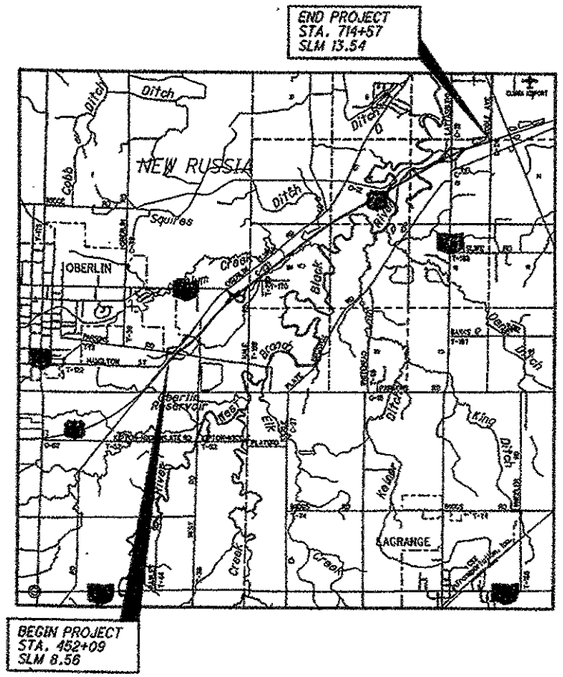


LOCATION MAP

LATITUDE: 41°18'14" LONGITUDE: 82°09'01"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED _____

INTERSTATE & DIVIDED HIGHWAY _____

UNDIVIDED STATE & FEDERAL ROUTES _____

OTHER ROADS _____

STATE OF OHIO, DEPARTMENT OF TRANSPORTATION

LOR-20-8.56

NEW RUSSIA TOWNSHIP
CARLISLE TOWNSHIP
LORAIN COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION
RESURFACING, INCLUDING PAVEMENT PLANING AND REPAIRS, GUARDRAIL REPAIR, TRAFFIC CONTROL, AND MINOR STRUCTURE WORK.

PROJECT EARTH DISTURBED AREA: N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

LIMITED ACCESS
THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISION OF SECTION 5511.02 OF THE OHIO REVISED CODE

2010 SPECIFICATIONS
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 12-13, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OF LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

APPROVED _____
DATE 11-28-11 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE 12-5-11 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.	PID NO.	CONSTRUCTION PROJECT NO.	RAILROAD INVOLVEMENT
E033748	23809		NONE

LOR-20-8.56

1/68

STRUCTURAL ENGINEERS SEAL:

STATE OF OHIO
DAVID C. MOLLENSHOTT
E-50210
REGISTERED PROFESSIONAL ENGINEER

SIGNED: David C. Mollenshott
DATE: 11/23/11

ROADWAY ENGINEERS SEAL:

STATE OF OHIO
AHAD D. BARATY
E-53234
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Ahad D. Baraty
DATE: 11/23/11

STANDARD CONSTRUCTION DRAWINGS

DBR-2-13	7/19/02	GR-1.1	7/18/14	MT-35.10	4/20/01	MT-105.10	1/16/09		
DBR-3-11	7/15/11	GR-2.1	1/16/04	MT-95.30	7/17/09	HL-30.21	10/21/11		
		GR-3.1	10/16/09	MT-95.31	7/17/09				
		GR-4.2	1/19/07	MT-95.32	7/17/09	TC-41.20	1/19/01		
BP-2.1	7/18/08	GR-5.2	4/16/10	MT-95.50	4/17/09	TC-42.10	1/19/07		
BP-2.2	7/18/08	GR-5.3	4/16/10	MT-97.10	10/15/10	TC-42.20	1/21/11		
BP-2.3	7/18/04	GR-6.2	4/16/10	MT-99.10	7/17/09	TC-52.10	1/19/07		
BP-2.5	7/18/08			MT-98.11	7/17/09	TC-52.20	1/19/07		
BP-3.1	10/19/07			MT-98.20	7/17/09	TC-65.10	1/21/05		
BP-9.1	4/15/05	RM-4.5	10/16/09	MT-98.22	7/17/09	TC-65.11	1/21/05		
		RM-4.6	4/16/10	MT-98.28	7/17/09	TC-71.10	1/21/11		
DM-1.2	10/21/05			MT-98.29	7/17/09	TC-72.20	10/16/09		
DM-1.3	4/17/09			MT-99.20	1/16/09	TC-73.10	10/21/11		
DM-4.1	4/17/09			MT-101.60	4/17/09	TC-82.10	1/21/11		
				MT-101.70	4/15/11				
		MT-95.40	7/17/09	MT-101.90	10/21/11				

SUPPLEMENTAL SPECIFICATIONS

SS800	10/21/11
SS832	5/5/09
SS836	4/15/05

SPECIAL PROVISIONS

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

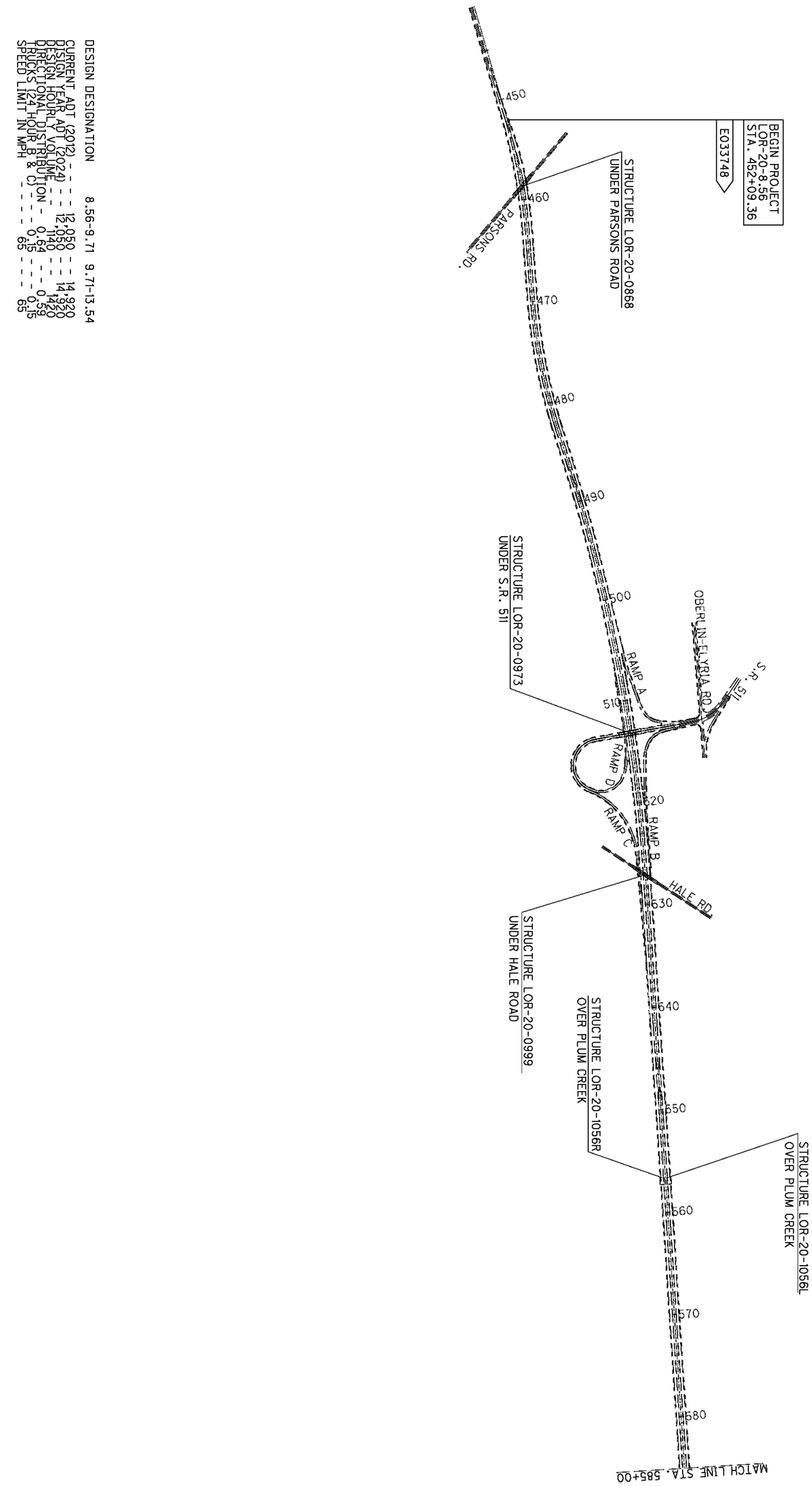
PLAN PREPARED BY:

DESIGN FILE: $$$$$.DGN FILESPECIFICAT DATE: $$$
WORKSTATION$TERMINAL$

LOR - US-20-8.56
120106 PID - 23809
Dist 3 2/23/2012

Contract Proposal available @
www.contracts.dot.state.oh.us/home

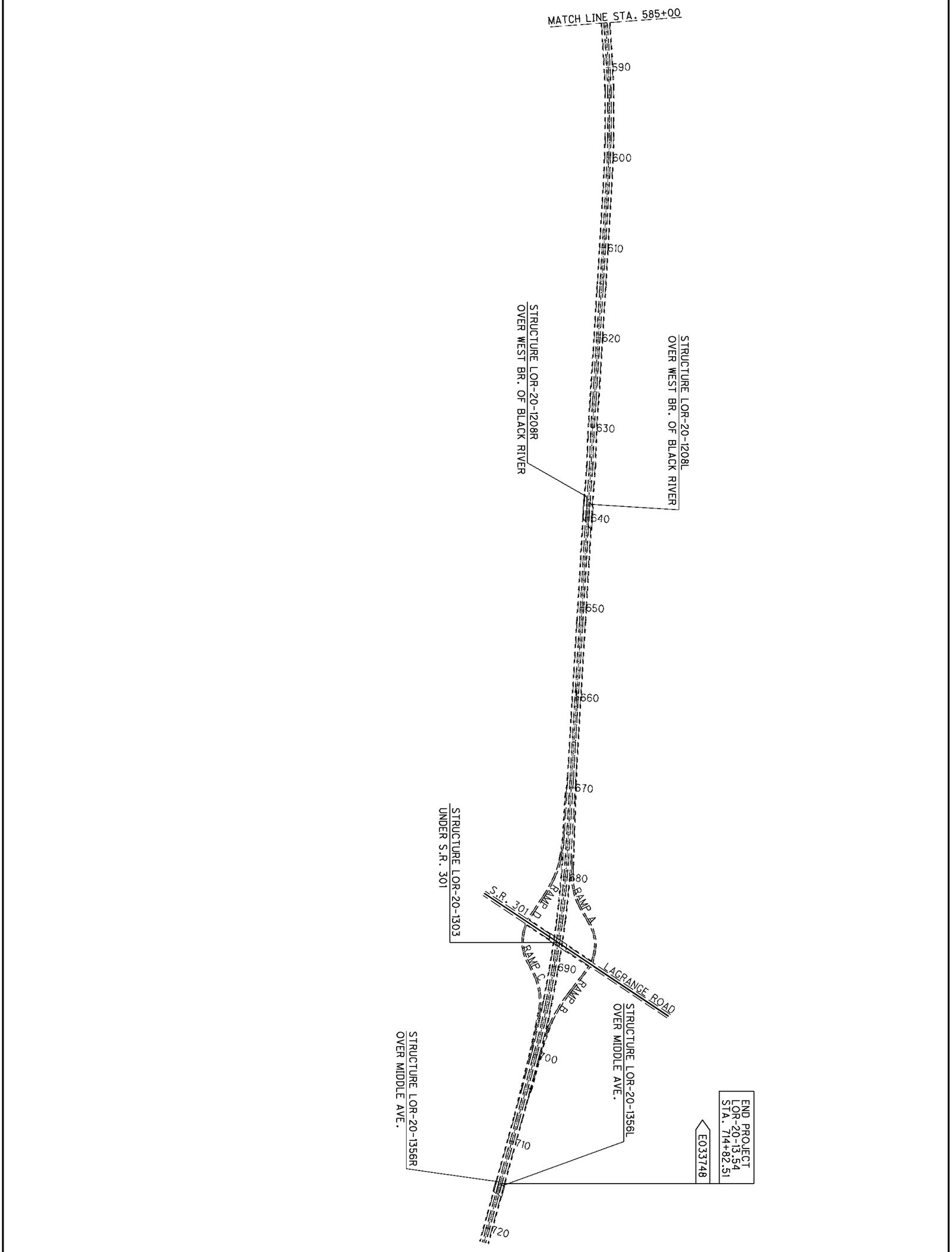
DESIGN FILE: I:\projects\23809\Roadway\Sheets\23809GB001.dgn
WORKSTATION hyaryanh DATE: 11/23/2011 MODELNAME: Default

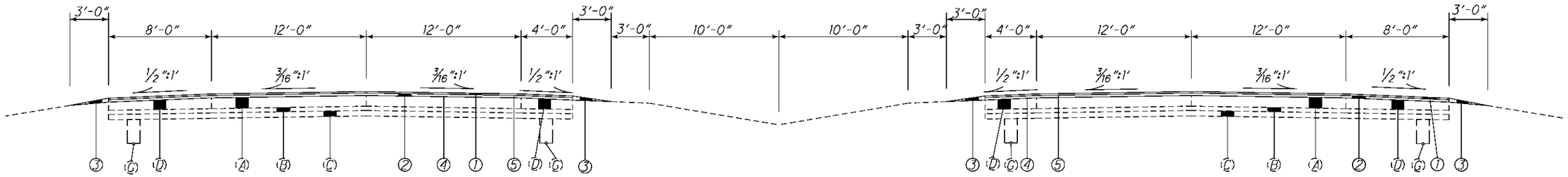


DESIGN DESIGNATION 8.56-9.71 9.71-13.54

CURRENT ADT (2012)	- - -	12,050 - - - 14,920
DESIGN YEAR ADT (2024)	- - -	12,050 - - - 14,920
DESIGN HOUR VOLUME	- -	1140 - - 1420
DIRECTIONAL DISTRIBUTION	-	0.64 - - 0.59
TRUCKS (24 HOUR B & C)	- - -	0.15 - - - 0.15
SPEED LIMIT IN MPH	- - -	65 - - - 65

DESIGN FILE: I:\projects\23809\Roadway\Sheets\23809GB001.dgn
WORKSTATION hyaryanh DATE: 11/23/2011 MODELNAME: Default

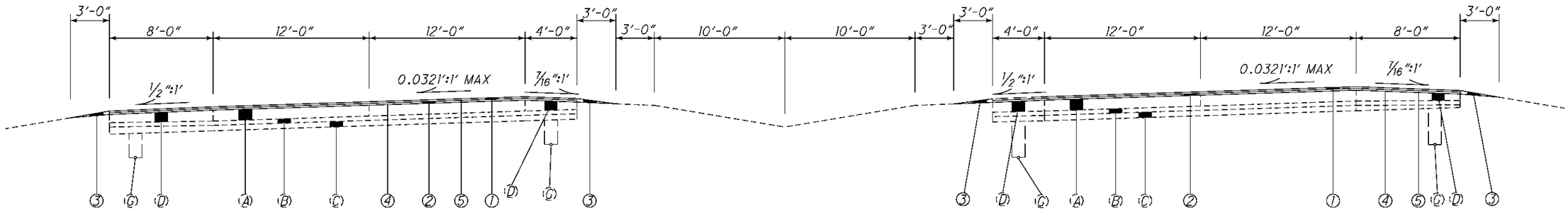




NORMAL SECTION

MAINLINE US20 (NO PLANING)

Sta. 452+09 to Sta. 664+25



SUPERELEVATED SECTION

MAINLINE US20 (NO PLANING)

PROPOSED KEY

(1) *ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) (1.50" UNLESS SHOWN OTHERWISE)*
(2) *ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446) (1.75" UNLESS SHOWN OTHERWISE)*
(3) *COMPACTED AGGREGATE*
(4) *TACK COAT FOR INTERMEDIATE COURSE*
(5) *TACK COAT*

EXISTING KEY

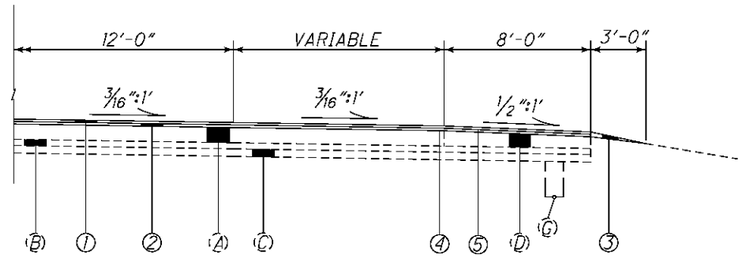
(A) *10" - CONTINUOUSLY REINFORCED CONCRETE*
(B) *BITUMINOUS AGGREGATE BASE*
(C) *AGGREGATE BASE*
(D) *VARIABLE DEPTH PLAIN CONCRETE*
(E) *ASPHALT CONCRETE*
(F) *9" - REINFORCED CONCRETE*
(G) *6" PIPE UNDERDRAIN*
(H) *8" - CONTINUOUSLY REINFORCED CONCRETE*

CALCULATED KCK
CHECKED ADB

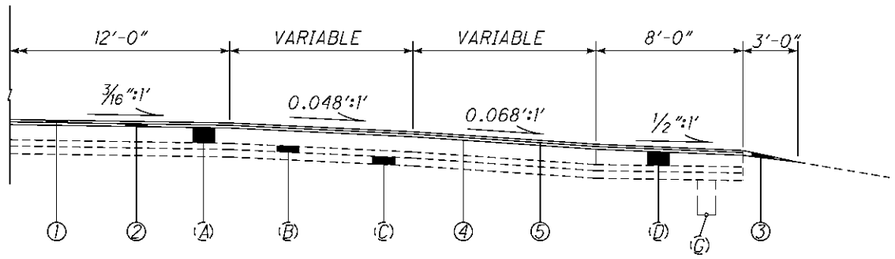
TYPICAL SECTIONS

LOR-20-8.56

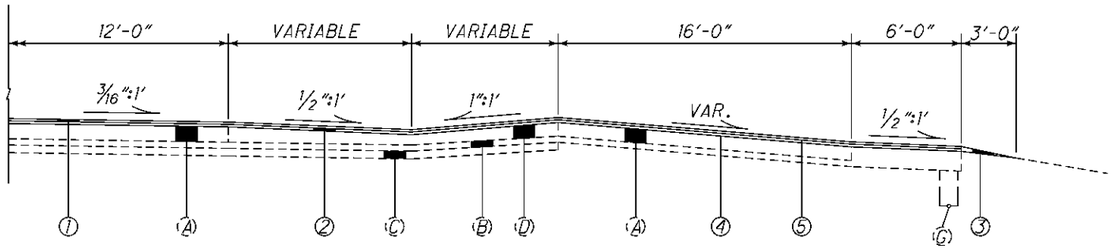
DESIGN FILE=i:\projects\23809\Roadway\Sheets\23809GY001.dgn MODELNAME=Sheet
WORKSTATION=hyaryanh DATE=11/23/2011



NORMAL SECTION WITH SPEED CHANGE LANE



NORMAL SECTION WITH RAMP ADJACENT TO MAINLINE



NORMAL SECTION WITH RAMP DETACHED FROM MAINLINE

PROPOSED KEY

1. ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) (1.50" UNLESS SHOWN OTHERWISE)
2. ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446) (1.75" UNLESS SHOWN OTHERWISE)
3. COMPACTED AGGREGATE
4. TACK COAT FOR INTERMEDIATE COURSE
5. TACK COAT

EXISTING KEY

- (A) 10" - CONTINUOUSLY REINFORCED CONCRETE
- (B) BITUMINOUS AGGREGATE BASE
- (C) AGGREGATE BASE
- (D) VARIABLE DEPTH PLAIN CONCRETE
- (E) ASPHALT CONCRETE
- (F) 9" - REINFORCED CONCRETE
- (G) 6" PIPE UNDERDRAIN
- (H) 8" - CONTINUOUSLY REINFORCED CONCRETE

CALCULATED KCK
CHECKED ADB

TYPICAL SECTIONS

LOR-20-8.56

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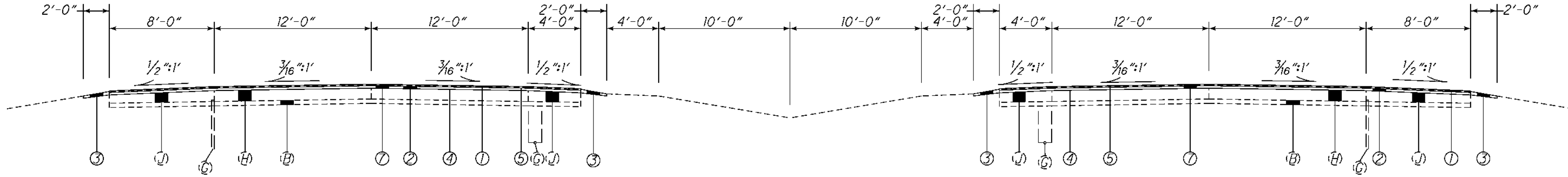
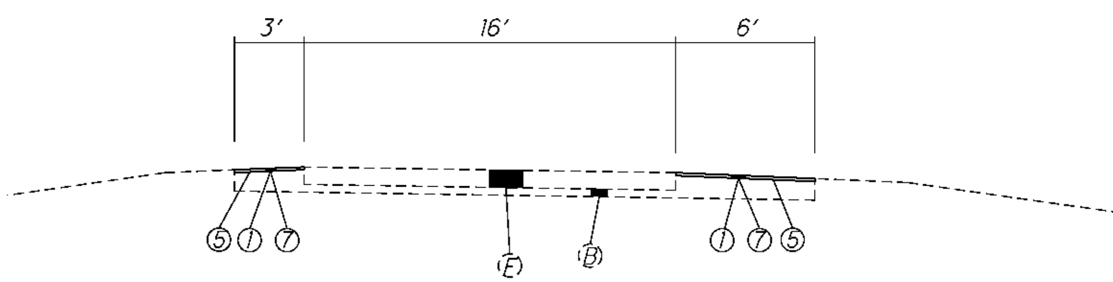
WORKSTATION=hyaryanh DATE=11/23/2011



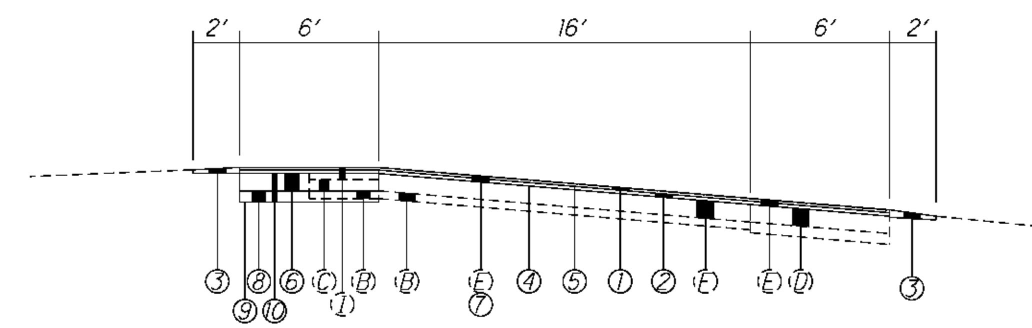
NORMAL SECTION

MAINLINE US20 (PLANE AND PAVE)

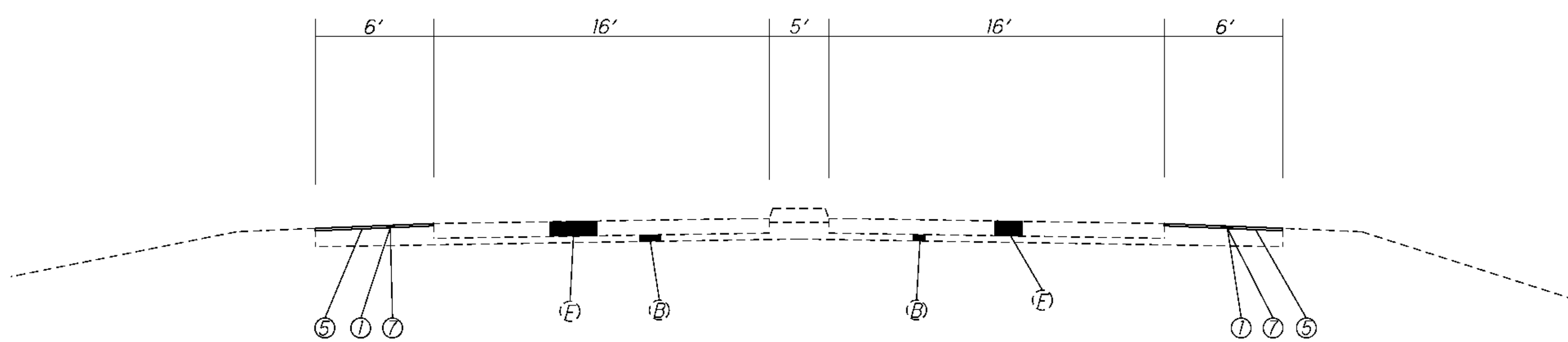
Sta. 664+24 to Sta. 714+57



NORMAL SECTION - SR511 ONE WAY RAMPS



NORMAL SECTION - SR301 RAMPS



NORMAL SECTION - SR511 TWO WAY RAMPS

PROPOSED KEY

1. ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) (1.50" UNLESS SHOWN OTHERWISE)
2. ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446) (1.75" UNLESS SHOWN OTHERWISE)
3. COMPACTED AGGREGATE
4. TACK COAT FOR INTERMEDIATE COURSE
5. TACK COAT
6. ITEM 301 ASPHALT CONCRETE BASE, PG 64-22 (9")
7. PAVEMENT PLANING, ASPHALT CONCRETE (3" UNLESS SHOWN OTHERWISE)
8. ITEM 304 AGGREGATE BASE (6")
9. ITEM 204 SUBGRADE COMPACTION
10. ITEM 203 EXCAVATION (15" DEEP)

EXISTING KEY

(A) 10" CONTINUOUSLY REINFORCED CONCRETE
(B) 4" BITUMINOUS AGGREGATE BASE
(C) 6" AGGREGATE BASE
(D) 9" BITUMINOUS AGGREGATE BASE
(E) 3" ASPHALT CONCRETE
(F) 9" REINFORCED CONCRETE
(G) 6" PIPE UNDERDRAIN
(H) 8" CONTINUOUSLY REINFORCED CONCRETE
(I) 6" ASPHALT CONCRETE
(J) 8" BITUMINOUS AGGREGATE BASE

CALCULATED KCK CHECKED ADB

TYPICAL SECTIONS

LOR-20-8.56

DESIGN FILE:I:\projects\23809\Roadway\Sheets\23809GY001.dgn MODELNAME: Sheet
WORKSTATION:hyaryanh DATE:11/23/2011

UTILITIES

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

AT&T, consultant for AT&T
Tony Lyle, Project Engineer
HLG Engineering & Surveying
5980-G Wilcox
Dublin, Ohio 43106
614-760-8320
330-416-1514 cell
tlyle@hlgengineering.com

Frontier Communications
Randy Howard
6223 Norwalk Road
Medina, Ohio 44256
330-722-9586
330-416-4614 cell
j.howard@ftr.com

Windstream
Geoff Hamm,
560 Ternes Ave.
Elyria, Ohio 44035
440-329-4245 office
330-958-3202 cell
geoffrey.p.hamm@windstream.com

Time Warner Cable
Ken Lariviere
576 Ternes Avenue
Elyria, Oh 44035
440-366-0417 x624
440-366-0378 fax
440-653-6917 cell
kenneth.lariviere@twcable.com

Oberlin Cable Co-Op
Mr. Ralph Potts
27 East College Street
Oberlin, Ohio 44074
440-775-4001
440-775-1635 fax
rlpotts@oberlin.net

Buckeye Partners, L.P.
Trent Moody, Relocation Engineer
Five TEK Park
9999 Hamilton Boulevard
Breinigsville, PA 18031
TMoody@buckeye.com
610-904-4145

Columbia Gas Transmission
Russ Johnson
589 North State Road
Medina, Ohio 44256
330-721-4163 office
330-410-4379 cell
rgjohnsone@nisource.com

Columbia Gas of Ohio
Adam Woodie, P.E..
3101 North Ridge Road E
Lorain, Ohio 44055
440.242.5672 (cell)
awoodie@nisource.com

Gatherco Inc.
Ralph Kroll
300 Tracy Bridge Rd
Orrville Oh, 44667
330-682-4144 office
Ralphk@gatherco.com

Lorain-Medina Rural Electric
Brad Warnement
P.O. Box 158
Wellington, Ohio 44090
800-222-5673
419-618-3811 cell
bwarnement@lesco-oh.org

Ohio Edison Company
Jeff Hall
6326 Lake Avenue
Elyria, Ohio 44035
440-326-3207
440-731-0789 cell
halljb@firstenergycorp.com

Rural Lorain County Water Authority
42401 S.R. 303, P.O. Box 567
LaGrange, Ohio 44050
440-355-6060
440-773-5640 cell
Jim Truesdell
jtruesdell@rlcwa.com

City of Oberlin
Municipal Light & Power System
Mr. Terry Evans
289 South Professor Street
Oberlin, Ohio 44074
419-775-7262 office
440-775-1546 fax
tevans@omlps.org

Makund Moghe, PE
City of Elyria, Engineer
131 Court Street, Suite 300
Elyria, Ohio 44035
440-322-5464

Ken Carney, PE
Lorain County Enginner
247 Hadaway Street
Elyria, Ohio 44035
440-329-5586

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.

EXISTING PLANS

EXISTING PLANS ENTITLED LOR-20-12.62 (1968), LOR-20-8.58 (1986) & LOR-20-12.59 (1997) MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND.

PROGRESSION OF WORK

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

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.

TRAFFIC RESTRICTION STA 664+24 TO 714+57:

THE CONTRACTOR SHALL NOT ALLOW TRAFFIC ON BOTH (DRIVING AND PASSING) PLANED SURFACE LANES AT THE SAME TIME AT THESE STATION LIMITS.

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.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE AND BERM WIDENING SHALL BE PERFORMED ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED AT ALL TIMES WITH DRUMS OR BARRICADES.

PLACEMENT OF THE PROPOSED BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL BY THE ENGINEER.

ITEM 604 - 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.

ITEM SPECIAL - AIR SPEED ZONE MARKING

EXCEPT AS NOTED, THIS ITEM IS TO MEET CMS 644. THE SPEED MEASUREMENT MARKINGS ARE TO BE WHITE AND 24 INCHES WIDE (MEASURED IN THE DIRECTION OF TRAVEL) AND FOUR (4) FEET IN LENGTH.

PLACE THE MARKINGS AT 0.25 MILE INTERVALS OVER A ONE (1) MILE LENGTH OF ROADWAY ENTIRELY ON THE PAVED SHOULDERS. THE ZONE IS TO START AT LOR-20-10.50 AND END AT LOR-20-11.50 FOR BOTH EB & WB DIRECTIONS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE MARKINGS LAID OUT BY A STATE OF OHIO REGISTERED SURVEYOR. A RECORD IS TO BE KEPT AND ONE ORIGINAL SIGNED AND SEALED DOCUMENT IS TO BE SENT TO THE DISTRICT 3 TRAFFIC ENGINEER AND ONE COPY FOR THE DISTRICT CONSTRUCTION ENGINEER.

MEASUREMENT AND PAYMENT: THE FIVE (5) MARKINGS PLACED ON EACH OF THE TWO SHOULDERS IN EACH 1 MILE OF ROADWAY PER EACH DIRECTION OF TRAVEL EQUAL ONE ZONE. ONE ZONE WILL BE MEASURED AS 1 EACH. PAYMENT FOR ALL MATERIALS, LABOR, EQUIPMENT AND SURVEYING FOR ACCEPTED WORK IS TO BE INCLUDED PER EACH IN ITEM SPECIAL - AIR SPEED ZONE MARKING.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A

THE APPROACH SLAB THICKNESS IS 15" THICK
THE DESIGN PAVEMENT THICKNESS IS 9" THICK

STANDARD DRAWING BP-2.3 SHALL BE FOLLOWED EXCEPT AS NOTED BELOW:

THE CONCRETE SHALL BE CLASS MS.

CALCULATED CAL
CHECKED ADB

GENERAL NOTES

LOR-20-8.56

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DESIGN FILE=I:\projects\23809\Roadway\Sheets\23809GN001.dgn MODELNAME=Sheet
WORKSTATION=baraty DATE=2/10/2012

ITEM 253 - PAVEMENT REPAIR, AS PER PLAN (A)

THIS ITEM 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.

THE ENGINEER SHALL DESIGNATE THE LOCATIONS AND LIMITS OF THE AREAS TO BE REPAIRED. PAVEMENT REPAIR SHALL BE PERFORMED BEFORE PLACEMENT OF THE INTERMEDIATE AND/OR SURFACE COURSE. THE REPAIR AREAS SHALL BE SAW CUT AND EXCAVATED TO PROVIDE STRAIGHT AND VERTICAL SURFACES AROUND THE PERIMETER OF THE REPAIR AREA. PAVEMENT PLANING MAY BE USED AS AN ALTERNATIVE TO SAW CUTTING AND EXCAVATING. THE PAVEMENT SHALL BE REMOVED WITHIN THE DESIGNATED AREAS BY METHODS WHICH WILL NOT DAMAGE ADJACENT PAVEMENT. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH A MAXIMUM DEPTH OF 10", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 10" AND AN AVERAGE WIDTH OF 1 FT FOR ESTIMATING PURPOSES. THE MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 1 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301 MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE, PG64-22 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ALL EXISTING PAVEMENT AREAS WHICH WILL BE IN CONTACT WITH THE PAVEMENT REPAIR SHALL BE CLEANED AND COATED PER CMS 401.14, USING AN ASPHALT MATERIAL COMPLYING WITH 407.02. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS TO THE SATISFACTION OF THE ENGINEER.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 253 - PAVEMENT REPAIR, AS PER PLAN A.

ITEM 253 - PAVEMENT REPAIR, AS PER PLAN (B)

THE CONTRACTOR SHALL USE THIS ITEM AT ANY SPALLED AREAS THAT REQUIRE PATCHING AS DIRECTED BY THE ENGINEER AND PER REQUIREMENT OF ITEM 254.04 OF CMS.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD OF ITEM 253 - PAVEMENT REPAIR, AS PER PLAN B.

A ESTIMATED QUANTITY OF 20 C.Y. OF ITEM 253-PAVEMENT REPAIR, AS PER PLAN B HAS BEEN CARRIED TO GENERAL SUMMARY SHEET.

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (B)

THE REPAIRS SHALL BE MADE AS TYPE YU REPAIR, AS PER STANDARD DRAWING BP-2.5 WITHOUT DOWEL BARS.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 255-FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B.

ITEM 407 - TACK COAT
ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

AS PER 407.06 THE APPLICATION RATES SHALL BE 0.08 GAL. PER SQ. YD. PRIOR TO THE INTERMEDIATE COURSE AND SHALL BE 0.04 GAL PER SQ. YD. PRIOR TO THE SURFACE COURSE FOR ESTIMATING PURPOSES ONLY. THE RATE OF APPLICATION SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. A COMPLETE PAVEMENT SURFACE COVERAGE SHALL BE REQUIRED. AREAS OF TACK STRIPPED BY CONSTRUCTION EQUIPMENT OR TRAFFIC SHALL BE RE-COATED PRIOR TO PLACING ASPHALT CONCRETE. ALL COSTS AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER GALLON FOR ITEM 407 - TACK COAT AND ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

ALONG THE MAINLINE, THE INTENT OF THE PLANING IS TO MILL ±3 INCHES TO THE TOP OF THE EXISTING CONCRETE SURFACE.

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 $1,300.

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 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W-8-1-36) SHALL BE ERECTED AT ANY TRANSVERSE JOINT 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.

ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)

THIS ITEM SHALL BE USED FOR CORRECTION OF CROWN, PROFILE AND ANY OTHER IRREGULARITIES.

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.

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.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

CORRECTION OF UNACCEPTABLE ASPHALT CONCRETE OVERLAY PROFILE AT STRUCTURES

STRAIGHT GRADE - THE ASPHALT CONCRETE OVERLAY PROFILE SHALL BE CONSIDERED UNACCEPTABLE IF THE FINAL GRADE VARIES FROM THE DESIRED STRAIGHT GRADE BY GREATER THAN 0.375 INCHES ANYWHERE THROUGHOUT THE LENGTH OF THE TRANSITION. THIS TOLERANCE IS REDUCED TO 0.25 INCHES FOR THE FIRST 5 FT ADJACENT TO AN EXPANSION JOINT.

THE CONTRACTOR IS TO PROVIDE THE NECESSARY SURVEY WORK TO SHOW THAT THESE STRAIGHT GRADES ARE MET ALONG EACH EDGE LINE AND LANE LINE.

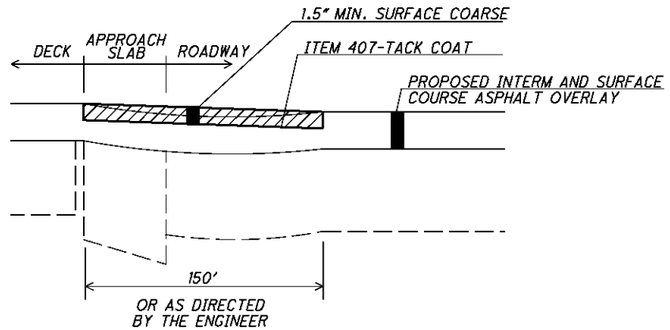
ALL UNACCEPTABLE ASPHALT CONCRETE OVERLAY PROFILES SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE REPAIR METHOD SHALL BE AS FOLLOWS:

A. DETERMINE FINAL GRADE LINE BY EXTENDING A STRAIGHT LINE FROM THE TOP OF THE ASPHALT CONCRETE OVERLAY AT THE BRIDGE END DAM JOINT TO A POINT 150 FT AWAY ON THE TOP OF ASPHALT CONCRETE OVERLAY.

B. REMOVE ASPHALT CONCRETE A MINIMUM OF 1.5 INCHES BELOW THE FINAL GRADE.

C. PLACE ITEM 407 TACK COAT AND ITEM 442 ASPHALT CONCRETE SURFACE COURSE TO DESIRED GRADE.

D. SURVEY TRANSITION TO VERIFY THAT THE REPAIR IS WITHIN THE ALLOWABLE TOLERANCE.



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GENERAL NOTES

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WORKSTATION:hyaryanh DATE:11/23/2011

BUTT JOINTS

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

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

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANED SURFACE AT THE BEGINNING AND ENDING POINTS OF THIS PROJECT. 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 68 CU YD

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS)

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY 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 LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

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.

614 - WORK ZONE MARKING SIGN: (W8-H13-36) NO EDGE LINE = 10 EACH

ITEM 614, MAINTAINING TRAFFIC

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

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

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

ITEM 614, MAINTAINING TRAFFIC: GENERAL

AS A MINIMUM, ONE 11' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON US20. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS, AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION WITH THE LATEST REVISIONS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED ON THIS PLAN.

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

WORK OPERATIONS

IN ADDITION TO THE REQUIREMENTS OF SECTION 614 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS THE FOLLOWING SHALL APPLY:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAVEL WHERE PRACTICAL. A FLAGGER SHALL BE USED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. AMBER LIGHT SHALL BE VISIBLE TO ALL DIRECTIONS OF TRAFFIC A MINIMUM OF 0.25 MILE.

THE CONTRACTOR SHALL ARRANGE CONSTRUCTION OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO THE CLOSED LANES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE CONTRACTOR IS PERMITTED TO WORK AT NIGHT. FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. TO INSURE THE ADEQUACY OF THE FLOODLIGHTING PLACEMENT PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY A MIN. OF 6 FT BEHIND GUARDRAIL OR 30 FT FROM THE NEAREST EDGE OF PAVEMENT WHEN VARIOUS OPERATIONS ARE SCHEDULED TO CONTINUE THE NEXT WORKDAY. ON WEEKENDS OR AT OTHER TIMES OF SUSPENSION OF WORK, THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE OF THE ROADWAY RIGHT-OF-WAY. THE LOCATION SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA.

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PUT INTO EFFECT UNTIL THE APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE ENGINEER.

MAINTENANCE OF TRAFFIC SCHEME

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

MAINTENANCE OF TRAFFIC FOR TRUSS REPLACEMENT

IT IS RECOMMENDED FOR THE CONTRACTOR TO PERFORM THE SIGNING WORK AND TRUSS REPLACEMENT WORK WHILE THE SR511 RAMPS ARE CLOSED TO ELIMINATE INCONVENIENCE TO THE TRAVELING PUBLIC.

614 WORK ZONE INCREASED PENALTIES SIGN

R11-H5a SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

THE SIGNS SHALL BE DUAL MOUNTED ON THE MAINLINE US30 AND PLACED PER STANDARD CONSTRUCTION DRAWING MT-95.50.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT BID PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 19 EACH

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 20 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

CALCULATED MJS
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MAINTENANCE OF TRAFFIC NOTES

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WORKSTATION:hyaryanh DATE:11/23/2011

614 WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT SIGNS (55 MPH) AND SUPPORTS (R2-1) WITHIN THE WORK LIMITS OF THIS PROJECT ON US20.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

THE CONTRACTOR WILL BE REQUIRED TO FILL OUT A DAILY WORK ZONE SPEED ZONE TRACKING REPORT. THIS REPORT WILL BE SUPPLIED AT THE PRECONSTRUCTION MEETING.

SPEED REDUCTION SIGNS (W3-5) SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-95.50. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE, TYPICALLY AT THE POINT WHERE ROADWAY AND SHOULDER WIDTHS RETURN TO NORMAL. ON DIVIDED HIGHWAYS WHERE THE SPEED LIMIT VARIES BY VEHICLE TYPE, THE R2-1 (SPEED LIMIT) SIGN AND THE R2-H2a (TRUCK SPEED LIMIT) SIGNS SHALL BE MOUNTED SIDE-BY-SIDE ON SEPARATE SUPPORTS. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

THE WORK ZONE SPEED LIMIT SIGNS SHALL BE DUAL MOUNTED ON THE MAINLINE, BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 3 POSTS, AND PLACED PER STANDARD CONSTRUCTION DRAWING MT-95.50.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT BID PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING OF THE SIGNS AND SUPPORTS. SPEED LIMIT SIGNING FOR THE POINT OF RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE PAID FOR AS WORK ZONE SPEED LIMIT SIGNS. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

614	WORK ZONE SPEED LIMIT SIGN	27 EACH
614	SPEED ZONE AHEAD SYMBOL SIGN	3 EACH

CONSTRUCTION EQUIPMENT MEDIAN CROSSING

CONSTRUCTION EQUIPMENT SHALL CROSS THE MEDIAN ONLY AT THE EXISTING INTERSECTIONS AND U-TURN CROSSOVERS AND AT OTHER ADDITIONAL LOCATIONS APPROVED BY THE ENGINEER. A MAXIMUM OF TWO (2) ADDITIONAL EQUIPMENT CROSSINGS MAY BE ALLOWED.

THE CONTRACTOR SHALL BE RESPONSIBLE, AT HIS EXPENSE, FOR THE RESTORATION OF THE ADDITIONAL EQUIPMENT CROSSINGS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING PRIOR TO HIS WORK OPERATIONS.

ITEM 614, WORKSITE TRAFFIC SUPERVISOR

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

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).

2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703- 235-0528.

3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-614-599-7915.

4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

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

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

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.

2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.

3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.

4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.

5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEO'S WHILE THEY ARE ON THE PROJECT.

6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEO'S AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.

7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.

8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.

9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, A WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

A. INITIAL TRAFFIC CONTROL SETUP (DAY AND NIGHT REVIEW).
B. DAILY TRAFFIC CONTROL SETUP AND REMOVAL.
C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TRAFFIC CONTROL SETUP.
D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA.
E. REMOVAL OF TRAFFIC CONTROL DEVICES AT THE END OF A PHASE OR PROJECT.
F. ALL OTHER EMERGENCY TRAFFIC CONTROL NEEDS.

10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.

11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ITEM 614, WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

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

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

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

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 4 MONTHS

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
LIEUTENANT JOSHUA SWINDELL
38000 CLETUS DRIVE
ELYRIA, OH 44035
419 365-5045 EXT. 4020
FAX: 440 366-5039

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 120 HOURS

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

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

CALCULATED MJS
CHECKED ADB

MAINTENANCE OF TRAFFIC NOTES

LOR-20-8.56

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WORKSTATION=yaryanh DATE:11/23/2011

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

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

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

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

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

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 4 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

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

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

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CON'T)

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

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 244 DAY

SEQUENCE OF CONSTRUCTION (SR301 RAMPS)

THE DEFINITION OF THE RAMP LIMITS ARE FROM THE INTERSECTION WITH THE SIDE ROAD AT THE SIDE ROAD'S EDGE LINE AND DOWN THE RAMP TO THE GORE AREA WHERE THE COMMON PAVEMENT BETWEEN THE RAMP AND THE MAINLINE BEGINS IN THE GRASSY AREA. THE SEQUENCE OF CONSTRUCTION FOLLOWS:

PART WIDTH CONSTRUCTION PHASE:
SETUP PART WIDTH CONSTRUCTION OF ALL FOUR RAMPS AND PERFORM THE FOLLOWING WORK:
1. MOVE TRAFFIC TO DRIVE ON THE OUTSIDE HALF OF THE RAMP AND OUTSIDE PAVED SHOULDER.
2. MILL 3.00" OF ASPHALT CONCRETE ON THE INSIDE HALF OF THE RAMP AND INSIDE SHOULDER, OR TO THE TOP OF THE CONCRETE IF THERE IS MORE THAN 3.00" OF ASPHALT CONCRETE ON RAMP.
3. PERFORM THE FULL DEPTH PAVEMENT REPAIRS ON THE INSIDE HALF OF THE RAMP.
4. PERFORM 6 FT PAVEMENT WIDENING ON INSIDE PAVED SHOULDER.
5. TACK COAT AND PLACE THE 1.75" INTERMEDIATE COURSE.
6. TACK COAT AND PLACE THE 1.50" SURFACE COURSE.
7. FLIP TRAFFIC OVER TO DRIVE ON THE INSIDE HALF OF THE RAMP AND INSIDE PAVED SHOULDER.
8. MILL 3.00" OF ASPHALT CONCRETE ON THE OUTSIDE HALF OF THE RAMP AND OUTSIDE SHOULDER, OR TO THE TOP OF THE CONCRETE IF THERE IS MORE THAN 3.00" OF ASPHALT CONCRETE ON RAMP.
9. PERFORM THE FULL DEPTH PAVEMENT REPAIRS ON THE OUTSIDE HALF OF THE RAMP AND PERFORM ASPHALT CONCRETE REPAIRS ON THE OUTSIDE PAVED SHOULDER, AS NEEDED.
11. TACK COAT AND PLACE THE 1.75" INTERMEDIATE COURSE.
12. TACK COAT AND PLACE THE 1.50" SURFACE COURSE.

THE CONTRACTOR MAY PAVE UP THROUGH THE INTERMEDIATE ON THE RAMPS AND PLACE THE SURFACE COURSE AT A LATER TIME PERIOD.

PAVEMENT WIDENING FOR MAINTENANCE OF TRAFFIC AT SR301 RAMPS

ALL FOUR RAMPS AT THE SR301 INTERCHANGE SHALL HAVE THE 3 FT WIDE INSIDE PAVED SHOULDER REMOVED AND REPLACED WITH A 6 FT WIDE SHOULDER IN ORDER TO MAINTAIN TRAFFIC ON THE RAMPS. THE LIMITS ARE FROM THE GORE AREA AT US20 TO THE INTERSECTION OF SR301. THE WIDTH OF THE TRENCH SHALL BE 6 FT. CONTRACTOR IS NOT REQUIRED TO PERFORM SUBGRADE COMPACTION 18 INCHES BEYOND THE PAVEMENT SURFACE. PAVEMENT WIDENING QUANTITIES ARE INCLUDED ON THE SHOULDER PAVEMENT REPAIRS SHEET. INTERMEDIATE AND SURFACE COURSE QUANTITIES AND TACK COAT QUANTITIES ARE INCLUDED ON THE PAVEMENT AND SHOULDER DATA SHEET. SEE TYPICAL SECTIONS FOR DETAILS.

MAINTENANCE OF TRAFFIC ON SR301 IN ORDER TO PERFORM RIGID REPAIRS

DUE TO THE ITEM 452 PAVEMENT REPLACEMENT ADJACENT TO RAMPS C AND D AT THE SR301 INTERCHANGE AND THE JOINT REPAIRS SOUTH OF THE SR301 BRIDGE, THE CONCRETE MEDIAN SHALL BE REMOVED DURING THE MAINTENANCE OF TRAFFIC OPERATIONS AND REPLACED AFTER THE PAVEMENT WORK IS COMPLETED.

A TYPICAL PAVEMENT CROSS SECTION ON SR301 CONSISTS OF THE FOLLOWING: 9" REINFORCED CONCRETE PAVEMENT AND ASPHALT CONCRETE SHOULDERS THAT WERE PREVIOUSLY PLACED AS ITEM 615 TEMPORARY PAVEMENT, CLASS A. THE CONCRETE PAVEMENT HAS A 12 FT OUTSIDE LANE AND A 13 FT INSIDE LANE IN BOTH DIRECTIONS AND A 3 FT CONCRETE MEDIAN, EXCEPT, NO CONCRETE MEDIAN 64 FT NORTH OF THE SR 301 BRIDGE. THE ASPHALT CONCRETE SHOULDERS ARE 8 FT WIDE FROM THE SOUTHERN RAMPS C AND D TO THE NORTHERN RAMPS A AND B.

THE CONTRACTOR SHALL REMOVE THE 111 FT CONCRETE MEDIAN ON SR 301 AT RAMPS C AND D (AND SLIGHTLY TO THE SOUTH OF THE RAMPS) TO IMPROVE MAINTENANCE OF TRAFFIC. MOTORISTS TRAVELLING SOUTHBOUND AND MAKING A LEFT TURN ONTO RAMP C WILL NEED A WIDER RADII TURN WHEN PAVEMENT WORK IS BEING PERFORMED IN FRONT OF RAMP C.

THE CONTRACTOR SHALL REMOVE THE 206 FT CONCRETE MEDIAN ON SR 301 LOCATED JUST TO THE NORTH OF RAMPS C AND D AND TO THE SOUTH OF THE SR 301 BRIDGE TO IMPROVE MAINTENANCE OF TRAFFIC AND SAFETY OF THE WORK ZONE.

ANY PAVEMENT MARKING REMOVAL, PLACING OF WORK ZONE PAVEMENT MARKINGS, REMOVING AND RE-ERECTING "KEEP RIGHT" SIGN ON SR 301 SHALL BE INCLUDED IN THE LUMP SUM COST OF ITEM 614 MAINTAINING TRAFFIC. ALL RAMPS AT THE SR 301 INTERCHANGE SHALL REMAIN OPEN DURING THE CONCRETE REPAIR WORK ON SR 301.

THE CONCRETE MEDIAN SHALL BE REPLACED AT THE SAME LOCATION AND WITH THE SAME TAPERS AS THE EXISTING CONCRETE MEDIAN. THE FOLLOWING QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY TO MAINTAIN TRAFFIC DURING THE CONCRETE REPAIR WORK ON SR 301:

ITEM 202 CONCRETE MEDIAN REMOVED	106 SQ YD
ITEM 622 CONCRETE MEDIAN	106 SQ YD
ITEM 301 ASPHALT CONCRETE BASE PG54-22	9 CY

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

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

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CALCULATED MJS
CHECKED ADB

MAINTENANCE OF TRAFFIC NOTES

LOR-20-8.56

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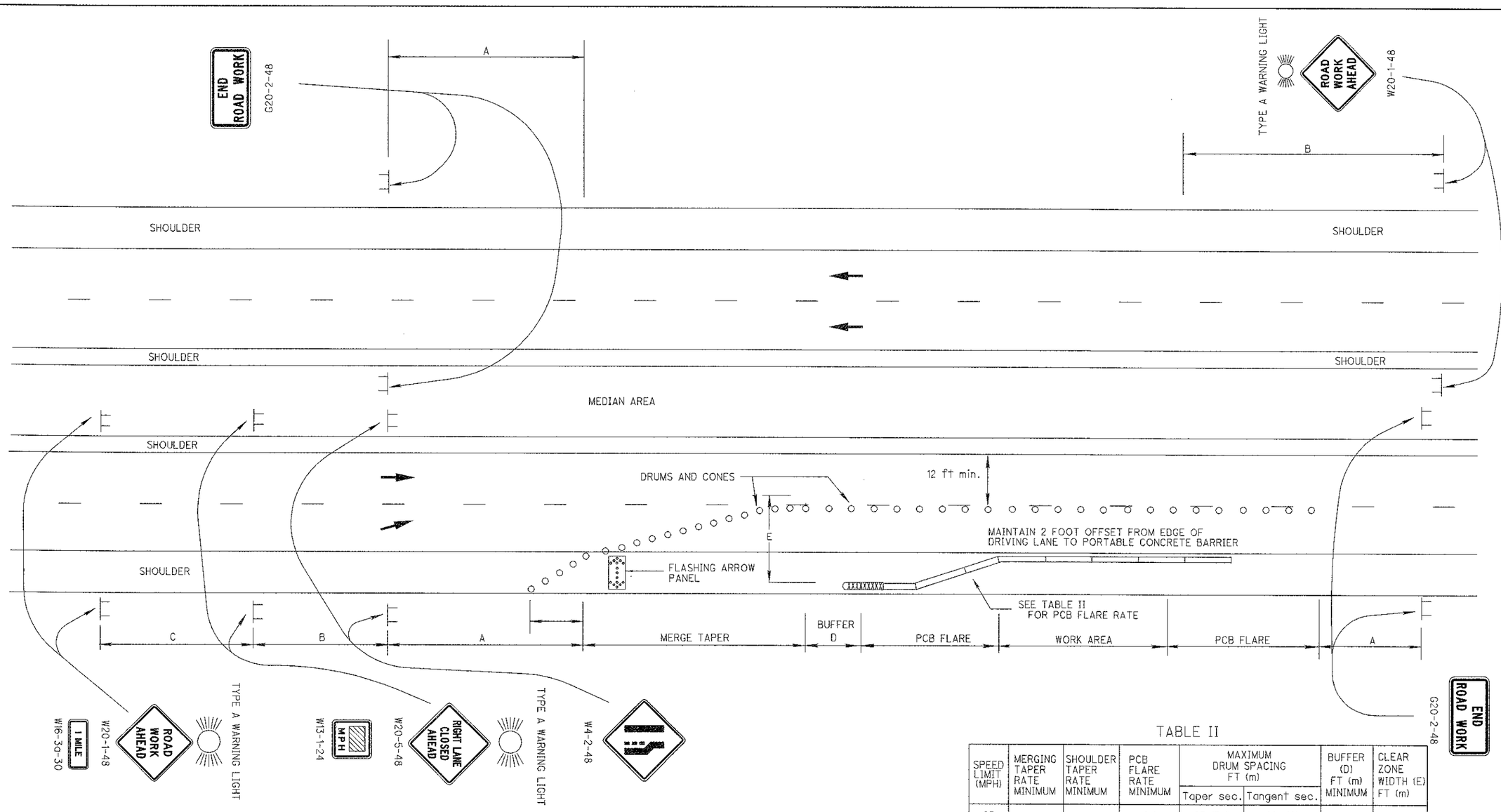
MAINTENANCE OF TRAFFIC DETAIL FOR CLOSING OF SHOULDER



DRUMS

PORTABLE CONCRETE BARRIER (PCB)

ATTENUATOR

DIRECTION OF TRAVEL

ADDITIONAL SIGNS REQUIRED FOR SHOULDER CLOSURE:
SEE PAGE 6H-15 OF (OMUTCD) "TEMPORARY TRAFFIC CONTROL MANUAL"

SEE STD. DWG. MT-95.40 FOR ADDITIONAL DETAILS

TWO LANE TRAFFIC SHALL BE MAINTINED AT ALL TIME.
WHEN ANY SIGN DOES NOT APPLY TO WORK SITUATION, IT SHALL BE COVERED.
ALL RESTRICTIONS ON MAINTENANCE OF TRAFFIC SHEETS APPLY TO THIS WORK.

ALL WORK DETAILED ON THIS SHEET SHALL BE PAID UNDER ITEM 614-MAINTAINING OF TRAFFIC

TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE BETWEEN SIGNS FT(m)		
	A	B	C
MAJOR CONVENTIONAL	500 (150)	500 (150)	500 (150)
FREEWAY & EXPRESSWAY	1000 (300)	1500 (450)	2640 (800)

TABLE II

SPEED LIMIT (MPH)	MERGING TAPER RATE MINIMUM	SHOULDER TAPER RATE MINIMUM	PCB FLARE RATE MINIMUM	MAXIMUM DRUM SPACING FT (m)		BUFFER (D) FT (m) MINIMUM	CLEAR ZONE WIDTH (E) FT (m)
				Taper sec.	Tangent sec.		
25	11:1	4:1	8:1	25 (7.5)	40 (12)	155 (45)	15 (5)
30	15:1	5:1	8:1	30 (9)	40 (12)	200 (60)	15 (5)
35	21:1	7:1	10:1	35 (10.5)	40 (12)	250 (75)	15 (5)
40	27:1	9:1	11:1	40 (12)	80 (24)	305 (95)	15 (5)
45	45:1	15:1	13:1	45 (13.5)	80 (24)	360 (110)	19 (6)
50	50:1	17:1	14:1	50 (15)	80 (24)	425 (130)	19 (6)
55	55:1	18:1	16:1	55 (16.5)	80 (24)	495 (150)	23 (7)
60	60:1	20:1	17:1	60 (18)	120 (36)	570 (175)	30 (9)
65	65:1	22:1	19:1	65 (19.5)	120 (36)	645 (200)	30 (9)

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SHB/LAM

MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON THE U.S. 20 RAMP D WILL BE DETOURED AS SHOWN. THE U.S. 20 RAMP WILL BE DETOURED FOR A MAXIMUM OF 10 CONSECUTIVE CALENDAR DAYS. THE MAXIMUM NUMBER OF DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE MAXIMUM NUMBER OF DAYS THAT THE HIGHWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF $1000 PER DAY.

RAMP D AND RAMP C SHALL BE CLOSED AT THE SAME TIME.

DETOUR SIGNING WILL BE INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR.

THE CONTRACTOR SHALL NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER MATT BLANKENSHIP IN WRITTING A MINIMUM OF 14 DAYS IN ADVANCE OF THE DETOUR BEING PLACED. THE CONTRACTOR SHALL ALSO NOTIFY, IN WRITING, THE FOLLOWING AGENCIES AT LEAST 14 DAYS PRIOR TO THE TIME WHEN THE DETOUR WILL BE IMPLEMENTED:

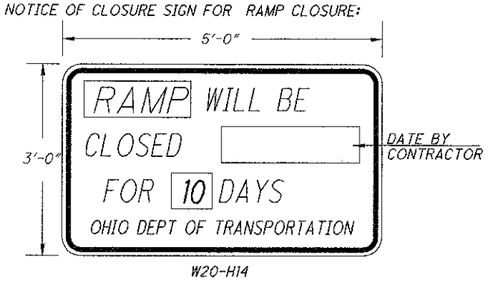
TOWNSHIP TRUSTEES (TWP. ROADS ONLY)
LORAIN COUNTY ENGINEERS OFFICE
LOCAL FIRE DEPARTMENT(S)
LOCAL SCHOOL DISTRICT(S)
COUNTY SHERIFF

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE END OF THE WORK AREA AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE FOR THE U.S 20 RAMP D, SHOWN ON THE DETOUR MAP. THE SIGN SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.

NOTICE OF CLOSURE SIGN FOR RAMP CLOSURE:

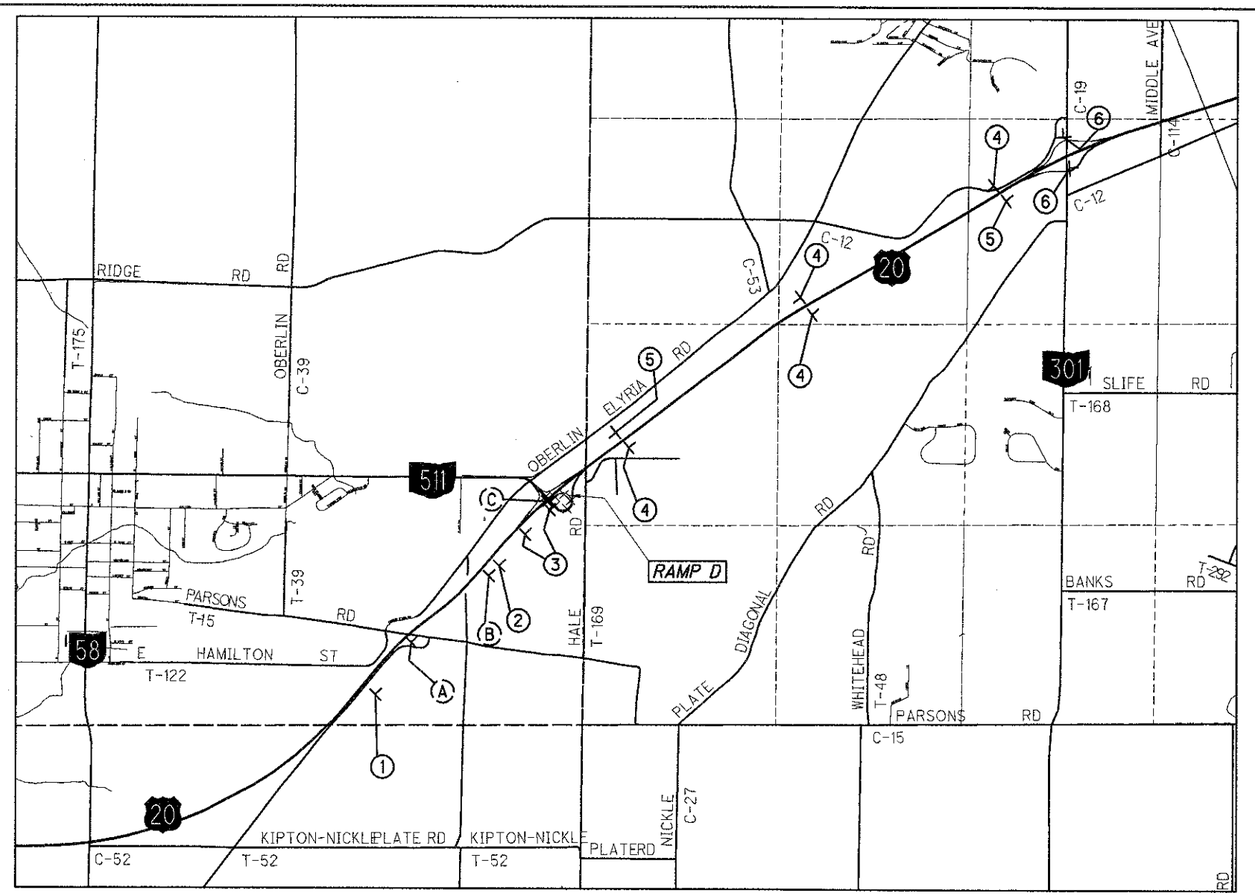


W20-H14

DETOUR SIGNING

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

ITEM 614, DETOUR SIGNING	LUMP



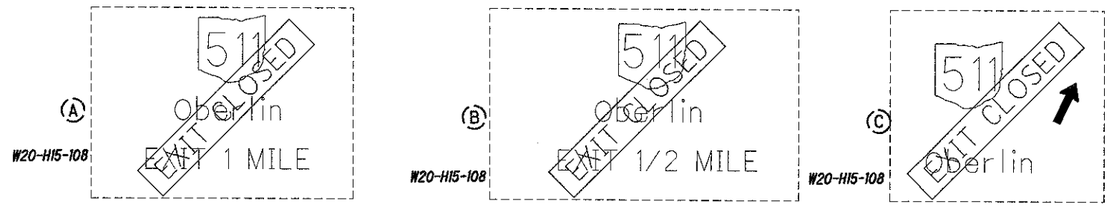
RAMP CLOSURE @ U.S. 20 RAMP D
OFF-RAMP TO S.R. 511

MAP LEGEND

XXXX - RAMP CLOSURE LOCATION

⟵ - OFFICIAL SIGNED DETOUR

SIGN LEGEND



CALCULATED DCM
CHECKED ADB

MAINTENANCE OF TRAFFIC NOTES

LOR-20-8.56

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WORKSTATION$TERMINAL$ DATE:$$$$$DATE$$$$$

MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON THE S.R. 511 RAMP C WILL BE DETOURED AS SHOWN. THE S.R. 511 RAMP WILL BE DETOURED FOR A MAXIMUM OF 10 CONSECUTIVE CALENDAR DAYS. THE MAXIMUM NUMBER OF DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE MAXIMUM NUMBER OF DAYS THAT THE HIGHWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF $1000 PER DAY.

RAMP C AND RAMP D SHALL BE CLOSED AT THE SAME TIME.

DETOUR SIGNING WILL BE INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR.

THE CONTRACTOR SHALL NOTIFY THE DISTRICT ROADWAY SERVICES MATT BLANKENSHIP IN WRITTING A MINIMUM OF 14 DAYS IN ADVANCE OF THE DETOUR BEING PLACED. THE CONTRACTOR SHALL ALSO NOTIFY, IN WRITING, THE FOLLOWING AGENCIES AT LEAST 14 DAYS PRIOR TO THE TIME WHEN THE DETOUR WILL BE IMPLEMENTED:

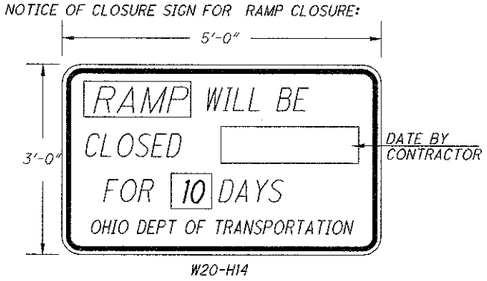
TOWNSHIP TRUSTEES (TWP. ROADS ONLY)
LORAIN COUNTY ENGINEERS OFFICE
LOCAL FIRE DEPARTMENTS)
LOCAL SCHOOL DISTRICTS)
COUNTY SHERIFF

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE END OF THE WORK AREA AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE FOR THE U.S 20 RAMP C, SHOWN ON THE DETOUR MAP. THE SIGN SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.

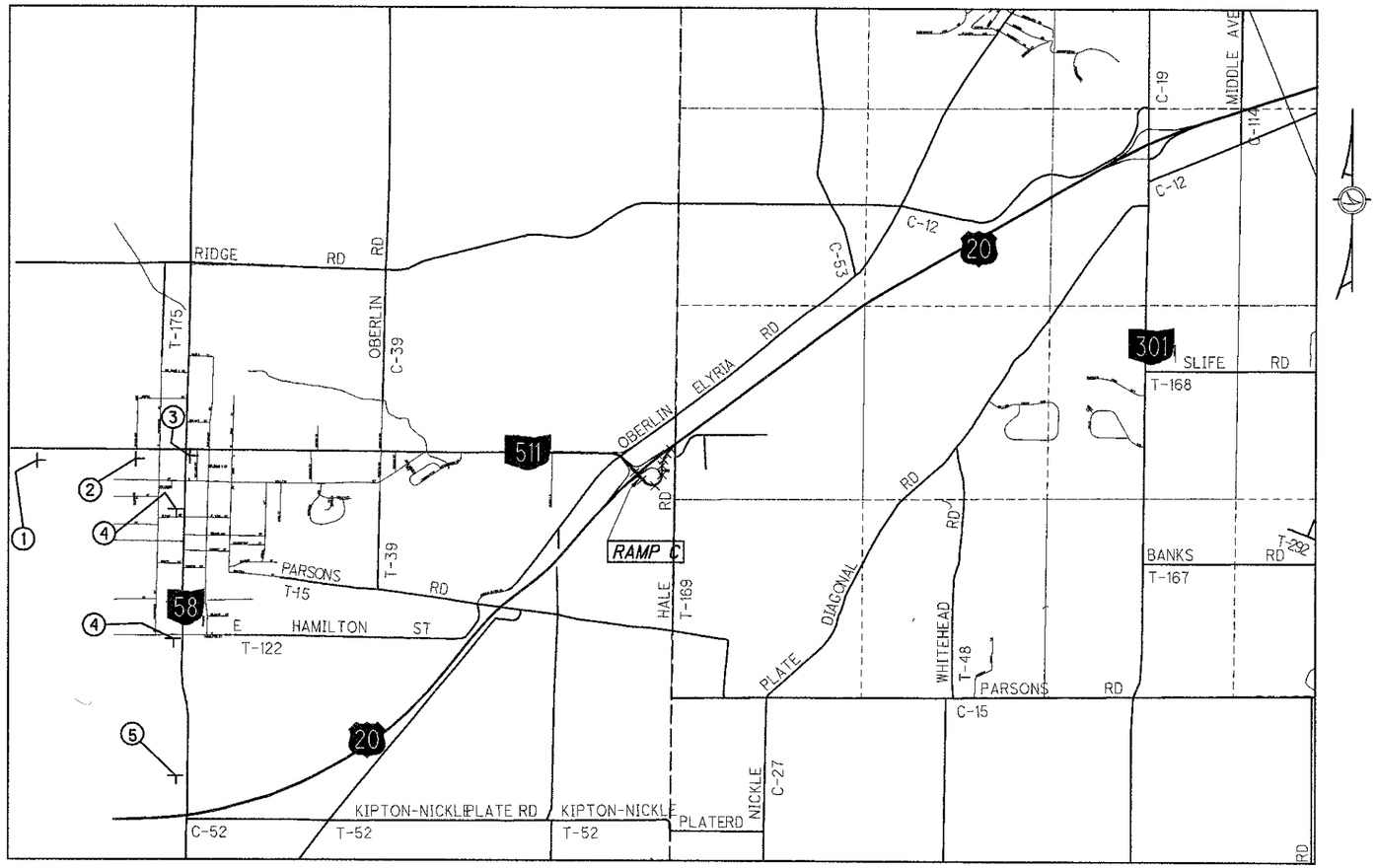
NOTICE OF CLOSURE SIGN FOR RAMP CLOSURE:



DETOUR SIGNING

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

ITEM 614, DETOUR SIGNING	LUMP



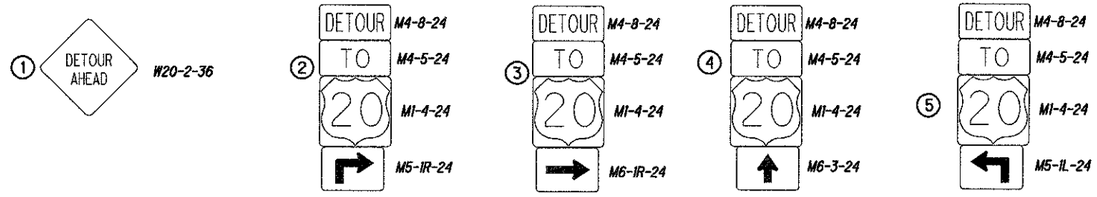
RAMP CLOSURE @ S.R. 511 RAMP C
ON-RAMP TO U.S. 20 (EASTBOUND)

MAP LEGEND

XXXX - RAMP CLOSURE LOCATION

\- OFFICIAL SIGNED DETOUR

SIGN LEGEND



CALCULATED DCM
CHECKED ADB

MAINTENANCE OF TRAFFIC NOTES

LOR-20-8.56

DESIGN FILE:$$$$$.DGN FILESPECIFICATIONS$$$$$
WORKSTATION:$TERMINAL$ DATE:$$$$$DATE$$$$$

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	17	18	19	20		24		36											
																		ROADWAY	
		308	616	1400										202	23000	2324	SQ YD	PAVEMENT REMOVED	
						100								202	32000	100	FT	CURB REMOVED	
						3606.25								202	38000	3606.25	FT	GUARDRAIL REMOVED	
						1906.25								202	38200	1906.25	FT	GUARDRAIL REMOVED FOR REUSE	
						100.00								202	38300	100.00	FT	GUARDRAIL REMOVED, BARRIER DESIGN	
						28								202	42040	28	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
						13								202	42050	13	EACH	ANCHOR ASSEMBLY REMOVED, TYPE B	
						2								202	42610	2	EACH	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE B-98	
						1								202	42620	1	EACH	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E-98	
						4								202	47000	4	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
						2								202	98100	2	EACH	REMOVAL MISC.: IMPACT ATTENUATOR	23
		1289												203	10000	1289	CU YD	EXCAVATION	
						20								203	20000	20	CU YD	EMBANKMENT	
						274								203	20001	274	CU YD	EMBANKMENT, AS PER PLAN	23
		3479	616	1400										204	10000	5495	SQ YD	SUBGRADE COMPACTION	
		0.3	1.0	0.7										204	45000	2.0	HOUR	PROOF ROLLING	
						1.77								209	15051	1.77	MILE	RESHAPING UNDER GUARDRAIL, AS PER PLAN	23
	21.67													209	60500	21.67	MILE	LINEAR GRADING	
						5212.50								606	13000	5212.50	FT	GUARDRAIL, TYPE 5	
						100.00								606	15500	100.00	FT	GUARDRAIL, BARRIER DESIGN, TYPE 5	
						1906.25								606	16500	1906.25	FT	GUARDRAIL REBUILT, TYPE 5	
						13								606	26100	13	EACH	ANCHOR ASSEMBLY, TYPE E	
						22								606	26500	22	EACH	ANCHOR ASSEMBLY, TYPE T	
						2								606	28000	2	EACH	ANCHOR ASSEMBLY REBUILT, TYPE B-98	
						1								606	28050	1	EACH	ANCHOR ASSEMBLY REBUILT, TYPE E-98	
						6								606	35000	6	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
						16								606	35140	16	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
						4								606	35170	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE BR-1	
						2								606	60012	2	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	
						114								622	10160	114	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
						6								622	25000	6	EACH	CONCRETE BARRIER END SECTION, TYPE D	
						6								622	25050	6	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
																		EROSION CONTROL	
						780								659	10000	780	SQ YD	SEEDING AND MULCHING	
						780								836	10030	780	SQ YD	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3	
																		DRAINAGE	
				80										603	01500	80	FT	6" CONDUIT, TYPE F	
	3													604	09000	3	EACH	CATCH BASIN ADJUSTED TO GRADE	
				78										605	11100	78	FT	6" SHALLOW PIPE UNDERDRAINS	
																		PAVEMENT	
		3	3											253	02001	6	CU YD	PAVEMENT REPAIR, AS PER PLAN A	8
20														253	02001	20	CU YD	PAVEMENT REPAIR, AS PER PLAN B	8
	58566													254	01000	58566	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (3.0")	
	1600													254	01000	1600	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 3.0" TO 1.25")	
	2141													254	01000	2141	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 3.25" TO 0")	
	600													254	01000	600	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0.0" TO 3.0")	
	1600													254	01000	1600	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (VARIES 0.0" TO 1.5")	
	5220													254	01000	5220	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (1.5")	
		16		4912										255	10150	4928	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	
								22						255	10151	22	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (A)	36
			64											255	10151	64	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (B)	8
		1044	1260	20221										255	20000	22525	FT	FULL DEPTH PAVEMENT SAWING	

CALCULATED HYH
CHECKED ADB

GENERAL_SUMMARY

LOR-20-8.56

DESIGN FILE:I:\projects\23809\Roadway\Sheets\23809GG001.dgn MODEL NAME: Sheet
WORKSTATION:mollens DATE:1/25/2012

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
11	17	18	19	20		24		38	39	40	41								
																		PAVEMENT - CONT'D	
9		774												301	46000	783	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		515												304	20000	515	CU YD	AGGREGATE BASE	
		308	616											305	14000	924	SQ YD	10" CONCRETE BASE	
	647													407	10000	647	GALLON	TACK COAT	
	19521													407	13900	19521	GALLON	TACK COAT, 702.13	
	7281					4								407	14000	7285	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
	10369					6								442	10000	10375	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	
	11758					10								442	10100	11768	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	
				74										SPECIAL	45130000	74	FT	PRESSURE RELIEF JOINT, TYPE A	7
				1400										452	13000	1400	SQ YD	9" NON-REINFORCED CONCRETE PAVEMENT	
	2748													617	10100	2748	CU YD	COMPACTED AGGREGATE	
	36624													617	20000	36624	SQ YD	SHOULDER PREPARATION	
	105298													618	40100	105298	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)	
											0.12			618	43000	0.12	MILE	CENTER LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	
																		TRAFFIC CONTROL	
											915			621	00100	915	EACH	RPM	
											915			621	54000	915	EACH	RAISED PAVEMENT MARKER REMOVED	
									64					625	25402	64	FT	CONDUIT, 2", 725.05	
									64					625	29001	64	FT	TRENCH, AS PER PLAN	37
									2					625	30701	2	EACH	PULL BOX, 725.08, 18", AS PER PLAN	37
						128								626	00100	128	EACH	BARRIER REFLECTOR	
										4				630	75000	4	EACH	SIGN ATTACHMENT ASSEMBLY	
										113				630	80224	113	SQ FT	SIGN, OVERHEAD EXTRUSHEET	
										1				630	87400	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
										1				630	97700	1	EACH	SIGNING, MISC.: REPAIR OVERHEAD SIGN SUPPORT, TYPE TC-7.65, AS PER PLAN	40
										3				630	97700	3	EACH	SIGNING, MISC.: SIGN DATA COLLECTION	40
								8	9					632	26501	17	EACH	DETECTOR LOOP, AS PER PLAN	37
								2	3					632	27009	5	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN	37
								72	384					632	65300	456	FT	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG	
											22.11			644	00100	22.11	MILE	EDGE LINE	
											10.12			644	00200	10.12	MILE	LANE LINE	
											0.45			644	00300	0.45	MILE	CENTER LINE	
											2118			644	00400	2118	FT	CHANNELIZING LINE	
											74			644	00500	74	FT	STOP LINE	
											1216			644	00700	1216	FT	TRANSVERSE/DIAGONAL LINE	
											2			SPECIAL	64440000	2	EACH	AIR SPEED ZONE MARKING	7
											2.55			646	10000	2.55	MILE	EDGE LINE	
											0.17			646	10100	0.17	MILE	LANE LINE	
											0.15			646	10200	0.15	MILE	CENTER LINE	
											1260			646	10300	1260	FT	CHANNELIZING LINE	
											204			646	10400	204	FT	STOP LINE	
											1134			646	10600	1134	FT	TRANSVERSE/DIAGONAL LINE	
											422			646	10800	422	SQ FT	ISLAND MARKING	
											13			646	20300	13	EACH	LANE ARROW	
																		STRUCTURES 20' AND OVER	
																		LOR-20-0868 (SFN 4701909)	46
																		LOR-20-0973 (SFN 4707370)	46
																		LOR-20-0999 (SFN 4701917)	46
																		LOR-20-1056L (SFN 4701933)	47
																		LOR-20-1056R (SFN 4701941)	47
																		LOR-20-1208L (SFN 4701968)	48
																		LOR-20-1208R (SFN 4701976)	48
																		LOR-20-1303 (SFN 4706609)	49

CALCULATED HYH
CHECKED ADB

GENERAL SUMMARY

LOR-20-8.56

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	9	10	11	12	13		41												
																		MAINTENANCE OF TRAFFIC	
			106											202	30600	106	SQ YD	CONCRETE MEDIAN REMOVED	
			106											609	72000	106	SQ YD	CONCRETE MEDIAN	
		120												614	11110	120	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		4												614	11500	4	MONTH	WORKSITE TRAFFIC SUPERVISOR	
		3												614	12410	3	EACH	SPEED ZONE AHEAD SYMBOL SIGN	
				LUMP	LUMP									614	12420	LUMP		DETOUR SIGNING	
	10													614	12460	10	EACH	WORK ZONE MARKING SIGN	
		27												614	12470	27	EACH	WORK ZONE SPEED LIMIT SIGN	
	19													614	12484	19	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	5													614	12500	5	EACH	REPLACEMENT SIGN	
	20													614	12600	20	EACH	REPLACEMENT DRUM	
	68													614	13000	68	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			244											614	18401	244	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	11
							10.12							614	20100	10.12	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT	
							10.12							614	20550	10.12	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT	
							0.45							614	21100	0.45	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
							0.45							614	21550	0.45	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
							22.11							614	22100	22.11	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
							22.11							614	22350	22.11	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
							2118							614	23200	2118	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
							2118							614	23680	2118	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
							1216							614	25210	1216	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS II, 642 PAINT	
							1216							614	25620	1216	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS III, 642 PAINT	
							74							614	26200	74	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
							74							614	26610	74	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16010	4	MONTH	FIELD OFFICE, TYPE B	
														624	10000	LUMP		MOBILIZATION	

CALCULATED HYH
CHECKED ADB

GENERAL SUMMARY

LOR-20-8.56

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DESIGN FILE: i:\projects\23809\Roadway\Sheets\23809GG001.dgn MODEL NAME: Sheet
WORKSTATION dmollens DATE: 11/28/2011

COUNTY	ROUTE	LOG POINT TO LOG POINT STATION		LENGTH MILE	LENGTH FEET	WIDTH FEET AVG.	PAVEMENT AREA SQ YD	254 PAVEMENT PLANING, ASPHALT CONCRETE (3.0") SQ YD	254 PAVEMENT PLANING, ASPHALT CONCRETE (VAR. 3.0" TO 1.25") SQ.YD	254 PAVEMENT PLANING, ASPHALT CONCRETE (VAR. 3.25" TO 0") SQ.YD	254 PAVEMENT PLANING, ASPHALT CONCRETE (VAR. 0.0" TO 3.0") SQ.YD	254 PAVEMENT PLANING, ASPHALT CONCRETE (VAR. 0.0" TO 1.5") SQ.YD	254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5") SQ.YD	407 TACK COAT, 702.13 @ 0.08 GAL/SY GALLON	407 TACK COAT @ 0.08 GAL/SY GALLON	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.03 GAL/SY GALLON	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) INCH	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) CU.YD.	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446) INCH	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446) CU.YD.	604 CATCH BASIN ADJUSTED TO GRADE EACH	618 RUMBLE STRIPS, (ASPHALT CONCRETE) FT	AGGREGATE SHOULDER PROPOSED WIDTH (EACH DIRECTION) FT	FT	AGGREGATE SHOULDER AREA SQ YD	209 LINEAR GRADING MILE		617 COMPACTED AGGREGATE 2 3/4 INCHES AVG. THICKNESS CU YD	617 COMPACTED AGGREGATE 1 1/2 INCHES AVG. THICKNESS CU YD	617 SHOULDER PREPARATION SQ YD
LOR	20	448+84	452+09		325	59.3	2141			2141					171	64	1.5	89	1.75	104		650	3.0	3.0	217	0.12		17		217
LOR	20	452+09	453+81		172	74.0	1414							113		42	1.5	59	1.75	69		344	3.0	3.0	115	0.07		9		115
LOR	20	453+81	557+17		10336	72.0	82688							6,615		2,481	1.5	3,445	1.75	4,020		41344	3.0	3.0	13,781	7.83		1,053		13,781
LOR	20	557+17	557+32		15	72.0	120							10		4	1.5	5	1.88	6		60	3.0	3.0	20	0.01		2		20
LOR	20	557+32	558+63		131	80.0	1164							93		35	1.5	49	2	65		524	3.0	3.0	175	0.10		13		175
LOR	20	558+63	558+78		15	72.0	120							10		4	1.5	5	1.88	6		60	3.0	3.0	20	0.01		2		20
LOR	20	558+78	637+42		7864	72.0	62912							5,033		1,887	1.5	2,621	1.75	3,058		31456	3.0	3.0	10,485	5.96		801		10,485
LOR	20	637+42	637+57		15	72.0	120							10		4	1.5	5	1.88	6		60	3.0	3.0	20	0.01		2		20
LOR	20	637+57	640+74		317	80.0	2818							225		85	1.5	117	2	157		1268	3.0	3.0	423	0.24		32		423
LOR	20	640+74	640+89		15	72.0	120							10		4	1.5	5	1.88	6		60	3.0	3.0	20	0.01		2		20
LOR	20	640+89	664+25		2336	72.0	18688							1,495		561	1.5	779	1.75	908		9344	3.0	3.0	3,115	1.77		238		3,115
LOR	20	664+25	665+00		75	72.0	600				600			48		18	1.5	25	1.75	29		300	3.0	3.0	100	0.06		8		100
LOR	20	665+00	712+57		4757	72.0	38056	38056						3,044		1,142	1.5	1,586	1.75	1,850		19028	3.0	3.0	6,343	3.60		485		6,343
LOR	20	712+57	714+57		200	72.0	1600		1600					128		48	1.38	61	0.88	39		800	3.0	3.0	267	0.15		20		267
LOR	20	S.R. 511 RAMPS																													
		RAMP TAPER					1111									33			1.25	39										
		RAMP TAPER					3611							289			0.75	75												
		ACCEL/DECEL LANES					8916							713		267	1.5	372	1.75	433										
		RAMP BERMS					5220						5220		418		1.5	218												
LOR	20	S.R. 301 RAMPS			4170		13150	13150						1,052		395	1.5	548	1.75	639			1.5	1.5	1,390	1.58			58	1,390
		RAMP TAPER					882									26			1.25	31										
		RAMP TAPER			400		2600	2600						208			0.75	54					1.5	1.5	133	0.15			6	133
		ACCEL/DECEL LANES					4760	4760						381		143	1.5	198	1.75	231										
LOR	20	EXTRA AREA FOR U-TURN MEDIANS					1280							44	58	38	1.5	53	1.75	62										
LOR	20	ADDITIONAL PLANING AREAS																												
	LEFT	488+40	490+50		50	36.0	200					200																		
	LEFT	554+50	555+50		100	36.0	400					400																		
	LEFT	556+00	557+50		150	36.0	600					600																		
	LEFT	639+75	640+25		50	36.0	200					200																		
	RIGHT	641+04	641+54		50	36.0	200					200																		
LOR	20	CATCH BASIN ADJUSTMENTS																			1									
	RIGHT	525+75																			1									
	RIGHT	677+80																			1									
	LEFT	677+80																			1									
	TOTALS							*58,566*	*1,600*	*2,141*	*600*	*1,600*	*5,220*	*19,521*	*647*	*7,281*		*10,369*		*11,758*	*3*	*105,298*				*21.67*		*2,684*	*64*	*36,624*

CALCULATED DCM CHECKED ADB

PAVEMENT & SHOULDER DATA

LOR-20-8.56

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DESIGN FILE:I:\projects\23809\Roadway\Sheets\23809GQ001.dgn MODELNAME: Sheet
WORKSTATION:hyaryann DATE:11/23/2011

SHOULDER PAVEMENT REPAIRS

CALCULATED KCK
CHECKED ADB

STATION/ LOCATION		LENGTH	WIDTH	INDIVIDUAL REPAIR AREA	DIRECTION	SIDE	NUMBER OF REPAIRS	202 PAVEMENT REMOVED	203 EXCAVATION (15" DEEP)	204 SUBGRADE COMPACTION	204 PROOF ROLLING	301 ASPHALT CONCRETE BASE, PG 64-22 (9" DEEP)	304 AGGREGATE BASE (6" DEEP)			253 PAVEMENT REPAIR, AS PER PLAN (A)	255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	255 FULL DEPTH PAVEMENT SAWING				305 10" CONCRETE BASE		
BEGIN	END	FT	FT	SQ YD			EACH	SQ YD	CU YD	SQ YD	HOUR	CU YD	CU YD			CU YD	SQ YD	FT				SQ YD		
MAINLINE SHOULDERS																								
488+40	490+05	4	231	102.67	WEST	INSIDE	1	103		141	0.1							470				103		
488+40	490+05	8	231	205.33	WEST	OUTSIDE	1	205		244	0.2							478				205		
555+50	555+56	4	1	0.44	WEST	INSIDE	1									0.12								
555+50	555+56	8	1	0.89	WEST	OUTSIDE	1									0.25								
557+04	557+10	4	1	0.44	WEST	INSIDE	1									0.12								
557+04	557+10	8	1	0.89	WEST	OUTSIDE	1									0.25								
635+71	635+77	4	1	0.44	WEST	INSIDE	1									0.12								
635+71	635+77	8	1	0.89	WEST	OUTSIDE	1									0.25								
639+94	640+00	4	1	0.44	WEST	INSIDE	1									0.12								
639+94	640+00	8	1	0.89	WEST	OUTSIDE	1									0.25								
452+50	452+56	4	6	2.67	EAST	INSIDE	1																	
452+50	452+56	8	6	5.33	EAST	OUTSIDE	1																	
453+02	453+08	4	6	2.67	EAST	INSIDE	1																	
453+02	453+08	8	6	5.33	EAST	OUTSIDE	1																	
453+55	453+61	4	6	2.67	EAST	INSIDE	1																	
453+55	453+61	8	6	5.33	EAST	OUTSIDE	1																	
454+08	454+14	4	6	2.67	EAST	INSIDE	1										2.67	20						
454+08	454+14	8	6	5.33	EAST	OUTSIDE	1										5.33	28						
459+89	459+95	4	6	2.67	EAST	INSIDE	1										2.67	20						
459+89	459+95	8	6	5.33	EAST	OUTSIDE	1										5.33	28						
555+99	556+05	4	1	2.67	EAST	INSIDE	1									0.12								
555+99	556+05	8	1	5.33	EAST	OUTSIDE	1									0.25								
558+10	558+16	4	1	2.67	EAST	INSIDE	1									0.12								
558+10	558+16	8	1	5.33	EAST	OUTSIDE	1									0.25								
606+30	606+36	4	1	2.67	EAST	INSIDE	1									0.12								
606+30	606+36	8	1	5.33	EAST	OUTSIDE	1									0.25								
637+66	637+72	4	1	2.67	EAST	INSIDE	1									0.12								
637+66	637+72	8	1	5.33	EAST	OUTSIDE	1									0.25								
641+89	641+95	4	1	2.67	EAST	INSIDE	1									0.12								
641+89	641+95	8	1	5.33	EAST	OUTSIDE	1									0.25								
SR301 RAMPS																								
RAMP A INSIDE PAVED SHOULDER				1214		INSIDE	1		506	1214		304	202											
RAMP B INSIDE PAVED SHOULDER				608		INSIDE	1		253	608		152	101											
RAMP C INSIDE PAVED SHOULDER				684		INSIDE	1		285	684		171	114											
RAMP D INSIDE PAVED SHOULDER				588		INSIDE	1		245	588		147	98											
TOTAL THIS COLUMN								308	1289	3479	0.30	774	515			3	16	1044				308		

SHOULDER PAVEMENT REPAIRS

LOR-20-8.56

DESIGN FILE=I:\projects\23809\Roadway\Sheets\23809GA004.dgn MODELNAME=Sheet
WORKSTATION=hyaryanh DATE=11/23/2011

WESTBOUND FULL DEPTH PAVEMENT REPAIRS

STATION BEGIN	STATION END	LANE	WIDTH	LENGTH	INDIVIDUAL REPAIR AREA	TYPE OF REPAIR	NUMBER OF REPAIRS	202 PAVEMENT REMOVED	204 SUBGRADE COMPACTION	204 PROOF ROLLING	253 PAVEMENT REPAIR, AS PER PLAN (A)	255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (B)	255 FULL DEPTH PAVEMENT SAWING	305 10" CONCRETE BASE
			FT	FT	SQ YD		EACH	SQ YD	SQ YD	HOUR	CU YD	SQ YD	FT	SQ YD
488+40	490+05	DRIVING	231	12	308.00	TRANS	1	308	308	0.5			486	308
488+40	490+05	PASSING	231	12	308.00	TRANS	1	308	308	0.5			486	308
555+50	555+56	DRIVING	1	12	1.33	TRANS	1				0.4			
555+50	555+56	PASSING	1	12	1.33	TRANS	1				0.4			
557+04	557+10	DRIVING	1	12	1.33	TRANS	1				0.4			
557+04	557+10	PASSING	1	12	1.33	TRANS	1				0.4			
606+30	606+36	DRIVING	6	12	8.00	TRANS	1					8	36	
606+30	606+36	PASSING	6	12	8.00	TRANS	1					8	36	
TOTAL THIS COLUMN								616	616	1	2	16	1044	616

EASTBOUND FULL DEPTH PAVEMENT REPAIRS

STATION BEGIN	STATION END	LANE	WIDTH	LENGTH	INDIVIDUAL REPAIR AREA	TYPE OF REPAIR	NUMBER OF REPAIRS		253 PAVEMENT REPAIR, AS PER PLAN (A)	255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (B)	255 FULL DEPTH PAVEMENT SAWING	
			FT	FT	SQ YD		FT		CU YD	SQ YD	FT	
452+50	452+56	DRIVING	6	12	8.00	TRANS	1			8	36	
452+50	452+56	PASSING	6	12	8.00	TRANS	1			8	36	
453+02	453+08	DRIVING	6	12	8.00	TRANS	1			8	36	
453+02	453+08	PASSING	6	12	8.00	TRANS	1			8	36	
453+55	453+61	DRIVING	6	12	8.00	TRANS	1			8	36	
453+55	453+61	PASSING	6	12	8.00	TRANS	1			8	36	
606+30	606+36	DRIVING	1	12	1.33	TRANS	1		0.4			
606+30	606+36	PASSING	1	12	1.33	TRANS	1		0.4			
TOTAL THIS COLUMN									1	48	216	

CALCULATED KCK
CHECKED ADB

PAVEMENT REPAIR QUANTITIES

LOR-20-8.56

DESIGN FILE=I:\projects\23809\Roadway\Sheets\23809GA004.dgn
WORKSTATION=hyaryanh DATE:11/23/2011 MODELNAME: Sheet

RAMP FULL DEPTH PAVEMENT REPAIRS

ROAD	RAMP	WIDTH	LENGTH	INDIVIDUAL REPAIR AREA	TYPE OF REPAIR	NUMBER OF REPAIRS	255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	255 FULL DEPTH PAVEMENT SAWING	SPECIAL PRESSURE RELIEF JOINT, TYPE A	603 6" CONDUIT, TYPE F	605 6" SHALLOW PIPE UNDERDRAINS
		FT	FT	SQ YD		EACH	SQ YD	FT	FT	FT	FT
S.R.511	RAMP A	6	16	10.67	TRANSVERSE	20	213	1000			
		6	8	5.33	TRANSVERSE	3	16	84			
		110	16	195.56	TRANSVERSE	1	196	362			
	RAMP B	6	16	10.67	TRANSVERSE	16	171	800			
		6	8	5.33	TRANSVERSE	6	32	168			
		28	20	62.22	TRANSVERSE	1	62	124			
	RAMP C	6	17	11.33	TRANSVERSE	83	940	3818			
		30	17	56.67	TRANSVERSE	1	57	94			
	(AT EXPANSION JOINT)	6	17	11.33	TRANSVERSE	1	11	46			
	(AT APPROACH SLAB)				TRANSVERSE	1			18.5	20	19.5
	RAMP D	36	17	68	TRANSVERSE	1	68	106			
		6	17	11.33	TRANSVERSE	42	476	1932			
		15	17	28.33	TRANSVERSE	1	28	64			
	(AT EXPANSION JOINT)	6	17	11.33	TRANSVERSE	1	11	46			
	(AT APPROACH SLAB)				TRANSVERSE	1			18.5	20	19.5
S.R. 301	RAMP A	6	16	10.67	TRANSVERSE	11	117	550			
		8	16	14.22	TRANSVERSE	2	28	112			
		6	12	8	TRANSVERSE	1	8	36			
		250	6	166.67	LONGITUDINAL	1	167	512			
	RAMP B	6	16	10.67	TRANSVERSE	9	96	450			
		6	34	22.67	TRANSVERSE	1	23	86			
	RAMP C	6	16	10.67	TRANSVERSE	13	139	650			
	RAMP D	6	16	10.67	TRANSVERSE	8	85	400			
		6	8	5.33	TRANSVERSE	1	5	28			
TOTAL THIS COLUMN							2949	11468	37	40	39

S.R. 511 AND S.R. 301 FULL DEPTH PAVEMENT REPAIRS

ROAD	LANE	WIDTH	LENGTH	INDIVIDUAL REPAIR AREA	TYPE OF REPAIR	NUMBER OF REPAIRS	202 PAVEMENT REMOVED	204 PROOF ROLLING	204 SUBGRADE COMPACTION	255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	255 FULL DEPTH PAVEMENT SAWING	452 9" NON-REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	SPECIAL PRESSURE RELIEF JOINT, TYPE A	603 6" CONDUIT, TYPE F	605 6" SHALLOW PIPE UNDERDRAINS
		FT	FT	SQ YD		FT	SQ YD	HOUR	SQ YD	SQ YD	FT	SQ YD	FT	FT	FT
S.R. 511	SB	6	30	20.00	TRANSVERSE	31				620	2418				
	NB	6	30	20.00	TRANSVERSE	32				640	2496				
(AT EXPANSION JOINT)	NB	6	17	11.33	TRANSVERSE	1				11	46				
(AT EXPANSION JOINT)	SB	6	17	11.33	TRANSVERSE	1				11	46				
(AT APPROACH SLAB)	NB				TRANSVERSE	1							18.5	20	19.5
(AT APPROACH SLAB)	SB				TRANSVERSE	1							18.5	20	19.5
OBERLIN-ELYRIA RD	BOTH	3	30	10.00	TRANSVERSE	3				30	207				
S.R. 301	SB	6	25	16.67	TRANSVERSE	7				117	476				
		50	6	33.33	LONGITUDINAL	1				33	112				
		25	6	16.67	LONGITUDINAL	8				134	496				
	NB	6	25	16.67	TRANSVERSE	9				150	612				
		50	6	33.33	LONGITUDINAL	1				33	112				
		25	6	16.67	LONGITUDINAL	11				184	682				
FULL WIDTH AT SOUTH RAMP		180	50	1400.00	TRANSVERSE	1	1400	0.70	1400		1050	1400			
TOTAL THIS COLUMN							1400	0.70	1400	1963	8753	1400	37	40	39
TOTAL THIS SHEET							1400	0.70	1400	4912	20221	1400	74	80	78

CALCULATED DCM
CHECKED AOB

PAVEMENT REPAIR QUANTITIES

LOR-20-8.56

20
68

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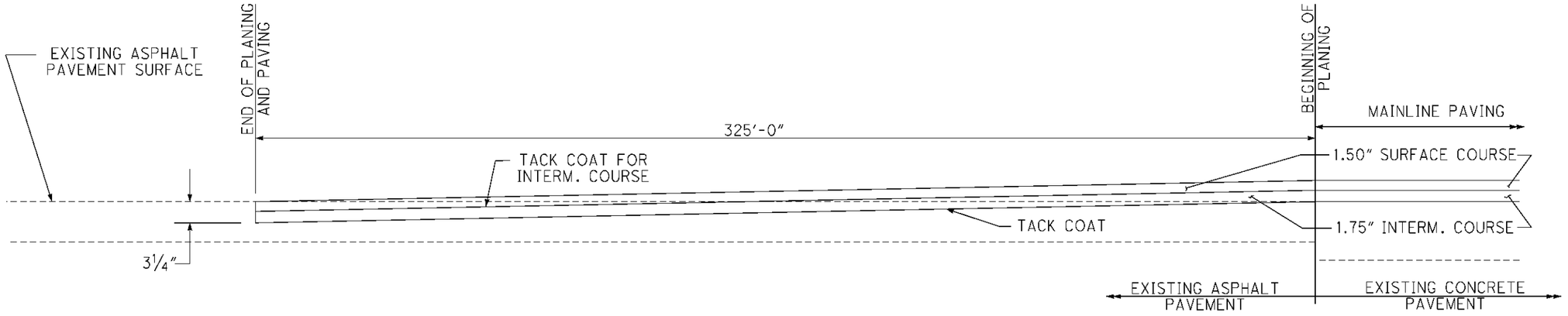

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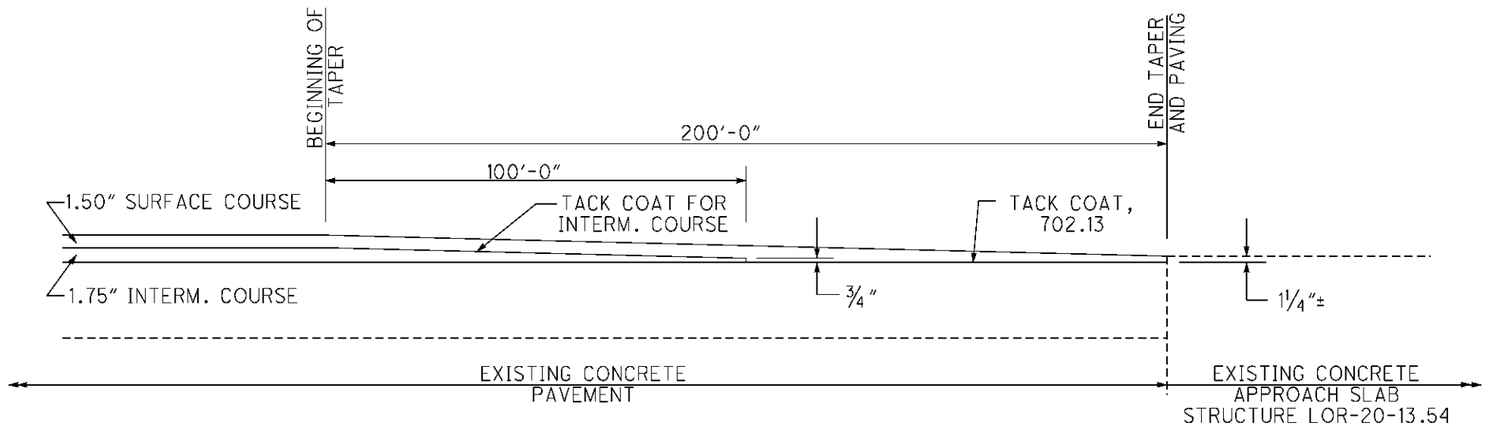
APPLICABLE ON MAINLINE U.S. 20
AT SLM 8.56



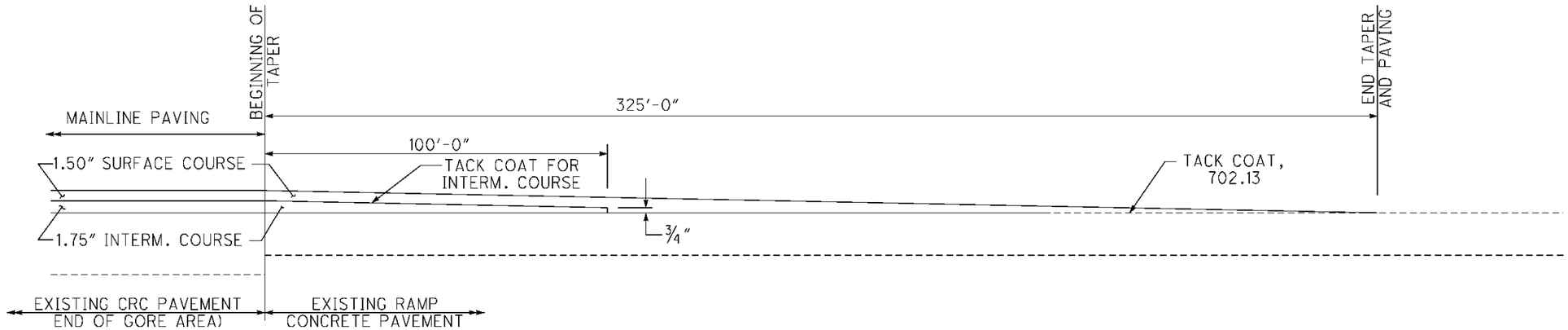
LOGITUDINAL SECTION - ASPHALT TRANSITION DETAIL
APPLICABLE ON MAINLINE U.S. 20
AT SLM 13.54

CALCULATED KCK
CHECKED ADB

ASPHALT PAVEMENT TRANSITION DETAILS

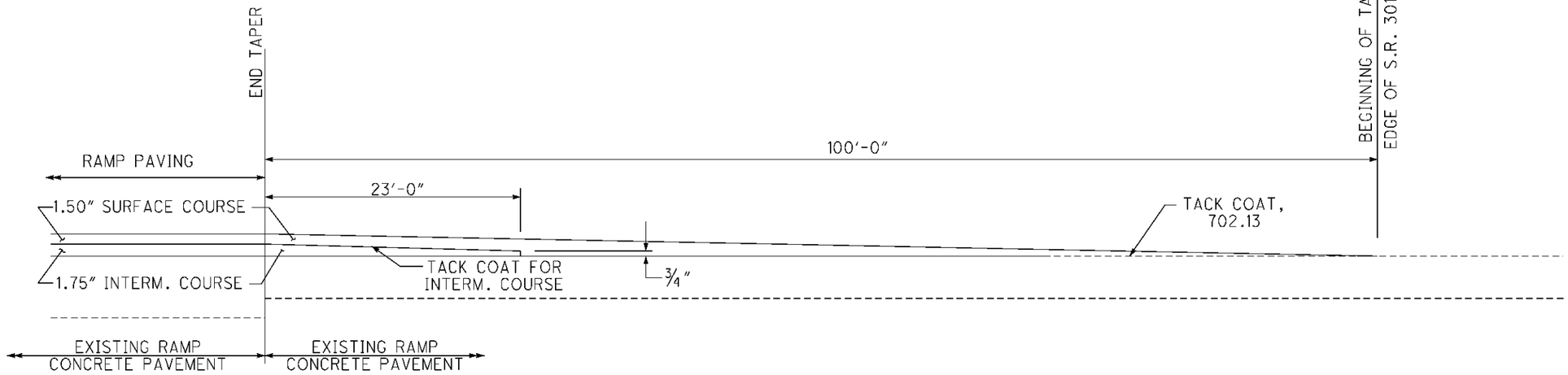
LOR-20-8.56

DESIGN FILE:ii:\projects\23809\Roadway\Sheets\23809GA003-tapering.dgn MODELNAME:Design
WORKSTATION:hyoryanh DATE:11/23/2011



LOGITUDINAL SECTION - ASPHALT TRANSITION DETAIL

APPLICABLE TO THE S.R. 511
RAMPS TO/FROM U.S. 20



LOGITUDINAL SECTION - ASPHALT TRANSITION DETAIL

APPLICABLE TO THE S.R. 301
RAMPS TO/FROM S.R. 301

CALCULATED KCK
CHECKED ADB

ASPHALT PAVEMENT TRANSITION DETAILS

LOR-20-8.56

DESIGN FILE=i:\projects\23809\Roadway\Sheets\23809GA003-tapering.dgn MODELNAME=Design
WORKSTATION=tyoryonh DATE=11/23/2011

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 EMBANKMENT, AS PER PLAN.
4. REBUILD/CONSTRUCT THE GUARDRAIL RUN.
5. INSTALL BARRIER REFLECTORS.

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.

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.

ITEM 202 - ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE B-98
ITEM 202 - ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E-98

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

ITEM 202 - REMOVAL MISC.: IMPACT ATTENUATOR

REMOVE THE EXISTING IMPACT ATTENUATOR SYSTEM. SPECIAL CARE SHALL BE PERFORMED TO NOT DISTURB THE INTEGRITY OF THE CONCRETE BACK STOP OR CONCRETE PAD WHICH ARE TO REMAIN FOR THE PROPOSED IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 202, REMOVAL MISC.: IMPACT ATTENUATOR AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO DO THE ABOVE WORK.

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 FOR THE STRUCTURAL INTEGRITY OF THE ROADWAY SHOULDER.

AREAS WHERE EMBANKMENT MATERIALS ARE TO BE PLACED SHALL BE SCALPED. THE REQUIREMENTS FOR BENCHING SHALL BE WAIVED. THE DEPTH OF LAYERS IN WHICH THE EMBANKMENTS ARE 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 RELATIVE COMPACTION.

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

THE METHOD OF MEASUREMENT FOR EMBANKMENT MATERIAL SHALL BE THE NUMBER OFCUBIC YARDS MEASURED BY LOOSE VOLUME IN THE CARRIER AT THE WORK SITE, IN LIEU OF THE REQUIREMENTS OF 203.09, AND 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 AND AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

ITEM 209 - RESHAPING UNDER GUARDRAIL, AS PER PLAN

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 DETAILS ON THE GUARDRAIL DETAIL SHEETS FOR FURTHER DETAILS AND INFORMATION OF THE LIMITS OF THIS WORK).

THIS WORK SHALL NOT BE STARTED UNTIL AFTER THE RESURFACING AND BERM WORK HAS BEEN COMPLETED.

THE ABOVE WORK SHALL BE PAID FOR PER MILE WITH ITEM 209, RESHAPING UNDER GUARDRAIL, AS PER PLAN.

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 27¾ INCHES FROM THE EDGE OF THE SHOULDER.

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

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

ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE E-98

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

THE ANCHOR ASSEMBLY SHALL BE RECONSTRUCTED AS PER ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27¾ INCHES FROM THE EDGE OF THE SHOULDER.

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

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

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 AND TO INCLUDE REMOVAL AND REPLACEMENT OF ANY AND ALL DAMAGED MATERIAL, (REUSING THE RAIL ELEMENT), INCLUDING REPLACEMENT OF ANY MATERIALS DAMAGED DURING DISMANTLING OR ANY MATERIALS WHICH MAY HAVE DETERIORATED TO THE POINT THEY CANNOT BE REUSED.

ITEM 606 - ANCHOR ASSEMBLY REBUILT, TYPE B-98

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

THE ANCHOR ASSEMBLY SHALL BE RECONSTRUCTED AS PER ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

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 27¾ 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 REBUILT, TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO RECONSTRUCT 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 - IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL

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

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

CALCULATED DCM
CHECKED AOB

GUARDRAIL NOTES

LOR-20-8.56

DESIGN FILE:H:\projects\23809\Roadway\Sheets\23809GR_GN.dgn MODELNAME: Sheet
WORKSTATION:hyaryonn DATE:11/23/2011

GUARDRAIL QUANTITIES

CALCULATED DCM
CHECKED ADB

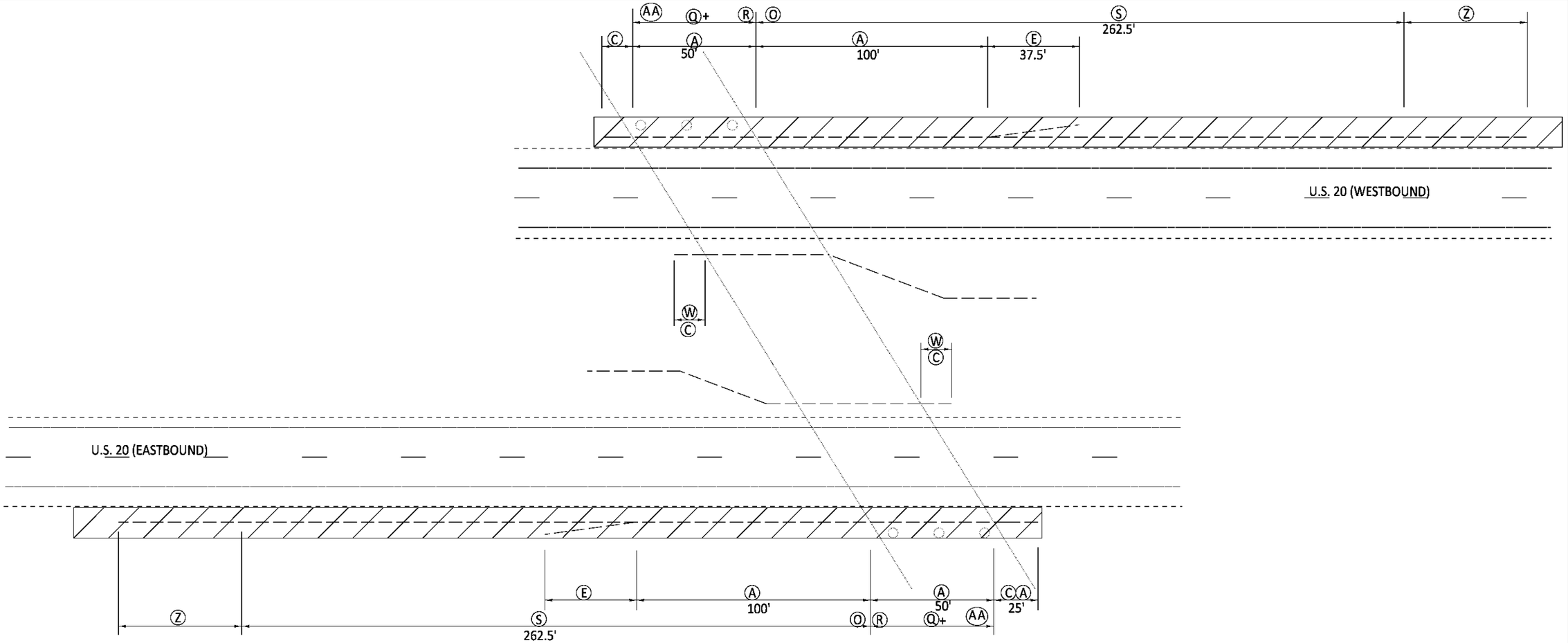
SHEET NUMBER	ITEM 202 GUARDRAIL REMOVED FT	202 GUARDRAIL REMOVED FOR REUSE FT	202 ANCHOR ASSEMBLY REMOVED, TYPE T EACH	202 ANCHOR ASSEMBLY REMOVED, TYPE B EACH	202 ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE B-98 EACH	202 ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E-98 EACH	202 BRIDGE TERMINAL ASSEMBLY REMOVED EACH	202 GUARDRAIL REMOVED, BARRIER DESIGN FT	202 REMOVAL MISC.: IMPACT ATTENUATOR EACH	202 CURB REMOVED FT	203 EMBANKMENT CU YD	203 EMBANKMENT, AS PER PLAN CU YD	209 RESHAPING UNDER GUARDRAIL, AS PER PLAN MILE	407 TACK COAT FOR INTERMEDIATE COURSE GAL	442 * ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448) (1.5" DEEP) CU YD	442 * ASPHALT CONCRETE INTERMED. COURSE, 19MM, TYPE A (448) (1.75" DEEP) CU YD	606 GUARDRAIL, TYPE 5 FT	606 GUARDRAIL, TYPE 5, BARRIER DESIGN FT	606 GUARDRAIL REBUILT, TYPE 5 FT	606 ANCHOR ASSEMBLY REBUILT, TYPE B-98 EACH	606 ANCHOR ASSEMBLY, TYPE E EACH	606 ANCHOR ASSEMBLY REBUILT, TYPE E-98 EACH	606 ANCHOR ASSEMBLY, TYPE T EACH	606 IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL) EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE BR-1 EACH	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE D FT	622 CONCRETE BARRIER, END SECTION, TYPE D EACH	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D EACH	626 BARRIER REFLECTOR EACH	659 SEEDING AND MULCHING SQ YD	836 SEEDING AND EROSION CONTROL WITH REINFORCING MAT, TYPE 3 SQ YD
X	312.50		4	2								40	0.16				525				2		2		2			42	2	2	10		
X	331.25		4	2								22	0.11				225				2		2		2			54.5	2	2	8		
X	12.50	518.75	2		1	1	4			100	20	25	0.15				25		518.75	1		1	2				4				18	780	780
X	200.00	87.50	4	1	1							32	0.12				262.5		87.50	1	1		2		2			17	2	2	9		
X	1437.50		4	2				100.00	2			27	0.38				1737.5	100.00			2		4	2		8					27		
X	225.00	1125.00	2	2								52	0.38				637.50		1125.00		2		2								21		
X	287.50	175.00	4	2								43	0.21				700.00		175.00		2		4			8					20		
X	800.00		2	2								33	0.26				1100.00				2		2								15		
X			2																				2										
														* 4	* 6	* 10																		
TOTAL	3606.25	1906.25	28	13	2	1	4	100	2	100	20.00	274.00	1.77	* 4	* 6	* 10	5212.50	100	1906.25	2.00	13	1	22	2	6	16	4	113.5	6	6	128	780	780

* THESE QUANTITIES SHALL BE USED AT THE PROPOSED CONCRETE BARRIER, SINGLE SLOPE, TYPE D INSTALLATION FOR THE ADDITIONAL SURFACE COURSE TO THE FACE OF THE PROPOSED BARRIER AND FOR THE INTERMEDIATE COURSE UNDER THE BARRIER AS PER STANDARD DRAWING RM-4.5.

GUARDRAIL SUB-SUMMARY

LOR-20-8.56

DESIGN FILE:I:\projects\23809\Roadway\Sheets\23809GRS001.dgn MODEL NAME: Sheet
WORKSTATION tmollens DATE:1/24/2012



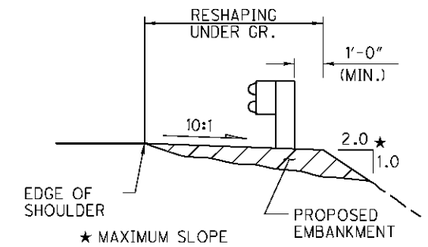
ITEM 203-EMBANKMENT, AS PER PLAN

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
(A)	202	GUARDRAIL REMOVED	FT	150	162.5	312.5
(C)	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	2	2	4
(E)	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	1	2
(O)	606	BRIDGE TERMINAL ASSEMBLY, TYPE 1	EACH	1	1	2
(Q)	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	FT	21	21	42
(R)	622	CONCRETE BARRIER END SECTION, TYPE D	EACH	1	1	2
(AA)	622	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	EACH	1	1	2
(S)	606	GUARDRAIL, TYPE 5	FT	262.5	262.5	525.0
(W)	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
(Z)	606	ANCHOR ASSEMBLY, TYPE E	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	3	3	6
	626	BARRIER REFLECTOR, TYPE B	EACH	2	2	4
	203	EMBANKMENT, AS PER PLAN	CU YD	20	20	40
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.08	.08	.16

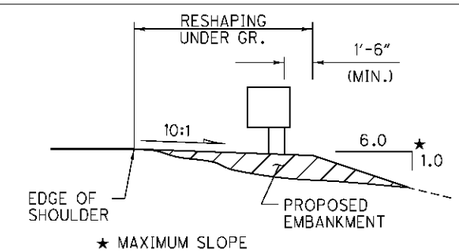
ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) AND CONCRETE BARRIER (TYPE B) PER CMS 626.
+: POUR ITEM 622 AT 12" AWAY FROM PIERS, TOWARD TRAFFIC
*: POUR ITEM 622 AT 8" AWAY FROM PIERS, TOWARD TRAFFIC
$: POUR ITEM 622 DIRECTLY AGAINST PIERS, TOWARD TRAFFIC

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"



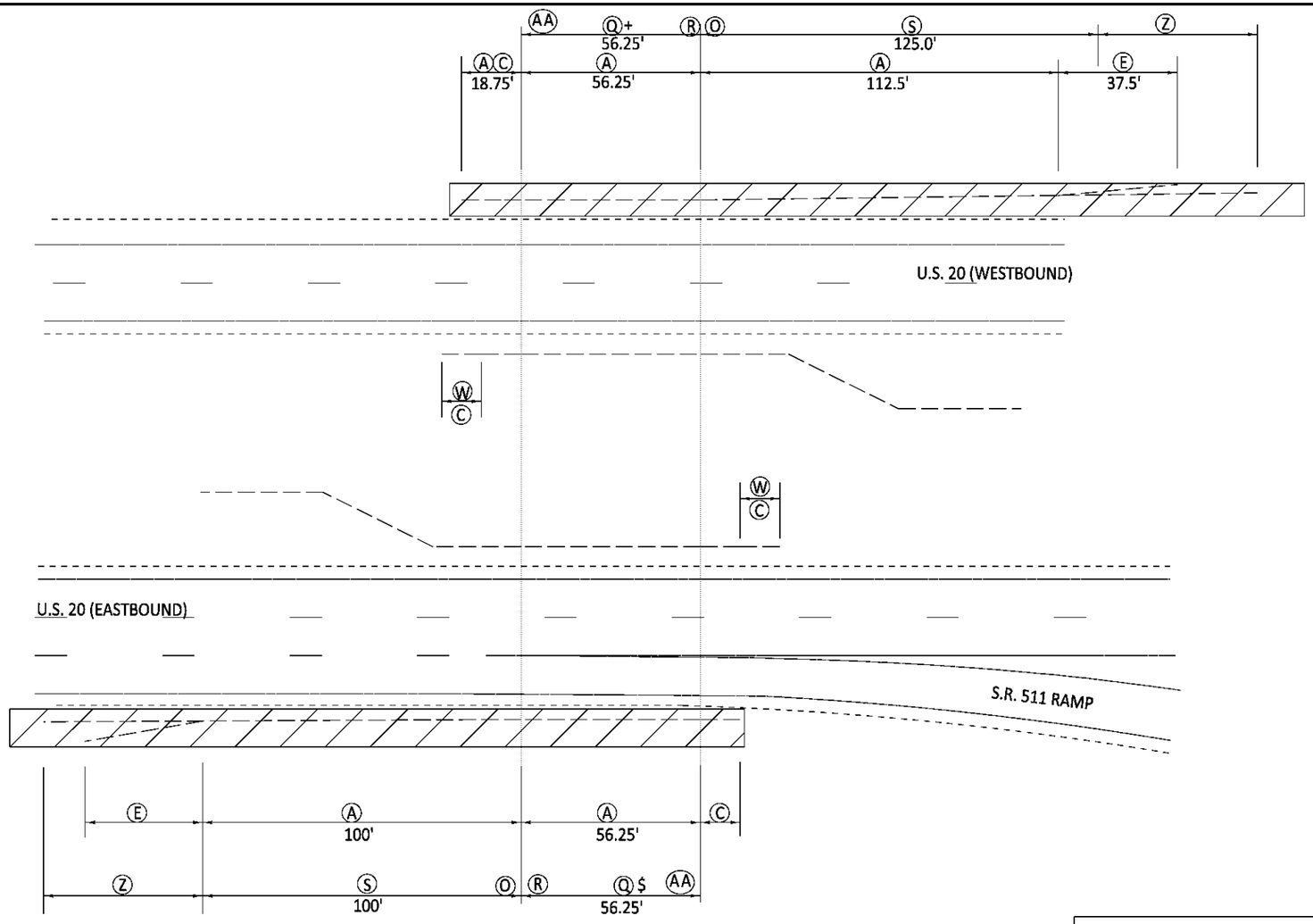
GUARDRAIL DETAILS FOR PIER PROTECTION
UNDER STRUCTURE LOR-20-0868 (PARSONS RD)

CALCULATED DCM
CHECKED ADB

LOR-20-8.56

25
68

DESIGN FILE:I:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATION:tyaryanh DATE:11/23/2011



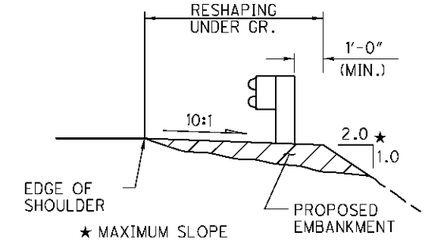
ITEM 203-EMBANKMENT, AS PER PLAN

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT	175.0	156.25	331.25
Ⓒ	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	2	2	4
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	1	2
Ⓞ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 1	EACH	1	1	2
Ⓠ	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	FT	27.25	27.25	54.5
Ⓡ	622	CONCRETE BARRIER END SECTION, TYPE D	EACH	1	1	2
Ⓐⓐ	622	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	EACH	1	1	2
Ⓢ	606	GUARDRAIL, TYPE 5	FT	125.0	100.0	225.0
Ⓦ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
Ⓩ	606	ANCHOR ASSEMBLY, TYPE E	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	2	2	4
	626	BARRIER REFLECTOR, TYPE B	EACH	2	2	4
	203	EMBANKMENT, AS PER PLAN	CU YD	12	10	22
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.06	.05	.11

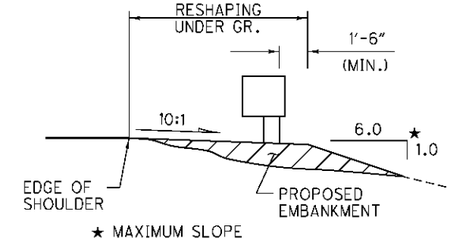
ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) AND CONCRETE BARRIER (TYPE B) PER CMS 626.
+: POUR ITEM 622 AT 12" AWAY FROM PIERS, TOWARD TRAFFIC
*: POUR ITEM 622 AT 8" AWAY FROM PIERS, TOWARD TRAFFIC
$: POUR ITEM 622 DIRECTLY AGAINST PIERS, TOWARD TRAFFIC

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"

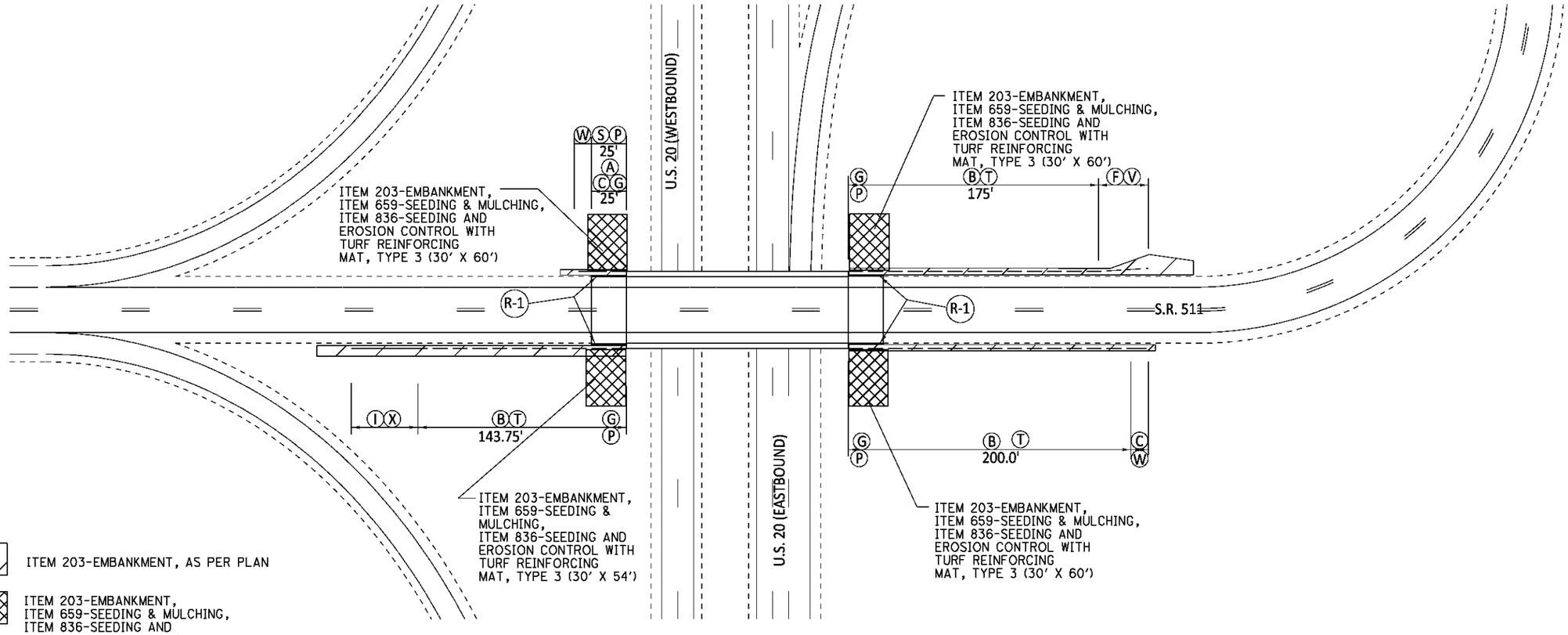


GUARDRAIL DETAILS FOR PIER PROTECTION UNDER STRUCTURE LOR-20-0973 (S.R. 511)

CALCULATED KCK
CHECKED ADB

LOR-20-8.56

DESIGN FILE=i:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATION=hyaryanh DATE:11/23/2011



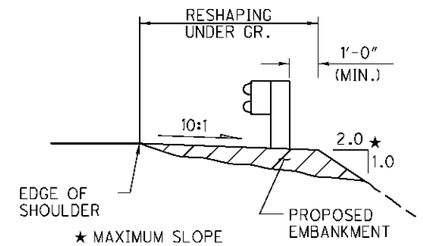
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				WEST	EAST	
Ⓐ	202	GUARDRAIL REMOVED	FT		12.5	12.5
Ⓑ	202	GUARDRAIL REMOVED FOR REUSE	FT	343.75	175.0	518.75
Ⓒ	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1	1	2
Ⓕ	202	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE B-98	EACH		1	1
Ⓖ	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	2	4
Ⓘ	202	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE E-98	EACH	1		1
Ⓟ	606	BRIDGE TERMINAL ASSEMBLY, TYPE BR-1	EACH	2	2	4
Ⓢ	606	GUARDRAIL , TYPE 5	FT		25	25
Ⓣ	606	GUARDRAIL REBUILT, TYPE 5	FT	343.75	175.0	518.75
Ⓥ	606	ANCHOR ASSEMBLY REBUILT, TYPE B-98	EACH		1	1
Ⓧ	606	ANCHOR ASSEMBLY REBUILT, TYPE E-98	EACH	1		1
Ⓦ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	6	4	10
	626	BARRIER REFLECTOR, TYPE B	EACH	4	4	8
R-1	202	CURB REMOVED	FT	50	50	100
	203	EMBANKMENT	CU YD	10	10	20
	203	EMBANKMENT, AS PER PLAN	CU YD	10	15	25
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.09	.06	.15
	659	SEEDING AND MULCHING	SQ YD	380	400	780
	836	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3	SQ YD	380	400	780

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

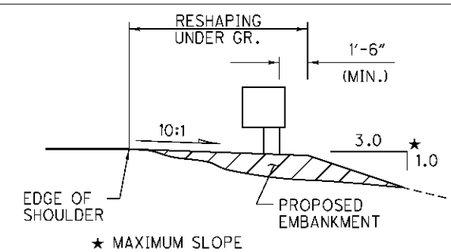
NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) AND CONCRETE BARRIER (TYPE B) PER CMS 626.

ITEM 202-CURB REMOVED, THE CURB SHALL BE REMOVED EVEN WITH THE TOP OF THE APPROACH SLAB

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"



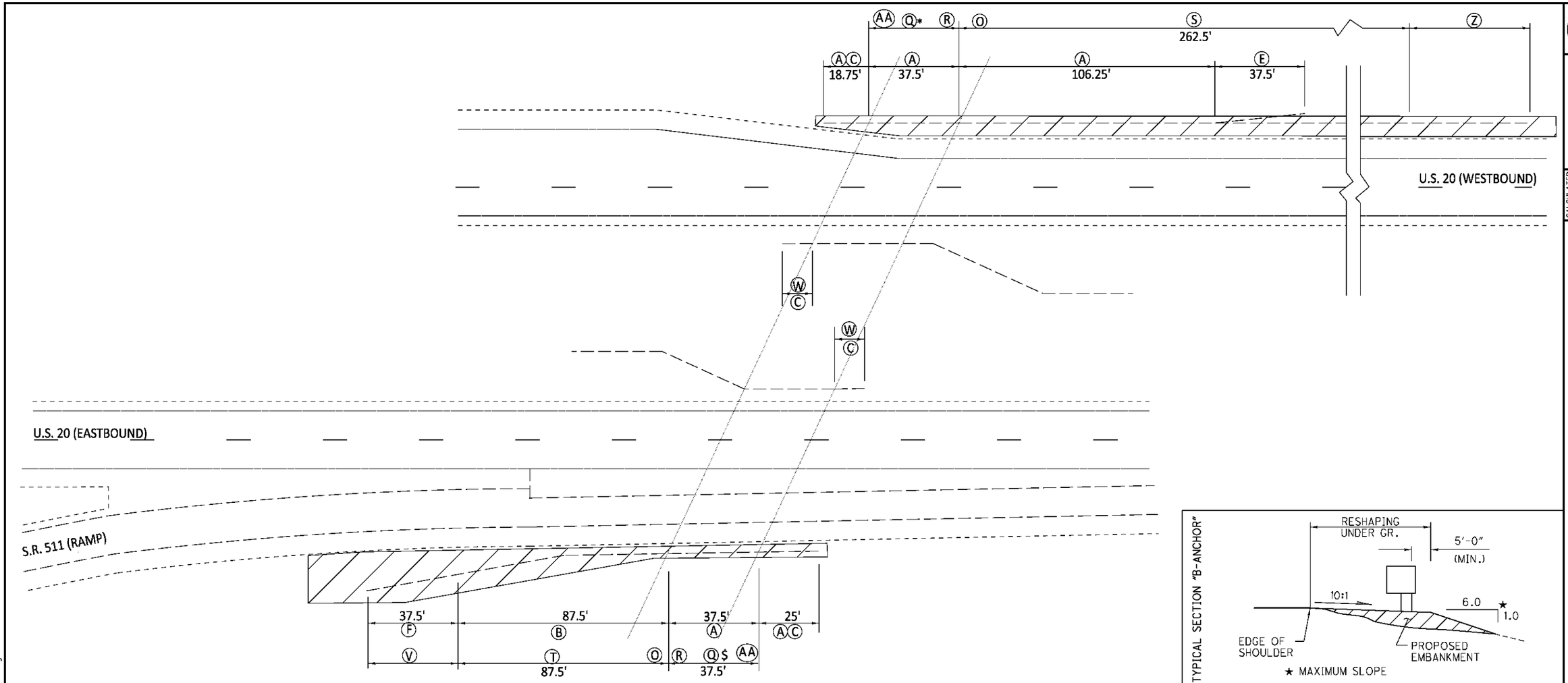
GUARDRAIL DETAILS
S.R. 511 OVER US 20 (STRUCTURE LOR-20-0973)

CALCULATED KCK
CHECKED ADB

LOR-20-8.56

27
68

DESIGN FILE:i:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATIONhyaryanh DATE:11/23/2011



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT	150.0	50.0	200.0
Ⓑ	202	GUARDRAIL REMOVED FOR REUSE	FT		87.5	87.5
Ⓒ	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	2	2	4
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1		1
Ⓕ	202	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE B-98	EACH		1	1
Ⓞ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 1	EACH	1	1	2
Ⓠ	622	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	FT	8.5	8.5	17.0
Ⓡ	622	CONCRETE BARRIER END SECTION, TYPE D	EACH	1	1	2
Ⓐⓐ	622	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	EACH	1	1	2
Ⓢ	606	GUARDRAIL, TYPE 5	FT	262.5		262.5
Ⓣ	606	GUARDRAIL REBUILT, TYPE 5	FT		87.5	87.5
Ⓥ	606	ANCHOR ASSEMBLY REBUILT, TYPE B-98	EACH		1	1
Ⓦ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
Ⓩ	606	ANCHOR ASSEMBLY, TYPE E	EACH	1		1
	626	BARRIER REFLECTOR, TYPE A	EACH	3	2	5
	626	BARRIER REFLECTOR, TYPE B	EACH	2	2	4
	203	EMBANKMENT, AS PER PLAN	CU YD	20	12	32
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.08	.04	.12

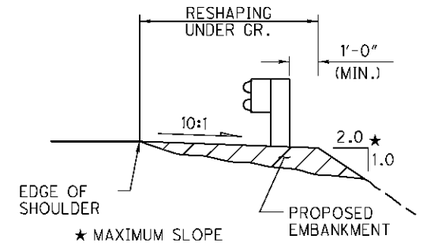
ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

ITEM 203-EMBANKMENT, AS PER PLAN

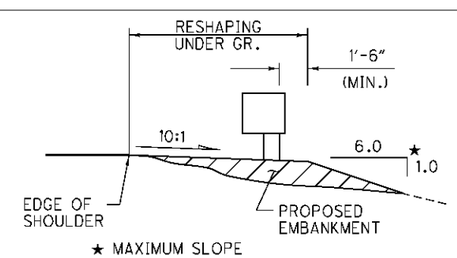
NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) AND CONCRETE BARRIER (TYPE B) PER CMS 626.
+: POUR ITEM 622 AT 12" AWAY FROM PIERS, TOWARD TRAFFIC
*: POUR ITEM 622 AT 8" AWAY FROM PIERS, TOWARD TRAFFIC
$: POUR ITEM 622 DIRECTLY AGAINST PIERS, TOWARD TRAFFIC

TYPICAL SECTION "B-ANCHOR"

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"



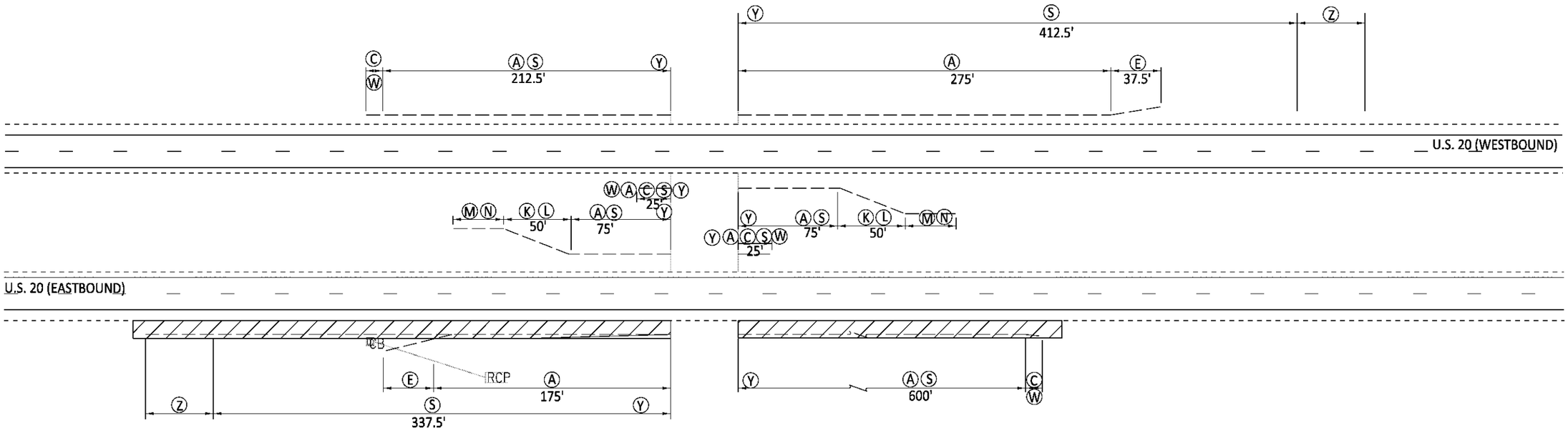
GUARDRAIL DETAILS FOR PIER PROTECTION UNDER STRUCTURE LOR-20-0098 (HALE ROAD)

CALCULATED KCK
CHECKED ADB

LOR-20-8.56

28
68

DESIGN FILE:I:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATIONhyaryanh DATE:11/23/2011



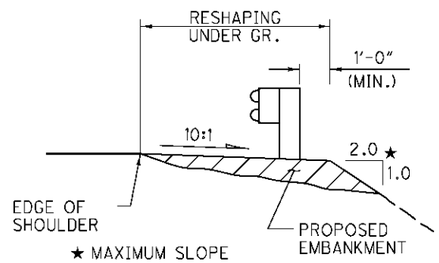
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT	575	862.5	1437.5
Ⓒ	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	2	2	4
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	1	2
Ⓚ	202	GUARDRAIL REMOVED, BARRIER DESIGN	FT	50.0	50.0	100.0
Ⓛ	606	GUARDRAIL, BARRIER DESIGN, TYPE 5	FT	50.0	50.0	100.0
Ⓜ	202	REMOVAL MISC.: IMPACT ATTENUATOR	EACH	1	1	2
Ⓝ	606	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	EACH	1	1	2
Ⓢ	606	GUARDRAIL, TYPE 5	FT	712.5	1025.0	1737.5
Ⓦ	606	ANCHOR ASSEMBLY, TYPE T	EACH	2	2	4
Ⓨ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	4	4	8
Ⓩ	606	ANCHOR ASSEMBLY, TYPE E	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	12	15	27
	203	EMBANKMENT, AS PER PLAN	CU YD	12	15	27
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.16	.22	.38

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

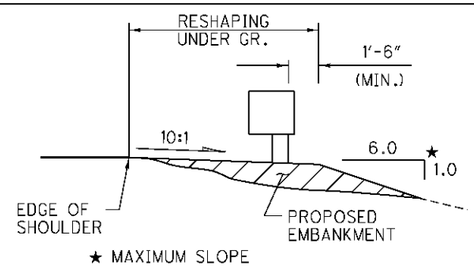
ITEM 203-EMBANKMENT, AS PER PLAN

NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) PER CMS 626.

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"

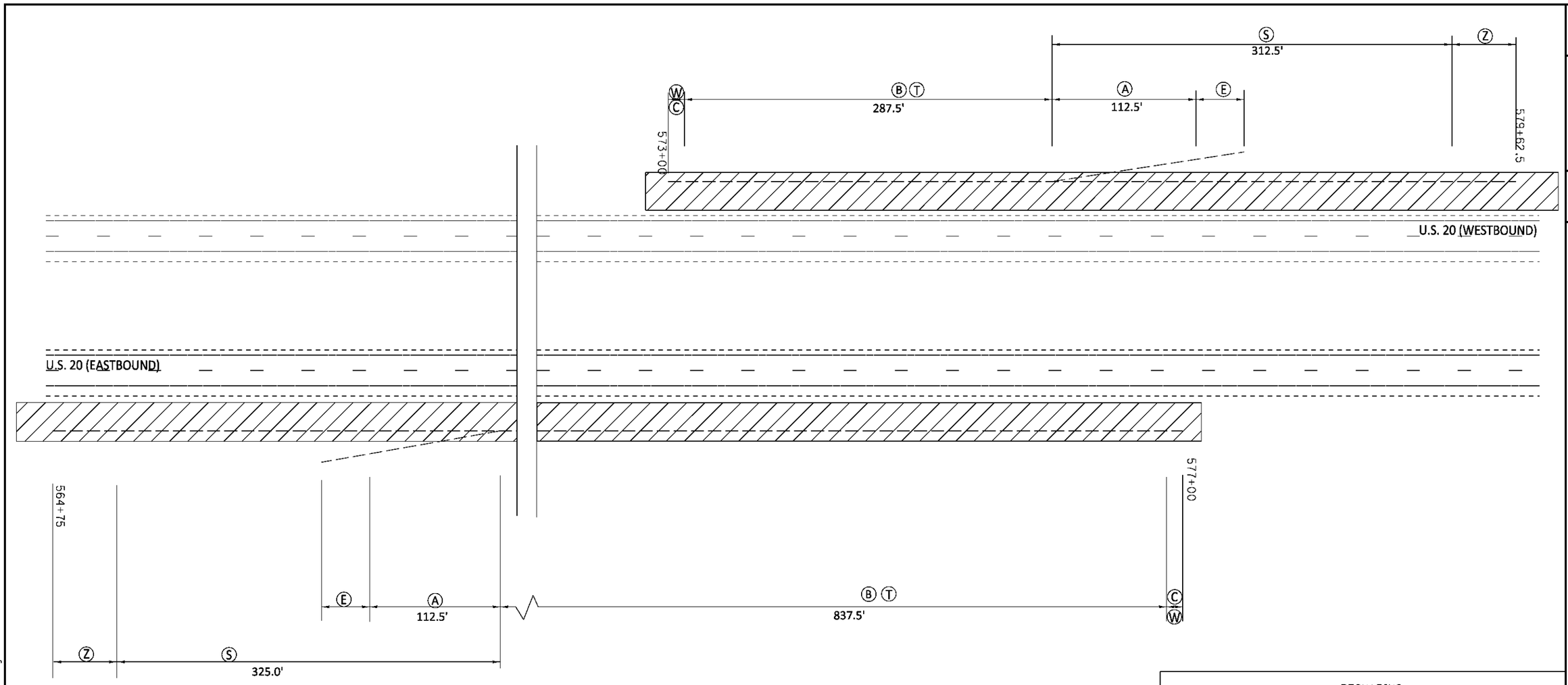


CALCULATED KCK
CHECKED ADB

GUARDRAIL DETAILS
STRUCTURE LOR-20-1056

LOR-20-8.56

DESIGN FILE=i:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATION=yaryanh DATE:11/23/2011



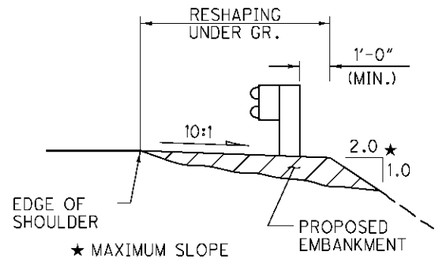
LOCATION	ITEM	DESCRIPTION	UNIT	QUANITY		TOTAL
				LEFT	RIGHT	
A	202	GUARDRAIL REMOVED	FT	112.5	112.5	225.0
B	202	GUARDRAIL REMOVED FOR REUSE	FT	287.5	837.5	1125.0
C	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1	1	2
E	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	1	2
S	606	GUARDRAIL, TYPE 5	FT	312.5	325.0	637.5
T	606	GUARDRAIL REBUILT, TYPE 5	FT	287.5	837.5	1125.0
W	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
Z	606	ANCHOR ASSEMBLY, TYPE E	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	8	13	21
	203	EMBANKMENT, AS PER PLAN	CU YD	22	30	52
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.14	.24	.38

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

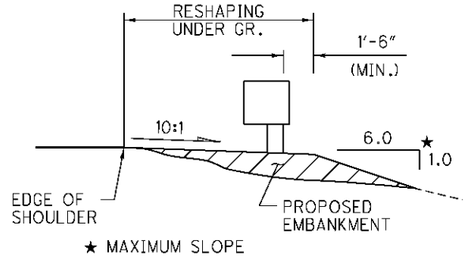
ITEM 203-EMBANKMENT, AS PER PLAN

NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) PER CMS 626.

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"



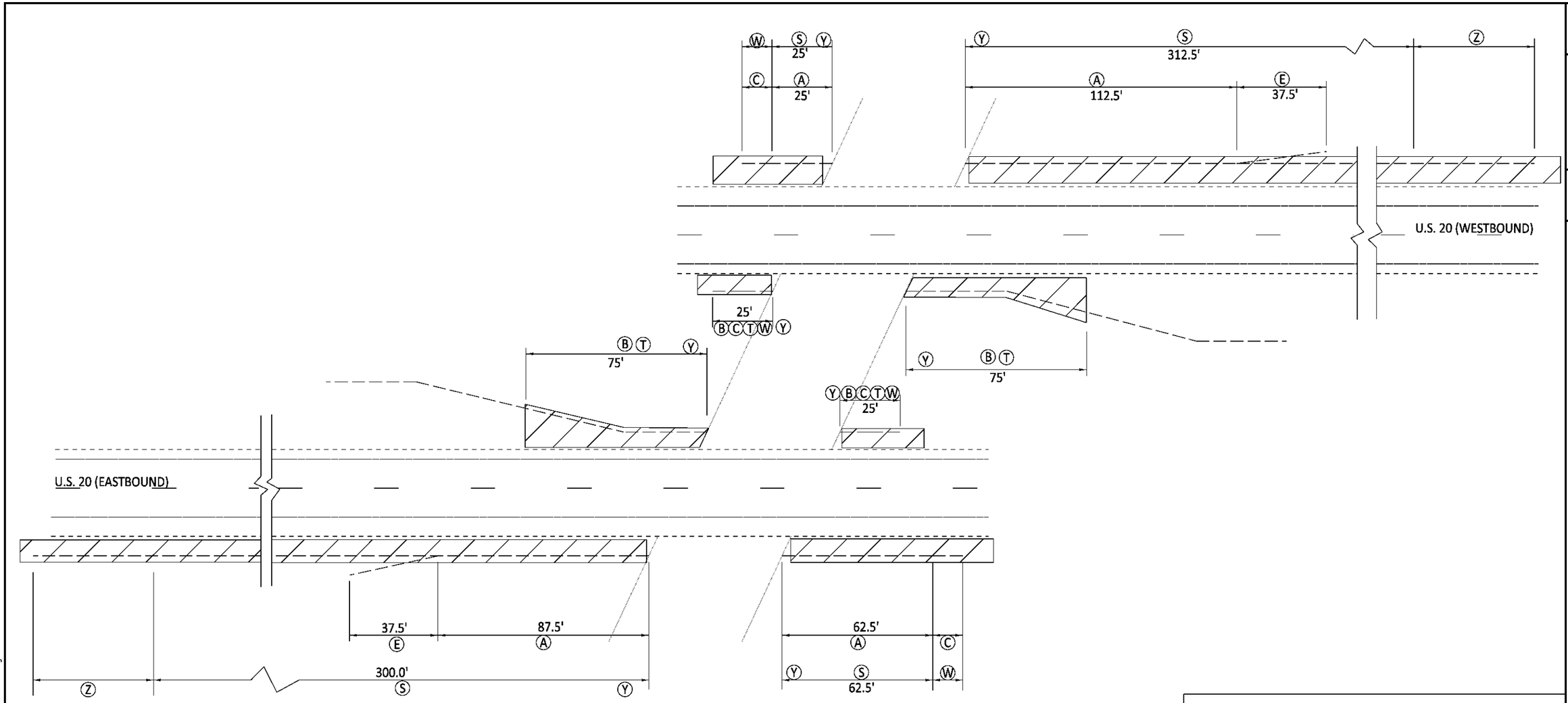
GUARDRAIL DETAILS
STATION 564+75 TO STATION 579+62.5

LOR-20-8.56

30
68

CALCULATED DCM
CHECKED ADB

DESIGN FILE:i:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATION:hyaryanh DATE:11/23/2011



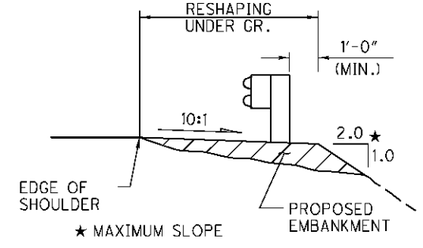
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
A	202	GUARDRAIL REMOVED	FT	137.5	150.0	287.5
B	202	GUARDRAIL REMOVED FOR REUSE	FT	87.5	87.5	175.0
C	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	2	2	4
E	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	1	2
S	606	GUARDRAIL, TYPE 5	FT	337.5	362.5	700.0
T	606	GUARDRAIL REBUILT, TYPE 5	FT	87.5	87.5	175.0
W	606	ANCHOR ASSEMBLY, TYPE T	EACH	2	2	4
Y	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	4	4	8
Z	606	ANCHOR ASSEMBLY, TYPE E	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	10	10	20
	203	EMBANKMENT, AS PER PLAN	CU YD	20	23	43
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.10	.11	.21

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

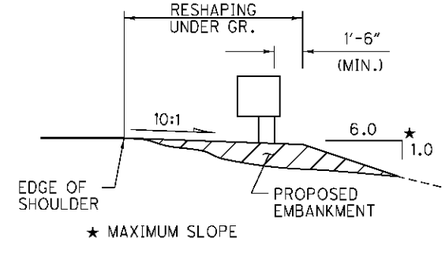
ITEM 203-EMBANKMENT, AS PER PLAN

NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) PER CMS 626.

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"



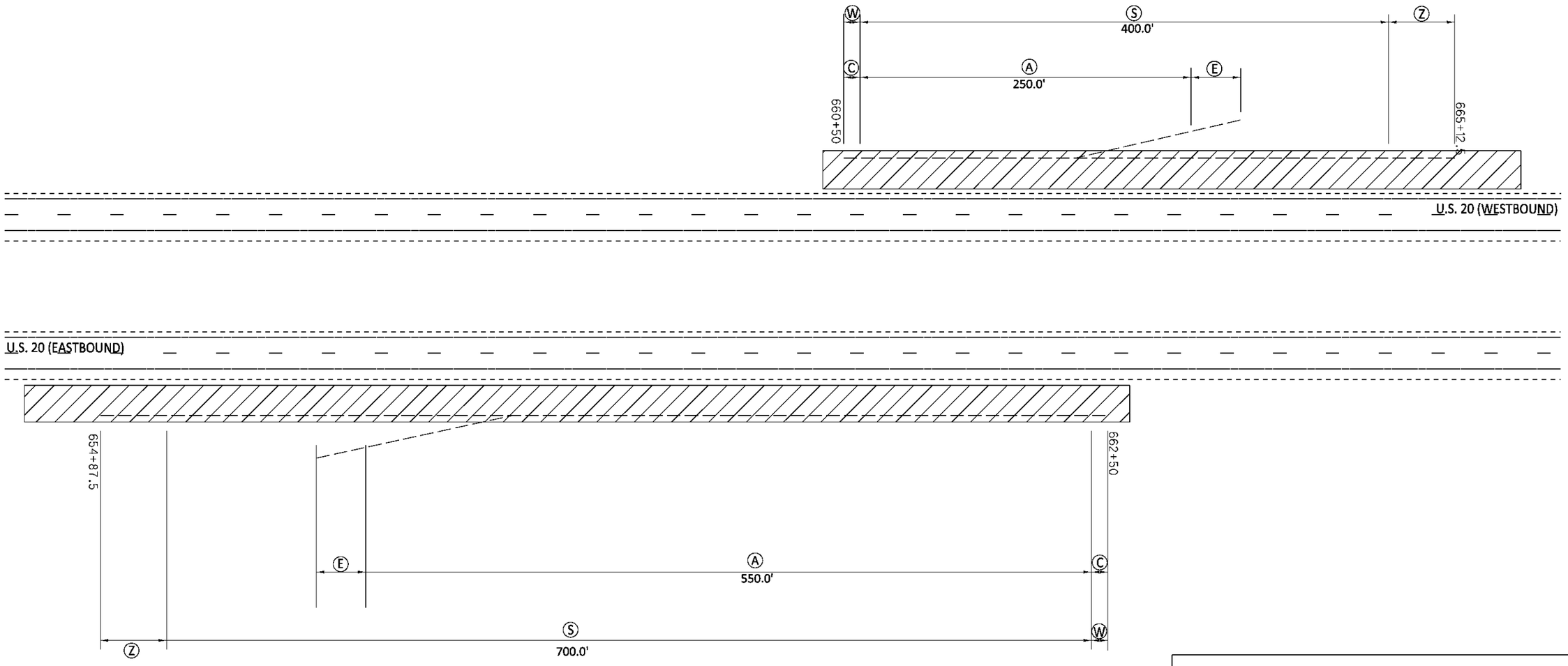
DESIGN FILE: i:\projects\23809\Roadway\Sheets\23809GR001.dgn MODEL NAME: Design
WORKSTATION: hyaryanh DATE: 11/23/2011

CALCULATED DCM CHECKED ADB

GUARDRAIL DETAILS
STRUCTURE LOR-20-1208

LOR-20-8.56

RAIL SHOWN WITH AN EXAGGERATED OFFSET FROM ROADWAY.



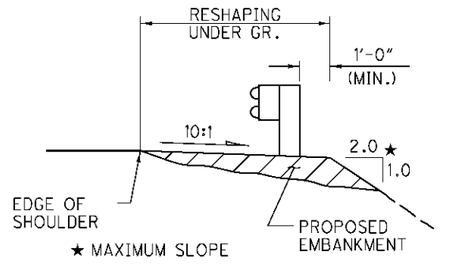
LOCATION	ITEM	DESCRIPTION	UNIT	QUANITY		TOTAL
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT	250.0	550.0	800.0
Ⓒ	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1	1	2
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE B	EACH	1	1	2
Ⓢ	606	GUARDRAIL, TYPE 5	FT	400.0	700.0	1100.0
Ⓦ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2
Ⓩ	606	ANCHOR ASSEMBLY, TYPE E	EACH	1	1	2
	626	BARRIER REFLECTOR, TYPE A	EACH	6	9	15
	203	EMBANKMENT, AS PER PLAN	CU YD	13	20	33
	209	RESHAPING UNDER GUARDRAIL, AS PER PLAN	MILE	.10	.16	.26

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

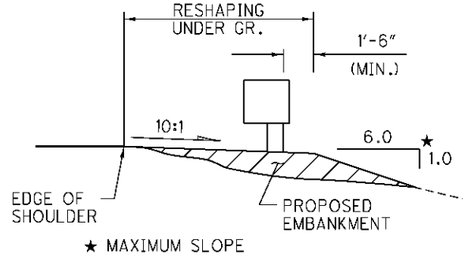
ITEM 203-EMBANKMENT, AS PER PLAN

NOTES:
ITEM 626 BARRIER REFLECTOR IS TO BE INSTALLED ON ALL RAIL (TYPE A) PER CMS 626.

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"



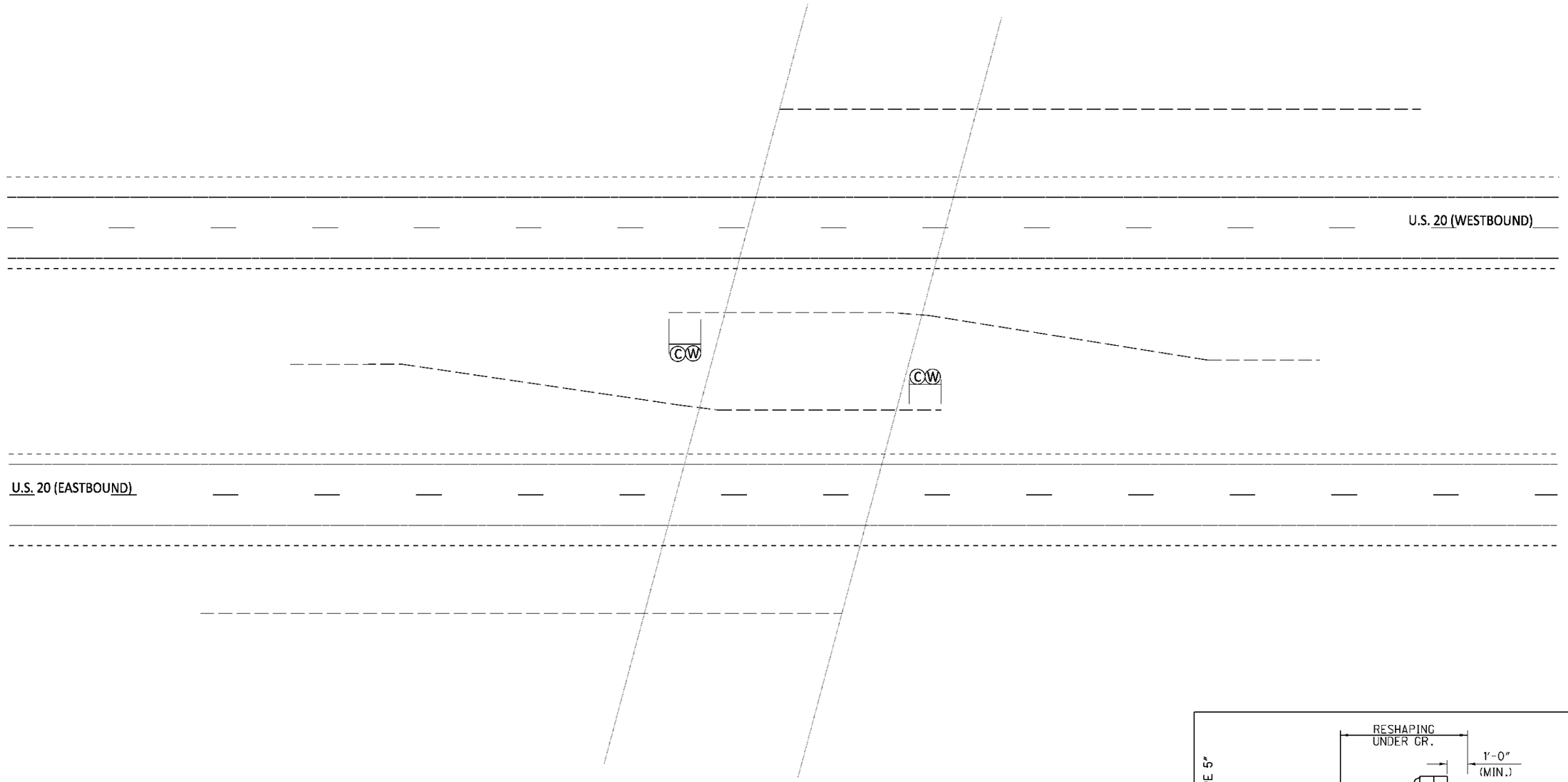
GUARDRAIL DETAILS
STATION 654+87.5 TO STATION 665+12.5

CALCULATED DCM
CHECKED ADB

LOR-20-8.56

32
68

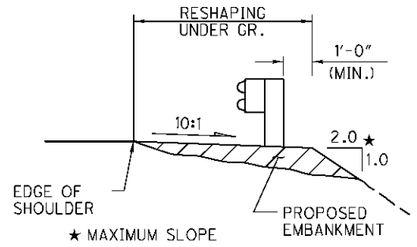
DESIGN FILE:i:\projects\23809\Roadway\Sheets\23809GR001.dgn MODELNAME: Design
WORKSTATION:hyaryanh DATE:11/23/2011



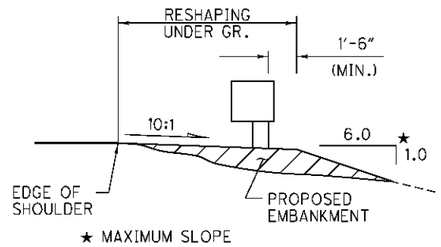
LOCATION	ITEM	DESCRIPTION	UNIT	QUANITY		TOTAL
				LEFT	RIGHT	
Ⓒ	202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1	1	2
Ⓦ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1	1	2

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY SHEET, SHEET 24.

TYPICAL SECTION "TYPE 5"



TYPICAL SECTION "E-ANCHOR"

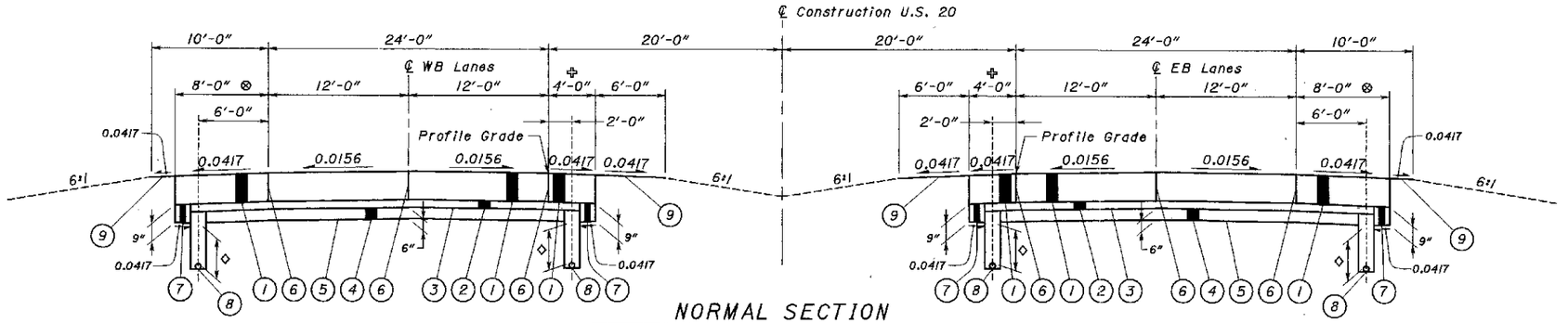


GUARDRAIL DETAILS FOR PIER PROTECTION UNDER STRUCTURE LOR-20-1303 (S.R. 301)

CALCULATED DCM
CHECKED ADB

LOR-20-8.56

DESIGN FILE=i:\projects\23809\Roadway\Sheets\23809GR001.dgn
WORKSTATION=hyaryanh
DATE:11/23/2011
MODELNAME: Design



NORMAL SECTION

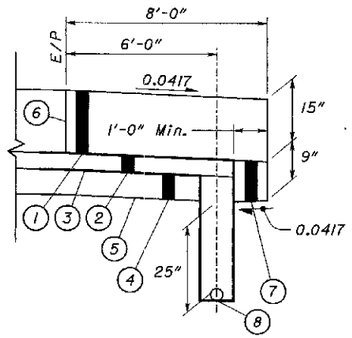
APPLIES @
STA. 648+60 TO STA. 650+28 = 168.00 LIN. FT.
STA. 650+53 TO STA. 652+21 = 168.00 LIN. FT.
TOTAL = 336.00 LIN. FT.

EXISTING LEGEND

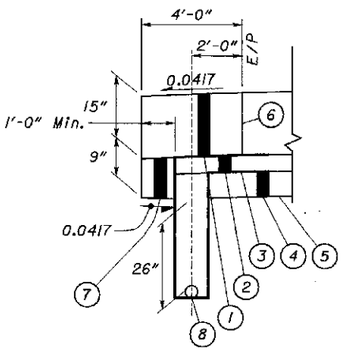
(1) Item 451 15" Reinforced Concrete Pavement, As Per Plan
(2) Item Special 4" Non-Stabilized Draining Base Type 'NJ' or Type 'IA'
(3) Item 408 Bituminous Prime Coat, Applied at a Rate of 0.40 Gal/S.Y.
(4) Item 304 6" Aggregate Base (See Proposal Note)
(5) Item 203 Subgrade Compaction
(6) Standard Longitudinal Joint
(7) Item 304 9" Aggregate Base (See Proposal Note)
(8) Item 605 6" Shallow Pipe Underdrain, 707.15, With Fabric Wrap, As Per Plan (*)
(9) Item 203 Linear Grading

NOTES

* Depth of Underdrain Remains Constant Below Pavement Surface.
◇ Depth of Underdrain : Inside Shoulder = 26"
Outside Shoulder = 25"



⊗ OUTSIDE SHOULDER
STA. 648+60 TO STA. 650+28
STA. 650+53 TO STA. 652+21

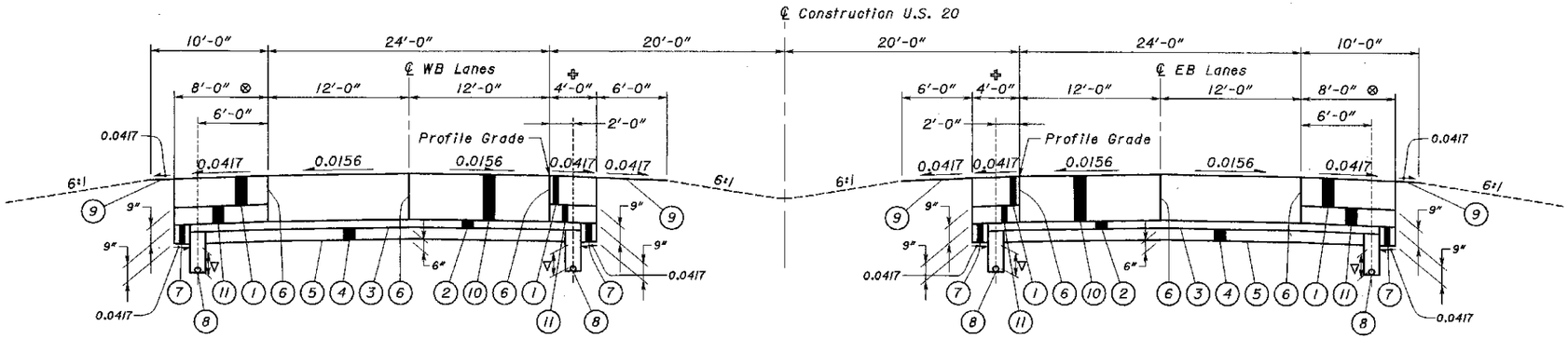


✣ INSIDE SHOULDER
STA. 648+60 TO STA. 650+28
STA. 650+53 TO STA. 652+21

WEIGH-IN-MOTION EXISTING TYPICAL SECTIONS

LOR-20-8.56

DESIGN FILE:H:\projects\23809\Roadway\Sheets\23809GM001.dgn MODELNAME: Sheet
WORKSTATIONhyaryanh DATE:11/23/2011



NORMAL SECTION

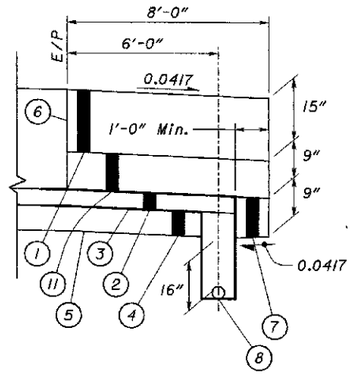
APPLIES @
STA. 650+28 TO STA. 650+53 - 25.00 LIN. FT.
TOTAL - 25.00 LIN. FT.

EXISTING LEGEND

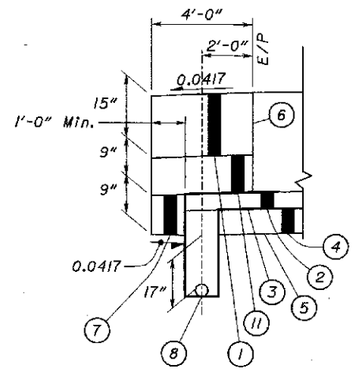
① Item 451 15" Reinforced Concrete Pavement, As Per Plan
② Item Special 4" Non-Stabilized Draining Base Type 'NJ' or Type '1A'
③ Item 408 Bituminous Prime Coat, Applied at a Rate of 0.40 Gal/S.Y.
④ Item 304 6" Aggregate Base (See Proposal Note)
⑤ Item 203 Subgrade Compaction
⑥ Standard Longitudinal Joint
⑦ Item 304 9" Aggregate Base (See Proposal Note)
⑧ Item 605 6" Shallow Pipe Underdrain, 707.15, With Fabric Wrap, As Per Plan (*)
⑨ Item 203 Linear Grading
⑩ Item 451 24" Reinforced Concrete Pavement, As Per Plan ⊕
⑪ Item 301 9" Bituminous Aggregate Base AC-20

NOTES

* Depth of Underdrain Remains Constant Below Pavement Surface.
▽ Depth of Underdrain : Inside Shoulder - 17"
Outside Shoulder - 16"



⊗ OUTSIDE SHOULDER
STA. 650+28 TO STA. 650+53



⊕ INSIDE SHOULDER
STA. 650+28 TO STA. 650+53

WEIGH-IN-MOTION EXISTING TYPICAL SECTIONS

LOR-20-8.56

35
68

DESIGN FILE=I:\projects\23809\Roadway\Sheets\23809GW001.dgn MODELNAME: Sheet
WORKSTATION=yaryann DATE:11/23/2011

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (A)

THIS PAY ITEM IS TO BE USED TO REMOVE THE WEIGH IN MOTION PLATE AND FRAME WHICH ARE EMBEDDED 10" WITHIN THE 24" DEPTH REINFORCED CONCRETE PAVEMENT IN BOTH THE EASTBOUND AND WESTBOUND DRIVING LANES, AS SHOWN ON THIS SHEET. THE 24" REINFORCED CONCRETE PAVEMENT IN THE DRIVING LANES SHALL BE CUT THE WIDTH OF THE DRIVING LANE (12 FT WIDE), A LENGTH OF 8 FT, AND A DEPTH OF 24" IN ORDER TO BE ABLE TO REMOVE THE WEIGH IN MOTION PLATES. THE PLATES, FRAMES, AND ALL ASSOCIATED HARDWARE WITH THE WEIGH IN MOTION WITHIN THE DRIVING LANE SHALL BE DISPOSED OF BY THE CONTRACTOR. THE DRAINAGE CONDUIT FROM THE WEIGH IN MOTION WILL BE CUT ALONG THE INTERFACE OF THE OUTSIDE SHOULDER AND THE DRIVING LANE DURING CONCRETE REMOVAL AND WILL NEED PLUGGED PRIOR TO CONCRETE PLACEMENT.

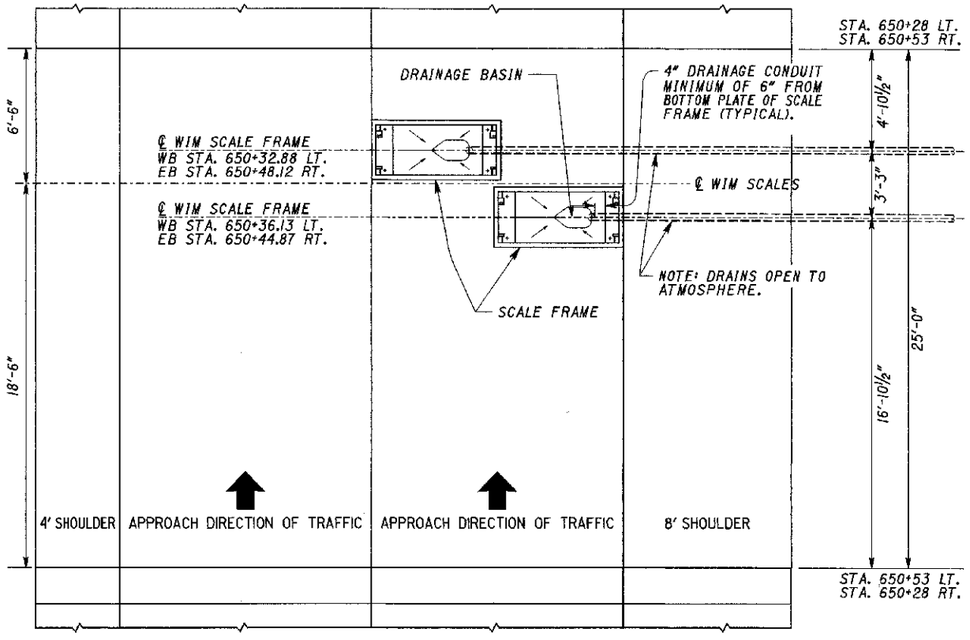
WEIGH IN MOTION PLAN DETAILS AND SHOP DRAWINGS ARE AVAILABLE AT THE DISTRICT 3 OFFICE UPON REQUEST BY THE CONTRACTOR.

A SEPERATE CONTRACTOR WILL REMOVE THE PULL BOXES, CONTROLLER BOX, AND CONTROLLER BOX FOUNDATION PRIOR TO THE START OF THIS PROJECT. CLASSIFICATION LOOPS AND PIEZO TUBES IN THE PAVEMENT WILL REMAIN IN PLACE. CONTRACTOR SHALL PAVE OVER THE LOOPS AND TUBES.

ALL WORK, MATERIALS AND LABOR NEEDED TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE PAID FOR PER SQ YD AS ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (A). THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

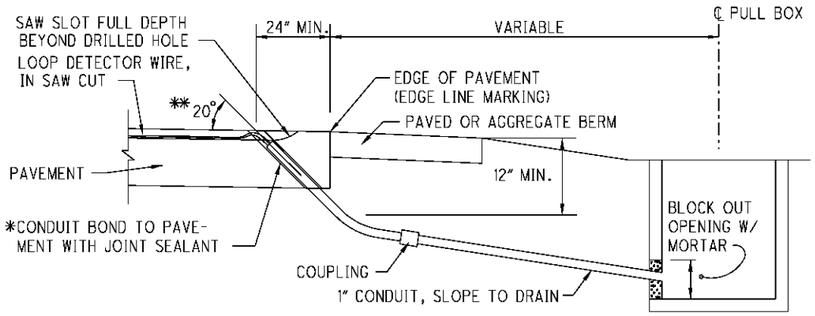
ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN (A) 22 SQ YD

(8 FT LONG x 12 FT WIDE X 2 LOCATIONS / 9 = 22 SQ YD)

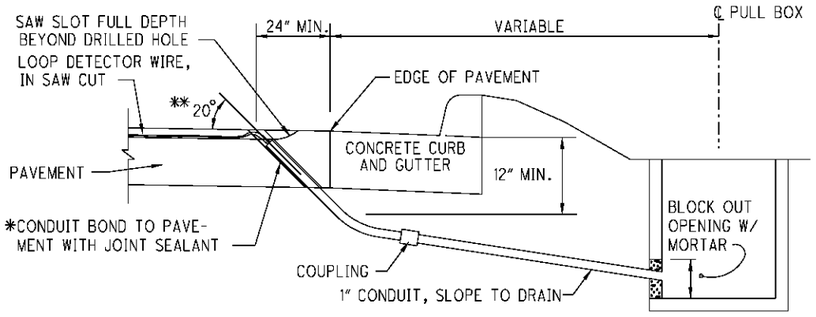


PLAN VIEW

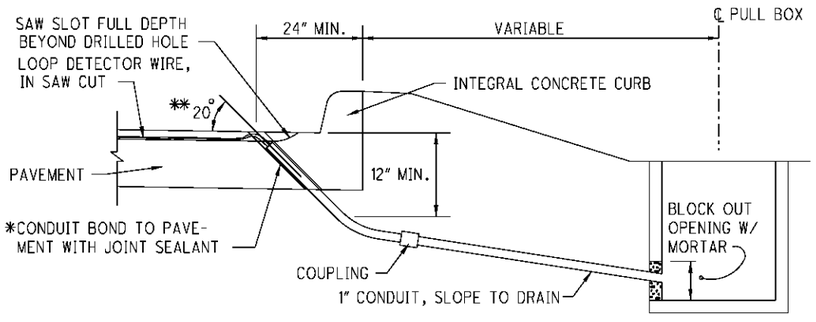
DESIGN FILE=I:\projects\23809\Roadway\Sheets\23809GW001.dgn MODELNAME: Sheet
WORKSTATION=yaryann DATE:11/23/2011



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER

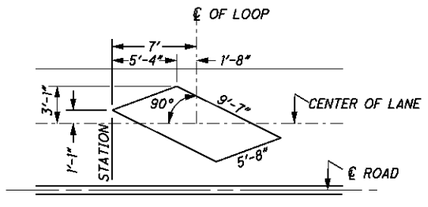


DRILLED HOLE LOCATION DETAIL WITH INTEGRAL CONCRETE CURB

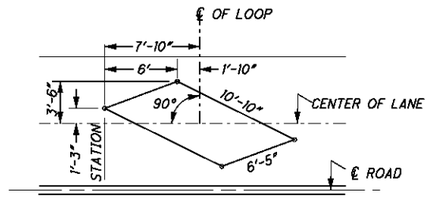
* CONDUIT SHALL BE 1" DIAMETER 725.04.

** THE RANGE OF THIS ANGLE SHALL BE FROM 15 TO 30 DEGREES.

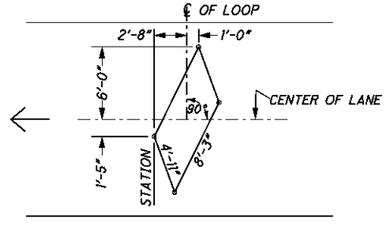
NOTE: SEE STANDARD DRAWING TC-82.10 FOR ADDITIONAL NOTES AND DETAILS



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL FOR LANE WIDTH LESS THAN 11'



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



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL FOR TYPICAL 16' WIDE RAMP

ITEM 632- DETECTOR LOOP, AS PER PLAN, IN RESURFACED AREAS

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

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

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

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

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

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

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

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

SEE DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

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

ITEM 632- LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632, 732.07, PART A, NEMA TS-1, AND 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

1) *THE OUTPUT DEVICE SHALL BE AN ELECTROMECHANICAL RELAY AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRING HARNESS.*
2) *THE UNIT SHALL BE SELF TUNING.*
3) *THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH SINGLE CHANNEL AMPLIFIERS AS DESCRIBED IN CMS 732.07.*

IN ADDITION TO THE REQUIREMENTS LISTED ABOVE, THE DETECTOR UNIT SHALL BE A SINGLE CHANNEL UNIT AND HAVE EASILY ADJUSTABLE TIMERS INCORPORATED IN THE UNIT THAT ARE CAPABLE OF BOTH EXTEND CALL AND DELAY CALL OUTPUTS. THESE ADJUSTMENTS SHALL BE SEPARATE AND CONTROLLABLE BY CALIBRATED SWITCHES OR KNOBS ON THE OUTSIDE OF THE DETECTOR UNIT. THE EXTEND CALL TIMER SHALL BE CAPABLE OF HOLDING THE CALL OF A VEHICLE FOR A PERIOD OF TIME BEGINNING AT THE INSTANT THE VEHICLE LEAVES THE DETECTION AREA. THE DELAY CALL TIMER SHALL BE SUCH THAT IT DOES NOT ISSUE AN OUTPUT UNTIL THE DETECTION ZONE HAS BEEN OCCUPIED FOR A PERIOD OF TIME THAT HAS BEEN SET ON THE ADJUSTABLE TIMER. WHEN TIMES ARE SET ON BOTH THE DELAY AND EXTEND TIMERS, THE UNIT SHALL BE DESIGNED TO INHIBIT THE EXTEND FUNCTION UNTIL THE DELAY TIME HAS BEEN MET. WHEN THE LOOP BECOMES UNOCCUPIED, THE DELAY OUTPUT IS REMOVED. WHEN THE VEHICLE GAP EXCEEDS THE EXTEND TIME, THE ENTIRE DELAY-EXTEND OPERATION BECOMES EFFECTIVELY RESET FOR THE NEXT CYCLE - DELAY TO TIME OUT, ETC.

WORK SHALL INCLUDE ALL CONTROLLER / CABINET MODICATIONS AND CONNECTIONS NEEDED TO INSTALL THE LOOP DETECTOR UNIT AND TO MAKE IT FULLY OPERATIONAL.

PAYMENT FOR ITEM 632 - LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS.

ITEM 625- TRENCH, AS PER PLAN

THIS WORK SHALL CONSIST OF EXCAVATING THE TRENCH TO A DEPTH OF THIRTY INCHES (30"), BACKFILLING, AND RESTORING THE AREA. IDENTIFYING TAPE SHALL BE USED TO IDENTIFY WHERE UNDERGROUND CABLE HAS BEEN INSTALLED. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL MEASURING APPROXIMATELY SIX INCHES (6") IN WIDTH. THE TAPE SHALL BE COMPOSED OF A POLYETHYLENE PLASTIC HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER COMPOUNDS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERS REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. THE TAPE SHALL BE ALLEN SYSTEMS, TERRA TAPE, TECTA TAPE, OR EQUAL APPROVED BY THE ENGINEER. THIS TAPE SHALL BE BURIED IN THE ELECTRIC LINE TRENCH WITH ONE STRIP PLACED NO LESS THAN TWO INCHES (2") OR MORE THAN TWELVE INCHES (12") BELOW THE FINAL FINISHED GRADE OF THE TRENCH. THE TAPE SHALL BE PLACED WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINAL GRADE.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT.

ITEM 625- PULL BOX, 725.08, 18", AS PER PLAN

THIS ITEM SHALL BE PER CMS 625.11 & 725.08 AND SCD HL-30.11 WITH THE FOLLOWING EXCEPTIONS: COVER SCREWS SHALL BE 1/4" STAINLESS STEEL MACHINE SCREWS WITH COUNTERSUNK SLOTTED HEADS. EACH SCREW SHALL FASTEN TO THE PULL BOX BY USE OF A THREADED METAL CLIP (U-NUT CAGE STYLE). MULTI-THREAD CLIPS WITH INTEGRAL NUT SHALL NOT BE USED. THE METAL CLIP SHALL BE CORROSION RESISTANT AND BE LUBRICATED PRIOR TO FASTENING. THREADED INSERTS EMBEDDED IN CONCRETE SHALL NOT BE PERMITTED.

PAYMENT WILL BE MADE AT CONTRACT UNIT PRICE PER EACH.

REVISED 10-3-11

DETECTOR LOOP INSTALLATION DETAILS AND TRAFFIC SIGNAL GENERAL NOTES

LOR-20-8.58

DESIGN FILE=I:\projects\23809\Signal Detector Loop Replacements\Loop Detector Notes & Details for Resurfacing Projects.dgn
MODELNAME: Default
WORKSTATION=hyoryanh DATE:11/23/2011

DETECTOR LOOP REPLACEMENT QUANTITIES

ITEM	EXT.	QTY.	UNIT	DESCRIPTION
632	26501	8	EACH	DETECTOR LOOP, AS PER PLAN
632	27009	2	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN
632	65300	72	FT	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG

WORK DESCRIPTION

1) REPLACE DETECTOR LOOPS AS SHOWN. SEE SHEET NO. __ FOR DETAILS.
2) INSTALL 2-2/C LEAD-IN CABLE FROM CONTROLLER TO PULL BOX PB-5 FOR LOOPS L-4A AND L-4B.
3) INSTALL 2 LOOP DETECTOR UNITS FOR LOOPS L-4A AND L-4B.

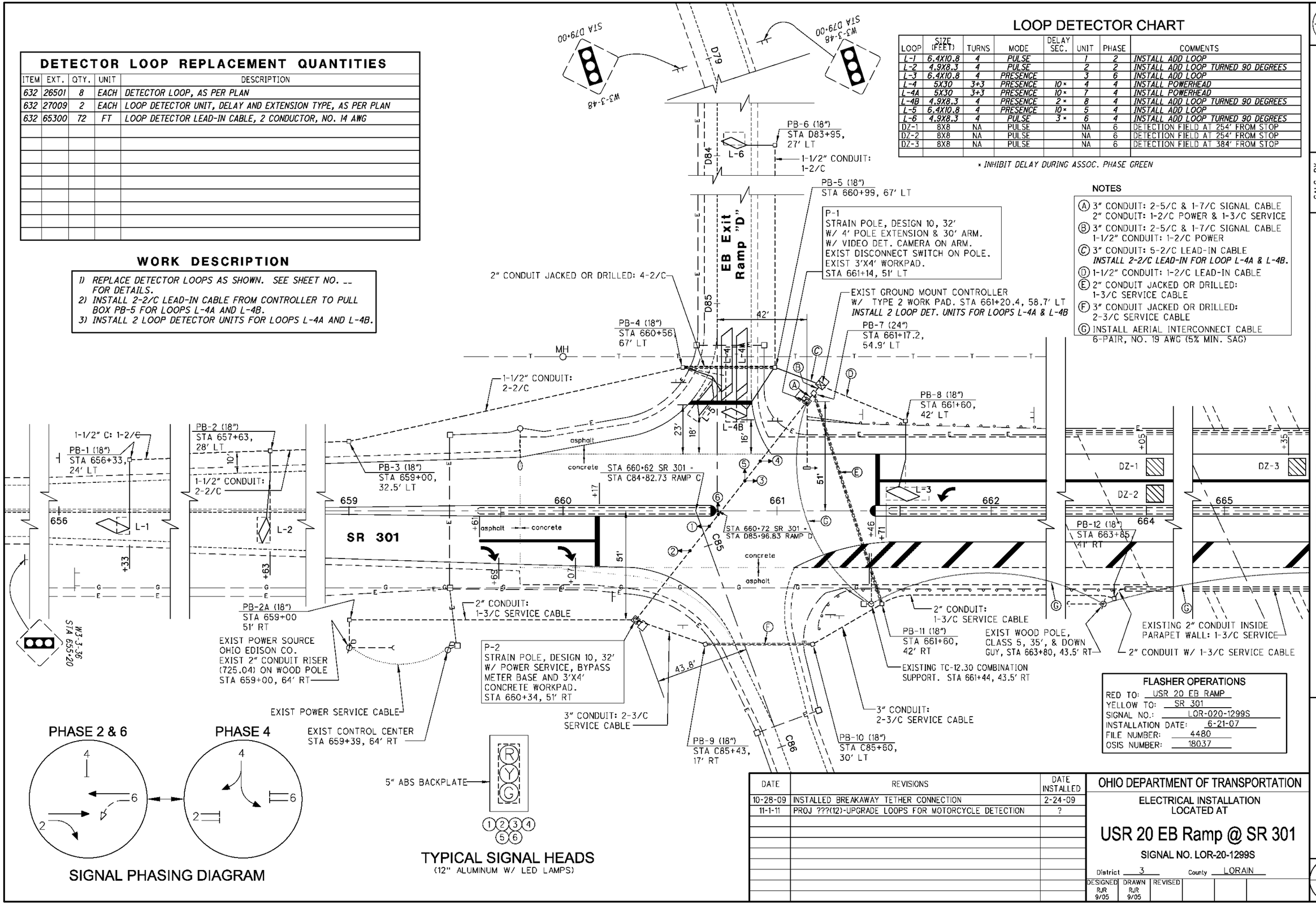
LOOP DETECTOR CHART

LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	PHASE	COMMENTS
L-1	6.4X10.8	4	PULSE		1	2	INSTALL ADD LOOP
L-2	4.9X8.3	4	PULSE		2	2	INSTALL ADD LOOP TURNED 90 DEGREES
L-3	6.4X10.8	4	PRESENCE		3	6	INSTALL ADD LOOP
L-4	5X30	3+3	PRESENCE	10*	4	4	INSTALL POWERHEAD
L-4A	5X30	3+3	PRESENCE	10*	7	4	INSTALL POWERHEAD
L-4B	4.9X8.3	4	PRESENCE	2*	8	4	INSTALL ADD LOOP TURNED 90 DEGREES
L-5	6.4X10.8	4	PRESENCE	10*	5	4	INSTALL ADD LOOP
L-6	4.9X8.3	4	PULSE	3*	6	4	INSTALL ADD LOOP TURNED 90 DEGREES
DZ-1	8X8	NA	PULSE		NA	6	DETECTION FIELD AT 254' FROM STOP
DZ-2	8X8	NA	PULSE		NA	6	DETECTION FIELD AT 254' FROM STOP
DZ-3	8X8	NA	PULSE		NA	6	DETECTION FIELD AT 384' FROM STOP

* INHIBIT DELAY DURING ASSOC. PHASE GREEN

NOTES

Ⓐ 3" CONDUIT: 2-5/C & 1-7/C SIGNAL CABLE
2" CONDUIT: 1-2/C POWER & 1-3/C SERVICE
Ⓑ 3" CONDUIT: 2-5/C & 1-7/C SIGNAL CABLE
1-1/2" CONDUIT: 1-2/C POWER
Ⓒ 3" CONDUIT: 5-2/C LEAD-IN CABLE
INSTALL 2-2/C LEAD-IN FOR LOOP L-4A & L-4B.
Ⓓ 1-1/2" CONDUIT: 1-2/C LEAD-IN CABLE
Ⓔ 2" CONDUIT JACKED OR DRILLED: 1-3/C SERVICE CABLE
Ⓕ 3" CONDUIT JACKED OR DRILLED: 2-3/C SERVICE CABLE
Ⓖ INSTALL AERIAL INTERCONNECT CABLE 6-PAIR, NO. 19 AWG (5% MIN. SAG)



FLASHER OPERATIONS

RED TO: USR 20 EB RAMP
YELLOW TO: SR 301
SIGNAL NO.: LOR-020-1299S
INSTALLATION DATE: 6-21-07
FILE NUMBER: 4480
OSIS NUMBER: 18037

SIGNAL PHASING DIAGRAM

TYPICAL SIGNAL HEADS
(12" ALUMINUM W/ LED LAMPS)

DATE	REVISIONS	DATE INSTALLED
10-28-09	INSTALLED BREAKAWAY TETHER CONNECTION	2-24-09
11-1-11	PROJ ???(12)-UPGRADE LOOPS FOR MOTORCYCLE DETECTION	?

OHIO DEPARTMENT OF TRANSPORTATION
ELECTRICAL INSTALLATION LOCATED AT

USR 20 EB Ramp @ SR 301

SIGNAL NO. LOR-20-1299S

District 3 County LORAIN

DESIGNED	DRAWN	REVISED			
RJR 9/05	RJR 9/05				

N

SCALE 0 20 40

CALC. BY RJR CHKD. BY ADB

DETECTOR LOOP REPLACEMENTS
US 20 & SR 301 EB RAMP

LOR-20-8.56

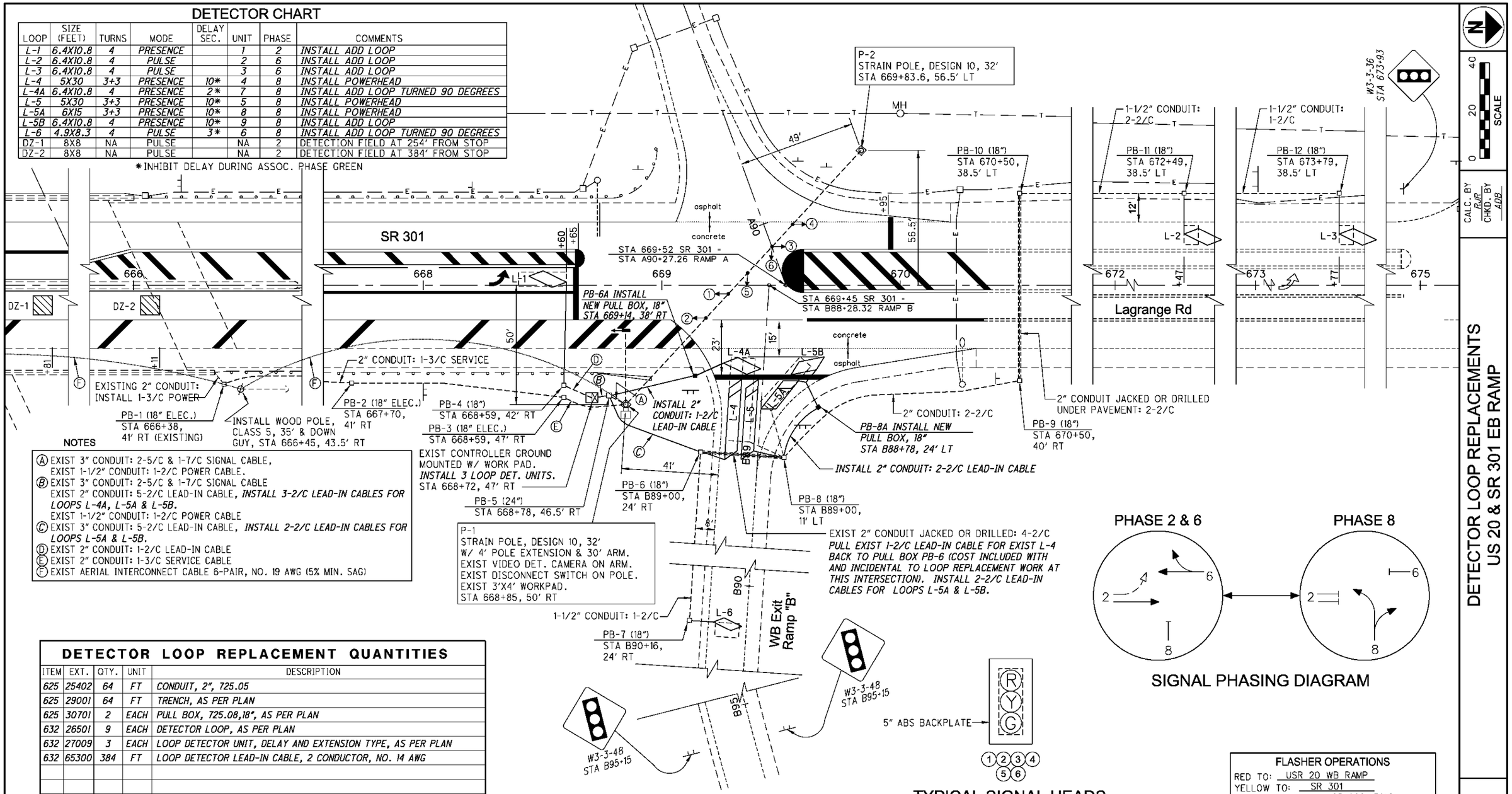
38
68

DESIGN FILE: I:\projects\23809\Signal Detector Loop Replacements\L20&301EB.dgn
WORKSTATION: hyoryonh DATE: 11/23/2011

DETECTOR CHART

LOOP	SIZE (FEET)	TURNS	MODE	DELAY SEC.	UNIT	PHASE	COMMENTS
L-1	6.4X10.8	4	PRESENCE		1	2	INSTALL ADD LOOP
L-2	6.4X10.8	4	PULSE		2	6	INSTALL ADD LOOP
L-3	6.4X10.8	4	PULSE		3	6	INSTALL ADD LOOP
L-4	5X30	3+3	PRESENCE	10*	4	8	INSTALL POWERHEAD
L-4A	6.4X10.8	4	PRESENCE	2*	7	8	INSTALL ADD LOOP TURNED 90 DEGREES
L-5	5X30	3+3	PRESENCE	10*	5	8	INSTALL POWERHEAD
L-5A	6X15	3+3	PRESENCE	10*	8	8	INSTALL POWERHEAD
L-5B	6.4X10.8	4	PRESENCE	10*	9	8	INSTALL ADD LOOP
L-6	4.9X8.3	4	PULSE	3*	6	8	INSTALL ADD LOOP TURNED 90 DEGREES
DZ-1	8X8	NA	PULSE		NA	2	DETECTION FIELD AT 254' FROM STOP
DZ-2	8X8	NA	PULSE		NA	2	DETECTION FIELD AT 384' FROM STOP

*INHIBIT DELAY DURING ASSOC. PHASE GREEN



NOTES

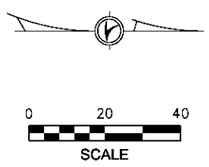
Ⓐ EXIST 3" CONDUIT: 2-5/C & 1-7/C SIGNAL CABLE,
EXIST 1-1/2" CONDUIT: 1-2/C POWER CABLE.
Ⓑ EXIST 3" CONDUIT: 2-5/C & 1-7/C SIGNAL CABLE
EXIST 2" CONDUIT: 5-2/C LEAD-IN CABLE, *INSTALL 3-2/C LEAD-IN CABLES FOR LOOPS L-4A, L-5A & L-5B.*
EXIST 1-1/2" CONDUIT: 1-2/C POWER CABLE
Ⓒ EXIST 3" CONDUIT: 5-2/C LEAD-IN CABLE, *INSTALL 2-2/C LEAD-IN CABLES FOR LOOPS L-5A & L-5B.*
Ⓓ EXIST 2" CONDUIT: 1-2/C LEAD-IN CABLE
Ⓔ EXIST 2" CONDUIT: 1-3/C SERVICE CABLE
Ⓕ EXIST AERIAL INTERCONNECT CABLE 6-PAIR, NO. 19 AWG (5% MIN. SAG)

DETECTOR LOOP REPLACEMENT QUANTITIES

ITEM	EXT.	QTY.	UNIT	DESCRIPTION
625	25402	64	FT	CONDUIT, 2", 725.05
625	29001	64	FT	TRENCH, AS PER PLAN
625	30701	2	EACH	PULL BOX, 725.08,18", AS PER PLAN
632	26501	9	EACH	DETECTOR LOOP, AS PER PLAN
632	27009	3	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN
632	65300	384	FT	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG

WORK DESCRIPTION

1) REPLACE DETECTOR LOOPS AS SHOWN. SEE SHEET NO. __ FOR DETAILS.
2) INSTALL NEW PULL BOX PB-8A AND 2" CONDUIT FROM PB-8 TO PB-8A.
3) INSTALL NEW PULL BOX PB-6A AND 2" CONDUIT FROM PB-5 TO PB-6A.
4) INSTALL 2-2/C LEAD-IN CABLES FROM CONTROLLER TO NEW PULL BOX PB-8A.
5) INSTALL 1-2/C LEAD-IN CABLE FROM CONTROLLER TO NEW PULL BOX PB-6A.
6) INSTALL 3 LOOP DETECTOR UNITS FOR NEW LOOPS L-4A, L-5A AND L-5B.



SIGNAL PHASING DIAGRAM

TYPICAL SIGNAL HEADS
(12" ALUMINUM W/ LED LAMPS)

FLASHER OPERATIONS

RED TO: USR 20 WB RAMP
YELLOW TO: SR 301
SIGNAL NO.: LOR-020-1301S
INSTALLATION DATE: 6-21-07
FILE NUMBER: 4481
OSIS NUMBER: 18038

DATE	REVISIONS	DATE INSTALLED
10-28-09	INSTALLED BREAKAWAY TETHER CONNECTION	2-24-09
11-1-11	PROJ ???(12)-UPGRADE LOOPS FOR MOTORCYCLE DETECTION	?

OHIO DEPARTMENT OF TRANSPORTATION

ELECTRICAL INSTALLATION
LOCATED AT

USR 20 WB Ramp @ SR 301

SIGNAL NO. LOR-20-1301S

District 3 County LORAIN

DESIGNED	DRAWN
RJR 9/05	RJR 9/05

DESIGN FILE: I:\projects\23809\Signal Detector Loop Replacements\L20&301WB.dgn
WORKSTATION: hycryanh DATE: 11/23/2011

N

0 20 40 SCALE

CALC. BY RJR CHKD. BY ADB

DETECTOR LOOP REPLACEMENTS
US 20 & SR 301 EB RAMP

LOR-20-8.56

39
68

SIGN "A" LEVEL 3, 9.0" Radius, 1.3" Border, White on Green;
US 20 M1-4; [EAST] E; [Cleveland] E Mod; Down Arrow C-2 & C-3 - 16.0" 270ł;

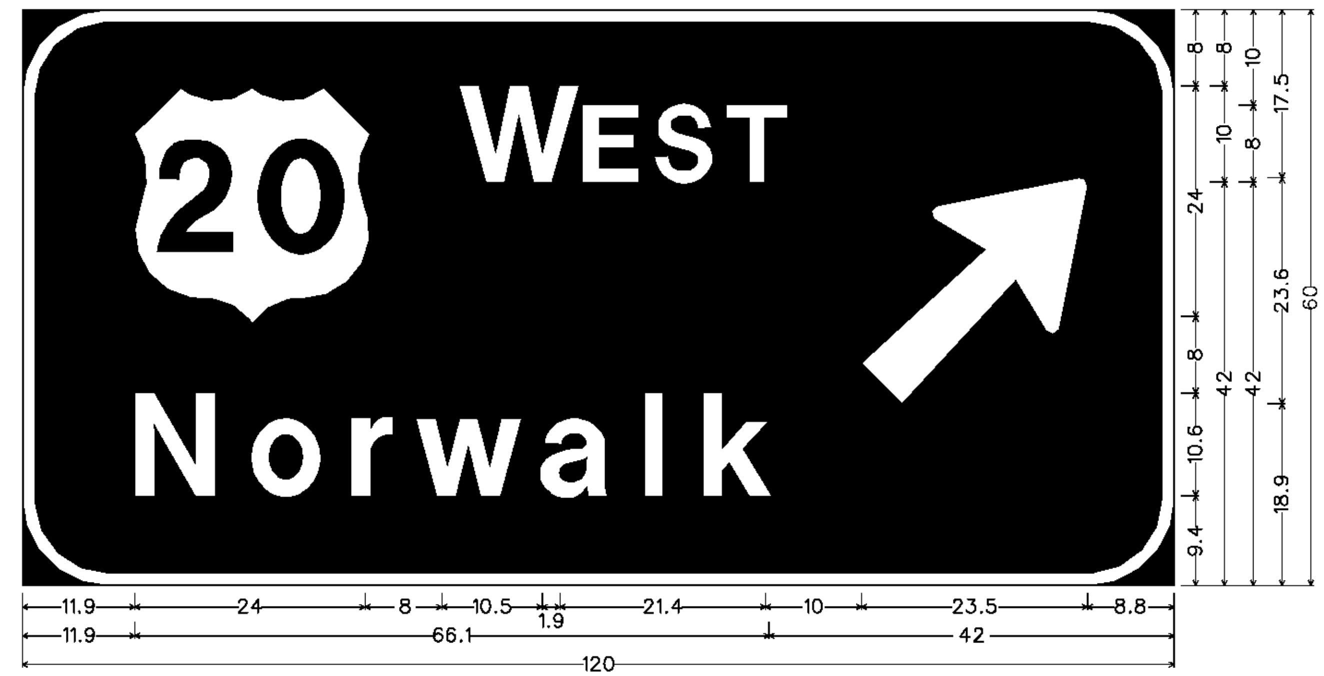
Table of widths and spaces.

21.9	(20) 24.0	8.0	E 7.4	1.2	A 8.0	1.7	S 6.3	1.7	T 5.9	21.9

13.9	C 8.5	3.5	l 2.0	3.3	e 6.9	2.2	v 8.1	2.1	e 6.9	3.4	l 2.0	3.3	a 6.8	4.1	n 6.9	3.3	d 6.9	13.9

42.0	(arrow) 24.0	42.0

SIGN DETAIL "A"



SIGN "B" LEVEL 3, 9.0" Radius, 1.3" Border, White on Green;
US 20 M1-4; [WEST] E; [Norwalk] E Mod; Arrow A-3 - 30.0" 45ł;

Table of widths and spaces.

11.9	(20) 24.0	8.0	W 10.5	1.9	E 5.8	1.7	S 6.4	1.6	T 5.9	10.0	(arrow) 23.5	8.8

11.9	N 8.5	3.6	o 7.2	3.2	r 5.3	1.5	w 10.7	2.1	a 6.9	4.1	l 2.0	4.1	k 6.9	42.0

SIGN DETAIL "B"

ITEM 630 - SIGNING, MISC.: SIGN DATA COLLECTION:

THIS ITEM OF WORK SHALL CONSIST OF COLLECTING AND RECORDING INFORMATION FOR ANY WORK INVOLVING PERMANENT SIGNING INCLUDING SIGN REMOVAL, SIGN RELOCATION OR NEW SIGN INSTALLATION ON THIS PROJECT. DISTRICT THREE HAS A SIGN INVENTORY SYSTEM IN OPERATION. WORK PERFORMED ON EXISTING SIGNS AND INSTALLATION OF NEW SIGNS WILL AFFECT THE ACCURACY OF THE INVENTORY. ALL EXISTING SIGNS HAVE A BAR CODE STICKER. THE BAR CODE STICKER NUMBER FOR ANY SIGNS REMOVED ON THE PROJECT SHALL BE RECORDED COMPLETELY AND ACCURATELY SO THEY CAN BE REMOVED FROM THE INVENTORY. THE BAR CODE STICKER NUMBER FOR ANY SIGNS THAT ARE NEW OR RELOCATED SHALL ALSO BE RECORDED COMPLETELY AND ACCURATELY. NEW SIGNS REQUIRE NEW BAR CODE STICKERS WHICH WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING. ANY STICKERS NOT USED ARE TO BE RETURNED TO ODOT DISTRICT 3 TRAFFIC DEPT. BAR CODE STICKERS CAN ALSO BE OBTAINED FROM ODOT BY CONTACTING MATT BLANKENSHIP, DISTRICT 3 ROADWAY SERVICES MANAGER, PHONE 419-207-7045.

THE INFORMATION SHALL BE COLLECTED FROM ALL SIGNS REMOVED, RELOCATED OR INSTALLED ON THE PROJECT AND RECORDED COMPLETELY AND ACCURATELY BY A PERSON FAMILIAR WITH SIGNING TERMINOLOGY. THE INFORMATION REQUIRED APPEARS ON A FORM WHICH WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING. ALL SECTIONS OF THE FORM SHALL BE COMPLETED FROM THE INFORMATION COLLECTED FOR EACH SIGN. NOTE THAT THE STRAIGHT LINE MILEAGE LOG POINT OF THE SIGN REMOVAL, RELOCATION OR INSTALLATION IS TO BE PROVIDED. PROJECT STATIONING IS NOT ACCEPTABLE. AFTER THE FORM IS COMPLETED, IT SHALL BE RETURNED TO ODOT DISTRICT 3 TRAFFIC DEPARTMENT. A COPY OF THIS FORM IS AVAILABLE UPON REQUEST FOR THE CONTRACTOR TO REVIEW FOR BIDDING PURPOSES. FOR A COPY OF THIS FORM PLEASE CALL 1-419-207-7045, ROADWAY SERVICES MANAGER. ALL COMPLETED FORMS FOR THE PROJECT ARE TO BE PROVIDED TO THE ENGINEER NOT LATER THAN 30 CALENDAR DAYS AFTER COMPLETION OF SIGNING WORK ITEMS.

PAYMENT FOR THE LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK WHICH INCLUDES COLLECTION OF INFORMATION, COMPLETION OF THE FORMS SUPPLIED TO THE CONTRACTOR, INSTALLATION OF BAR CODE STICKERS, MEASURING OF THE SIGNS AND ANY OTHER WORK IN ORDER TO COMPLETE THE FORM SHALL BE INCLUDED IN THE COST OF ITEM 630, SIGNING, MISC.: SIGN DATA COLLECTION PER EACH.

SIGN REPLACEMENT WORK

THE FOLLOWING OVERHEAD MOUNTED SIGN WORK SHALL BE PERFORMED AT THIS LOCATION AND PAID BY SEPARATE BID ITEMS:

1) REMOVE AND REPLACE AN EXISTING OVERHEAD EXTRUSHEET EXIT SIGN E1-H3-120. THE NEW SIGN SHALL BE INSTALLED AT THE SAME LOCATION AS THE EXISTING SIGN OVER THE RIGHT LANE IN SB DIRECTION. INSTALL NEW SIGN ATTACHMENT ASSEMBLIES. SIGN SHALL BE CENTERED ON TRUSS. SEE SIGN DETAIL "B" ABOVE.

2) INSTALL NEW OVERHEAD EXTRUSHEET SIGN E6-H2-108 OVER THE LEFT LANE IN SB DIRECTION. THIS SIGN SHALL BE INSTALLED WITH DOWN ARROW CENTERED OVER THE LEFT LANE. THE SIGN SHALL BE SPACED WITH A MINIMUM OF 1 FOOT CLEARANCE ON THE RIGHT SIDE TO THE EXIT SIGN. INSTALL NEW SIGN ATTACHMENT ASSEMBLIES. SIGN SHALL BE CENTERED ON TRUSS. SEE SIGN DETAIL "A" ABOVE.

ITEM 630 SIGNING, MISC.: REPAIR OVERHEAD SIGN SUPPORT, TYPE TC-7.65, AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE THE REPLACEMENT OF THE TRUSS PORTION OF A DAMAGED OVERHEAD SIGN SUPPORT, TYPE TC-7.75, DESIGN 8, 94'. THE SIGN SUPPORT IS LOCATED ON SR 511 (APPROXIMATE SLM 22.21) BETWEEN OBERLIN-ELYRIA ROAD AND US 20. THE CONTRACTOR SHALL REMOVE THE EXISTING DAMAGED TRUSS COMPONENT OF THE SIGN SUPPORT AND REPLACE IT WITH A NEW TRUSS. THE EXISTING TRUSS SHALL BE REMOVED FOR DISPOSAL. THE NEW TRUSS SHALL MATCH THE EXISTING DESIGN. THE CONTRACTOR SHALL FIELD VERIFY THE CORRECT LENGTH AND SIZE OF THE TRUSS PRIOR TO ORDERING. THE EXISTING END FRAMES AND FOUNDATIONS SHALL BE REUSED. ALL ATTACHMENT HARDWARE REQUIRED TO CONNECT THE NEW TRUSS TO THE EXISTING END FRAMES SHALL BE REPLACED WITH NEW. IN ADDITION, THE REPLACEMENT TRUSS SHALL INCLUDE NEW FLANGE PLATE CONNECTION HARDWARE AS DETAILED IN STANDARD CONSTRUCTION DRAWING TC-7.65.

BASIS OF PAYMENT SHALL BE AT THE UNIT PRICE PER EACH.

SIGNING SUB SUMMARY

ITEM	EXT.	QTY.	UNIT	DESCRIPTION
630	75000	4	EACH	SIGN ATTACHMENT ASSEMBLY
630	80224	113	SQ FT	SIGN, OVERHEAD EXTRUSHEET
630	87400	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL
630	97700	1	EACH	SIGNING, MISC.: REPAIR OVERHEAD SIGN SUPPORT, TYPE TC-7.65, AS PER PLAN
630	97700	3	EACH	SIGNING, MISC.: SIGN DATA COLLECTION

CALCULATED RJR 9/11 CHECKED ADB

OVERHEAD MOUNTED SIGN DETAILS

LOR-20-8.56

DESIGN FILE: I:\projects\23809\Sign Structure Replacement\SIGN DETAILS.dgn
WORKSTATION: hyaryanh DATE: 11/23/2011

AUXILIARY & LONG LINE MARKINGS

LOCATION		STATION FROM	STATION TO	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT	614 WORK ZONE LANE LINE, CLASS III, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS III, 642 PAINT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT	614 WORK ZONE EDGE LINE, CLASS III, 642 PAINT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS II, 642 PAINT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS III, 642 PAINT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	614 WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS III, 642 PAINT	618 CENTER LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	644 EDGE LINE TOTAL (PAY QUANTITY) (WHITE)	644 EDGE LINE TOTAL (PAY QUANTITY) (YELLOW)	644 LANE LINE	644 CENTER LINE SOLID LINE EQUIVALENT	644 CENTER LINE TOTAL (PAY QUANTITY)	644 AUXILIARY MARKINGS (740.04) CHANNELIZING LINE 8"	644 AUXILIARY MARKINGS (740.04) STOP LINE 24"	644 AUXILIARY MARKINGS (740.04) TRANSVERSE/ DIAGONAL LINE (WHITE) 24"	644 AUXILIARY MARKINGS (740.04) TRANSVERSE/ DIAGONAL LINE (YELLOW) 24"	644 AUXILIARY MARKINGS (740.04) AIR SPEED ZONE MARKING	646 EDGE LINE TOTAL (PAY QUANTITY) (WHITE)	646 EDGE LINE TOTAL (PAY QUANTITY) (YELLOW)	646 LANE LINE	646 CENTER LINE SOLID LINE EQUIVALENT	646 CENTER LINE TOTAL (PAY QUANTITY)	646 AUXILIARY MARKINGS (740.04) CHANNELIZING LINE 8"	646 AUXILIARY MARKINGS (740.04) STOP LINE 24"	646 AUXILIARY MARKINGS (740.04) TRANSVERSE/ DIAGONAL LINE (WHITE) 24"	646 AUXILIARY MARKINGS (740.04) TRANSVERSE/ DIAGONAL LINE (YELLOW) 24"	646 AUXILIARY MARKINGS (740.04) ISLAND MARKING	646 AUXILIARY MARKINGS (740.04) LANE ARROW (LEFT)	646 AUXILIARY MARKINGS (740.04) LANE ARROW (RIGHT)
				MILE	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	FT	FT	MILE	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	EACH	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	SQ FT	EACH	EACH
LOR	US20	447+50	453+80	0.03	0.03	0.24	0.24	0.24	0.24	226	226					0.12	0.24		0.03	0.477	0.24				226														
LOR	US20	453+80	465+00	0.21	0.21	0.21	0.21	0.63	0.63	509	509						0.42	0.21	0.21	0.424	0.21				509														
LOR	US20	465+00	714+83	9.46	9.46			18.92	18.92								9.46	9.46	9.46							2												
LOR	SR511 SB	461+81	482+53																								0.39	0.37	0.05	0.028	0.01	295	68		25		3	
LOR	SR511 NB	461+94	482+53																								0.39	0.37	0.12	0.028	0.01		12					
SR511 RAMP A to ACCEL to US20 WB				0.05	0.05			0.21	0.21			120	120				0.12	0.09	0.05				120					0.06	0.06				187		97				
US20 WB to SR511 DECEL & RAMP B				0.04	0.04			0.12	0.12	155	155	582	582				0.06	0.06	0.04				582		155			0.09	0.07				92						
SR511 RAMP C to ACCEL to US20 WB				0.05	0.05			0.21	0.21			120	120				0.12	0.09	0.05				120					0.08	0.08										
US20 EB to SR511 DECEL & RAMP D				0.05	0.05			0.12	0.12	132	132	356	356				0.06	0.06	0.05				356		132			0.04	0.04										
OBERLIN-ELYRIA RD WB																																	14					
OBERLIN-ELYRIA RD EB																																	17					
SR301 RAMP A to ACCEL to US20 WB				0.06	0.06			0.51	0.51			200	200				0.29	0.22	0.06				200															
US20 WB to SR301 DECEL & RAMP B				0.06	0.06			0.33	0.33	97	97	270	270	46	46		0.17	0.16	0.06				270	46	97													
SR301 RAMP C to ACCEL to US20 EB				0.06	0.06			0.49	0.49			200	200				0.27	0.22	0.06				200															
US20 EB to SR301 DECEL & RAMP D				0.05	0.05			0.33	0.33	97	97	270	270	28	28		0.18	0.15	0.05				270	28	97													
SR301 NB to US20 EB RIGHT TURN LANE																											0.01	0.02				55	23		180			1
SR301 NB to US20 WB LEFT TURN LANE																											0.15	0.10		0.078	0.04	153	22	529	25	3		
SR301 SB TO US20 EB LEFT TURN LANE																											0.15	0.08		0.119	0.06	404	24		342	90	6	
LAGRANGE RD																														0.057	0.03	74	24		141	127		
TOTAL				10.12	10.12	0.45	0.45	22.11	22.11	1,216	1,216	2,118	2,118	74	74	0.12	11.39	10.72	10.12	0.901	0.45	2,118	74	481	735	2	1.36	1.19	0.17	0.310	0.15	1,260	204	626	508	422	12	1

RAISED PAVEMENT MARKERS

ROUTE	COUNTY	STATION/SLM FROM	STATION/SLM TO	DETAIL	621 RAISED PAVEMENT MARKER REMOVED EACH	621 RPM EACH	PRISMATIC RETRO-REFLECTOR TYPES ONE-WAY WHITE EACH	TWO-WAY YELLOW / YELLOW EACH	TWO-WAY WHITE / RED EACH	TWO-WAY YELLOW / RED EACH	REMARKS
US20	LOR	8.50	8.60	10	21	21		14	7		2-4 LANE DIVIDED TRANSITION
US20	LOR	8.60	8.69	10	80	80	12	26	42		2-4 LANE DIVIDED TRANSITION
US20	LOR	8.69	12.62	5	548	548	508		40		4 LANE DIVIDED TO MATCH EXISTING RPMS
US20	LOR	9.71	9.72	2/3	56	56			40	16	SR511 INTERCHANGE
US20	LOR	12.36	12.37	2/3	86	86	56	24	6		SR301 INTERCHANGE
US20	LOR	12.62	13.54	5	124	124	84		40		4 LANE DIVIDED
TOTAL				15	915	915	660	64	175	16	

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

NOTES:

1) LANES ON US20 SHALL BE STRIPED AT 12' WIDTHS.

2) FOR ALL WORK ZONE MARKINGS PLACED ON THE SURFACE COURSE, THEY SHALL BE CLASS III.

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

4) ALL DIAGONAL / TRANSVERSE LINES SHALL BE THE CHEVRON TYPE AT THE GORE AREAS.

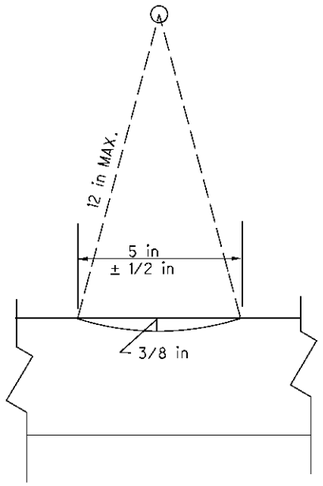
5) PAVEMENT MARKING DETAIL SHEETS FOR THE US20 TRANSITION AND SR511 AND SR301 INTERSECTIONS WILL BE SUPPLIED AT THE PRECON MEETING.

CALCULATED HYH
CHECKED ADB

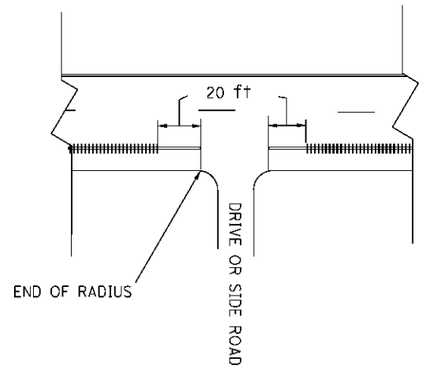
PAVEMENT MARKING AND RPM SUBSUMMARY

LOR-20-8.56

DESIGN FILE:i:\projects\23809\Roadway\Sheets\23809TS001.dgn MODELNAME:Sheet
WORKSTATION:hyaryanh DATE:11/23/2011



PROFILE

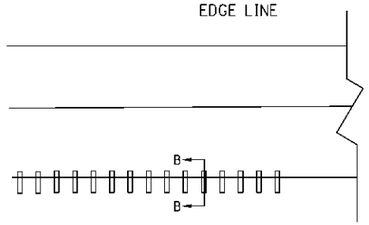


SIDE ROAD AND DRIVE RUMBLE STRIPE INSTALLATION DETAILS

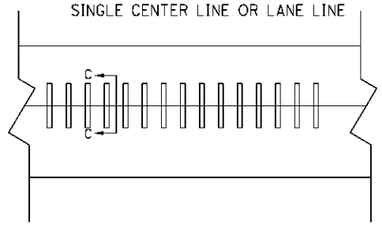
NOTES

1. Rumble stripes shall be interrupted for driveways and intersections.
2. Rumble stripes shall be paid for in accordance with Item 618.
3. Rumble stripes shall be installed on a 62 foot cycle, i.e. 50 feet rumble stripes followed by a 12 foot gap.
4. Apply final pavement markings after rumble stripes are completed.
5. Location of the construction joint shall be verified in the field.

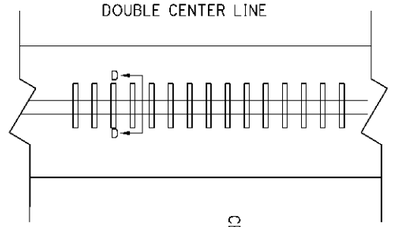
EDGE LINE



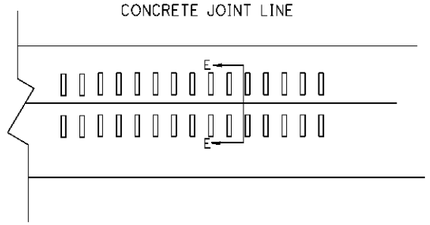
SINGLE CENTER LINE OR LANE LINE



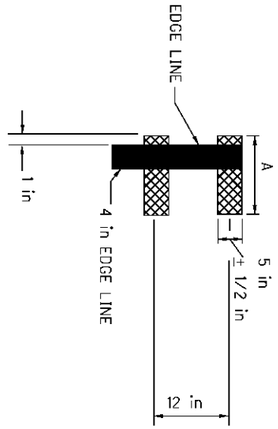
DOUBLE CENTER LINE



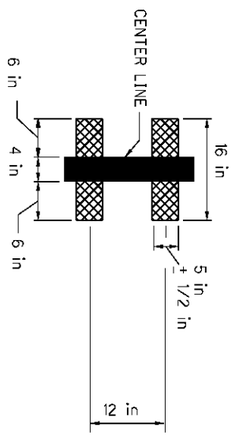
CONCRETE JOINT LINE



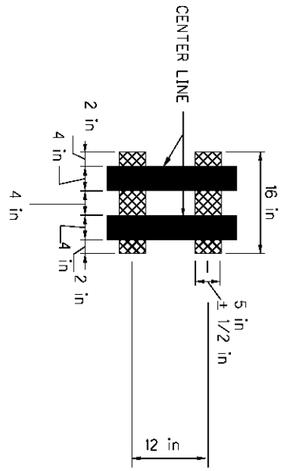
SHOULDER WIDTH	A
2-5 ft	6 in
5 ft-1 in - 8 ft	10 in
≥ 8 ft- 1 in	16 in



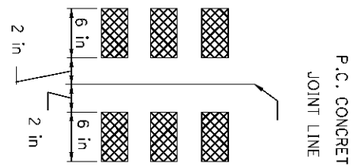
SECTION B-B
EDGE LINE RUMBLE STRIPE



SECTION C-C
CENTER LINE OR LANE LINE
RUMBLE STRIPE



SECTION D-D
CENTER LINE RUMBLE STRIPE



SECTION E-E
PORTLAND CEMENT CONCRETE
JOINT CENTER LINE RUMBLE STRIPE

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM
REVISION DATE 4/15/11 | CHECKED ADB
PTS NUMBER 206410

PLAN INSERT SHEET

RUMBLE STRIPES

LOR-20-8.56

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DESIGN FILE: I:\projects\23809\Roadway\Sheets\Rumble Stripes Plan Insert Sheet.dgn MODELNAME: Design
WORKSTATION hyaryanh DATE: 11/23/2011

REFERENCES SHALL BE MADE TO STANDARD BRIDGE DRAWINGS:

DBR-2-73	DATED	7/19/02
DBR-3-11	DATED	7/15/11

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, 2004, 2005 AND 2006 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION:

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

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

EXISTING PLANS:

THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OH.

STRUCTURE #	PLAN NAME	DATE
LOR-20-0868	LOR-20-8.58	1986
LOR-20-0973	LOR-20-8.58	1986
LOR-20-0999	LOR-20-8.58	1986
LOR-20-1056L&R	LOR-20-8.58	1986
LOR-20-1208L&R	LOR-20-8.58	1986
LOR-20-1303	LOR-20-12.62	1968

DESIGN DATA:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI
CONCRETE CLASS S - COMPRESSIVE STRENGTH 4,500 PSI
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
STRUCTURAL STEEL - A709 GRADE 36 - YIELD STRENGTH 36,000 PSI

DECK PROTECTION METHOD:

TYPE 3 WATERPROOFING AND ASPHALT CONCRETE OVERLAY
SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

ENVIRONMENTAL COMMITMENTS :

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 FOR THIS PROJECT AND NO IN-STREAM WORK IS ALLOWED.

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

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

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL			

STRUCTURE NOTES

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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 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.

ITEM 202 - REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL GLAND:

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING ELASTOMERIC SEAL GLAND.

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

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN.

THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED.

THE EXISTING REINFORCING STEEL SHALL BE PRESERVED AS INDICATED IN THE PLANS. EXISTING CONCRETE SHALL BE REMOVED 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 PRESERVED.

ANY AREA LEFT OPEN ON THE DECK, BACKWALL OR APPROACH SLAB SHALL BE PLATED.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

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

ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN:

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN.

THE BRIDGE RAILING SHALL BE REMOVED. THE EXISTING DEEP BEAM RAIL, TS 8 X 4 TUBING SHALL BE STORED FOR REUSE. THE STEEL POSTS AND HARDWARE SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

THE CONTRACTOR SHALL ONLY REMOVE AS MUCH RAILING AS HE CAN REPLACE IN THE SAME DAY.

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 516 - ELASTOMERIC COMPRESSION SEAL, AS PER PLAN:

COMPRESSION SEAL: FURNISH MATERIAL CONFORMING TO 705.11. THE SEAL CONFIGURATION SHOULD BE SIMILAR TO THE DETAILS SHOWN HEREIN. ACCEPTED MANUFACTURERS ARE: WATSON-BOWMAN-ACME (MODEL WG-400) OR AN APPROVED EQUIVALENT. INSTALL THE SEAL ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND UNDER THE SUPERVISION OF THE MANUFACTURER'S DESIGNATED REPRESENTATIVE.

JOINTS IN COMPRESSION SEALS: FURNISH SEALS IN ONE CONTINUOUS PIECE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE:

SEE PROPOSAL NOTE 511 "PATCHING CONCRETE BRIDGE DECK OVERLAYS WITH MICRO-SILICA MODIFIED CONCRETE" FOR DETAILS.

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

ITEM 511 - CLASS C CONCRETE, ABUTMENT, AS PER PLAN (REPAIR):

ITEM 511 - CLASS S CONCRETE, MISC.: RAISED MEDIAN REPAIR:

ITEM 511 - CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (REPAIR):

THESE ITEMS SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN.

THE COARSE AGGREGATE SHALL BE #8 LIMESTONE.

TYPE A WATERPROOFING IS INCIDENTAL.

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

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

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11

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STRUCTURE FILE NUMBER

STRUCTURE NOTES

LOR-20-8.56

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WORKSTATION=hyaryanh DATE=11/23/2011

ITEM 517 - RAILING (DEEP BEAM RETROFIT RAILING):

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN.

THE RETROFIT SHALL BE AS PER STANDARD DRAWING DBR-3-11
AND THE DETAILS AND NOTES IN THE PLAN.

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 517 - RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN:

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN.

THE BRIDGE RAILING SHALL BE INSTALLED USING THE EXISTING DEEP BEAM RAIL, TS 8 X 4 TUBING WITH NEW TYPE 2 POST AND HARDWARE ON THE EXISTING ANCHORS AS DETAILED IN THE PLAN.

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 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN:

THIS ITEM SHALL BE USED AT LOCATIONS IN THE PLAN. THE VERTICAL EXTENSION OF THE STRUCTURAL EXPANSION JOINT SHALL BE AS DETAILED IN THE PLAN.

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 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING

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ODOT DISTRICT THREE
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DESIGNED DCM
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STRUCTURE FILE NUMBER

STRUCTURE NOTES

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WORKSTATION=hyaryanh
DATE=11/23/2011
MODELNAME=Design

LOR-20-0868 SFN 4701909

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
512	10100	928	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	74000	928	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	

LOR-20-0973 SFN 4707370

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	98200	104	FT	REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL GLAND	44
512	10100	853	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10300	1568	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
512	74000	853	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
516	31000	104	FT	JOINT SEALER	

LOR-20-0999 SFN 4701917

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
512	10100	965	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	74000	965	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
519	11101	36	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	45

DESIGN AGENCY
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DATE 11/11
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STRUCTURE SUMMARY

LOR-20-8.56

DESIGN FILE:i:\projects\23809\Struct\strsum.dgn
WORKSTATION:hyaryanh
MODELNAME:Design
DATE:11/23/2011

LOR-20-1056L SFN 4701933

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	.2	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	44
202	38501	175.00	FT	BRIDGE RAILING REMOVED, AS PER PLAN	44
409	30000	80	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
511	34401	1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (REPAIR)	44
512	10100	73	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33010	376	SQ YD	TYPE 3 WATERPROOFING	
512	74000	73	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
517	72307	175.00	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN	45
517	72710	175.00	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)	45

LOR-20-1056R SFN 4701941

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	.6	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	44
202	38501	175.00	FT	BRIDGE RAILING REMOVED, AS PER PLAN	44
409	30000	80	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
511	34401	1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (REPAIR)	44
512	10100	73	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33010	376	SQ YD	TYPE 3 WATERPROOFING	
512	74000	73	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
517	72307	175.00	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN	45
517	72710	175.00	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)	45

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
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STRUCTURE SUMMARY

LOR-20-8.56

DESIGN FILE:i:\projects\23809\Struct\strsum.dgn
WORKSTATION:hyaryanh
MODEL NAME: Design
DATE:11/23/2011

LOR-20-1208L SFN 4701968

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	.1	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	44
202	38501	550.00	FT	BRIDGE RAILING REMOVED, AS PER PLAN	44
511	45701	.1	CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)	44
512	10100	319	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33010	1160	SQ YD	TYPE 3 WATERPROOFING	
512	74000	319	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
516	11801	132	FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN	45
517	72307	550.00	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN	45
517	72710	550.00	FT	DEEP BEAM BRIDGE RETROFIT RAILING	45

LOR-20-1208R SFN 4701976

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	38501	550.00	FT	BRIDGE RAILING REMOVED, AS PER PLAN	44
512	10100	319	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33010	1160	SQ YD	TYPE 3 WATERPROOFING	
512	74000	319	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
516	11801	132	FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN	45
517	72307	550.00	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN	45
517	72710	550.00	FT	DEEP BEAM BRIDGE RETROFIT RAILING	45

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

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STRUCTURE SUMMARY

LOR-20-8.56

DESIGN FILE:i:\projects\23809\Struct\strsum.dgn
WORKSTATION:hyaryanh
DATE:11/23/2011
MODEL NAME: Design

LOR-20-1303 SFN 4706609

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	7	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	44
202	98200	120	FT	REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL GLAND	44
511	34450	7	CU YD	CLASS S CONCRETE, MISC.: RAISED MEDIAN REPAIR	44
512	10300	1750	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
516	10901	219	FT	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN	44
516	31000	118	FT	JOINT SEALER	
SPECIAL	51910000	17	SQ YD	PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE	44

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED DCM
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SUMMARY
STRUCTURE

LOR-20-8.56

DESIGN FILE:I:\projects\23809\Struct\strsum.dgn
WORKSTATION:tyaryanh
DATE:11/23/2011
MODELNAME:Design

STRUCTURE FILE NO.	BRIDGE NO.	LOCATION	BRIDGE TYPE	SKEW	BRIDGE LIMITS	DECK WIDTH	PROPOSED WORK
4701909	LOR-20-0868	UNDER PARSON ROAD	4-SPAN STEEL BEAM	41° 02′ 31″ LF	266′-0″±	30′-10″± T/T PARAPETS	DECK EDGES, PARAPETS & SUBSTRUCTURE SEALING
4707370	LOR-20-0973	UNDER S.R. 511 (RAMP)	4-SPAN STEEL BEAM	1° 53′ LF	217′-0″±	2-24′-5″ & 3′-0″ RAISED MEDIAN	DECK, PARAPETS & SUBSTRUCTURE SEALING, APPROACH SLAB REPAIRING AND JOINT SEALING
4701917	LOR-20-0999	UNDER HALE ROAD	4-SPAN STEEL BEAM	37° 30′ 24″ RF	286′-5″±	26′-10″± T/T PARAPETS	DECK EDGES, PARAPETS & SUBSTRUCTURE SEALING, PIER COLUMN PATCHING
4701933	LOR-20-1056L	OVER PLUM CREEK	3-SPAN CONCRETE SLAB	0°	80′-6″±	40′-″± F/F GUARDRAIL	SEAL DECK EDGES, SUBSTRUCTURE SEALING, DECK PATCHING REPLACE BRIDGE RAILING POSTS AND UPGRADE BRIDGE RAILING, WATERPROOF DECK AND PAVE
4701941	LOR-20-1056R	OVER PLUM CREEK	3-SPAN CONCRETE SLAB	0°	80′-6″±	40′-″± F/F GUARDRAIL	SEAL DECK EDGES, SUBSTRUCTURE SEALING, DECK PATCHING APPROACH SLAB REPAIR, REPLACE BRIDGE RAILING POSTS AND UPGRADE BRIDGE RAILING, WATERPROOF DECK AND PAVE
4701968	LOR-20-1208L	OVER WEST BRANCH OF BLACK RIVER	3-SPAN STEEL BEAM	52° 30′ LF	267′-5″±	40′-″± F/F GUARDRAIL	SEAL DECK EDGES AND SUBSTRUCTURE , WATERPROOF DECK AND PAVE, RAISE EXISTING EXPANSION JOINTS, BACKWALL REPAIR, REPLACE BRIDGE POSTS AND UPGRADE.
4701976	LOR-20-1208R	OVER WEST BRANCH OF BLACK RIVER	3-SPAN STEEL BEAM	52° 30′ LF	267′-5″±	40′-″± F/F GUARDRAIL	SEAL DECK EDGES AND SUBSTRUCTURE , WATERPROOF DECK AND PAVE, RAISE EXISTING EXPANSION JOINTS, REPLACE BRIDGE POSTS AND UPGRADE.
4706609	LOR-20-1303	UNDER S.R. 301	4-SPAN STEEL BEAM	25° RF	221′-6″±	2-34′-0″ & 3′-0″ RAISED MEDIAN	REPAIR CENTER JOINT, DECK PATCHING AND JOINT SEALING

DESIGN AGENCY
ODOT DISTRICT 3
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
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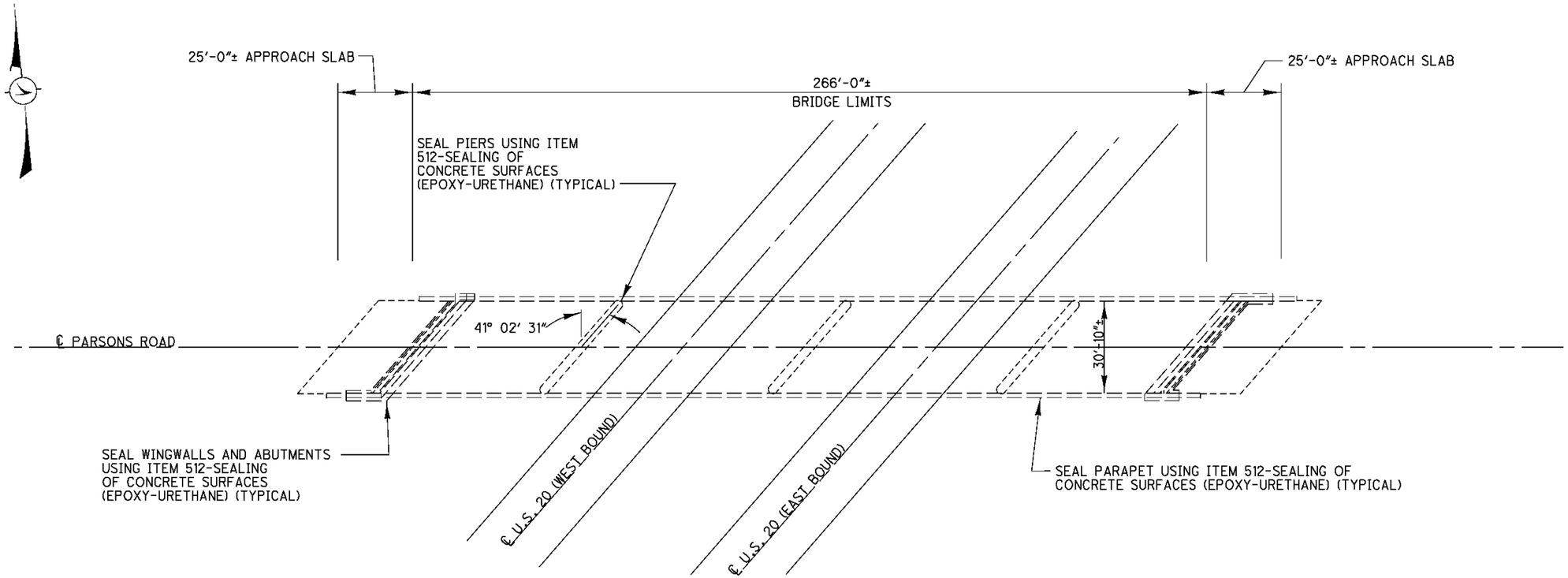
CAL			

STRUCTURE INFORMATION

LOR-20-8.56



PLAN VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
512	928	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	928	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

1) SEE SHEET 2/2 FOR SEALING DETAILS.

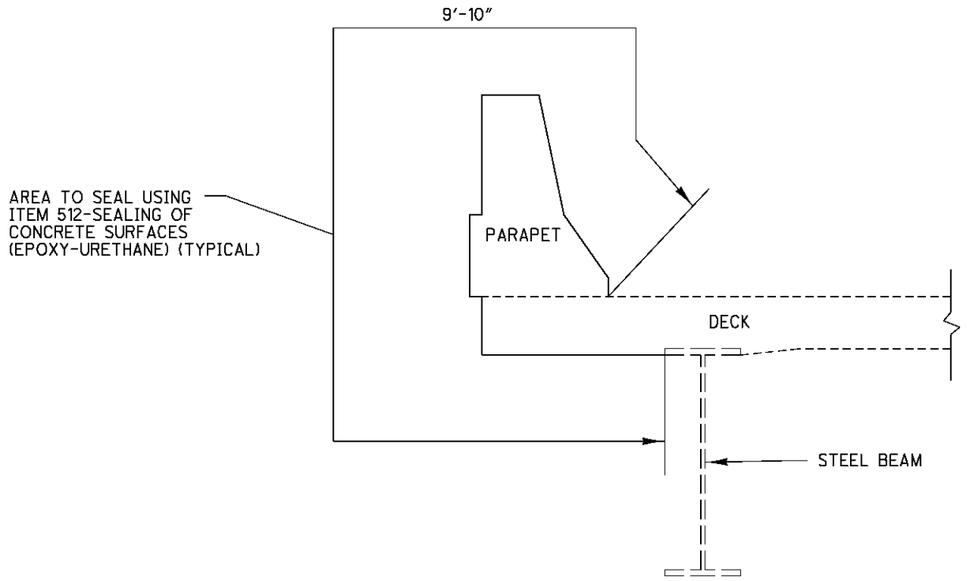
DESIGN FILE: I:\projects\23809\Struct\LOR-20-0868.dgn
WORKSTATION: tyaryanh
DATE: 11/23/2011
MODELNAME: Design

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701909	

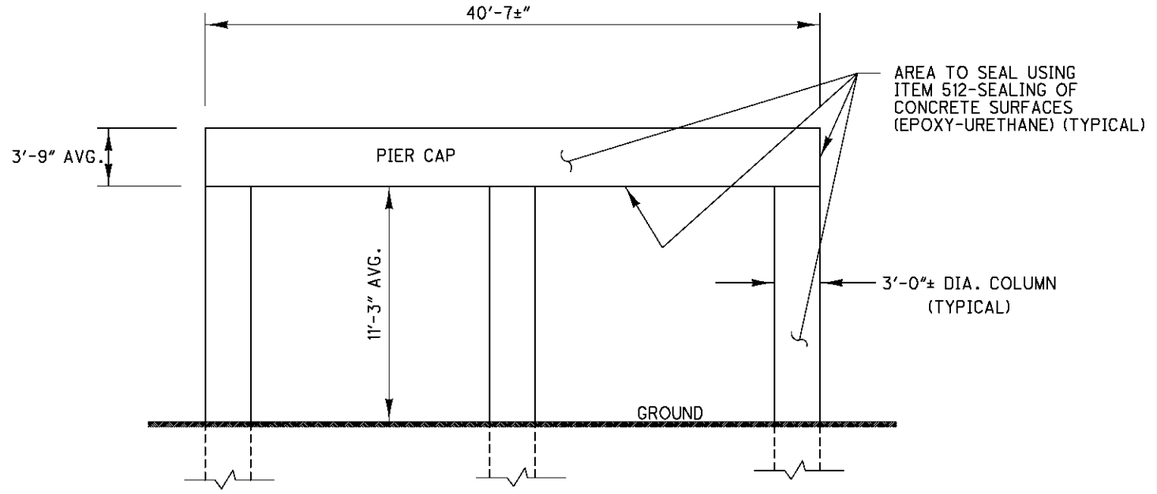
PLAN VIEW
LOR-20-0868 UNDER PARSONS ROAD

LOR-20-8.56



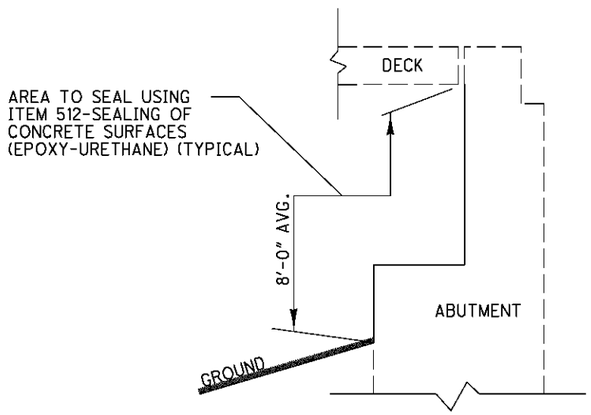
PARAPET SEALING DETAIL

(SEALING LENGTH = 262'-0")



PIER SEALING DETAIL

(PIER CAP WIDTH = 3'-0")

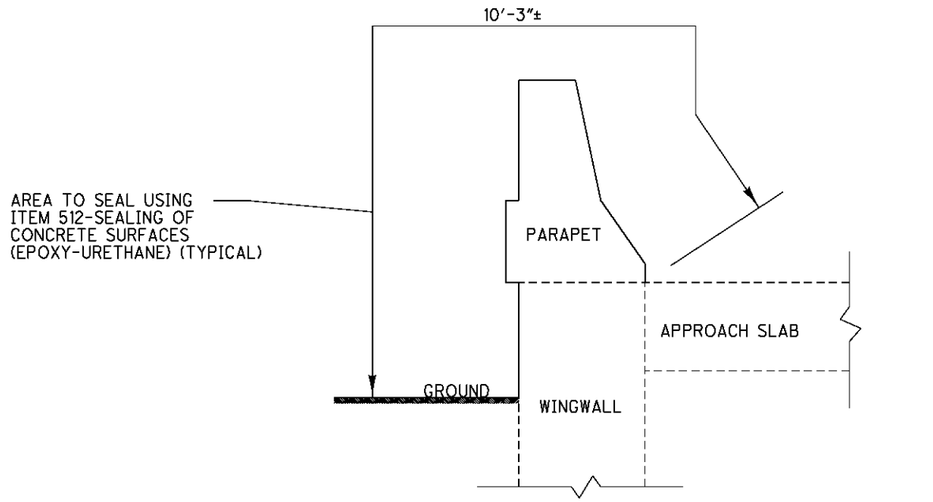


ABUTMENT SEALING DETAIL

(SEALING LENGTH = 43'-8")

ITEM	QUANTITY	UNIT	DESCRIPTION
512	928	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	928	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

ALL QUANTITIES CARRIED TO SHEET 1/2



PARAPET/WINGWALL SEALING DETAIL

(SEALING LENGTH = 2 @ 18'-3"± & 2 @ 12'-1"±")

DESIGN FILE=i:\projects\23809\Struct\LOR-20-0868.dgn MODELNAME: Design
WORKSTATION=yaryanh DATE=11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
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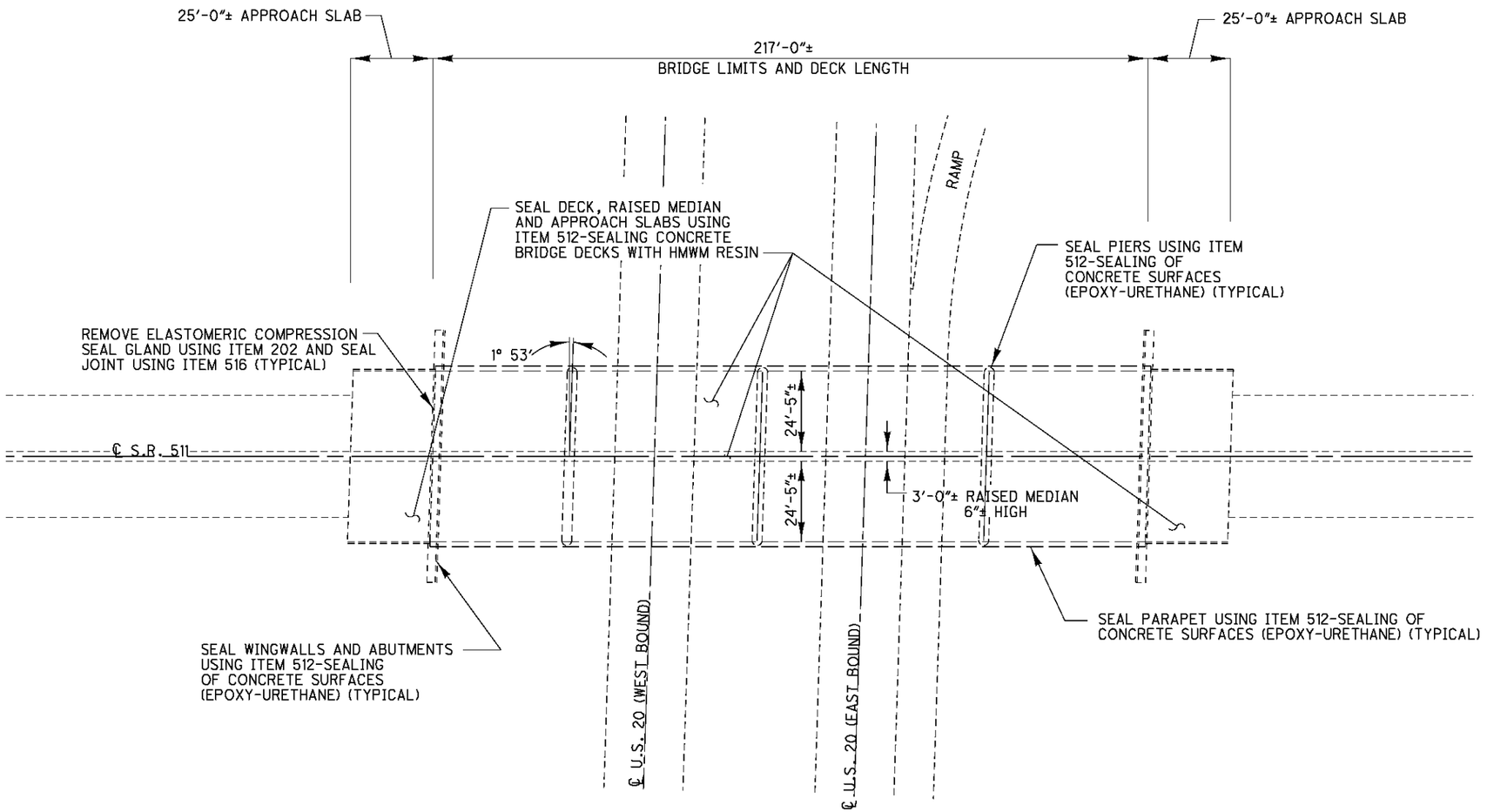
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701909	

SEALING DETAILS
LOR-20-0868 UNDER PARSONS ROAD

LOR-20-8.56



PLAN VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
202	104	FT	REMOVAL MISC.:, ELASTOMERIC COMPRESSION SEAL GLAND
512	853	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	1568	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN
512	853	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
516	104	FT	JOINT SEALER

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

1) SEE SHEET 2/2 FOR SEALING DETAILS.

DESIGN FILE:i:\projects\23809\Struct\LOR-20-0973.dgn MODELNAME: Design
WORKSTATION:hyaryanh DATE:11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4707370	

PLAN VIEW
LOR-20-0973 UNDER S.R. 511 (RAMP)

LOR-20-8.56

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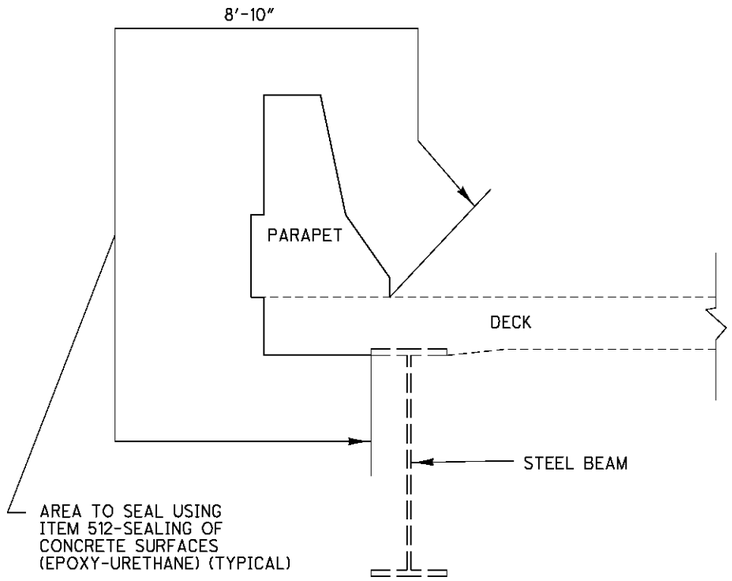
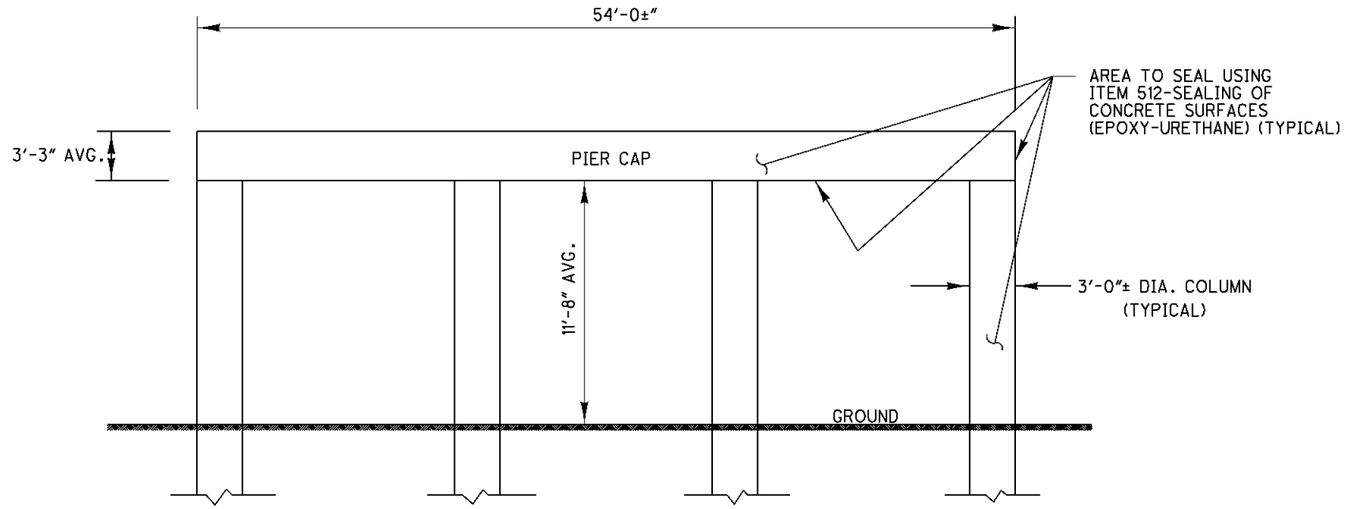
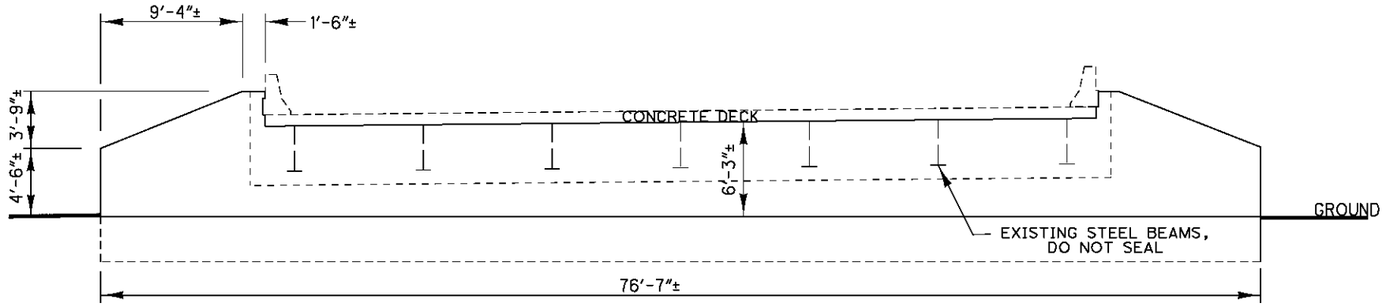


PARAPET SEALING DETAIL
(SEALING LENGTH = 217'-0")



PIER SEALING DETAIL
(PIER CAP WIDTH = 3'-0")



ABUTMENT SEALING DETAIL
(WINGWALL WIDTH = 2'-6")

ITEM	QUANTITY	UNIT	DESCRIPTION
512	853	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	853	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

ALL QUANTITIES CARRIED TO SHEET 1/2.

NOTES:

1) ELECTRIC CONDUITS, SIGNS AND SIGN LIGHTING ARE LOCATED ON PIERS, DO NOT SEAL.

DESIGN FILE=I:\projects\23809\Struct\LOR-20-0973.dgn MODELNAME: Design
WORKSTATION=yaryanh DATE:11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4707370	

SEALING DETAILS
LOR-20-0973 UNDER S.R. 511 (RAMP)

LOR-20-8.56

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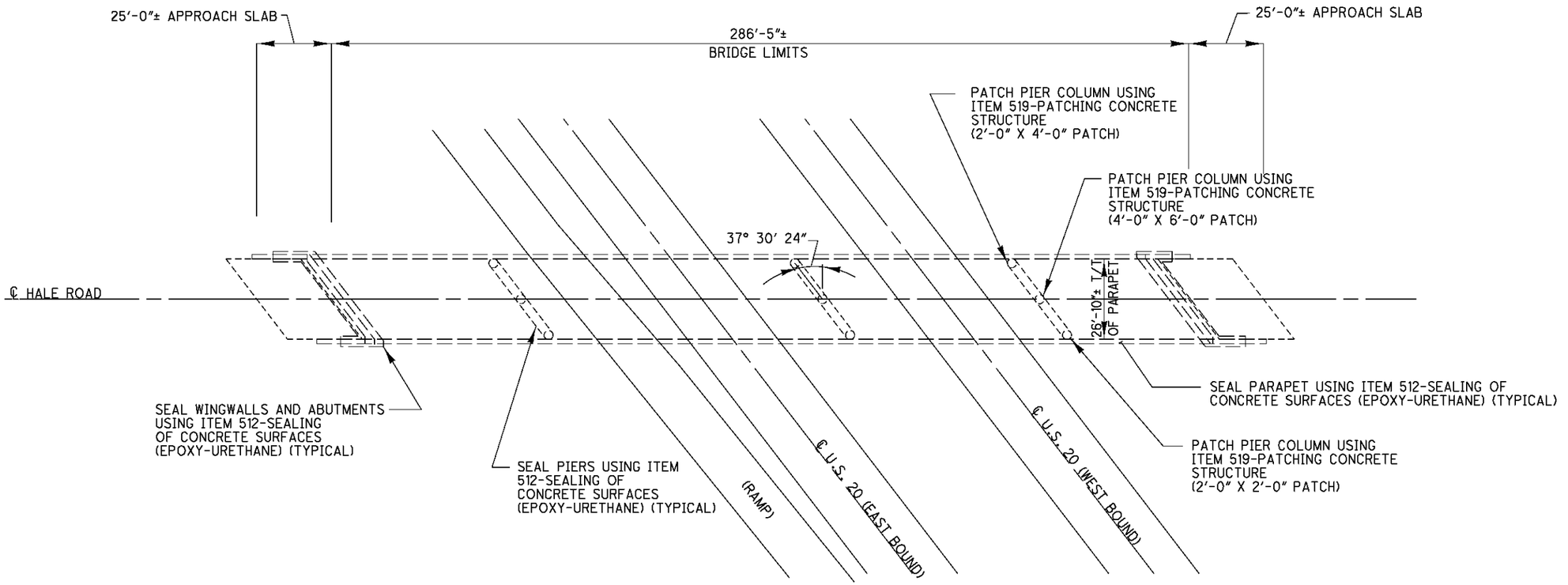

PLAN VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
512	965	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	965	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
519	36	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

1) SEE SHEET 2/2 FOR SEALING DETAILS.

2) PIER SEALING SHALL BE DONE AFTER ALL PIER PATCHING HAS CURED.

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701917	

PLAN VIEW
LOR-20-0999 UNDER HALE ROAD

LOR-20-8.56

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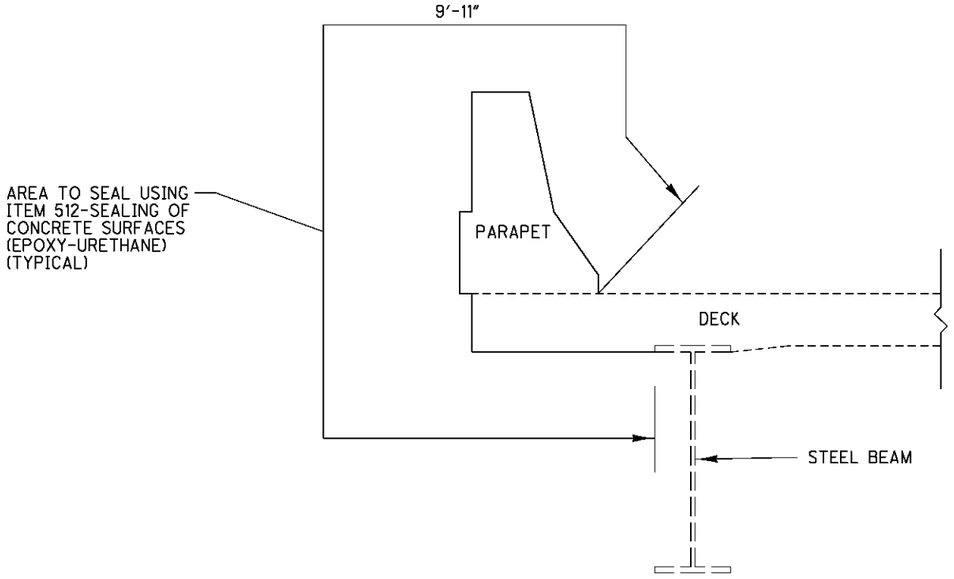
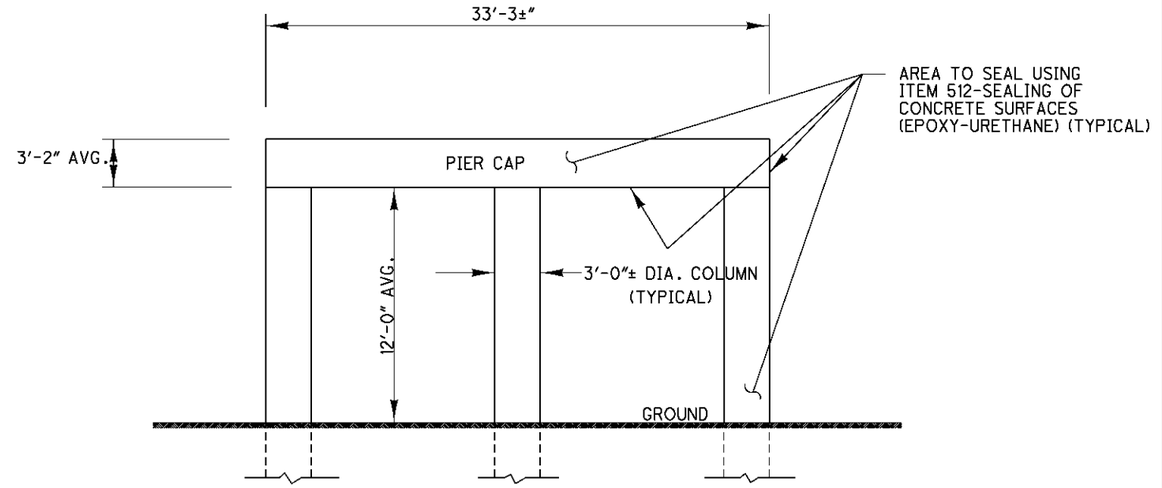
68

DESIGN FILE:I:\projects\23809\Struct\LOR-20-0999.dgn
WORKSTATION:tyaryanh
DATE:11/23/2011
MODELNAME: Design



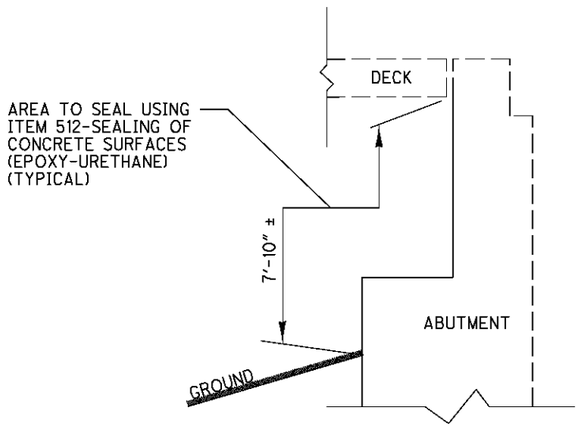
PARAPET SEALING DETAIL

(SEALING LENGTH = 283'-2")



PIER SEALING DETAIL

(PIER CAP WIDTH = 3'-0")

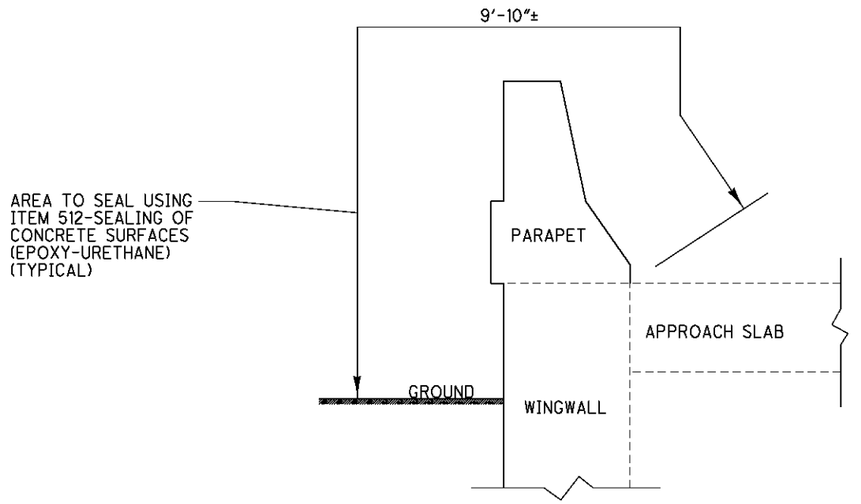


ABUTMENT SEALING DETAIL

(SEALING LENGTH = 37'-3"±)

ITEM	QUANTITY	UNIT	DESCRIPTION
512	965	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	965	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

ALL QUANTITIES CARRIED TO SHEET 1/2.



PARAPET/WINGWALL SEALING DETAIL

(SEALING LENGTH = 1 @ 16'-0"±, 1 @ 18'-5"±, 1 @ 11'-9"±" AND 1 @ 17'-11")

DESIGN FILE=i:\projects\23809\Struct\LOR-20-0999.dgn MODELNAME=Design
WORKSTATION=hyaryanh DATE=11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED DCM | DRAWN DCM | REVIEWED DJV | DATE 11/11
CHECKED CAL | REVISED | STRUCTURE FILE NUMBER 4701917

SEALING DETAILS
LOR-20-0999 UNDER HALE ROAD

LOR-20-8.56

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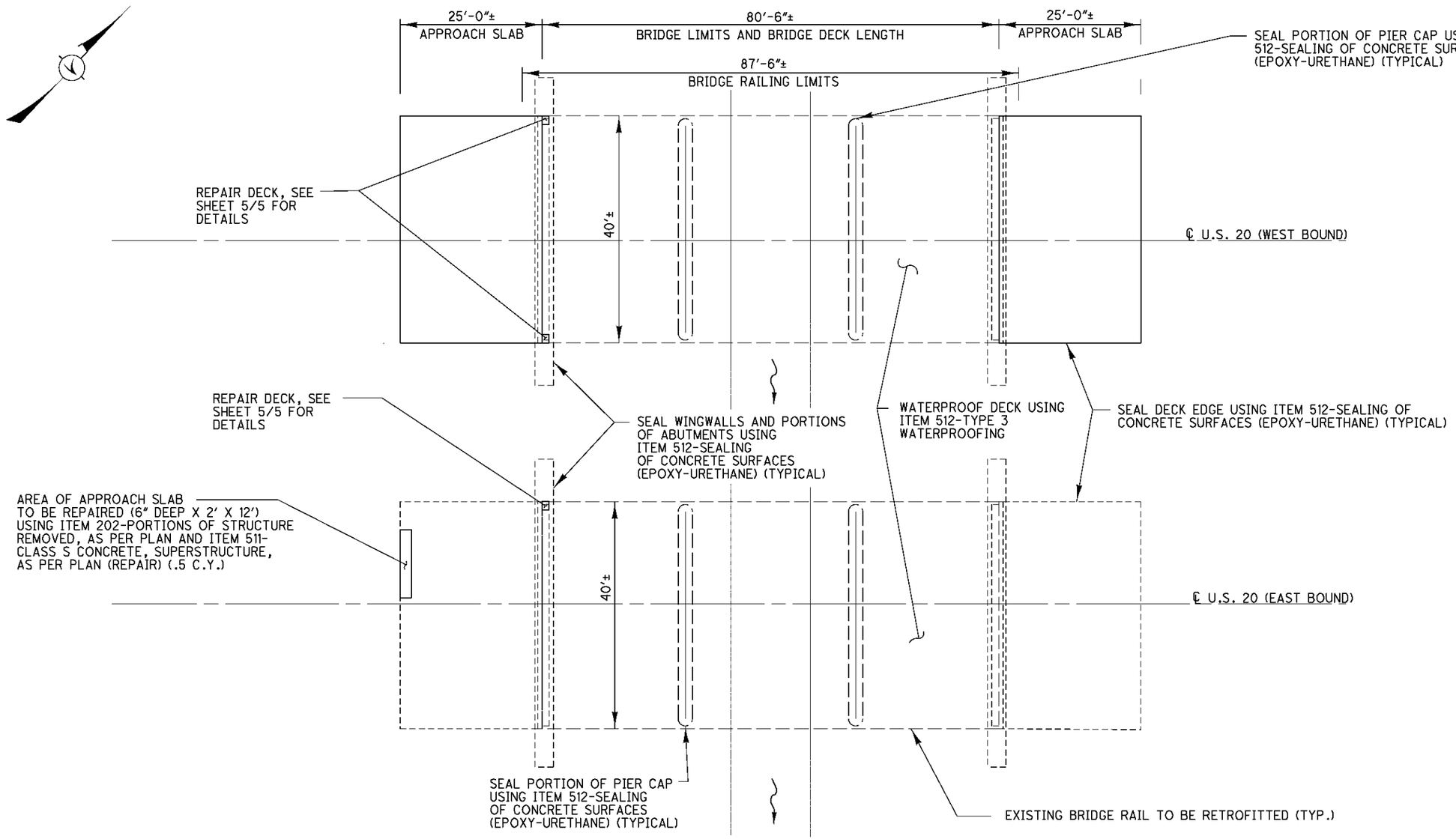

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1056L	LOR-20-1056R		
202	.2	.6	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	175.00	175.00	FT	BRIDGE RAILING REMOVED, AS PER PLAN
409	80	80	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS
511	1	1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (REPAIR)
512	73	73	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	376	376	SQ YD	TYPE 3 WATERPROOFING
512	73	73	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
517	175.00	175.00	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN
517	175.00	175.00	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

PLAN VIEW

NOTES:

1) SEE SHEET 2/5 FOR SEALING DETAILS.

2) SEE SHEET 3/5 FOR STRUCTURE RAIL DETAILS.

3) SEE SHEET 4/5 FOR STRUCTURE RESURFACING DETAILS.

4) SEE SHEET 5/5 FOR DECK REPAIR DETAILS.

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
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CAL		4701933 & 4701941	

PLAN VIEW
LOR-20-1056L&R OVER PLUM CREEK

LOR-20-8.56

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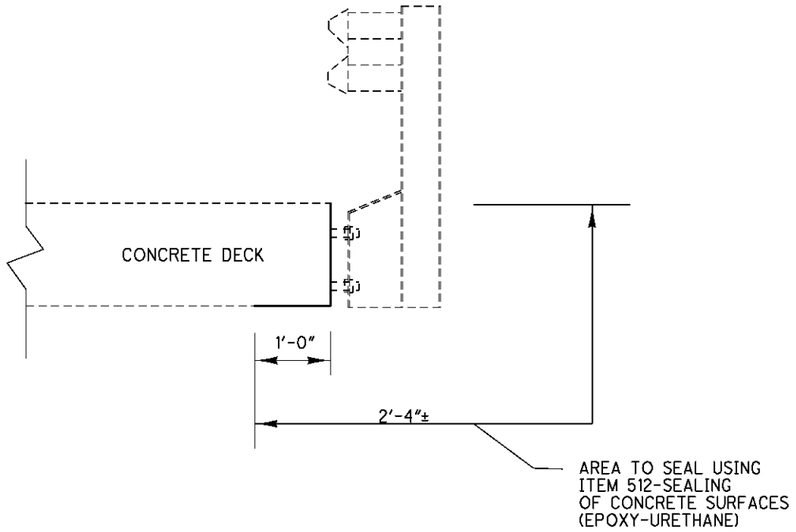
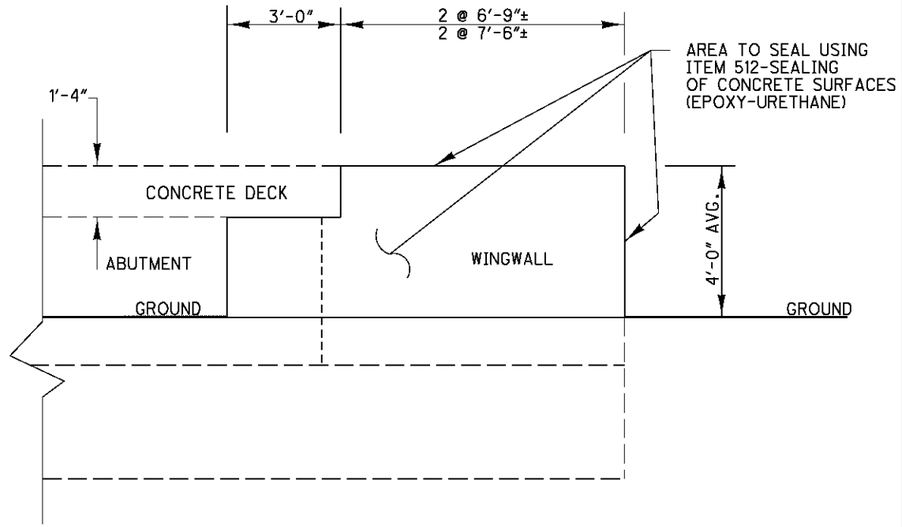
68

DESIGN FILE=i:\projects\23809\Struct\LOR-20-1056L&R.dgn MODELNAME=Design
WORKSTATION=hyaryann DATE=11/23/2011



DECK EDGE
SEALING DETAIL

(SEALING LENGTH =78-0"±)

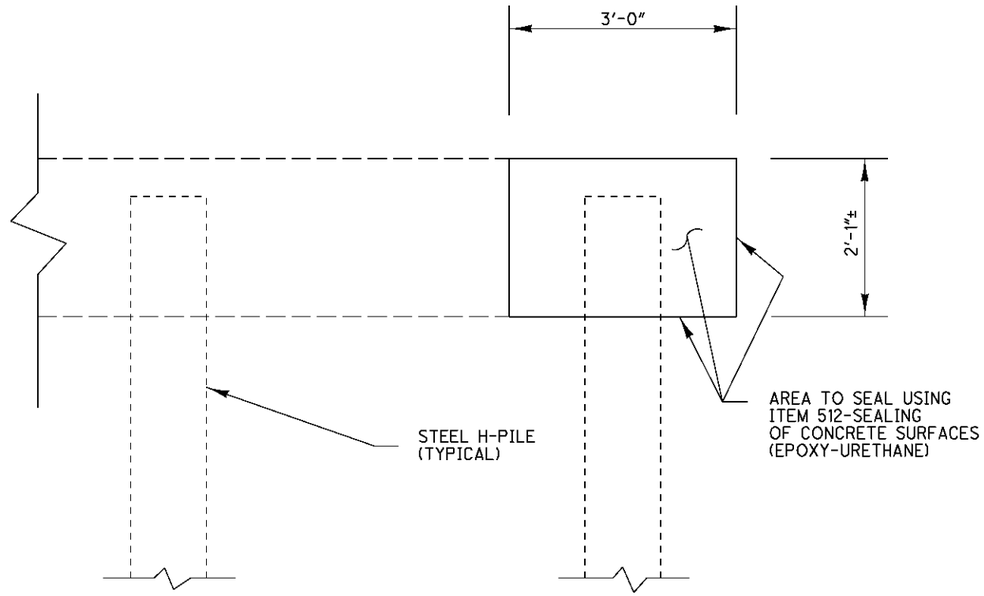


TYPICAL ABUTMENT/WINGWALL
SEALING DETAIL

(WINGWALL WIDTH = 1'-3"±)

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1056L	LOR-20-1056R		
512	73	73	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	73	73	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

ALL QUANTITIES CARRIED TO SHEET 1/5.



TYPICAL PIER CAP
SEALING DETAIL

(PIER CAP WIDTH = 2'-6"±)

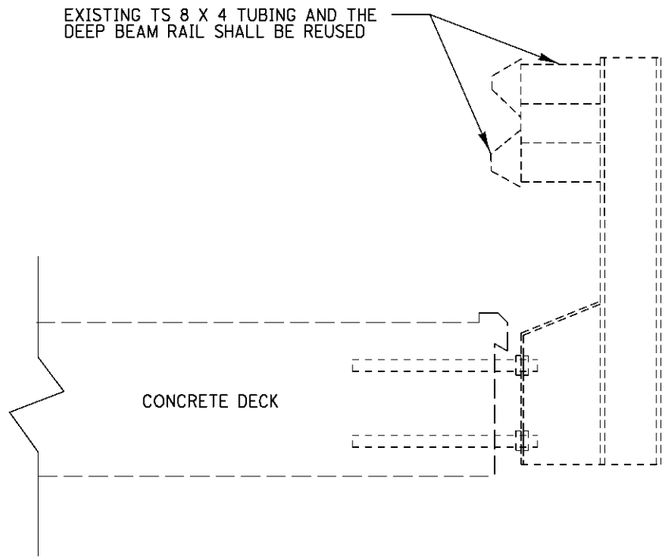
DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		47019333 & 47019341	

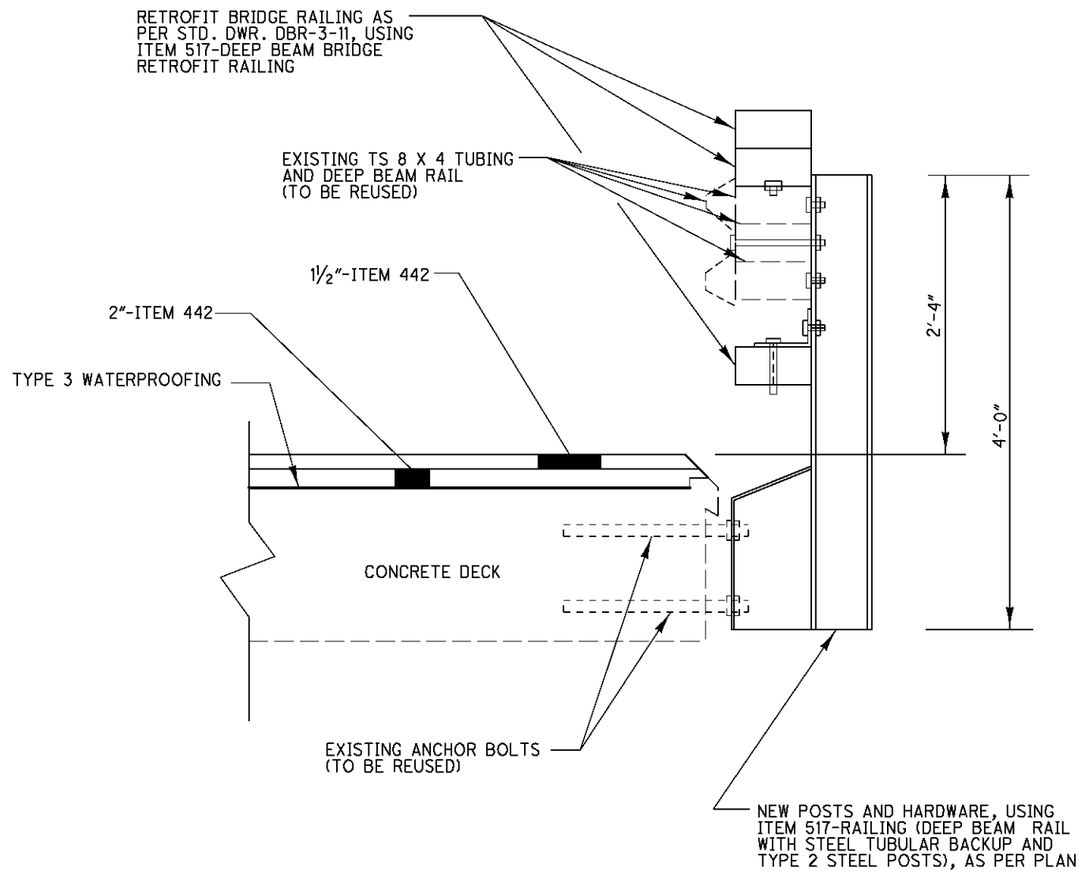
SEALING DETAILS
LOR-20-1056L&R OVER PLUM CREEK

LOR-20-8.56

DESIGN FILE:I:\projects\23809\Struct\LOR-20-1056L&R.dgn MODELNAME: Design
WORKSTATION:tyaryanh DATE:11/23/2011



EXISTING BRIDGE RAIL



PROPOSED BRIDGE RAIL WITH RESURFACING

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1056L	LOR-20-1056R		
202	175.00	175.00	FT	BRIDGE RAILING REMOVED, AS PER PLAN
517	175.00	175.00	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN
517	175.00	175.00	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)

ALL QUANTITIES CARRIED TO SHEET 1/5.

NOTES:

1) FOR RESURFACING AND WATERPROOFING, SEE SHEET 4/5 FOR ADDITIONAL DETAILS.
2) THE NEW STEEL POST AND EXISTING DEEP BEAM RAIL SHALL BE PLACED AS PER DETAIL ABOVE AND AS PER STD. DRW. DBR-2-73.
3) THE BRIDGE RAILING RETROFIT SHALL BE AS PER STD. DRW. DBR-3-11, AFTER THE NEW POSTS AND EXISTING RAILING ARE INSTALLED.

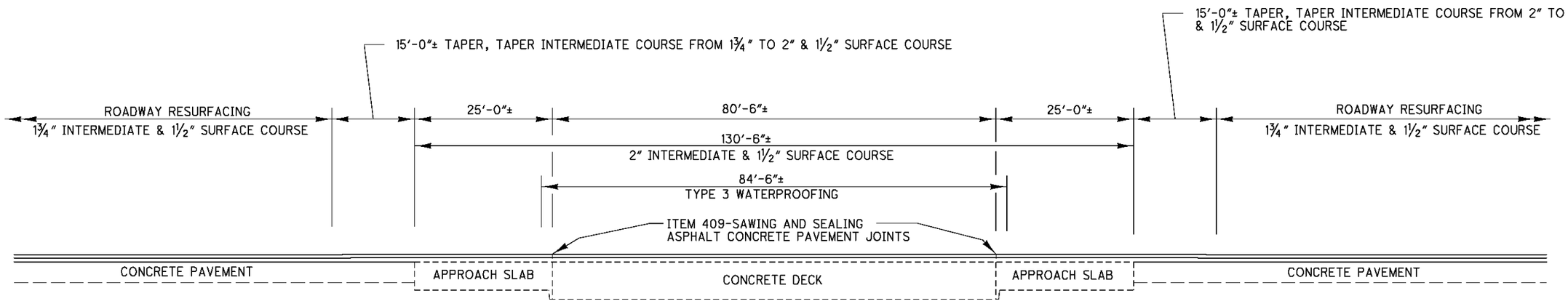
DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701933 & 4701941	

STRUCTURE RAIL DETAILS
LOR-20-1056L&R OVER PLUM CREEK

LOR-20-8.56

DESIGN FILE:i:\projects\23809\Struct\LOR-20-1056L&R.dgn MODELNAME: Design
WORKSTATION:nyaryanh DATE:11/23/2011



TYPICAL PROFILE

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1056L	LOR-20-1056R		
409	80	80	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS
512	376	376	SQ YD	TYPE 3 WATERPROOFING

ALL QUANTITIES CARRIED TO SHEET 1/5.

NOTES:

1) FOR ASPHALT AND TACK QUANTITIES, SEE SHEET 17.

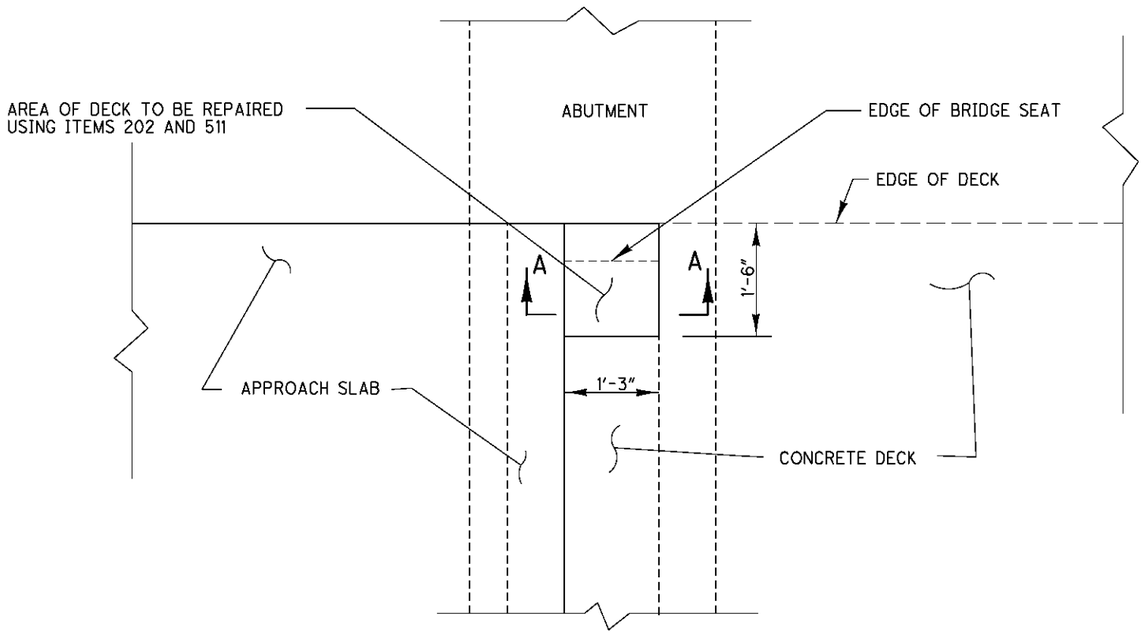
DESIGN FILE:I:\projects\23809\Struct\LOR-20-1056L&R.dgn MODELNAME: Design
WORKSTATION:tyaryanh DATE:11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701933 & 4701941	

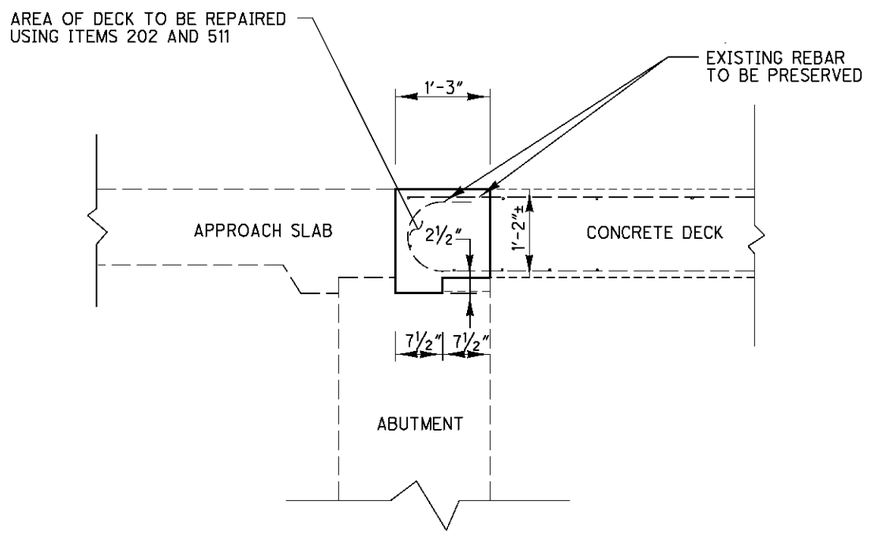
STRUCTURE RESURFACING
LOR-20-1056L&R OVER PLUM CREEK

LOR-20-8.56



TYPICAL PARTIAL PLAN VIEW

(2 LOCATIONS ON LEFT STRUCTURE AND
1 LOCATION ON RIGHT STRUCTURE,
SEE SHEET 1/5 FOR LOCATIONS)



TYPICAL SECTION A-A VIEW

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1056L	LOR-20-1056R		
202	.2	.1	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
511	.2	.1	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (REPAIR)

ALL QUANTITIES CARRIED TO SHEET 1/5.

DESIGN FILE=I:\projects\23809\Struct\LOR-20-1056L&R.dgn MODELNAME: Design
WORKSTATION=yaryanh DATE:11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701933 & 4701941	

DECK REPAIR
LOR-20-1056L&R OVER PLUM CREEK

LOR-20-8.56

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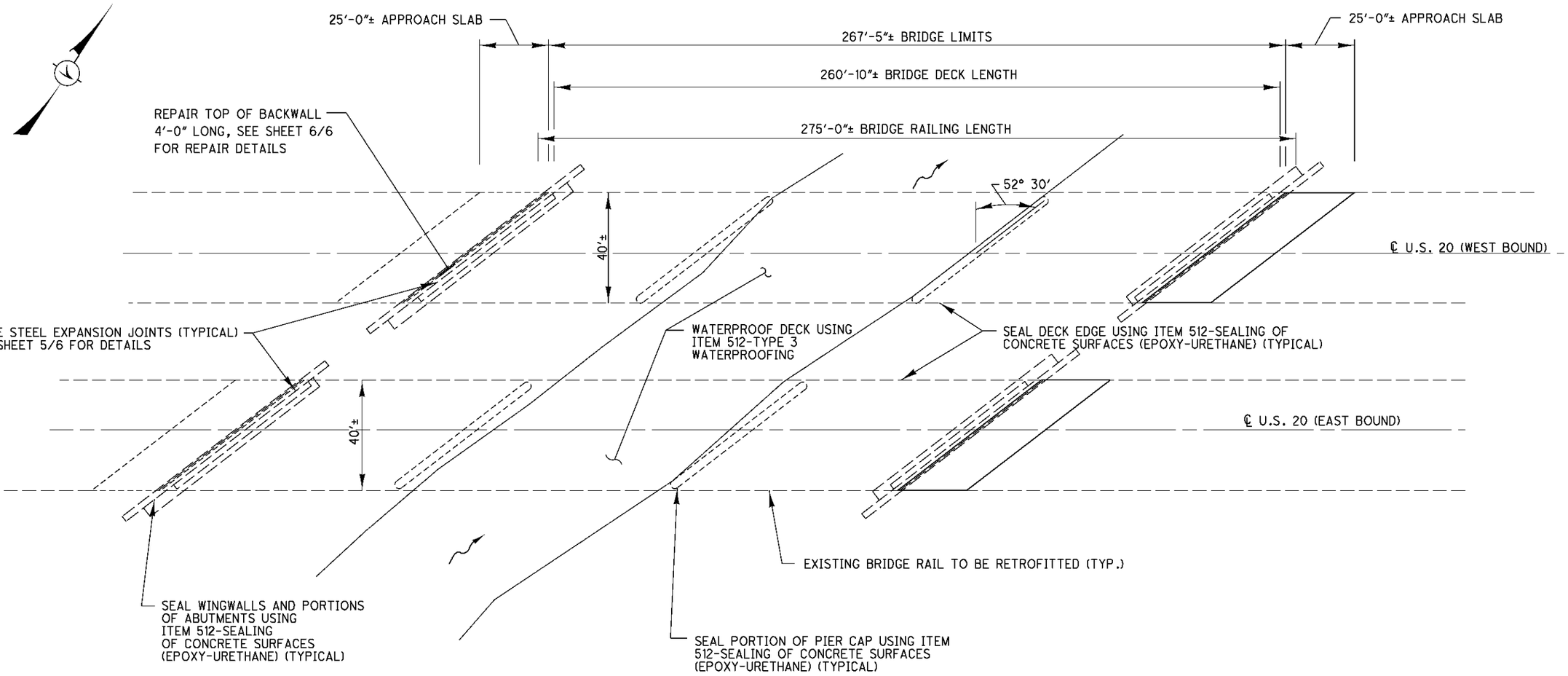
61
68



PLAN VIEW

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1208L	LOR-20-1208R		
202	.1		CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	550	550	FT	BRIDGE RAILING REMOVED, AS PER PLAN
511	.1		CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)
512	319	319	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
512	319	319	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	1160	1160	SQ YD	TYPE 3 WATERPROOFING
516	132	132	FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN
517	550	550	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN
517	550	550	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET

NOTES:

1) SEE SHEET 2/6 FOR SEALING DETAILS.
2) SEE SHEET 3/6 FOR BRIDGE RAIL DETAILS.
3) SEE SHEET 4/6 FOR STRUCTURE RESURFACING DETAILS.
4) SEE SHEET 5/6 FOR EXPANSION JOINT REPAIR DETAILS.
5) SEE SHEET 6/6 FOR BACKWALL REPAIR DETAILS.

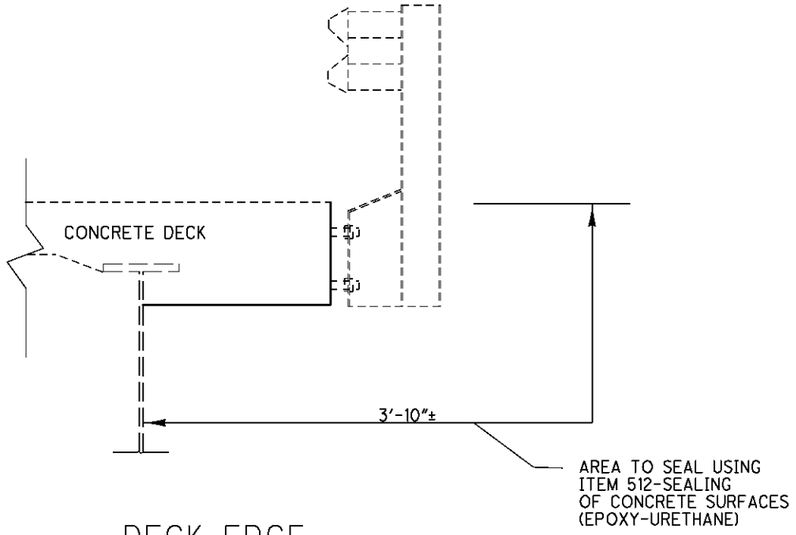
DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701968 & 4701976	

PLAN VIEW LOR-20-1208L&R
OVER WEST BRANCH OF BLACK RIVER

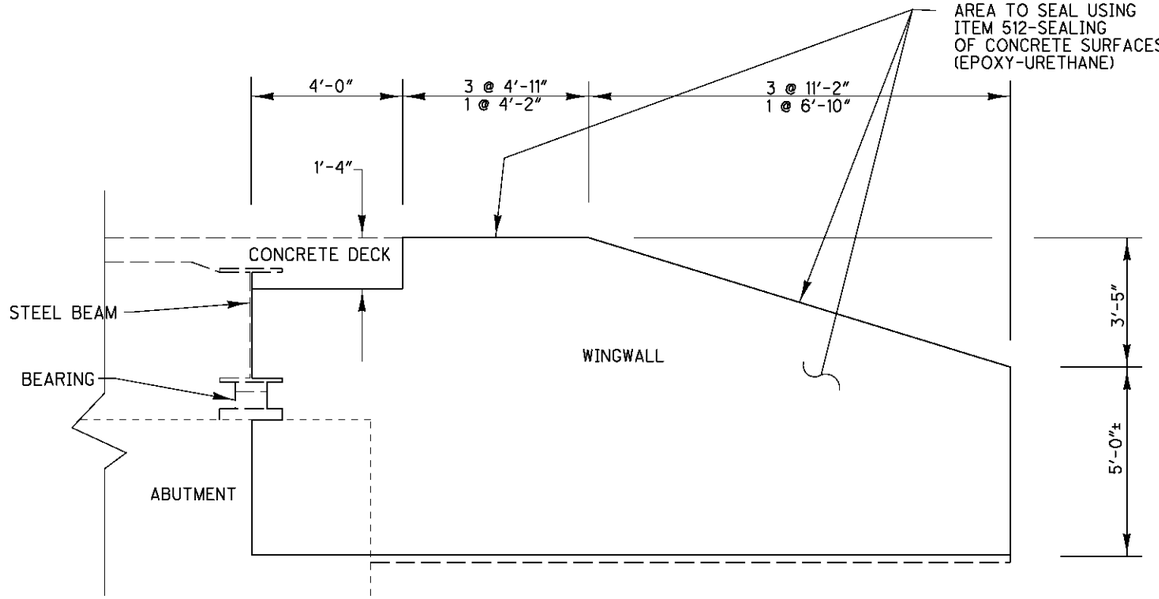
LOR-20-8.56

DESIGN FILE:i:\projects\23809\Struct\LOR-20-1208L&R.dgn MODELNAME: Design
WORKSTATION:hyaryann DATE:11/23/2011



DECK EDGE
SEALING DETAIL

(SEALING LENGTH =263-4"±)

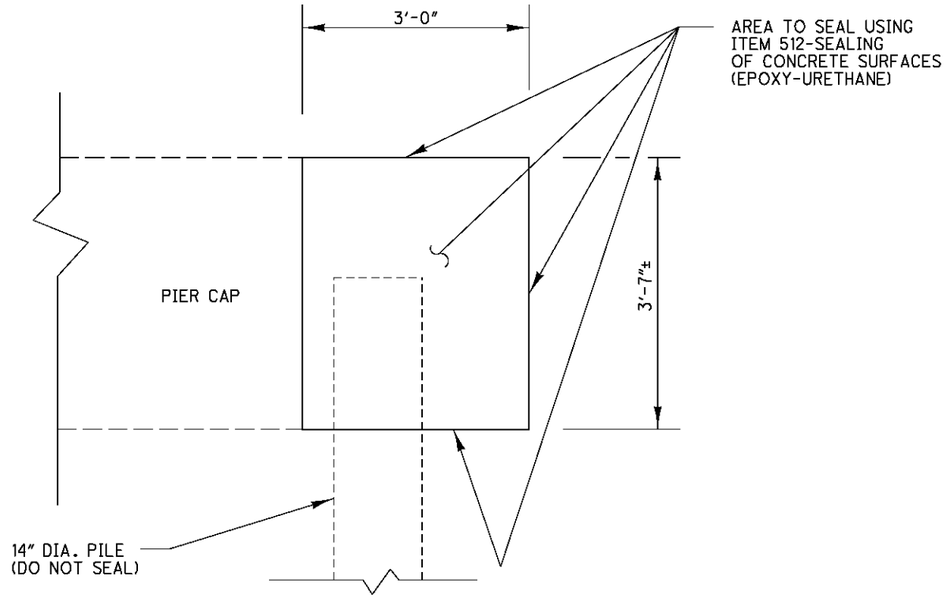


TYPICAL ABUTMENT/WINGWALL
SEALING DETAIL

(WINGWALL WIDTH = 1'-9"±)

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1208L	LOR-20-1208R		
512	319	319	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
512	319	319	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO SHEET 1/6.



TYPICAL PIER CAP
SEALING DETAIL

(PIER CAP WIDTH = 3'-0"±)

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701968 & 4701976	

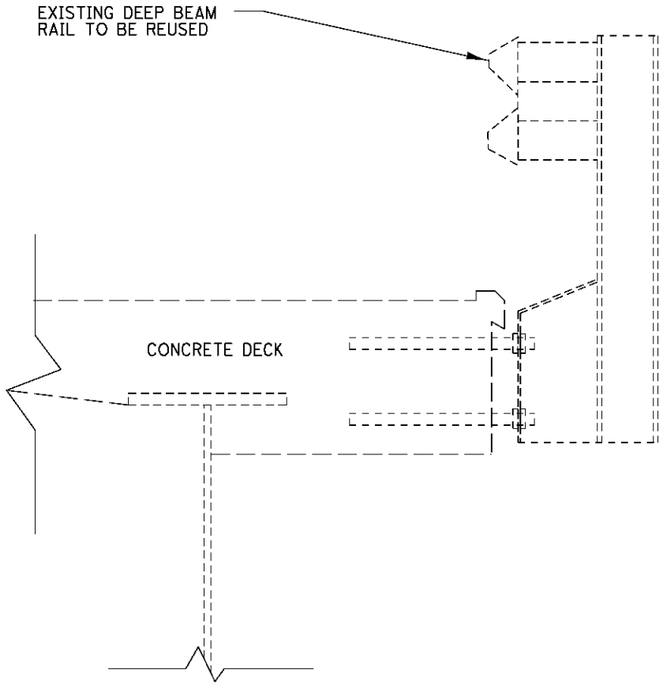
SEALING DETAILS LOR-20-1208L&R
OVER WEST BRANCH OF BLACK RIVER

LOR-20-8.56

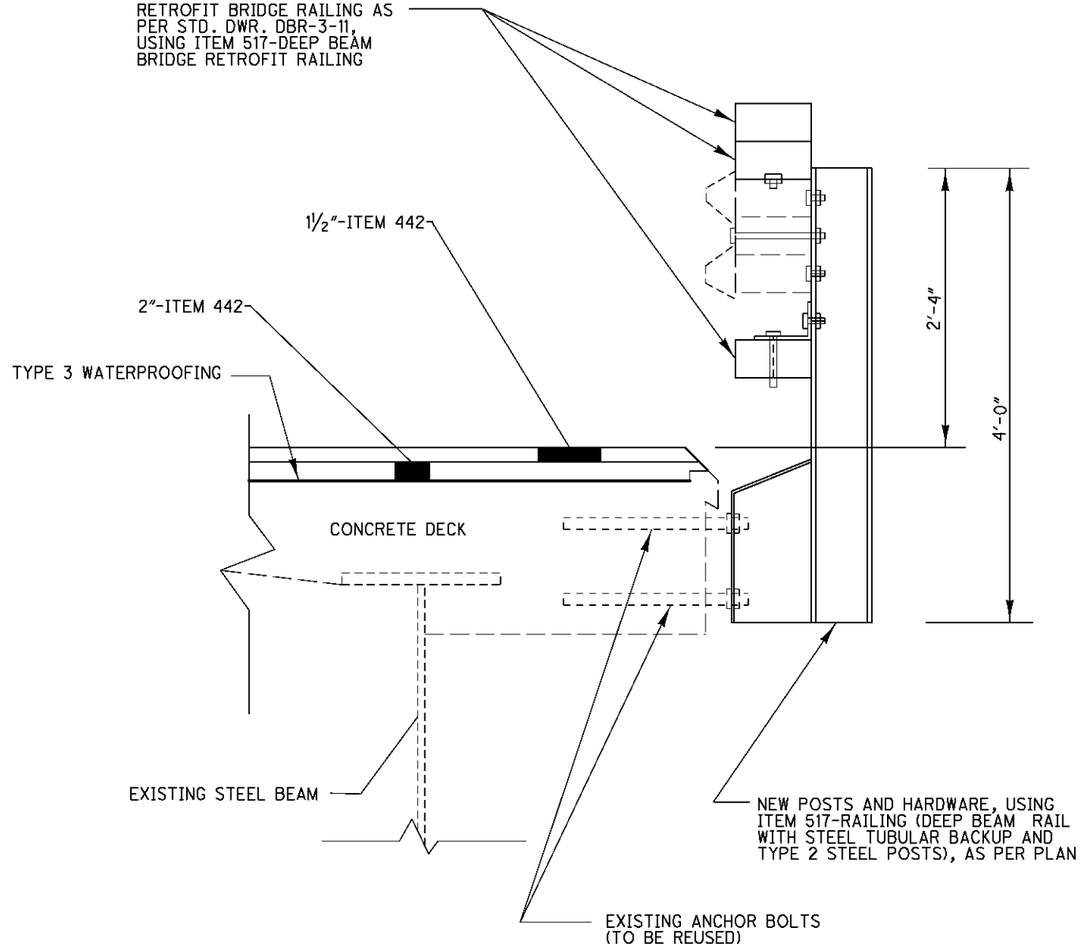
2/6

63/68

DESIGN FILE:I:\projects\23809\Struct\LOR-20-1208L&R.dgn MODELNAME:Design
WORKSTATION:tyaryanh DATE:11/23/2011



EXISTING BRIDGE RAIL



PROPOSED BRIDGE RAIL WITH RESURFACING

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1208L	LOR-20-1208R		
202	550	550	FT	BRIDGE RAILING REMOVED, AS PER PLAN
517	550	550	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS), AS PER PLAN
517	550	550	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)

ALL QUANTITIES CARRIED TO SHEET 1/6.

NOTES:

1) FOR RESURFACING AND WATERPROOFING, SEE SHEET 4/6 FOR ADDITIONAL DETAILS

2) THE NEW STEEL POST AND EXISTING DEEP BEAM RAIL SHALL BE PLACED AS PER DETAIL ABOVE AND AS PER STD. DRW. DBR-2-73.

3) THE BRIDGE RAILING RETROFIT SHALL BE AS PER STD. DRW. DBR-3-11, AFTER THE NEW POSTS AND EXISTING RAILING ARE INSTALLED.

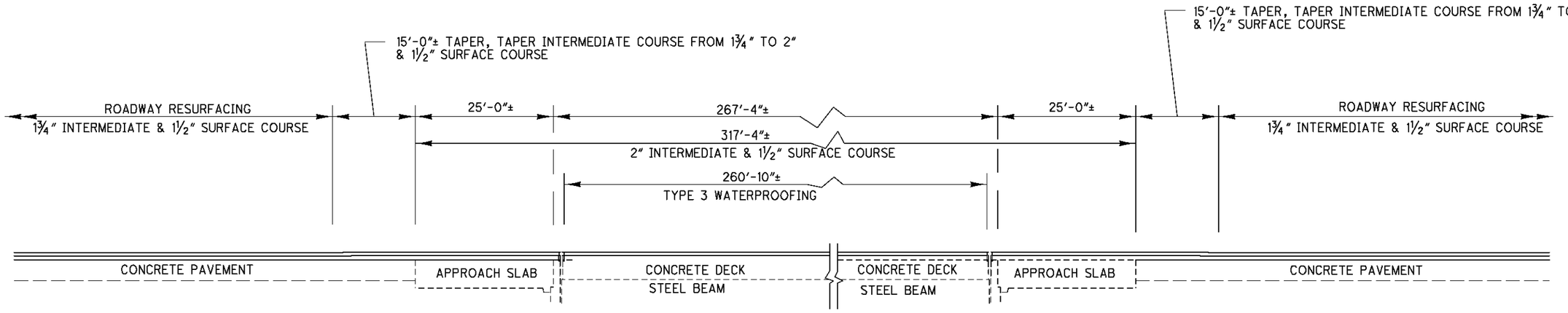
DESIGN FILE=I:\projects\23809\Struct\LOR-20-1208L&R.dgn MODELNAME=Design
WORKSTATION=hyaryanh DATE=11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701968 & 4701976	

STRUCTURE RAIL DETAILS LOR-20-1208L&R OVER WEST BRANCH OF BLACK RIVER

LOR-20-8.56



TYPICAL PROFILE

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1208L	LOR-20-1208R		
512	1160	1160	SQ YD	TYPE 3 WATERPROOFING

ALL QUANTITIES CARRIED TO SHEET 1/6.

NOTES:

1) FOR ASPHALT AND TACK QUANTITIES, SEE SHEET 17.

DESIGN FILE=I:\projects\23809\Struct\LOR-20-1208L&R.dgn MODELNAME=Design
WORKSTATION=hyaryann DATE=11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

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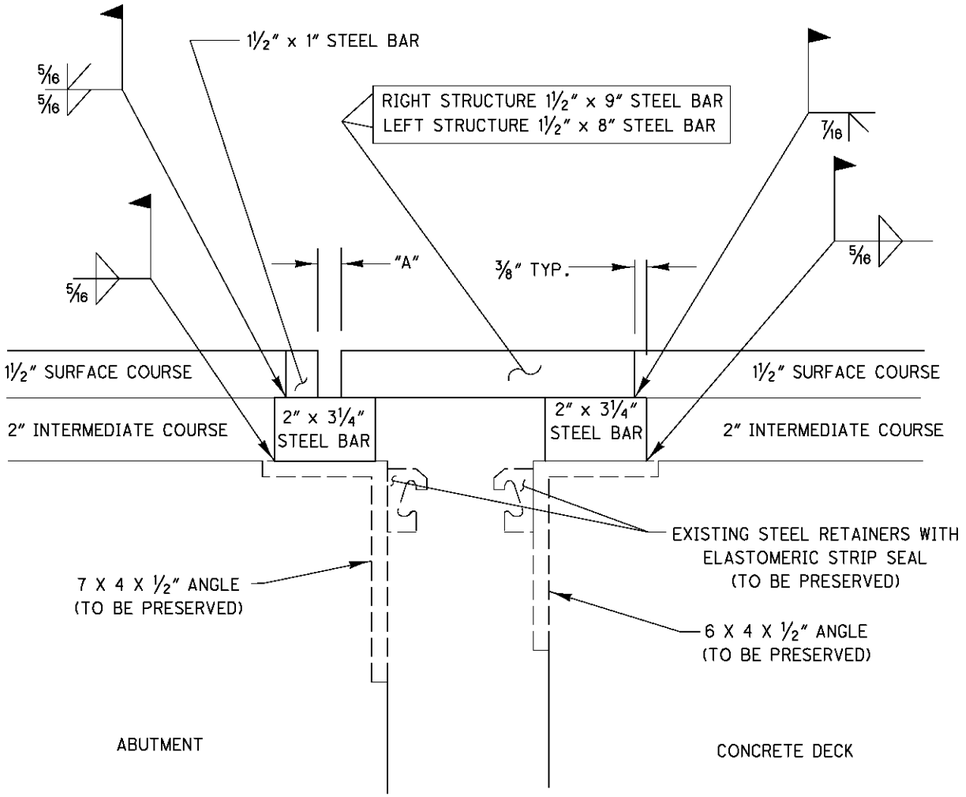
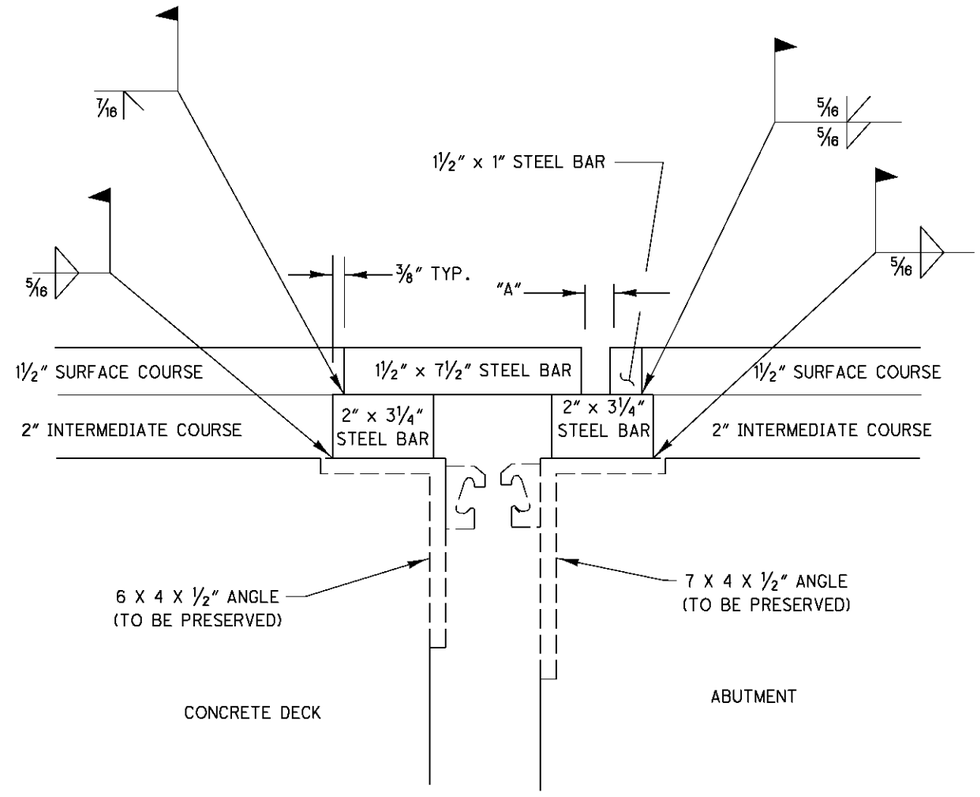
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701968 & 4701976	

STRUCTURE RESURFACING LOR-20-1208L&R
OVER WEST BRANCH OF BLACK RIVER

LOR-20-8.56



REAR ABUTMENT



FORWARD ABUTMENT

ITEM	QUANTITY		UNIT	DESCRIPTION
	LOR-20-1208L	LOR-20-1208R		
516	132	132	FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN

ALL QUANTITIES CARRIED TO SHEET 1/6.

TEMPERATURE ADJUSTMENT TABLE							
TEMPERATURE	30°F	40°F	50°F	60°F	70°F	80°F	90°F
DIMENSION "A"	1.25"	1.14"	1.02"	.92"	.80"	.70"	.60"

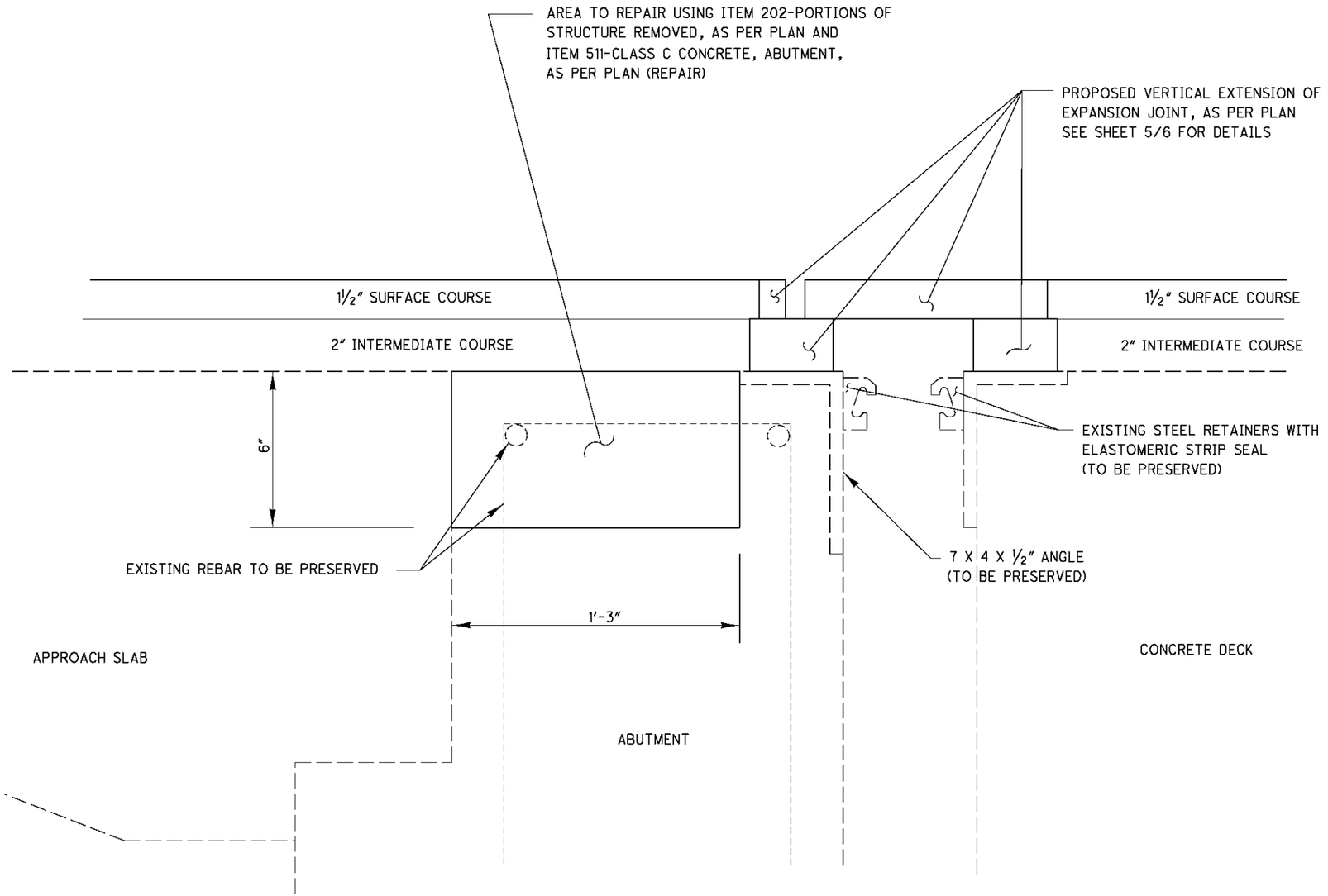
DESIGN FILE:I:\projects\23809\Struct\LOR-20-1208L&R.dgn MODELNAME: Design
WORKSTATION:tyaryanh DATE:11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701968 & 4701976	

VERTICAL EXTENSION OF
STRUCTURAL EXPANSION JOINT DETAILS
LOR-20-1208L&R OVER WEST BR. OF BLACK RIVER

LOR-20-8.56



REAR ABUTMENT

REPAIR LENGTH= 4'-0"

ITEM	QUANTITY LOR-20-1208L	UNIT	DESCRIPTION
202	.1	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
511	.1	CU YD	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (REPAIR)

ALL QUANTITIES CARRIED TO SHEET 1/6.

NOTES:

1) REPAIR AREA PRIOR TO RAISING JOINTS AND RESURFACING

DESIGN FILE:i:\projects\23809\Struct\LOR-20-1208L&R.dgn MODELNAME: Design
WORKSTATION:nyaryanh DATE:11/23/2011

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

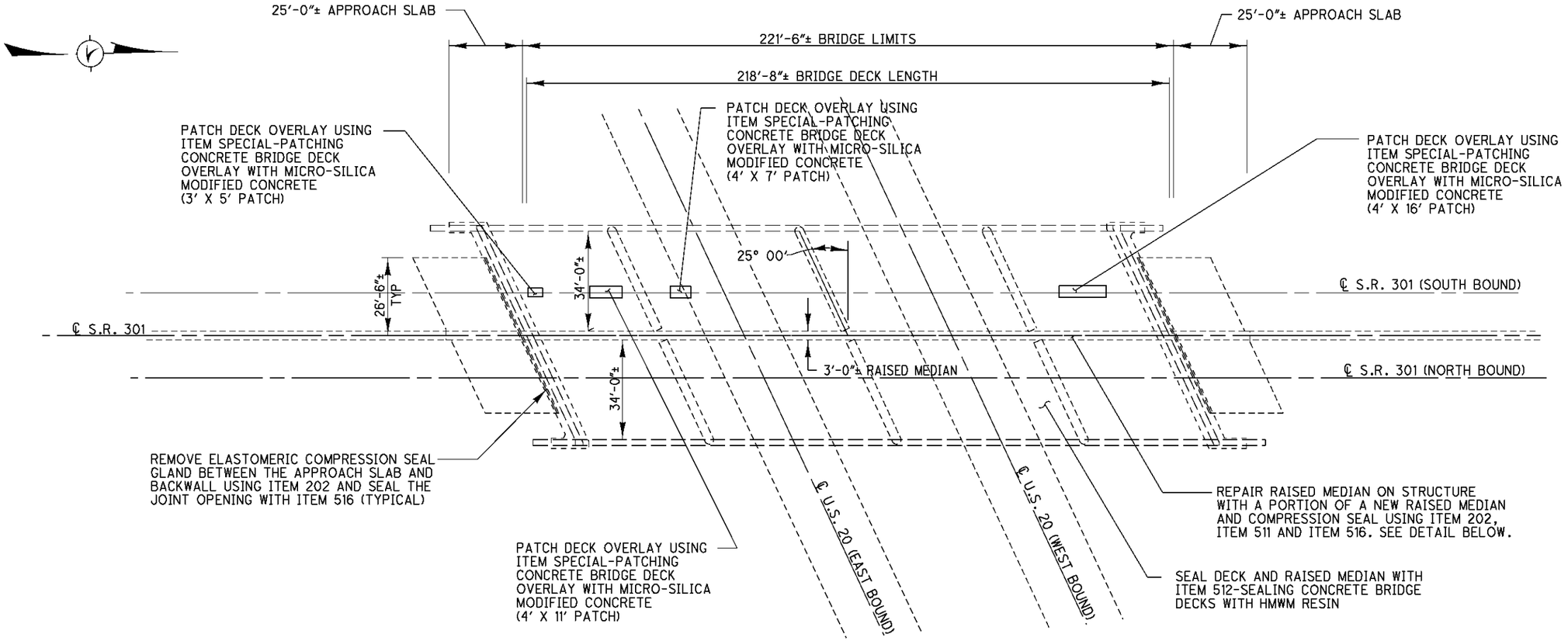
DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4701968	

BACKWALL REPAIR DETAILS
LOR-20-1208L OVER WEST BR. OF BLACK RIVER

LOR-20-8.56

6 / 6

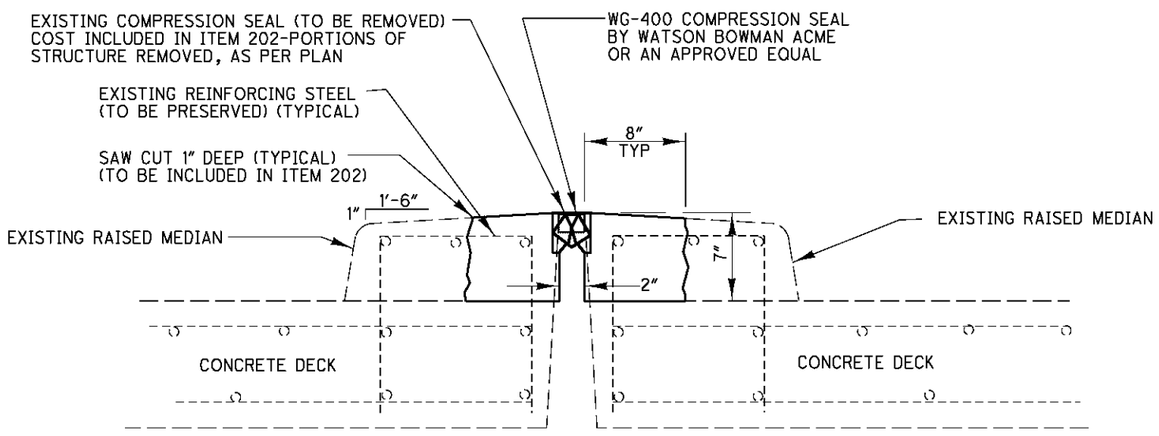
67
68



PLAN VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
202	7	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	120	FT	REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL GLAND
511	7	CU YD	CLASS S CONCRETE, MISC.: RAISED MEDIAN REPAIR
512	1750	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN
516	219	FT	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN
516	118	FT	JOINT SEALER
SPECIAL	17	SQ YD	PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET



RAISED MEDIAN REPAIR DETAIL

221'-6"± MEDIAN REPAIR

DESIGN FILE:H:\projects\23809\Struct\LOR-20-1303.dgn
WORKSTATION:tyaryanh
DATE:11/23/2011
MODELNAME: Design

DESIGN AGENCY
ODOT DISTRICT THREE
OFFICE OF
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	DJV	11/11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		4706609	

PLAN VIEW
LOR-20-1303 UNDER
S.R. 301

LOR-20-8.56