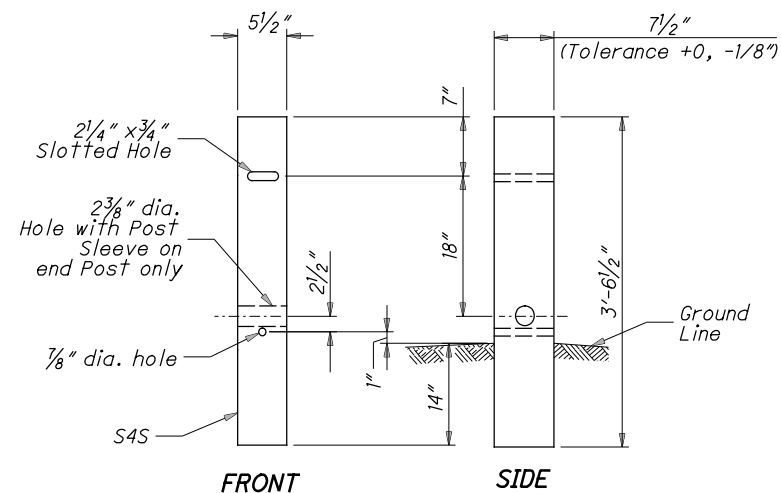
See POST EMBEDMENT DEPTH Note



**FRONT**

**SIDE**

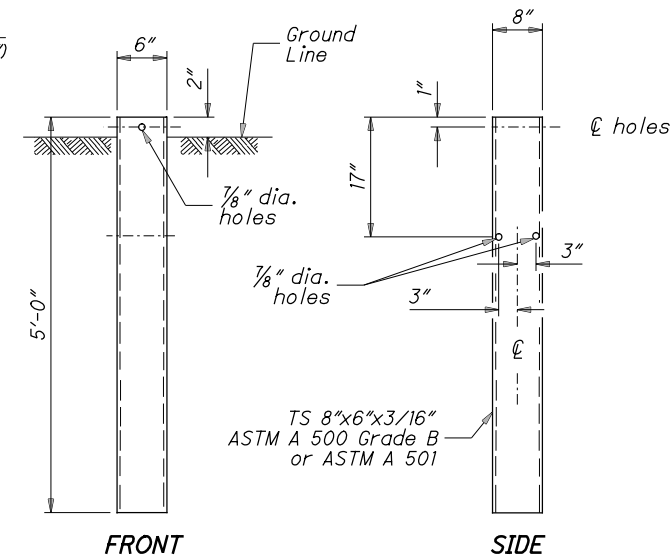
**TYPE 1 BREAKAWAY CRT POST**



**FRONT**

**SIDE**

**TYPE 2 BREAKAWAY CRT POST**



**FRONT**

**SIDE**

**STEEL GROUND TUBE**

**NOTES**

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

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

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

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

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

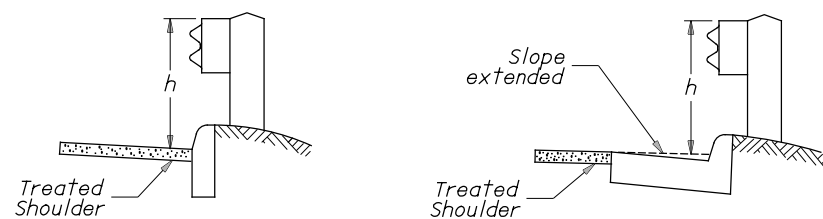
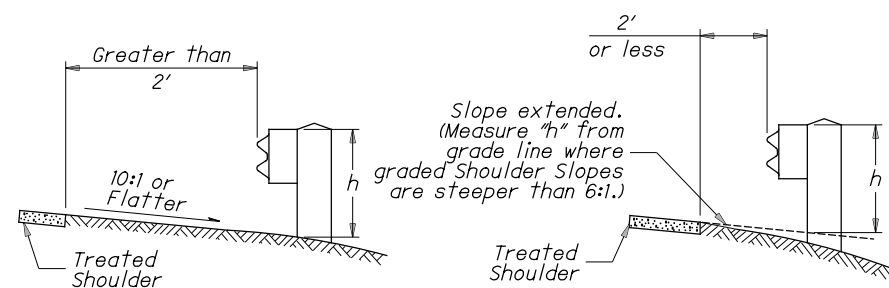
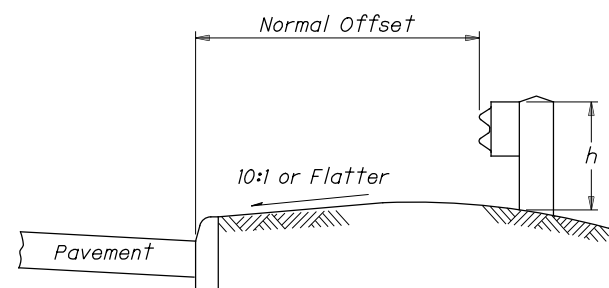
Do not drive posts located over a culvert with less than 4'-3" of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

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

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

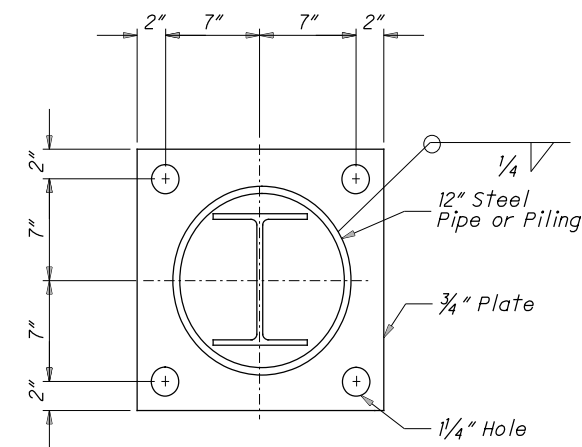
Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

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

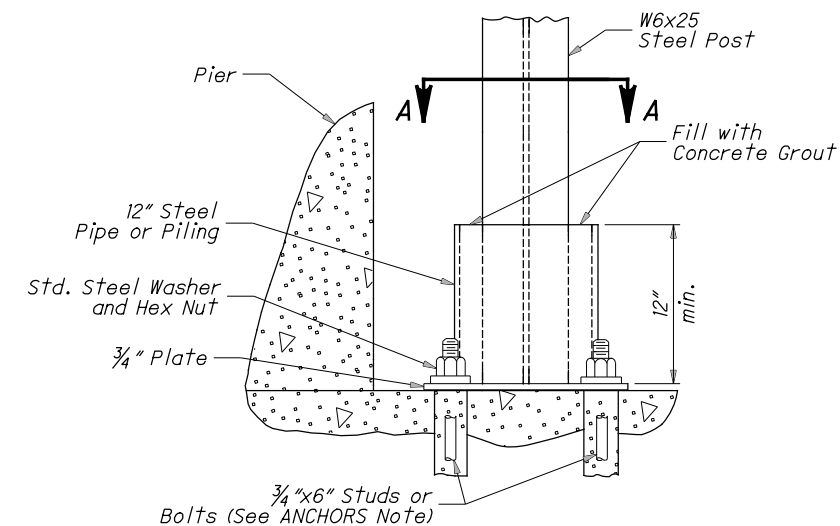


$h$  = Standard Height (See GUARDRAIL HEIGHT Note)

**MEASURING GUARDRAIL HEIGHT**



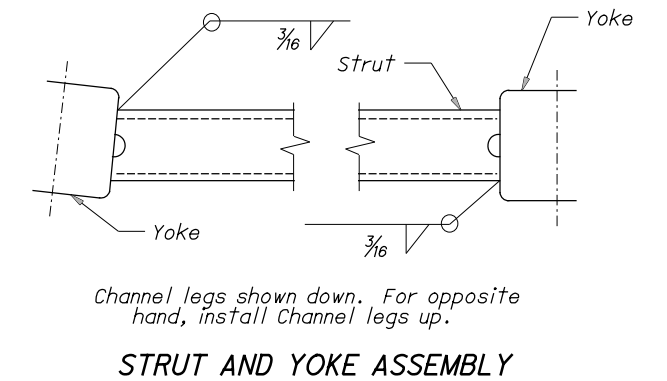
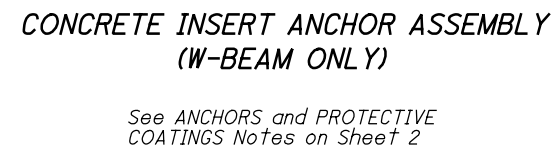
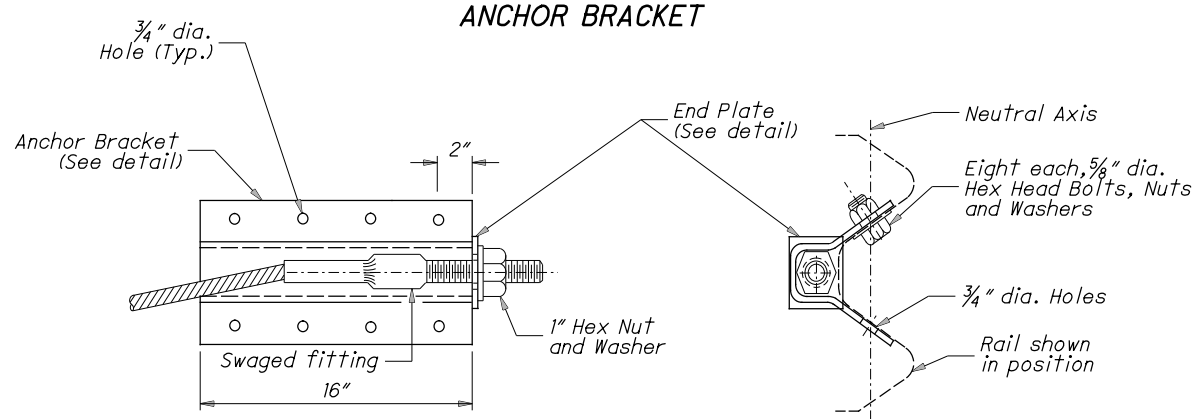
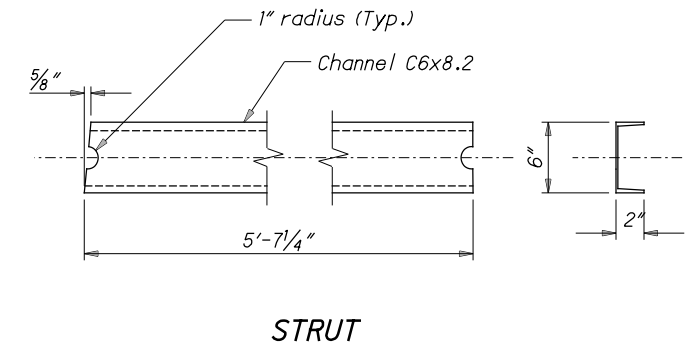
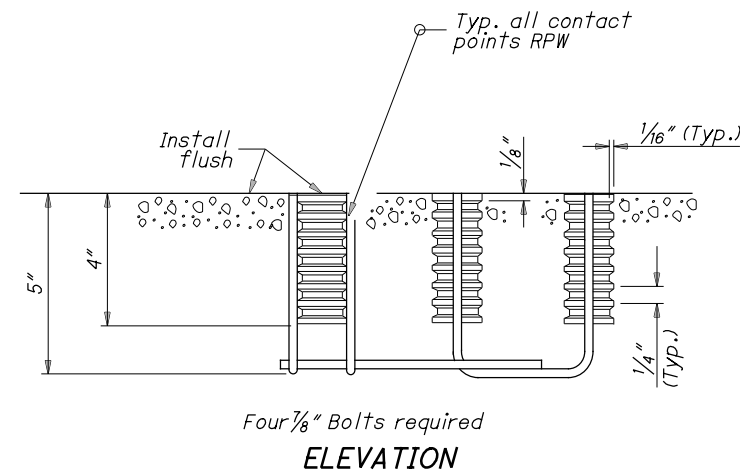
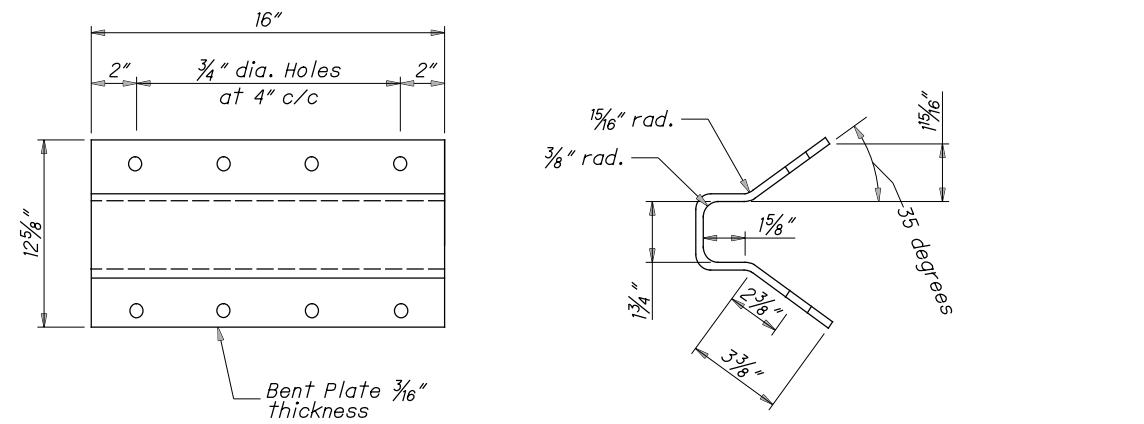
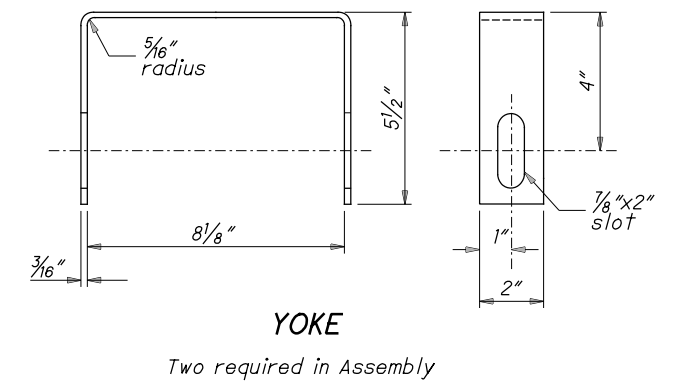
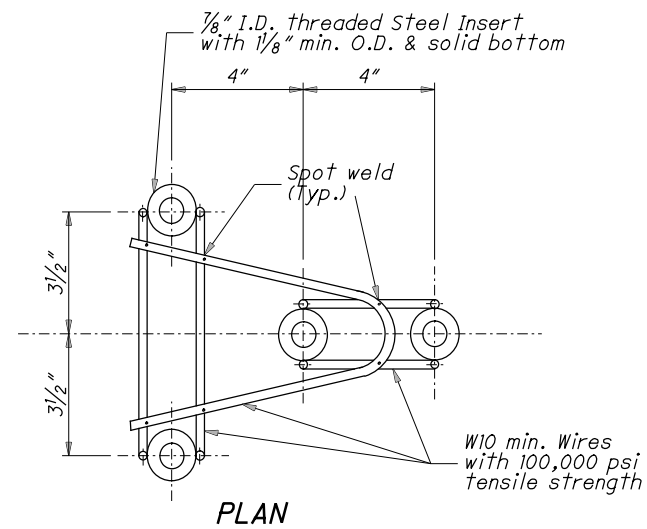
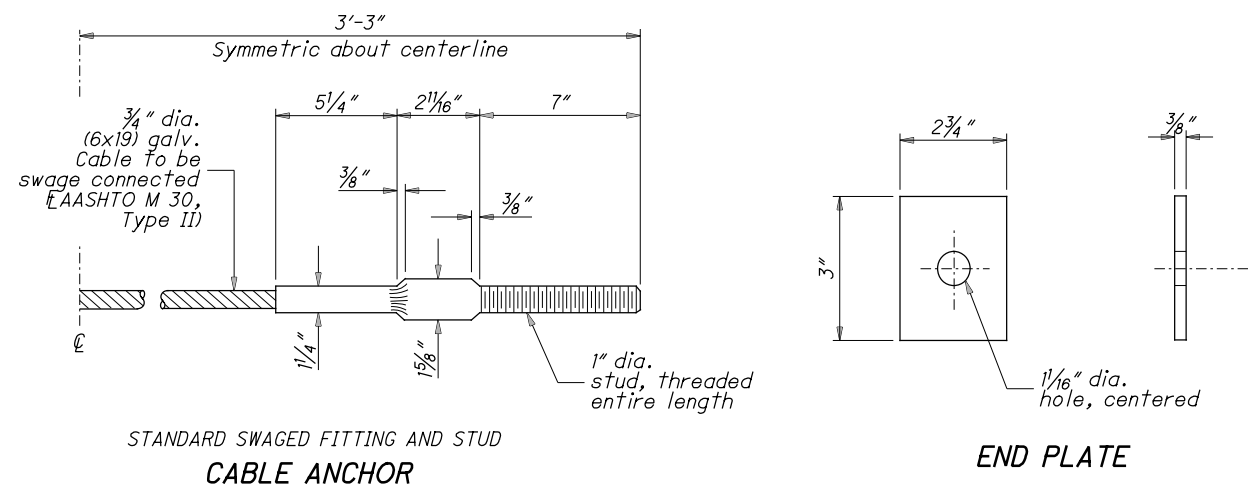
**SECTION A-A**



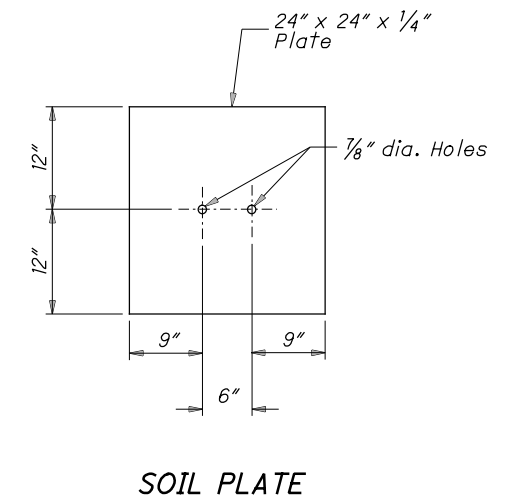
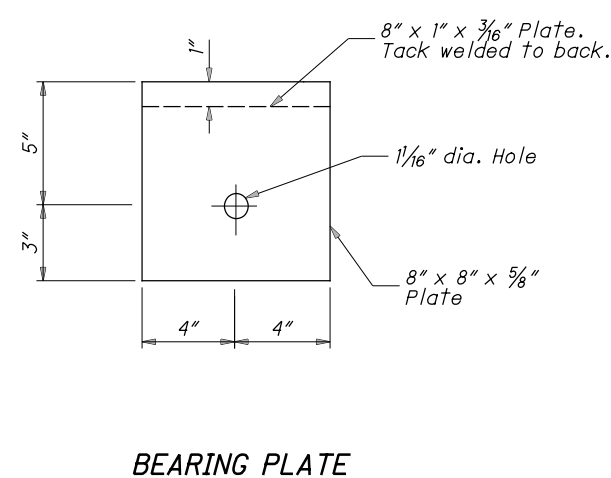
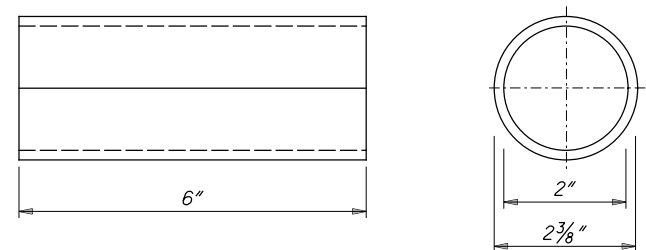
**ELEVATION FOOTING ANCHOR**

See SPECIAL POST MOUNTINGS Note.

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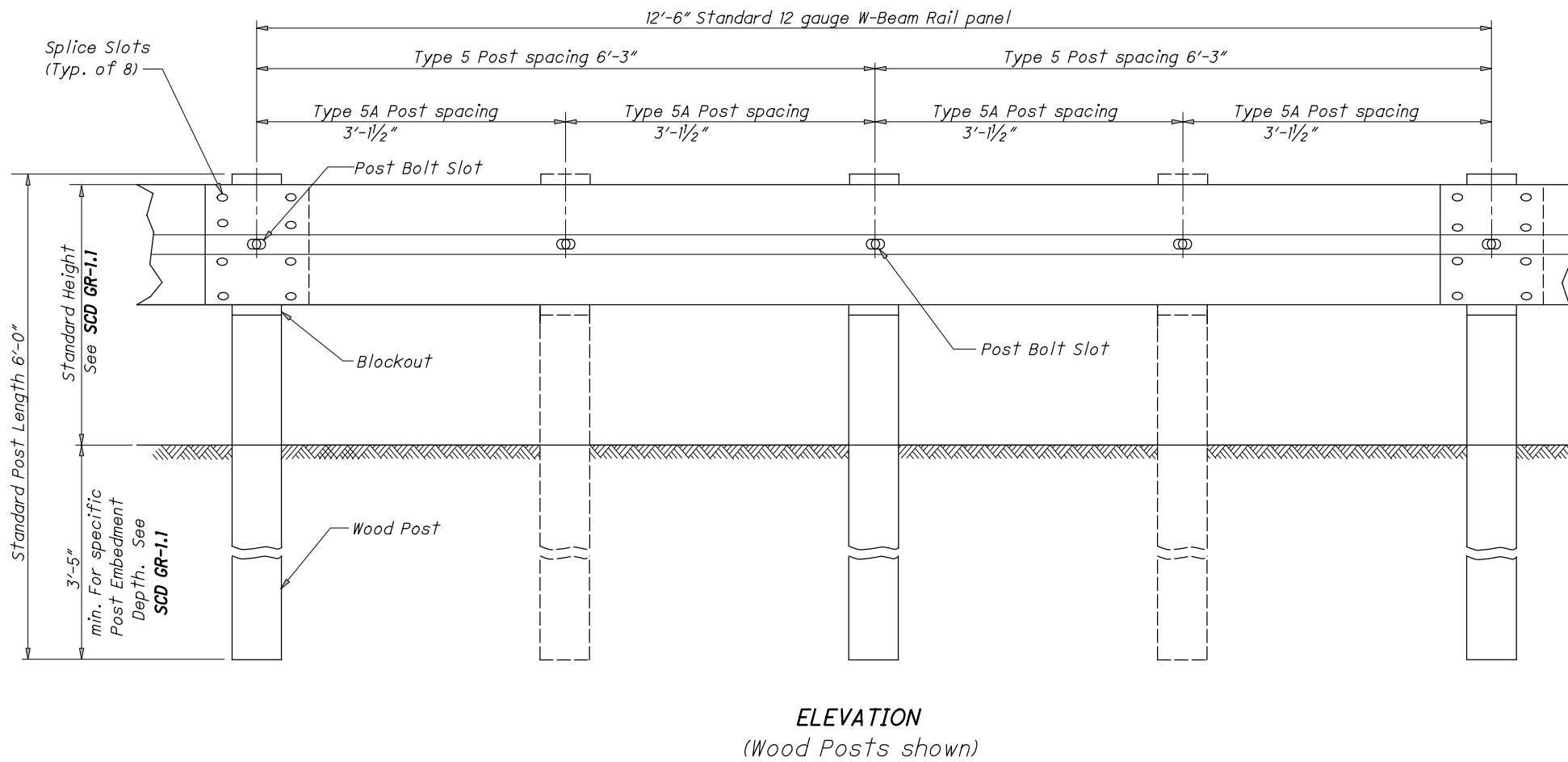
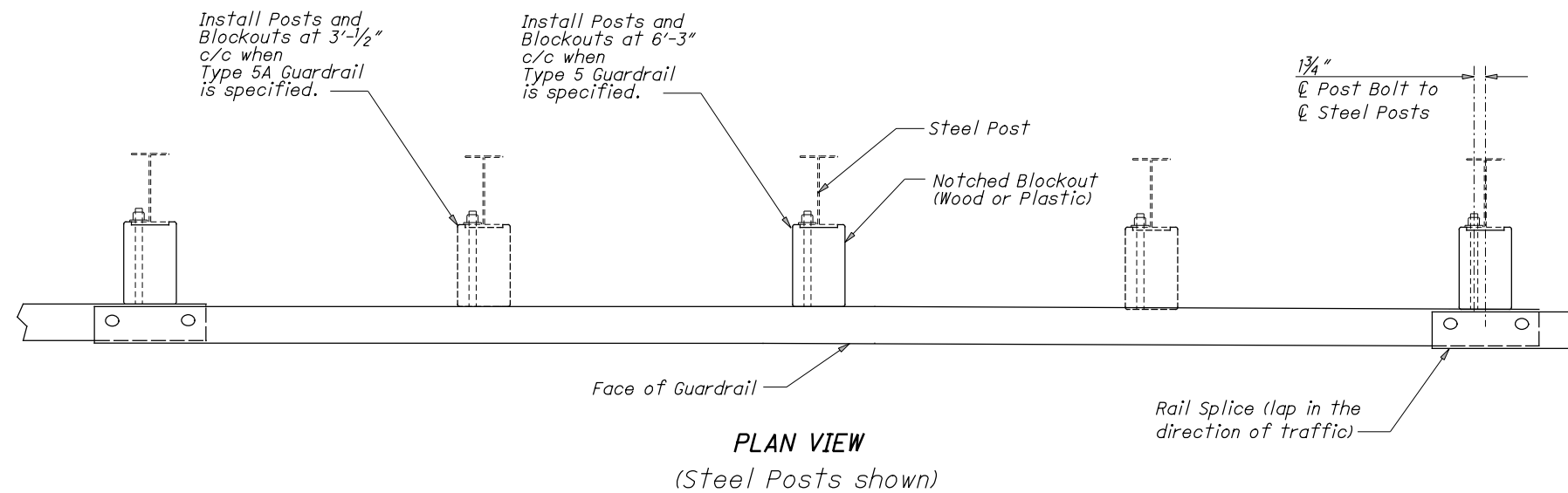


**ANCHOR BRACKET ASSEMBLY DETAILS**



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**NOTES**

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

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

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

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

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

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

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

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

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

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

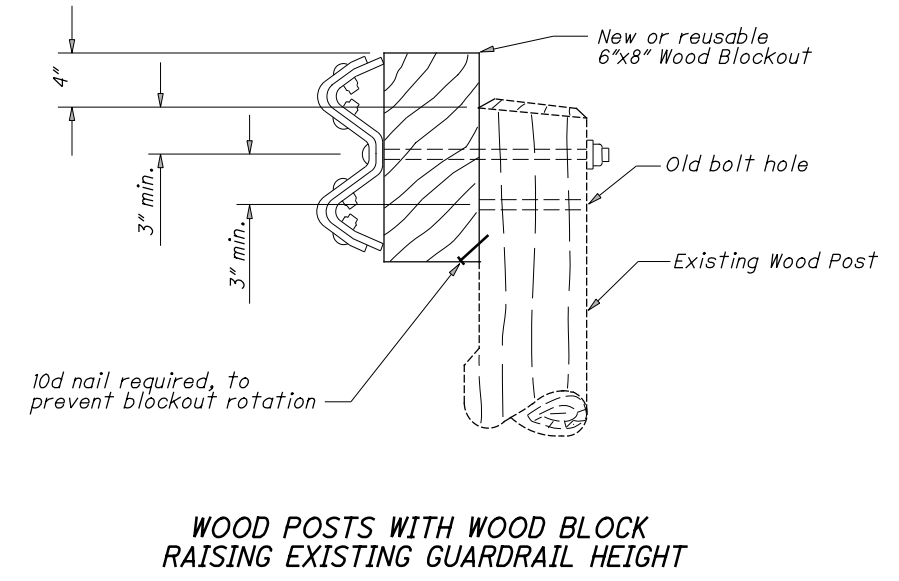
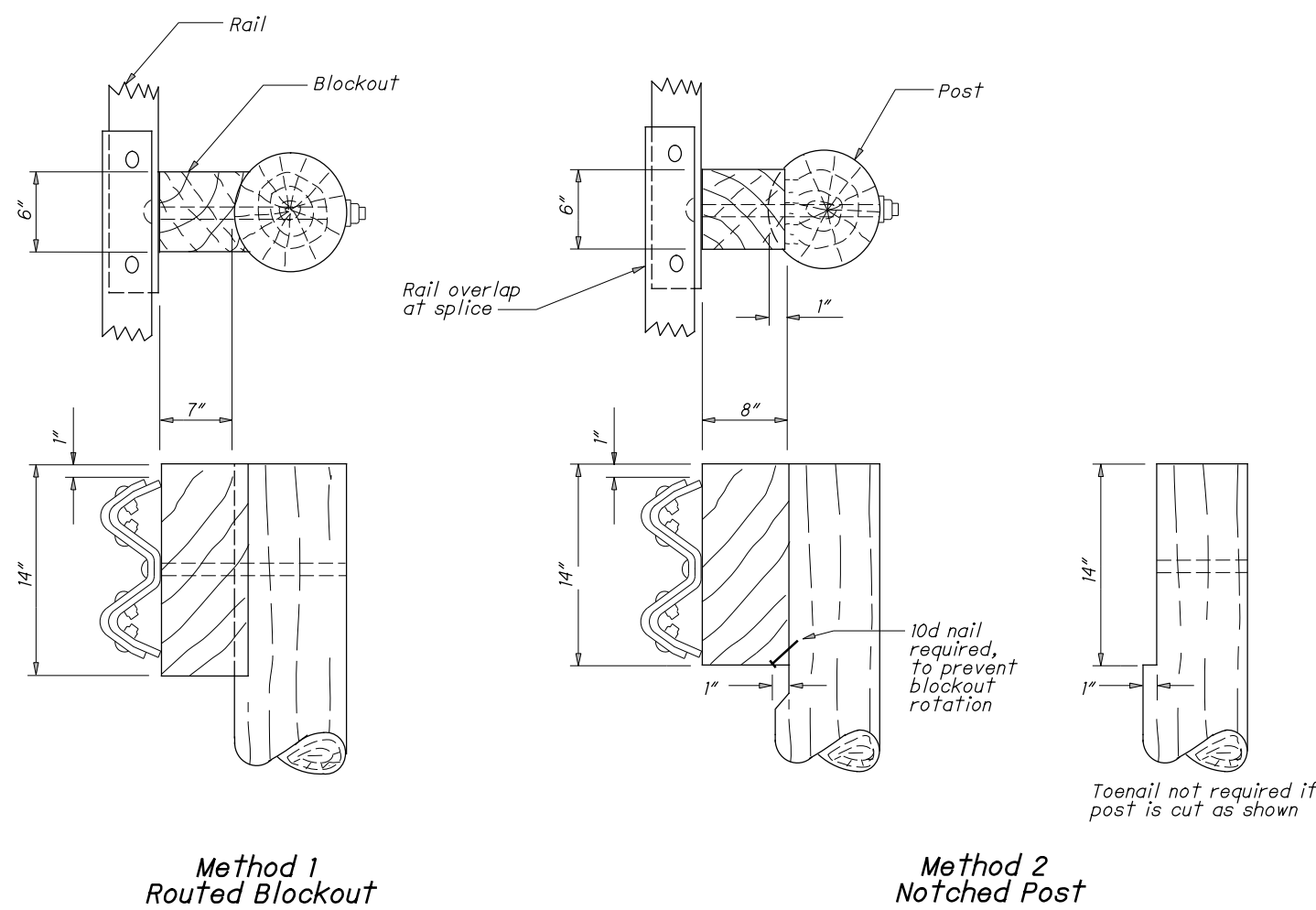
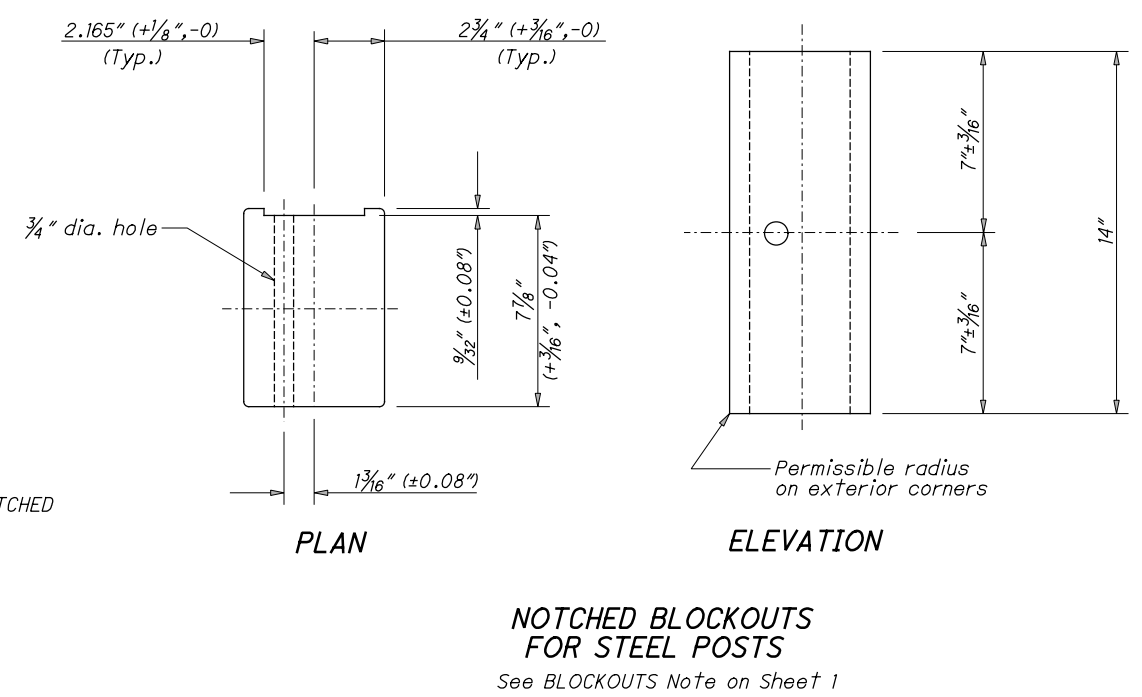
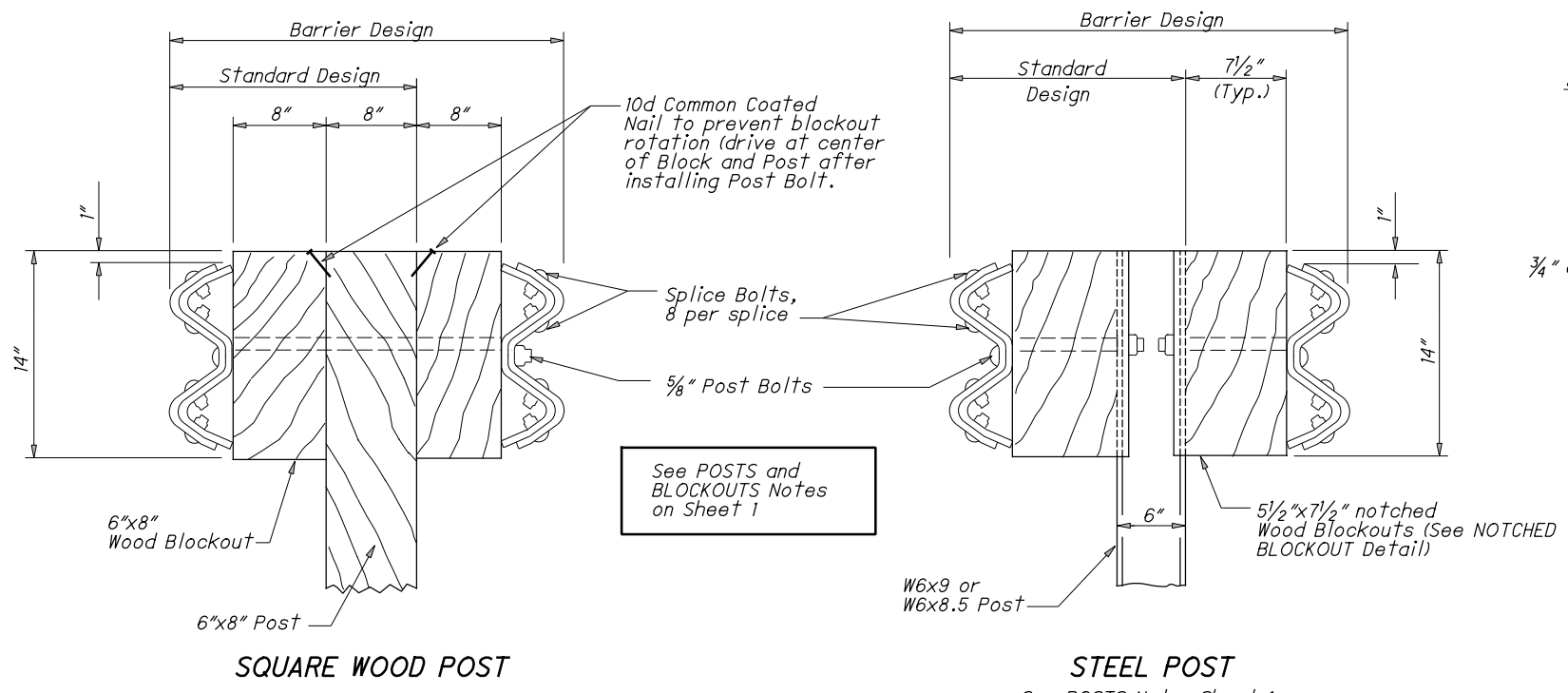
**WASHERS:** Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

**DELINEATION:** For barrier reflectors, see CMS 626.

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

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

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

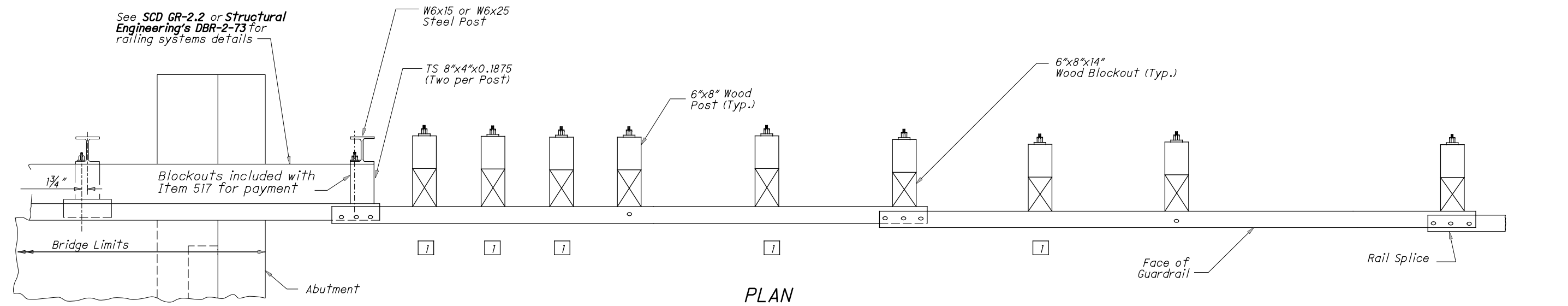


Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

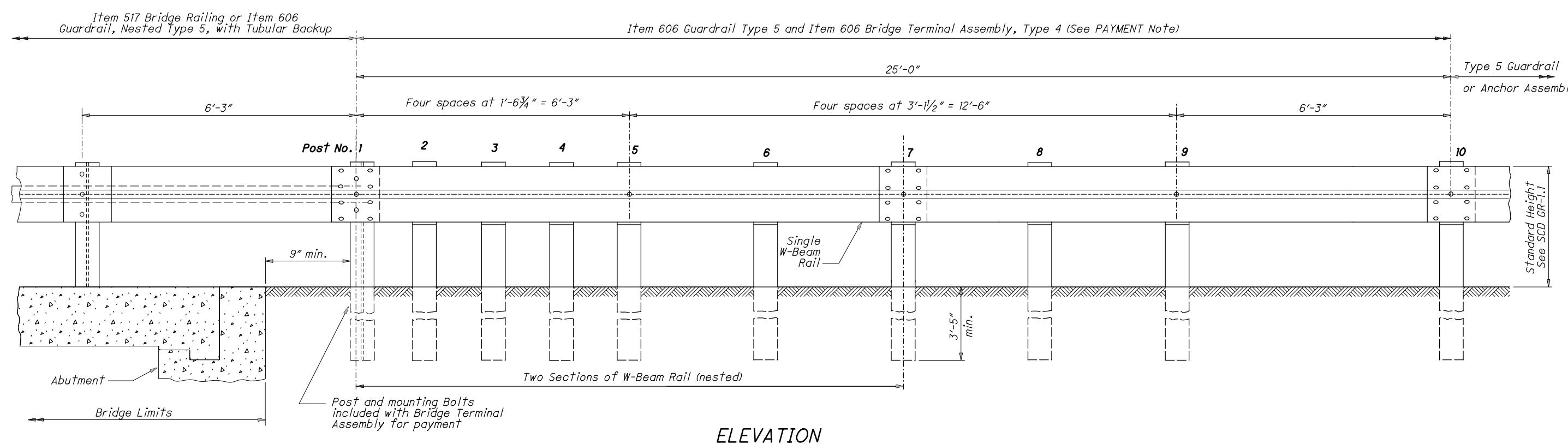
**ROUND WOOD POSTS**  
Single Sided runs only (Standard Design)

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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 3/4"x2 1/2". Tighten the bolts as specified for expansion joints in Item 606.05.

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

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

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

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

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

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

LEGEND

□ 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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**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.

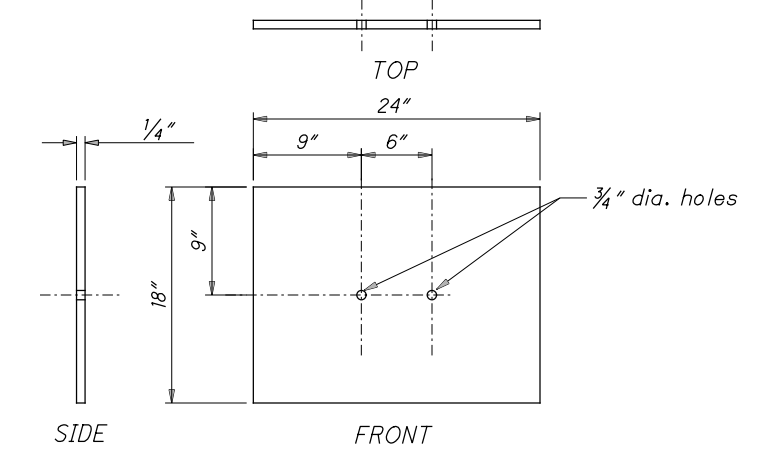
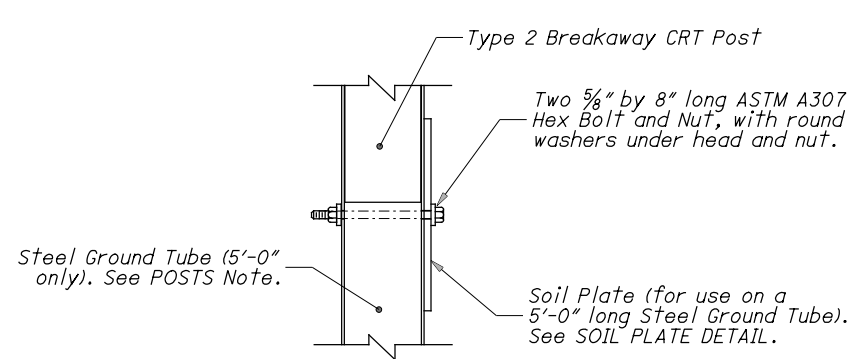
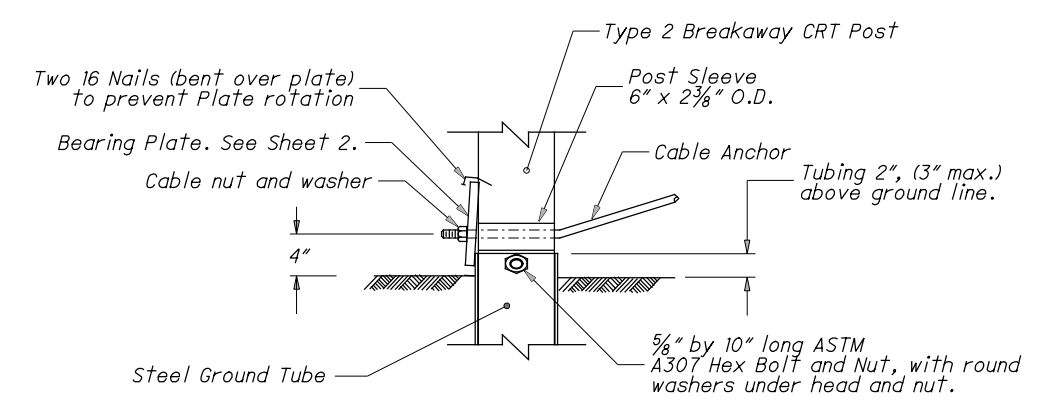
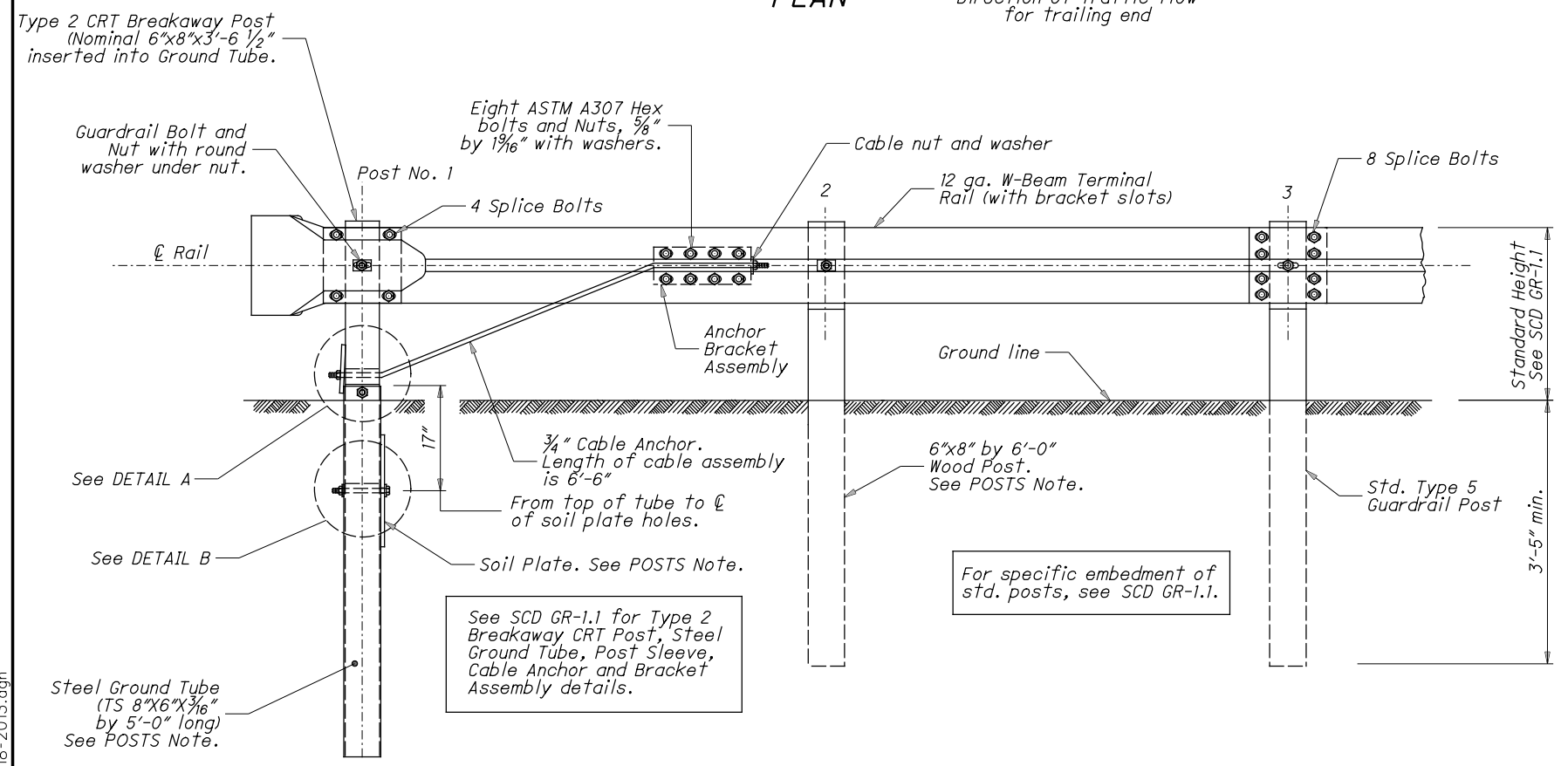
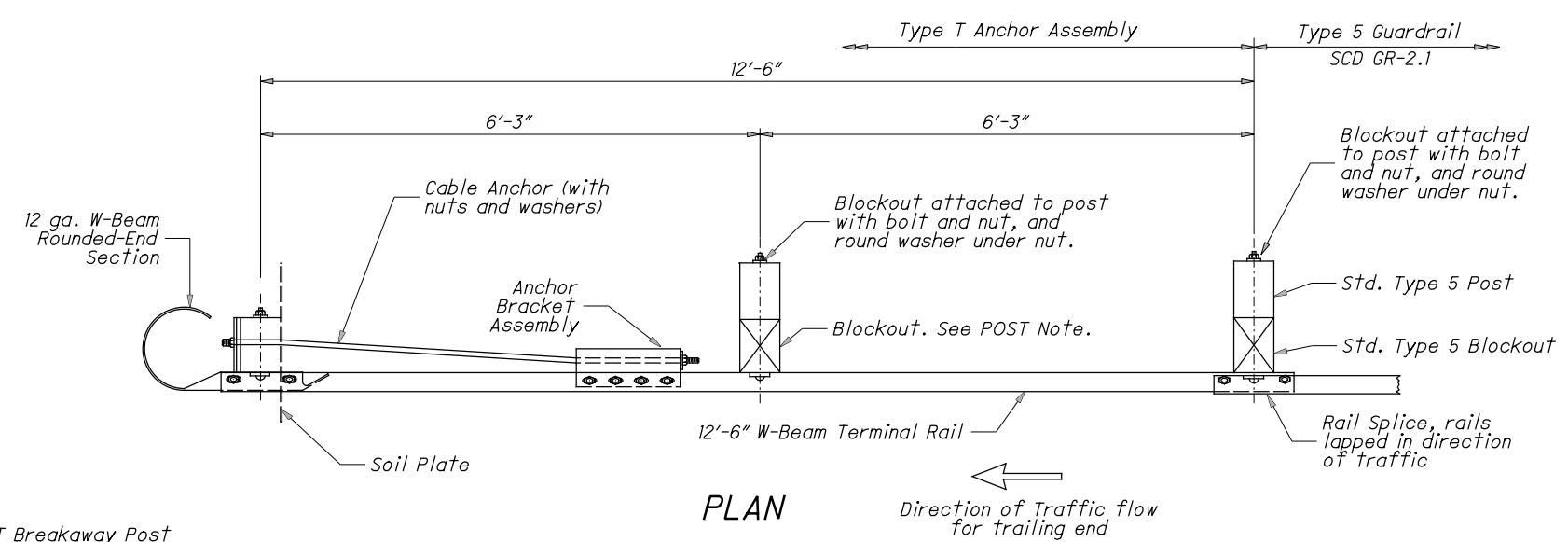
Concrete shall be class C.

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.

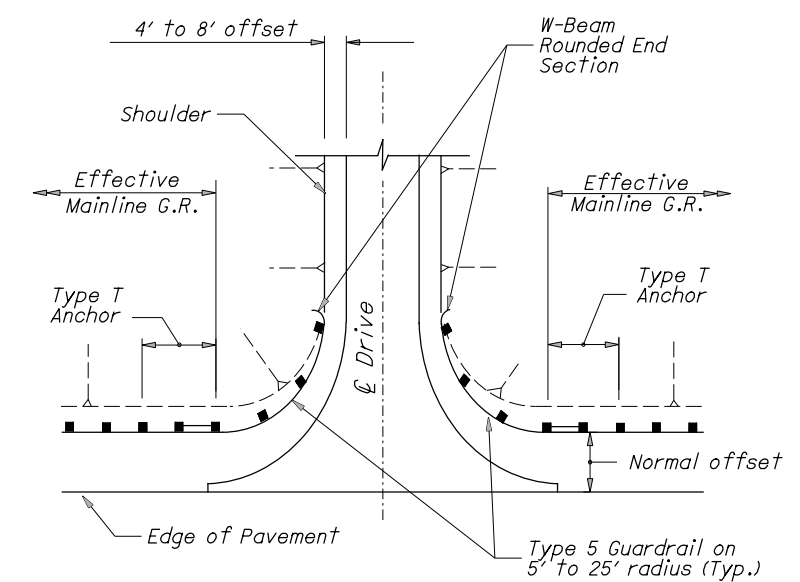
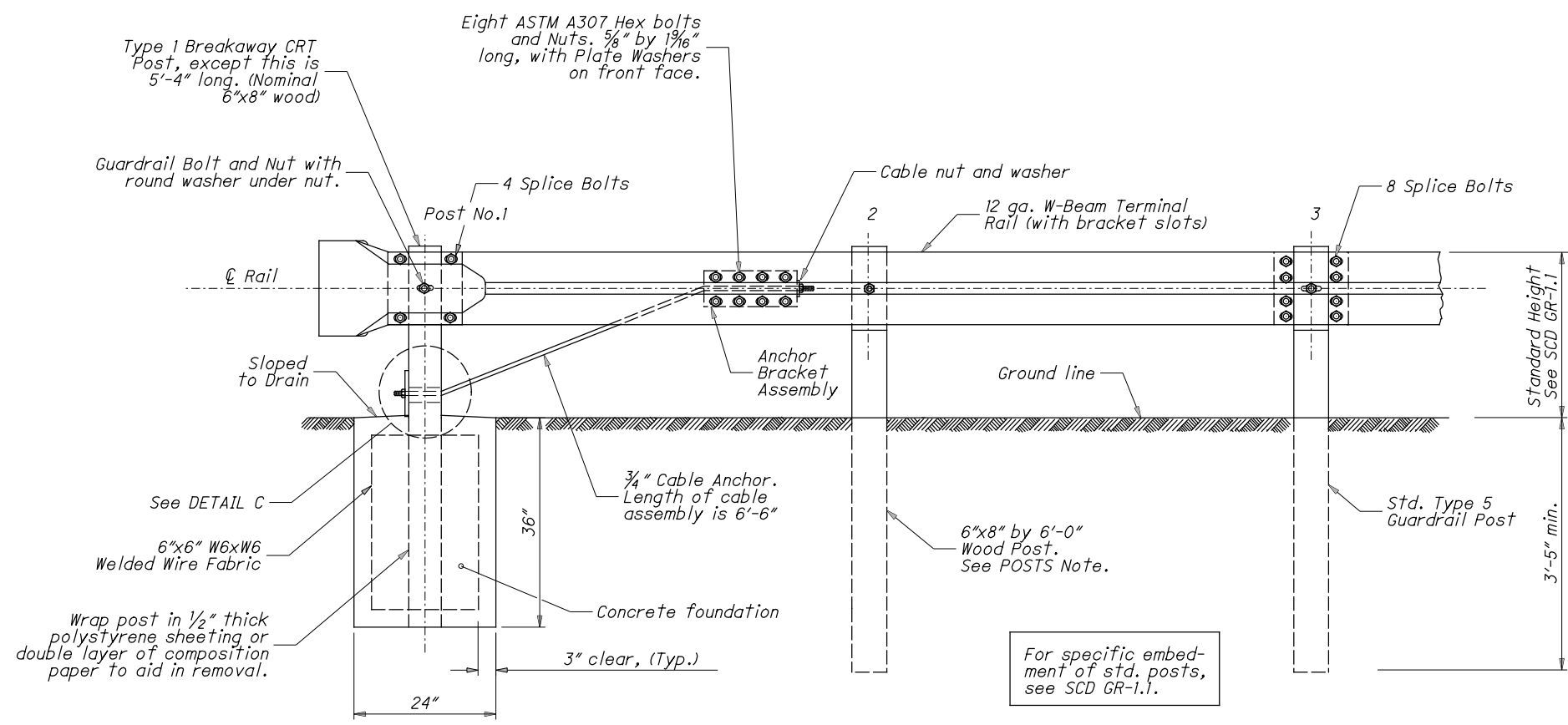
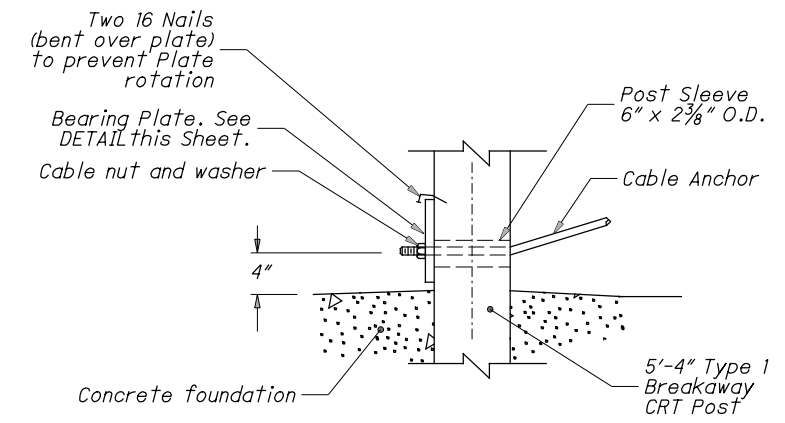
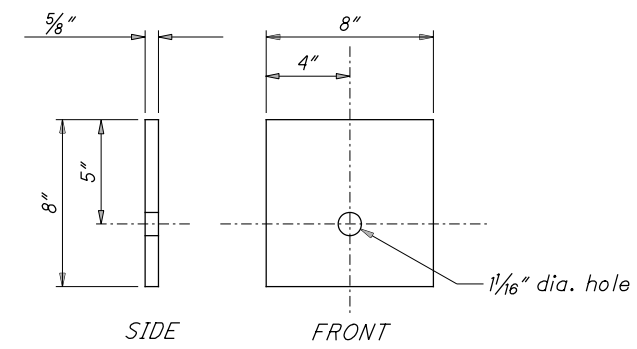
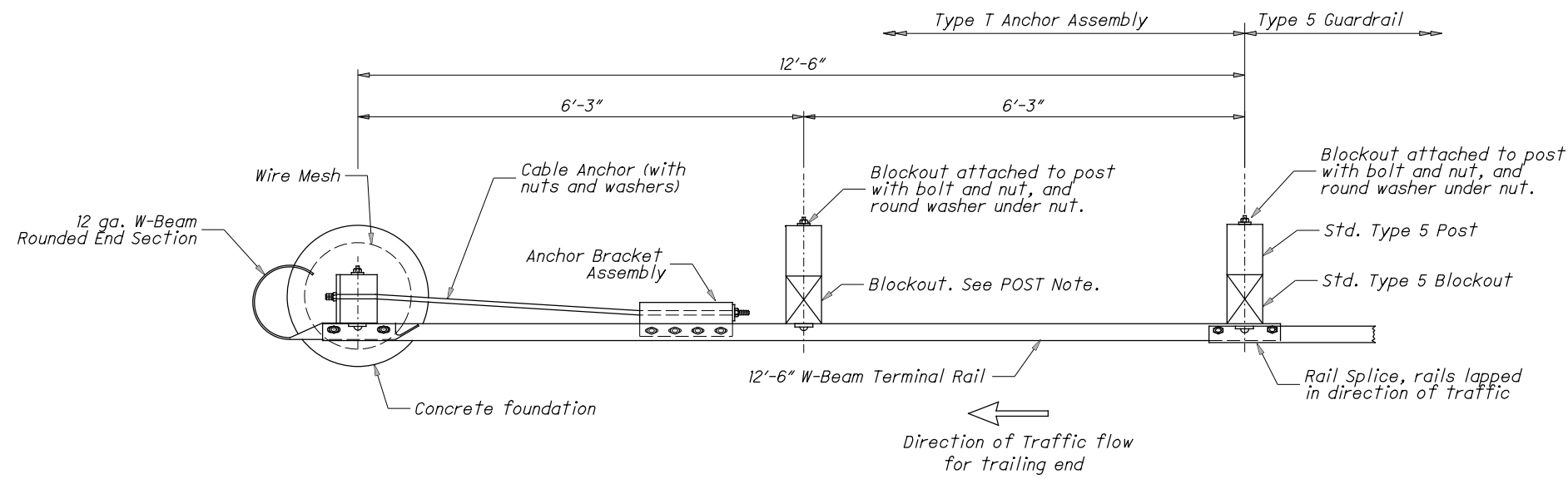
**POSTS:** Post No. 1 may be an 8'-0" long Steel Ground Tube without a Soil Plate in lieu of the 5'-0" tube with Soil Plate.

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.



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

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