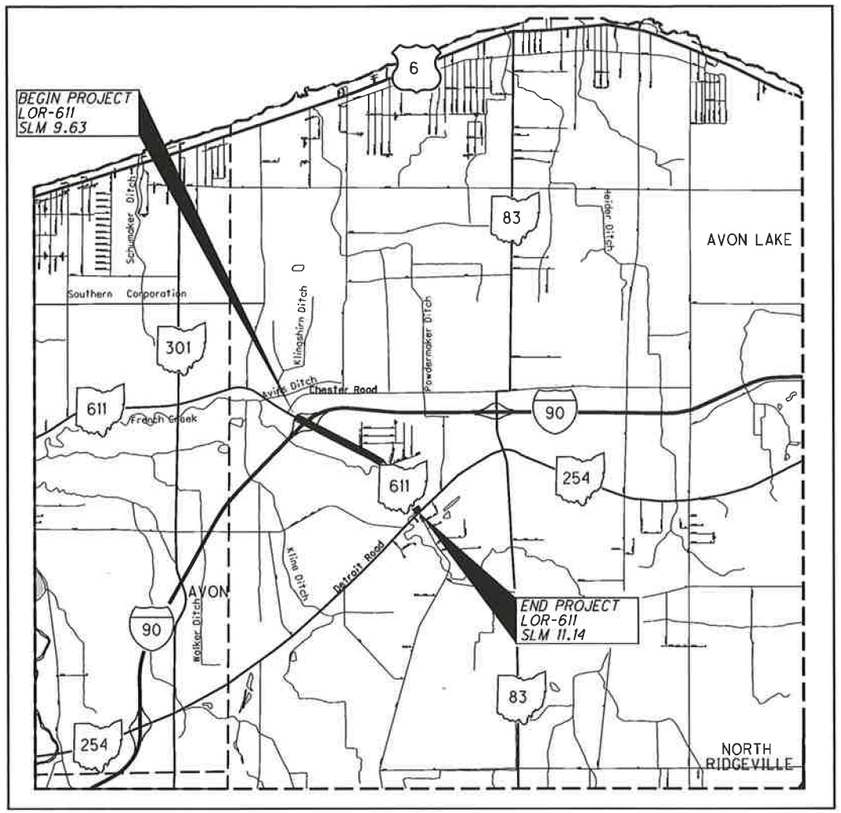


LATITUDE: N41° 27′ 34″ LONGITUDE: W82° 2′ 43″

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

SEE SHEET NO. 2.

DESIGN EXCEPTIONS

NONE

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

LOR-611-9.63

CITY OF AVON
LORAIN COUNTY
PART I

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT WILL INCLUDE PAVEMENT PLANING, PAVEMENT REPAIR, RESURFACING WITH ASPHALT CONCRETE, AND PAVEMENT MARKINGS.

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

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

APPROVED _____
DATE 12-18-12 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

ROADWAY ENGINEERS SEAL:

STATE OF OHIO
CHRISTOPHER LEE BROWN
E-48051
REGISTERED PROFESSIONAL ENGINEER

SIGNED: _____
DATE: Dec 17, 2012

UNDERGROUND UTILITIES
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

STANDARD CONSTRUCTION DRAWINGS

										SUPPLEMENTAL SPECIFICATION	
BP-2.1	7/18/08	WO-1.3	7/20/12	HL-10.11	4/17/09	MT-95.41	7/20/12	TC-51.11	1/21/11	800	7/20/2010
BP-2.4	7/16/04			HL-10.12	10/15/10	MT-97.10	7/20/12	TC-52.10	1/19/07	821	4/20/2012
BP-2.5	7/18/08	GR-1.1	7/20/12	HL-10.13	10/16/09	MT-97.12	7/20/12	TC-52.20	1/19/07	823	7/20/2012
BP-3.1	4/20/12	GR-2.1	7/20/12	HL-20.11	1/19/07	MT-99.20	7/20/12	TC-61.30	4/20/12	832	5/5/2009
BP-4.1	7/16/04	GR-3.1	7/20/12	HL-30.11	10/16/09	MT-101.60	7/20/12	TC-65.10	4/20/12	835	4/18/2008
BP-5.1	7/28/00	GR-3.2	7/20/12	HL-30.21	10/21/11	MT-101.70	4/15/11	TC-65.11	4/20/12	898	10/21/2011
BP-7.1	10/15/10	GR-4.2	7/20/12	HL-30.22	4/17/09	MT-101.90	10/21/11	TC-71.10	1/21/11		
				HL-30.31	4/17/09			TC-73.10	4/20/12		
CB-1.2	7/20/12	AS-1-81	7/19/02	HL-30.32	4/17/09	TC-12.30	1/21/11	TC-81.10	10/21/11		
CB-2.2	7/20/12	BR-2-98	7/18/08	HL-40.10	1/19/07	TC-21.20	4/15/11	TC-82.10	1/21/11	SPECIAL PROVISIONS	
		EXJ-4-87	7/19/02	HL-60.11	10/21/11	TC-22.20	1/21/11	TC-83.10	1/19/07		
HW-2.2	7/20/12	CSD-1-96	7/19/02	HL-60.12	10/21/11	TC-41.10	10/19/07	TC-84.20	1/21/11		
		PCB-91	7/19/02	HL-60.31	1/19/07	TC-41.20	1/19/01	TC-84.21	1/19/07		
DM-1.1	7/20/12	RB-1-55	2/2/59			TC-41.50	1/19/07	TC-85.10	10/16/09		
DM-1.2	7/20/12	VPF-1-90	4/15/11	MT-95.31	7/20/12	TC-42.10	1/19/07				
				MT-95.32	7/20/12	TC-42.20	1/21/11				

PLAN PREPARED BY:
ODOT DISTRICT THREE PLANNING & ENGINEERING DEPT.

FEDERAL PROJECT NO. E090(084)
PID NO. 83447
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
LOR - 611 - 9.63
1 / 24

DESIGN FILE: $$$$$.DGNFILESPECIFICATIONS$$$$$
WORKSTATION: $TERMINAL$ DATE: $$$$$DATE$$$$$

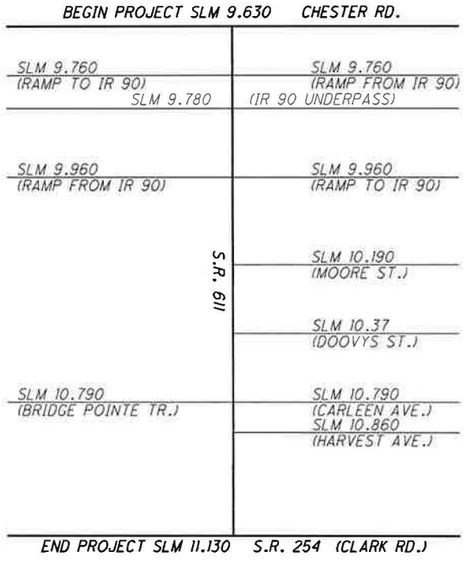
DESIGN FILE: I:\projects\83447\roadway\sheets\83447GB001.dgn
WORKSTATION: gschlett DATE: 2/5/2013 MODELNAME: Design

DESIGN DESIGNATION (LOR-611-9.63 TO 11.13)

CURRENT ADT (2013)	11,880
DESIGN YEAR ADT (2025)	13,760
DESIGN HOURLY VOLUME (2025)	1,510
DIRECTIONAL DISTRIBUTION	0.57
TRUCKS (24 HOUR B&C)	0.04
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN MINOR ARTERIAL	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE



GENERAL

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.

GAS
Columbia Gas of Ohio
Dan Suren
7080 Fry Road
Middleburg Heights, Ohio 44130
Phone: 440-891-2428

Time Warner Cable
Ken Lariviere
576 Ternes Avenue
Elyria, Ohio 44035
Phone: 440-366-0417 X624

City of Avon
Dave Conrad
35030 Detroit Road
Avon, Ohio 44071
Phone: 440-937-5714

Avon Lake Municipal Ulilites (ALMU)
Jack Gaydar, Engineering Services Manager
201 Miller Road
Avon Lake, Ohio 44012
Phone: 440-933-6226

TELEPHONE:
Centurylink
Robert Dakin
1730 West 19th Street
Lorain, Ohio 44052
Phone: 440-224-8330

ELECTRIC:
Cleveland Electric Illuminating (CEI) Company
Mark Robinson
6896 Miller Road, Suite 101
Brecksville, Ohio 44141
Phone: 440-546-8704

Ohio Edison Tranmission
Carlos A. Munoz
76 South Main Street
Akron, Ohio 44308
Phone: 330-384-4835

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.

ENVIRONMENTAL COMMITMENTS

THIS PROJECT IS WITHIN THE KNOWN SUMMER BREEDING RANGE OF THE FEDERAL ENDANGERED INDIANA BAT. UNAVOIDABLE CUTTING OF TREES DEFINED AS POTENTIAL HABITAT FOR THE INDIANA BAT (I.E. LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES) WILL BE PERFORMED ONLY BEFORE APRIL 1 OR AFTER SEPTEMBER 30 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITAT.

ROADWAY

SAFETY EDGE

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

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

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

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

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

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

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

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

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

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

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

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

ITEM 823 - MONUMENT BOX ADJUSTED TO GRADE

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

PAVEMENT

ITEM 253 - PAVEMENT REPAIR, AS PER PLAN
ITEM 253 - PAVEMENT REPAIR, MISC.: PARTIAL DEPTH

THESE ITEMS OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE.

THE ENGINEER SHALL DESIGNATE THE LOCATIONS AND LIMITS OF THE AREAS TO BE REPAIRED. PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING AND 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 2.75", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 2" AND AN AVERAGE WIDTH OF 4 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 2 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE, PG64-22 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 448 TYPE 2 OR ITEM 442 19MM CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 5" WITH A MAXIMUM PAVEMENT LIFT OF 3". THE CONTRACTOR HAS THE OPTION OF USING EITHER ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL WHEN THE PAVEMENT REPAIR IS BETWEEN 3" AND 5" DEEP. ITEM 448 TYPE 2 OR ITEM 442 19MM MATERIAL SHALL BE PG64-22 FOR MEDIUM MIX DESIGN PAVEMENTS AND PG64-28 FOR HEAVY MIX DESIGN PAVEMENTS. 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. FOR PAYMENT PURPOSES ITEM 253 PAVEMENT REPAIR, MISC.: PARTIAL DEPTH IS TO BE A MAXIMUM OF 4" DEEP AND ITEM 253 PAVEMENT REPAIR, AS PER PLAN IS FOR DEPTHS GREATER THAN 4". PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 253 - PAVEMENT REPAIR, AS PER PLAN OR ITEM 253 - PAVEMENT REPAIR, MISC.: PARTIAL DEPTH. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

SR 611 ITEM 253 - PAVEMENT REPAIR, MISC.: PARTIAL DEPTH	522 CU. YD.
SR 611 ITEM 253 - PAVEMENT REPAIR, AS PER PLAN	28 CU. YD.

ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE (2.00")

THE INTENT OF THE PLANING IS TO MILL 2.0 INCHES AT THE CENTER OF PAVEMENT AT THE NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.016 PREFERRED AND 0.010 MINIMUM, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES. WHEN 2.0 INCH DEPTH PAVEMENT PLANING IS BEING PERFORMED AT THE CENTERLINE, THE CONTRACTOR MAY HAVE TO PLANE DEEPER AT THE EDGE OF PAVEMENT TO ESTABLISH THE MINIMUM CROSS SLOPE. IF THIS IS THE CASE, THE CONTRACTOR SHALL PLANE A MAXIMUM OF 2.25 INCHES AT THE EDGE OF PAVEMENT EVEN IF THIS MAXIMUM DEPTH DOES NOT MEET THE MINIMUM CROSS SLOPE REQUIREMENTS.

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 $1000.

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 PAVEMENT PLANING, ASPHALT CONCRETE (2.00").

CALCULATED GTS CHECKED .

GENERAL NOTES

LOR - 611 - 9.63

DESIGN FILE: N:\projects\83447\roadway\sheets\83447GN001.dgn MODELNAME: Sheet
WORKSTATION: gschiett DATE: 2/5/2013

ITEM 407, TACK COAT
ITEM 407, TACK COAT FOR INTERMEDIATE COURSE

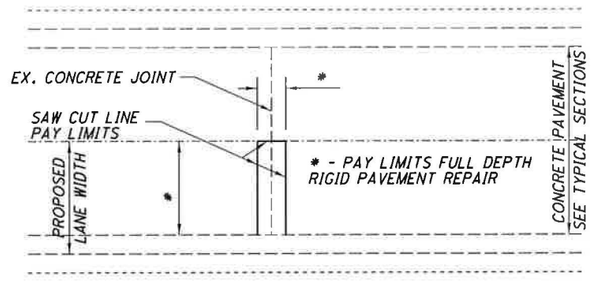
AS PER 407.06 THE APPLICATION RATES SHALL BE 0.08 GAL. PER SQ. YD. PRIOR TO THE INTERMEDIATE COURSE AND SHALL BE 0.04 GAL/SY OR 0.08 GAL/SY PRIOR TO THE SURFACE COURSE FOR ESTIMATING PURPOSES ONLY. THE RATE OF APPLICATION SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. A COMPLETE PAVEMENT 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 PATCHING PLANED SURFACE

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

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS

THIS ITEM OF WORK SHALL BE USED AT THE LOCATIONS DETERMINED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL USE THE FOLLOWING DETAIL FOR CONSTRUCTION AND ESTIMATING PURPOSES. THE PROPOSED DEPTH OF THE CONCRETE SHALL MATCH THE EXISTING DEPTH OF THE CONCRETE PAVEMENT.



THE FOLLOWING ESTIMATED QUANTITIES ARE SHOWN ON THE GENERAL SUMMARY SHEET.

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS 1494 SQ YD
ITEM 255 - FULL DEPTH PAVEMENT SAWING 4824 FT

ITEM 442, ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN

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

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

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

INTERSECTIONS AND DRIVES

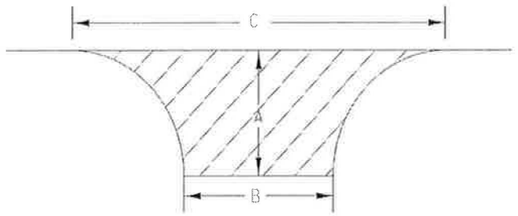
RURAL-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE END OF THE RADII OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

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

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

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

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



Intersection Name	A (ft.)	B (ft.)	C (ft.)	Area (sy)	COMMENTS
Moore Street (Lt.)	21	30	92	118	NO STOP BAR NEEDED
Doovy Drive (Lt.)	20	46	102	144	NO STOP BAR NEEDED
Carleen Ave. (Lt.)					New Traffic Signal Installed, New curb Ramps on NE & NW Corners
					Paving thru intersection no work on side road
Bridge Pl. Trail					Concrete
Harvest Drive (Lt.)					Concrete
Total Intersection Areas				262	

ITEM 442, ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN (SAFETY EDGE)

THE SAFETY EDGE SHALL BE INSTALLED AT THE SAME TIME AS THE SURFACE COURSE IS TO BE PLACED. THE SURFACE COURSE MATERIAL AND THE ASPHALT CONCRETE FOR THE SAFETY EDGE SHALL HAVE THE SAME MATERIAL REQUIREMENTS.

ITEM 442, ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5MM, TYPE A (448), AS PER PLAN

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.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
USE A PG 64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM 407 - TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE
ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE

DESCRIPTION: THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH NTSS-IHM TRACKLESS TACK PRODUCED BY BLACKLIDGE EMULSIONS, INC. MEET ALL REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 407 TACK COAT EXCEPT AS NOTED BELOW.

MATERIAL: CONFORM TO THE FOLLOWING TYPICAL PHYSICAL PROPERTIES:

PARAMETER	TEST METHOD	MIN.	MAX.
SAYBOLT FUROL VISCOSITY, SFS @ 25°C	ASTM D88	15	100
STORAGE STABILITY, 24 HRS, %	ASTM D244	--	1
STORAGE STABILITY, 5 DAYS, %	ASTM D244	--	5
RESIDUE BY DISTILLATION, %	ASTM D244	50	--
OIL DISTILLATE, %	ASTM D244	--	1
SIEVE TEST, %	ASTM D244	--	0.3
TEST ON RESIDUE			
PENETRATION, @ 25°C,	ASTM D5	--	20
SOFTENING POINT RANGE DEG C	ASTM D36	65	--
SOLUBILITY, %	ASTM D2042	97.5	--
ORIGINAL BINDER DSR @ 82°C G*/SIN Δ,10 RAD/SEC	AASHTO T111	1	--

NOTE: PRODUCT SHOULD NOT CONTAIN FILLER SUCH AS CLAY, ETC. KEEP FROM FREEZING.
SUPPLY CERTIFIED TEST DATA TO THE ENGINEER SHOWING THE MATERIAL SUPPLIED WAS TESTED FOR AND MEETS THE ABOVE PROPERTIES.

EQUIPMENT: ALL REQUIREMENTS OF 407.03 SHALL APPLY. SEE MANUFACTURER'S REPRESENTATIVE FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF CATIONIC EMULSION WAS PREVIOUSLY USED.

WEATHER LIMITATIONS: ALL REQUIREMENTS OF 407.04 APPLY.

PREPARATION OF SURFACE: ALL REQUIREMENTS OF 407.05 APPLY.

APPLICATION OF ASPHALT MATERIAL: UNIFORMLY APPLY THE ASPHALT MATERIAL WITH A DISTRIBUTOR PER THE REQUIREMENTS OF 407.06 EXCEPT AS NOTED.

IF PRODUCT IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL.

ALL NOZZLES AND SPRAY PATTERNS SHALL BE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. THE ANGLE OF THE NOZZLE SHOULD BE PLACED AT A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE, AND DISTRIBUTOR AND NOZZLE SETTINGS.

APPLY AT A RATE OF 0.04 TO 0.08 GALLONS PER SQUARE YARD. RECOMMENDED APPLICATION TEMPERATURE IS 160°F TO 180°F. DO NOT EXCEED 180°F.

DILUTION IS NOT ALLOWED.

THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE WILL APPROVE RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

THE APPLICATION IS CONSIDERED SATISFACTORY WHEN THE MATERIAL IS APPLIED UNIFORMLY WITH NO VISIBLE EVIDENCE OF STREAKING OR RIDGING AND THE APPLICATION RATE IS ±10% OF THE SPECIFIED RATE.

METHOD OF MEASUREMENT: ALL REQUIREMENTS OF 407.07 APPLY.

BASIS OF PAYMENT: ALL REQUIREMENTS OF 407.08 APPLY. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
407	GALLON	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE
407	GALLON	TACK COAT, TRACKLESS TACK, SURFACE CORSE

CALCULATED GTS CHECKED MJS

GENERAL NOTES

LOR - 611 - 9.63

DESIGN FILE: i:\projects\83447\roadway\sheets\83447GN001.dgn MODEL NAME: Sheet
WORKSTATION gschlett DATE: 2/5/2013

MAINTENANCE OF TRAFFIC

BUTT JOINTS

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

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

PLACEMENT OF ASPHALT CONCRETE

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

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

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

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 17 CU YD

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

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

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 A DISINCENTIVE FEE OF $1000 PER DAY.

ITEM 614, MAINTAINING TRAFFIC

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

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614, WORK ZONE MARKING SIGN

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

WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE	=	11 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS	=	15 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE	=	8 EACH
	TOTAL =	34 EACH

ITEM 614, WORK ZONE PAVEMENT MARKINGS

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.11.

WORK ZONE CENTER LINE, CLASS II, 642 PAINT	=	2.08 MILE
WORK ZONE STOP LINE, CLASS I, 642 PAINT	=	72 FT
WORK ZONE CROSSWALK LINE, CLASS I, 642 PAINT	=	54 FT

CALCULATED GTS CHECKED .

GENERAL NOTES

LOR - 611 - 9.63

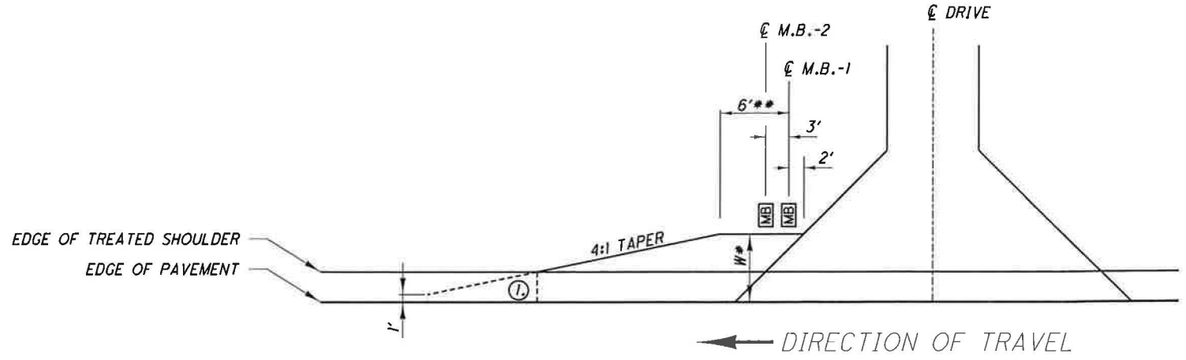
DESIGN FILE: i:\projects\83447\roadway\sheets\83447GN001.dgn MODELNAME: Sheet
WORKSTATION: gschlett DATE: 2/5/2013

MAILBOX APPROACHES

THE MAILBOX APPROACHES SHALL BE PAVED WITH 0.75" ITEM 442 INTERMEDIATE COURSE AND 1.25" ITEM 442 SURFACE COURSE. THEY SHALL CONFORM AS MUCH AS PRACTICAL TO STANDARD DRAWING BP-4.1 OR AS DIRECTED BY THE ENGINEER.

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

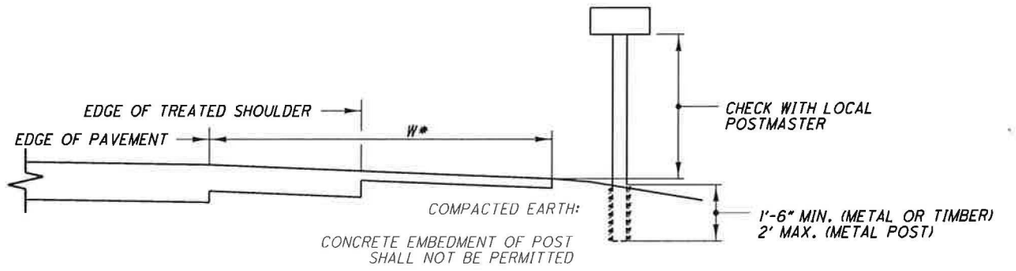
ITEM 209 - GRADING MAILBOX APPROACHES: S.R. 611	12 EACH
ITEM 617 - COMPACTED AGGREGATE S.R. 611	24 CU YD



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

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

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



CROSS SECTION / ELEVATION VIEW

FOR DETAILS NOT SHOWN SEE STANDARD DRAWING BP-4.1

CALCULATED GTS CHECKED

MAILBOX FACILITIES

LOR - 611 - 9.63

DESIGN FILE: i:\projects\83447\roadway\sheets\83447GM003.dgn MODELNAME: Sheet
WORKSTATION tgschlett DATE: 2/5/2013

80% FED-20% CITY							100% CITY							01/S<2/PV/ AVON	02/S<2/PV/ AVON		ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REF. SHEET
5	6	8	21	22	23	24	3	4	9	23	24	.	.									
																					ROADWAY	
		2.02												2.02			209	72050	2.02	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING	
	12													12			209	80000	12	EACH	GRADING MAILBOX APPROACHES	
											56				56		608	53020	56	SQFT	DETECTABLE WARNING	
		1												1			638	10900	1	EACH	SERVICE BOX ADJUSTED TO GRADE	
		3												3			638	10800	3	EACH	VALVE BOX ADJUSTED TO GRADE	
		5												5			823	39500	5	EACH	MONUMENT BOX ADJUSTED TO GRADE	
																					PAVEMENT	
									87.5						87.5		202	30000	87.5	SQFT	WALK REMOVED	
							522								522		253	90000	522	CU YD	PAVEMENT REPAIR MISC.: PARTIAL DEPTH	
							28								28		253	02001	28	CU YD	PAVEMENT REPAIR, AS PER PLAN	
		17332												17332			254	01000	17332	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE (2")	
		174												174			254	01600	174	SQ YD	PATCHING PLANED SURFACE	
								1383							1383		255	10150	1383	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	
								4825							4825		255	20000	4825	FT	FULL DEPTH PAVEMENT SAWING	
		700												700			407	20100	700	GALLON	TACK COAT, TRACKLESS TACK, SURFACE COURSE, @ .04 GAL/SY	
		1401												1401			407	20001	1401	GALLON	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE, AS PER PLAN, @ .08 GAL/SY	
		120												120			SPECIAL	45132000	120	FT	PRESSURE RELIEF JOINT, TYPE C	
		610												610			442	00201	610	CU YD	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN (1.25")	4
		29												29			442	00201	29	CU YD	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN (SAFTEY EDGE)	4
		365												365			442	20101	365	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN (.75")	4
	24	132												156			617	10100	156	CU YD	COMPACTED AGGREGATE	
																					TRAFFIC CONTROL	
						2								2			632	26501	2	EACH	DETECTOR LOOP, AS PER PLAN	
																					BASE	
			2.02											2.02			642	00094	2.02	MILE	EDGE LINE, 6"	
			1.04											1.04			642	00300	1.04	MILE	CENTER LINE, TYPE 1	
			45											45			642	00490	45	FT	STOP LINE	
			150											150			642	00600	150	FT	CROSSWALK LINE, TYPE 1	
			3											3			642	01290	3	EACH	LANE ARROW	
			148											148			642	00390	148	FT	CHANNELIZING LINE, 8"	
			53											53			642	00690	53	FT	TRANSVERSE/DIAGONAL LINE (YELLOW)	
			47											47			642	00910	47	FT	ISLAND MARKING	
																					ALTERNATE 1	
			45											45			644	00500	45	FT	STOP LINE	
			150											150			644	00600	150	FT	CROSSWALK LINE	
			3											3			644	01330	3	EACH	LANE ARROW	
			148											148			644	00400	148	FT	CHANNELIZING LINE, 8"	
			53											53			644	00700	53	FT	TRANSVERSE/DIAGONAL LINE (YELLOW)	
			47											47			644	00900	47	FT	ISLAND MARKING	
			2.02											2.02			646	10010	2.02	MILE	EDGE LINE, 6"	
			1.04											1.04			646	10200	1.04	MILE	CENTER LINE	
																					MAINTENANCE OF TRAFFIC	
	34													34			614	12460	34	EACH	WORK ZONE MARKING SIGN	
	17													17			614	13000	17	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
	2.08													2.08			614	21500	2.08	MILE	WORK ZONE CENTER LINE, CLASS II, 642 PAINT	
	72													72			614	26200	72	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
	54													54			614	27200	54	FT	WORK ZONE CROSSWALK LINE, CLASS I, 642 PAINT	
														LUMP			614	11000	LUMP		MAINTAINING TRAFFIC	
														2			619	16010	2	MONTH	FIELD OFFICE, TYPE B	
														LUMP			823	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														LUMP			624	10000	LUMP		MOBILIZATION	

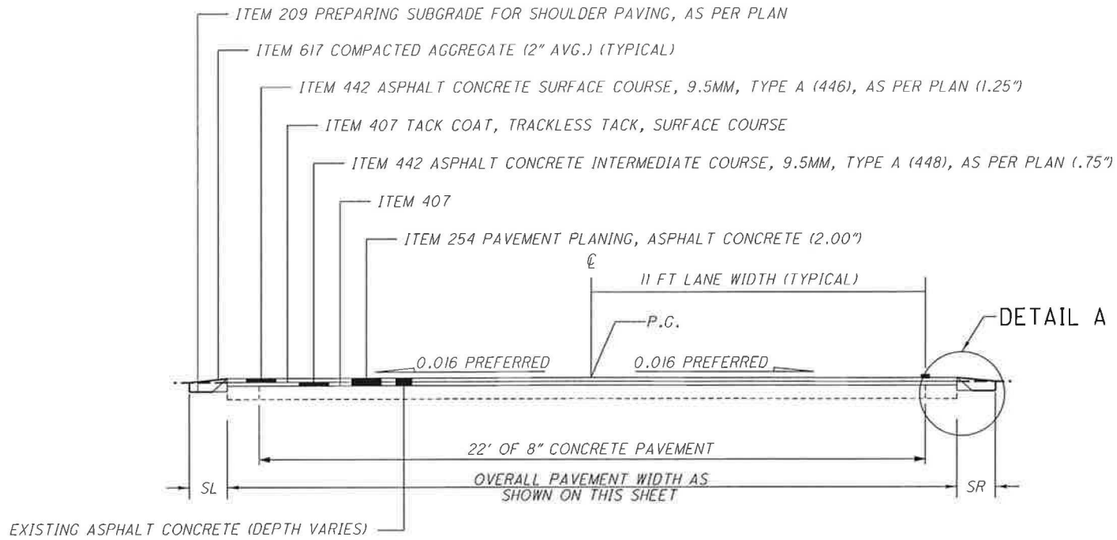
CALCULATED GTS CHECKED .

GENERAL SUMMARY

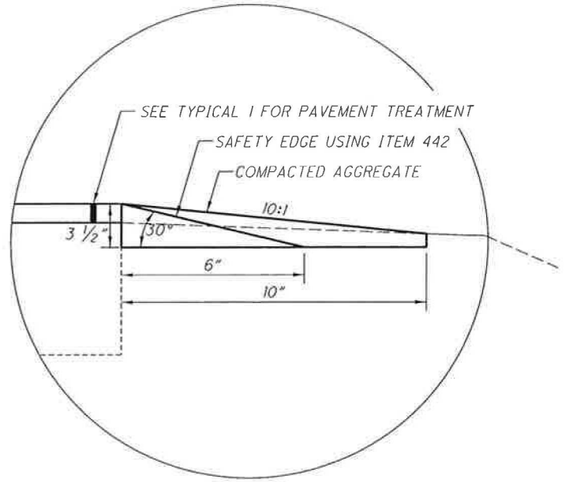
LOR - 611 - 9.63

7
24

DESIGN FILE: i:\projects\83447\roadway\sheets\83447GG001.dgn MODEL NAME: Design
WORKSTATION gschiett DATE: 2/5/2013



TYPICAL 1



DETAIL A
SAFETY EDGE

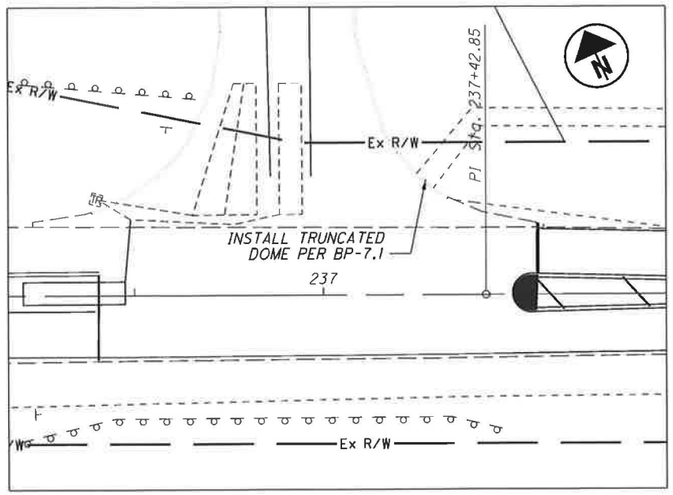
COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		WIDTH FEET AVG.	TYPICAL	PAVEMENT AREA	209	254		407	442				407	638	604	604	638	AGGREGATE SHOULDER PROPOSED WIDTH		AGGREGATE SHOULDER AREA	617
									PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	PAVEMENT PLANING, ASPHALT CONCRETE (2.00")	PATCHING PLANED SURFACE	TACK COAT, TRACKLESS TACK, SURFACE COURSE, @ .04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN		ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN		ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN (SAFETY EDGE)	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE, AS PER PLAN @ 0.08 GAL/SY	SERVICE BOX ADJUSTED TO GRADE	MONUMENT BOX ADJUSTED TO GRADE	MANHOLE ADJUSTED TO GRADE	VALVE BOX ADJUSTED TO GRADE				COMPACTED AGGREGATE 2 INCHES
				MILE	FEET																	SL	SR		AVE. THKNESS
		STRAIGHT LINE MILEAGE						SQ.YD.	MILE	SQ.YD.	SQ.YD.	GALLON	INCH	CU.YD.	INCH	CU.YD.	CU.YD.	GALLON	EACH	EACH	EACH	EACH	FT	FT	SQ.YD.	CU.YD.
LORAIN	SR 611	10.13	10.19	0.06	317	33.5	1	1,180	0.12	1,180	12	47	1.25	41	0.75	25	1.7	94	1	5		3	2	2	141	8
		10.19	10.41	0.22	1162	28.5	1	3,680	0.44	3,680	37	147	1.25	128	0.75	77	6.3	294					2	2	516	29
		10.41	10.77	0.36	1901	26.0	1	5,492	0.72	5,492	55	220	1.25	191	0.75	114	10.3	439					2	2	845	47
		10.77	11.11	0.34	1795	27.0	1	5,385	0.68	5,385	54	215	1.25	187	0.75	112	9.7	431					2	2	798	44
		11.11	11.14	0.03	158	VARIES	1	632	0.06	632	6	25	1.25	22	0.75	13	0.9	51					2	2	70	4
	EXTRA AREA FOR INTERSECTIONS							262		262	3	10	1.25	9	0.75	5		21								
	EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES							170		170	2	7	1.25	6	0.75	4		14								
	EXTRA AREA FOR PAVED DRIVES							481		481	5	19	1.25	17	0.75	10		38								
	EXTRA AREA FOR AGGREGATE DRIVES							189				8	1.25	7	0.75	4		15								
	EXTRA AREA PLANING FOR EX. MAILBX APPROACHES							50		50	1	2	1.25	2	0.75	1		4								
	TOTALS								**2.02**	**17,332**	**174**	**700**		**610**		**365**	**28.90**	**1,401**	**1**	**5**		**3**			**2,370**	**132**

CALCULATED GTS CHECKED

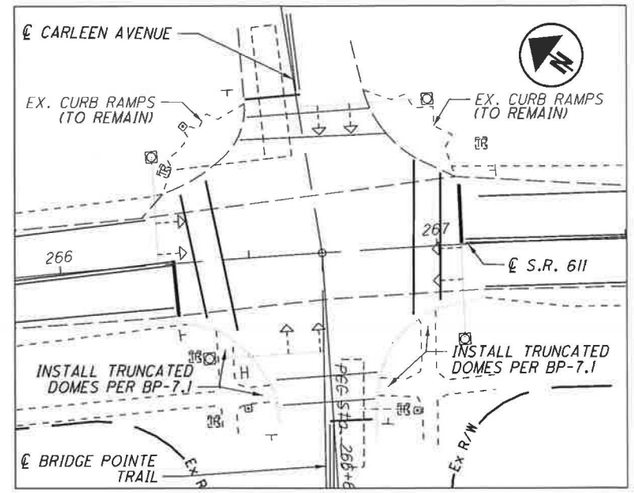
PAVEMENT DATA & TYPICAL

LOR - 611 - 9.63

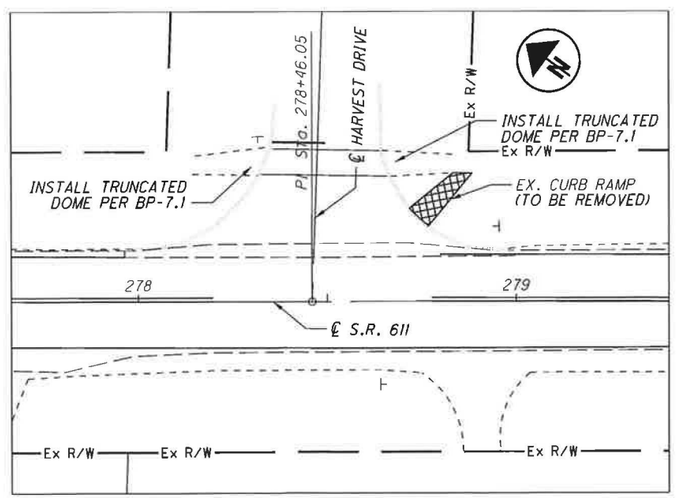
DESIGN FILE: N:\projects\83447\roadway\sheets\83447GQ001.dgn MODELNAME: Design
WORKSTATION: gschlett DATE: 2/5/2013



ITEM 608 - DETECTABLE WARNING 8 S.F.



ITEM 608 - DETECTABLE WARNING 32 S.F.



ITEM 202 - CONCRETE REMOVED 87.5 S.F.
ITEM 608 - DETECTABLE WARNING 16 S.F.

NOTE:
ALL AREAS ARE CADD
MEASURED AREAS

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED GTS
CHECKED

CURB RAMP DETAILS

LOR - 611 - 9.63

9
24

DESIGN FILE:I:\projects\83447\roadway\PavMarkg\83447TP09.dgn MODELNAME: Sheet
WORKSTATIONgschlett DATE:10/1/2012

DESIGN FILE: I:\projects\83447\roadway\PavMarkg\83447TP10.dgn
WORKSTATION: gschlett DATE: 10/18/2012 MODELNAME: Sheet

SIGNING LEGEND

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

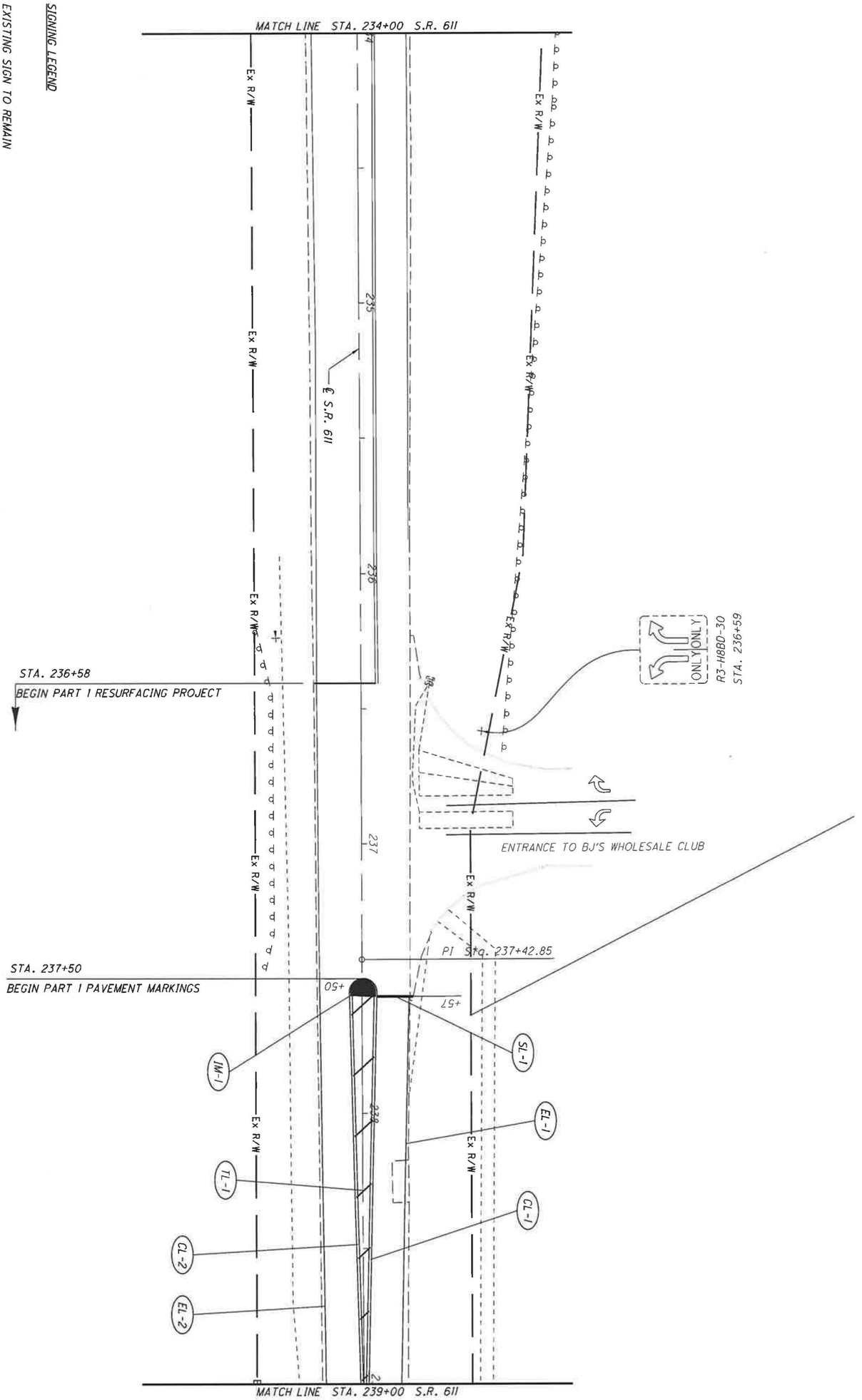
EXISTING SIGN TO BE REPLACED

PROPOSED SIGN

PAVEMENT MARKING LEGEND

EL — EDGE LINE, 6"
LL — LANE LINE, 4"
CL — CENTER LINE
C — CHANNELIZING LINE, 8"
SL — STOP LINE

XL — CROSSWALK LINE
TL — TRANSVERSE LINE
IM — ISLAND MARKING
LA — LANE ARROW



10/24	LOR - 611 - 9.63	SIGN AND PAVEMENT MARKING PLAN STA. 234+00 TO STA. 239+00 S.R. 611	CALCULATED GTS CHECKED	0 10 20 40 HORIZONTAL SCALE IN FEET

DESIGN FILE: I:\projects\83447\roadway\PavMarkg\83447TP11.dgn
WORKSTATION: gschlett DATE: 10/1/2012 MODELNAME: Sheet

SIGNING LEGEND

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

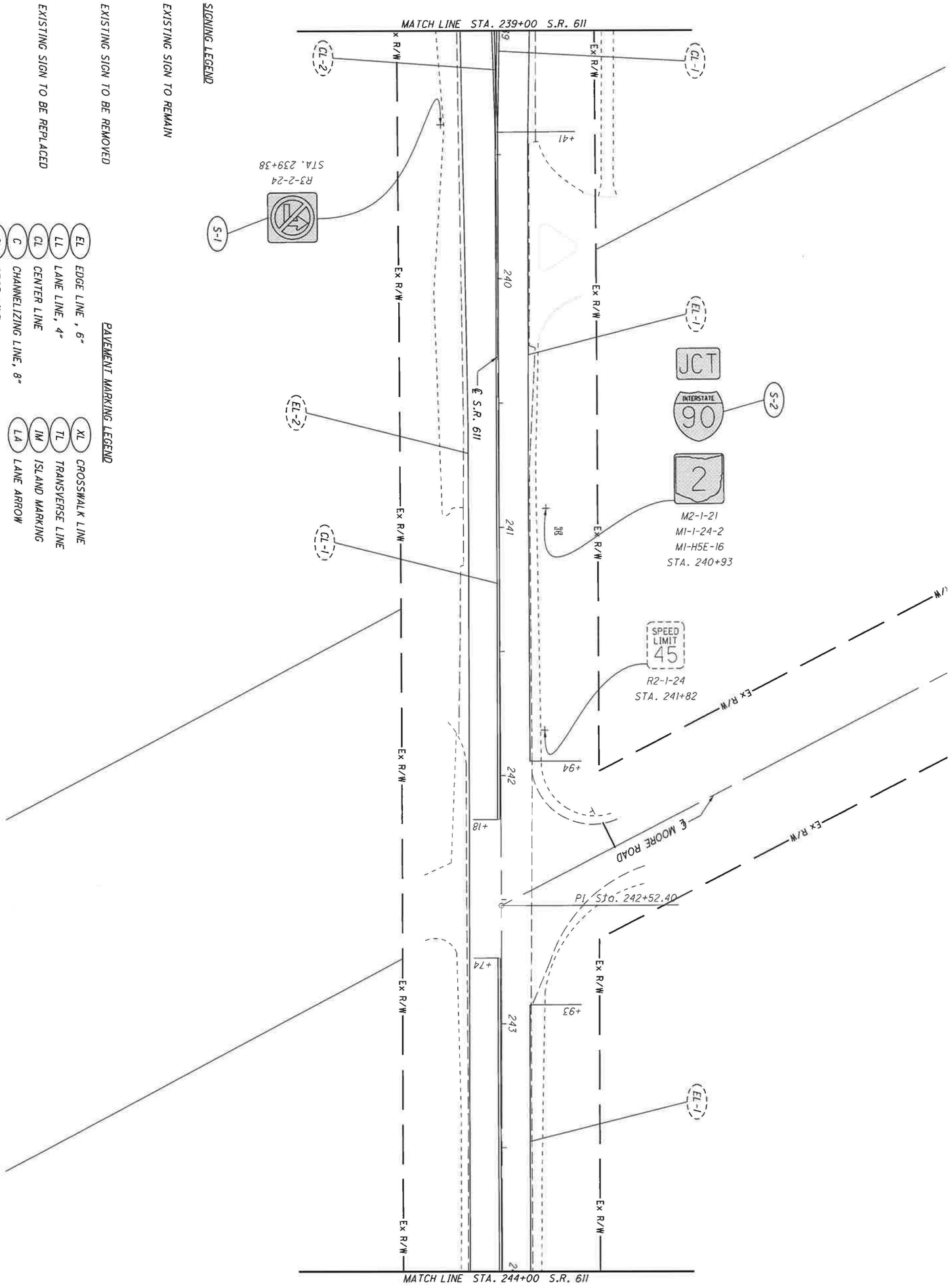
EXISTING SIGN TO BE REPLACED

PROPOSED SIGN

PAVEMENT MARKING LEGEND

EL EDGE LINE, 6"
LL LANE LINE, 4"
CL CENTER LINE
C CHANNELIZING LINE, 8"
SL STOP LINE

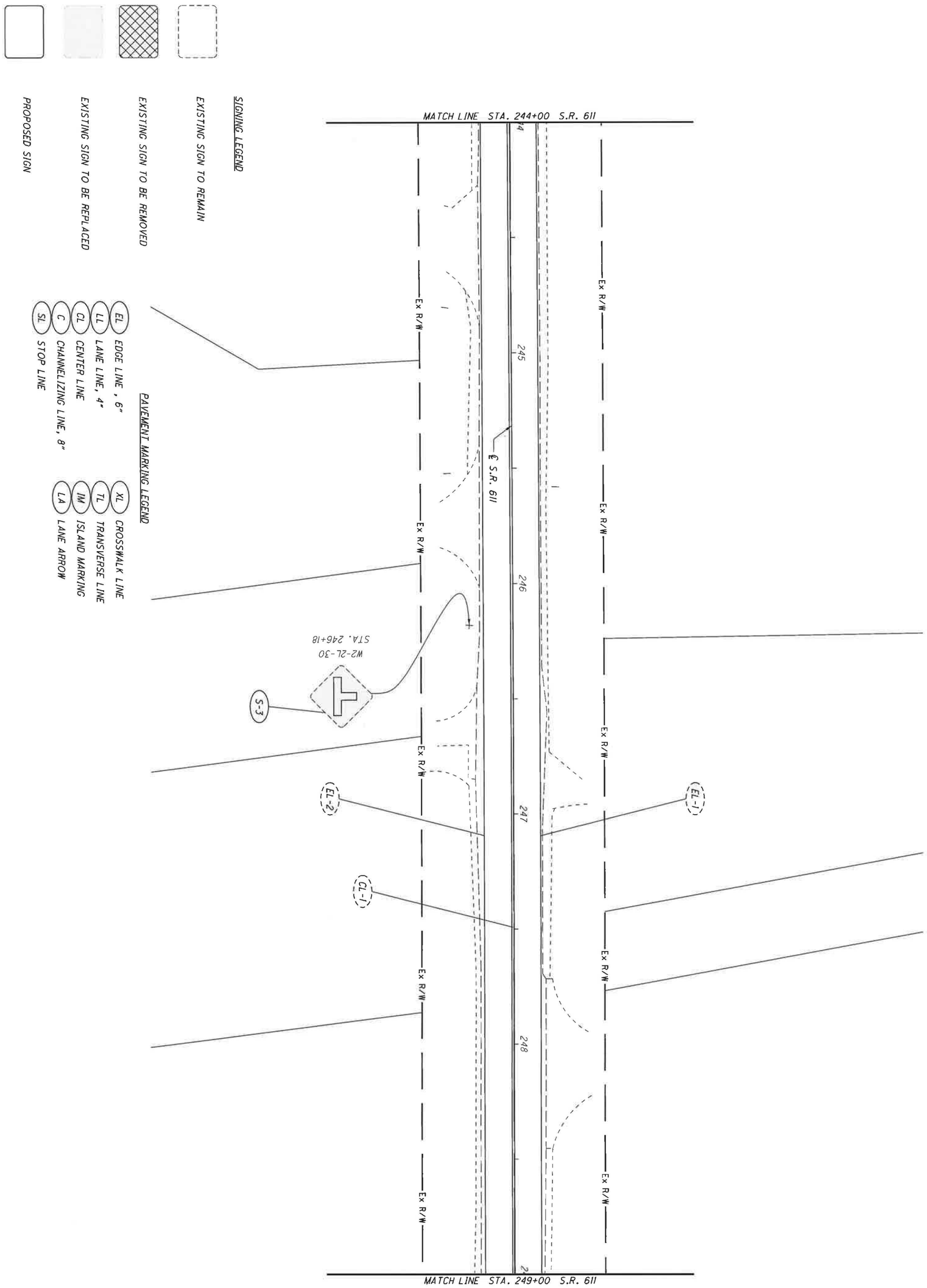
XL CROSSWALK LINE
TL TRANSVERSE LINE
IM ISLAND MARKING
LA LANE ARROW



NOTE:
SEE SHEET ---- FOR LOOP DETECTOR DETAILS.

11/24	LOR - 611 - 9.63	SIGN AND PAVEMENT MARKING PLAN STA. 239+00 TO STA. 244+00 S. R. 611	CALCULATED GTS / CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET

DESIGN FILE: I:\projects\83447\roadway\PavMarkg\83447TP12.dgn
WORKSTATION: gschlett DATE: 10/1/2012 MODELNAME: Sheet



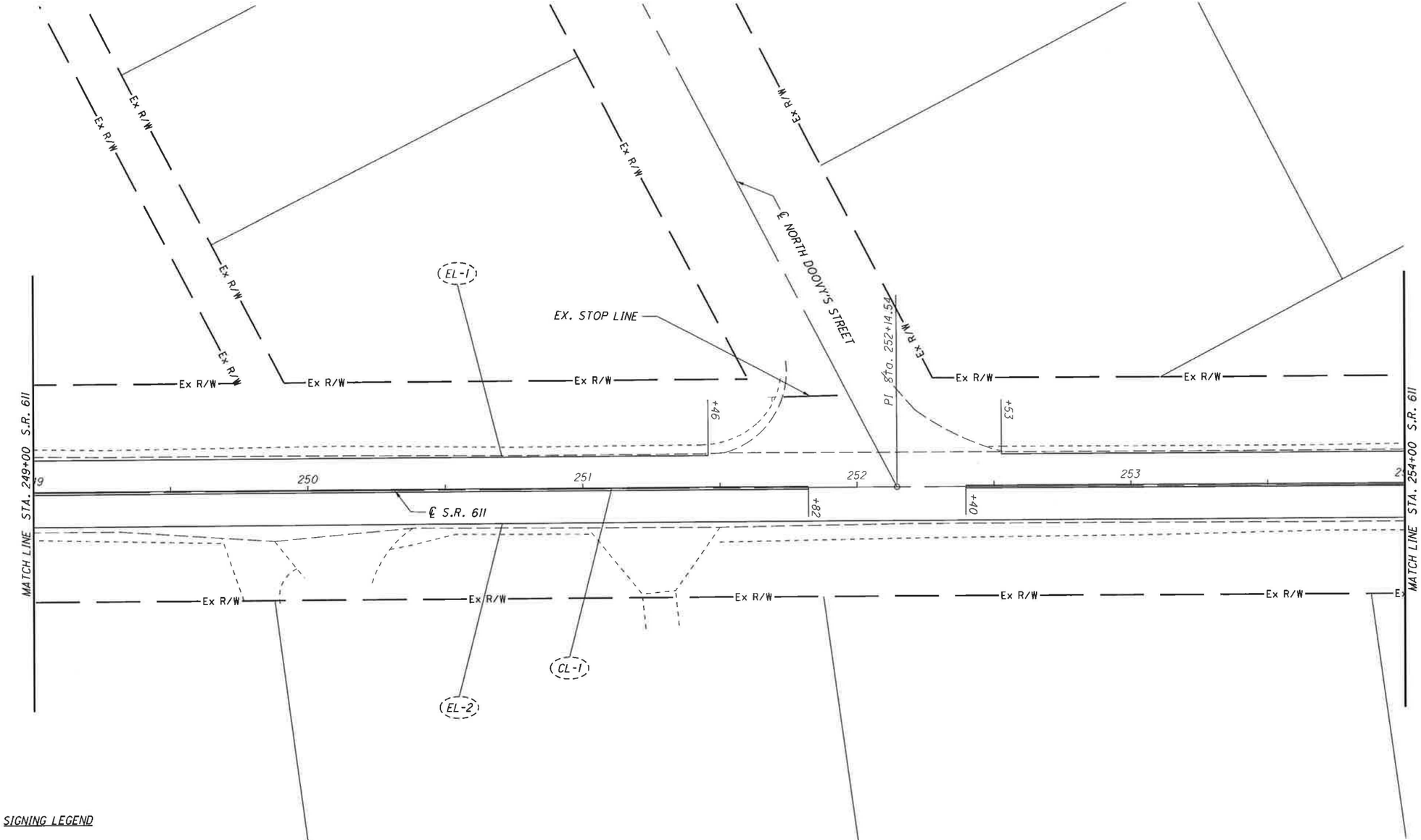
12/24

LOR - 611 - 9.63

SIGN AND PAVEMENT MARKING PLAN
STA. 244+00 TO STA. 249+00 S.R. 611

CALCULATED GTS
CHECKED

0 20 10 40
HORIZONTAL SCALE IN FEET



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- EXISTING SIGN TO BE REPLACED
- PROPOSED SIGN

PAVEMENT MARKING LEGEND

- EL — EDGE LINE , 6"
- LL — LANE LINE, 4"
- CL — CENTER LINE
- C — CHANNELIZING LINE, 8"
- SL — STOP LINE
- XL — CROSSWALK LINE
- TL — TRANSVERSE LINE
- IM — ISLAND MARKING
- LA — LANE ARROW

DESIGN FILE: i:\projects\83447\roodway\PavMarkg\83447TP13.dgn MODEL NAME: Sheet
WORKSTATION gschlett DATE: 10/1/2012

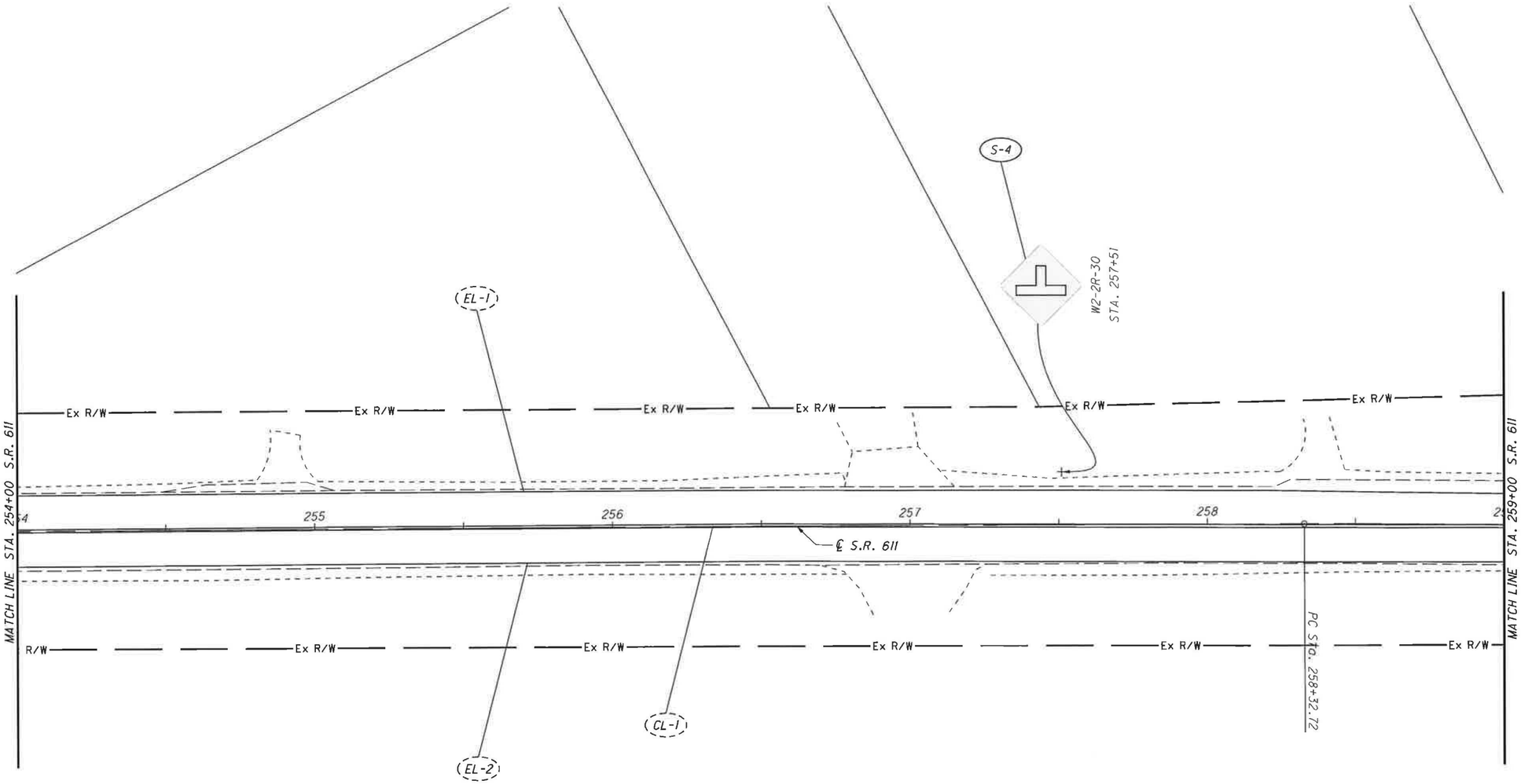
CALCULATED GTS
CHECKED

0 10 20 40
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
STA. 249+00 TO STA. 254+00 S.R. 611

LOR - 611 - 9.63

13
24



SIGNING LEGEND

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

EXISTING SIGN TO BE REPLACED

PROPOSED SIGN

PAVEMENT MARKING LEGEND

EL	EDGE LINE , 6"	XL	CROSSWALK LINE
LL	LANE LINE, 4"	TL	TRANSVERSE LINE
CL	CENTER LINE	IM	ISLAND MARKING
C	CHANNELIZING LINE, 8"	LA	LANE ARROW
SL	STOP LINE		

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED GTS
CHECKED

SIGN AND PAVEMENT MARKING PLAN
STA. 254+00 TO STA. 259+00 S.R. 611

LOR - 611 - 9.63

14
24

DESIGN FILE:i:\projects\83447\roadway\PavMarkg\83447TP14.dgn MODELNAME: Sheet
WORKSTATIONgschlett DATE:10/1/2012

DESIGN FILE: I:\projects\83447\roadway\PavMarkg\83447TP15.dgn
WORKSTATION gschlett DATE: 10/1/2012 MODELNAME: Sheet

PROPOSED SIGN

EXISTING SIGN TO BE REPLACED

EXISTING SIGN TO BE REMOVED

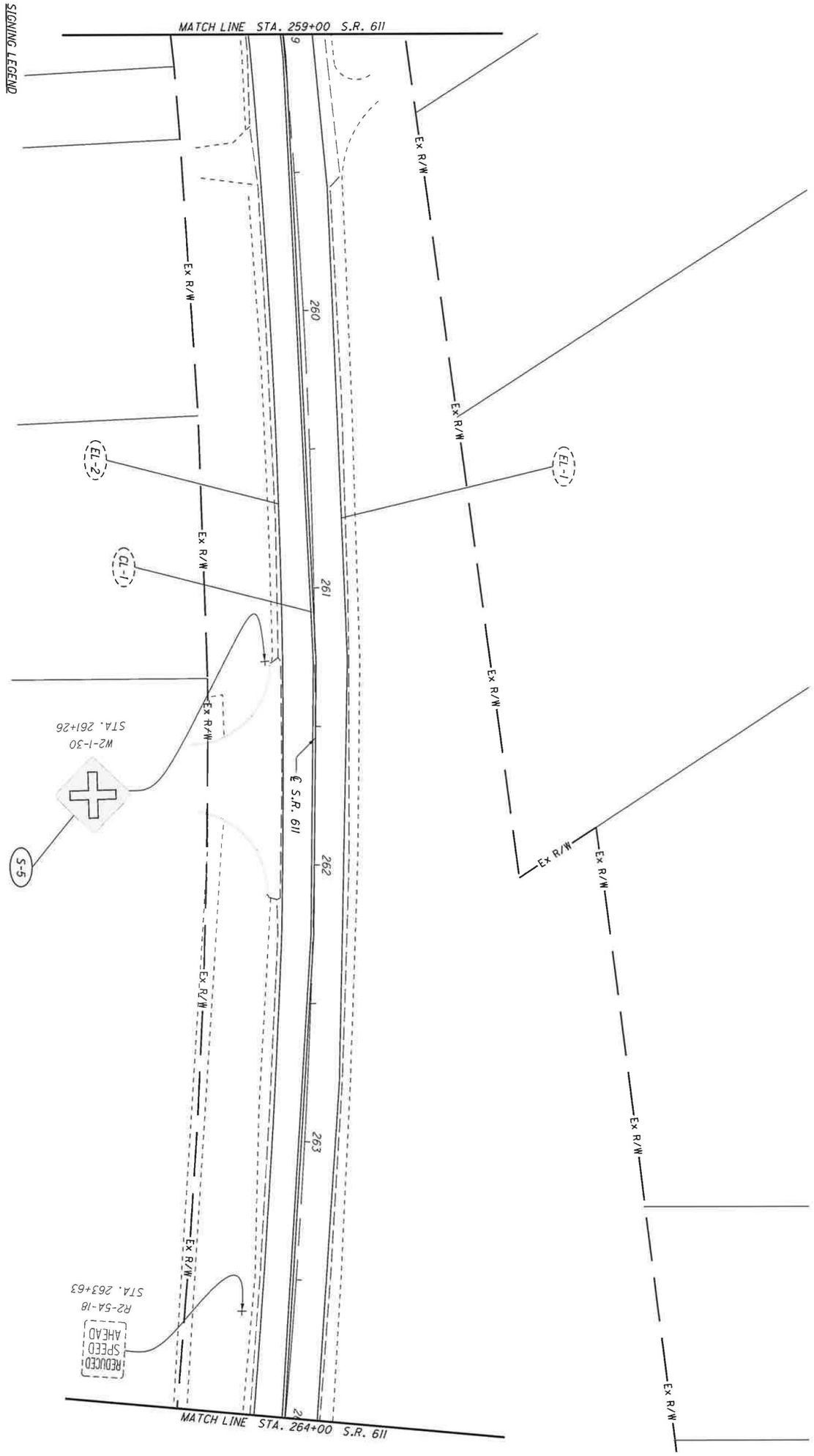
EXISTING SIGN TO REMAIN

SIGNING LEGEND

PAVEMENT MARKING LEGEND

EL — EDGE LINE, 6"
LL — LANE LINE, 4"
CL — CENTER LINE
C — CHANNELIZING LINE, 8"
SL — STOP LINE

XL — CROSSWALK LINE
TL — TRANSVERSE LINE
IM — ISLAND MARKING
LA — LANE ARROW



15/24	LOR - 611 - 9.63	SIGN AND PAVEMENT MARKING PLAN STA. 259+00 TO STA. 264+00 S. R. 611	CALCULATED GTS CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET

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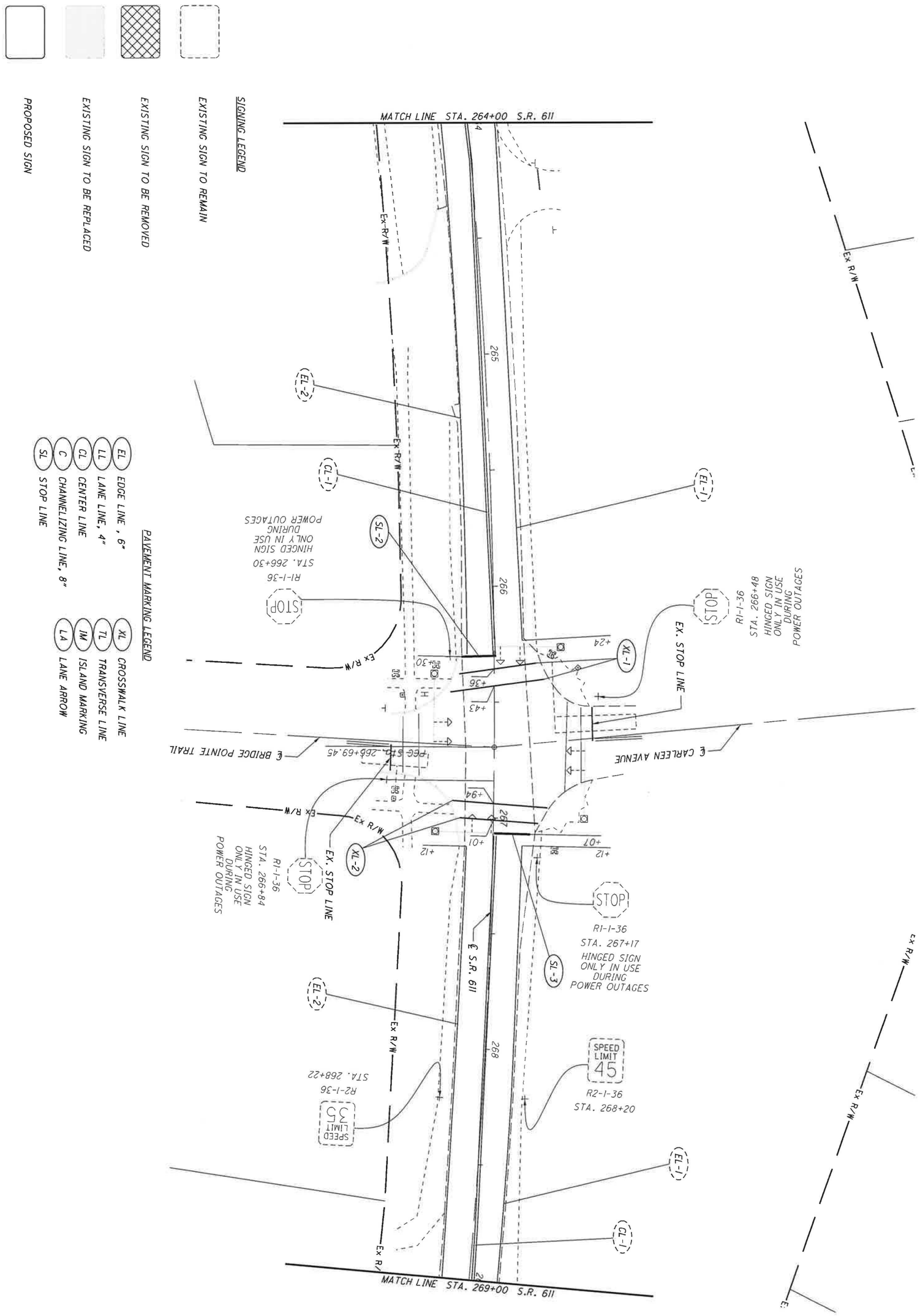
WORKSTATION: gschlett DATE: 10/1/2012 MODELNAME: Sheet



16 / 24	LOR - 611 - 9.63	SIGN AND PAVEMENT MARKING PLAN STA. 264+00 TO STA. 269+00 S. R. 611	CALCULATED GTS / CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET

DESIGN FILE: I:\projects\83447\roadway\PavMarkg\83447TP17.dgn
WORKSTATION gschlett DATE: 10/1/2012 MODELNAME: Sheet

SIGNING LEGEND

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

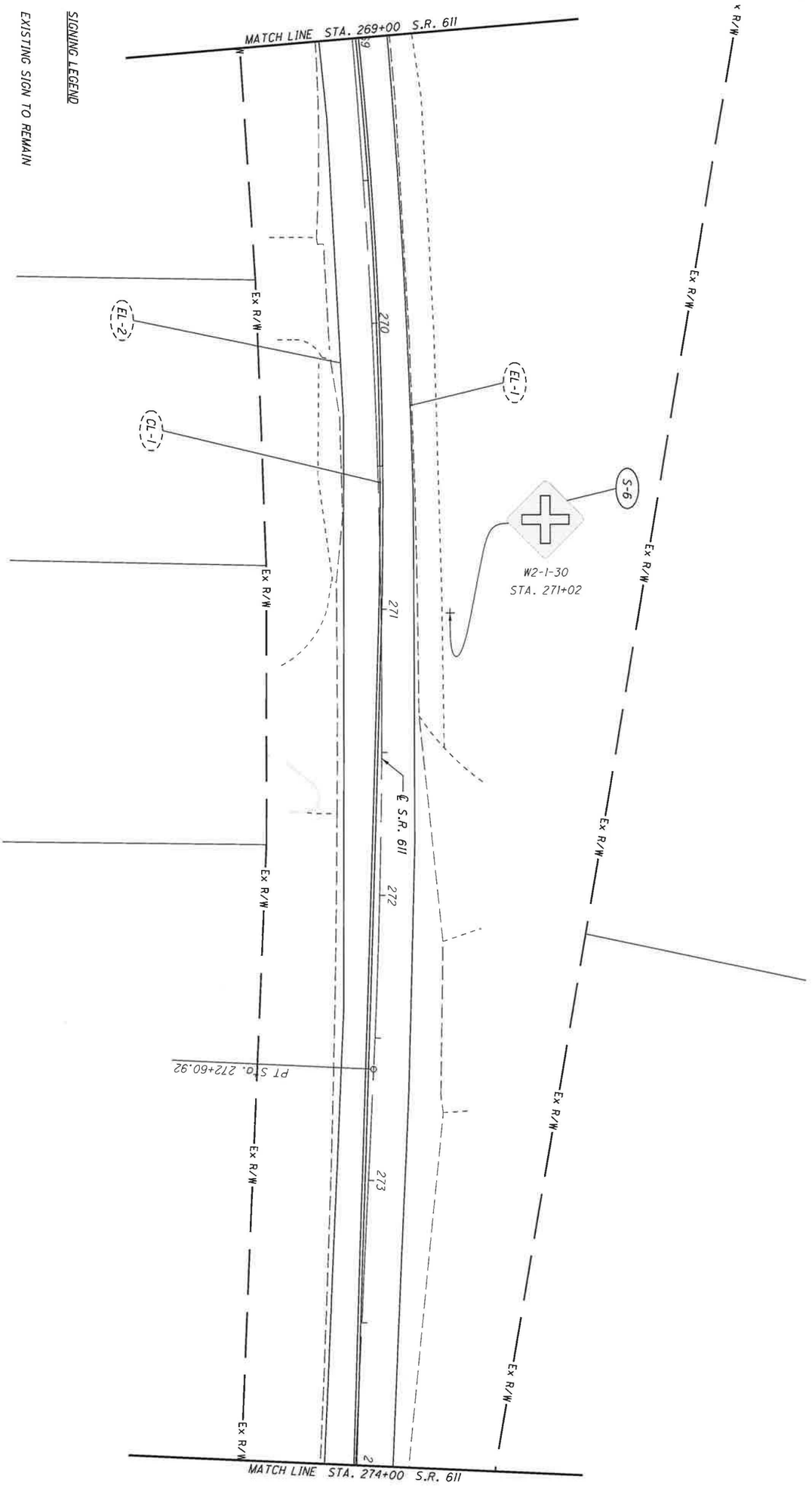
EXISTING SIGN TO BE REPLACED

PROPOSED SIGN

PAVEMENT MARKING LEGEND

EL EDGE LINE, 6"
LL LANE LINE, 4"
CL CENTER LINE
C CHANNELIZING LINE, 8"
SL STOP LINE

XL CROSSWALK LINE
TL TRANSVERSE LINE
IM ISLAND MARKING
LA LANE ARROW



17/24

LOR - 611 - 9.63

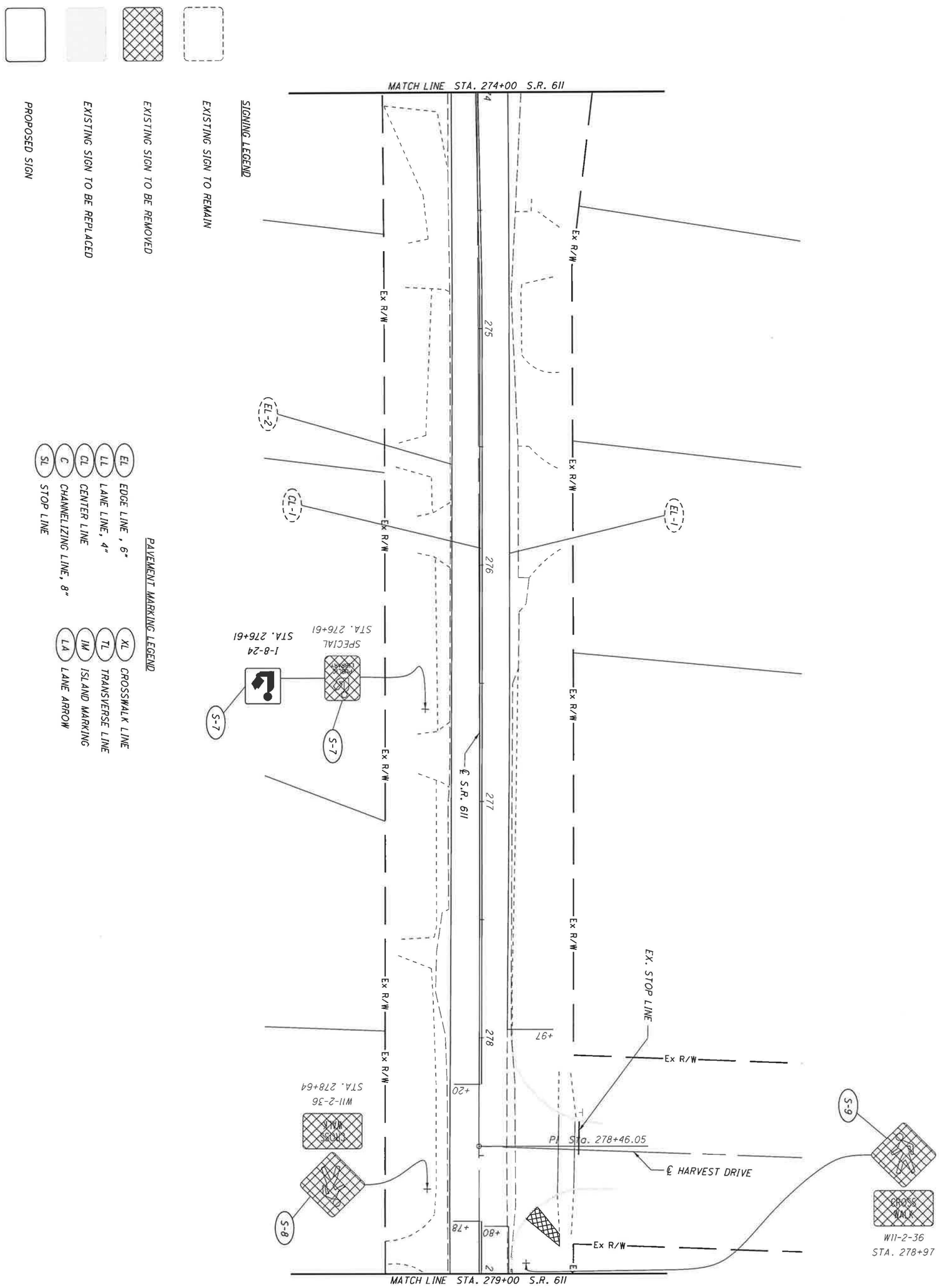
SIGN AND PAVEMENT MARKING PLAN
STA. 269+00 TO STA. 274+00 S. R. 611

CALCULATED GTS
CHECKED

0 10 20 40
HORIZONTAL SCALE IN FEET

N

DESIGN FILE: I:\projects\83447\roadway\PavMarkg\83447TP18.dgn
WORKSTATION: gschlett DATE: 10/1/2012 MODELNAME: Sheet



18/24	LOR - 611 - 9.63	SIGN AND PAVEMENT MARKING PLAN STA. 274+00 TO STA. 279+00 S.R. 611	CALCULATED GTS / CHECKED	0 10 20 40 HORIZONTAL SCALE IN FEET

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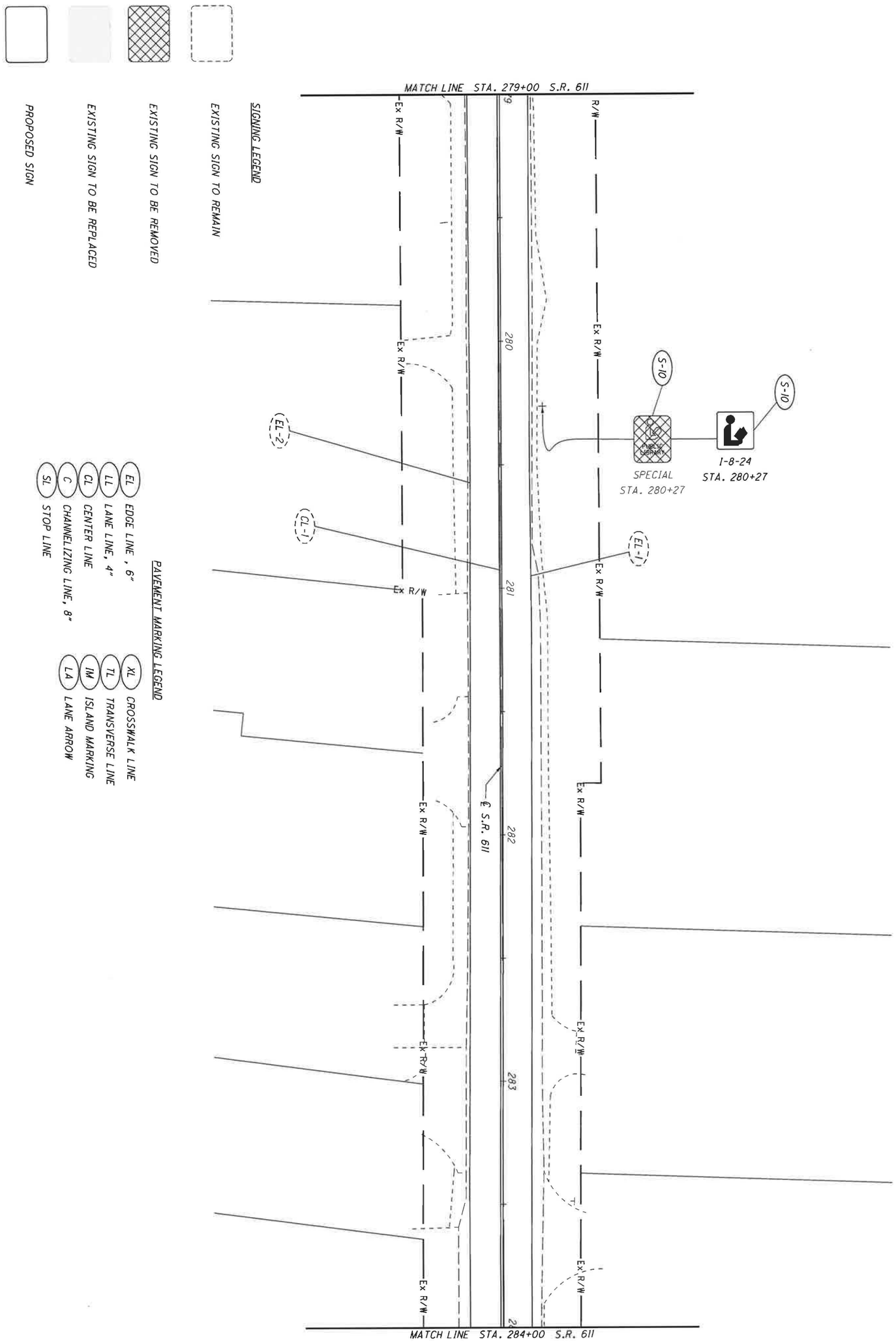
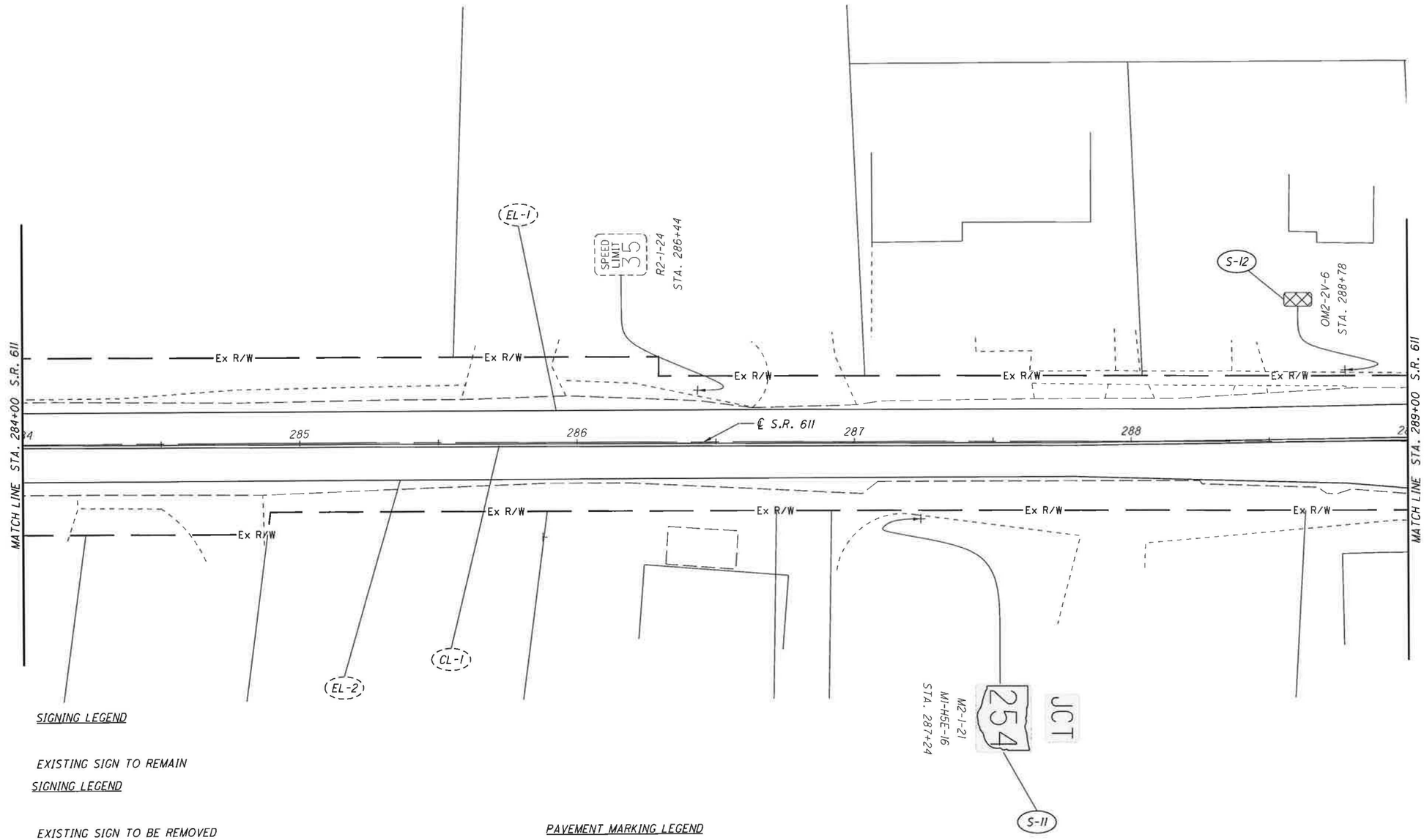
WORKSTATION: gschlett DATE: 10/1/2012 MODELNAME: Sheet



19 / 24	LOR - 611 - 9.63	SIGN AND PAVEMENT MARKING PLAN STA. 279+00 TO STA. 284+00 S. R. 611	CALCULATED GTS CHECKED; HORIZONTAL SCALE IN FEET 0 20 10 40



SIGNING LEGEND

EXISTING SIGN TO REMAIN

SIGNING LEGEND

EXISTING SIGN TO BE REMOVED

EXISTING SIGN TO BE REPLACED

PROPOSED SIGN

PAVEMENT MARKING LEGEND

EL	EDGE LINE , 6"	XL	CROSSWALK LINE
LL	LANE LINE, 4"	TL	TRANSVERSE LINE
CL	CENTER LINE	IM	ISLAND MARKING
C	CHANNELIZING LINE, 8"	LA	LANE ARROW
SL	STOP LINE		

HORIZONTAL SCALE IN FEET
0 10 20 40

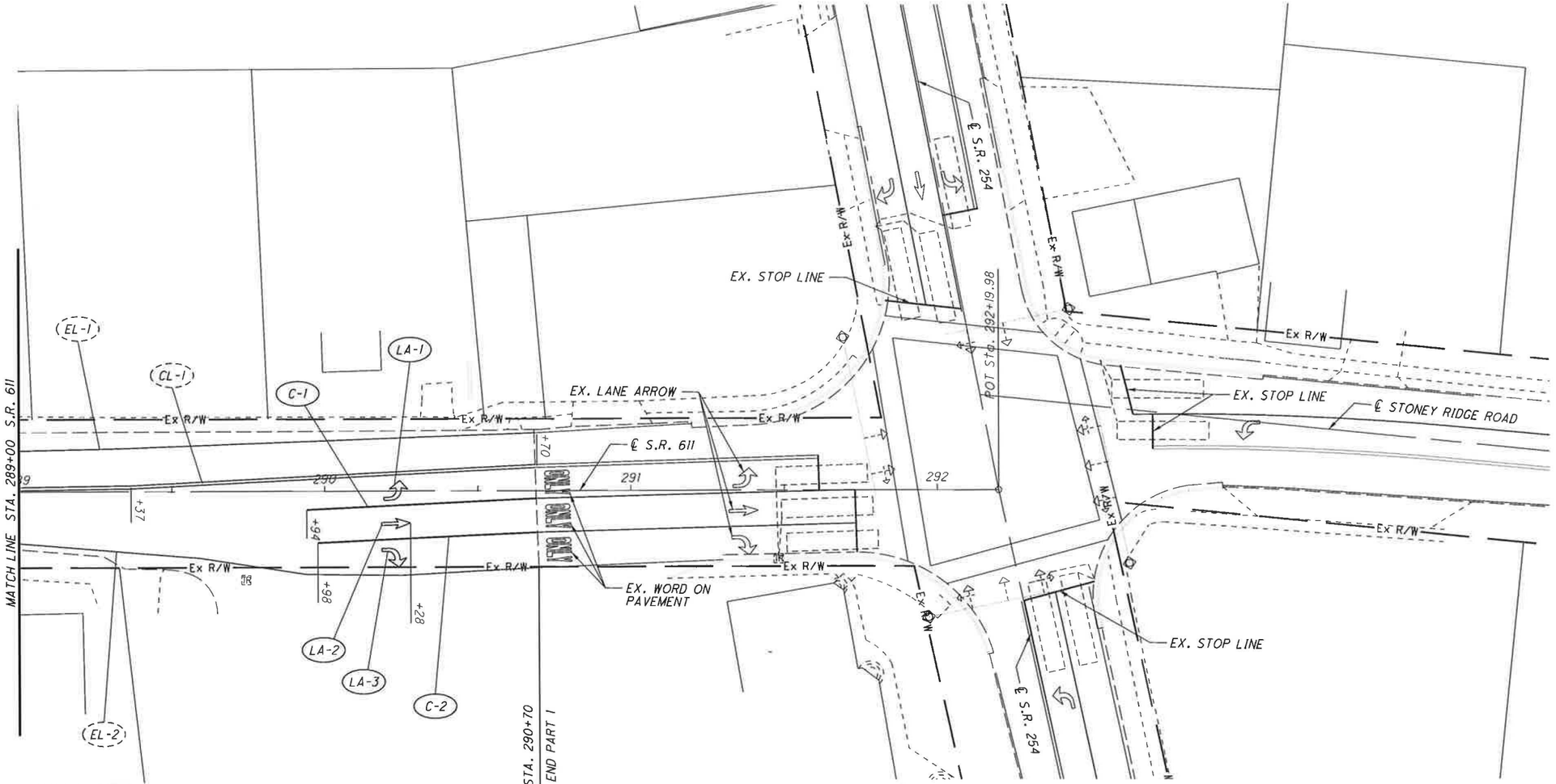
CALCULATED GTS
CHECKED

SIGN AND PAVEMENT MARKING PLAN
STA. 284+00 TO STA. 289+00 S.R. 611

LOR - 611 - 9.63

20
24

DESIGN FILE:I:\projects\83447\roadway\PavMarkg\83447TP020.dgn MODELNAME: Sheet
WORKSTATION:gschlett DATE:10/1/2012



SIGNING LEGEND

EXISTING SIGN TO REMAIN

SIGNING LEGEND

EXISTING SIGN TO BE REMOVED

EXISTING SIGN TO BE REPLACED

PROPOSED SIGN

PAVEMENT MARKING LEGEND

EL	EDGE LINE , 6"	XL	CROSSWALK LINE
LL	LANE LINE, 4"	TL	TRANSVERSE LINE
CL	CENTER LINE	IM	ISLAND MARKING
C	CHANNELIZING LINE, 8"	LA	LANE ARROW
SL	STOP LINE		

NOTE:
SEE SHEET 24 FOR
LOOP DETECTOR DETAILS

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED GTS
CHECKED

SIGN AND PAVEMENT MARKING PLAN
STA. 289+00 TO STA. 292+19.98 S.R. 611

LOR - 611 - 9.63

21
24

DESIGN FILE:i:\projects\83447\roadway\PavMarkg\83447TP021.dgn MODELNAME: Sheet
WORKSTATIONgschiett DATE:10/1/2012

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE (WHITE)			646 CENTER LINE (SOLID, DOUBLE)	644 CHANNELIZING LINE	644 STOP LINE	644 CROSS WALK LINE	644 TRANSVERSE LINE (YELLOW)	644 ISLAND MARKING (YELLOW)	644 LANE ARROW
						FT			FT	FT	FT	FT	FT	SQ FT	EACH
	EL-1	S.R. 611	237+50	290+70	LT.	5320.00									
	EL-2	S.R. 611	237+50	290+70	RT.	5320.00									
	CL-1	S.R. 611	237+50	290+70	LT./CL				5320.00						
	CL-2	S.R. 611	237+57	239+41	RT.				184.00						
	C-1	S.R. 611	289+94	290+70	RT./CL					76.00					
	C-2	S.R. 611	289+98	290+70	RT.					72.00					
	SL-1	S.R. 611	237+57		LT.						14.00				
	SL-2	S.R. 611	266+30		RT.						15.00				
	SL-3	S.R. 611	267+07		LT.						16.00				
	XL-1	S.R. 611	266+36		L/CL/R							34.00 / 41.00			
	XL-2	S.R. 611	266+94		L/CL/R							41.00 / 34.00			
	TL-1	S.R. 611	237+57	238+99	CL								53.00		
	IM-1	S.R. 611	237+50	237+57	CL									47.00	
	LA-1	S.R. 611	290+28		CL										1
	LA-2	S.R. 611	290+28		RT.										1
	LA-3	S.R. 611	290+28		RT.										1
				SUBTOTALS		10,640.00			5,504.00	148.00	45.00	150.00	53.00	47.00	3.00
TOTALS CARRIED TO GENERAL SUMMARY						2.02 MI.			1.04 MI.	148	45	150	53	47	3

CALCULATED GTS CHECKED

PAVEMENT MARKING SUBSUMMARY

LOR - 611 - 9.63

DESIGN FILE:i:\projects\83447\roadway\PavMarkg\83447TS022.dgn MODEL NAME: Sheet
WORKSTATION:gschlett DATE:10/1/2012

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 SIGN, FLAT SHEET SQ FT	630 GROUND MOUNTED SUPPORT NO. 2 POST FT				630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH								
	S-1	S.R. 611	239+38	RT.	R3-2-24	24 X 24	4.00	10.5				1	1								
	S-2	S.R. 611	240+93	LT.	M2-1-21	21 X 15						1	1								
					M1-1-24-2	24 X 24						1									
					M1-H5E-16	24 X 24						1									
					M2-1-21	21 X 15	2.19	14.0 / 14.0													
					M1-1-24-2	24 X 24	4.00														
					M1-H5E-16	24 X 24	4.00														
	S-3	S.R. 611	246+18	RT.	W2-2L-30	30 X 30						1	1								
					W2-2L-30	30 X 30	6.25	11.0													
	S-4	S.R. 611	257+51	LT.	W2-2R-30							1	1								
					W2-2R-30	30 X 30	6.25	11.0													
	S-5	S.R. 611	261+26	RT.	W2-1-30							1	1								
					W2-1-30	30 X 30	6.25	11.0													
	S-6	S.R. 611	271+02	LT.	W2-1-30							1	1								
					W2-1-30	30 X 30	6.25	11.0													
	S-7	S.R. 611	276+61	RT.	SPECIAL	24 X						1	1								
					I-8-24	24 X 24	4.00	10.5													
	S-8	S.R. 611	278+64		W11-2-36	36 X 36						1	1								
	S-9	S.R. 611	278+97		W11-2-36	36 X 36						1	1								
	S-10	S.R. 611	280+27	LT.	SPECIAL	24 X						1	1								
					I-8-24	24 X 24	4.00	10.5													
	S-11	S.R. 611	287+24	RT.	M2-1-21	21 X 15						1	1								
					M1-H5E-16	30 X 24						1									
					M2-1-21	21 X 15	2.19	12.0													
					M1-H5E-16	30 X 24	5.00														
	S-12	S.R. 611	288+78	LT.	OM2-2V-6	6 X 12						1	1								
						SUBTOTALS	54.38	115.5				15	12								
TOTALS CARRIED TO GENERAL SUMMARY							54.4	115.5				15	12								

CALCULATED GTS CHECKED

SIGNING SUBSUMMARY

LOR - 611 - 9.63

DESIGN FILE=I:\projects\83447\roadway\PavMarkg\83447TS023.dgn MODELNAME=Sheet
WORKSTATION=schlett DATE=10/18/2012

ITEM 632, DETECTOR LOOP, AS PER PLAN

AN ESTIMATED QUANTITY OF 632 DETECTOR LOOP, AS PER PLAN HAS BEEN PROVIDED WHEN WIRE IS CUT, BROKEN OR DESTROYED DUE TO PAVEMENT PLANING, PAVEMENT REPAIR OR BUTT JOINT OPERATIONS. IT IS IMPERATIVE THAT REPLACEMENT OF LOOP DETECTORS BE INSTALLED AND FULLY FUNCTIONAL IN THE SHORTEST POSSIBLE TIME. THE CONTRACTOR SHALL HAVE REPLACEMENT LOOP DETECTORS INSTALLED AND FULLY FUNCTIONAL WITHIN 7 CALENDAR DAYS OF DESTRUCTION OF THE ORIGINAL LOOP.

THE CONTRACTOR SHALL NOTIFY DOUG HICKEY, DISTRICT 3 TRAFFIC DEPARTMENT, (PHONE 419-207-7184) 5 WORKING DAYS IN ADVANCE OF ANY PLANING OPERATIONS OR PAVEMENT REPAIR WORK THAT WILL DAMAGE DETECTOR LOOP INSTALLATIONS. 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 RENOTIFY MR. HICKEY WITHIN 2 WORKING DAYS AFTER THE DAMAGED 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 LIQUIDATED DAMAGES ACCORDING TO SECTION 108.07 OF THE CMS FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT.

THE NEW LOOP DETECTORS SHALL BE PLACED AFTER THE PLANING AND PAVEMENT REPAIR OPERATIONS ARE COMPLETED WITHIN THE LOOP DETECTOR AREAS. THE LOOP DETECTORS SHALL NOT BE CUT INTO THE SURFACE COURSE.

NEW LOOP DETECTORS SHALL BE PLACED AT THE SAME LOCATIONS AND BE THE SAME SIZE AND TYPE AS THE EXISTING, OR AS DIRECTED BY THE ENGINEER. THE LOOP DETECTOR WIRE SHALL BE REPLACED TO THE PULL BOX OR POLE, WHICHEVER IS APPLICABLE, UNDER ITEM 632 AND TC-82.10.

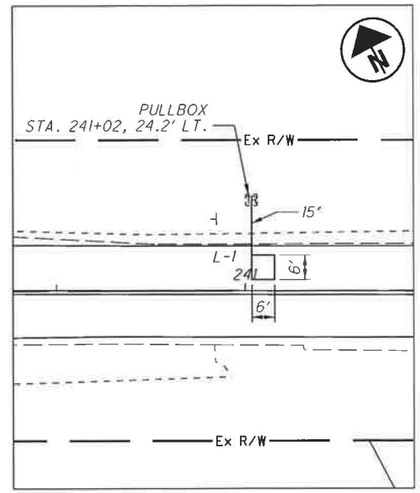
THIS WORK SHALL INCLUDE THE POURED EPOXY INSULATED SPLICE(S) REQUIRED TO CONNECT THE LOOP DETECTOR WIRE TO EXISTING LEAD-IN CABLE AT THE PULL BOX OR POLE. THE SPLICES SHALL BE IN ACCORDANCE WITH SECTION 725.15 OF THE CMS. PAYMENT SHALL BE MADE PER EACH LOOP DETECTOR CONNECTED TO THE LEAD-IN CABLE.

THE CONTRACTOR WILL BE PROVIDED WITH DETAILED PLANS AT THE THE PRE CONSTRUCTION MEETING SHOWING DETECTOR LOOP PLACEMENTS. A TABLE SHOWING DIMENSIONS AND LOCATIONS IS PROVIDED FOR THE PURPOSE OF ESTIMATING.

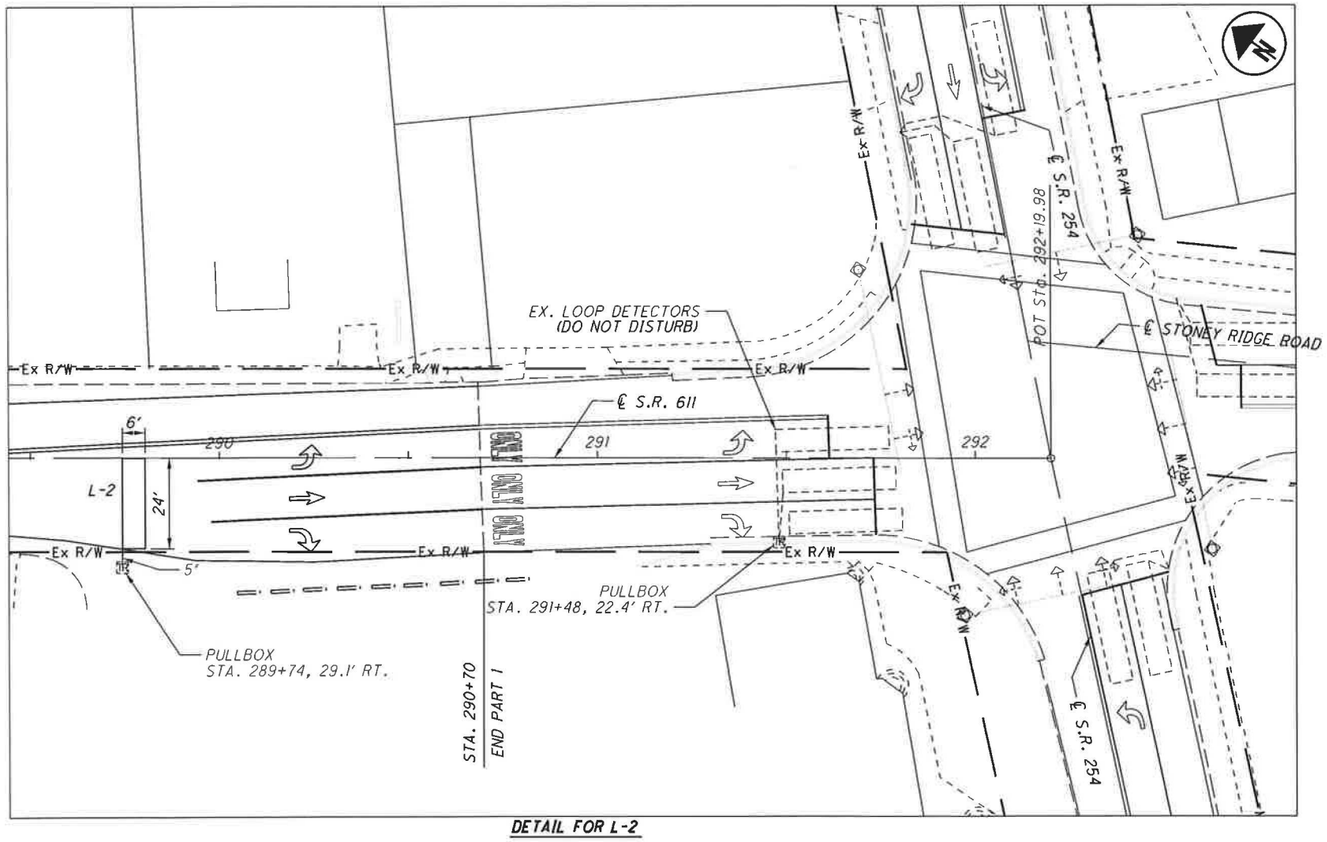
PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH OF ITEM 632 DETECTOR LOOP, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 632 DETECTOR LOOP, AS PER PLAN 2 EACH



DETAIL FOR L-1



DETAIL FOR L-2

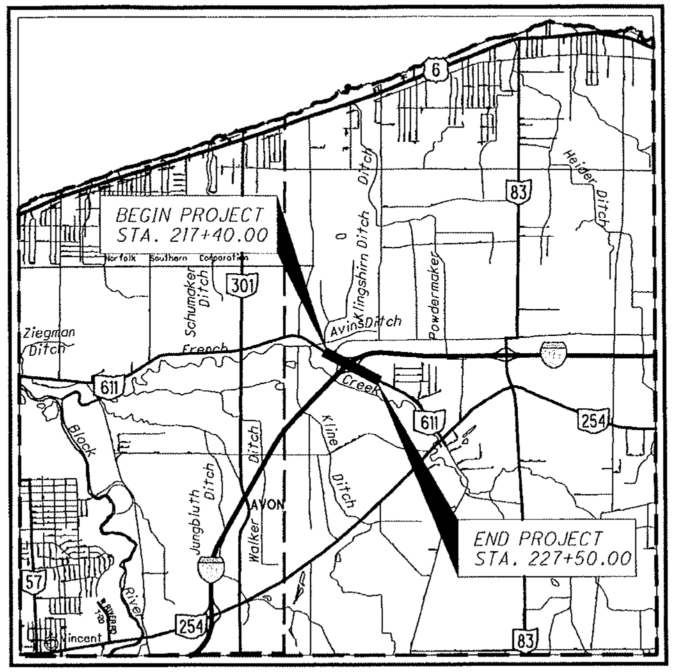
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED GTS
CHECKED

LOOP DETECTOR NOTES & DETAILS

LOR - 611 - 9.63

24
24

DESIGN FILE:i:\projects\83447\roadway\PavMarkg\83447TP024.dgn
WORKSTATION:gschlett DATE:10/1/2012 MODEL NAME: Sheet



LOCATION MAP

LATITUDE: 41°27'48" LONGITUDE: 82°03'16"

SCALE IN MILES

0 1 2 3 4

N

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

DESIGN DESIGNATION

CURRENT ADT (2013) — 31,864
DESIGN YEAR ADT (2033) — 41,423
DESIGN HOURLY VOLUME (2033) — 4142
DIRECTIONAL DISTRIBUTION — 50%
TRUCKS (24 HOUR B&C) — 9.3%
DESIGN SPEED — 45 MPH
LEGAL SPEED — 45 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN MINOR ARTERIAL
NHS PROJECT — N/A

DESIGN EXCEPTIONS

NONE

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 UNDERGROUND
PROTECTION SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:

DLZ OHIO, INC.
614 W. SUPERIOR AVE. SUITE 1000
CLEVELAND, OH 44113

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-611-9.96
PART 2

CITY OF AVON

LORAIN COUNTY

(FOR PART 1 - SEE LOR-611-9.63)

INDEX OF SHEETS:

ENGINEERS SEAL:

STATE OF OHIO
DANIEL E. SHANER
66593
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: [signature]
DATE: 12-17-2012

ENGINEERS SEAL:

SIGNED: [signature]
DATE: 12-17-2012

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS
SEE PART 1						SEE PART 1

SPECIAL PROVISIONS

PROJECT DESCRIPTION - PART 2

WIDENING AND REHABILITATION OF THE EXISTING 304' LONG, 4- SPAN LOR-90-1882 STEEL BEAM STRUCTURE ON SR 611 OVER I-90 IN THE CITY OF AVON, OH. WORK INCLUDES WIDENING FOR A BIKE LANE AND SIDEWALK ON EACH SIDE, NEW CONCRETE DECK, PAINTING AND ROADWAY APPROACH WORK.

PROJECT EARTH DISTURBED AREA:	8.02 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	9.02 ACRES

LIMITED ACCESS

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

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.

Received ODOT
DEC 17 2012
District Three
Planning & Engineering Dept

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 [signature]
DATE 12-18-12 DISTRICT DEPUTY DIRECTOR

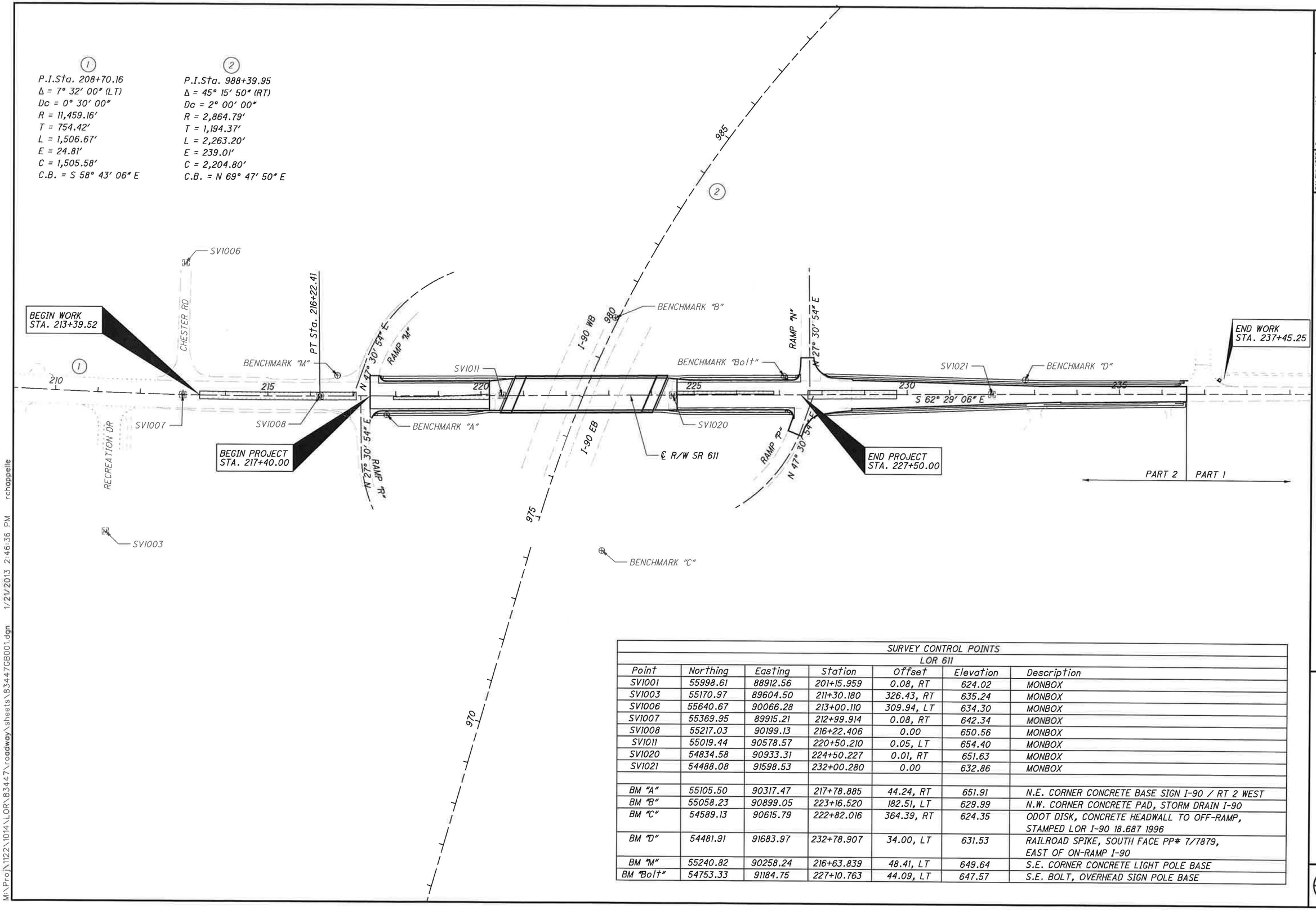
APPROVED ____________
DATE ____________ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E090(084)
PID NO. 83447
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
LOR-611-9.96

M:\Proj\1122\1014\LOR\83447\roadway\sheets\83447GT001.dgn 12/17/2012 8:29:03 AM bsopko

(1)
P.I.Sta. 208+70.16
Δ = 7° 32′ 00″ (LT)
Dc = 0° 30′ 00″
R = 11,459.16′
T = 754.42′
L = 1,506.67′
E = 24.81′
C = 1,505.58′
C.B. = S 58° 43′ 06″ E

(2)
P.I.Sta. 988+39.95
Δ = 45° 15′ 50″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 1,194.37′
L = 2,263.20′
E = 239.01′
C = 2,204.80′
C.B. = N 69° 47′ 50″ E



SURVEY CONTROL POINTS
LOR 611

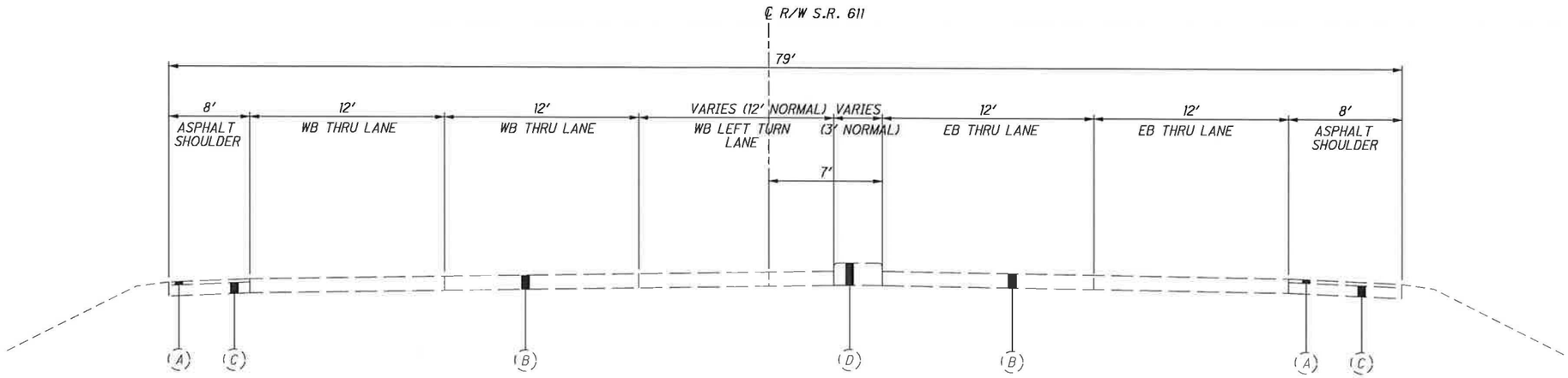
Point	Northing	Easting	Station	Offset	Elevation	Description
SV1001	55998.61	88912.56	201+15.959	0.08, RT	624.02	MONBOX
SV1003	55170.97	89604.50	211+30.180	326.43, RT	635.24	MONBOX
SV1006	55640.67	90066.28	213+00.110	309.94, LT	634.30	MONBOX
SV1007	55369.95	89915.21	212+99.914	0.08, RT	642.34	MONBOX
SV1008	55217.03	90199.13	216+22.406	0.00	650.56	MONBOX
SV1011	55019.44	90578.57	220+50.210	0.05, LT	654.40	MONBOX
SV1020	54834.58	90933.31	224+50.227	0.01, RT	651.63	MONBOX
SV1021	54488.08	91598.53	232+00.280	0.00	632.86	MONBOX
BM "A"	55105.50	90317.47	217+78.885	44.24, RT	651.91	N.E. CORNER CONCRETE BASE SIGN I-90 / RT 2 WEST
BM "B"	55058.23	90899.05	223+16.520	182.51, LT	629.99	N.W. CORNER CONCRETE PAD, STORM DRAIN I-90
BM "C"	54589.13	90615.79	222+82.016	364.39, RT	624.35	ODOT DISK, CONCRETE HEADWALL TO OFF-RAMP, STAMPED LOR I-90 18.687 1996
BM "D"	54481.91	91683.97	232+78.907	34.00, LT	631.53	RAILROAD SPIKE, SOUTH FACE PP# 7/7879, EAST OF ON-RAMP I-90
BM "M"	55240.82	90258.24	216+63.839	48.41, LT	649.64	S.E. CORNER CONCRETE LIGHT POLE BASE
BM "Bolt"	54753.33	91184.75	227+10.763	44.09, LT	647.57	S.E. BOLT, OVERHEAD SIGN POLE BASE

HORIZONTAL SCALE IN FEET
0 100 200
CALCULATED LAM
CHECKED DES

SCHEMATIC PLAN

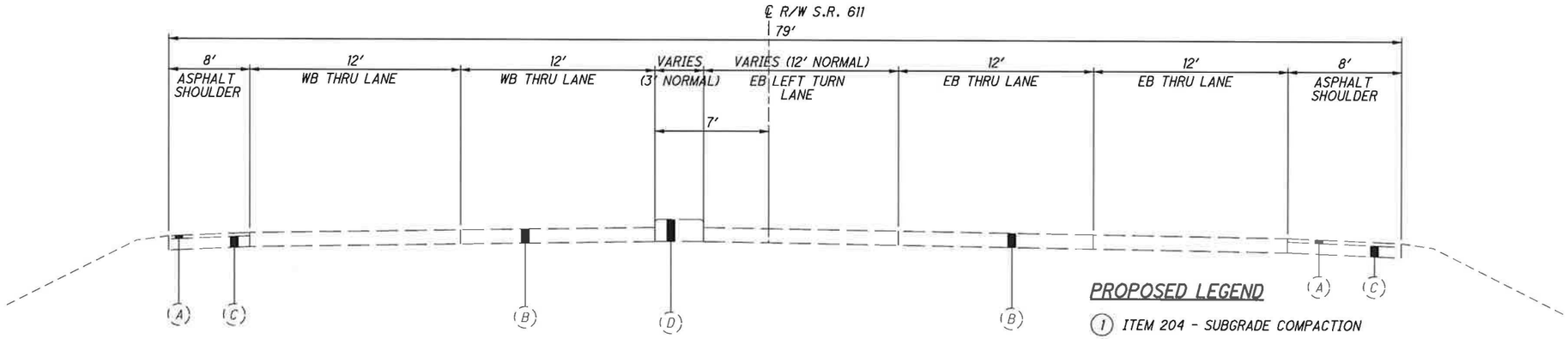
LOR-611-9.96

2
121



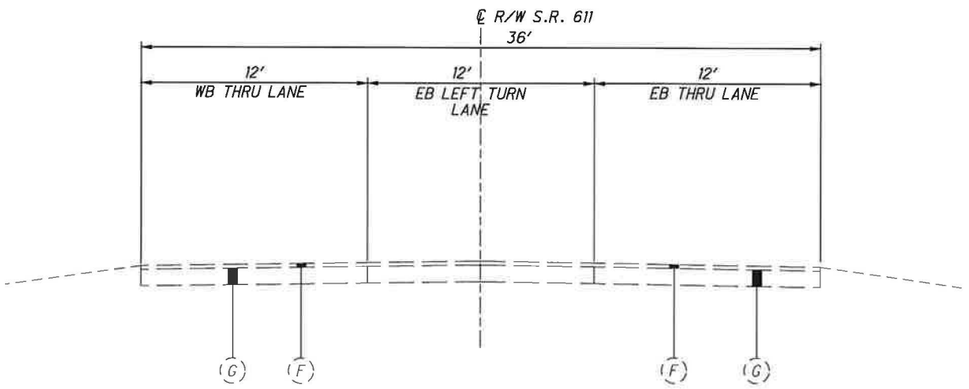
EXISTING SECTION - SR 611

STA 218+50.00
ALL DIMENSIONS (±)



EXISTING SECTION - SR 611

STA 225+50.00
ALL DIMENSIONS (±)



EXISTING SECTION - SR 611

STA 235+00.00
ALL DIMENSIONS (±)

PROPOSED LEGEND

1. ITEM 204 - SUBGRADE COMPACTION
2. ITEM 304 - 6" AGGREGATE BASE
3. ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT
4. ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE
5. ITEM 407 - TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE
6. ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A, (448) (VARIABLE THICKNESS, 1½" MIN.))
7. ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446)
8. ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP
9. ITEM 608 - 4" CONCRETE WALK
10. ITEM 609 - CURB, TYPE 6
11. ITEM 202 - PAVEMENT REMOVED, AS PER PLAN
12. ITEM 659 - SEEDING AND MULCHING
13. ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22
14. ITEM 304 - 8" AGGREGATE BASE
15. ITEM 451 - 12" REINFORCED CONCRETE PAVEMENT
16. ITEM 526 REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN
17. ITEM 605 AGGREGATE DRAINS
18. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, VARYING THICKNESS

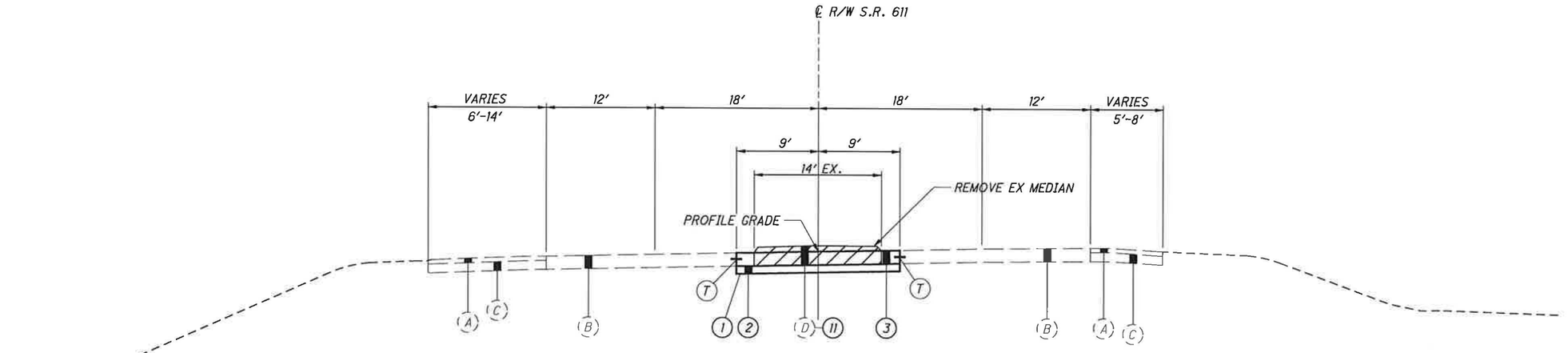
T. STANDARD LONGITUDINAL JOINT, AS PER STD-DWG BP-2.1

EXISTING LEGEND

- A. 2"(±) TO 3"(±) ASPHALT CONCRETE
- B. 9"(±) REINFORCED CONCRETE PAVEMENT
- C. 6"(±) AGGREGATE BASE
- D. CONCRETE MEDIAN
- E. 13"± REINFORCED CONCRETE APPROACH SLAB
- F. 3"± ASPHALT CONCRETE
- G. 8"± CONCRETE BASE

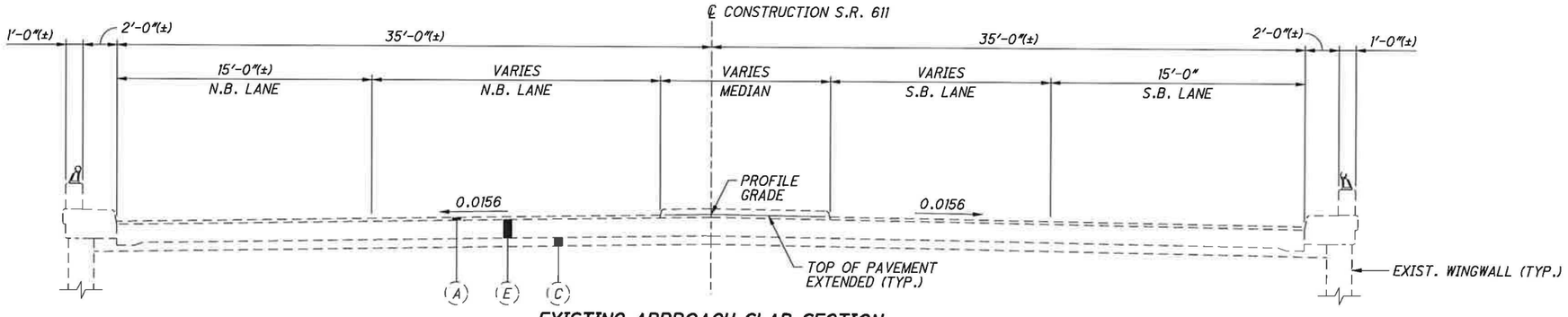
EXISTING TYPICAL SECTIONS - SR 611

LOR-611-9.96



PROPOSED SECTION - SR 611

STA. 213+39.52 TO STA. 217+07.44 = 367.92 FT
ALL EXISTING DIMENSIONS (±)



EXISTING APPROACH SLAB SECTION

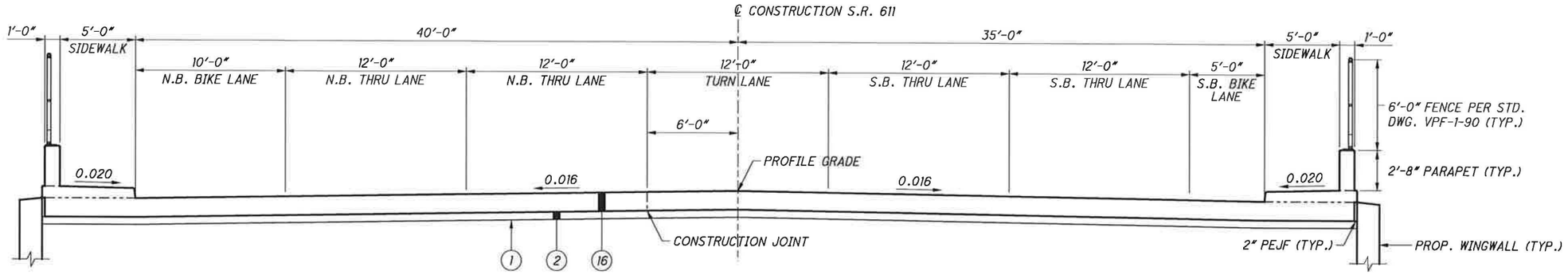
STA. 220+61.56 TO STA. 220+86.56 = 25.00'
STA. 223+95.44 TO STA. 224+20.44 = 25.00'

FOR LEGEND, SEE SHEET 3

PROPOSED TYPICAL SECTIONS - SR 611

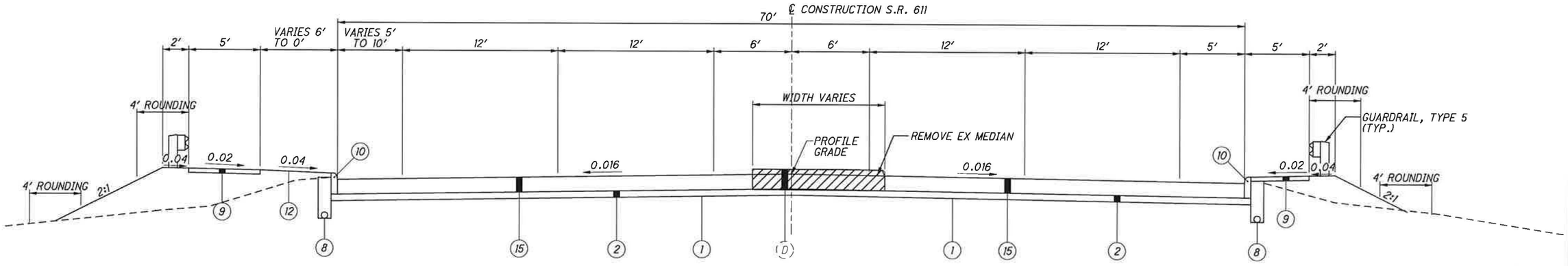
LOR-611-9.96

MATCH EX. CROSS SLOPE (0.016± NORMAL)



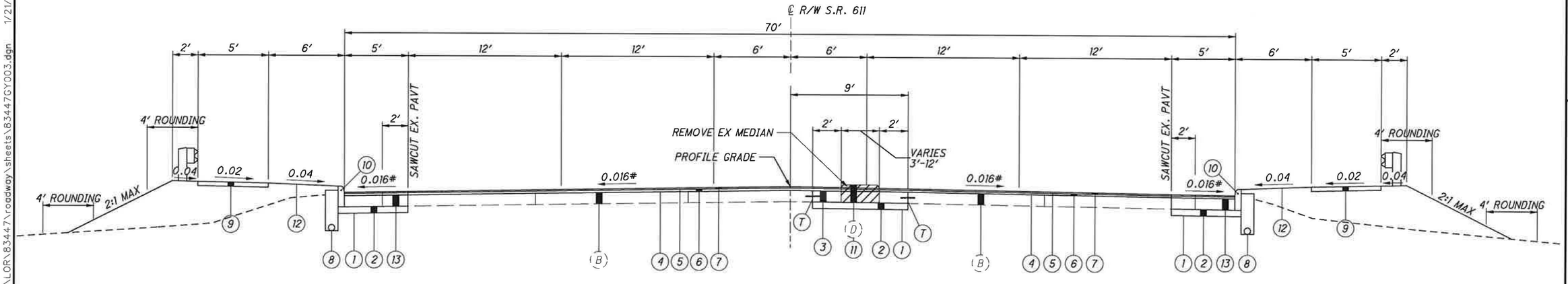
PROPOSED APPROACH SLAB SECTION

STA. STA. 220+62.91 TO STA. 220+87.91 = 25.00'
STA. STA. 223+94.09 TO STA. 224+19.09 = 25.00'



PROPOSED SECTION - SR 611

STA. 220+20.00 TO STA. 220+62.91= 42.91 FT



PROPOSED SECTION - SR 611

STA. 217+40.00 TO STA. 220+20.00 = 280.00 FT

FOR LEGEND, SEE SHEET 3

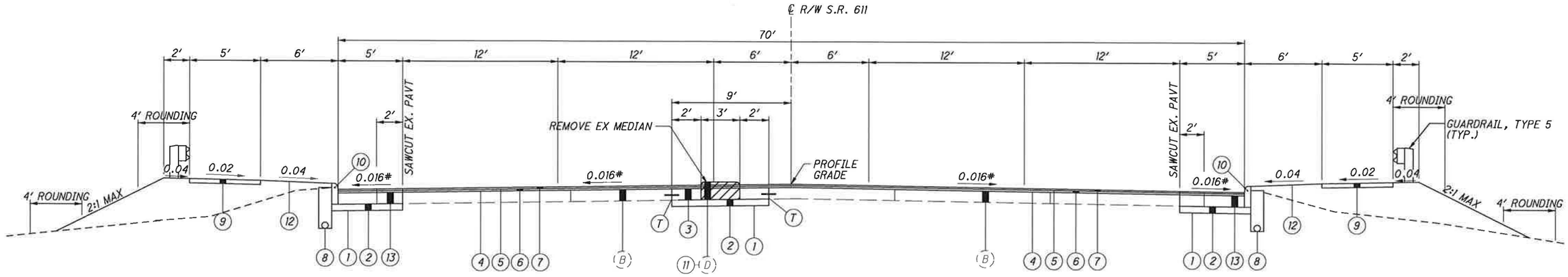
TYPICAL SECTIONS - SR 611

PROPOSED TYP

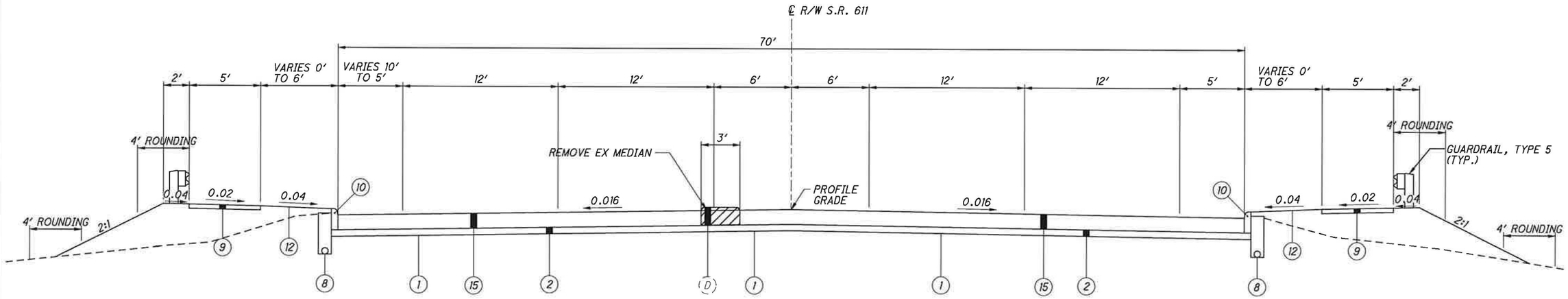
LOR-611-9.96

PROPOSED TYPICAL SECTIONS - SR 611

\# MATCH EX. CROSS SLOPE
(0.016± NORMAL)



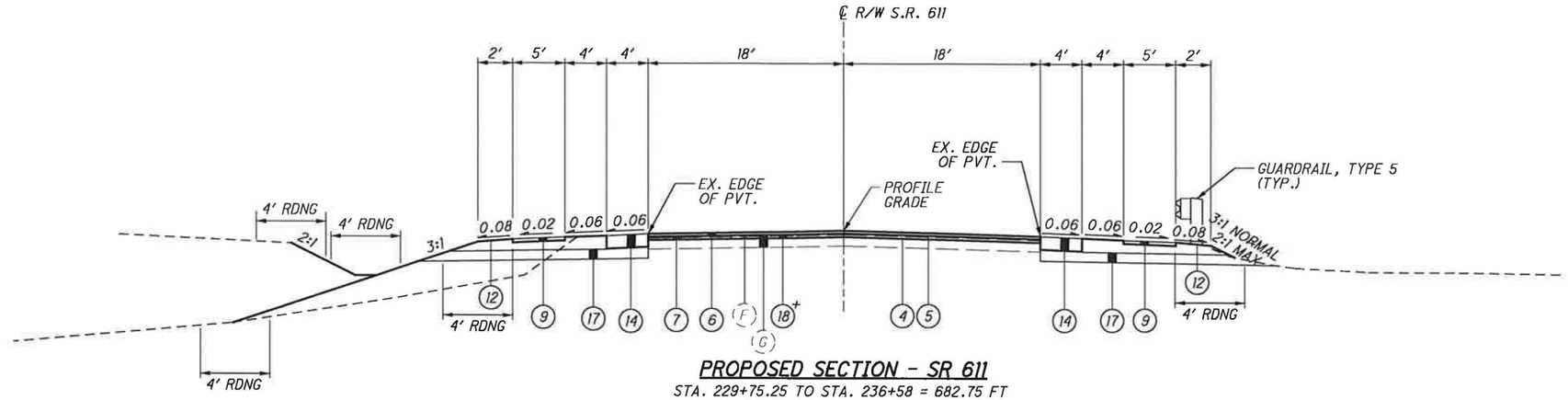
PROPOSED SECTION - SR 611
STA. 224+60.00 TO STA. 227+50.00 = 290.00 FT



PROPOSED SECTION - SR 611
STA. 224+19.09 TO STA. 224+60.00 = 40.91 FT

FOR LEGEND, SEE SHEET 3

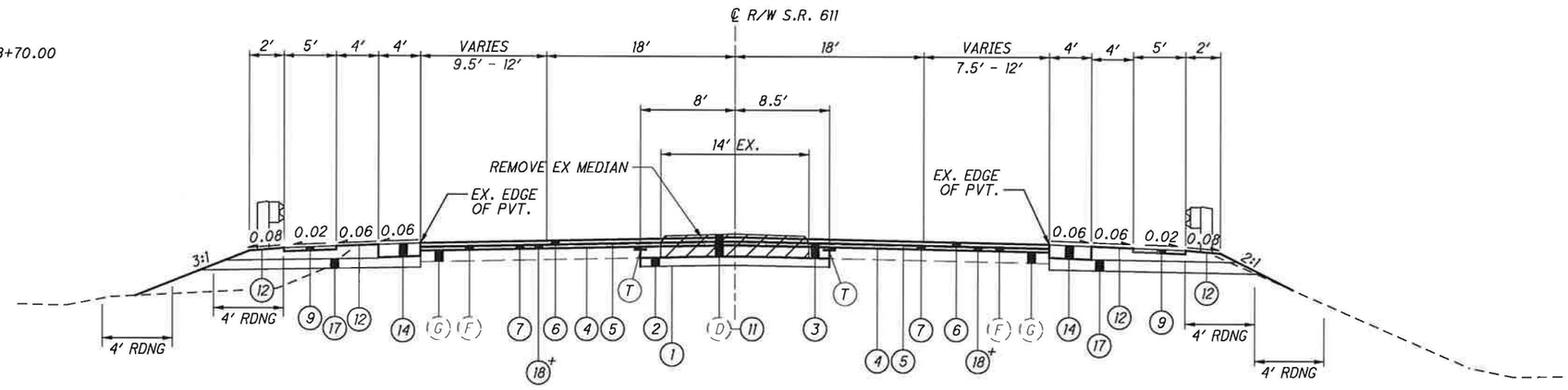
LOR-611-9.96



PROPOSED SECTION - SR 611

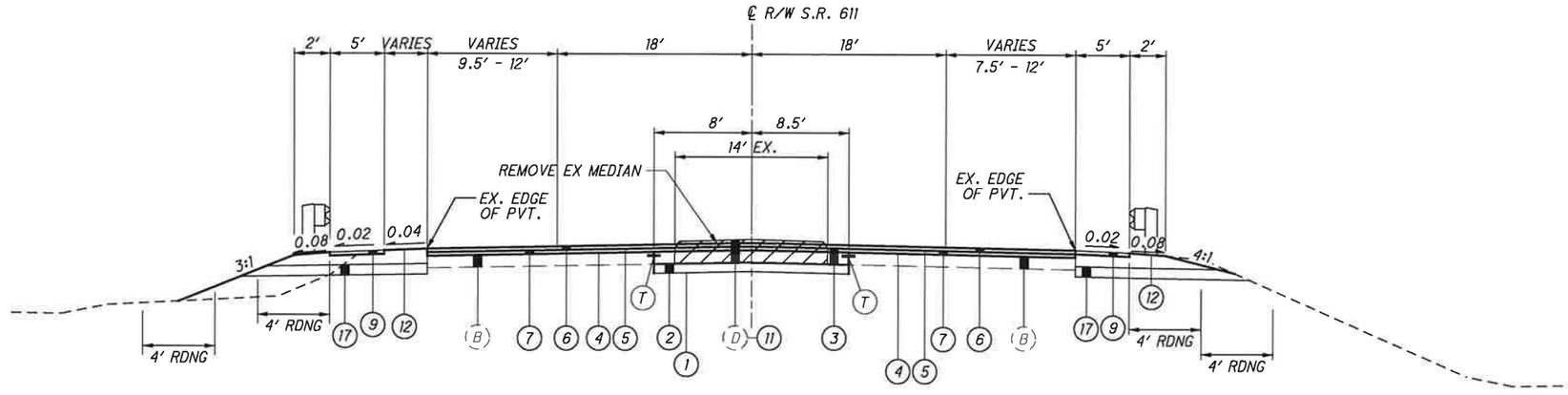
STA. 229+75.25 TO STA. 236+58 = 682.75 FT
ALL EXISTING DIMENSIONS (±)

+THICKNESS VARIES LINEARLY FROM 0" AT STATION 228+70.00 TO 3" AT STATION 236+58.00



PROPOSED SECTION - SR 611

STA. 228+70.00 TO STA. 229+75.25 = 105.25 FT
ALL EXISTING DIMENSIONS (±)



PROPOSED SECTION - SR 611

STA. 227+50.00 TO STA. 228+70.00 = 120.00 FT
ALL EXISTING DIMENSIONS (±)

FOR LEGEND, SEE SHEET 3

PROPOSED TYPICAL SECTIONS - SR 611

LOR-611-9.96

UTILITIES

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

CLEVELAND ELECTRIC ILLUMINATING (CEI) COMPANY
MARK ROBINSON
6896 MILLER ROAD, SUITE 101
BRECKSVILLE, OHIO 44141
440-546-8704

CENTURYLINK
ROBERT DAKIN
1730 WEST 19TH STREET
LORAIN, OHIO 44052
440-244-8330
ROBERT DAKIN

COLUMBIA GAS OF OHIO
ADAM WOODIE, P.E.
3101 NORTH RIDGE ROAD E
LORAIN, OHIO 44055
440-240-6144

AVON LAKE MUNICIPAL UTILITIES (ALMU)
JACK GAYDAR, ENGINEERING SERVICES MANAGER
201 MILLER ROAD
AVON LAKE, OHIO 44012
440-933-6226 OFFICE

OHIO EDISON TRANSMISSION
CARLOS A. MUNOZ
76 SOUTH MAIN STREET
AKRON, OHIO 44308
330-384-4835 OFFICE

CITY OF AVON
DAVE CONRAD
35030 DETROIT ROAD
AVON, OHIO 44071
440-937-5714

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(CORS)
ELLIPSOID: WGS 84
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH ZONE
COMBINED SCALE FACTOR: 0.99993795

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS

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

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN EXCAVATING FOR PROPOSED BENCHING SO AS TO NOT DISTURB ANY EXISTING UTILITIES.

CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR$\frac{5}{32}$S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

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 IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

PART-WIDTH CONSTRUCTION

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

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY FOOT (50') INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS, EXCEPT WHERE ITEM 605 - PIPE UNDERDRAINS HAVE BEEN PROVIDED.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	4	0	4
30"	0	0	0
48"	0	0	0
60"	0	0	0

ITEM 202 - PAVEMENT REMOVED, AS PER PLAN

THIS WORK CONSISTS OF REMOVING EXISTING PAVEMENT, INCLUDING EXISTING RAISED CONCRETE MEDIAN. THIS WORK SHALL MEET ALL THE REQUIREMENTS OF CONSTRUCTION AND MATERIALS SPECIFICATIONS ITEM 202 PAVEMENT REMOVED. PAYMENT FOR ITEM INCLUDES ALL COSTS ASSOCIATED WITH REMOVAL AND DISPOSAL OF PAVEMENT, INCLUDING EXISTING CONCRETE MEDIAN WHERE IDENTIFIED IN PLANS

CALCULATED RDC
CHECKED DES

GENERAL NOTES

LOR-611-9.96

ITEM 407 - TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE
ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE

DESCRIPTION: THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH NTSS-IHM TRACKLESS TACK MATERIAL COMPOSED OF A POLYMER MODIFIED ASPHALT EMULSION. A KNOWN SUPPLIER IN THE STATE OF OHIO IS MEREDITH BROTHERS, INC, COLUMBUS, OHIO. MEET ALL REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 407 TACK COAT EXCEPT AS NOTED BELOW.

MATERIAL: CONFORM TO THE FOLLOWING TYPICAL PHYSICAL PROPERTIES:

PARAMETER	TEST METHOD	MIN.	MAX.
SAYBOLT FUROR VISCOSITY, SFS @ 25°C	ASTM D88	15	100
STORAGE STABILITY, 24 HRS, %	ASTM D244	---	1
STORAGE STABILITY, 5 DAYS, %	D244	---	5
RESIDUE BY DISTILLATION, %	ASTM D244	50	---
OIL DISTILLATE, %	D244	---	1
SIEVE TEST, %	ASTM D244	---	0.3
TEST ON RESIDUE:	TEST ON RESIDUE		
PENETRATION, @25°C	ASTM D5	---	20
SOFTENING POINT RANGE, DEG C	ASTM D366	5	---
SOLUBILITY, %	ASTM D2042	97.5	---
ORIGINAL BINDER DSR @ 82°C G*/SIN , 10 RAD/SEC	AASHTO T111	1	---

NOTE: PRODUCT SHOULD NOT CONTAIN FILLER SUCH AS CLAY, ETC.

KEEP FROM FREEZING.

SUPPLY CERTIFIED TEST DATA TO THE ENGINEER SHOWING THE MATERIALSUPPLIED WAS TESTED FOR AND MEETS THE ABOVE PROPERTIES.

EQUIPMENT. ALL REQUIREMENTS OF 407.03 APPLY. SEE MANUFACTURER'S REPRESENTATIVE FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF CATIONIC EMULSION WAS PREVIOUSLY USED.

APPLICATION OF ASPHALT MATERIAL. UNIFORMLY APPLY THE ASPHALT MATERIAL WITH A DISTRIBUTOR PER THE REQUIREMENTS OF 407.06 EXCEPT AS NOTED.

IF PRODUCT IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL.

ALL NOZZLES AND SPRAY PATTERNS SHALL BE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. THE ANGLE OF THE NOZZLE SHOULD BE A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVER LAP, OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE, AND DISTRIBUTOR AND NOZZLE SETTINGS.

APPLY AT A RATE OF 0.04 TO 0.08 GALLONS PER SQUARE YARD. RECOMMENDED APPLICATIONS TEMPERATURE IS 160°F TO 180°F. DO NOT EXCEED 180°F

DILUTION IS NOT ALLOWED.

THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE WILL APPROVE RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

ITEM 407 - TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE (CONTINUED)
ITEM 407 - TACK COAT, TRACKLESS TACK, SURFACE COURSE (CONTINUED)

THE APPLICATION IS CONSIDERED SATISFACTORY WHEN THE MATERIAL IS APPLIED UNIFORMLY WITH NO VISIBLE EVIDENCE OF STREAKING OR RIDGING AND THE APPLICATION RATE IS ±10% OF THE SPECIFIED RATE.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST 1 EACH

659, TOPSOIL 2456 CU. YD.

659, SEEDING AND MULCHING 22124 SQ. YD.

659, REPAIR SEEDING AND MULCHING 1106 SQ. YD

659, INTER-SEEDING 1106 SQ. YD.

659, COMMERCIAL FERTILIZER 3 TON

659, LIME 4.57 ACRES

659, WATER 119 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 2 HOUR.

ITEM 618 - RUMBLE STRIPS (ASPHALT CONCRETE)

RUMBLE STRIPS SHALL BE PLACED IN THE NEW ASPHALT SHOULDER AFTER BRIDGE SUPERSTRUCTURE PAINTING IS COMPLETED AND THE NORMAL I-90 TRAFFIC PATTERN IS RESTORED.

THE FOLLOWING QUANITITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK DESCRIBED ABOVE:

ITEM 618 - RUMBLE STRIPS, (ASPHALT CONCRETE) 3100 FT

CALCULATED RDC
CHECKED DES

GENERAL NOTES

LOR-611-9.96

MAINTENANCE OF TRAFFIC SEQUENCE OF OPERATIONS

PHASE 1a

REMOVE EXISTING RAISED CONCRETE MEDIANS AND REPLACE WITH PROPOSED PAVEMENT AS PER TYPICAL SECTIONS.

PHASE 1

CONSTRUCT NORTHERN PORTION OF BRIDGE, WHILE MAINTAINING TRAFFIC ON EXISTING SOUTHERN PORTION OF BRIDGE. CONSTRUCT PROPOSED WIDENING FOR BICYCLE LANES ON NORTHERN HALF OF SR 611, EXTENDING TO RAMPS BOTH EAST AND WEST OF BRIDGE. CONSTRUCT ASPHALT OVERLAY ON WESTBOUND LANES. DO NOT CONSTRUCT PROPOSED CURB ADJACENT TO BRIDGE ON NORTH SIDE OF SR 611 UNTIL AFTER PHASE 2 IS COMPLETE. CONSTRUCT EMBANKMENT AND TEMPORARY PAVEMENT ON NORTH SIDE OF SR 611 TO BE UTILITZED DURING PHASE 2.

CONSTRUCT STORM SEWER STRUCTURES ON NORTHERN HALF OF SR 611. TOPS AND GRATES ON THE CATCH BASINS WILL BE INSTALLED AFTER PHASE 2, SO THAT TRAFFIC MAY PASS OVER THEM DURING PHASE 2.

PHASE 2

CONSTRUCT SOUTHERN PORTION OF BRIDGE WHILE MAINTAINING TRAFFIC ON NEWLY CONSTRUCTED NORTHERN PORTION AND TEMPORARY PAVEMENT. CONSTRUCT WIDENING FOR BICYCLE LANES ON SOUTHERN HALF OF SR 611, EXTENDING TO RAMPS. CONSRUCT ASPHALT OVERLAY ON EASTBOUND LANES AND CENTER TURN LANE.

PHASE 3

CONSTRUCT REMAINING SIDEWALKS, CURB RAMPS AND DRAINAGE FACILITIES (SEE ABOVE) WHILE MAINTAINING TRAFFIC ON NEWLY CONSTRUCTED BRIDGE AND ROADWAY. REMOVE TEMPORARY PAVEMENT AND CONSTRUCT CURB AND EMBANKMENT ADJACENT TO BRIDGE ON NORTH SIDE OF SR 611.

DURING PHASE 3, PERMANENT LANE CONFIGURATIONS WILL BE UTILIZED ON NEWLY BUILT INTERMEDIATE COURSE. THE FOLLOWING QUANITITES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR WORK ZONE PAVEMENT MARKINGS DURING PHASE 3:

ITEM 614 - WORK ZONE CENTER LINE, CLASS 1, 642 PAINT	0.35 MI
ITEM 614 - WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE 1	0.15 MI
ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	0.74 MI
ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1	0.14 MI
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	803 FT
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1	280 FT
ITEM 614 - WORK ZONE STOP LINE, CLASS 1, 642 PAINT	132 FT
ITEM 614 - WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE 1	96 FT
ITEM 614 - WORK ZONE ARROW, CLASS 1, 642 PAINT	13 EACH

AFTER PLACEMENT OF THE FINAL ASPHALT SURFACE COURSE, BUT PRIOR TO PLACEMENT OF FINAL EPOXY PAVEMENT MARKINGS, WORK ZONE MARKINGS MAY BE NEEDED DUE TO INCLEMENT WEATHER OR CONSTRUCTION SCHEDULING. THE FOLLOWING QUANITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR APPLICATION TO THE NEWLY BUILT SURFACE COURSE OF PAVEMENT:

ITEM 614 - WORK ZONE CENTER LINE, CLASS 1, 642 PAINT	0.35 MI
ITEM 614 - WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE 1	0.15 MI
ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	0.74 MI
ITEM 614 - WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1	0.14 MI
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT	803 FT
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1	280 FT
ITEM 614 - WORK ZONE STOP LINE, CLASS 1, 642 PAINT	132 FT
ITEM 614 - WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE 1	96 FT
ITEM 614 - WORK ZONE ARROW, CLASS 1, 642 PAINT	13 EACH

PHASES 4 AND PHASE 5

TO FACILITATE PAINTING OF THE BRIDGE SUPERSTRUCTURE, I-90 TRAFFIC IS REQUIRED TO BE SHIFTED. DURING PHASE 4, TRAFFIC WILL BE SHIFTED TO THE OUTSIDE, UTILIZING THE EXISTING SHOULDER AND TRAVELLED LANES. DURING PHASE 5, TRAFFIC WILL BE SHIFTED TO THE INSIDE, UTILIZING THE EXISTING SHOULDER AND TRAVELLED LANES.

MAINTENANCE OF TRAFFIC - I-90

THIS ITEM PERTAINS TO MAINTENANCE OF TRAFFIC OPERATIONS ON I-90 AS REQUIRED TO COMPLETE STRUCTURAL TASKS INCLUDING SUBSTRUCTURE CONSTRUCTION, SUPERSTRUCTURE ERECTION AND PAINTING OPERATIONS.

ALL WORK REQUIRED TO CONSTRUCT BRIDGE SUBSTRUCTURE WILL BE STAGED AND PERFORMED BEHIND THE EXISTING I-90 GUARDRAIL OR OUTSIDE OF THE INTERSTATE CLEAR ZONE. IF WORK OR STAGING NEEDS TO OCCUR UNDER OR IN FRONT OF THE EXISTING GUARDRAIL OR WITHIN THE CLEAR ZONE, MAINTENANCE OF TRAFFIC SHALL BE PER STANDARD CONSTRUCTION DRAWING MT-95.40.

THE FOLLOWING QUANTITIES FOR MAINTAINING TRAFFIC ON I-90 DURING SUBSTRUCTURE CONSTRUCTON HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR INDIVIDUAL PAYMENT. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED HERE OR ON SHEETS 20A AND 20B.

ITEM 614 - BARRIER REFLECTOR	24 EACH
ITEM 614 - OBJECT MARKER, ONE WAY	24 EACH
ITEM 622 - PORTABLE CONCRETE BARRIER, 32"	1200 FT

FOR BRIDGE PAINTING WORK, MAINTENANCE OF TRAFFIC ON I-90 SHALL BE PER STANDARD CONSTRUCTION DRAWING MT-102.10. SEE SHEETS 14 TO 20B FOR DETAILS

FOR OTHER WORK REQUIREING I-90 LANE CLOSURES, SHORT TERM LANE CLOSURES SHALL BE AS ALLOWED IN THE PERMITTED LANE CLOSURE DIAGRAMS ON ODOT'S WEBSITE:
http://www.dot.state.oh.us/
LONG-TERM LANE CLOSURES WILL NOT BE PERMITTED.

ITEM 614, MAINTAINING TRAFFIC (TRUCK MOUNTED ATTENUATOR)

WHEN THE CONTRACTOR IS SETTING SHORT TERM WORK ZONES, A TRUCK MOUNTED ATTENUATOR (TMA) MUST TRAIL THE OPERATION OF SETTING THE ADVANCE WARNING SIGNS UP OR TAKING THEM DOWN. THIS SAME TRUCK MUST HAVE A TYPE B FLASHING ARROW PANEL MOUNTED ON IT FACING THE REAR OF THE TRUCK. THE TMA MUST BRING A VEHICLE WEIGHING 1800 TO 4500 POUNDS TO A SAFE, CONTROLLED STOP, PER NCHRP 350 TL-3 CRITERIA. THE MANUFACTURER'S SPECIFICATION MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE TMA.

THE COST FOR THE ABOVE WORK SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 622, PORTABLE CONCRETE BARRIER, 50", AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 50-INCH PORTABLE CONCRETE BARRIER (PCB) AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS, SEE SCD RM-4.1. PLEASE NOTE THAT SCD RM-4.1 WAS UPDATED 10-20-06 TO PROVIDE A PCB WHICH IS COMPATIBLE WITH NCHRP 350 CRITERIA.

PORTABLE STEEL BARRIER IS AN APPROVED ALTERNATIVE TO PCB. FOR INFORMATION ON APPROVED VENDORS, SEE THE APPROVED PRODUCTS LIST MAINTAINED BY ROADWAY STANDARDS.

PORTABLE CONCRETE BARRIER, 32 INCHES HIGH WITH AN 18-INCH MINIMUM HEIGHT GLARE SCREEN MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE GLARE SCREEN SHALL BE CONSTRUCTED USING ONE OF THE SCREENS PROVIDED ON THE APPROVED LIST, AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE.

PADDLE OR INTERMITTENT TYPE GLARE SCREENS SHALL BE DESIGNED USING A 20 DEGREE CUT-OFF ANGLE BASED ON TANGENT ALIGNMENT. THAT SPACING SHALL BE USED THROUGHOUT THE BARRIER LENGTH WITHOUT REGARD TO BARRIER CURVATURE.

THE GLARE SCREEN SYSTEM SHALL BE SECURELY FASTENED TO THE 32-INCH PORTABLE CONCRETE BARRIER USING THE HARDWARE AND PROCEDURES SPECIFIED BY THE MANUFACTURER.

FOR DIRECTIONS ON HOW TO INSTALL THE GLARE SCREEN AND THE BARRIER, SEE THE MANUFACTURER'S INSTRUCTIONS.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 622, PORTABLE CONCRETE BARRIER, 50 INCH, AS PER PLAN.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - BARRIER REFLECTOR, TYPE B	31 EACH
ITEM 614 - OBJECT MARKER, 2-WAY	31 EACH

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER	84 M. GAL

FLOODLIGHTING

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

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

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
(OTHER HOLIDAY OR EVENT)	

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

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) MONDAY
MONDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) TUESDAY
TUESDAY	12:00N MONDAY THROUGH (6:00 AM OR 12:00N) WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH (6:00 AM OR 12:00N) THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH (6:00 AM OR 12:00N) FRIDAY
THURSDAY (THANKSGIVING ONLY)	12:00N WEDNESDAY THROUGH (6:00 AM OR 12:00N) MONDAY
FRIDAY	12:00N THURSDAY THROUGH (6:00 AM OR 12:00N) MONDAY
SATURDAY	12:00N FRIDAY THROUGH (6:00 AM OR 12:00N) MONDAY

CALCULATED RDC
CHECKED DES

MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-611-9.96

FLOODLIGHTING (CONTINUED)

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC (SECTION 642-2).

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

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

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

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

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

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

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

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

ITEM 614, REPLACEMENT SIGN

FLATSHEET 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.

OVERLAYING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE OVERLAYED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE OVERLAY IS REMOVED. THE OVERLAY SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE OVERLAYS MAY BE RIVETED TO THE PERMANENT SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. 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. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

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 1-800-229-1388.
4. OHIO LABORERS TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS 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.

WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

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 LEOS WHILE THEY ARE ON THE PROJECT.
6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS 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.

WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

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

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

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

ITEM 614 WORKSITE TRAFFIC SUPERVISOR 18 MONTHS

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

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

CALCULATED RDC CHECKED DES

MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-611-9.96

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

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/ DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

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

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HOURS

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

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.

2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSBILE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION (CONTINUED)

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF AVON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR HOURS AND SHALL NOT INCLUDE THE HOURS OF 6AM TO 9AM AND 3PM TO 6PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF AVON POLICE, HIRED BY THE CONTRACTOR.

1. CHESTER RD. AT SR 611

2. RAMP M/RAMP R AT SR 611

3. RAMP N/RAMP P AT SR 611

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

TEMPORARY MAINTENANCE OF EXISTING TRAFFIC SIGNALS

INCIDENTAL TO THE REQUIREMENTS FOR MAINTAINING TRAFFIC IN ACCORDANCE WITH 614.03, EXISTING TRAFFIC SIGNALS WITHIN THE PROJECT AREA SHALL BE TEMPORARILY MAINTAINED UNTIL THE PROJECT IS COMPLETED AND THE EXISTING OPERATION CAN BE RESTORED. THE EXISTING SIGNAL HEADS (OR ADDITIONAL SIGNAL HEADS SUPPLIED BY THE CONTRACTOR) SHALL BE POSITIONED SO AS TO PROVIDE A MINIMUM OF TWO TRAFFIC SIGNAL HEADS OVER THE PORTION OF THE ROADWAY USED BY EACH DIRECTION OF TRAFFIC, AS SHOWN ON THE PLANS, AND THE OPERATION SHALL BE MODIFIED AS SHOWN IN THE PLANS. THE NUMBER, LOCATION, VISIBILITY, AND HEIGHT OF ALL TRAFFIC SIGNALS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE OMUTCD. PROTECTED SIGNAL PHASES NOT IN USE SHALL BE TEMPORARILY DEACTIVATED AND SIGNAL FACES COVERED AS PER 632.25.

ALL COSTS FOR THE TEMPORARY MAINTENANCE OF EXISTING TRAFFIC SIGNALS AND THE PROPOSED WORK ZONE TRAFFIC SIGNAL SHALL BE INCLUDED IN THE LUMP SUM COST BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED RDC CHECKED DES

MAINTENANCE OF TRAFFIC GENERAL NOTES

LOR-611-9.96

SHEET NO.	PHASE	614 WORK ZONE IMPACT ATTENUATOR (EACH)	614 WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1 (MILE)	614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1 (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1 (WHITE) (MILE)	614 WORK ZONE CENTERLINE, CLASS 1, 642 PAINT (MILE)	614 WORK ZONE CENTERLINE, CLASS 1, 740.06, TYPE 1	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06, TYPE 1 (FT)	614 WORK ZONE STOP LINE, CLASS 1, 642 PAINT (FT)	614 WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE 1 (FT)	614 WORK ZONE LANE ARROW (EACH)		622 PORTABLE CONCRETE BARRIER, 50" (FT)		615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ YD)					
17	1	1			0.06	0.33	0.09	0.02		125	61	22	25	2		50							
18	1	1		0.16	0.41			0.15		750		33		4		726							
19	2	1		0.13	0.24			0.02		114		25	11	1		50		1400					
20	2	1			0.04	0.13	0.18	0.06	0.09	255	440	46		3		700		965					
20A	3		0.80			1.00	0.66				1333					1500							
20B	4	2	1.11			0.97	1.09				1510					1500							
TOTALS CARRIED TO GENERAL SUMMARY		6	1.91	1.04		4.45		0.26	0.09	1244	3344	126	36	10		4526		263					

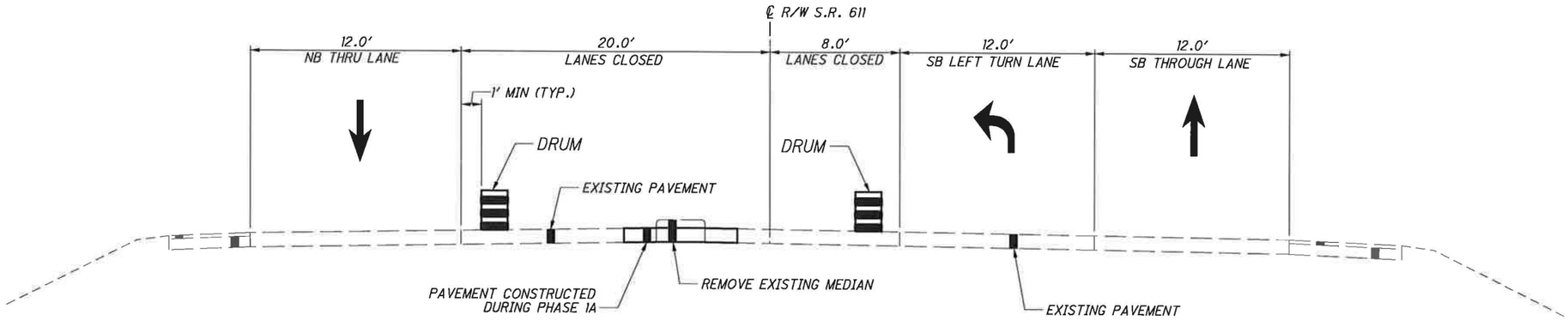
CALCULATED RDC
CHECKED DES

OFFICE OF TRAFFIC SUBSUMMARY

MAINTENANCE

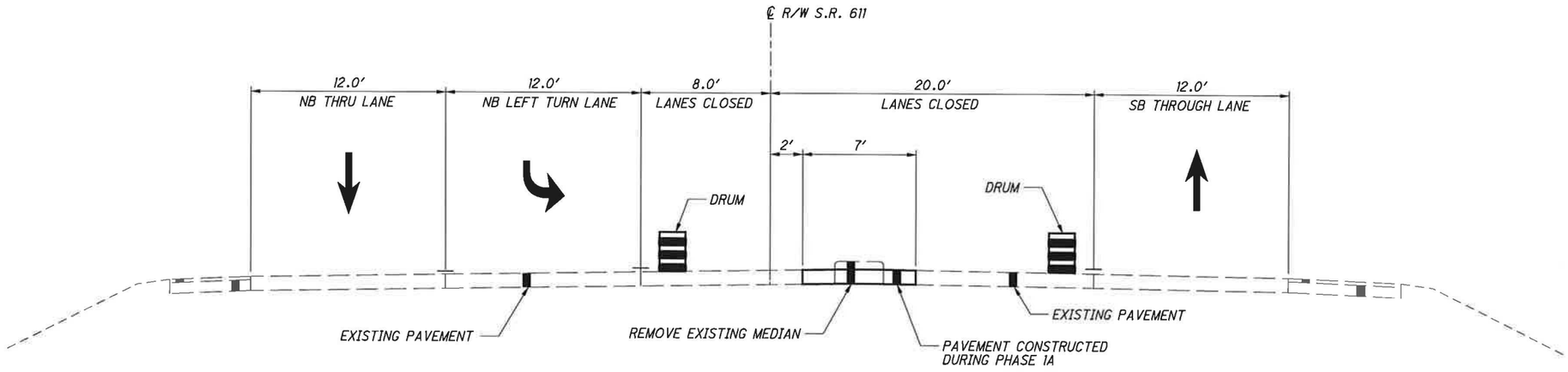
LOR-611-9.96

13
121



MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 1a
EAST OF BRIDGE

STA 224+19.09 TO STA 227+50.00

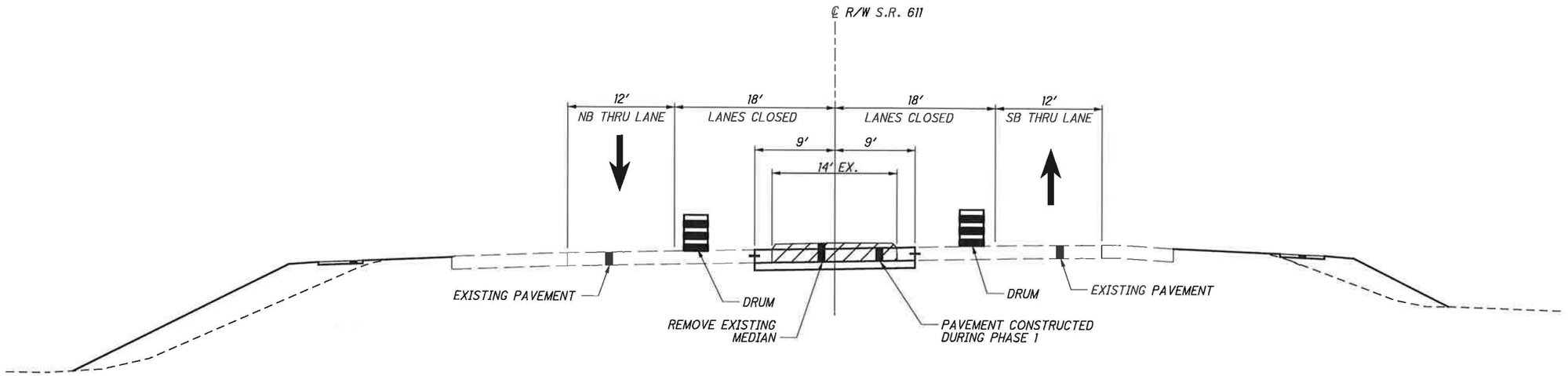


MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 1a
WEST OF BRIDGE

STA 217+40.00 TO STA 220+62.91

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

LOR-611-9.96



MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 1a
MEDIAN REMOVAL BEYOND RAMPS

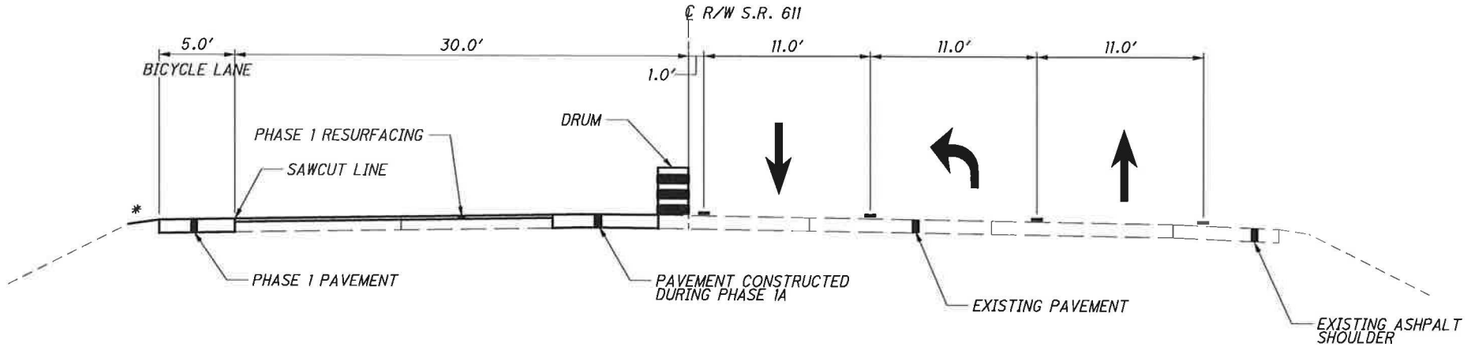
STA 213+39.52 TO STA 217+40.00
STA 227+50.00 TO STA 229+75.25

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

LOR-611-9.96

15
121

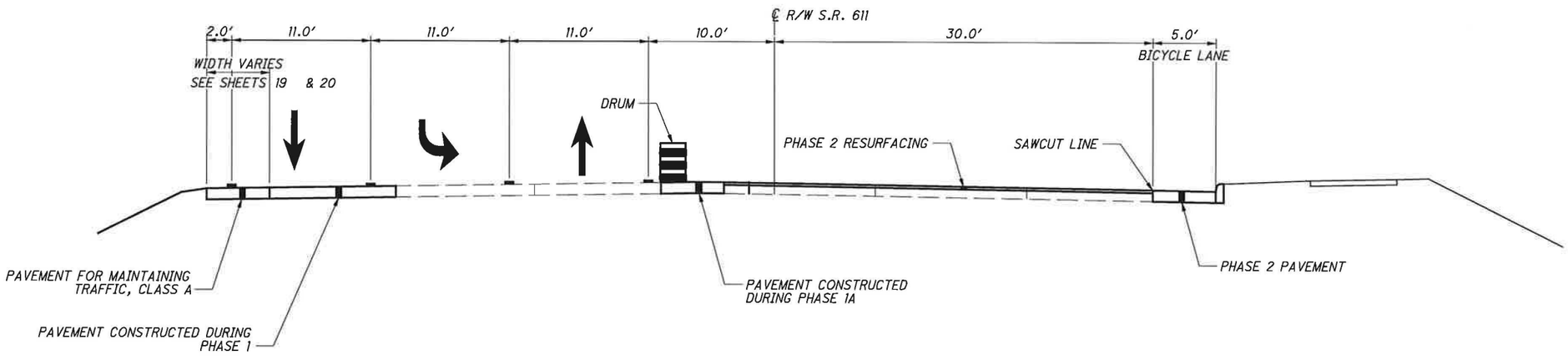
* PROPOSED CURB AND SIDEWALK TO BE CONSTRUCTED AFTER PHASE 2 IS COMPLETE. TEMPORARY PAVEMENT WILL BE REQUIRED OUTSIDE OF PROPOSED BICYCLE LANE FOR PHASE 2 CONSTRUCTION.



MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 1

STA 217+40.00 TO STA 227+50.00

NOTE:
FOR BRIDGE TYPICALS, SEE SHEETS 84 TO 85



MAINTENANCE OF TRAFFIC TYPICAL SECTION - PHASE 2

STA 217+40.00 TO STA 227+50.00

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

LOR-611-9.96

16
121

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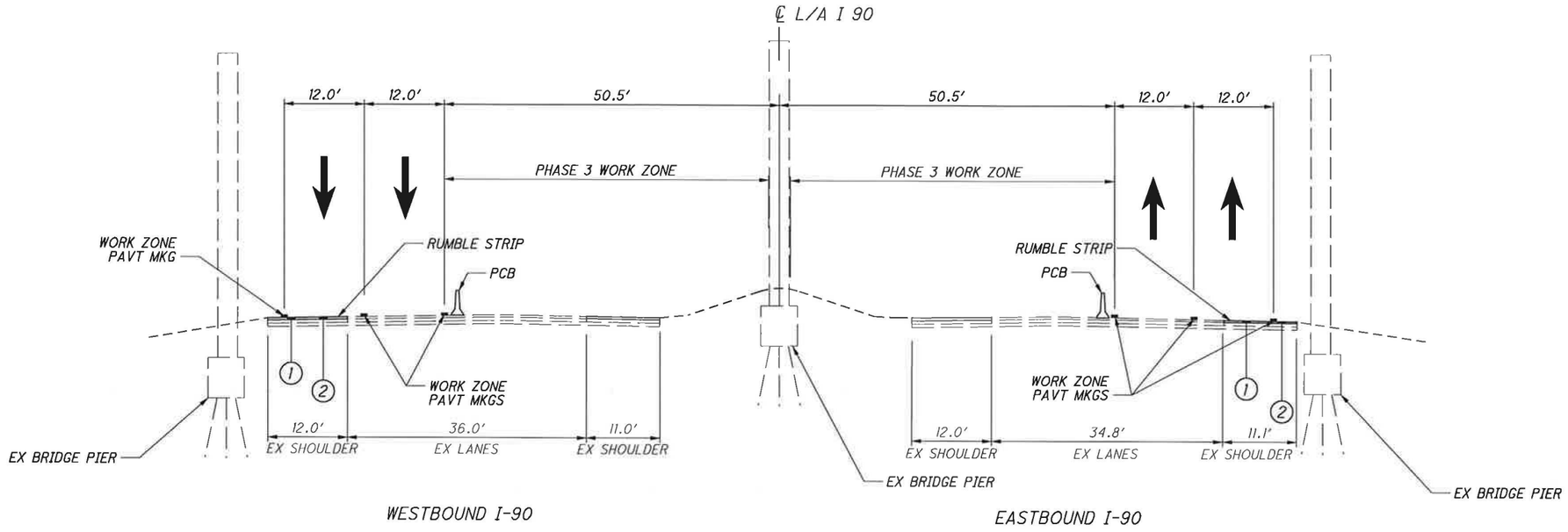
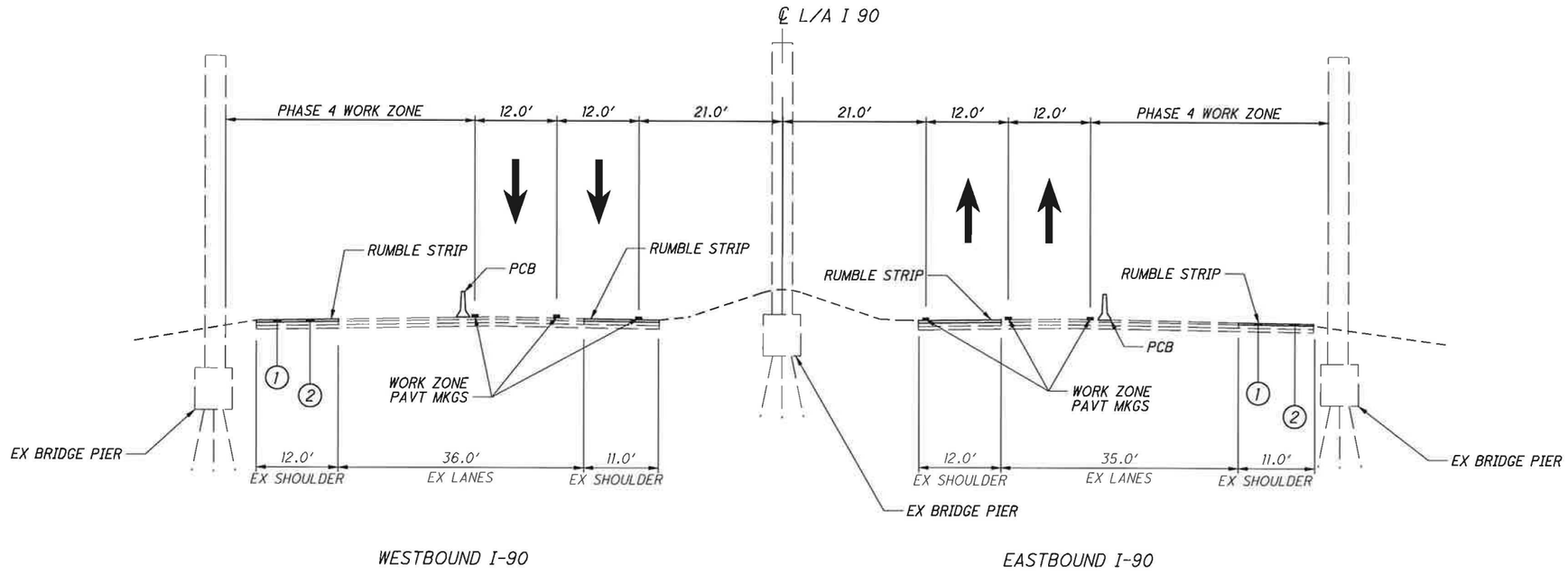


I-90 PHASE 4
STA 978+00



I-90 PHASE 5
STA 978+00

LEGEND

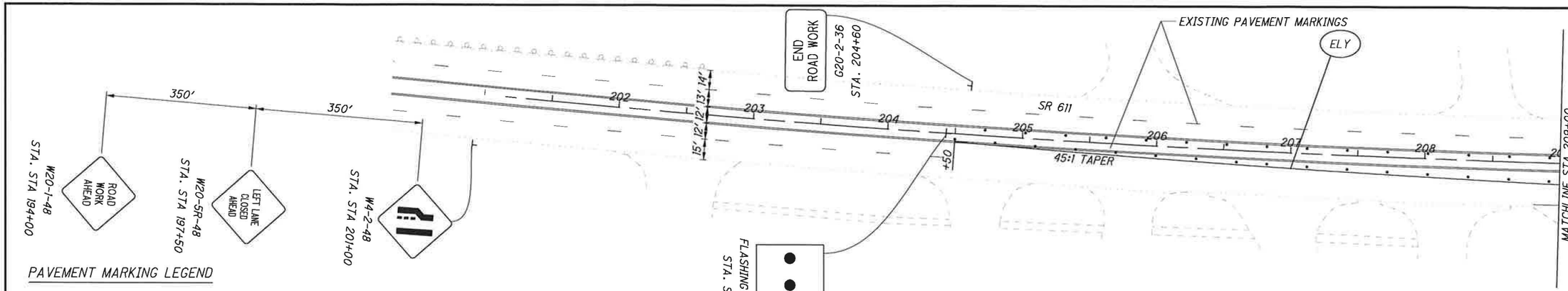
(1) ITEM 448 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22

(2) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, VARYING THICKNESS

MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

LOR-611-9.96

16A
121



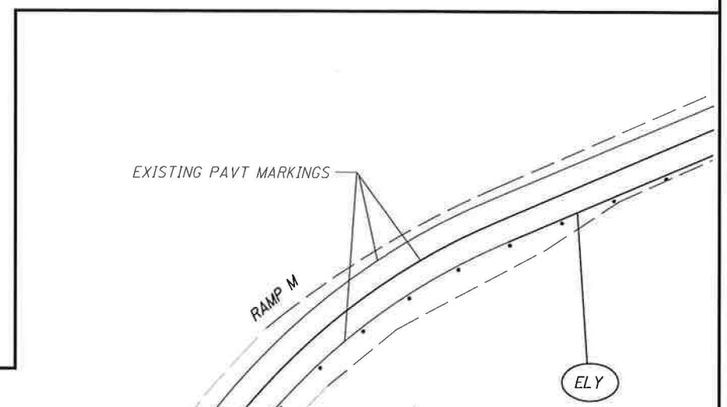
PAVEMENT MARKING LEGEND

ELW	- EDGE LINE (WHITE)	LL	- LANE LINE
ELY	- EDGE LINE (YELLOW)		
CL	- CENTER LINE, DOUBLE SOLID		
SL	- STOP LINE		WORK ZONE
DL	- DOTTED LINE		
LA	- LANE ARROW		DRUMS
CH	- CHANNELIZING LINE		PCB

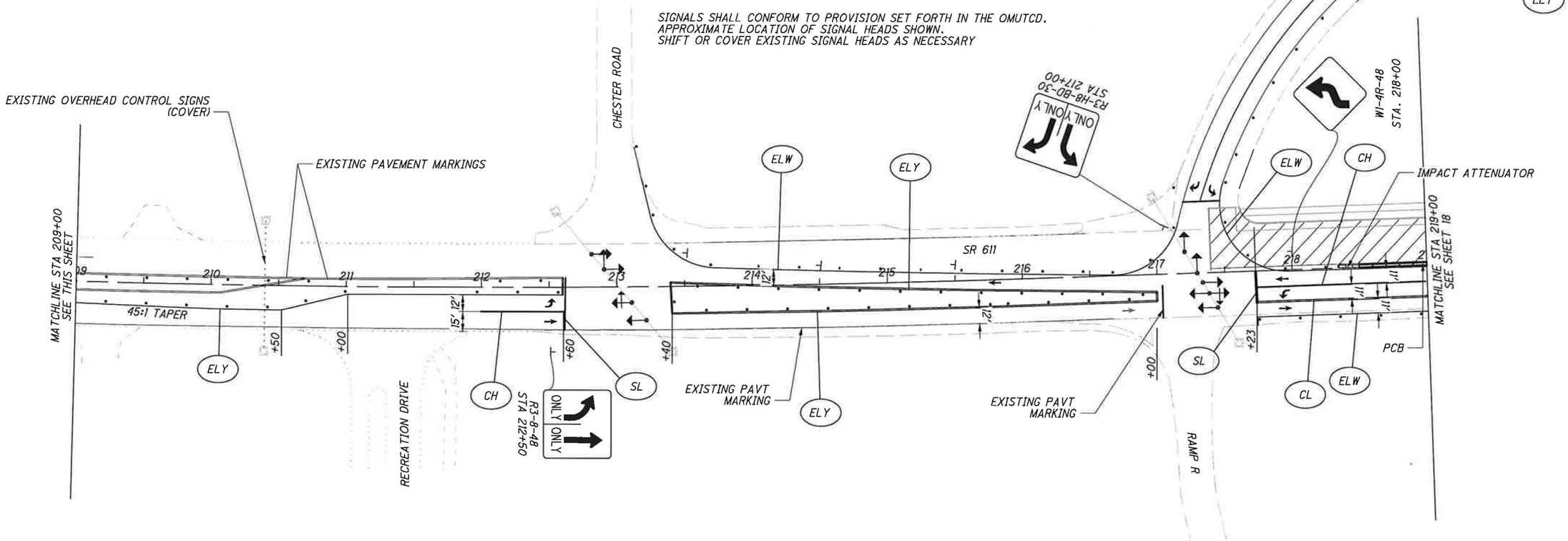
NOTES:

1. PROVIDE GAPS IN BARRELS TO ALLOW FOR DRIVE ACCESS TO BUISNESSES.

2. ALL PAVEMENT MARKINGS OUTSIDE OF PROPOSED RESURFACING LIMITS SHALL BE REMOVABLE, PER ITEM 740.06.



SIGNALS SHALL CONFORM TO PROVISION SET FORTH IN THE OMUTCD.
APPROXIMATE LOCATION OF SIGNAL HEADS SHOWN.
SHIFT OR COVER EXISTING SIGNAL HEADS AS NECESSARY



CALCULATED RDC
CHECKED DES

0 20 40 80
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC PHASE 1

LOR-611-9.96

17
121

SIGNALS SHALL CONFORM TO PROVISION SET FORTH IN THE OMUTCD.
APPROXIMATE LOCATION OF SIGNAL HEADS SHOWN.
SHIFT OR COVER EXISTING SIGNAL HEADS AS NECESSARY

FOR LEGEND, SEE SHEET 17

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED RDC
CHECKED DES

MAINTENANCE OF TRAFFIC PHASE 1

LOR-611-9.96

18
121

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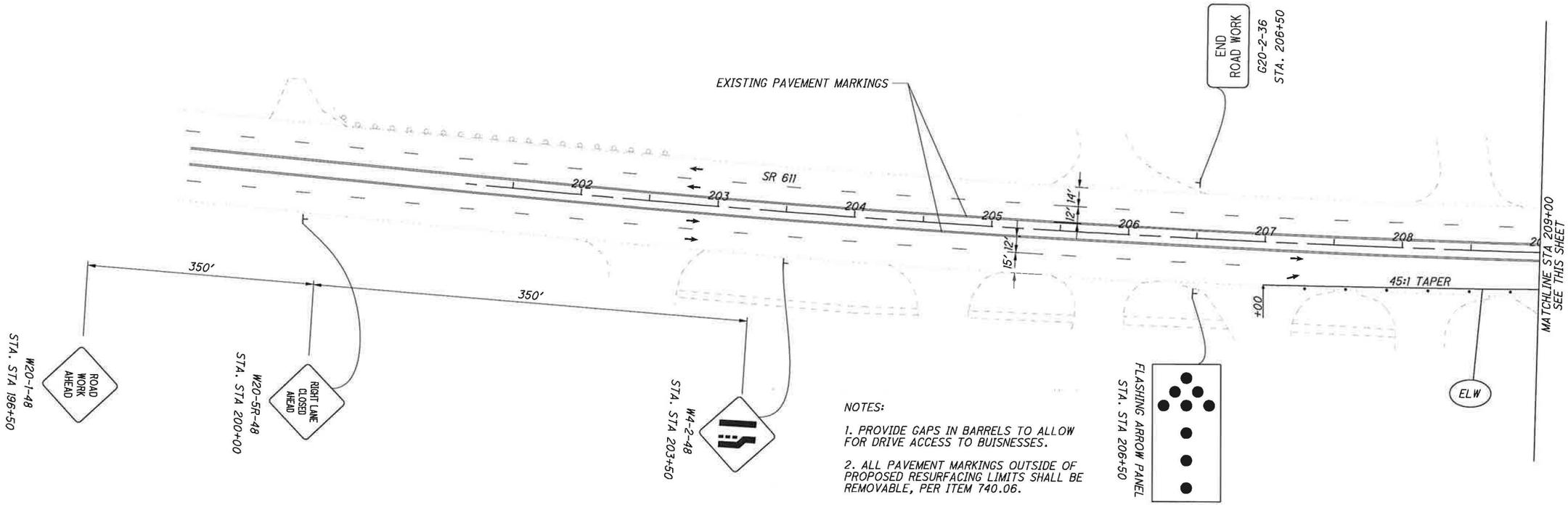

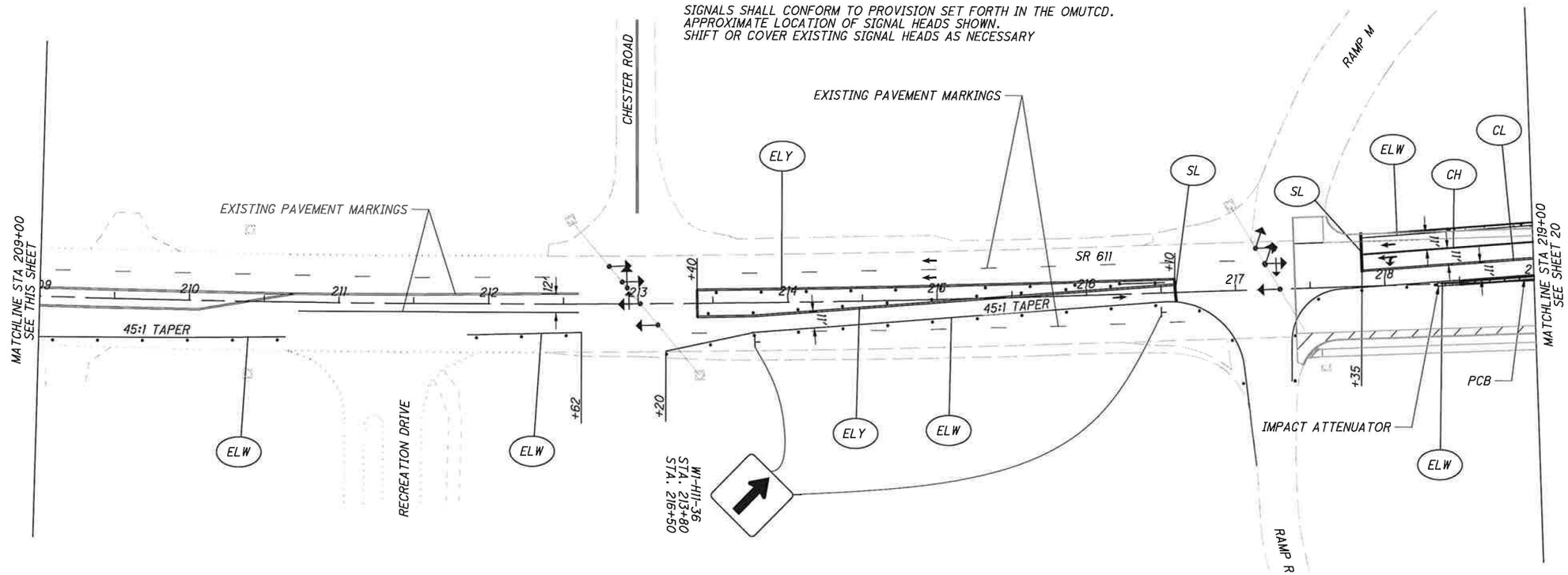

FOR LEGEND, SEE SHEET 17

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED RDC
CHECKED DES

MAINTENANCE OF TRAFFIC
PHASE 2

LOR-611-9.96

19
121

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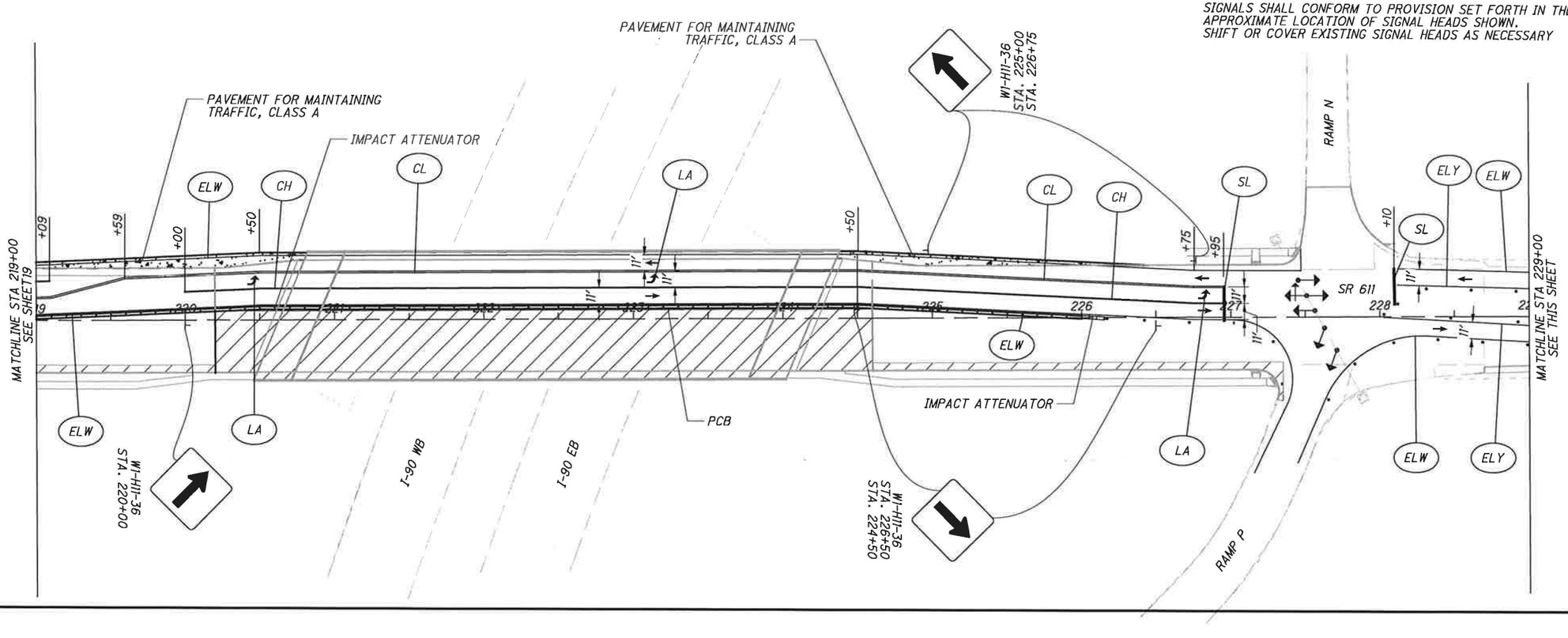
SIGNALS SHALL CONFORM TO PROVISION SET FORTH IN THE OMUTCD.
APPROXIMATE LOCATION OF SIGNAL HEADS SHOWN.
SHIFT OR COVER EXISTING SIGNAL HEADS AS NECESSARY



FOR LEGEND, SEE SHEET 17

HORIZONTAL SCALE IN FEET
0 20 40 80
CALCULATED RDC
CHECKED DES

MAINTENANCE OF TRAFFIC
PHASE 2

LOR-611-9.96

20
121

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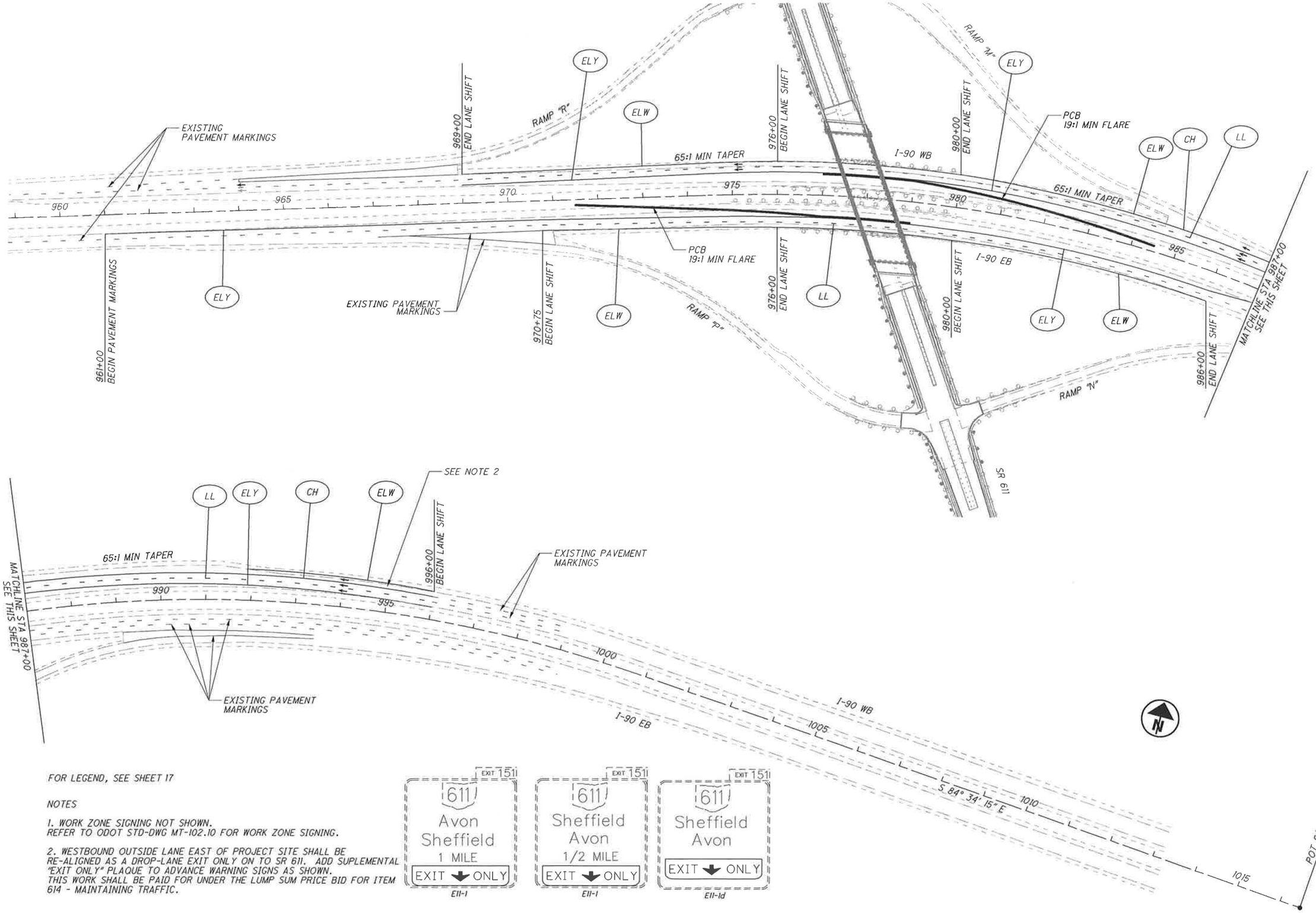


FOR LEGEND, SEE SHEET 17

NOTES

1. WORK ZONE SIGNING NOT SHOWN.
REFER TO ODOT STD-DWG MT-102.10 FOR WORK ZONE SIGNING.

2. WESTBOUND OUTSIDE LANE EAST OF PROJECT SITE SHALL BE RE-ALIGNED AS A DROP-LANE EXIT ONLY ON TO SR 611. ADD SUPLEMENTAL "EXIT ONLY" PLAQUE TO ADVANCE WARNING SIGNS AS SHOWN. THIS WORK SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

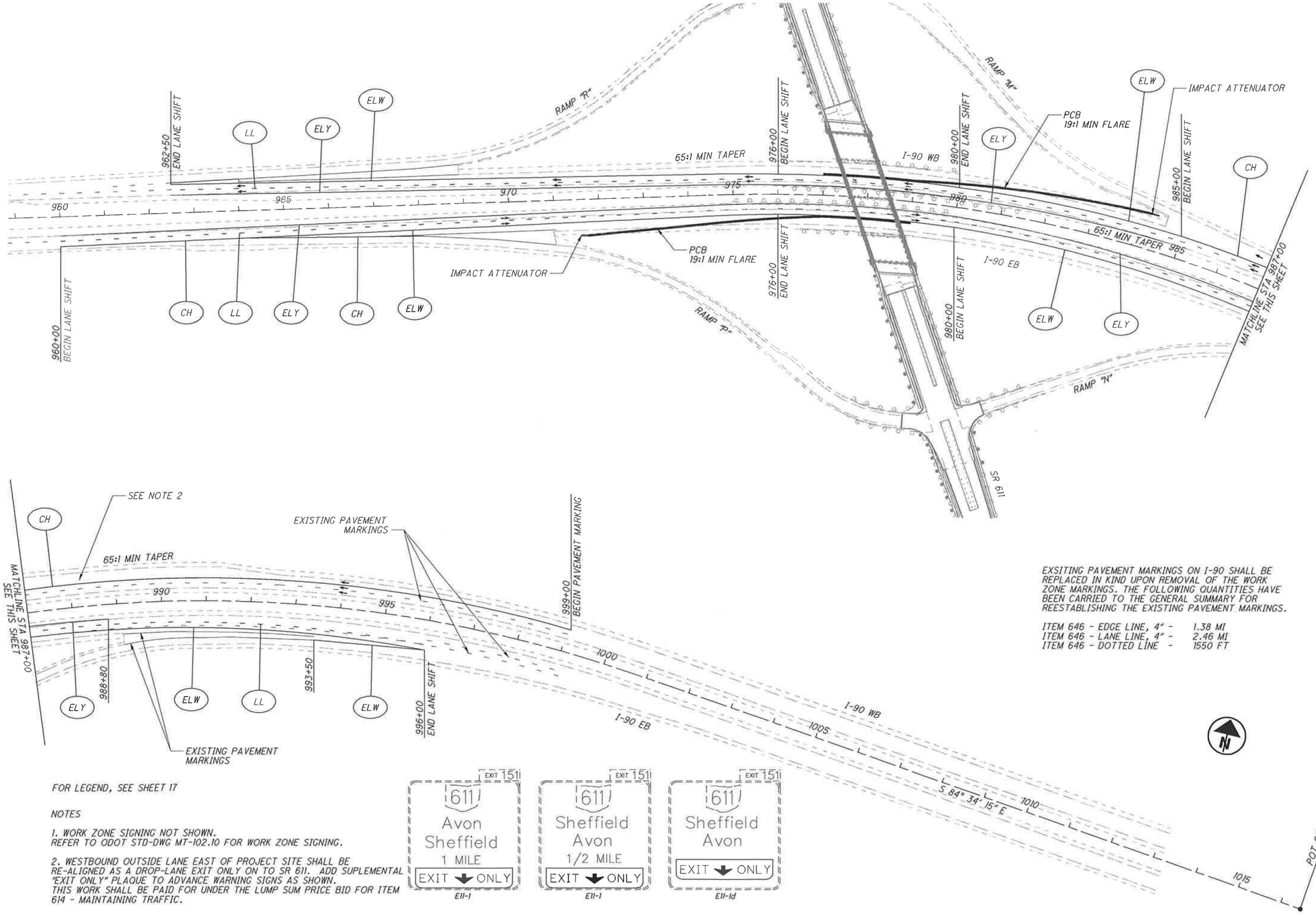
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED RDC
CHECKED DES

MAINTENANCE OF TRAFFIC PLAN
IR-90 PHASE 4

LOR-611-9.96

20A
121



EXSITING PAVEMENT MARKINGS ON I-90 SHALL BE REPLACED IN KIND UPON REMOVAL OF THE WORK ZONE MARKINGS. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR REESTABLISHING THE EXISTING PAVEMENT MARKINGS.

ITEM 646 - EDGE LINE, 4" -	1.38 MI
ITEM 646 - LANE LINE, 4" -	2.46 MI
ITEM 646 - DOTTED LINE -	1550 FT

FOR LEGEND, SEE SHEET 17

NOTES

1. WORK ZONE SIGNING NOT SHOWN.
REFER TO ODOT STD-DWG MT-102.10 FOR WORK ZONE SIGNING.

2. WESTBOUND OUTSIDE LANE EAST OF PROJECT SITE SHALL BE RE-ALIGNED AS A DROP-LANE EXIT ONLY ON TO SR 611. ADD SUPLEMENTAL "EXIT ONLY" PLAQUE TO ADVANCE WARNING SIGNS AS SHOWN. THIS WORK SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED RDC
CHECKED DES

0 50 100 200
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC PLAN
IR-90 PHASE 5

LOR-611-9.96

20B
121

SHEET NUMBER												PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	9	13	25	26	27	28	53	54	55	29	49	03/IMS/BR	04/MPO/BR /AVON	05/S<2/PV /AVON	06/IMS/OT						
																				ROADWAY	
LUMP													LUMP			201	11000	LUMP		CLEARING AND GRUBBING	
			4761									4761				202	23001	4761	SQ YD	PAVEMENT REMOVED, AS PER PLAN	8
						30							30			202	35100	30	FT	PIPE REMOVED, 24" AND UNDER	
			1951										1951			202	38000	1951	FT	GUARDRAIL REMOVED	
						1							1			202	58100	1	EACH	CATCH BASIN REMOVED	
						1						1				202	58500	1	EACH	CATCH BASIN ABANDONED	
			4									4				202	60010	4	EACH	MONUMENT ASSEMBLY REMOVED	
											6940		6940			203	10000	6940	CU YD	EXCAVATION	
											12792		12792			203	20000	12792	CU YD	EMBANKMENT	
				3595								1411	2184			204	10000	3595	SQ YD	SUBGRADE COMPACTION	
	2											1	1			204	45000	2	HOUR	PROOF ROLLING	
			4									4				604	38500	4	EACH	MONUMENT ASSEMBLY	
			3113										3113			606	13000	3113	FT	GUARDRAIL, TYPE 5	
			4										4			606	26100	4	EACH	ANCHOR ASSEMBLY, TYPE E	
			6										6			606	26500	6	EACH	ANCHOR ASSEMBLY, TYPE T	
			2									2				606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			2									2				606	35100	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
				15356									15356			608	10000	15356	SQ FT	4" CONCRETE WALK	
				8									8			608	49000	8	EACH	CURB RAMP	
																				EROSION CONTROL	
	1												1			659	00100	1	EACH	SOIL ANALYSIS TEST	
	2456												2456			659	00300	2456	CU YD	TOPSOIL	
	22124												22124			659	10000	22124	SQ YD	SEEDING AND MULCHING	
	1106												1106			659	14000	1106	SQ YD	REPAIR SEEDING AND MULCHING	
	1106												1106			659	15000	1106	SQ YD	INTER-SEEDING	
	3												3			659	20000	3	TON	COMMERCIAL FERTILIZER	
	0.5												4.6			659	31000	4.6	ACRE	LIME	
	113												119			659	35000	119	M GAL	WATER	
										LUMP			LUMP			832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
										45000			45000			832	30000	45000	EACH	EROSION CONTROL	
																				DRAINAGE	
						11							11			601	32200	11	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
						2.28							2.28			602	20000	2.28	CU YD	CONCRETE MASONRY	
				80								80				603	01500	80	FT	6" CONDUIT, TYPE F	
						85						85				603	04400	85	FT	12" CONDUIT, TYPE B	
						95						95				603	04600	95	FT	12" CONDUIT, TYPE C	
						30							30			603	04900	30	FT	12" CONDUIT, TYPE D	
						216						216				603	05200	216	FT	12" CONDUIT, TYPE F	
						8							8			603	06100	8	FT	15" CONDUIT, TYPE C	
						25							25			603	10600	25	FT	24" CONDUIT, TYPE C	
						8						8				604	00800	8	EACH	CATCH BASIN, NO. 3A	
						1							1			604	04900	1	EACH	CATCH BASIN, NO. 2-3	
						1						1				604	09000	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
				4								4				604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
				1126								1126				605	11110	1126	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	
						20						20				835	10020	20	FT	EXFILTRATION TRENCH, TYPE C	

CALCULATED RDC
CHECKED DES

GENERAL SUMMARY

LOR-611-9.96

SHEET NUMBER										PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
				26	27	66	68	69		03/IMS/BR	04/MPO/BR /AVON	05/S<2/PV /AVON	06/IMS/OT						
																		PAVEMENT	
				4067								4067		254	01000	4067	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
				170							170			301	46000	170	CU YD	ASPHALT CONCRETE BASE, PG64-22	
				929	141					237	833			304	20000	1070	CU YD	AGGREGATE BASE	
				409						215	30	164		407	20000	409	GALLON	TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE	
				763						402	55	306		407	20100	763	GALLON	TACK COAT, TRACKLESS TACK, SURFACE COURSE	
				425						225	30	170		442	10000	425	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	
				425						225	30	170		442	20200	425	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)	
				1411						1411				451	14000	1411	SQ YD	9" REINFORCED CONCRETE PAVEMENT	
				610						610				451	16000	610	SQ YD	12" REINFORCED CONCRETE PAVEMENT	
				166						166				SPECIAL	45130000	166	FT	PRESSURE RELIEF JOINT, TYPE A	
				1126						1126				609	26000	1126	FT	CURB, TYPE 6	
																		LIGHTING	
							5						5	625	00450	5	EACH	CONNECTION, FUSED PULL APART	
							5						5	625	00460	5	EACH	CONNECTION, UNFUSED PULL APART	
							38						38	625	00480	38	EACH	CONNECTION, UNFUSED PERMANENT	
							3						5	625	10490	5	EACH	LIGHT POLE, CONVENTIONAL, A15B35	
							1						1	625	10490	1	EACH	LIGHT POLE, CONVENTIONAL, AT15B35	
							4						4	625	14000	4	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP	
							7250						7250	625	23000	7250	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
							400						400	625	23400	400	FT	NO. 10 AWG POLE AND BRACKET CABLE	
							3285						3285	625	25402	3285	FT	CONDUIT, 2", 725.05	
							333						333	625	25900	333	FT	CONDUIT, JACKED OR DRILLED, 3"	
								190					190	625	25910	190	FT	CONDUIT CLEANED AND CABLES REMOVED	
							4						4	625	26271	4	EACH	LUMINAIRE, LOW MAST, 400 WATT HPS, TYPE III, AS PER PLAN	66
							3618						3618	625	29002	3618	FT	TRENCH, 24" DEEP	
							13						13	625	31320	13	EACH	PULL BOX, 725.07, 18"X18"	
								3					3	625	31510	3	EACH	PULL BOX REMOVED	
							4						4	625	32000	4	EACH	GROUND ROD	
						1							1	625	34001	1	EACH	POWER SERVICE, AS PER PLAN	66
						LUMP							LUMP	SPECIAL	62540000	LUMP		MAINTAIN EXISTING LIGHTING	66
						2							2	SPECIAL	62540010	2	EACH	REPLACEMENT OF EXISTING LIGHTING UNIT	66
								3					3	625	75400	3	EACH	LIGHT POLE REMOVED	
								3					3	625	75500	3	EACH	LIGHT POLE FOUNDATION REMOVED	
								4					4	625	75506	4	EACH	LUMINAIRE REMOVED	
								3010					3010	625	75550	3010	FT	DISTRIBUTION CABLE REMOVED	
								3					3	625	75801	3	EACH	DISCONNECT CIRCUIT, AS PER PLAN	66

CALCULATED RDC
CHECKED DES

GENERAL SUMMARY

LOR-611-9.96

SHEET NUMBER										PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			20B	53	54	55	61	62		03/IMS/BR	04/MPO/BR /AVON	05/S<2/PV /AVON	06/IMS/OT						
																		TRAFFIC CONTROL	
					118					32	86			630	02100	118	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
					156.5					28.5	128			630	03100	156.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					64						64			630	04100	64	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
					34						34			630	06100	34	FT	GROUND MOUNTED SUPPORT, NO. 6 POST	
					42					42				630	06500	42	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
					39					39				630	07600	39	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
					128					128				630	08100	128	FT	ONE WAY SUPPORT, NO. 4 POST	
					13					10	3			630	08600	13	EACH	SIGN POST REFLECTOR	
					2					2				630	09000	2	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
					2					2				630	20600	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 6	
					12					12				630	75000	12	EACH	SIGN ATTACHMENT ASSEMBLY	
					3					1	2			630	79000	3	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE	
					301					115	186			630	80100	301	SQ FT	SIGN, FLAT SHEET	
					500					500				630	80200	500	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
					2					2				630	84500	2	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
					2					2				630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
						47				13	34			630	84900	47	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
						36				7	29			630	86002	36	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						4				4				630	86102	4	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
						7				5	2			630	87400	7	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
						2				2				630	89702	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
			1.38	0.88						1.98		0.28		646	10000	2.26	MILE	EDGE LINE, 4"	
			2.46	0.70						3.06		0.1		646	10100	3.16	MILE	LANE LINE, 4"	
				0.44						0.37		0.07		646	10200	0.44	MILE	CENTER LINE	
				1066						755		311		646	10300	1066	FT	CHANNELIZING LINE, 8"	
				228						204		24		646	10400	228	FT	STOP LINE	
				677						677				646	10500	677	FT	CROSSWALK LINE	
				991						699		292		646	10600	991	FT	TRANSVERSE/DIAGONAL LINE	
				19						16		3		646	20300	19	EACH	LANE ARROW	
			1550	112						1662				646	20500	1662	FT	DOTTED LINE	
				10						10				646	20600	10	EACH	BIKE LANE SYMBOL MARKING	
																		TRAFFIC SIGNALS	
							2238				2238			625	25402	2238	FT	CONDUIT, 2", 725.05	
							64				64			625	25900	64	FT	CONDUIT, JACKED OR DRILLED	
							1478				1478			625	29000	1478	FT	TRENCH	
							13				13			625	31320	13	EACH	PULL BOX, 725.07, 18"X18"	
							8				8			625	31510	8	EACH	PULL BOX REMOVED	
							5				5			625	32000	5	EACH	GROUND ROD	
							1478				1478			625	36000	1478	FT	PLASTIC CAUTION TAPE	
								5			5			632	04912	5	EACH	VEHICULAR SIGNAL HEAD, (LED) YELLOW, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE	
								1			1			632	04922	1	EACH	VEHICULAR SIGNAL HEAD, (LED) YELLOW, 5-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE	
								11			11			632	20730	11	EACH	PEDESTRIAN SIGNAL HEAD (LED) , (COUNTDOWN), TYPE D2	
								11			11			632	26000	11	EACH	PEDESTRIAN PUSHBUTTON	
								5			5			632	26500	5	EACH	DETECTOR LOOP	
								145			145			632	30600	145	FT	TETHER WIRE, WITH ACCESSORIES	
								750			750			632	40500	750	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
								2250			2250			632	62810	2250	FT	INTERCONNECT CABLE, MISC.: FIBER OPTIC	
								6			6			632	64020	6	EACH	PEDESTAL FOUNDATION	
								1015			1015			632	65200	1015	FT	LOOP DETECTOR LEAD-IN CABLE	
								6			6			632	89700	6	EACH	PEDESTAL, 11'	

CALCULATED RDC
CHECKED DES

GENERAL SUMMARY

LOR-611-9.96

SHEET NUMBER										PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	10	11	13	26	27	28	61	62		01/IMS/BR	02/MPO/BR /AVON	03/SC2/PV /AVON	05/IMS/OT						
																		STRUCTURES 20' AND OVER	
																		FOR STRUCTURE LOR-611-0993 GENERAL SUMMARY	83
																		MAINTENANCE OF TRAFFIC	
		200								200				614	11110	200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		18								18				614	11500	18	MONTH	WORK TRAFFIC SUPERVISOR	
			6							6				614	12336	6	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	5									5				614	12500	5	EACH	REPLACEMENT SIGN	
			1.91							1.91				614	20200	1.91	MILE	WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1	
	0.70		0.26							0.96				614	21100	0.96	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
	0.30		0.09							0.39				614	21200	0.39	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1	
	1.48		1.04							2.52				614	22100	2.52	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
	0.28		4.45							4.73				614	22200	4.73	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
	1606		1244							2850				614	23200	2850	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
	560		3344							3904				614	23400	3904	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	
	264		126							390				614	26200	390	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
	192		36							228				614	26400	228	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
	55									55				614	13100	55	EACH	BARRIER REFLECTOR	
	55									55				614	13360	55	EACH	OBJECT MARKER, TWO WAY	
	26		10							36				614	30200	36	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT	
			263							263				615	20000	263	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
														615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
	84									84				616	10000	84	M GAL	WATER	
			4526							4526				622	40031	4526	FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN	10
	1200									1200				622	40020	1200	FT	PORTABLE CONCRETE BARRIER, 32"	
										LUMP				614	11000	LUMP		MAINTAINING TRAFFIC	
										18				619	16010	18	MONTH	FIELD OFFICE, TYPE B	
										LUMP				624	10000	LUMP		MOBILIZATION	
										LUMP				823	10000	LUMP		CONSTRUCTION LAYOUT STAKES	

CALCULATED RDC
CHECKED DES

GENERAL SUMMARY

LOR-611-9.96

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE		202 PAVEMENT REMOVED SQ YD	202 MONUMENT ASSEMBLY REMOVED EACH	202 GUARDRAIL REMOVED FT		604 MONUMENT ASSEMBLY EACH		606 GUARDRAIL, TYPE 5 FT	606 ANCHOR ASSEMBLY, TYPE T EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	606 ANCHOR ASSEMBLY, TYPE E EACH						
R-1	30	213+40	214+00	RT/LT		120																
R-1	31	214+00	217+07	RT/LT		614																
R-4		217+81	219+00	LT				121														
R-5		217+42	219+00	RT				177														
R-6		217+95	219+00	RT/LT		82																
R-7		217+60	219+00	LT		133																
R-8		217+40	219+00	RT		169																
GR-1		217+81	220+84	LT								312.5			1							
GR-2		217+42	220+48	RT								325		1								
M-1		216+22.41		CL			1			1												
R-1	32	219+00	220+86	LT				186														
R-2		219+00	220+51	RT				151														
R-3		219+00	220+20	LT		131																
R-4		219+00	224+00	RT/LT		130																
R-5		219+00	220+20	RT		120																
R-6		220+20	220+85	RT/LT		538																
M-1		220+50.21		CL			1			1												
R-1	33	224+60	226+85	LT		175																
R-2		224+00	227+44	LT				324														
R-3		224+00	227+17	RT				322														
R-4		227+69	229+00	RT/LT		291																
R-5		227+67	229+00	RT				144														
R-6		227+96	229+00	LT				112														
R-7		224+60	227+50	LT		68																
R-8		224+60	227+50	RT		66																
R-9		223+80	224+60	RT/LT		531																
GR-1		224+36	227+44	LT								325		1								
GR-2		227+96	228+90	LT								87.5	1				1					
GR-3		224+00	227+17	RT								325			1							
GR-4		227+67	230+13	RT								237.5	1									
M-1		224+50.23		CL			1			1												
R-1	34	229+00	229+73	RT/LT		162																
R-2		229+00	231+04	LT				204														
R-3		229+00	231+10	RT				210														
R-4		229+00	234+00	LT		456																
R-5		229+00	234+00	RT		377																
M-1		232+00.00		CL			1			1												
R-1	35	234+00	236+29	LT		253																
R-2		234+00	236+50	RT		344																
GR-1	36	977+18	981+43	LT								362.5	1			1						
GR-2		976+05	981+42.5	LT								475.0	1			1						
GR-3		974+97	980+09.5	RT								450.0	1			1						
GR-4		976+37	979+12	RT								212.5	1			1						
TOTALS CARRIED TO GENERAL SUMMARY						**4761**	**4**	**1951**		**4**		**3113**	**6**	**2**	**2**	**4**						

CALCULATED RDC
CHECKED DES

ROADWAY SUBSUMMARY

LOR-611-9.96

PAVEMENT CALCULATIONS

CALCULATED: RDC
CHECKED: DES

STATION TO STATION		SIDE	LENGTH, L	AVERAGE WIDTH, W	SURFACE AREA, A	CAD AREAS	204 SUBGRADE COMPACTION	254 PAVEMENT PLANING	301 ASPHALT CONCRETE BASE, PG 64-22	304 6" AGGREGATE BASE	304 8" AGGREGATE BASE	407 TACK COAT, TRACKLESS TACK, SURFACE COURSE	407 TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE	442 1 1/2" ASHPALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	442 ASHPALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448), (VARIABLE THICKNESS, 1 1/2" MIN)	451 PRESSURE RELIEF JOINT, TYPE A	451 9" REINFORCED CONCRETE PAVEMENT	451 12" REINFORCED CONCRETE PAVEMENT	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	604 PRECAST REINFORCED CONCRETE OUTLET	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	608 4" CONCRETE WALK	608 CURB RAMP	609 CURB, TYPE 6
			FT	FT	SQ FT	SQ FT	SQ YD	SQ YD	CU. YD.	CU YD	CU YD	GAL	GAL	CU YD	CU YD	FT	SQ. YD.	SQ. YD.	FT	EACH	FT	SQ FT	EACH	FT
213+39.52	217+07.44	RT/LT	368	18	6623		736			123							736							
217+40.00	217+77.00	RT/LT				3086						26	14	15	15									
217+77.00	220+20.00	RT/LT	243	70	17010							142	76	79	79									
224+60.00	224+90.00	RT/LT	30	72	2145							18	10	10	10									
224+90.00	227+17.00	RT/LT	227	70	15890							133	71	74	74									
227+17.00	228+70.00	RT/LT				16511						138	74	77	77									
228+70.00	233+25.00	RT/LT	455	53	24115			2679				201	108	112	112									
233+25.00	236+58.00	RT/LT	333	38	12488			1388				105	56	58	58									
217+40.00	217+77.00	RT/LT	37			507			15											2	61			61
217+40.00	217+77.00	RT/LT	37			537	60			10														
217+77.00	220+20.00	RT/LT	243	10	2430				68												486			486
217+77.00	220+20.00	RT/LT	243	11	2673		297			50														
217+95.00	220+20.00	RT/LT	225			1903	212			36							212							
220+20.00	220+63.00	RT/LT	43			2812										83		312						
217+60.00	220+80.00	RT/LT	320	5	1600																	3200	2	
224+02.00	227+47.00	RT/LT	345	5	1725																	3450	2	
224+19.00	224+60.00	RT/LT	41			2680										83		298						
224+60.00	224+90.00	RT/LT	30	12	345				10										40		60			60
224+60.00	224+90.00	RT/LT	30	13	375		42			7														
224+90.00	227+17.00	RT/LT	227	10	2270				64															
224+90.00	227+17.00	RT/LT	227	11	2497		278			47											454			454
227+17.00	227+50.00	RT/LT	33			451			13										40	2	65			65
227+17.00	227+50.00	RT/LT	33			481	54			9														
227+67.00	229+75.00	RT/LT	208	20	4160		463			78							463							
228+02.00	236+61.00	LT	859	5	4295																	4295	2	
227+86.00	236+55.00	RT	869	5	4345																	4411	2	
228+70.00	236+29.00	LT	759	9	6452		717			120	161													
228+71.00	236+50.00	RT	779	9	6622		736			123	165													
TOTALS CARRIED TO GENERAL SUMMARY							3595	4067	170	929		763	409	425	425	166	1411	610	80	4	1126	15356	8	1126

LOR-611-9.96

SHEET NO.	REFERENCE NO.	STATION	SIDE	DRIVE TYPE		APRON LENGTH "L1"	DRIVEWAY LENGTH "L2"	WIDTH "W"	R1 (LEFT SIDE RADII OF DRIVE LOOKING FROM CL)	R2 (RIGHT SIDE RADII OF DRIVE LOOKING FROM CL)	CADD APRON SURFACE AREA	CADD DRIVE SURFACE AREA		304											
														15" AGGREGATE BASE											
						FT.	FT.	FT.	FT.	FT.	SQ. FT.	SQ. FT.		CU YD											
34	DR-1	233+04.00	RT	C		20	26	22	19	22	863	557		66											
	DR-2	233+10.00	LT	C		20	22	22	17	18	863	274		53											
35	DR-1	23+24.58	RT	C		13	0	23	14	14	473			22											
TOTALS CARRIED TO GENERAL SUMMARY														141											

CALCULATED RDC
CHECKED DES

DRIVEWAY SUBSUMMARY

LOR-611-9.96

REF. NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 CATCH BASIN ABANDONED EACH	202 PIPE REMOVED, 24" AND UNDER FT	202 CATCH BASIN REMOVED EACH		601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CU YD	602 CONCRETE MASONRY CU YD	603 12" CONDUIT, TYPE B FT	603 12" CONDUIT, TYPE C FT	603 12" CONDUIT, TYPE F FT	603 12" CONDUIT, TYPE D FT	603 15" CONDUIT, TYPE C FT	603 24" CONDUIT, TYPE C FT		604 CATCH BASIN, NO. 3A EACH	604 CATCH BASIN, NO. 2-3 EACH	604 CATCH BASIN ADJUSTED TO GRADE EACH		835 EXFILTRATION TRENCH, TYPE C FT
D-1	30	213+60		RT	1																	
D-1	31	218+25	218+55	LT					1.3	0.2		38										
D-2		217+85	217+85	RT					1.3	0.2	18		37					1				
D-3		218+00	218+04	RT														1				
D-4		218+40	218+44	LT																		4
																						4
D-1	32	220+25	220+25	LT					1.3	0.2	18		27					1				
D-2		220+25	220+25	RT					1.3	0.2	18		58					1				
D-1	33	224+50	224+50	LT					1.3	0.2	13		41					1				
D-2		224+90	224+90	RT					1.3	0.2	18		53					1				
D-3		224+71	224+75	RT																		4
D-4		226+31	226+35	LT																		4
D-5		226+50	226+50	LT					1.3	0.2		24						1				
D-6		226+91	226+95	RT																		4
D-7		226+87	227+10	RT					1.3	0.2		33						1				
D-1	34	232+97	233+27	LT										30								
D-1	35	235+80	235+90	LT		15				0.43						8						
D-2		235+90	235+90	LT		15	1			0.25					8	17			1	1		
TOTALS CARRIED TO GENERAL SUMMARY					**1**	**30**	**1**		**11**	**2.28**	**85**	**95**	**216**	**30**	**8**	**25**		**8**	**1**	**1**		**20**

CALCULATED RDC
CHECKED DES

DRAINAGE SUBSUMMARY

LOR-611-9.96

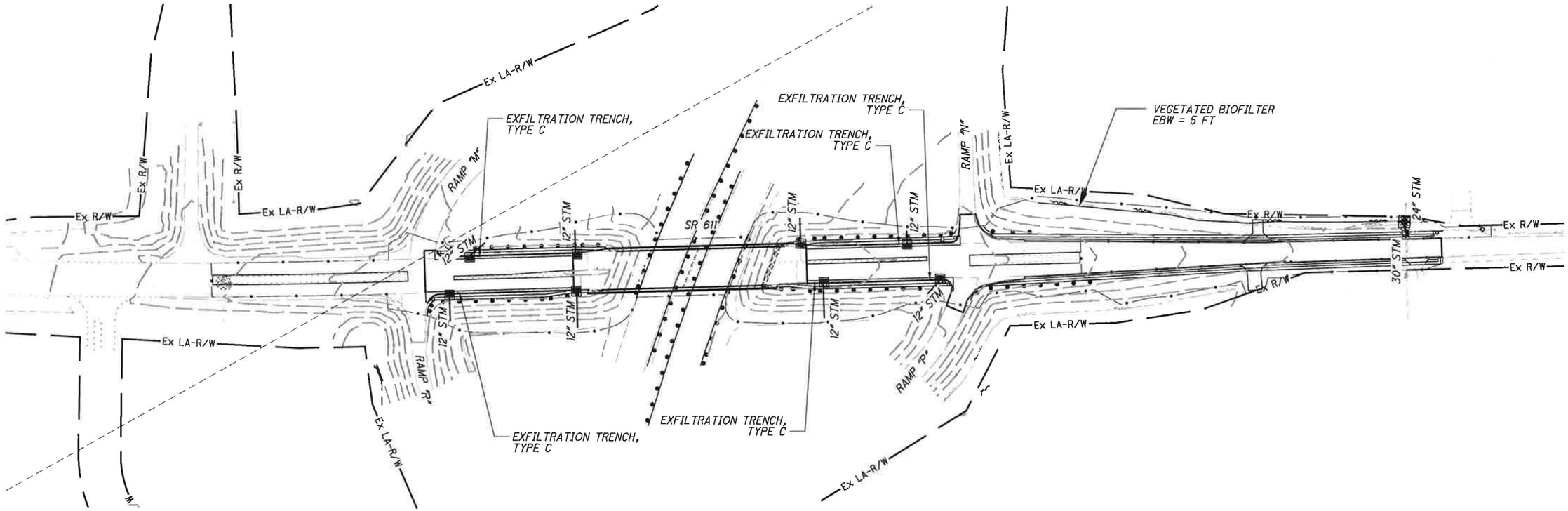
PROJECT DESCRIPTION

WIDENING AND REHABILITATION OF THE EXISTING 304' LONG, 4- SPAN LOR-90-1882 STEEL BEAM STRUCTURE ON SR 611 OVER I-90 IN THE CITY OF AVON, OH. WORK INCLUDES WIDENING FOR A BIKE LANE AND SIDEWALK ON EACH SIDE, NEW CONCRETE DECK, PAINTING AND ROADWAY APPROACH WORK.

TOTAL AREA (RIGHT-OF-WAY)	13.2 AC	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.73
PROJECT EARTH DISTURBED AREA	8.02 AC	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.75
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.00 AC	POST CONSTRUCTION BMP: A COMBINATION OF VEGETATED BIOFILTERS AND EXFILTRATION TRENCHES WERE PROVIDED TO MEET NPDES POST-CONSTRUCTION REQUIREMENTS.	
NOTICE OF INTENT EARTH DISTURBED AREA	9.02 AC		
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	3.5 AC	IMMEDIATE RECEIVING WATERS:	I-90 DRAINAGE SYSTEM
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	3.93 AC	SUBSEQUENT RECEIVING WATERS:	BLACK RIVER

USGS QUADRANT: AVON, OHIO
LATITUDE: 41°27'48" *
LONGITUDE 82°03'16" *

* LATITUDE AND LONGITUDE TO APPROX. CENTER OF PROJECT



THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PURPOSE OF CONSTRUCTION SEDIMENT AND EROSION CONTROL:

ITEM 832 - STORM WATER POLLUTION PREVENTION PLAN	LUMP
ITEM 832 - EROSION CONTROL	45000 EACH

HORIZONTAL SCALE IN FEET
0 50 100 200

PROJECT SITE PLAN

LOR-611-9.96

29
121

M:\Proj\1122\1014\LOR\83447\drainage\sheets\83447DE001.dgn 1/21/2013 2:46:59 PM rchappelle

P.I. Sta. 208+70.16
Δ = 7° 32' 00" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 754.42'
L = 1,506.67'
E = 24.81'
C = 1,505.58'
C.B. = S 58° 43' 06" E

Ex R/W
Ex R/W
Ex R/W
Ex R/W

STATE OF OHIO
0400004102078
0.71 ACRES

EX. 12" WATER (TO REMAIN IN PLACE)
(SUE LEVEL "D")

STATE OF OHIO
0400004102077
0.38 ACRES

CHESTER RD

36" RCP

EX INTERCONNECT
(SUE LEVEL "D")

STATE OF OHIO
0400004102073
0.27 ACRES

CONCRETE

ASPHALT

TO BE RELOCATED
BY OTHERS

PROP SAWCUT
LINE

ABANDON EX CB
MAINTAIN UNDERDRAIN
CONNECTION TO CONDUIT

R-1

9'9"

209 210 211 212 213

℄ R/W SR 611

BEGIN WORK
STA. 213+39.52

REMOVE EX.
MEDIAN

D-1

MATCH LINE STA 214+00
SEE SHEET 31

TO BE RELOCATED
BY OTHERS

CONCRETE

CONST. LIMITS

STATE OF OHIO
0400004103018
1.24 ACRES

12" PVC

RECREATION DR

FOR DRAINAGE DETAILS, SEE SHEET 52
FOR SIGNING AND PAVEMENT MARKING, SEE SHEETS 56 - 57
FOR INTERSECTION DETAILS, SEE SHEETS 50 - 51
FOR LIGHTING PLANS, SEE SHEETS 70 - 72
FOR CROSS SECTIONS, SEE SHEETS 37 - 49

Ex R/W
Ex R/W
Ex I-A R/W

1600' V.C.
P.V.I. STA. 221+30.00 ELEV. = 666.95
SSD = 1036', DS > 70 MPH

P.V.C. STA 213+30.00
P.V.C. ELEV. = 643.92

EX. GROUND
2.88%
EX. ELEC

660 655 650 645 640 635 630 625

635.32 636.78 638.30 639.86 641.41 642.82 644.24 645.57

209+00 210+00 211+00 212+00 213+00 214+00

HORIZONTAL SCALE IN FEET
0 20 40

CALCULATED RDC
CHECKED DES

PLAN AND PROFILE
STA 209+00 TO STA 214+00

LOR-611-9.96

30
121

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P.I. Sta. 208+70.16
Δ = 7° 32' 00" (LT)
Dc = 0° 30' 00"
R = 11,459.16'
T = 754.42'
L = 1,506.67'
E = 24.81'
C = 1,505.58'
C.B. = S 58° 43' 06" E

STATE OF OHIO
0400004102054
0.26 ACRES

EX. 12" WATER (LEVEL "D")
(TO REMAIN IN PLACE)

4" PIM

R-1

TO BE RELOCATED
BY OTHERS

CONST. LIMITS

STATE OF OHIO
0400004102057
0.27 ACRES

TO BE RELOCATED
BY OTHERS

RAMP "M"

EX INTERCONNECT (SUE LEVEL "D")

PT Sta. 216+22.41

M-1

BEGIN PROJECT
STA. 217+40.00

PROP. SAWCUT
LINE

MATCH LINE STA 214+00
SEE SHEET30

CONCRETE ISLAND

9.9'

215

216

217

REMOVE EX. MEDIAN

CONST. LIMITS

℄ R/W SR 611

CONC.

ASPHALT

CONNECT TO EX
GUARDRAIL
+81

R-7

GR-1

D-1

R-4

12" STM

D-4

CURB RAMP,
TYPE B3

5'

5'

5'

+60

EXFILTRATION TRENCH,
TYPE C

R-6

PROP. SAWCUT
LINE

30'

218

S 62° 29' 06" E

9'

7'

30'

MATCH LINE STA 219+00
SEE SHEET32

EXFILTRATION TRENCH,
TYPE C

D-3

REMOVE EXISTING
MEDIAN

CURB RAMP,
TYPE B3

6'

5'

12" STM

D-2

R-8

GR-2

R-5

PROP. SAWCUT
LINE

EX. GUIDE SIGN
TO BE RELOCATED

RAMP "R"

CONNECT TO EX
GUARDRAIL
+42

FOR DRAINAGE DETAILS, SEE SHEET 52
FOR SIGNING AND PAVEMENT MARKING, SEE SHEETS 56 - 57
FOR INTERSECTION DETAILS, SEE SHEETS 50 - 51
FOR LIGHTING PLANS, SEE SHEETS 70 - 72
FOR CROSS SECTIONS, SEE SHEETS 37 - 49

652.48 652.93 653.31 653.57 653.82 654.04 654.23

665
660
655
650
645
640
635
630

TRANSITION ASPHALT OVERLAY
AS PER STD-DWG BP-3.1
L = 50'

GRAPHIC GRADE
OVERLAY THICKNESS = 3.0"

BUTT JOINT
PER BP-3.1

END PROJECT
STA. 217+40.00
ELEV. = 652.30

STA. 217+90.00
ELEV. = 653.19

EX. GROUND

EX. ELEC

PROP. PROFILE GRADE

E

645.57 646.95 648.06 649.07 650.16 651.03 651.77 652.43 653.03 653.53 653.93

214+00 215+00 216+00 217+00 218+00 219+00

HORIZONTAL
SCALE IN FEET
0 20 40

CALCULATED RDC
CHECKED DES

PLAN AND PROFILE
STA 214+00 TO STA 219+00

LOR-611-9.96

31
121

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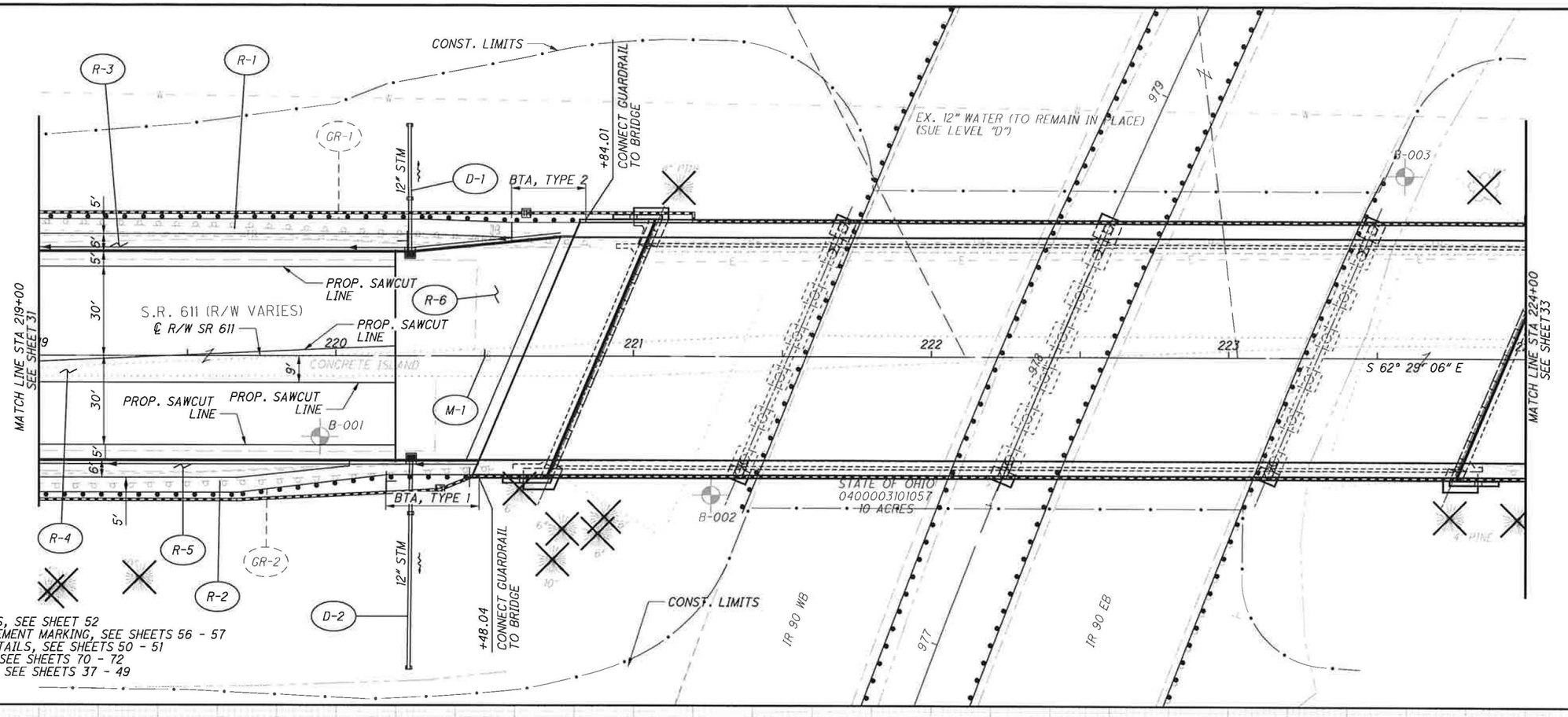
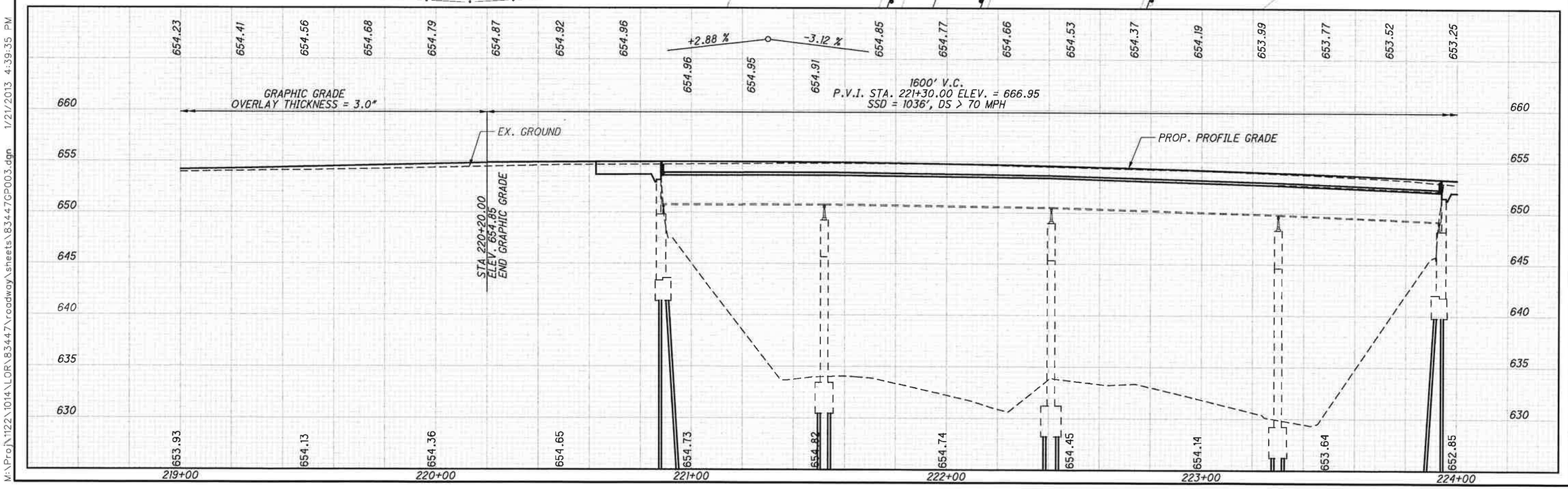


FOR DRAINAGE DETAILS, SEE SHEET 52
FOR SIGNING AND PAVEMENT MARKING, SEE SHEETS 56 - 57
FOR INTERSECTION DETAILS, SEE SHEETS 50 - 51
FOR LIGHTING PLANS, SEE SHEETS 70 - 72
FOR CROSS SECTIONS, SEE SHEETS 37 - 49



PLAN AND PROFILE
STA 219+00 TO STA 224+00

LOR-611-9.96

32
121

CALCULATED RDC
CHECKED DES

HORIZONTAL SCALE IN FEET
0 20 40

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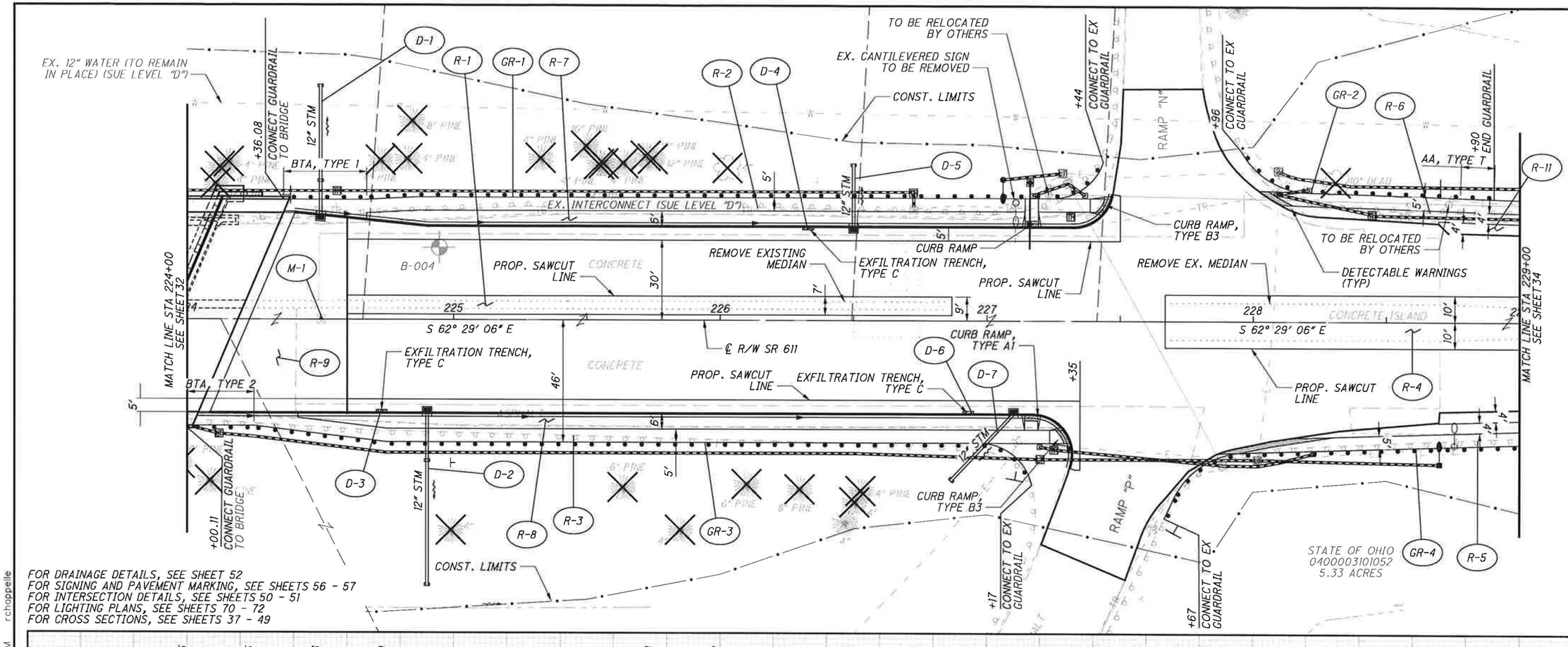

CALCULATED RDC
CHECKED DES

HORIZONTAL SCALE IN FEET
0 20 40

PLAN AND PROFILE
STA 224+00 TO STA 229+00

LOR-611-9.96

33
121

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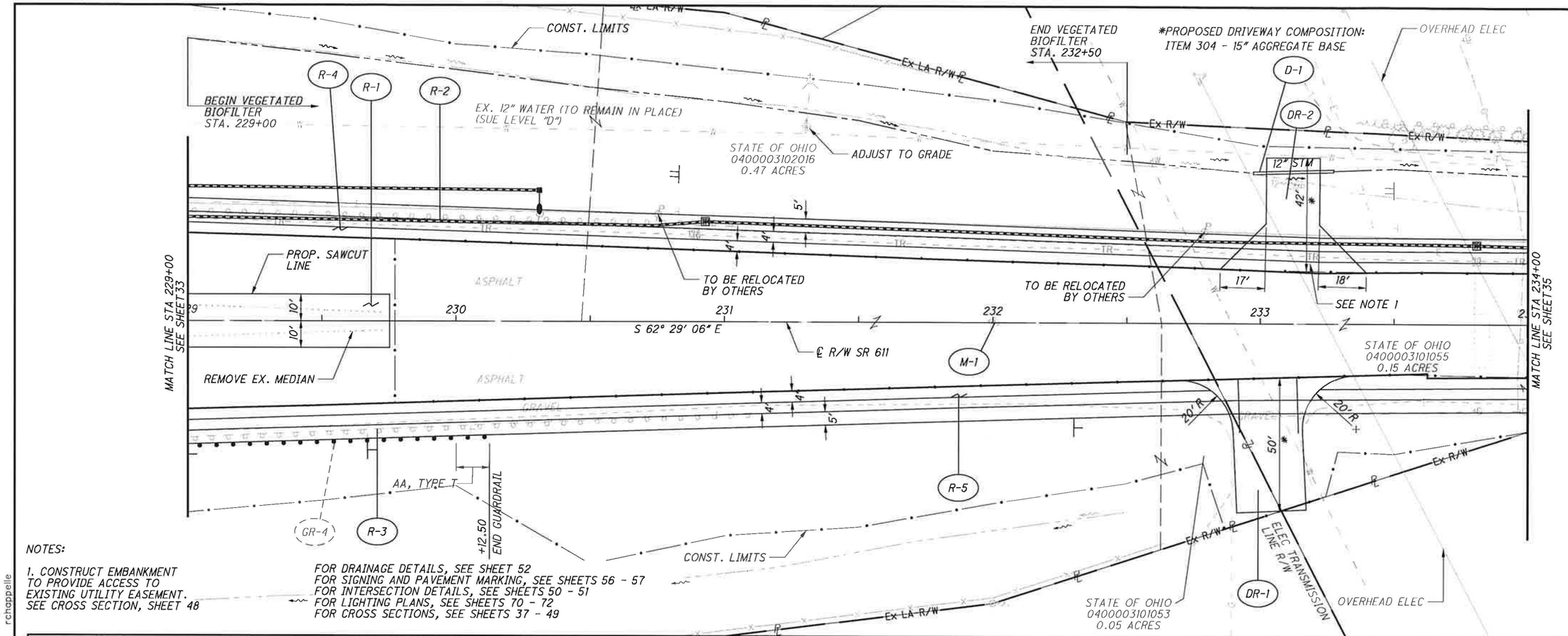
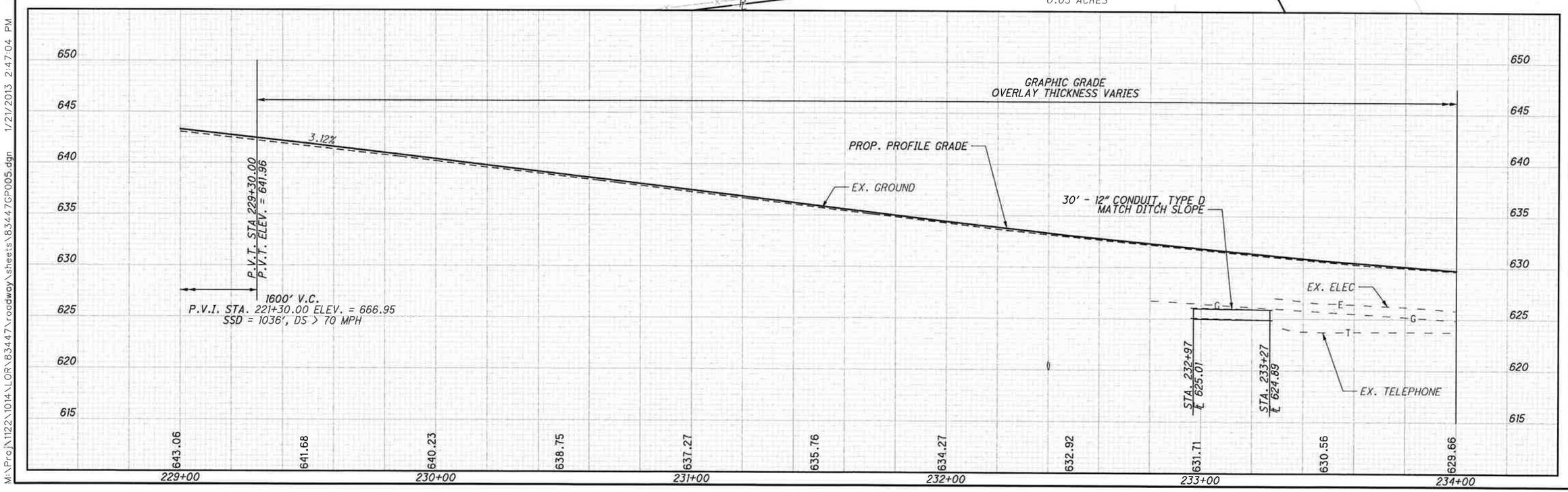


NOTES:

1. CONSTRUCT EMBANKMENT TO PROVIDE ACCESS TO EXISTING UTILITY EASEMENT. SEE CROSS SECTION, SHEET 48

FOR DRAINAGE DETAILS, SEE SHEET 52
FOR SIGNING AND PAVEMENT MARKING, SEE SHEETS 56 - 57
FOR INTERSECTION DETAILS, SEE SHEETS 50 - 51
FOR LIGHTING PLANS, SEE SHEETS 70 - 72
FOR CROSS SECTIONS, SEE SHEETS 37 - 49



HORIZONTAL SCALE IN FEET
0 20 40
CALCULATED RDC
CHECKED DES

PLAN AND PROFILE
STA 229+00 TO STA 234+00

LOR-611-9.96

34
121

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R-1
TO BE RELOCATED BY OTHERS
CONST. LIMITS
15" STM
D-1
24" STM
TO BE RELOCATED BY OTHERS
END WORK STA. 237+45.25
Ex R/W
STATE OF OHIO
0400003102019
0.65 ACRES
D-2
CURB RAMP, TYPE A2
CURB RAMP, TYPE A2
EX. 12" WATER (SUE LEVEL "D")
MATCH LINE STA 234+00 SEE SHEET 34
235
236
237
238
S 62° 29' 06" E
DETECTABLE WARNINGS (TYP)
℄ R/W SR 611
ASPHALT
GRAVEL
R-2
CONST. LIMITS
TO BE RELOCATED BY OTHERS
EX. 4" GAS (TO REMAIN IN PLACE)
DR-1
END PROJECT STA. 236+58.00
MATCH PART 1
OVERHEAD ELEC
Ex CH
ELEC TRANSMISSION LINE R/W
Ex CH

FOR DRAINAGE DETAILS, SEE SHEET 52
FOR SIGNING AND PAVEMENT MARKING, SEE SHEETS 56 - 57
FOR INTERSECTION DETAILS, SEE SHEETS 50 - 51
FOR LIGHTING PLANS, SEE SHEETS 70 - 72
FOR CROSS SECTIONS, SEE SHEETS 37 - 49

*PROPOSED DRIVEWAY COMPOSITION:
ITEM 304 - 15" AGGREGATE BASE

645
640
635
630
625
620
615
610

HEADWALL, HALF HEIGHT
AS PER STD-DWG DM-1.1
STA. 235+80, 51' LT
INV. 15" SE 623.88

EX. CB
STA. 235+90, 34.2' LT
GRATE ELEV 626.64
ADJUST TO GRADE
GRATE ELEV 627.33
INV 24" N 621.14 (REMOVE)
INV 30" S 620.64 (TO REMAIN)
INV 12" E 621.64 (TO REMAIN)
INV 24" N 621.16 (CONNECT)

PROP. PROFILE GRADE
GRAPHIC GRADE
OVERLAY THICKNESS VARIES
EX. 12" STM
EX. GROUND
MATCH PART 1
EX. ELEC
EX. GAS
EX. TELEPHONE
8 FT - 15" CONDUIT, TYPE C @ 5.0%
CB NO. 2-3
STA. 235+89.00, 50.9' LT
GRATE ELEV. 626.65
INV 24" N & S 621.33
INV 15" NW 623.48

629.66 | 629.08 | 628.63 | 628.30 | 628.26 | 628.40 | 628.57 | 628.75 | 628.96 | 628.90
234+00 | 235+00 | 236+00 | 237+00 | 238+00 | 239+00

HORIZONTAL SCALE IN FEET
0 20 40
CALCULATED RDC
CHECKED DES

PLAN AND PROFILE
STA 234+00 TO STA 239+00

LOR-611-9.96

35
121

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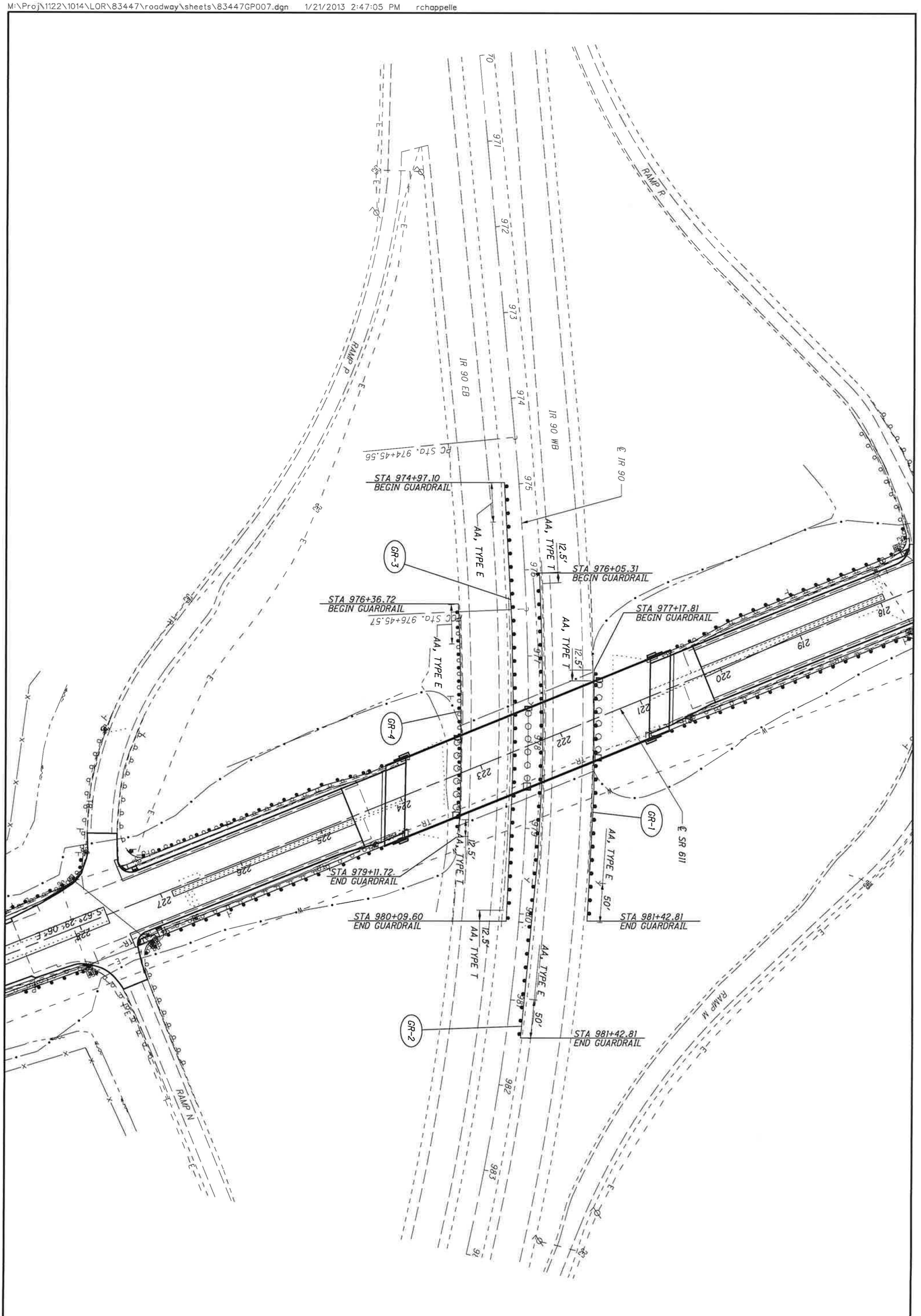

36 / 121	LOR-611-9.96	PLAN IR-90	CALCULATED RDC CHECKED DES	0 50 25 100 HORIZONTAL SCALE IN FEET

SEEDING	
END WIDTH	SQ. YDS.
26	134
22	120
21	31
0	

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RDC
CHECKED DES

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES

213+00.00
642.82
EX. WATER
EX. TRAFFIC CONDUIT
EX. TRAFFIC CONDUIT
EX. ELEC
-EX LA-

212+50.00
641.41
EX. TRAFFIC CONDUIT
EX. TRAFFIC CONDUIT
EX. ELEC
-EX

212+00.00
639.86
-EX R/W
EX. TELE
EX. TRAFFIC CONDUIT
EX. WATER
EX. ELEC
-EX LA-R/W

211+50.00
638.30
-EX R/W
EX. GAS
EX. TRAFFIC CONDUIT
EX. TELE
EX. WATER
EX. ELEC

211+00.00
636.78
-EX R/W
EX. TRAFFIC CONDUIT
EX. TELE
EX. WATER
EX. ELEC

650 640 630 620

120 100 80 60 40 20 0 20 40 60

CROSS SECTIONS
STA 211+00.00 TO STA 213+00.00

LOR-611-9.96

37
121

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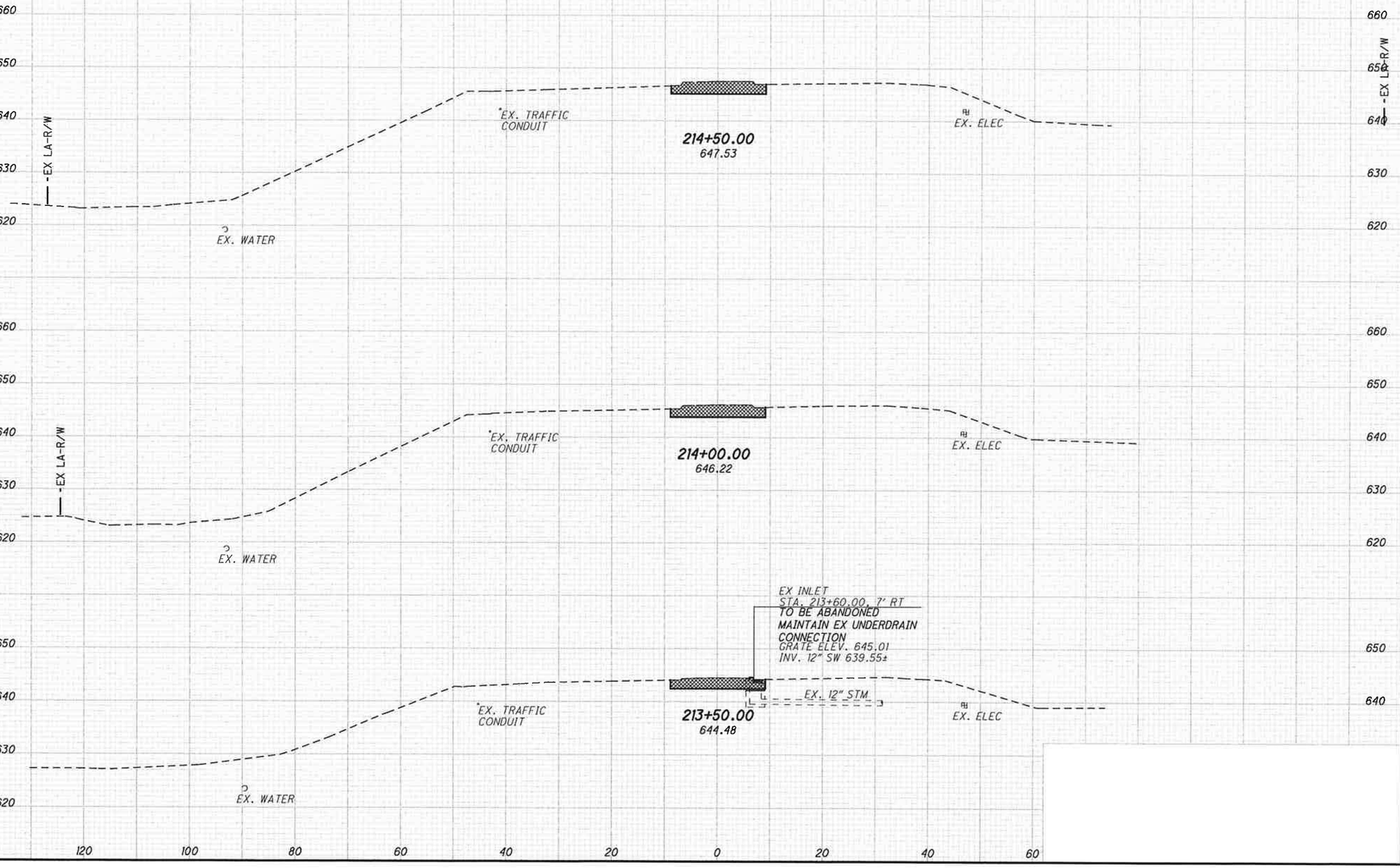
SEEDING	
END WIDTH	SQ. YDS.
81	
	439
77	
	359
52	
	217

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RDC

CHECKED DES

CROSS SECTIONS
STA 213+50.00 TO STA 214+50.00

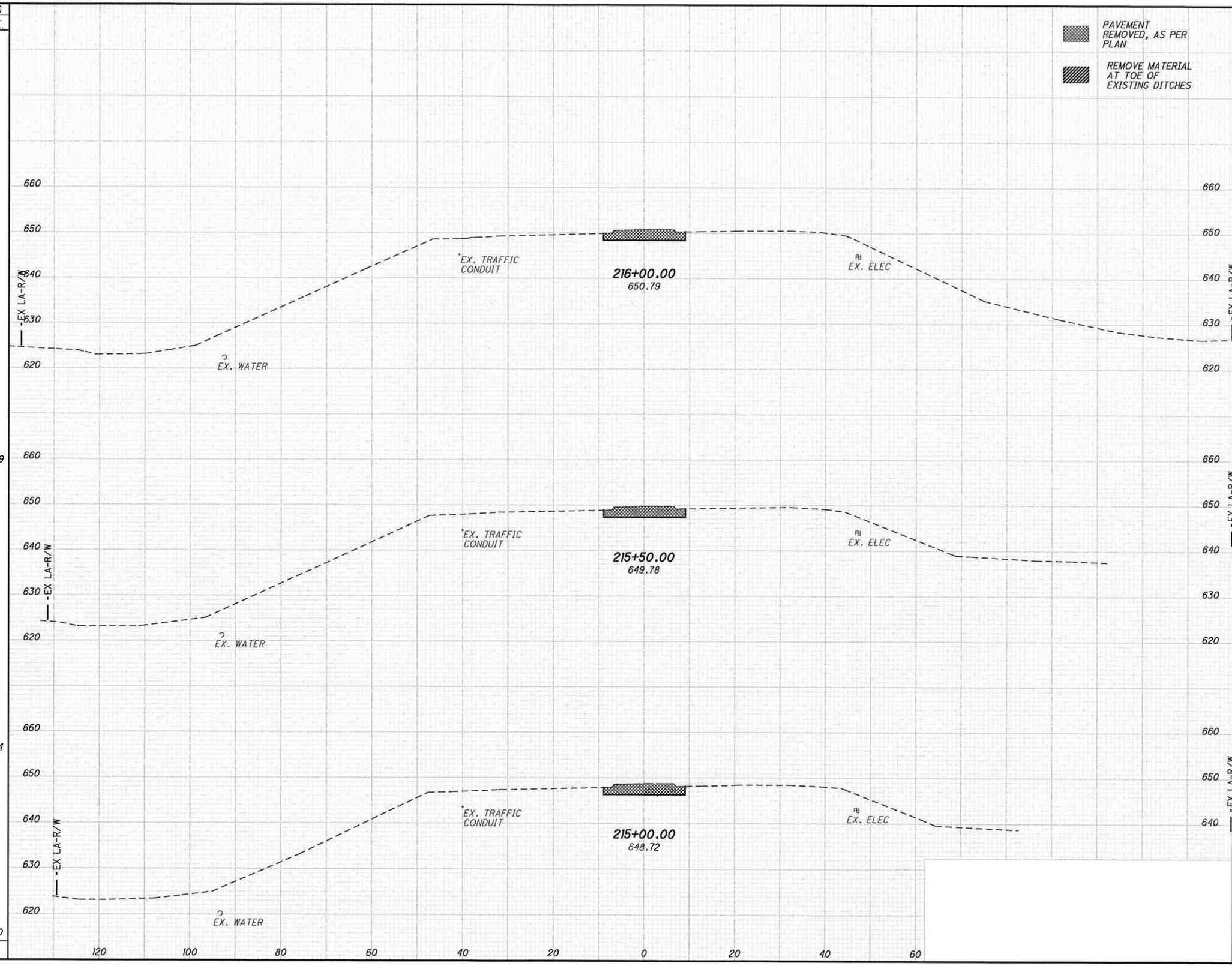
LOR-611-9.96

38
121

SEEDING	
END WIDTH	SQ. YDS.
115	589
97	514
88	470

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES



END AREA		VOLUME	
CUT	FILL	CUT	FILL

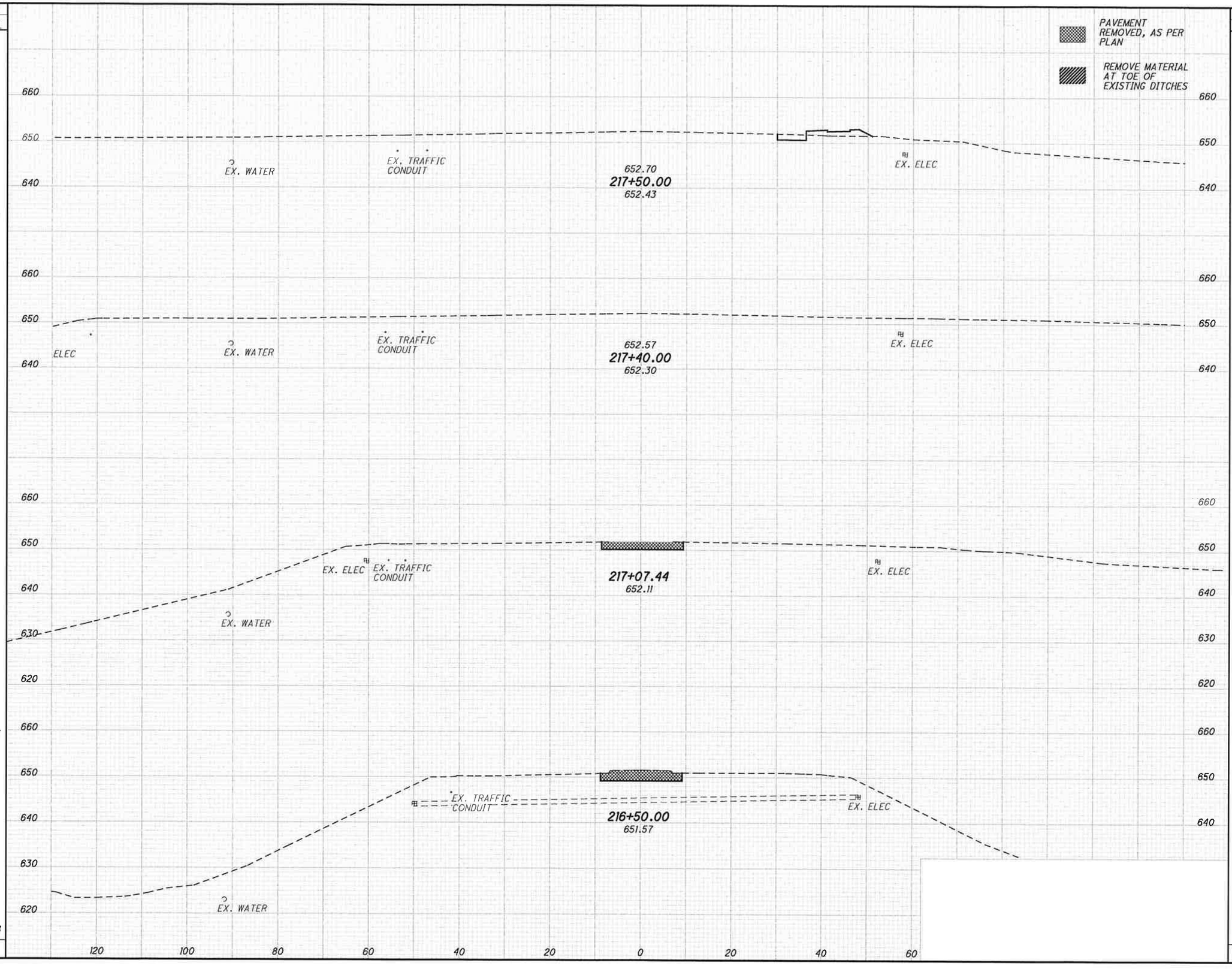
CALCULATED RDC

CHECKED DES

CROSS SECTIONS
STA 215+00.00 TO STA 216+00.00

LOR-611-9.96

SEEDING	
END WIDTH	SQ. YDS.
18	
	10
0	
	0
0	
	383
120	
	653



END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	15		
		1	3
0	0		
		0	0

CALCULATED RDC
CHECKED DES

CROSS SECTIONS
STA 216+50.00 TO STA 217+50.00

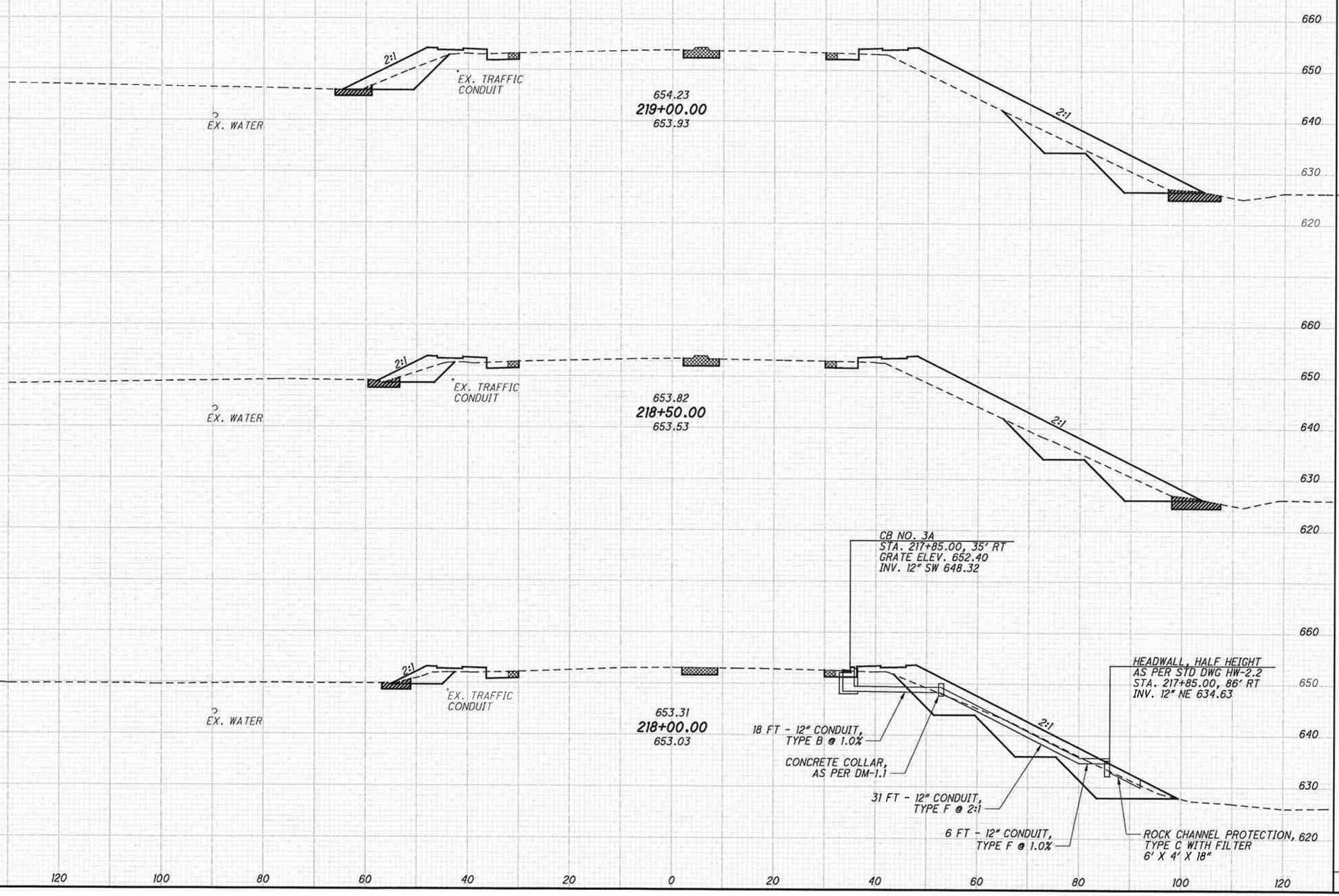
LOR-611-9.96

40
121

SEEDING	
END WIDTH	SQ. YDS.
105	
	562
97	
	525
92	
	306

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES



END AREA		VOLUME	
CUT	FILL	CUT	FILL
154	408		
		279	709
147	357		
		343	650
223	344		
		212	333

CALCULATED RDC
CHECKED DES

CROSS SECTIONS
STA 218+00.00 TO STA 219+00.00

LOR-611-9.96

41
121

SEEDING	
END WIDTH	SQ. YDS.
123	405
120	0
120	907
113	606

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES

654.92
220+50.00
654.57

EX. TRAFFIC CONDUIT

EX. WATER

654.85
220+20.00
654.48

EX. WATER

CB NO. 3A
STA. 220+25.00, 35' LT
GRATE ELEV. 653.82
INV. 12" NE 649.74

CB NO. 3A
STA. 220+25.00, 35' RT
GRATE ELEV. 654.09
INV. 12" SW 650.01

HEADWALL, HALF HEIGHT
AS PER STD DWG HW-2.2
STA. 220+25.00, 77.6' LT
INV. 12" SW 639.93

CONCRETE COLLAR, AS PER DM-1.1

18 FT - 12" CONDUIT, TYPE B @ 1.0%

21 FT - 12" CONDUIT, TYPE F @ 2:1

6 FT - 12" CONDUIT, TYPE F @ 1.0%

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER 6' X 4' X 18"

654.85
220+20.00
654.48

18 FT - 12" CONDUIT, TYPE B @ 1.0%

CONCRETE COLLAR, AS PER DM-1.1

HEADWALL, HALF HEIGHT
AS PER STD DWG HW-2.2
STA. 220+25.00, 105.4' RT
INV. 12" NE 626.31

52 FT - 12" CONDUIT, TYPE F @ 2:1

6 FT - 12" CONDUIT, TYPE F @ 1.0%

ROCK CHANNEL PROTECTION, TYPE C WITH FILTER 6' X 4' X 18"

654.56
219+50.00
654.13

EX. TRAFFIC CONDUIT

EX. WATER

660 / 650 / 640 / 630 / 620

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA		VOLUME	
CUT	FILL	CUT	FILL
242	511		
		200	559
118	494		
		0	0
117	454		
		391	1188
184	462		
		313	806

CALCULATED RDC
CHECKED DES

CROSS SECTIONS
STA 219+50.00 TO STA 220+50.00

LOR-611-9.96

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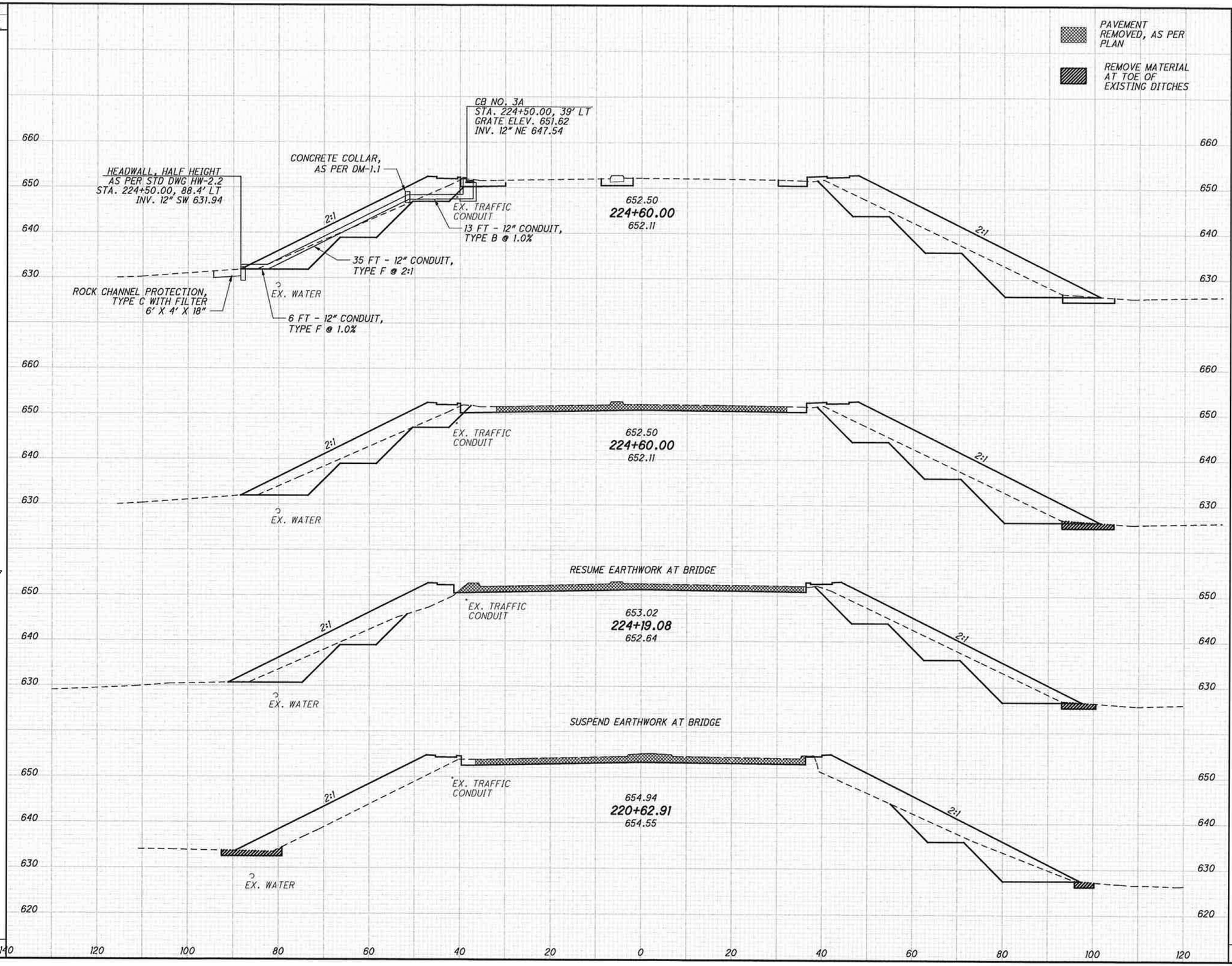
SEEDING	
END WIDTH	SQ. YDS.
126	0
126	567
123	0
123	177



END AREA		VOLUME	
CUT	FILL	CUT	FILL
398	669	0	0
333	669	470	951
286	585	0	0
149	512	94	245

CALCULATED RDC
CHECKED DES

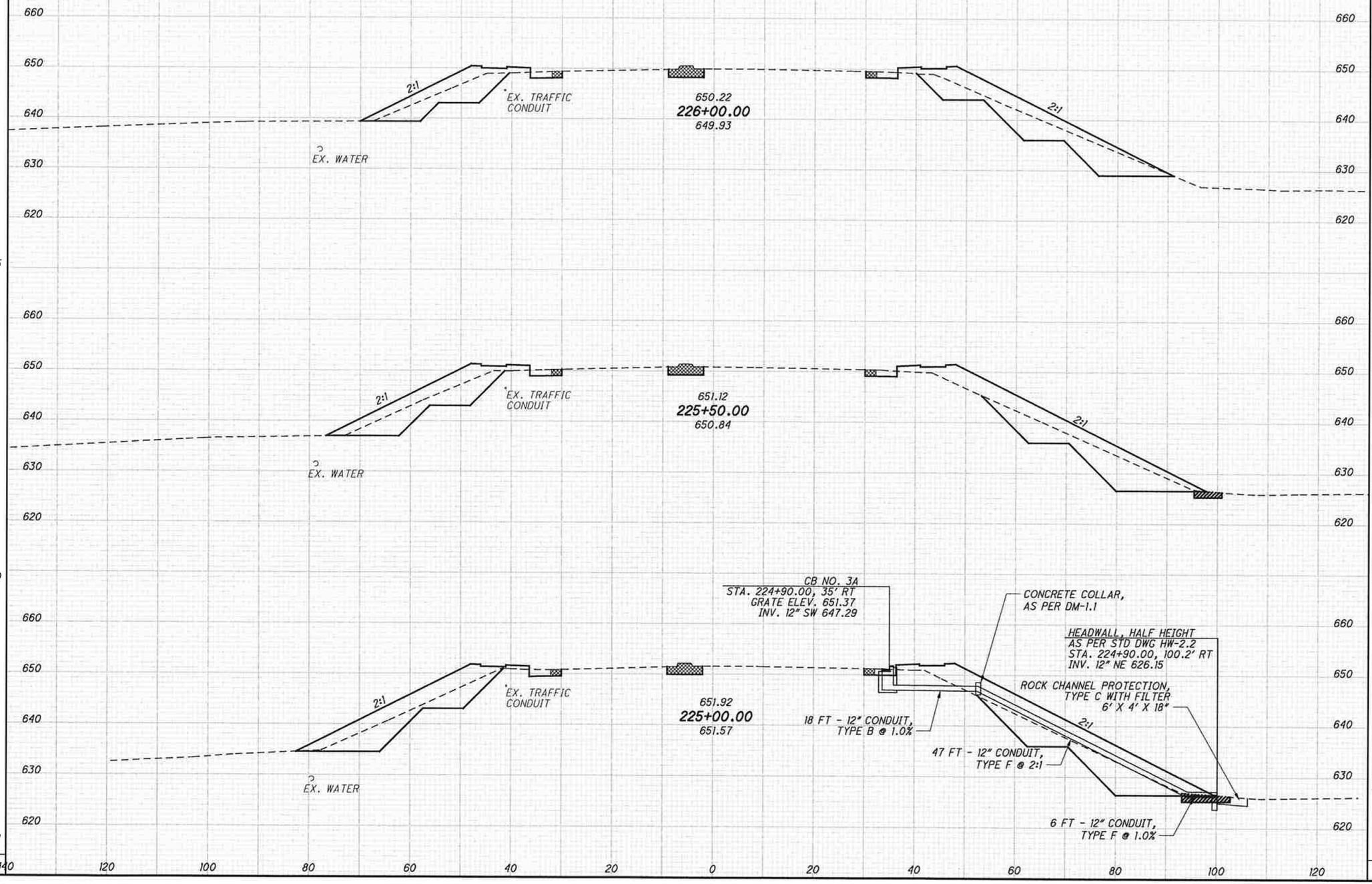
CROSS SECTIONS
STA 220+62.91 TO STA 224+50.00

LOR-611-9.96

SEEDING	
END WIDTH	SQ. YDS.
96	575
111	650
123	554

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES



END AREA		VOLUME	
CUT	FILL	CUT	FILL
251	391		
		475	795
261	467		
		483	942
260	550		
		488	903

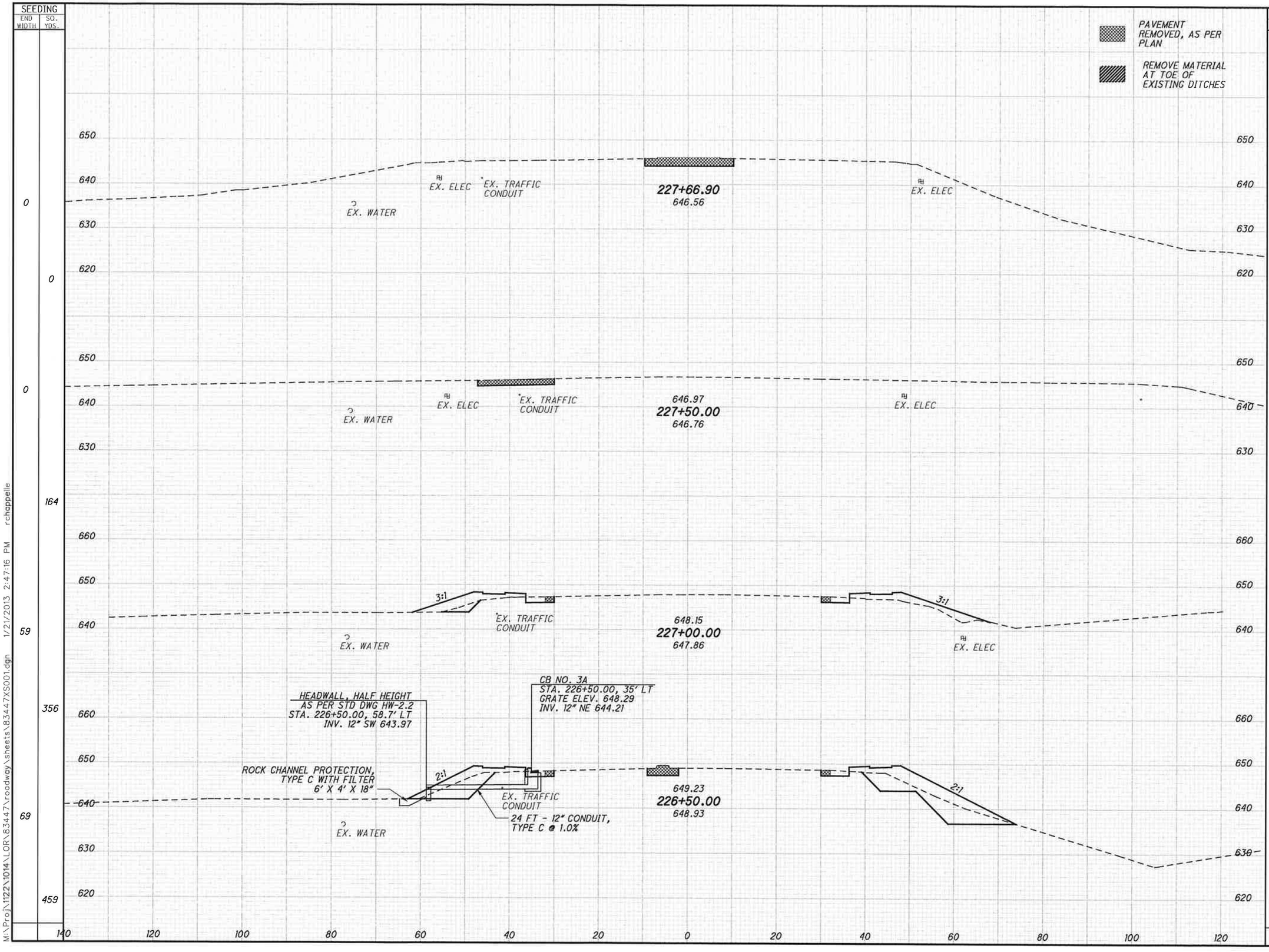
CALCULATED RDC

CHECKED DES

CROSS SECTIONS
STA 225+00.00 TO STA 226+00.00

LOR-611-9.96

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0
59	164
69	356
	459



END AREA	
CUT	FILL
0	0
0	0
19	87
140	238

VOLUME	
CUT	FILL
0	0
18	81
148	301
363	583

CALCULATED RDC
CHECKED DES

CROSS SECTIONS
STA 226+50.00 TO STA 228+00.00

LOR-611-9.96

45
121

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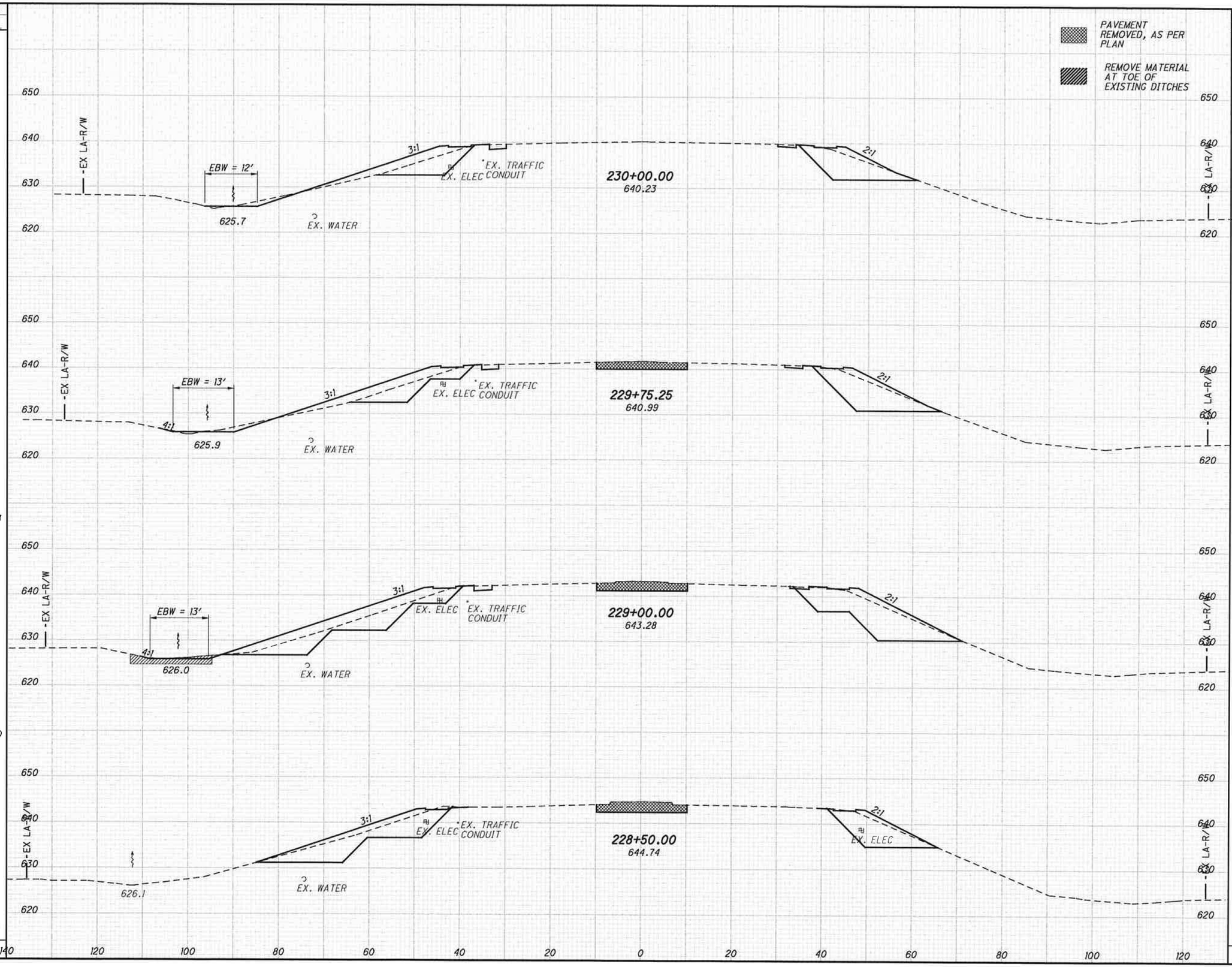
SEEDING	
END WIDTH	SQ. YDS.
92	271
105	903
111	520
76	351

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES



END AREA		VOLUME	
CUT	FILL	CUT	FILL
152	202		
		152	204
178	241		
		640	874
281	386		
		462	599
217	260		
		334	401

CALCULATED RDC

CHECKED DES

CROSS SECTIONS STA 228+50.00 TO STA 230+00.00

LOR-611-9.96

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121

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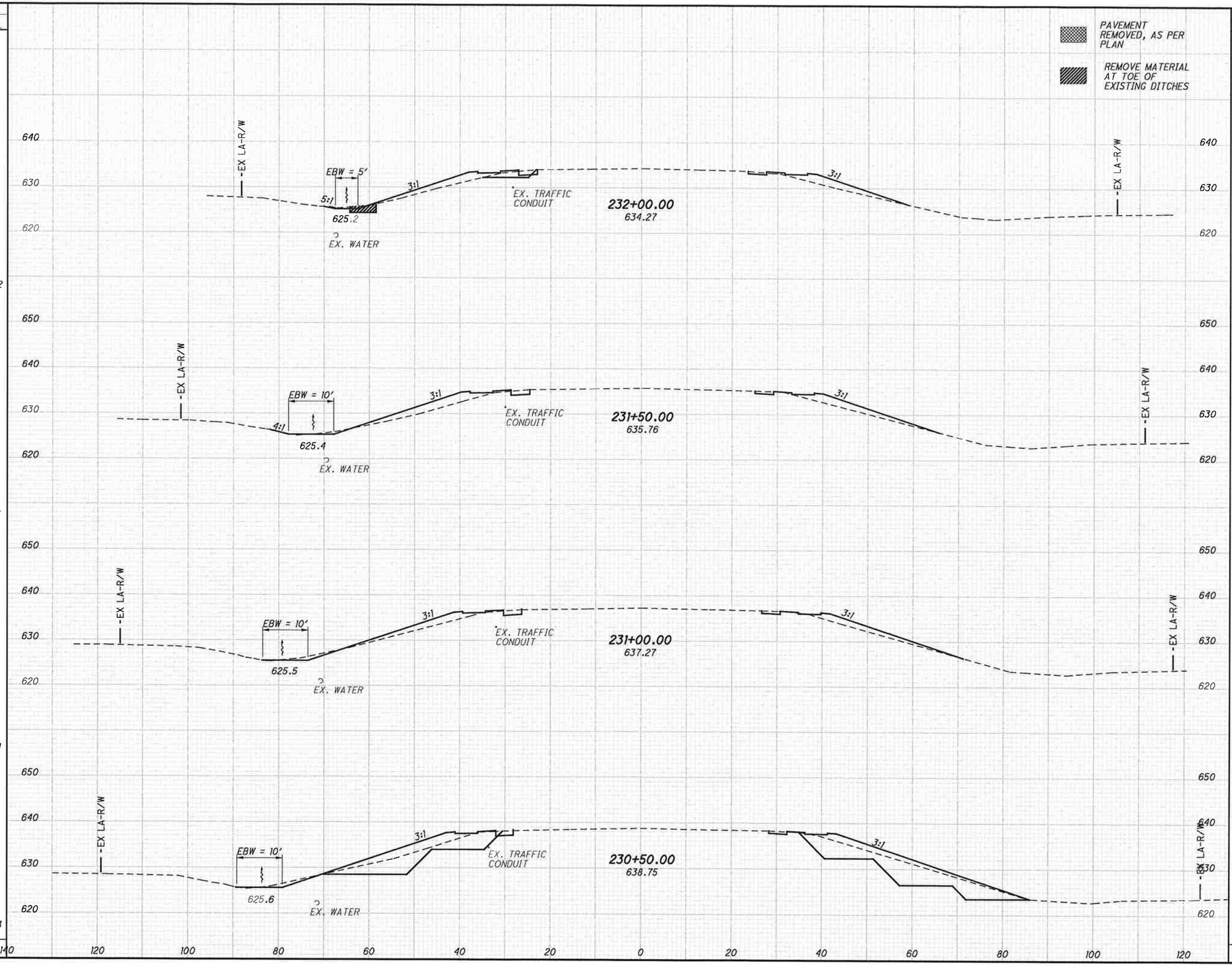
SEEDING	
END WIDTH	SQ. YDS.
75	462
91	517
95	581
114	573



END AREA		VOLUME	
CUT	FILL	CUT	FILL
16	67		
9	73	24	130
12	58	20	122
248	321	241	351
		271	485

CALCULATED RDC
CHECKED DES

CROSS SECTIONS
STA 230+50.00 TO STA 232+00.00

LOR-611-9.96

47
121

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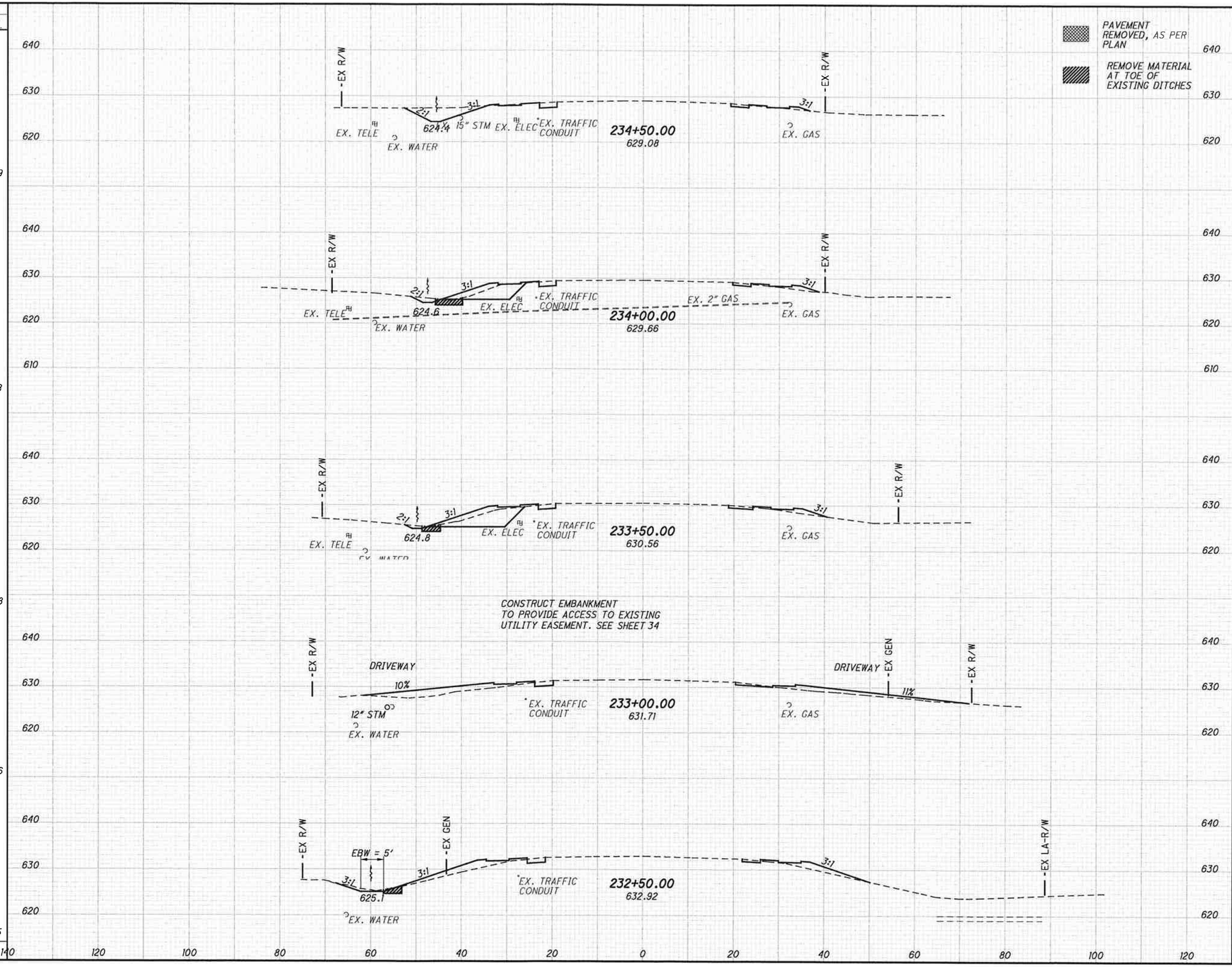
SEEDING	
END WIDTH	SQ. YDS.
43	239
43	248
46	348
79	406
67	395

PAVEMENT REMOVED, AS PER PLAN

REMOVE MATERIAL AT TOE OF EXISTING DITCHES



END AREA		VOLUME	
CUT	FILL	CUT	FILL
38	4	78	55
46	55	92	115
53	69	56	123
7	63	20	101
14	46	28	105
50	61		

CALCULATED RDC

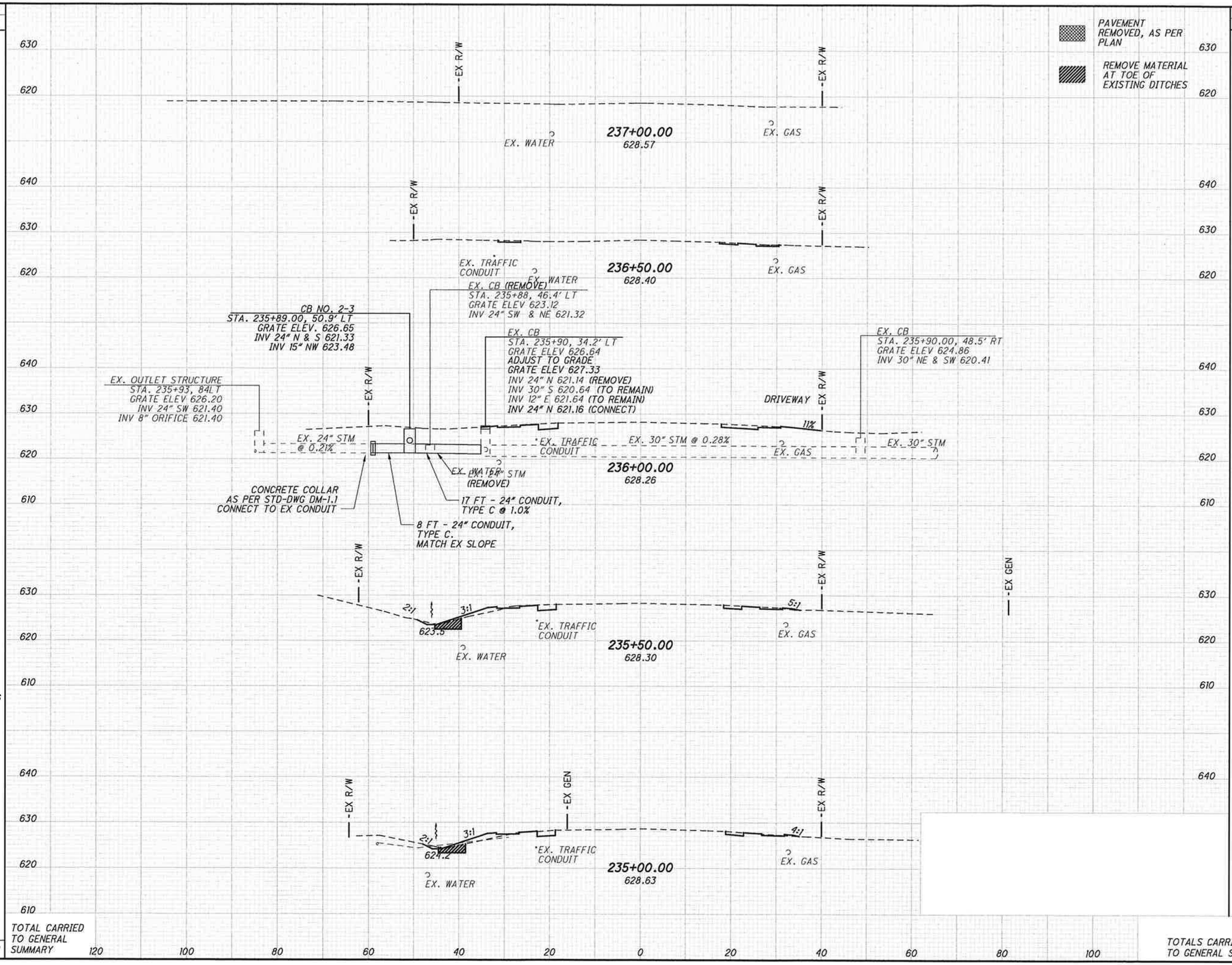
CHECKED DES

CROSS SECTIONS
232+50.00 TO STA 234+50.00

LOR-611-9.96

48
121

SEEDING	
END WIDTH	SQ. YDS.
12	11
12	100
24	173
38	206
36	220
	22124



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		2	0
5	0		
		19	1
15	1		
		35	19
22	19		
		37	36
17	19		
		51	22
6940	12792		

TOTAL CARRIED TO GENERAL SUMMARY

TOTALS CARRIED TO GENERAL SUMMARY

CALCULATED RDC
CHECKED DES

CROSS SECTIONS
STA 235+00.00 TO STA 237+00.00

LOR-611-9.96

P.I. Sta. 208+70.16
Δ = 7° 32′ 00″ (LT)
Dc = 0° 30′ 00″
R = 11,459.16′
T = 754.42′
L = 1,506.67′
E = 24.81′
C = 1,505.58′
C.B. = S 58° 43′ 06″ E

RAMP "M"

Sta. 217+77.18, 50′ Lt.
Δ = 80° 00′ 02″
R = 15.00′
L = 20.94′

CATCH BASIN 3A
STA. 218+25, 35′ LT
GRATE ELEV 652.51

651.54 +40.00
651.56 +50.00
651.54
651.88
652.22
651.82 +50.00
652.20 +75.00
652.35 +00.00
651.81 +40.00
651.93 +50.00
652.28 +75.00
652.43 +00.00
35′
SR 611
652.30 +40.00
652.48 +50.00
652.93 +75.00
218 653.31 +00.00

216
217
℄ R/W SR 611
SR 611

651.84 +40.00
652.02 +50.00
651.97 +50.00
652.48 +75.00
652.40 +75.00
652.84 +00.00
652.76 +00.00
35′
651.51 +40.00
651.89
652.08
652.26
651.70
651.51

CATCH BASIN 3A
STA. 217+85, 35 RT
GRATE ELEV 652.40

Sta. 217+67.18, 60′ Rt.
Δ = 68° 31′ 54″
R = 25.00′
L = 29.90′

RAMP "R"

HORIZONTAL SCALE IN FEET
0 20

CALCULATED LAM
CHECKED DES

INTERSECTION DETAIL
SR 611, RAMP M, RAMP R

LOR-611-9.96

50
121

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RAMP "N"

Sta. 227+32.37, 50' Lt.
Δ = 81° 04' 25"
R = 15.00'
L = 21.22'

CATCH BASIN 3A
STA. 226+50, 35' LT
GRATE ELEV 648.29

645.89
646.28
646.67
645.87 +50.00
648.46 +50.00
648.54 +50.00
647.99 +75.00
648.07 +75.00
647.50 +00.00
647.58 +00.00
646.86 +25.00
646.94 +25.00
646.29 +50.00

SR 611

35'

227
228
229

649.23 +50.00
648.71 +75.00
648.15 +00.00
647.46 +25.00
646.76 +50.00

℄ R/W SR 611

35'

SR 611

648.87 +50.00
649.79 +50.00
648.24 +75.00
648.32 +75.00
647.69 +00.00
647.77 +00.00
647.09 +25.00
646.39 +50.00

CATCH BASIN 3A
STA. 227+10, 35' RT
GRATE ELEV 647.28

647.14
646.59
646.04
646.01 +50.00
646.00 +33.18

Sta. 227+17.25, 50' Rt.
Δ = 110° 23' 52"
R = 15.00'
L = 28.90'

RAMP "P"

HORIZONTAL SCALE IN FEET
0 10 20

CALCULATED
CHECKED

INTERSECTION DETAIL
SR 611, RAMP N, RAMP P

LOR-611-9.96

51
121

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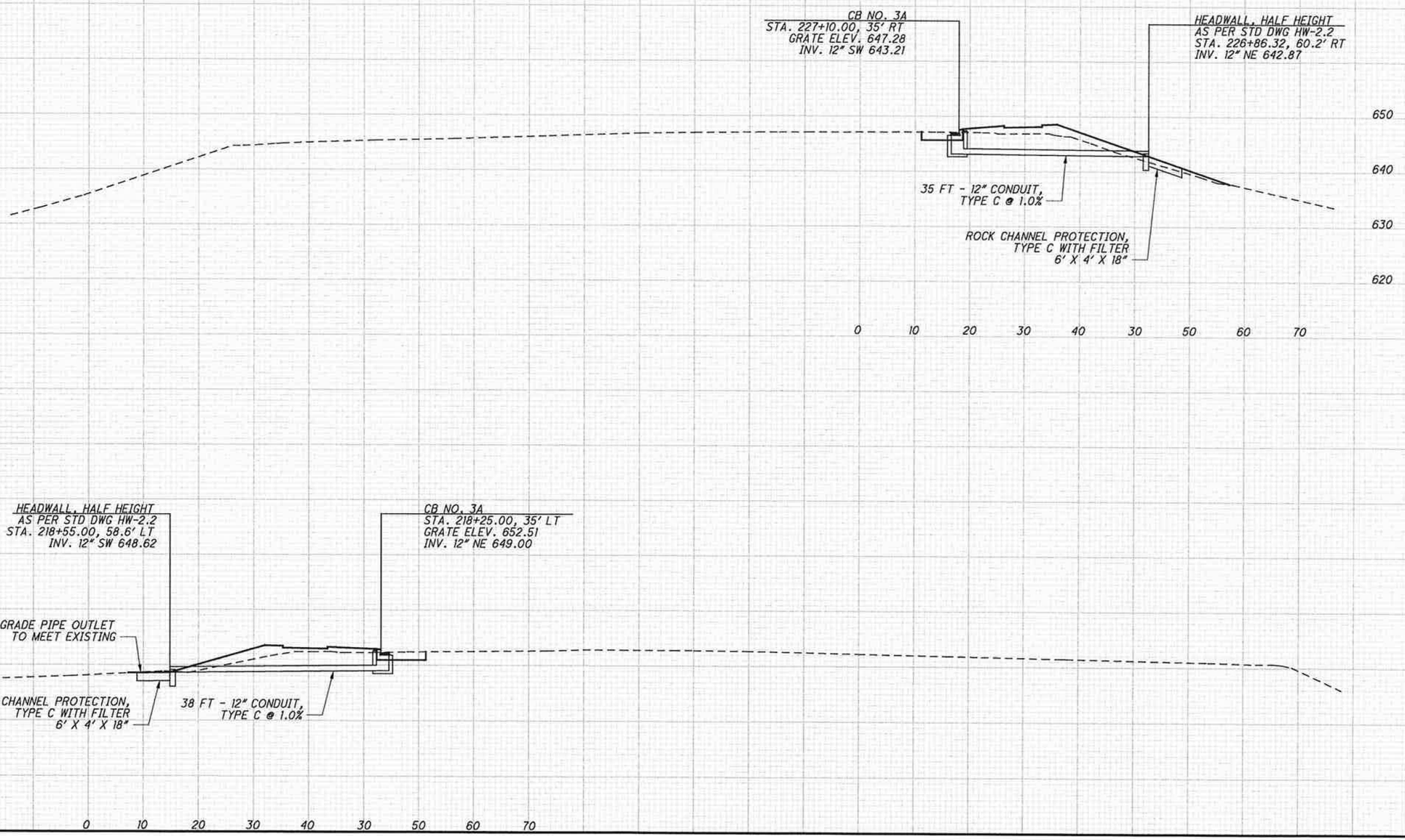
SEEDING	
END WIDTH	SQ. YDS.



CALCULATED RDC
CHECKED DES

DRAINAGE PROFILES
S.R. 611

LOR-611-9.96

REF. NO.	SHEET NO.	STATION TO STATION			646 EDGE LINE, 4" MILE	646 LANE LINE, 4" MILE	646 CENTER LINE MILE	646 CHANNELIZING LINE, 8" FT	646 STOP LINE FT	646 CROSSWALK LINE FT	646 TRANSVERSE/ DIAGONAL LINE FT	646 LANE ARROW EACH	646 BIKE LANE SYMBOL MARKING EACH	646 DOTTED LINE FT
SL-1	56	213+40							24					
ELW-1		213+40	230+00		0.32									
ELW-2		213+40	230+00		0.32									
LL-1		213+40	229+75			0.31								
LL-2		213+40	230+00			0.32								
CL-1		213+40	217+07				0.07							
TL-1		213+40	217+07								444			
SL-2		216+75							24					
DL-1		226+77	227+46											112
SL-7		226+50	226+50						12					
BK-1		217+70											1	
SL-3		217+85							41					
CL-2		217+85	220+50				0.06							
CH-1		217+85	220+30					245						
LA-1		218+10										1		
BK-2		218+10											1	
LA-2		219+18										1		
LA-3		220+27										1		
BK-3		220+36											1	
BK-4		220+42											1	
CL-3		220+50	222+01				0.03							
TL-2		220+50	222+01								120			
CL-4		222+01	226+90				0.10							
CH-2		222+20	226+90					470						
LA-4		222+29										1		
BK-5		222+98											1	
BK-6		222+98											1	
LA-5		223+72										1		
BK-7		224+97											1	
BK-8		224+97											1	
LA-6		225+18										1		
LA-7		226+65										1		
BK-9		226+70											1	
BK-10		226+80											1	
SL-4		226+90							29					
XW-5		227+14	227+20							141				
XW-6		227+28	228+17							161				
SL-5		227+31	227+80						48					
LA-8		227+35										8		
CH-3		227+36	227+52					40						
LA-9		227+52										1		
XW-7		227+44	228+10							126				
CL-5		227+73	230+00				0.05							
TL-3		227+73	230+00								213			
XW-8		228+13	228+20							163				
SL-6		228+26							26					
ELW-1	57	230+00	236+28		0.12									
ELW-2		230+00	236+28		0.12									
CL-5		230+00	232+30				0.05							
LL-2		230+00	233+17			0.07								
TL-3		230+00	232+30								214			
CL-6		232+30	236+28				0.08							
CH-4		233+17	236+28					311						
LA-10		233+20										1		
LA-11		234+67										1		
LA-12		236+13										1		
SL-7		236+28							24					
XW-9		236+50	236+56							86				
TOTALS CARRIED TO GENERAL SUMMARY					0.88	0.70	0.44	1066	228	677	991	19	10	112

CALCULATED SWC
CHECKED SJB

PAVEMENT MARKING SUBSUMMARY

LOR-611-9.96

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 SIGN, FLAT SHEET SF	630 SIGN, GROUND MOUNTED EXTRUSHEET SF	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT	630 GROUND MOUNTED SUPPORT, NO. 6 POST FT	630 SIGN HANGER ASSEMBLY, SPAN WIRE EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9 FT	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12 FT	630 ONE WAY SUPPORT, NO. 4 POST FT	630 SIGN POST REFLECTOR EACH	630 BREAKAWAY STRUCTURAL BEAM CONNECTION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 6 EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 SIGN ATTACHMENT ASSEMBLIES EACH
56																						
	S-3	S.R. 611	216+40	RT	R3-17A	30x12	2.5															
					R3-17	30x24	5			16												
	S-4	RAMP M	217+11	LT	R5-1	48x48	16									32	2					
					R6-1R	36x12	3															
					R6-1L	36x12	3															
			217+76	LT	R5-1	48x48	16									32	2					
					R6-1R	36x12	3															
					R6-1L	36x12	3															
	S-5	S.R. 611		LT	R10-H11E	30x36	7.5						1									
	S-6	S.R. 611		RT	R3-1	30x30	6.25						1									
	S-7	S.R. 611	217+77	RT	SPECIAL	168x90		105											1		1	3
					SPECIAL	168x90		105														3
	S-8	S.R. 611	217+92	LT	R3-H8CA	48x30	10				32											
					R3-17B	30x12	2.5															
					R3-17	30x24	5															
	S-9	RAMP M		LT	R5-1A	36x24	6		16								1					
	S-10	S.R. 611	218+95	RT	M3-2	30x15	3.125															
					M1-1	30x30	6.25															
					M1-5	30x30	6.25															
					M5-1L	24x18	3					17										
	S-11	S.R. 611	220+15	RT	R3-H8CA	48x30	10		32													
	S-12	S.R. 611	220+24	LT	R3-H8CA	48x30	10		32													
	S-13	S.R. 611	220+51	RT	OM-3R	12x36	3		11								1					
	S-14	S.R. 611	224+28	LT	OM-3R	12x36	3		11								1					
	S-15	S.R. 611	226+36	LT	M3-4	30x15	3.125					17										
					M1-1-3	30x30	6.25															
					M1-5	30x30	6.25															
					M5-1L	24x18	3															
	S-16	S.R. 611	226+90	RT	R3-H8CA	48x30	10				32											
					R3-17B	30x12	2.5															
					R3-17	30x24	5															
	S-17	RAMP P	227+10	LT	R5-1	48x48	16									32	2					
					R6-1R	36x12	3															
					R6-1L	36x12	3															
			227+70	RT	R5-1	48x48	16									32	2					
					R6-1R	36x12	3															
					R6-1L	36x12	3															
	S-18	S.R. 611	227+16	LT	SPECIAL	168x90		105											1		1	3
					SPECIAL	168x90		105														3
	S-19	RAMP P		RT	R3-H8Bq	30x36	7.5			16												
	S-20	S.R. 611		RT	R3-1	30x30	6.25						1									
	S-21	S.R. 611	225+00	RT	R4-H3A	24x30	5			16												
	S-22	S.R. 611	228+70	RT	R3-17A	30x12	2.5															
					R3-17	30x24	5			16												
	S-23	S.R. 611	229+00	RT	R3-7	30x30	6.25			16												
	S-24	S.R. 611	229+67	RT	M3-2	30x30	6.25			16												
					M1-5	30x15	3.125															
	S-25	RAMP P		LT	R5-1A	36x24	6		16								1					
	S-25A	RAMP P		RT	R3-H8Bq	30x36	7.5			16												
57	S-26	S.R. 611	230+83	LT	D1-H6A	96x48		32						42								
	S-27	S.R. 611	232+30	RT	R3-H8BA	30x30	6.25			16												
	S-28	S.R. 611	233+50	LT	M1-5	30x30	6.25			6.25					39			2		2		
					R14-3	30x30	6.25			6.25												
					SPECIAL	144x48		48														
	S-29	S.R. 611	236+29	RT	R3-H8BA	30x30	6.25			16												
	S-30	S.R. 611	238+25	RT	R2-1	30x36	7.5			16							1					
TOTALS CARRIED TO GENERAL SUMMARY							301.375	500	118	172.5	64	34	3	42	39	128	13	2	2	2	2	12

CALCULATED SWC
CHECKED SJB

SIGNING SUBSUMMARY

LOR-611-9.96

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)		630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNED STRUCTURAL BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH
56												
	R-3	RAMP M	217+11	RT				3	2			
			217+76	LT				3	2			
	R-4			LT								1
	R-5			RT								1
	R-6		217+80	RT							1	2
	R-7		217+92	LT				1	2			
	R-8	RAMP M		LT				1	1			
	R-9		218+95	RT				4	1			
	R-10		220+24	LT				1	2			
	R-11		220+51	RT				1	1			
	R-12		224+28	LT				1	1			
	R-13		224+56	LT				1	2			
	R-14		226+95	RT				1	1			
	R-15		226+36	LT				4	1			
	R-16		226+90	RT				1	2			
	R-17	RAMP P		RT				1	1			
	R-18		227+11	LT							1	2
	R-19	RAMP P	227+10	LT				3	2			
			227+70	RT				3	2			
	R-20			RT								1
	R-21		228+63	RT				1	2			
	R-22		229+67	RT				2	1			
	R-23	RAMP P		LT				1	1			
	R-24	RAMP P		RT				1	1			
57	R-24		230+05	RT				1	2			
	R-25		230+83	LT				1		2		
	R-26		230+97	RT				2	1			
	R-27		232+28	LT				1	2			
	R-28		223+50	LT				3		2		
	R-29		233+61	RT				2	1			
	R-30		236+29	RT				2	1			
	R-31		236+60	LT				1	1			
TOTALS CARRIED TO GENERAL SUMMARY								47	36	4	2	7

CALCULATED SWC
CHECKED SJB

SIGNING SUBSUMMARY

LOR-611-9.96

FOR LEGEND, SEE SHEET 57

NOTES:

1) FOR PAVEMENT MARKING SUBSUMMARY SEE SHEET 53

2) FOR SIGNING SUBSUMMARY SEE SHEETS 54 &55

3) PAVEMENT MARKINGS WILL BE PAID VIA THE FOLLOWING PARTICIPATION SPLITS:
STA. 213+40 TO STA. 228+70 = 03/IMS/BR
STA. 228+40 TO STA. 236+60 = 05/S<2/PV/AVON
SEE GENERAL SUMMERY SHEET 23 FOR ADDITIONAL DETIAL.

4) SIGNS DENOTED ◊ WILL BE PAID VIA 03/IMS/BR PARTICIPATION SPLIT. ALL OTHERS WILL BE PAID VIA 04/MPO/BR/AVON SPLIT.

5) LANE ARROWS ON RAMP "P" SHALL BE INSTALLED AT THE SAME LOCATION AS THE EXISTING ARROWS. CONTRACTOR SHALL NOTE THE LOCATION OF EACH EXISTING ARROW BEFORE REMOVING.

MATCHLINE RAMP "P"

CHESTER ROAD

CHESTER RD ⇦ STA. 214+43

WEST 611 STA. 216+02

SR 611

MATCHLINE STA. 220+00 SR 611

MATCHLINE STA. 230+00 SR 611

RAMP "M"

RAMP "N"

RAMP "P"

(FOLD-UP SIGN USED WHEN TRAFFIC SIGNAL IS NOT OPERATIONAL)

STA. 213+30

I-90 EB

R5-1-48 STA. 217+11 STA. 217+76

R6-1R-36

R6-1L-36

R10-1HIE-30 (ON SPAN WIRE)

R3-H8CA-48 R3-17B-30 R3-17-30 STA. 217+92

R3-H8Bq-36

R3-17A R3-17-30 STA. 216+40

R3-1-30 (ON SPAN WIRE)

M3-4-30 M1-1-30-2 M1-5-30-2 M5-1L-24 STA. 226+36

REMOVE AND REPLACE OVERHEAD GUIDE SIGNS 198" X 96" EX STA. 227+11 PROP. STA 227+16

M3-2-30 M1-1-30-2 M1-5-30-2 M5-1L-24 STA. 218+95

REMOVE AND REPLACE OVERHEAD GUIDE SIGNS 168" X 90" EX STA. 217+80 PROP. STA 217+77

R4-H3A STA. 225+00

R3-H8CA-48 R3-17B-30 R3-17-30 STA. 226+90

R3-H8Bq-36

R5-1-48 STA. 221+10

R6-1L-36

R6-1R-36

OM-3R-12 STA. 220+45

OM-3R-12 STA. 224+39

R3-H8CA-48 STA. 220+15

R3-H8CA-48 STA. 220+24

M3-2-30 M1-5-30-2 M5-1L-24 STA. 229+97

R3-7L-30 STA. 229+00

M3-2-30 M1-5-30-2 STA. 228+63

R3-17A-30 R3-17-30 STA. 228+70

R3-1-30 (ON SPAN WIRE)

SIGNING AND PAVEMENT MARKING PLAN
STA. 210+00 TO STA. 230+00

LOR-611-9.96

CALCULATED SWC
CHECKED SJB

HORIZONTAL SCALE IN FEET 0 20 40 80

56
121

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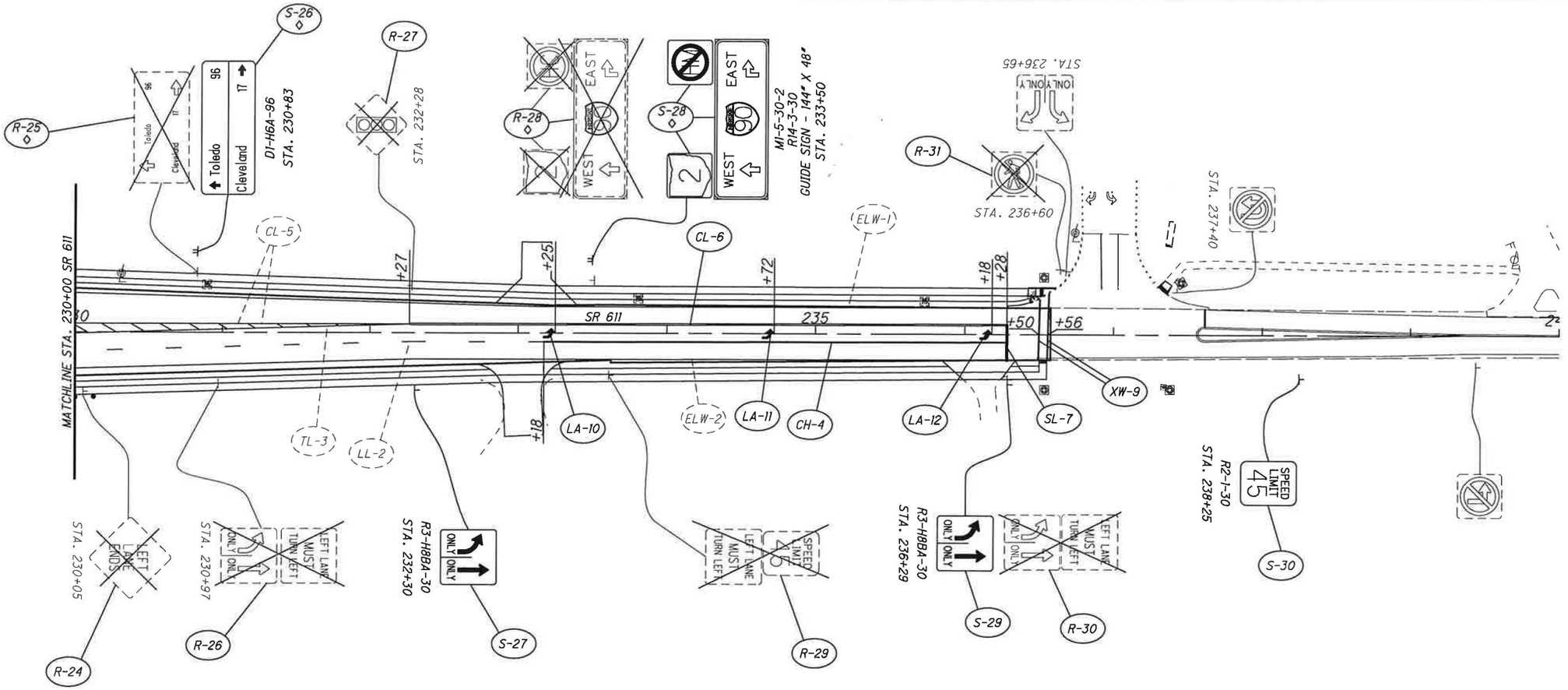


LEGEND

CL	ITEM 646 - CENTER LINE, DOUBLE YELLOW
ELW	ITEM 646 - EDGE LINE, WHITE
LA	ITEM 646 - LANE ARROW, YELLOW
TL	ITEM 646 - TRANSVERSE LINE, YELLOW
SL	ITEM 646 - STOP LINE
CH	ITEM 646 - CHANNELIZING LINE
LL	ITEM 646 - LANE LINE
XW	ITEM 646 - CROSSWALK LINE
BK	ITEM 646 - BICYCLE LANE MARKING
DL	ITEM 646 - DOTTED LINE
	QUANTITY CARRIED THROUGH MATCH LINE

EXISTING SIGN TO REMAIN

EXISTING SIGN TO BE REMOVED

PROPOSED SIGN

NOTES:

1) FOR PAVEMENT MARKING SUBSUMMARY SEE SHEET 53

2) FOR SIGNING SUBSUMMARY SEE SHEETS 54 & 55

3) PAVEMENT MARKINGS WILL BE PAID VIA THE FOLLOWING PARTICIPATION SPLITS:
   STA. 213+40 TO STA. 228+70 = 03/IMS/BR
   STA. 228+40 TO STA. 236+60 = 05/SR2/PV/AVON
   SEE GENERAL SUMMERY SHEET 23 FOR ADDITIONAL DETIAL.

4) SIGNS DENOTED ◇ WILL BE PAID VIA 03/IMS/BR PARTICIPATION SPLIT. ALL OTHERS WILL BE PAID VIA 04/MPO/BR/AVON SPLIT.

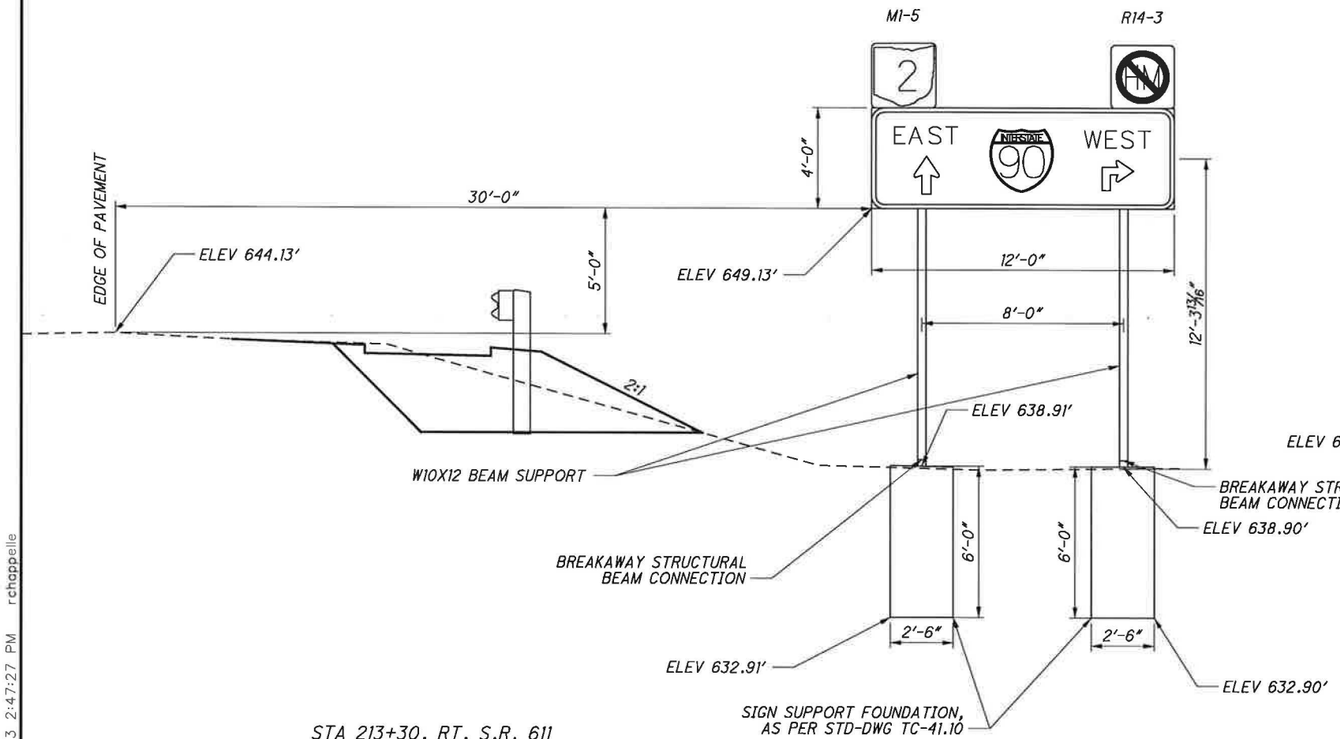
SIGNING AND PAVEMENT MARKING PLAN
STA. 230+00 TO STA. 240+00

CALCULATED SWC
CHECKED SJB

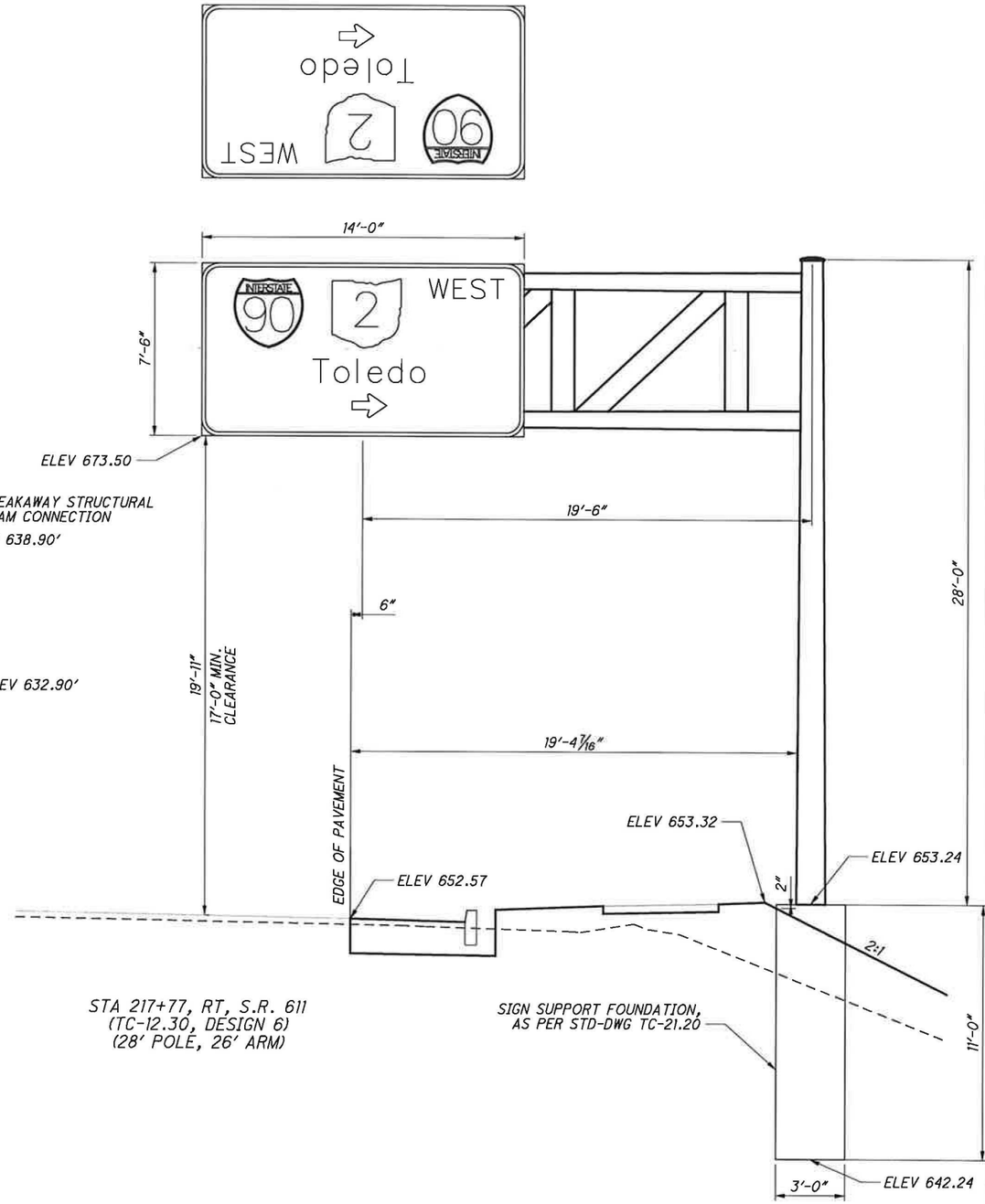
HORIZONTAL SCALE IN FEET
0 20 40 80

LOR-611-9.96

57
121



STA 213+30, RT, S.R. 611
(TC-41.10)



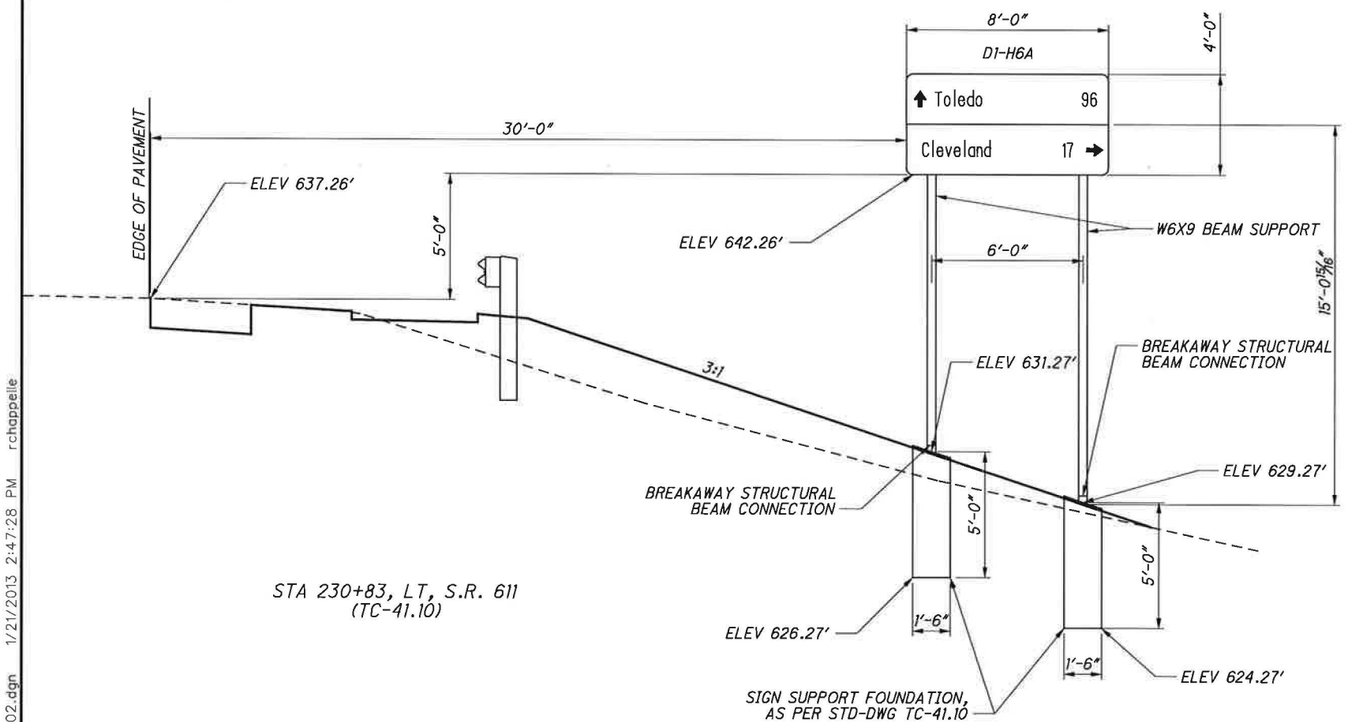
STA 217+77, RT, S.R. 611
(TC-12.30, DESIGN 6)
(28' POLE, 26' ARM)

CALCULATED SWC
CHECKED SJB

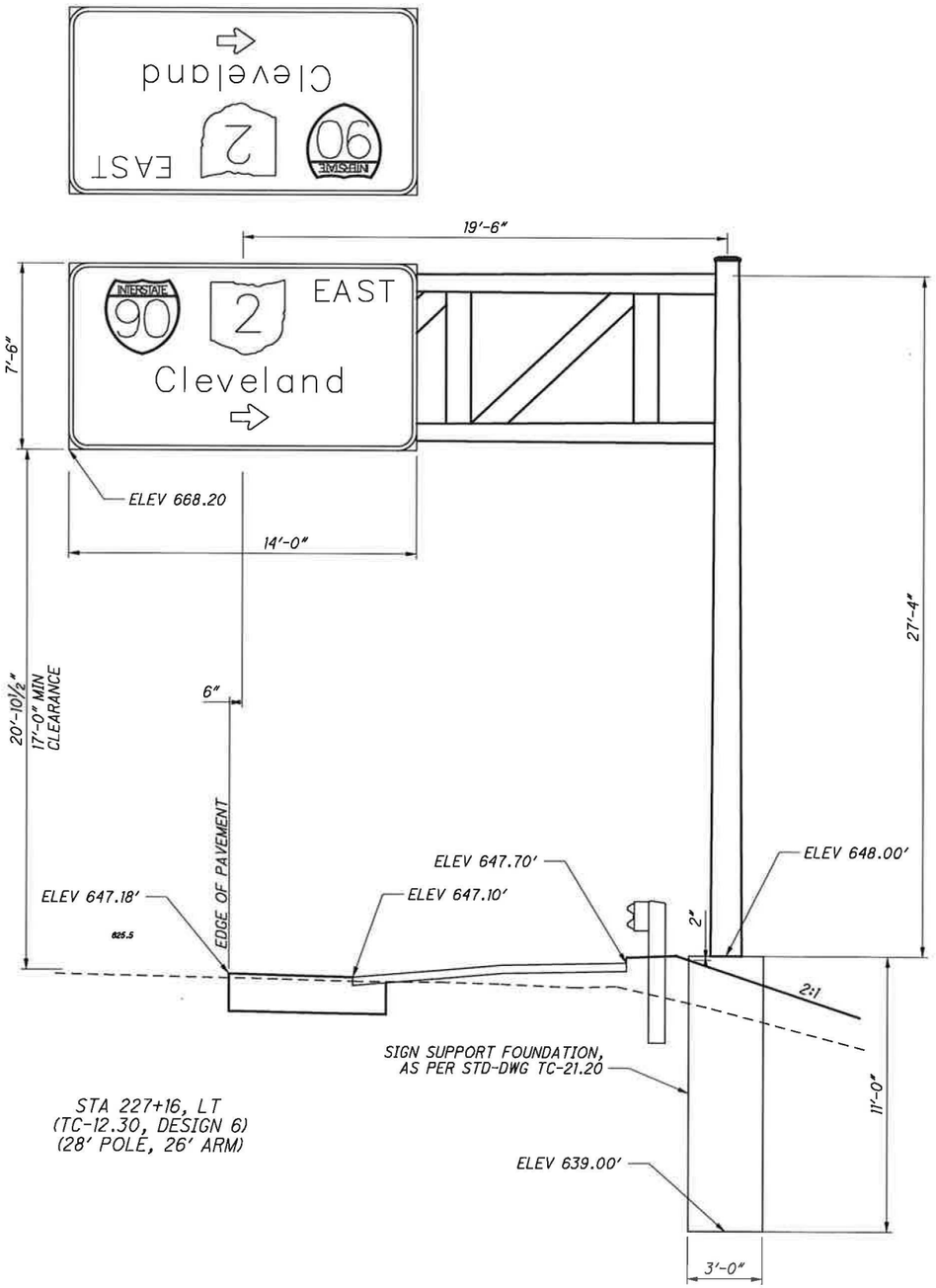
SIGN ELEVATIONS: STA 213+30 & STA 217+77

LOR-611-9.96

58
121



STA 230+83, LT, S.R. 611
(TC-41.10)



STA 227+16, LT
(TC-12.30, DESIGN 6)
(28' POLE, 26' ARM)

CALCULATED SWC
CHECKED SJB

SIGN ELEVATIONS: STA 227+16 & STA 230+83

LOR-611-9.96

59
121

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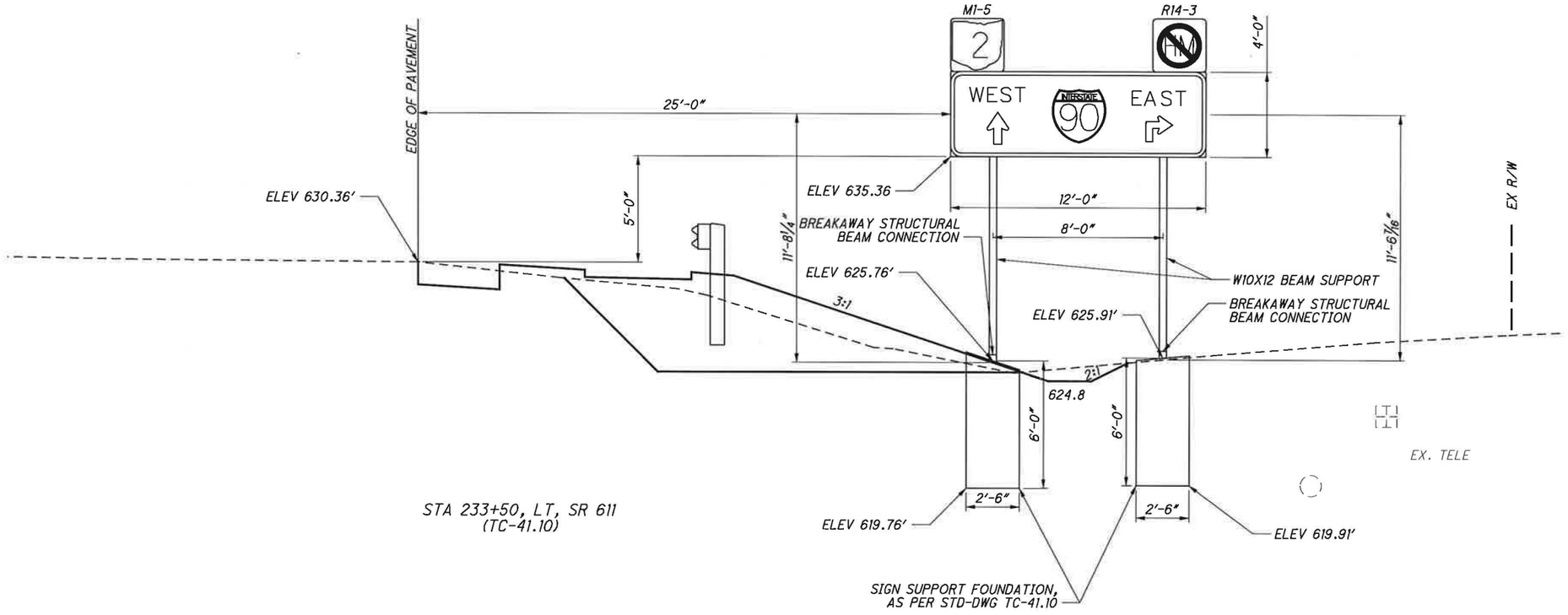


SIGN ELEVATIONS: STA 233+50

CALCULATED SWC
CHECKED SJB

LOR-611-9.96

SHEET NO.	LOCATION	SIDE	625 PULL BOX, 725.07, 18"X18" EACH	TRENCH FEET	CONDUIT, 2", 725.05 FEET		CONDUIT, JACKED OR DRILLED, 2" FEET	PLASTIC CAUTION TAPE FEET	GROUND ROD EACH	PULL BOX REMOVED EACH
63										
	217+83 (PB4)	LT	1							
	217+91 (PB5)	RT	1							1
	PB4 TO 220+00	LT		218	218			218		
	PB4 TO EXIST PB	LT		3	3			3		
64	220+64 (PB6)	LT	1							1
	224+56 (PB7)	LT	1							1
	220+00 TO PB6	LT		65	65			65		
	PB6 TO PB7	LT		20	780			20		
	PB7 TO PB8	LT		222	222			222		
	226+73 (PB8)	LT	1							
	227+31 (PB9)	LT	1							
	227+25 (PB10)	RT	1							1
	228+45 (PB11)	LT	1							1
	PB8 TO EXIST PB	LT		7	7			7		
	P8 TO EXIST STRAIN POLE	LT		14	14			14	1	
	EXIST STRAIN POLE TO P10	LT		8	8			8	1	
	P9 TO PB10	RT		6	6			6	1	
	PB10 TO EXIST STRAIN POLE	RT					64			
	EXIST STRAIN POLE TO P12	RT		36	36			36		
	EXIST PB TO P11	LT		13	13			13		
	EXIST PB TO PB11	LT		37	37			37		
	PB11 TO 230+00	LT		155	155			155		
65	230+93 (PB12)	LT	1							1
	233+81 (PB13)	LT	1							1
	230+00 TO PB12	LT		92	92			92		1
	PB12 TO PB13	LT		289	289			289		
	PB13 TO PB14	LT		192	192			192		
	235+73 (PB14)	LT	1							
	236+44 (PB15)	LT	1							
	236+57 (PB16)	RT	1							
	PB14 TO EXIST PB	LT		73	73			73		
	P13 TO PB15	LT		5	5			5	1	
	PB15 TO EXIST STRAIN POLE	LT		10	10			10		
	EXIST STRAIN POLE TO PB16	RT		7	7			7		
	PB16 TO P14	RT		6	6			6	1	
TOTALS CARRIED TO GENERAL SUMMARY			**13**	**1478**	**2238**		**64**	**1478**	**5**	**8**

CALCULATED RDC CHECKED DES

SIGNAL SUBSUMMARY

LOR-611-9.96

SIGNAL SUBSUMMARY

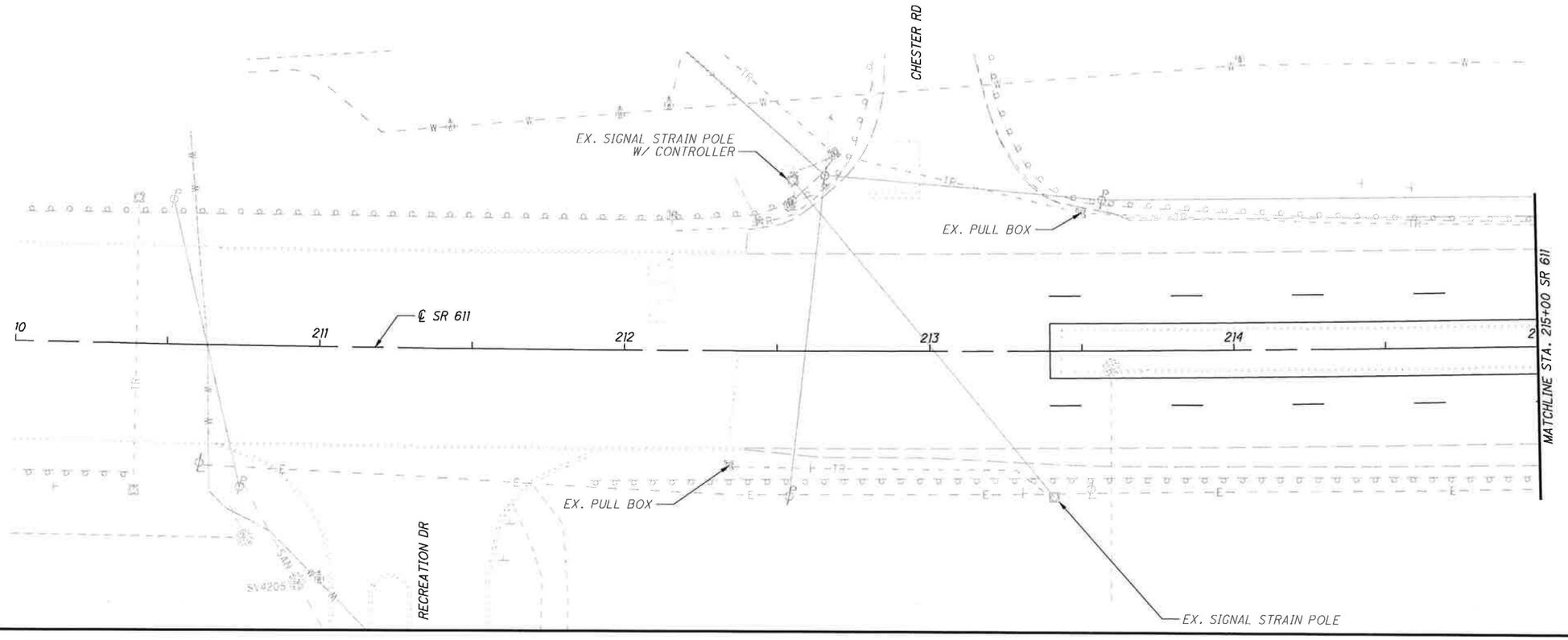
CALCULATED RDC
CHECKED DES

632

SHEET NO.	LOCATION	SIDE	VEHICULAR SIGNAL HEAD, LED, YELLOW, 3 SECTION, 12" LENS, 1-WAY, WITH BACKPLATE	VEHICULAR SIGNAL HEAD, LED, YELLOW, 5 SECTION, 12" LENS, 1-WAY, WITH BACKPLATE	PEDESTRIAN SIGNAL HEAD, LED, COUNTDOWN, TYPE D2	DETECTOR LOOP				LOOP DETECTOR LEAD-IN CABLE	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	PEDESTRIAN PUSHBUTTON		TETHER WIRE, WITH ACCESSORIES	PEDESTAL, 11'	PEDESTAL FOUNDATION	INTERCONNECT CABLE, MISC.: FIBER OPTIC		
			EACH	EACH	EACH	EACH				FEET	FEET	EACH		FEET	EACH	EACH	FEET		
63																			
	SR 611 @ RAMP "R"					5				415									
	RAMP "R" TO 220+00	LT															375		
64	220+00 RAMP "P"	LT															800		
	P8	LT			1							1			1	1			
	P9	RT			2							2			1	1			
	P10	LT			1							1			1	1			
	P11	LT			2							2			1	1			
	P12	RT			2							2			1	1			
	EXISTING STRAIN WIRE	LT & RT	5	1										145					
	SR 611 @ RAMP "P"	LT & RT								600	550								
	RAMP "P" TO 230+00	LT															325		
65	230+00 TO BJ'S																750		
	P13	LT			2							2			1	1			
	P14	RT			1							1							
	SR 611 @ BJ'S	LT & RT									200								
TOTALS CARRIED TO GENERAL SUMMARY			**5**	**1**	**11**	**5**				**1015**	**750**	**11**		**145**	**6**	**6**	**2250**		

LOR-611-9.96

62
121



NOTES:

1) REPLACE DISTURBED LOOP DETECTORS IN KIND.
2) THE NUMBER, LOCATION, VISIBILITY, AND HEIGHT OF ALL VEHICULAR AND PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE OMUTCD.
3) TYPE TC-81.10, DESIGN 11 STRAIN POLES ARE REQUIRED TO SUPPORT PROPOSED SIGNALS WITH BACKPLATES AT THE INTERSECTION OF SR 611 AND RAMP "P". THE EXISTING STRAIN POLE MAY BE USED IF IT IS A DESIGN 11 POLE OR GREATER. IF THE EXISTING POLE IS LESS THAN A DESIGN 11, A NEW STRAIN POLE IS REQUIRED. A TETHER WIRE MUST BE ADDED TO SUPPORT BACKPLATES.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DES
CHECKED VLW

SIGNAL PLAN
STA. 210+00 TO STA. 220+00

LOR-611-9.96

63
121

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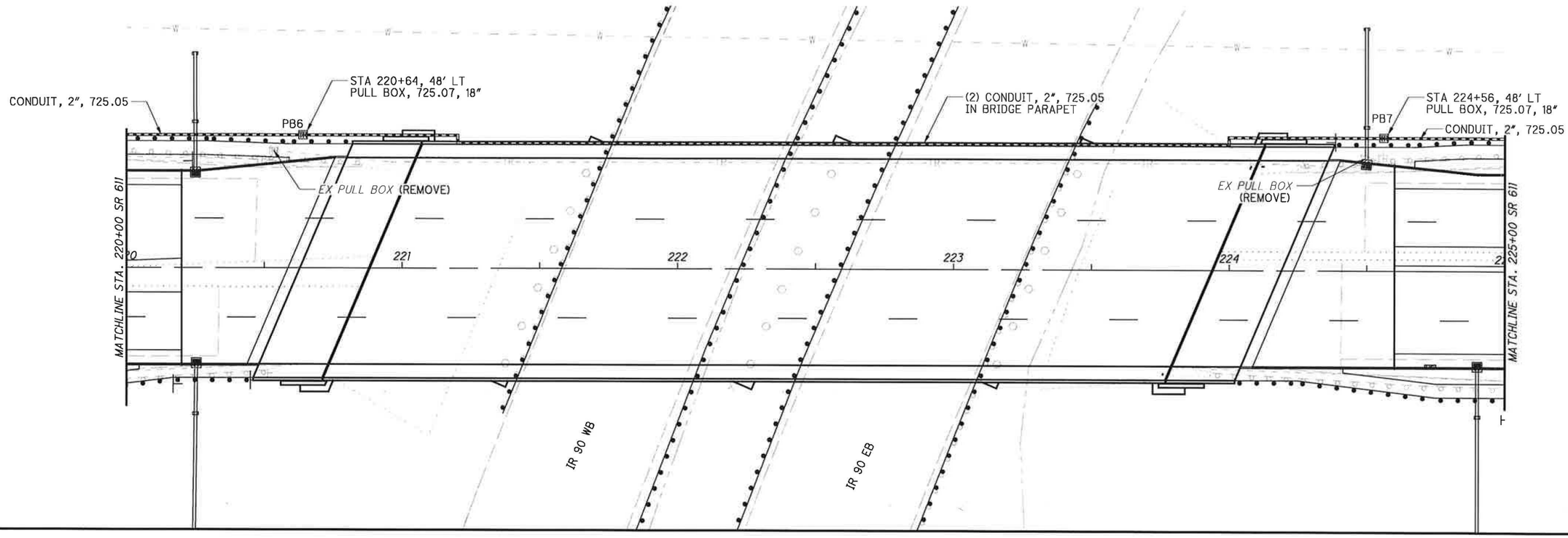
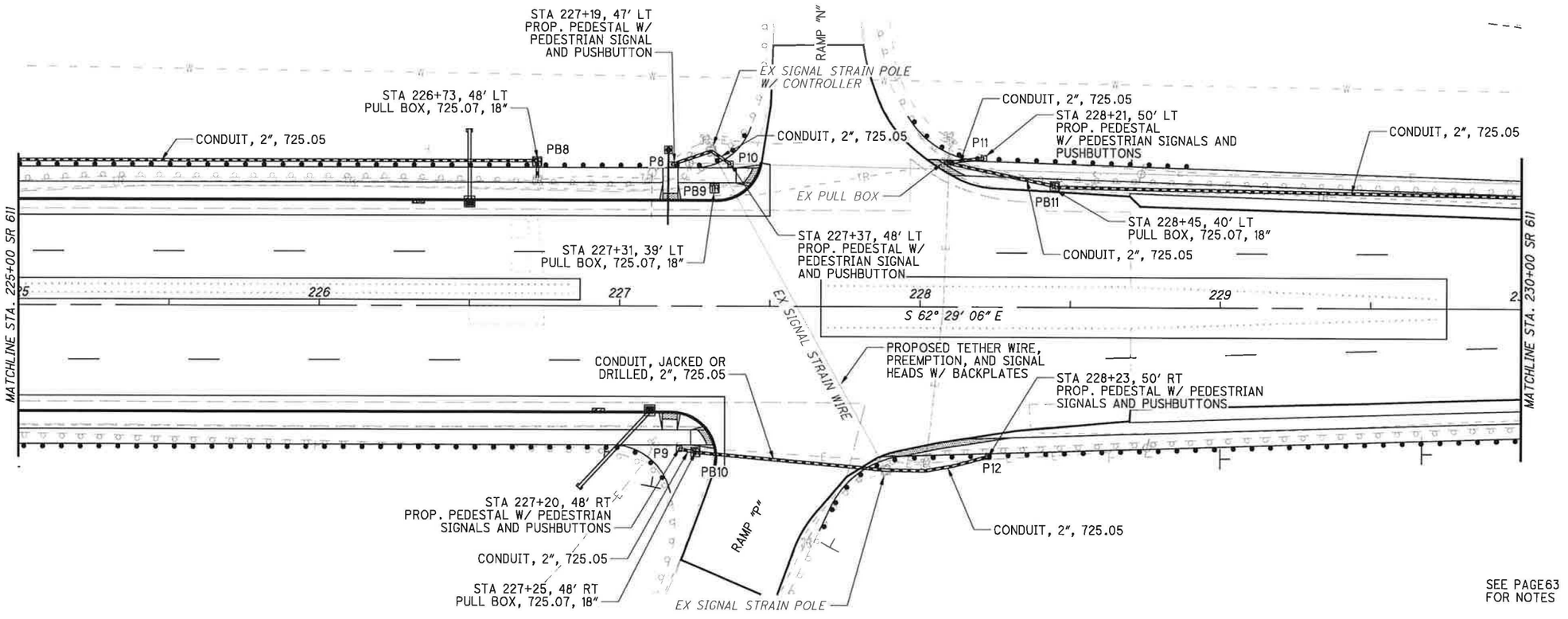




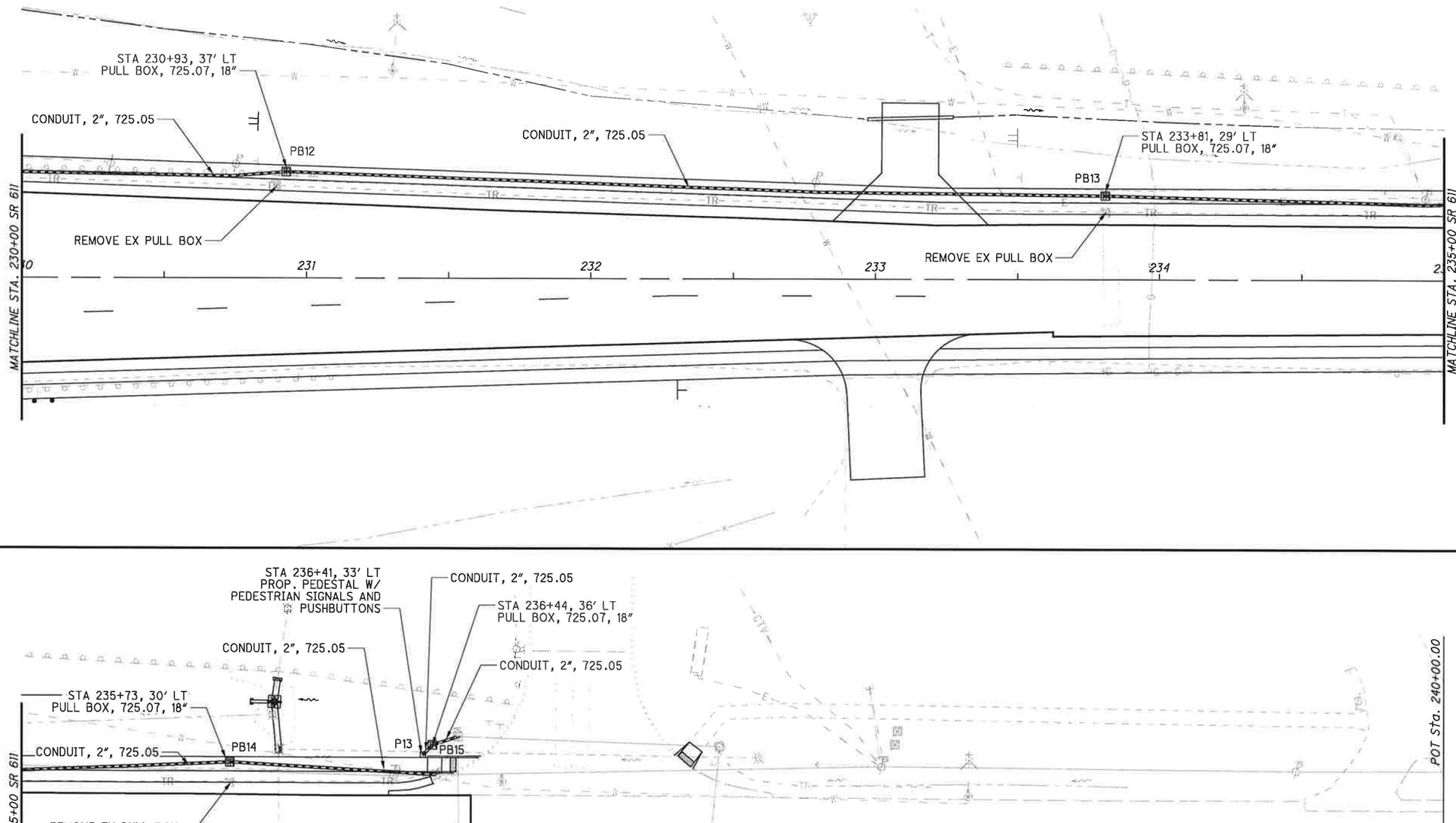
SEE PAGE63
FOR NOTES

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DES
CHECKED VLW

SIGNAL PLAN
STA. 220+00 TO STA. 230+00

LOR-611-9.96



SEE PAGE 63
FOR NOTES

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DES
CHECKED VLW

SIGNAL PLAN
STA. 230+00 TO STA. 240+00

LOR-611-9.96

SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN. BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESEN- TATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

625, CONDUIT CLEANED AND CABLES REMOVED

THIS ITEM SHALL CONSIST OF CLEANING AN EXISTING CONDUIT BY REMOVING EXISTING CABLES, MUD AND DEBRIS SO THAT NEW CABLE CAN BE INSTALLED. INCIDENTAL TO THE CLEANING IS THE INSTALLATION OF BUSHINGS AND/OR COUPLINGS ON THE ENDS OF EXISTING CONDUIT AS REQUIRED. MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF OF THE PROJECT SITE. DISTURBED AREAS SHALL BE PROPERLY RESTORED.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "CONDUIT CLEANED AND CABLES REMOVED" PER FOOT OF CONDUIT CLEANED WHICH SHALL BE FULL COMPENSA- TION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMAN- LIKE MANNER.

625, PULL BOX CLEANED

THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENINGS SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

POWER COMPANY : FIRST ENERGY (THE ILLUMINATING COMPANY)

ADDRESS : 6896 MILLER ROAD
BRECKSVILLE, OH 44141
PHONE # : 440-717-6845
CONTACT NAME : MARK ROBINSON

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE WILL BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED.

THE LIGHTING CONTROL CENTERS AFFECTED BY THIS PROJECT ARE AS FOLLOWS:

CONTROL CENTER NO. 7 WILL NOW BE MAINTAINED BY:
THE CITY OF AVON
CONTROL CENTER NO. 8 WILL CONTINUE TO BE MAINTAINED BY:
THE OHIO DEPARTMENT OF TRANSPORTATION

ALSO INCLUDED IN THIS ITEM IS THE RENUMBERING OF POLES REQUIRED WITH THE REASSIGNMENT OF CIRCUITS AS SHOWN IN THE PLANS.

AT THE REQUEST OF THE POWER COMPANY, THE EXISTING POWER SUPPLYING THE S.R. 611 LIGHTING AND SIGNALS SHALL BE METERED SEPARATELY PER THE DETAIL AT RIGHT.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LUMINAIRE, LOW MAST, AS PER PLAN

THE LUMINAIRES SHALL BE AS SPECIFIED FOR HIGH-MAST LUMINAIRES IN CMS 725.21 EXCEPT THAT THE LUMINAIRE ARRAYS AND ASSOCIATED ILLUMINATION TEST AREAS ARE HEREBY WAIVED. IN ADDITION, THE LUMINAIRES FOR LOW-MAST LIGHTING SHALL MEET THE FOLLOWING REQUIREMENTS:

LUMINAIRES FOR LOW-MAST LIGHTING UNITS SHALL MATCH EXISTING LUMINARIES AND BE 400 WATT HIGH PRESSURE SODIUM WITH TYPE III DISTRIBUTION.

625, DISCONNECT CIRCUIT, AS PER PLAN

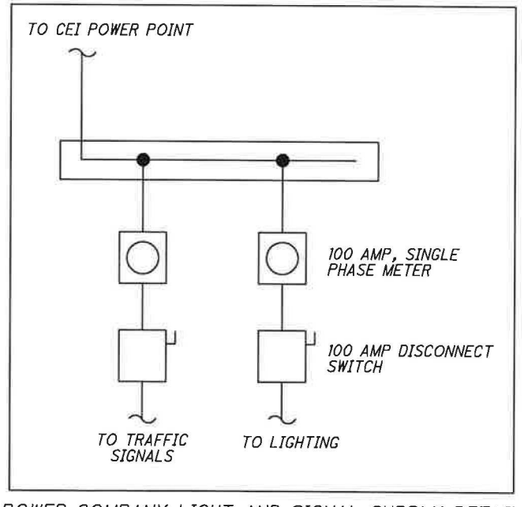
THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PULL BOX OR TRANSFORMER BASE.

DISCONNECTION AT A PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED FROM THE PULL BOX SO THAT NO CABLE IS LEFT IN THE BOX.

DISCONNECTION AT A TRANSFORMER BASE SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL CONNECTOR KITS. ALL DUCT-CABLE NOT TO BE REUSED SHALL BE REMOVED FROM THE TRANSFORMER BASE AND THE EXISTING CONDUIT IN THE FOUNDATION SHALL BE CLEANED OF ALL CABLE AND DEBRIS SO THAT THE NEW DUCT-CABLE CAN BE INSTALLED. ALL EXISTING CABLE TO REMAIN ACTIVE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT CABLE LEFT FOR RECONNECTION.

THOSE WIRES THAT ARE TO REMAIN ON ACTIVE CIRCUITS SHALL HAVE A WATER-RESISTANT SEAL AT THE CUT END. THE WATER-RESISTANT SEAL SHALL BE ACCOMPLISHED BY PLUGGING THE DEACTIVATED PORT OF AN EXISTING CONNECTOR KIT OR BY INSTALLING A CABLE SPLICE KIT ON THE CUT END OF THE CABLE.

PAYMENT SHALL BE MADE AT THE UNIT BID PRICE UNDER CMS ITEM 625, "DISCONNECT CIRCUIT, AS PER PLAN" AT EACH LOCATION WHERE DISCONNECTION IS REQUIRED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.



POWER COMPANY LIGHT AND SIGNAL SUPPLY DETAIL (TYPICAL)

CALCULATED SWC CHECKED JMZ

LIGHTING GENERAL NOTES

LOR-611-9.96

STA. 956+95
EX. POLE B1

STA. 960+37
EX. POLE B2

STA. 963+23
PULL BOX PB-21

STA. 963+60
EX. POLE B3

STA. 963+23
EX. POLE B4

STA. 966+50
PULL BOX PB-19

STA. 969+83
EX. POLE B5

STA. 971+28
PULL BOX PB-17

STA. 971+78
EX. POLE B6

STA. 971+27
EX. POLE B7

STA 967+50
PULL BOX PB-18

STA. 984+93
EX. POLE A1
RENUMBER TO B18

STA. 997+10
PULL BOX PB-11

STA. 994+82
EX. POLE B11

STA. 996+52, 129' RT
EX. CONTROL CENTER NO. 8

STA. 997+99
EX. POLE B12

STA. 1001+36
EX. POLE B13

STA. 987+55, 152' RT
PULL BOX, 725.07, 18"
PB-8-4

MATCHLINE STA. 987+00 IR 90

IR 90 WB

IR 90 EB

RAMP N

RAMP P

960

965

970

975

980

985

990

995

1000

STA. 210+60
EX. POLE A8

STA. 212+50
EX. CONTROL CENTER NO. 7

STA. 212+50
PULL BOX PB-1

STA. 213+45
EX. POLE A7

STA. 217+70
PULL BOX PB-6
TO BE REMOVED

STA. 217+80
EX. POLE A6
COMB. SIGN NO. 41, 350W
REMOVE LUMINAIRE

STA. 216+55
PULL BOX PB-2

STA. 216+55
EX. POLE A5

EX. CABLE, CIRCUIT 7A
TO BE REMOVED
SEE NOTE 2

℄ SR 611

℄ IR 90

STA. 983+61
EX. POLE A3
RENUMBER TO B15

STA. 982+98
EX. POLE A4
RENUMBER TO B16

STA. 983+48
PULL BOX PB-4

STA. 984+93
EX. POLE A2
RENUMBER TO B17

STA. 227+10
EX. POLE B10
COMB. SIGN NO 42, 350W
REMOVE LUMINAIRE

STA. 227+20
PULL BOX PB-14b
TO BE REMOVED

STA. 228+07
PULL BOX PB-15
TO BE REMOVED

STA. 228+07
PULL BOX PB-14a
TO BE REMOVED

STA. 228+75
EX. POLE B8
RENUMBER TO A22

STA. 230+32
EX. POLE B9
TO BE
REMOVED

EX. CABLE, CIRCUIT 8B
TO BE REMOVED
SEE NOTE 1

EX. CABLE, CIRCUIT 8B
TO BE REMOVED
SEE NOTE 2

MATCHLINE STA. 987+00 IR 90

RAMP M

RAMP N

215

220

225

230

R-1

R-2

R-3

R-4

R-5

R-9

R-10

NOTES:

1. REMOVE CABLE FOR CIRCUIT 8B FROM EX. POLE B7 TO PROPOSED PB-8-4 (SEE SHEET 74)

2. REMOVE CABLE FOR CIRCUIT 7A FROM EX. POLE A5 TO EX. POLE A4

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED SWC
CHECKED JMZ

LIGHTING SCHEMATIC / REMOVAL PLAN
IR 90 & SR 611

LOR-611-9.96

67
121

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REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION			625 LIGHT POLE, CONVENTIONAL, A15B35 EACH	625 LIGHT POLE, CONVENTIONAL, AT15B35 EACH	625 LUMINAIRE, LOW MAST, 400 WATT HPS, TYPE III, AS PER PLAN EACH	625 LIGHT POLE FOUNDATION 24" X 6' DEEP EACH	625 NO. 10 AWG POLE AND BRACKET CABLE FT	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE FT	625 CONDUIT, 2", 725.05 FT	625 CONDUIT, JACKED OR DRILLED, 3" FT	625 GROUND ROD EACH	625 TRENCH, 24" DEEP FT	625 PULLBOX, 725.07, 18" X 18" EACH	625 CONNECTION, FUSED PULL APART EACH	625 CONNECTION, UNFUSED PULL APART EACH	625 CONNECTION, UNFUSED PERMANENT EACH		
L-7	70	RT	SR 611	217+51	217+92							166	73			73	1			2		
L-8	70	RT	SR 611	217+92	220+35		1		1	1	100	510	245		1	245		1	1			
L-9	71	RT	SR 611	220+35	224+12							776	756			756	1			2		
L-10	71	RT	SR 611	224+12	227+20							614	297			297	1			2		
L-11	71	RT	SR 611	227+20	228+02							184		82		82	1					
L-12	71	RT	SR 611	228+02	228+70		1		1	1	100	158	69		1	69	1	1	1	4		
L-13	71	RT/LT	SR 611	228+02	228+09							240								2		
L-14	71	LT	SR 611	228+09	227+28							230					1			6		
L-15	71	LT	SR 611	227+28	227+06		1		1	1	100	66	23		1	23	1	1	1			
L-16	71	LT	SR 611	228+09	230+31			1	1	1	100	464	222		1	222		1	1	2		
L-17	73	RT	IR 90	971+27	975+27							820	400			400		1	1			
L-18	73	RT	IR 90	975+27	979+27							820	400			400	1			2		
L-19	73	RT	IR 90	979+27	983+27							820	400			400	1			2		
L-20	73	RT	IR 90	983+27	987+27							820	400			400	1			2		
L-21	74	LT/C	IR 90	987+27	987+27							206		93		93	1			6		
L-22	74	C/RT	IR 90	987+27	987+27							186		83		83	1					
L-23	74	RT	IR 90	987+27	987+55							170		75		75	1			6		
TOTALS CARRIED TO GENERAL SUMMARY							3	1	4	4	400	7250	3285	333	4	3618	13	5	5	38		

CALCULATED JMZ
CHECKED EWP

LIGHTING SUBSUMMARY

LOR-611-9.96

REFERENCE NO.	SHEET NO.	SIDE	ROADWAY	STATION TO STATION			625 PULLBOX REMOVED EACH	625 LIGHT POLE REMOVED EACH	625 LIGHT POLE FOUNDATION REMOVED EACH	625 LUMINAIRE REMOVED EACH	625 DISCONNECT CIRCUIT, AS PER PLAN EACH	625 DISTRIBUTION CABLE REMOVED FT	625 CONDUIT CLEANED AND CABLE REMOVED FT
R-1	67	RT	IR 90/SR 611	971+27	228+07		1				1	914	
R-2	67	RT	SR 611	228+07	228+75		1	1	1	1		77	
R-3	67	LT/RT	SR 611	228+07									109
R-4	67	LT/RT	SR 611/I 90	228+07	997+55						1	635	
R-5	67	LT	SR 611	227+10	228+07		1	1	1	2		26	81
R-9	67	RT	SR 611/I 90	216+55	982+98						1	894	
R-10	67	LT	SR 611	228+07	230+32			1	1	1		464	
TOTALS CARRIED TO GENERAL SUMMARY							3	3	3	4	3	3010	190

CALCULATED SWC
CHECKED JMZ

LIGHTING SUBSUMMARY

LOR-611-9.96

STA. 212+66, 58' LT
EX TYPE II HPS LIGHT
ON WOOD POLE

CHESTER RD

℄ SR 611

10 211 212 213 214

MATCHLINE STA. 215+00 SR 611

STA. 210+60
POLE NUMBER A8

STA. 212+50
EX. PULL BOX PB-1

STA. 212+50, 88' RT
55' SERVICE POLE
EX. CONTROL CENTER 7

STA. 212+50, 84' RT
PULL BOX PB-0

RECREATION DR

RAMP "M"

MATCHLINE STA. 215+00 SR 611

PT Sta. 216+22.41

215 216 217

℄ SR 611

218 219

MATCHLINE STA. 220+00 SR 611

L-7

STA. 217+92, 52.5' RT
400W HPS, TYPE III,
A15B35, A6

CONDIUT, 2", 725.05

L-8

CONDUIT, 2", 725.05

STA. 217+51, 59' RT
PULL BOX, 725.07, 18"
(NO SPLICES)

RAMP "R"

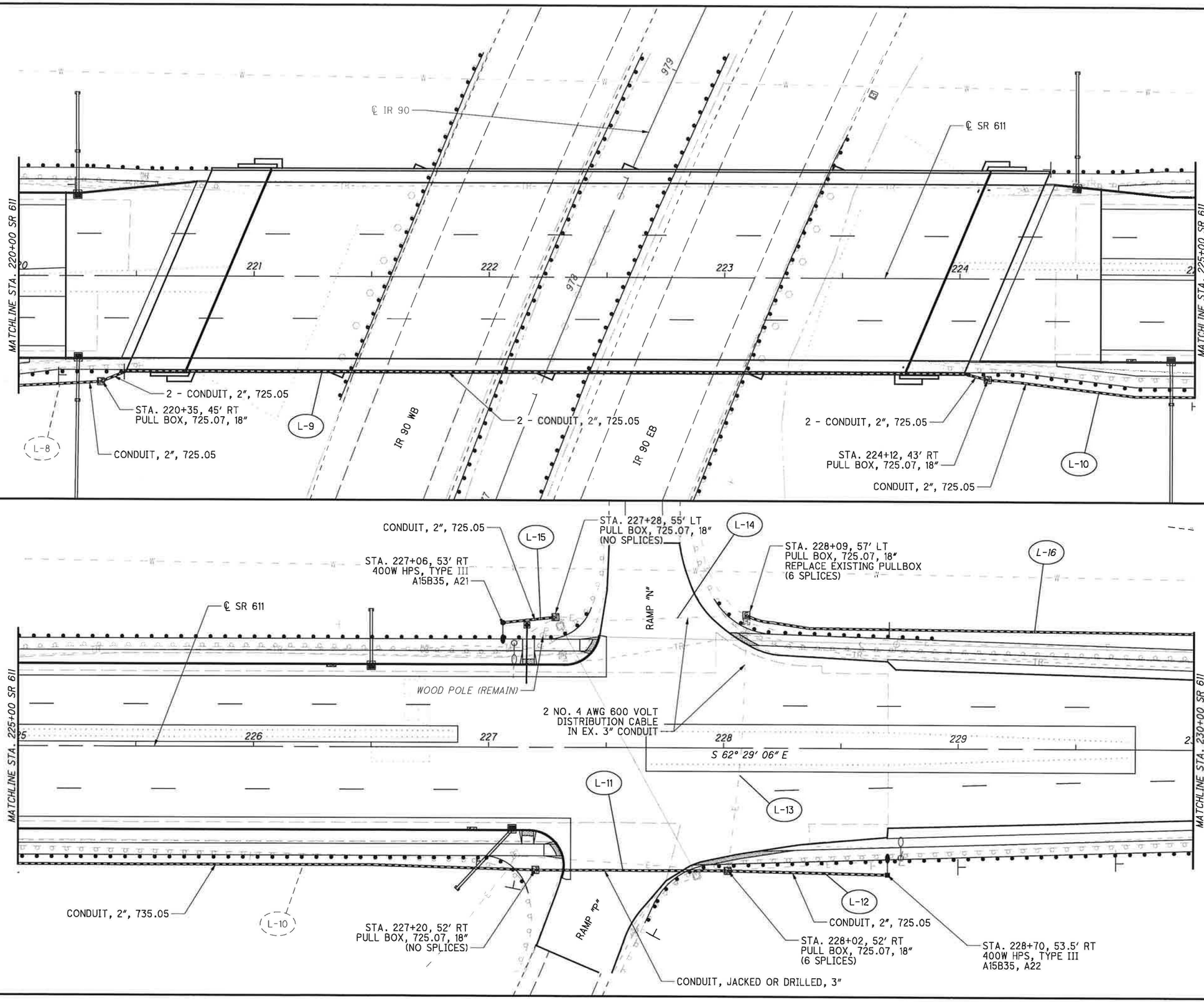
HORIZONTAL
SCALE IN FEET
0 10 20 40

CALCULATED SWC
CHECKED JMZ

LIGHTING PLAN - SR 611
STA. 210+00 TO STA. 220+00

LOR-611-9.96

70
121

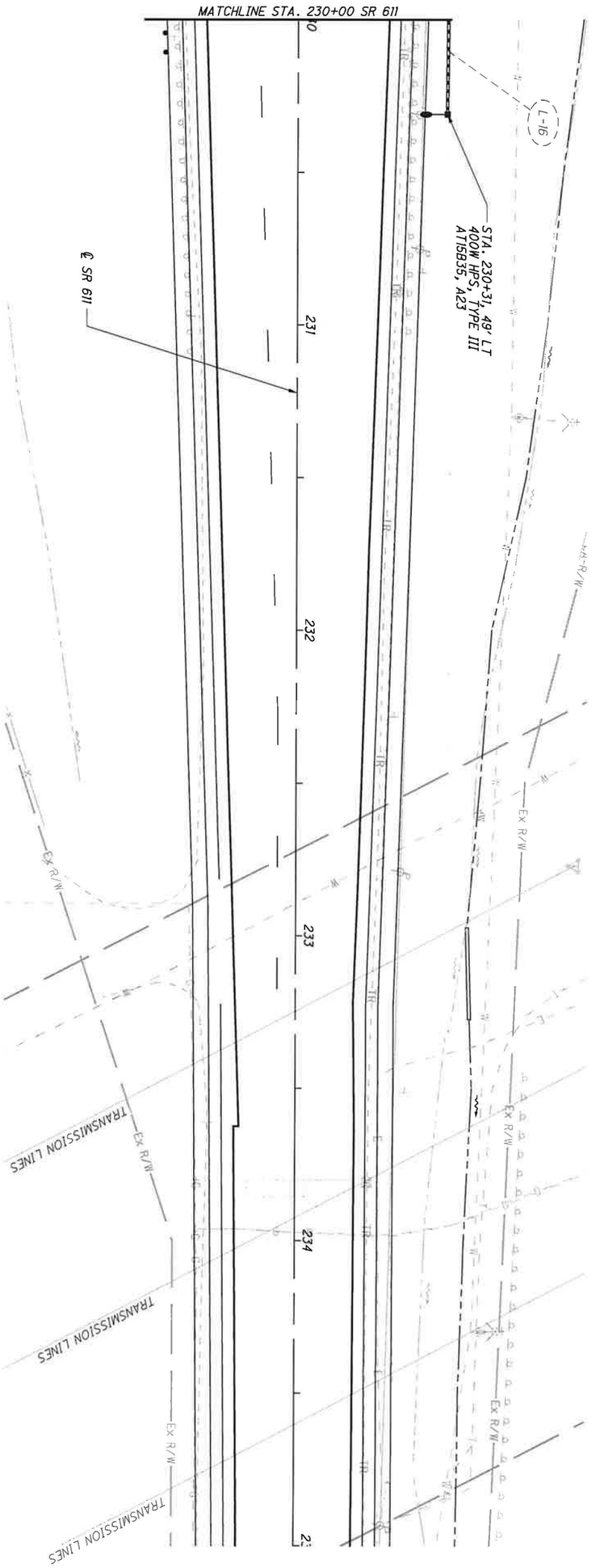


HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED SWC
CHECKED JMZ

LIGHTING PLAN - SR 611
STA. 220+00 TO STA. 230+00

LOR-611-9.96



72/121	LOR-611-9.96	LIGHTING PLAN - SR 611 STA. 230+00 TO STA. 235+00	CALCULATED SWC CHECKED JMZ	0 20 10 40 HORIZONTAL SCALE IN FEET

EX. DUCT CABLE
TO BE REMOVED
SEE SHEET 67

STA. 983+98
PULL BOX PB-4
2-TYPE VII B

STA. 982+98
EX. POLE A4
RENUMBER TO B16

℄ SR 611

RAMP R

RAMP M

℄ IR 90

CONNECT NEW CIRCUIT B
TO EXISTING CIRCUIT B

STA. 983+61
EX. POLE A3
RENUMBER TO B15

IR 90 WB

IR 90 EB

MATCHLINE STA. 970+00 IR 90

MATCHLINE STA. 984+00

970 971 972 973 974 975 976 977 978 979 980 981 982 983

218 219 220 221 222 223 224 225 226 227 228

CC Sta. 974+45.56

CC Sta. 976+45.57

L-17

L-18

L-19

L-20

CONDUIT, 2", 725.05

STA. 975+27, 82' RT
PULL BOX, 725.07, 18"

CONDUIT, 2", 725.05

CONDUIT, 2", 725.05

STA. 979+27, 80' RT
PULL BOX, 725.07, 18"

STA. 983+27, 82' RT
PULL BOX, 725.07, 18"

CONDUIT, 2", 725.05

RAMP P

RAMP N

EX. WIRING
DO NOT DISTURB

STA. 971+78
EX. POLE B6

STA. 971+27
EX. POLE B7

STA. 971+28
PULL BOX PB-17
2-TYPE VIII B

EX. DUCT CABLE
TO BE REMOVED
SEE SHEET 67

EX. DUCT CABLE
TO BE REMOVED
SEE SHEET 67

S 62° 29' 06" E

HORIZONTAL
SCALE IN FEET
0 25 50 100

CALCULATED SWC
CHECKED JMZ

LIGHTING PLAN - IR 90
STA. 970+00 TO STA. 984+00

LOR-611-9.96

73
121

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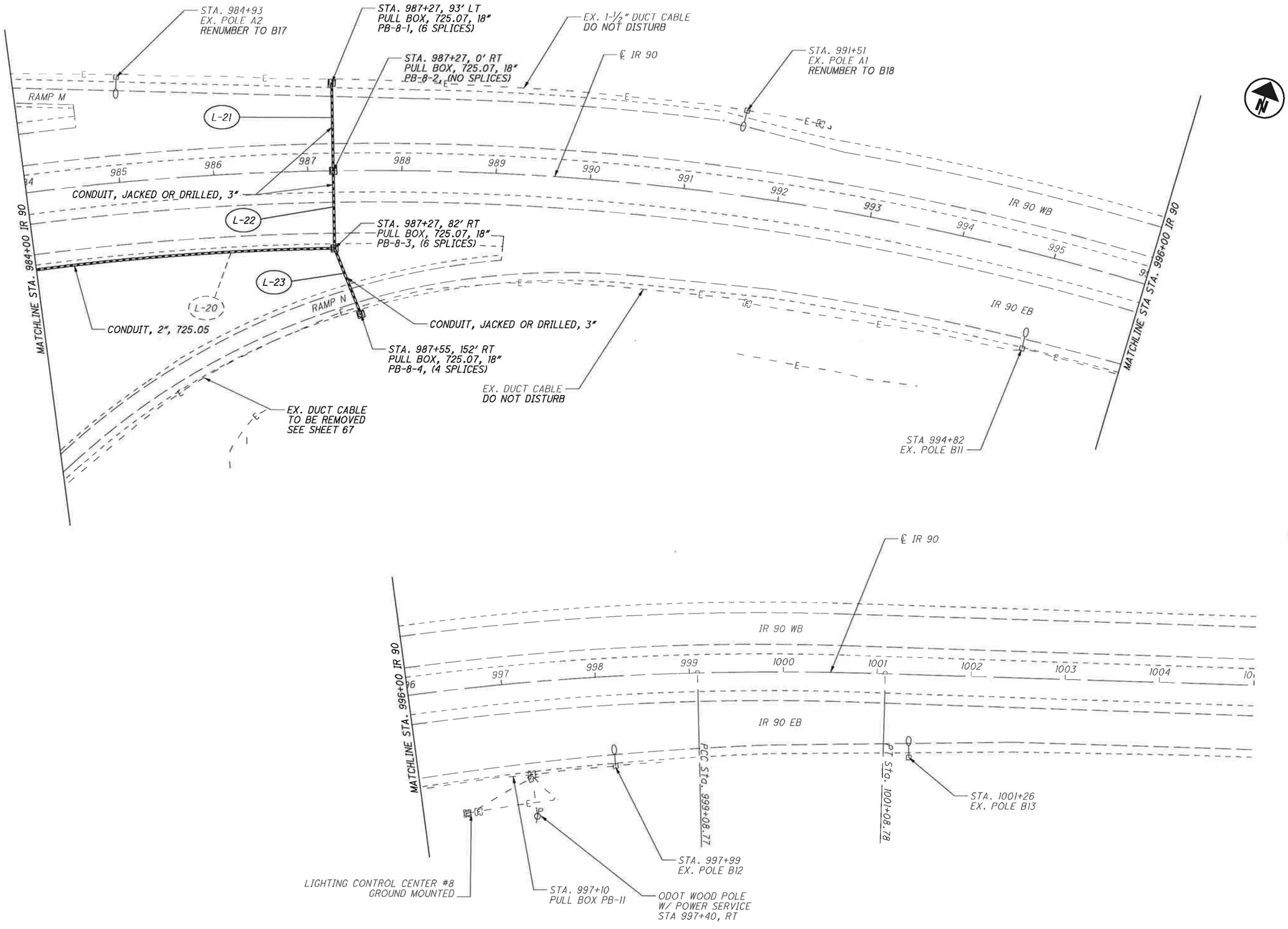

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HORIZONTAL SCALE IN FEET
0 25 50 100

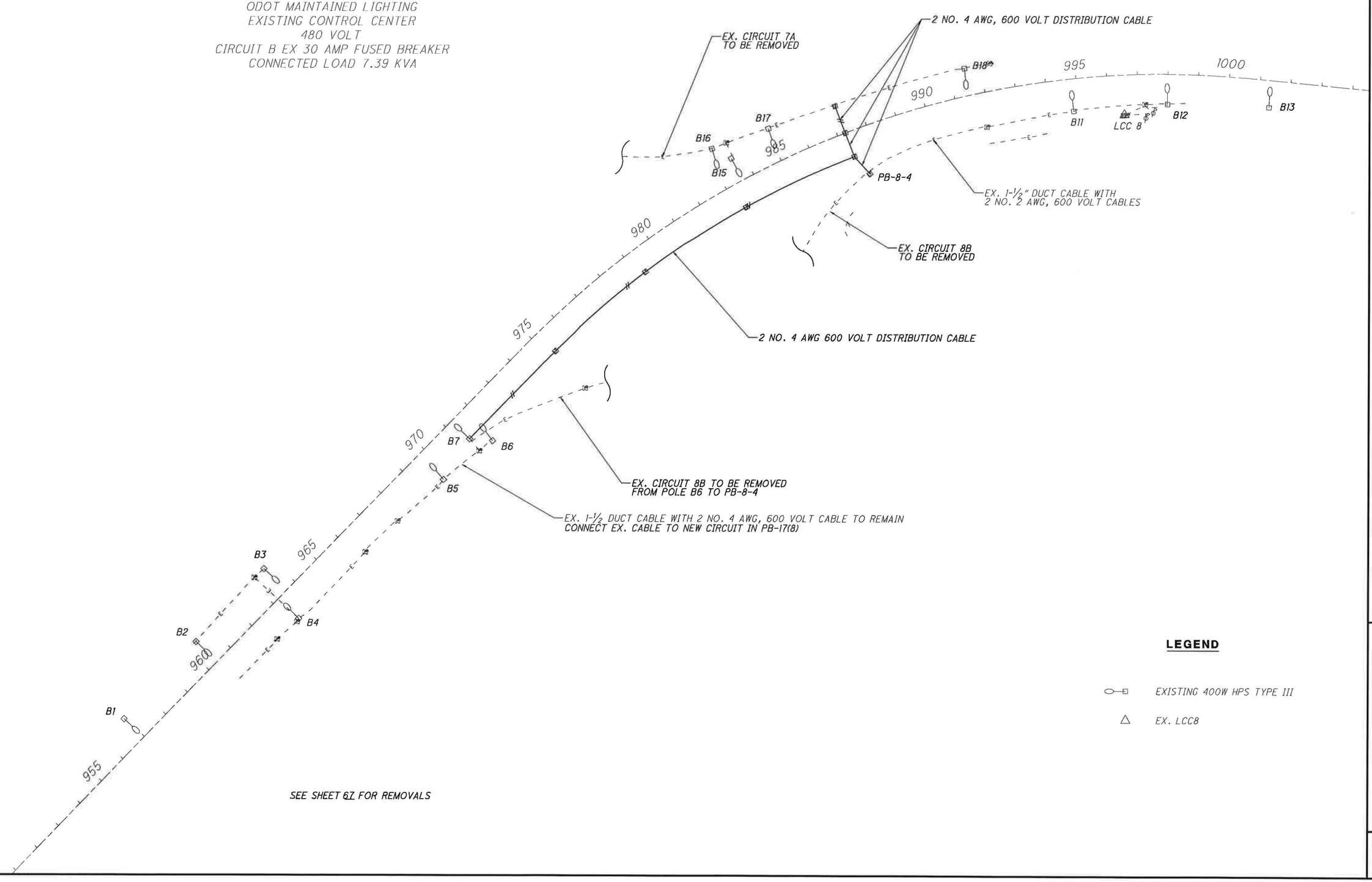
CALCULATED SWC
CHECKED JMZ

LIGHTING PLAN - IR 90
STA. 984+00 TO STA. 1005+00

LOR-611-9.96

CIRCUIT B - LIGHTING CONTROL CENTER 8

ODOT MAINTAINED LIGHTING
EXISTING CONTROL CENTER
480 VOLT
CIRCUIT B EX 30 AMP FUSED BREAKER
CONNECTED LOAD 7.39 KVA



LEGEND

- EXISTING 400W HPS TYPE III
- EX. LCC8

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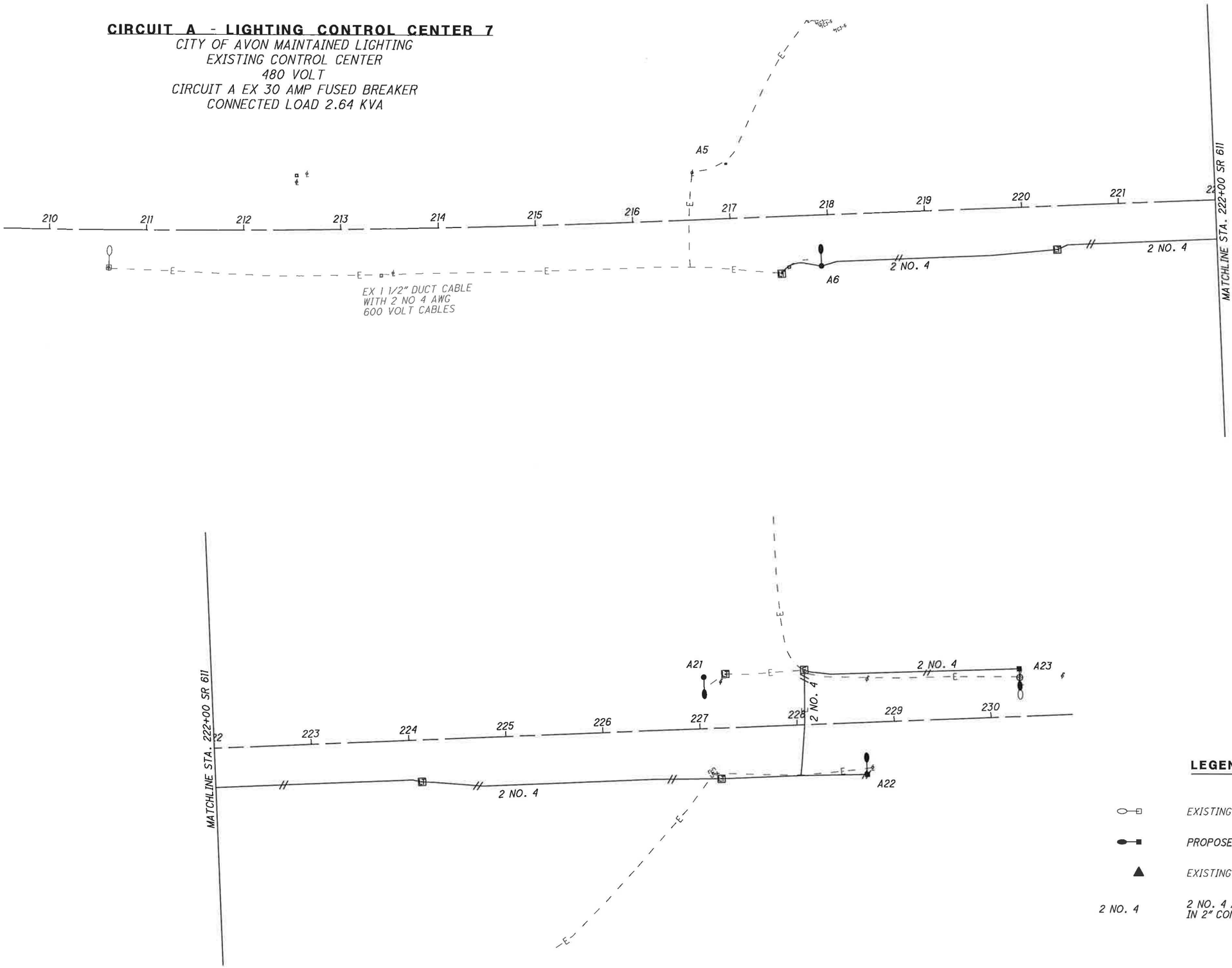
CALCULATED JNZ
CHECKED —

LIGHTING CIRCUIT DIAGRAM - I-90

LOR-611-9.96

CIRCUIT A - LIGHTING CONTROL CENTER 7

CITY OF AVON MAINTAINED LIGHTING
EXISTING CONTROL CENTER
480 VOLT
CIRCUIT A EX 30 AMP FUSED BREAKER
CONNECTED LOAD 2.64 KVA



LEGEND

- EXISTING 400W HPS TYPE III
- PROPOSED 400W HPS TYPE III
- EXISTING LIGHTING CONTROL CENTER
- 2 NO. 4 — 2 NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE IN 2" CONDUIT (3" UNDER PAVEMENT)

CALCULATED JMZ
CHECKED

LIGHTING CIRCUIT DIAGRAM - SR 611

LOR-611-9.96

76
121

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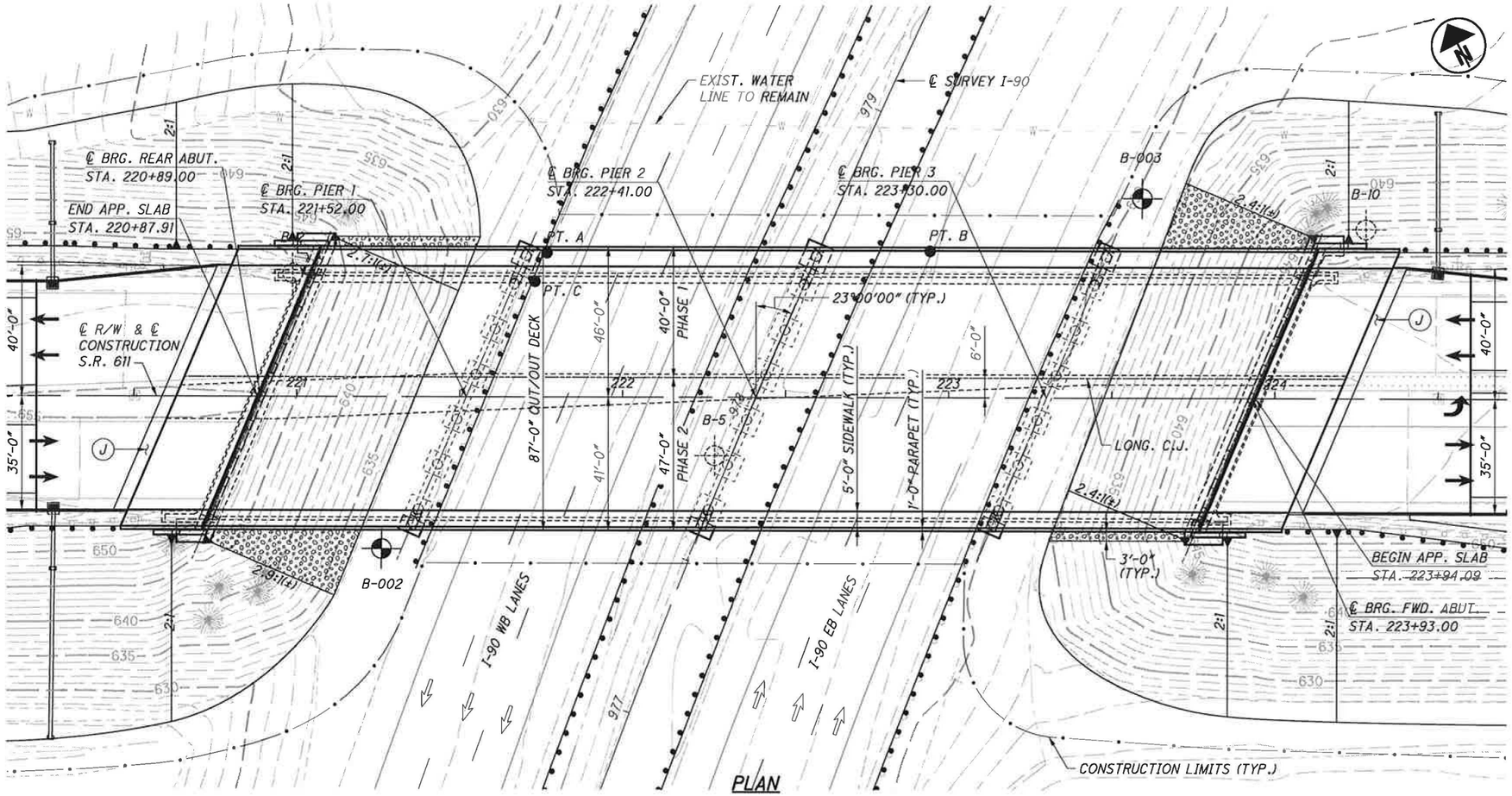
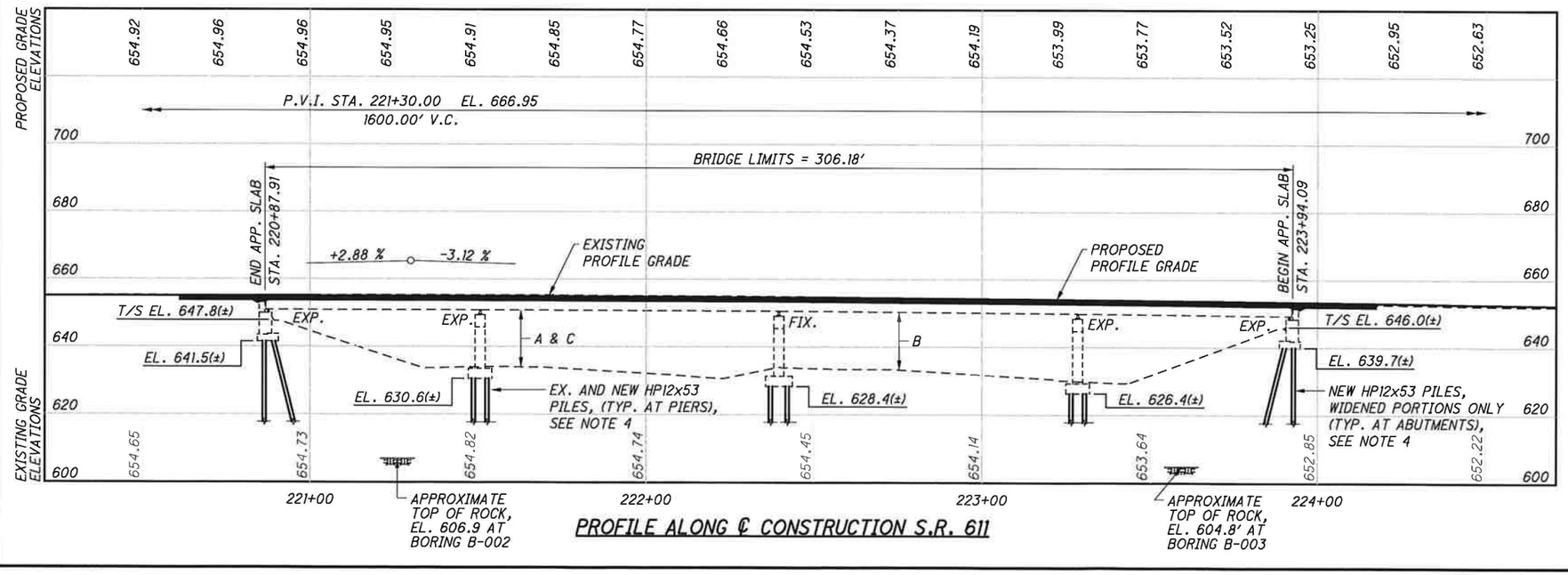


PLAN



PROFILE ALONG ℄ CONSTRUCTION S.R. 611

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR BENCHMARK INFORMATION, SEE ROADWAY SCHEMATIC PLAN, SHEET 2 OF 121.
3. ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES ARE TO REMAIN UNLESS NOTED OTHERWISE.
4. ESTIMATED PAY LENGTHS FOR HP12x53 PILES ARE 40' FOR THE REAR AND FORWARD ABUTMENTS, 30' FOR PIER 1 AND PIER 2, AND 25' FOR PIER 3.

LEGEND

- 2011 SOIL BORING LOCATION
- 1965 SOIL BORING LOCATION
- (J) - PRESSURE RELIEF JOINT, TYPE A

VERTICAL CLEARANCES

POINT	EXISTING	PROPOSED	REQUIRED
A	N/A	16.11'	16.50'
B	N/A	16.39'	16.50'
C	16.16'	16.16'	16.50'

TRAFFIC DATA

CURRENT ADT (2013) = 31,864 DESIGN ADT (2033) = 41,423
CURRENT ADTT (2013) = 2,950 DESIGN ADTT (2033) = 3,834
DIRECTIONAL DISTRIBUTION = 50%

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 63'-0"(±), 89'-0"(±), 89'-0"(±), 63'-0"(±) c/c BEARINGS
ROADWAY: 70'-0"(±) F/F OF 2'-0"(±) SAFETY CURBS
LOADING: CF 400(57)
SKEW: 23°00'00"(±) LEFT FORWARD
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0"(±) LONG MODIFIED)
ALIGNMENT: TANGENT
CROWN: 0.0156(±) FT/FT
DATE BUILT: 1970
STRUCTURE FILE NUMBER: 4707478

PROPOSED STRUCTURE

PROPOSED WORK: REHABILITATE AND WIDEN THE EXISTING STRUCTURE INCLUDING A NEW REINFORCED CONCRETE DECK AND WIDENED SUBSTRUCTURES, REPLACE APPROACH SLABS, AND PAINT EXISTING STEEL.
TYPE: CONTINUOUS STEEL BEAM COMPOSITE WITH REINFORCED CONCRETE DECK AND REINF. CONCRETE SUBSTRUCTURE
SPANS: 63'-0", 89'-0", 89'-0", 63'-0" c/c BEARINGS
ROADWAY: 75'-0" TOE/TOE CURBS, 5'-0" SIDEWALKS
LOADING: HS20-44, CASE II, AND THE ALTERNATE MILITARY LOADING; FUTURE WEARING SURFACE = 60 PSF
SKEW: EXISTING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-81 (25'-0" LONG MODIFIED)
ALIGNMENT: EXISTING
CROWN: 0.016 FT/FT
LATITUDE: 41°27'49" N
LONGITUDE: 82°03'18" W

DLZ
614 W. SUPERIOR AVE., SUITE 1300 • CLEVELAND, OHIO 44113

REVIEWED DOR 06/27/2012
DRAWN BPS
DESIGNED BPS
CHECKED MJL
DATE
STRUCTURE FILE NUMBER 4707478
REVISED

LORAIN COUNTY
STA. 220+87.91
STA. 223+94.09

SITE PLAN
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

1 / 45
77 / 121

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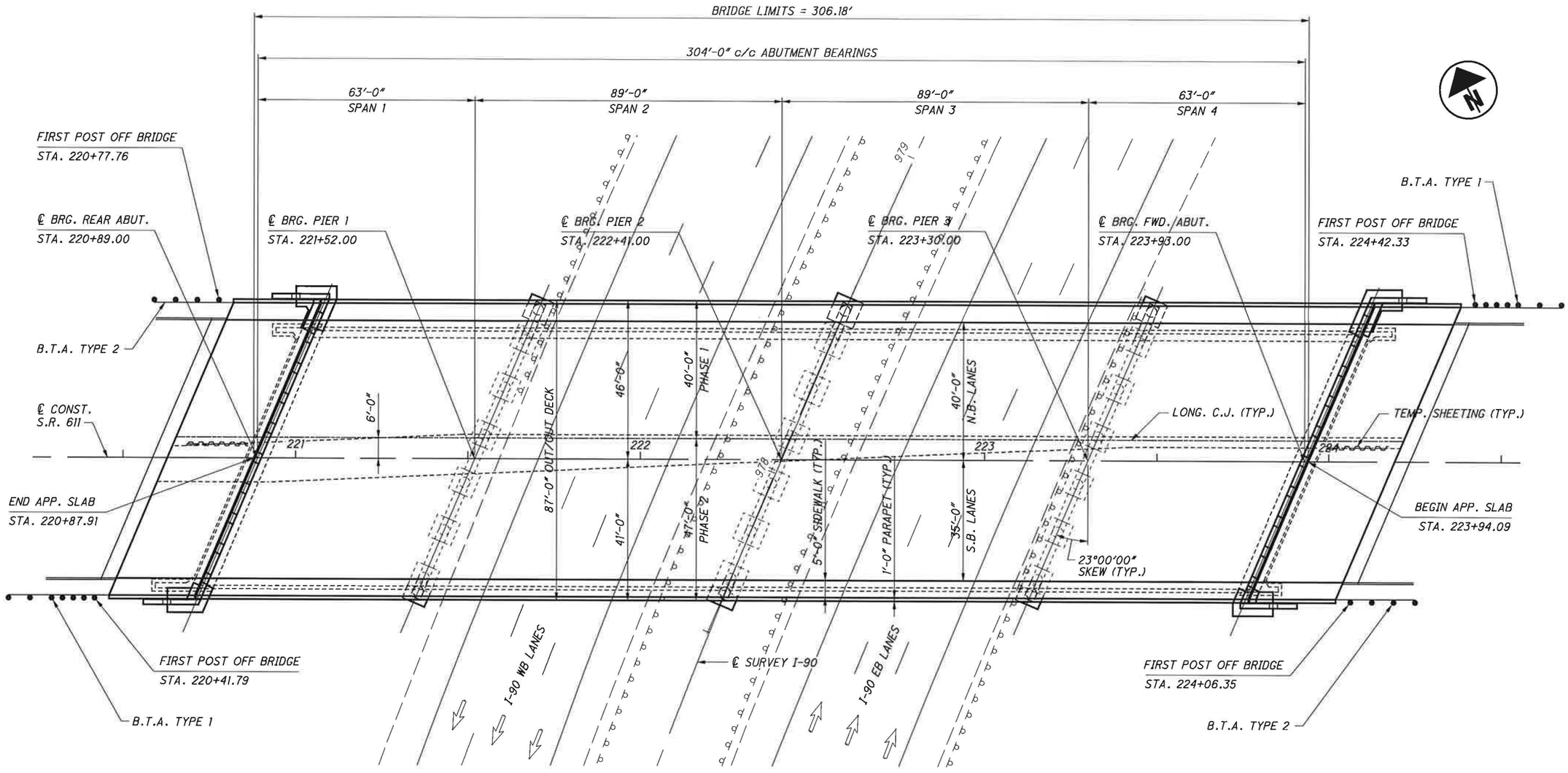

GENERAL PLAN

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DLZ
634 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BPS	BPS	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PAT		4707478	

GENERAL PLAN
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

2 / 45

78
121

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	DATED (REVISED)	07-19-02
BR-2-98	DATED (REVISED)	07-20-12
EXJ-4-87	DATED (REVISED)	07-19-02
GSD-1-96	DATED (REVISED)	07-19-02
PCB-91	DATED (REVISED)	07-19-02
RB-1-55	DATED (REVISED)	02-02-59
VPF-1-90	DATED (REVISED)	04-15-11

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	10-19-12
823	DATED	07-20-12
898	DATED	10-21-11

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, AND THE ODOT 2004 BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20-44 (CASE II) AND THE ALTERNATE MILITARY LOADING
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN DATA:

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL - ASTM A709 GRADE 50, YIELD STRENGTH 50,000 PSI.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

EXISTING STRUCTURE VERIFICATION:

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

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

EXISTING STRUCTURE PLANS:

PLANS MAY BE EXAMINED BY THE PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 3 OFFICE, 906 CLARK AVENUE, ASHLAND, OH 44805, TEL (800) 276-4188.

MAINTENANCE OF TRAFFIC:

MAINTENANCE OF TRAFFIC FOR THE STRUCTURE WORK SHALL BE COORDINATED WITH THE OVERALL PROJECT. REFER TO THE MAINTENANCE OF TRAFFIC NOTES AND DETAILS ELSEWHERE IN THE PLANS.

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

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM EXISTING STEEL SUPPORTING SYSTEMS (BEAMS, CROSS FRAMES, ETC.) AND THE REMOVAL OF PORTIONS OF THE EXISTING SUBSTRUCTURE AS DETAILED IN THE PLANS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE REMOVALS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO THE FOLLOWING:

1. EXISTING BRIDGE DECK, INCLUDING CONCRETE DECK SLAB, RAISED MEDIAN, SAFETY CURBS, AND PARAPETS.
2. PORTIONS OF EXISTING ABUTMENT BACKWALLS, WINGWALLS AND FOOTINGS AS SHOWN IN THE PLANS, INCLUDING SAW CUTTING.
3. PORTIONS OF EXISTING PIER CAPS AND FOOTINGS AS SHOWN IN THE PLANS, INCLUDING SAW CUTTING.
4. EXISTING STEEL END DAMS, SLIDING PLATE EXPANSION JOINTS, END CROSSFRAMES, AND INTERMEDIATE CROSSFRAMES AS SHOWN ON THE PLANS.
5. EXISTING ROCKER BEARINGS AT THE ABUTMENTS.
6. EXISTING SCUPPERS, INCLUDING SUPPORTS.
7. EXISTING 3" DIAMETER TRAFFIC CONDUIT SUPPORTED ON SUPERSTRUCTURE CROSSFRAMES AND EXISTING ABUTMENT WINGWALLS, INCLUDING ALL WIRING, IN PHASE 1 AFTER DISCONNECTION OF THE EXISTING TRAFFIC SIGNAL INTERCONNECT.
8. MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN (CONT.):

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. 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.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

PILES TO BEDROCK:

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING HARD BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. INSTEAD OF DRIVING TO REFUSAL, THE CONTRACTOR MAY PERFORM DYNAMIC LOAD TESTING ACCORDING TO CMS 523 TO ESTABLISH A DRIVING CRITERIA FOR EACH PILE TYPE AND CAPACITY. ESTABLISH THE DRIVING CRITERIA TO ACHIEVE THE ULTIMATE BEARING VALUE GIVEN BELOW FOR THE PILES. PAYMENT FOR DYNAMIC LOAD TESTING PERFORMED AT THE CONTRACTOR'S OPTION IS INCLUDED IN THE UNIT PRICE PAY ITEM FOR PILES DRIVEN.

THE ULTIMATE BEARING VALUE IS 102 KIPS PER PILE FOR THE ABUTMENT PILES.

THE ULTIMATE BEARING VALUE IS 134 KIPS PER PILE FOR THE PIER PILES.

REAR ABUTMENT PILES:
HP12x53 PILES 45 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
HP12x53 PILES 45 FEET LONG, ORDER LENGTH

PIER 1 PILES:
HP12x53 PILES 35 FEET LONG, ORDER LENGTH

PIER 2 PILES:
HP12x53 PILES 35 FEET LONG, ORDER LENGTH

PIER 3 PILES:
HP12x53 PILES 30 FEET LONG, ORDER LENGTH

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DESIGNED PAT | DRAWN PAT | REVIEWED DOR | DATE 06/27/2012
CHECKED BPS | REVISED | STRUCTURE FILE NUMBER 4707478

STRUCTURE GENERAL NOTES - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

3 / 45

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INSPECTION OF STRUCTURAL STEEL:

THE ENGINEER SHALL VISIBLY INSPECT ALL EXISTING TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THAT THEY ARE FREE OF DEFECTS. THE DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS SHALL NOT BE ERECTED UNTIL AFTER THE ENGINEER HAS COMPLETED THIS INSPECTION. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL AFTER THE TOP FLANGES ARE CLEANED AS SPECIFIED IN 511.10, BUT IT SHALL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE COST ASSOCIATED WITH THIS INSPECTION SHALL BE INCLUDED WITH ITEM 511 - CLASS S CONCRETE, SUPERSTRUCTURE.

ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL

COLOR OF THE FINISH COAT SHALL BE BLUE (FEDERAL COLOR NO. 595B, 15526).

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING, REPOSITIONING, AND TEMPORARILY SUPPORTING THE EXISTING BEAMS AT THE REAR AND FORWARD ABUTMENTS FOR THE PURPOSE OF RESTORING THE BEAMS TO THEIR ORIGINAL GRADE, REPLACING THE EXISTING ROCKER BEARINGS WITH ELASTOMERIC BEARINGS, REPAIRING THE EXISTING BEAM ENDS, AND RECONSTRUCTING THE ABUTMENT SEAT.

LIMIT JACKING OPERATIONS TO THE EXISTING BEAMS AFTER REMOVAL OF THE EXISTING DECK SLAB AND BEFORE CONSTRUCTION OF THE NEW DECK SLAB, IN ACCORDANCE WITH THE PHASE CONSTRUCTION SEQUENCE SHOWN IN THE PLANS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN

DESCRIPTION: THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS WITH SIDEWALKS AND PARAPETS IN ACCORDANCE WITH THE DETAILS IN THE PLANS AND ODOT STANDARD DRAWINGS AS-1-81 AND BR-2-98.

MATERIALS: CONCRETE FOR THIS ITEM, INCLUDING APPROACH SLABS, SIDEWALKS, CURBS, AND PARAPETS SHALL BE ITEM 511 - CLASS S CONCRETE. USE THE SAME MIX DESIGN FOR ITEM 526 AS IS USED FOR THE BRIDGE DECK, PARAPET, AND SIDEWALK.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, EPOXY COATED REINFORCING STEEL, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT. PAYMENT WILL BE MADE UNDER ITEM 898 - QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN.

ITEM 607 - VANDAL PROTECTION FENCE, 6 FOOT STRAIGHT, COATED FABRIC, AS PER PLAN:

THIS ITEM SHALL BE AS PER THE DETAILS IN THE PLANS, THE APPLICABLE PORTIONS OF STANDARD DRAWING VPF-1-90, AND THE MANUFACTURER'S RECOMMENDATIONS.

THE FENCE POST ANCHORS SHALL BE CAST IN PLACE.

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE 6 FOOT STRAIGHT, COATED FABRIC, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL - URETHANE TOP COAT SEALER

THE URETHANE TOP COAT SEALER SHALL BE AS PER ITEM 512. THE COLOR OF THE URETHANE TOP COAT SEALER SHALL MATCH THAT OF THE EPOXY-URETHANE SEALER. THE URETHANE TOP COAT SEALER SHALL BE APPLIED OVER THE FIBER WRAP EPOXY COATING PER THE NOTE FOR:

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM SPECIAL - URETHANE TOP COAT SEALER, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE BRIDGE SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

THE BRIDGE WHICH WAS SURVEYED AND CONTAINED NO ASBESTOS IS: LOR-611-9.96 (SFN 4707478) OVER I-90.

THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) DOES NOT REQUIRE THE SUBMISSION OF THE COMPLETED OEPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM FOR BRIDGE REHABILITATION PROJECTS WHERE NO ASBESTOS HAS BEEN FOUND.

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT, DISTRICT 3 OFFICE AT 906 N. CLARK STREET, ASHLAND, OHIO.

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DESIGNED	DRAWN	REVIEWED	DATE
PAT	PAT	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPS		4707478	

STRUCTURE GENERAL NOTES - 2
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

4 / 45

80 / 121

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM

DESCRIPTION:

THIS WORK SHALL CONSIST OF PROVIDING AND INSTALLING A FIBER WRAP COLUMN PREPARATION, WRAPPING THE COLUMN, AND ALL INCIDENTALS NECESSARY TO COMPLETE.

THE INSTALLATION SHALL BE PER THE MANUFACTURER'S REQUIREMENTS.

MATERIALS:

SUPPLIERS SHALL HAVE A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 1000 HOUR TESTS FOR 140° F WATER, SALT WATER, ALKALINE SOIL, OZONE, AND EFFERVESCENCE IN ADDITION TO THE REQUIREMENTS LISTED BELOW.

THE FABRIC FOR THE COMPOSITE CASING SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE (E) ELECTRICAL GLASS FIBERS. THE FIBER SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 0.05 INCHES. THE MINIMUM WEIGHT OF THE FABRIC SHALL BE 27.0 OUNCES PER SQUARE YARD.

THE EPOXY SHALL BE AS SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN BELOW. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

THE COMPOSITE OF THE FIBER WRAPPED COLUMN CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENTS	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI. MIN. IN PRIMARY FIBER DIRECTION	60,000 PSI	D3039, AVERAGE OF 7, 1" BY 10", NORMALIZED TO 0.80" THICK, 0.01" PER MINUTE TESTING SPEED
ULTIMATE TENSILE STRENGTH, PSI. MIN. IN ORTHOGONAL FIBER DIRECTION	3,000 PSI	D3039, AVERAGE OF 7, 1" BY 10", NORMALIZED TO 0.80" THICK, 0.01" PER MINUTE TESTING SPEED
TENSILE STRENGTH (MIN. AFTER TEST), 1000 HOURS EXPOSURE TO 100% HUMIDITY	60,000 PSI	C581
TENSILE STRENGTH (MIN. AFTER TEST), 1000 HOURS EXPOSURE TO OZONE	60,000 PSI	D1149 EXCEPT NOT UNDER STRESS DURING OZONE EXPOSURE
TENSILE STRENGTH (MIN. AFTER TEST), 1000 HOURS EXPOSURE TO ALKALI	60,000 PSI	D3083 USING SOIL BURIAL - WATER CONTENT OF 73% ± 3%
TENSILE STRENGTH (MIN. AFTER TEST), 1000 HOURS EXPOSURE TO SALT WATER	60,000 PSI	C581 & D1141 OMITTING ADDITION OF HEAVY METAL REAGENTS
TENSILE STRENGTH (MIN. AFTER TEST), 1000 HOURS EXPOSURE AT 140° F	60,000 PSI	D3045
TENSILE STRENGTH (MIN. AFTER TEST), ULTRAVIOLET (UV) EXPOSURE	60,000 PSI	G154 USING FS40 UV-B BULBS FOR MIN. 40 CYCLES. THE CYCLE SHALL BE 4 HOURS OF CONDENSATE EXPOSURE AT 40° C.
ELONGATION: PERCENT, MIN. PERCENT, MAX.	 1.7% 5.0%	
TENSILE MODULUS, PSI MIN. OF PRIMARY FIBERS	3,000,000	D3039
VISUAL DEFECTS	ACCEPTANCE LEVEL III	D2563
COEFFICIENT OF THERMAL EXPANSION IN THE PRIMARY DIRECTION	4,300,000 PPM/DEG. F (+15%)	D696

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM (CONT.)

ACCEPTABLE COMPOSITE FIBER WRAP SYSTEMS INCLUDE THE FOLLOWING:

1) MBRACE EG 900, AS MANUFACTURED BY:

BASF BUILDING SYSTEMS
889 VALLEY PARK DRIVE
SHAKOPEE, MN 55379
PHONE: 800-433-9517
www.buildingsystems.basf.com

2) SIKAWRAP HEX 107G, AS MANUFACTURED BY:

SIKA CORPORATION
201 POLITO AVENUE
LYNDHURST, NJ 07071
PHONE: 800-933-7452
www.sikausa.com

OR APPROVED EQUAL. THE PROPOSED ALTERNATE COMPOSITE SYSTEM MUST BE APPROVED BY THE ENGINEER TWO WEEKS PRIOR TO THE START OF THE INSTALLATION OF THE WRAP.

SURFACE PREPARATION:

THE SURFACE TO RECEIVE THE COMPOSITE WRAP SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE THE FIBER. IF FIBERS ARE TO WRAP AROUND CORNERS OF RECTANGLE CROSS-SECTIONS, THE CORNERS SHALL BE ROUNDED TO ½ INCH RADIUS. THIS WILL HELP PREVENT STRESS CONCENTRATIONS IN THE FIBER WRAP AND VOIDS BETWEEN THE FIBER WRAP AND THE CONCRETE. IN ADDITION, THE SURFACE SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE FIBER WRAP.

THE CONTACT SURFACES OF THE CONCRETE SHALL BE COMPLETELY DRY OF MOISTURE AND FROST AT THE TIME OF APPLICATION OF THE COMPOSITE. THE CONTRACTOR SHALL EVALUATE MOISTURE TRANSMISSION IN ACCORDANCE WITH ASTM D4263 "INDICATING MOISTURE IN CONCRETE BY THE PLASTIC SHEET METHOD."

ALL CONCRETE SURFACES SHALL BE SOUND. REMOVE DETERIORATED CONCRETE, DUST, LAITANCE, GREASE, PAINT, CURING COMPOUNDS, WAXES, IMPREGNATIONS, FOREIGN PARTICLES, AND OTHER BOND INHIBITING MATERIALS FROM THE SURFACE BY BLAST CLEANING OR EQUIVALENT MEANS.

THE PATCHED SURFACES SHALL BE ALLOWED TO CURE FOR 14 DAYS BEFORE APPLICATION OF THE COMPOSITE FIBER WRAP SYSTEM. ALL CONCRETE SHALL BE CURED ACCORDING TO THE CMS 511 PRIOR TO INSTALLATION OF THE COMPOSITE.

ALL CONCRETE SURFACES SHALL BE AIR BLASTED AND VACUUMED CLEAN TO A DUST FREE CONDITION.

THE CONCRETE SURFACE SHOULD BE PREPARED TO A MINIMUM CONCRETE SURFACE PROFILE (CSP) 3 AS DEFINED BY THE ICRI SURFACE PROFILE CHIPS.

CONCRETE SURFACE IRREGULARITIES LESS THAN ONE INCH SHALL BE GROUND AND SMOOTHED AND/OR FILLED WITH AN APPROVED REPAIR MORTAR WITH THE ADDITION OF 1 PART OVEN DRIED SAND TO MAKE AN EPOXY MORTAR. SURFACE IRREGULARITIES SHALL BE LIMITED TO LESS THAN 0.04 INCHES (1 MM). SURFACE IRREGULARITIES GREATER THAN ONE INCH SHALL BE REPAIRED USING AN APPROVED CEMENTITIOUS REPAIR MORTAR. ANY SHARP EDGES (E.G. FINS, FORM LINES, ETC.) MUST BE GROUND SMOOTH AND FLUSH.

COMPOSITE APPLICATION:

THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55° F AND 95° F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5° F ABOVE THE DEW POINT. APPLICATION SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL ENSURE COMPLETE SATURATION OF THE FABRIC.

THE FABRIC/EPOXY COMPOSITE SHALL BE APPLIED TO THE SURFACE OF THE COLUMN BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN ½ INCH PER FOOT. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OUT BEFORE THE EPOXY SETS.

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM (CONT.)

SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO DRY TO ACHIEVE ADEQUATE BOND BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS, THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

THE FINAL LAYER OF EPOXY SHALL BE APPLIED TO THE FINAL LAYER OF FABRIC, WITH CARE TAKEN TO ENSURE COATING OF ALL EDGES AND SEAMS. SPACES BETWEEN THE BANDS OF FABRIC SHALL BE FILLED WITH EPOXY THICKENED AS DIRECTED BY THE MANUFACTURER.

A FINAL INSPECTION SHALL BE PERFORMED ON ALL FIBER WRAPPED COLUMNS AFTER THE EPOXY SETS YET PRIOR TO THE APPLICATION OF THE URETHANE TOP COAT. ALL DEFECTS (INCLUDING BUBBLES, DELAMINATIONS, AND FABRIC TEARS) MORE THAN 1 SQUARE INCH OF THE SURFACE AREA, OR AS SPECIFIED BY THE PROJECT ENGINEER, SHALL BE REPAIRED AS SUCH:

1) SMALL DEFECTS (ON THE ORDER OF 6" DIAMETER) SHALL BE INJECTED OR BACK FILLED WITH EPOXY.

2) BUBBLES LESS THAN 12" IN DIAMETER SHALL BE REPAIRED BY INJECTING WITH EPOXY. TWO HOLES SHALL BE DRILLED INTO THE BUBBLE TO ALLOW INJECTION OF THE EPOXY AND ESCAPE OF ENTRAPPED AIR.

3) BUBBLES, DELAMINATIONS, AND FABRIC TEARS GREATER THAN 12" IN DIAMETER SHALL BE REPAIRED BY REMOVING AND REAPPLYING THE REQUIRED NUMBER OF LAYERS OF THE COMPOSITE AND THE REQUIRED FINISH COATINGS. ALL REPAIRS SHALL BE APPROVED BY THE PROJECT ENGINEER.

COATING SYSTEM APPLICATION:

A FINAL URETHANE COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION, AND TO GIVE THE FINAL AESTHETIC EFFECT.

AFTER 96 HOURS FROM THE FINAL APPLICATION OF EPOXY, IF THE FINAL EPOXY COAT IS COMPLETELY POLYMERIZED, THE EXTERIOR SURFACES OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE APPLYING THE URETHANE COATING.

MEASUREMENT AND PAYMENT:

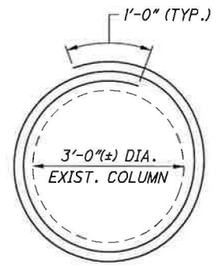
THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PROVIDE AND INSTALL A FIBER WRAP COLUMN CASING SYSTEM USING HIGH STRENGTH, HYBRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE COLUMN, INCLUDING ERECTION OF SCAFFOLDING, CLEANING, SURFACE PREPARATION, WRAPPING THE COLUMN, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION PER THE MANUFACTURER'S REQUIREMENTS.

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM (CONT.)

PIER COLUMNS TO BE FIBER WRAPPED ARE INDENTIFIED IN THE PLANS. ESTIMATED PAY QUANTITY IS BASED ON TWO WRAPS PLUS 1'-0" OVERLAP, AS SHOWN BELOW.

THE URETHANE FINISH COAT WILL BE PAID FOR UNDER A SEPARATE PAY ITEM.

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ FT	STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM



TWO WRAPS

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STRUCTURE GENERAL NOTES - 3
BRIDGE NO. LOR-611-0993
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DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.23 KIPS FOR A TOTAL MACHINE LOAD OF 9.80 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

SUMMARY OF PROPOSED REHABILITATION WORK:

THE FOLLOWING LIST CONTAINS THE MAJOR ITEMS OF WORK INCLUDED IN THESE PLANS FOR THE REHABILITATION OF THIS STRUCTURE:

1. REMOVAL OF EXISTING SUPERSTRUCTURE DECK SLAB, INCLUDING RAISED MEDIAN, SAFETY CURBS, PARAPETS, BRIDGE RAILING, SLIDING PLATE EXPANSION JOINTS, AND SCUPPERS.
2. REMOVAL OF EXISTING APPROACH SLABS, INCLUDING RAISED MEDIAN.
3. REMOVAL OF PORTIONS OF EXISTING ABUTMENT BACKWALLS AND FOOTINGS TO ACCOMODATE SUBSTRUCTURE WIDENING.
4. REMOVAL OF EXISTING ABUTMENT WINGWALLS, INCLUDING SAFETY CURBS, PARAPETS, AND BRIDGE RAILING.
5. REMOVAL OF PORTIONS OF EXISTING PIER CAPS AND FOOTINGS TO ACCOMODATE SUBSTRUCTURE WIDENING.
6. WIDENING OF EXISTING ABUTMENTS AND CONSTRUCTION OF NEW WINGWALLS ON PILE-SUPPORTED FOUNDATIONS.
7. WIDENING OF EXISTING CAP AND COLUMN PIERS ON PILE-SUPPORTED FOUNDATIONS.
8. WIDENING OF EXISTING SUPERSTRUCTURE BY INSTALLATION OF TWO (2) NEW BEAM LINES.
9. REPLACEMENT OF THE ROCKER BEARINGS AT THE ABUTMENTS WITH ELASTOMERIC BEARINGS.
10. REPAIR AND/OR TRIMMING OF EXISTING BEAM ENDS.
11. CONSTRUCTION OF NEW COMPOSITE SUPERSTRUCTURE DECK SLAB, INCLUDING SIDEWALKS, PARAPETS, AND VANDAL PROTECTION FENCE.
12. REMOVAL AND REPLACEMENT OF EXISTING END CROSSFRAMES AND INSTALLATION OF NEW STRIP SEAL EXPANSION JOINTS AT THE ABUTMENTS.
13. CONSTRUCTION OF NEW APPROACH SLABS, INCLUDING SIDEWALKS, PARAPETS, AND VANDAL PROTECTION FENCE.
14. SEALING OF SIDEWALKS, PARAPETS, AND DECK EDGE.
15. PATCHING AND SEALING OF THE COMPLETED SUBSTRUCTURE.
16. PAINTING OF EXISTING AND NEW STRUCTURAL STEEL, INCLUDING BEARINGS.

SUGGESTED CONSTRUCTION PROCEDURE:

PRIOR TO PHASE 1 CONSTRUCTION:

1. INSTALL NEW PILES FOR ABUTMENT AND PIER WIDENING.
2. REMOVE EXISTING RAISED MEDIAN ON EXISTING DECK SLAB AND APPROACH SLABS.

SUGGESTED CONSTRUCTION PROCEDURE (CONT.):

PHASE 1 CONSTRUCTION:

1. IMPLEMENT PHASE 1 MAINTENANCE OF TRAFFIC. SHIFT TRAFFIC AND MAINTAIN ONE LANE NORTHBOUND, ONE LANE SOUTHBOUND, AND A CENTER LEFT TURN LANE ON THE EXISTING SOUTHBOUND HALF OF THE BRIDGE DECK.
2. SAW CUT THE EXISTING DECK SLAB AND EXISTING APPROACH SLABS AT THE LONGITUDINAL CUT LINE.
3. REMOVE THE EXISTING INTEMEDIATE AND END CROSSFRAMES BETWEEN BEAM D AND BEAM E.
4. ACQUIRE BOTTOM OF BEAM ELEVATIONS FOR BEAM LINES A THROUGH D.
5. REMOVE THE EXISTING WESTBOUND BRIDGE DECK AND APPROACH SLABS. REMOVALS WILL INCLUDE THE EXISTING JOINT ARMOR AND ALL SCUPPERS AND SUPPORTS.
6. ACQUIRE BOTTOM OF BEAM ELEVATIONS FOR BEAM LINES A THROUGH D.
7. REMOVE PORTIONS OF EXISTING ABUTMENT BACKWALLS, WINGWALLS, AND FOOTINGS ON THE WESTBOUND SIDE.
8. REMOVE PORTIONS OF EXISTING PIER CAPS AND PIER FOOTINGS ON THE WESTBOUND SIDE.
9. JACK AND TEMPORARILY SUPPORT BEAMS A THROUGH D AT THE ABUTMENTS AND REMOVE EXISTING BEARINGS AND END CROSSFRAMES.
10. CONSTRUCT ABUTMENT WIDENING ON THE WESTBOUND SIDE, INCLUDING NEW WINGWALLS AND NEW BEAM SEAT FOR EXISTING BEAMS A THROUGH D.
11. CONSTRUCT PIER WIDENING ON THE WESTBOUND SIDE.
12. INSTALL NEW ELASTOMERIC BEARINGS AT THE ABUTMENTS FOR EXISTING BEAMS A THROUGH D.
13. INSTALL NEW POROUS BACKFILL AND DRAINAGE PIPES BEHIND WIDENED ABUTMENTS.
14. INSTALL NEW BEAM AA, INCLUDING NEW BEARINGS AND NEW INTERMEDIATE AND END CROSSFRAMES BETWEEN BEAM AA AND BEAM A.
15. INSTALL NEW END CROSSFRAMES FROM BEAM A TO BEAM D.
16. INSTALL NEW EXPANSION JOINT ARMOR.
17. CONSTRUCT THE WESTBOUND HALF OF THE NEW BRIDGE DECK.
18. CONSTRUCT THE NEW WESTBOUND APPROACH SLABS.
19. CONSTRUCT NEW PARAPETS. DO NOT CONSTRUCT SIDEWALK.

PHASE 2 CONSTRUCTION:

1. IMPLEMENT PHASE 2 MAINTENANCE OF TRAFFIC. SHIFT TRAFFIC AND MAINTAIN ONE LANE NORTHBOUND, ONE LANE SOUTHBOUND, AND A CENTER LEFT TURN LANE ON THE NEW NORTHBOUND HALF OF THE BRIDGE DECK.
2. ACQUIRE BOTTOM OF BEAM ELEVATIONS FOR BEAM LINES E THROUGH J.
3. REMOVE THE EXISTING EASTBOUND BRIDGE DECK AND APPROACH SLABS. REMOVALS WILL INCLUDE THE EXISTING JOINT ARMOR AND ALL SCUPPERS AND SUPPORTS.
4. ACQUIRE BOTTOM OF BEAM ELEVATIONS FOR BEAM LINES E THROUGH J.
5. REMOVE PORTIONS OF EXISTING ABUTMENT BACKWALLS, WINGWALLS, AND FOOTINGS ON THE EASTBOUND SIDE.
6. REMOVE PORTIONS OF EXISTING PIER CAPS AND PIER FOOTINGS ON THE EASTBOUND SIDE.
7. JACK AND TEMPORARILY SUPPORT BEAMS E THROUGH J AT THE ABUTMENTS AND REMOVE EXISTING BEARINGS AND END CROSSFRAMES.
8. CONSTRUCT ABUTMENT WIDENING ON THE EASTBOUND SIDE, INCLUDING NEW WINGWALLS AND NEW BEAM SEAT FOR EXISTING BEAMS E THROUGH J.

SUGGESTED CONSTRUCTION PROCEDURE (CONT.):

9. CONSTRUCT PIER WIDENING ON THE EASTBOUND SIDE.
10. INSTALL NEW ELASTOMERIC BEARINGS AT THE ABUTMENTS FOR EXISTING BEAMS E THROUGH J.
11. INSTALL NEW POROUS BACKFILL AND DRAINAGE PIPES BEHIND WIDENED ABUTMENTS.
12. INSTALL NEW BEAM JJ, INCLUDING NEW BEARINGS AND NEW INTERMEDIATE AND END CROSSFRAMES BETWEEN BEAM JJ AND BEAM J.
13. INSTALL NEW INTERMEDIATE AND END CROSSFRAMES BETWEEN BEAM D AND BEAM E AND NEW END CROSSFRAMES FROM BEAM E TO BEAM J.
14. INSTALL NEW EXPANSION JOINT ARMOR.
15. CONSTRUCT THE EASTBOUND HALF OF THE NEW BRIDGE DECK.
16. CONSTRUCT THE NEW EASTBOUND APPROACH SLABS.
17. CONSTRUCT NEW PARAPETS AND SIDEWALK.

UPON COMPLETION OF PHASE 2 CONSTRUCTION:

1. IMPLEMENT PERMANENT TRAFFIC PATTERN FOR VEHICULAR TRAFFIC, BUT KEEP SIDEWALKS AND BIKE LANES CLOSED USING TEMPORARY DRUMS.
2. CONSTRUCT NORTHBOUND SIDEWALK ON DECK SLAB AND APPROACH SLABS, INCLUDING EXPANSION JOINT ARMOR.
3. INSTALL STRIP SEAL EXPANSION JOINT GLANDS IN ONE CONTINOUS PIECE FOR EACH JOINT.
4. SEAL THE SUPERSTRUCTURE AND APPROACH SLAB SIDEWALKS AND PARAPETS. INSTALL VANDAL PROTECTION FENCE.
5. SEAL THE SUBSTRUCTURE CONCRETE AND PAINT STRUCTURAL STEEL.

THE ABOVE IS A SUGGESTED CONSTRUCTION PROCEDURE. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED CONSTRUCTION PROCEDURE AND SCHEDULE TO THE DIRECTOR FOR APPROVAL BEFORE BEGINNING CONSTRUCTION. NO CONSTRUCTION OPERATIONS WILL BE PERMITTED WITHOUT PRIOR APPROVAL.

PLAN ABBREVIATIONS

ABUT.	ABUTMENT
APP.	APPROACH
BOT.	BOTTOM
BRG.	BEARING
c/c	CENTER TO CENTER
C.J.	CONSTRUCTION JOINT
CL.	CLEAR COVER
CONC.	CONCRETE
C.M.P.	CORRUGATED METAL PIPE
DIA.	DIAMETER
EXIST.	EXISTING
EL.	ELEVATION
E.F.	EACH FACE
F.A.	FORWARD ABUTMENT
F.F.	FAR FACE
FWD.	FORWARD
HMWM	HIGH MOLECULAR WEIGHT METHACRYLATE
INV.	INVERT
N.F.	NEAR FACE
MAX.	MAXIMUM
MIN.	MINIMUM
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
P.G.	PROFILE GRADE
PROP.	PROPOSED
R.A.	REAR ABUTMENT
SPA.	SPACE, SPACES
REINF.	REINFORCED, REINFORCING
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE

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STRUCTURE GENERAL NOTES - 4
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FUNDING SPLITS		ESTIMATED QUANTITIES										
							CALC. BY: PAT DATE: 8/17/2012 CHKD. BY: BPS DATE: 8/18/2012					
03/IMS/BR/	04/MPO/ BR/AVON	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	REAR ABUTMENT	FORWARD ABUTMENT	PIERS	SUPER-STRUCTURE	GENERAL	REF. SHEET NUMBER
LUMP		202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN					LUMP	3
400		202	22900	400	SQ YD	APPROACH SLAB REMOVED					400	
364		202	23500	364	SQ YD	WEARING COURSE REMOVED					364	
LUMP	LUMP	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING					LUMP	
	184	503	21100	184	CU YD	UNCLASSIFIED EXCAVATION	51	50	83			
	LUMP	505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION					LUMP	
	1320	507	00200	1320	FT	STEEL PILES HP12x53, FURNISHED	360	360	600			
	1150	507	00250	1150	FT	STEEL PILES HP12x53, DRIVEN	320	320	510			
199,517	49,145	509	10000	248,662	POUND	EPOXY COATED REINFORCING STEEL	4735	4622	11,943	227,362		
718	444	510	10000	1162	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	230	227	91	614		
	37	511	41000	37	CU YD	CLASS C CONCRETE, PIER ABOVE FOOTINGS			37			
	54	511	44100	54	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	27	27				
	70	511	46500	70	CU YD	CLASS C CONCRETE, FOOTING	21	21	28			
211	237	512	10050	448	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)				385	63	
1387	139	512	10100	1526	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	91	91	569	734	41	
	14	512	33000	14	SQ YD	TYPE 2 WATERPROOFING	7	7				
14		SPECIAL	51271500	14	SQ YD	URETHANE TOP COAT SEALER			14			4
	156,800	513	10240	156,800	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 2				156,800		
6804	1314	513	20000	8118	EACH	WELDED STUD SHEAR CONNECTORS				8118		
18		513	21000	18	EACH	TRIMMING OF BEAM END				18		
32		513	95030	32	EACH	STRUCTURAL STEEL, MISC.: MOMENT PLATE FATIGUE RETROFIT, LEVEL UF				32		
9		513	95030	9	EACH	STRUCTURAL STEEL, MISC.: BEAM END REPAIR, LEVEL UF				9		
32,100		514	00050	32,100	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL				32,100		
32,100		514	00056	32,100	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT				32,100		
32,100	8,100	514	00060	40,200	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				40,200		
32,100	8,100	514	00066	40,200	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				40,200		4
40		514	00504	40	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL				40		
29	7	514	10000	36	EACH	FINAL INSPECTION REPAIR				36		
160.8	23.9	516	11211	184.7	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN				184.7		42
	22	516	44100	22	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)				22		
						(LOAD PLATE 13"x16"x1.50", NEOPRENE 12"x15"x3.00")						
	2	516	46000	2	EACH	BEARING DEVICE, BOLSTER				2		
	4	516	46200	4	EACH	BEARING DEVICE, ROCKER				4		
LUMP		516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					LUMP	4
6	26	518	21200	32	CU YD	POROUS BACKFILL WITH FILTER FABRIC	16	16				
	24	518	40000	24	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	11	13				
	112	518	40010	112	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	56	56				
57		519	11100	57	SQ FT	PATCHING CONCRETE STRUCTURE	5	11	41			
306		SPECIAL	53000600	306	SQ FT	STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM			306			5
	40	601	20010	40	CU YD	CRUSHED AGGREGATE SLOPE PROTECTION	20	20				
702		607	39901	702	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	43	43	616			4
663	96	898	10210	759	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK)				759		
422	61	898	10705	483	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN					483	4
113	49	898	11000	162	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET)				162		

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DLZ
6363 W. SUPERIOR AVE., SUITE 300 • CLEVELAND, OHIO 4103

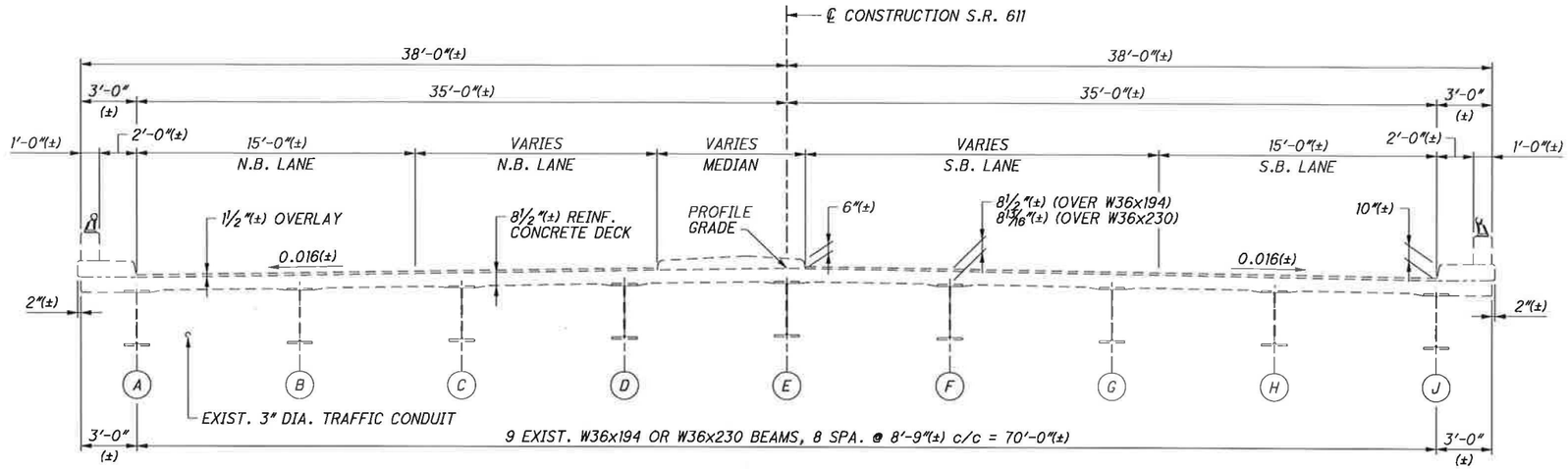
REVIEWED DOR DATE 06/27/2012
STRUCTURE FILE NUMBER 4707478
DRAWN PAT
REVISED
DESIGNED PAT
CHECKED BPS

ESTIMATED QUANTITIES
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

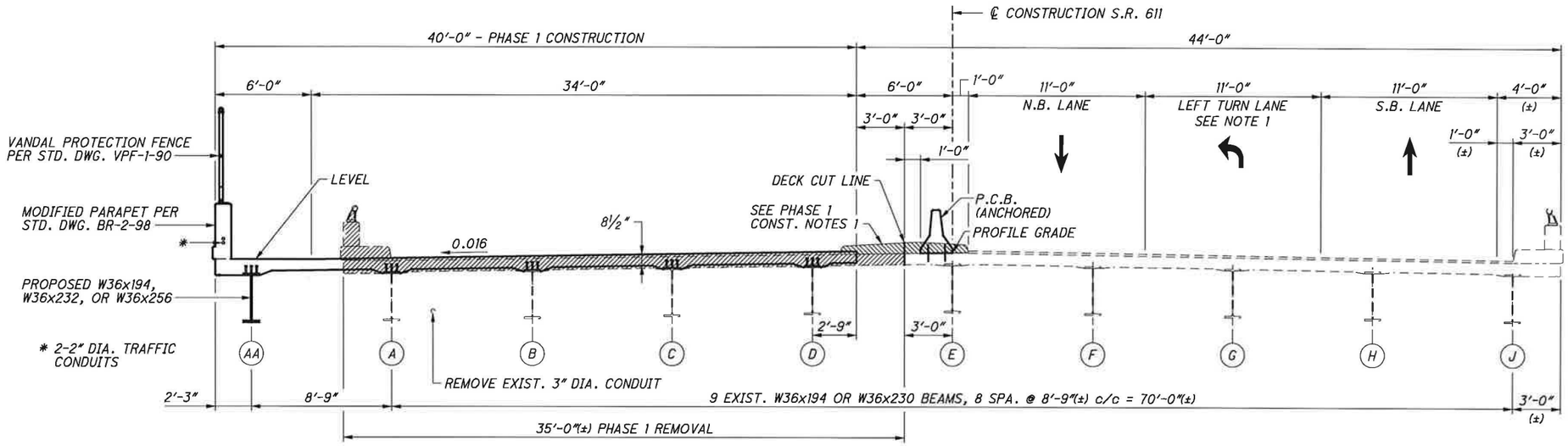
LOR-611-09.96
PID No. 83447

7 / 45

83
121



EXISTING TRANSVERSE SECTION



TRANSVERSE SECTION - PHASE 1 CONSTRUCTION

PHASE 1 CONSTRUCTION NOTES

1. REMOVE EXISTING MEDIAN PRIOR TO PHASE 1 CONSTRUCTION.
2. MAINTAIN TRAFFIC AS SHOWN ON THE RIGHT HALF OF BRIDGE.
3. SAW CUT EXISTING DECK SLAB 3'-0" LEFT OF CENTERLINE AND REMOVE LEFT HALF OF EXISTING BRIDGE DECK.
4. WIDEN ABUTMENTS AND PIERS AND REPLACE BEARINGS AT ABUTMENTS.
5. SET PROPOSED BEAM AA 8'-9" LEFT OF EXISTING BEAM A.
6. CONSTRUCT PHASE 1 PORTION OF PROPOSED BRIDGE DECK AND MODIFIED PARAPET (LEFT SIDEWALK TO BE CONSTRUCTED AFTER PHASE 2 IS COMPLETED).

LEGEND

(X) - BEAM LINE DESIGNATION

P.C.B. - PORTABLE CONCRETE BARRIER WITH 2 ANCHORS PER SEGMENT, AS PER STD. DWG. PCB-91. SEE ROADWAY PLANS FOR PAYMENT.

N.B. - NORTHBOUND
S.B. - SOUTHBOUND

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

NOTES

1. FOR MAINTENANCE OF TRAFFIC SCHEMATIC, SEE SHEETS 17 AND 18 / 121.

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DESIGNED	DRAWN	REVIEWED	DATE
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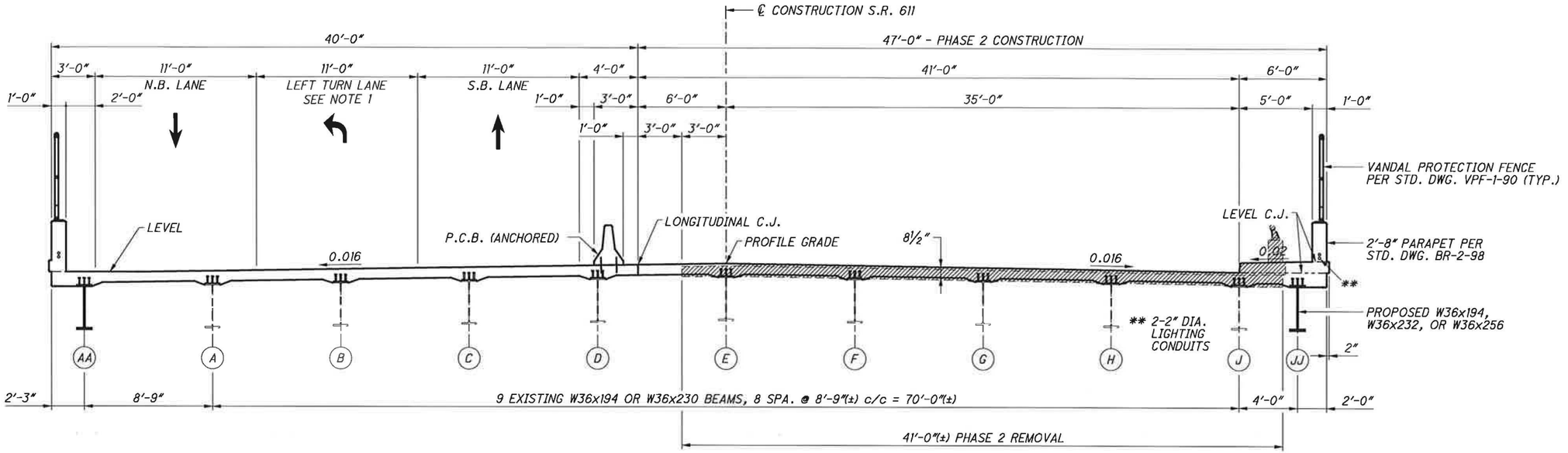
PAT		4707478	

PHASE CONSTRUCTION DETAILS - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447



PHASE 2 CONSTRUCTION NOTES

1. MAINTAIN TRAFFIC AS SHOWN ON LEFT HALF OF BRIDGE.
2. REMOVE RIGHT HALF OF EXISTING BRIDGE DECK.
3. WIDEN ABUTMENTS AND PIERS AND REPLACE BEARINGS AT ABUTMENTS.
4. PLACE PROPOSED BEAM JJ 4'-0" RIGHT OF EXISTING BEAM J.
5. CONSTRUCT PHASE 2 PORTION OF PROPOSED BRIDGE DECK, INCLUDING RIGHT SIDEWALK AND PARAPET.
6. CONSTRUCT LEFT SIDEWALK AFTER OPENING ALL VEHICULAR LANES TO TRAFFIC USING TEMPORARY CLOSURE WITH DRUMS OF NORTHBOUND BIKE LANE.

TRANSVERSE SECTION - PHASE 2 CONSTRUCTION

LEGEND

(X) - BEAM LINE DESIGNATION

P.C.B. - PORTABLE CONCRETE BARRIER WITH 2 ANCHORS PER SEGMENT, AS PER STD. DWG. PCB-91. SEE ROADWAY PLANS FOR PAYMENT.

N.B. - NORTHBOUND
S.B. - SOUTHBOUND

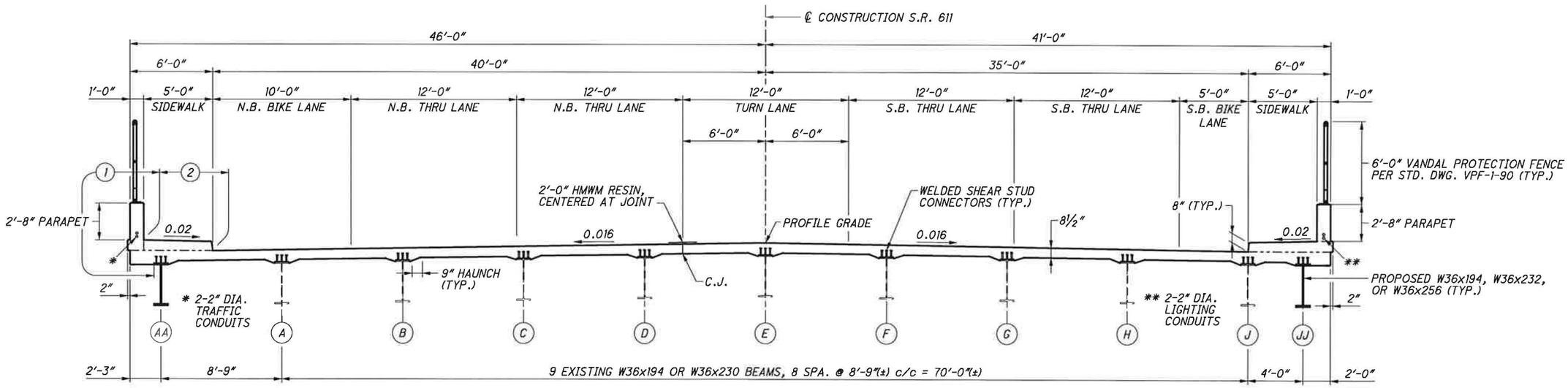
PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

(1) - LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP.)

(2) - LIMITS OF SEALING OF CONCRETE SURFACES (NON-EPOXY) (TYP.)

NOTES

1. FOR MAINTENANCE OF TRAFFIC SCHEMATIC, SEE SHEETS 19 AND 20/121.



PROPOSED TRANSVERSE SECTION

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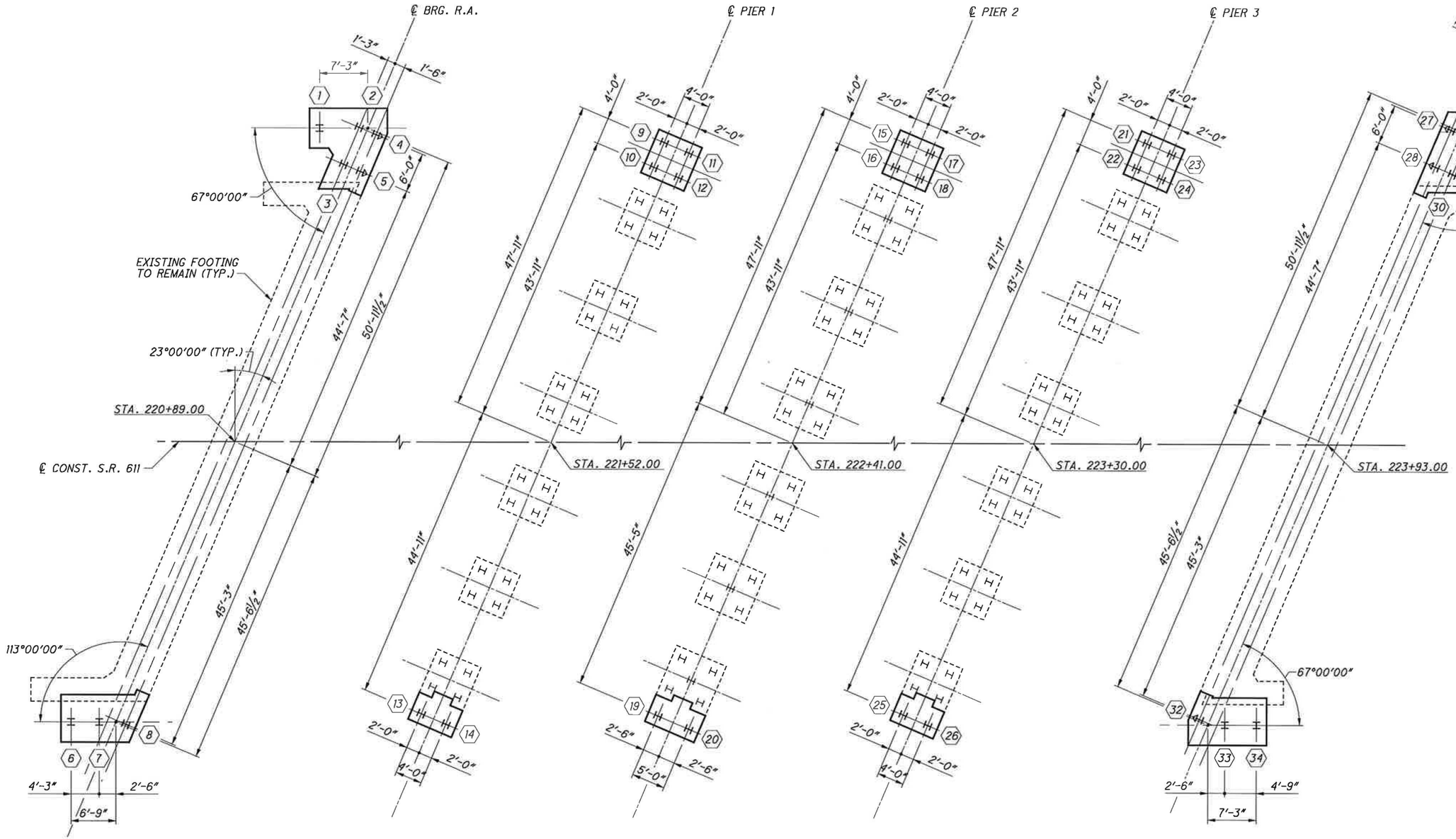
DESIGNED	DRAWN	REVIEWED	DATE
BPS	BPS	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PAT		4707478	

PHASE CONSTRUCTION DETAILS - 2

LOR-611-09.96
PID No. 83447

BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90



PILE INFORMATION			
PILE NUMBER	LOCATION	CUT-OFF ELEVATION	ESTIMATED PAY LENGTH
1-8	REAR ABUT.	642.50	40'
9-14	PIER 1	631.60	30'
15-20	PIER 2	629.40	30'
21-26	PIER 3	627.40	25'
27-34	FWD. ABUT.	640.70	40'

FOUNDATION PLAN

LEGEND

- (X) = PILE NUMBER
- I = EXISTING HP12x53 PILE
- H = HP12x53 VERTICAL PILE
- ↧ = HP12x53 PILE BATTERED 1H:4V IN DIRECTION SHOWN

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FOUNDATION PLAN
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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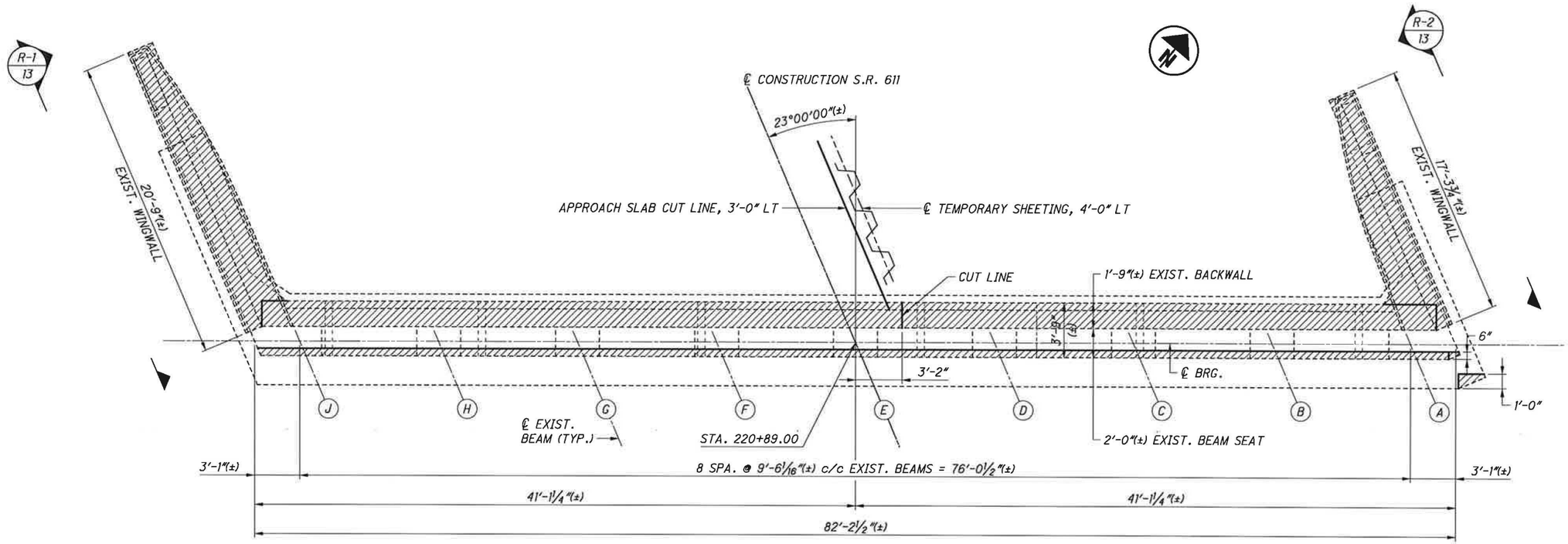
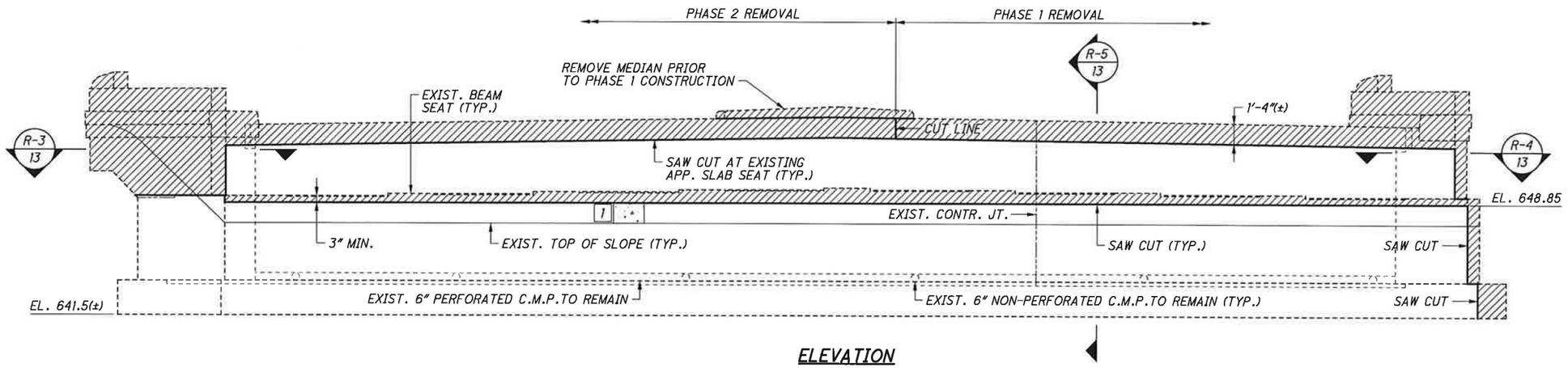


PLAN



ELEVATION

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	2'-0" x 1'-6"	3.00
TOTAL AREA MEASURED		3.00
TOTAL AREA ESTIMATED		4.05*

* SEE NOTE 3

LEGEND

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

AREA OF DELAMINATION TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE

NOTES

1. TEMPORARY SHEETING TO BE PLACED 1'-0" BEHIND BACKWALL AS MEASURED ALONG SKEW SHOWN TO AVOID HITTING THE EXISTING FOOTING AND EXISTING C.M.P.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN NOVEMBER 2011. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

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REAR ABUTMENT REMOVAL PLAN & ELEVATION
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

11 / 45

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121

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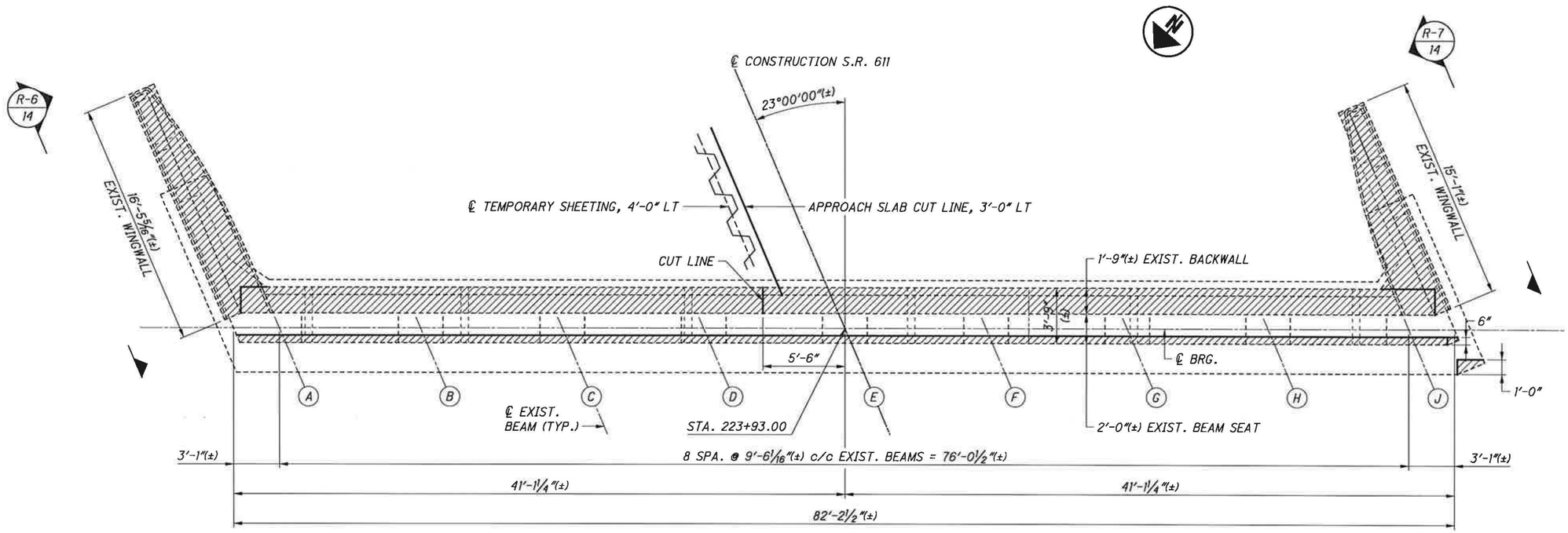
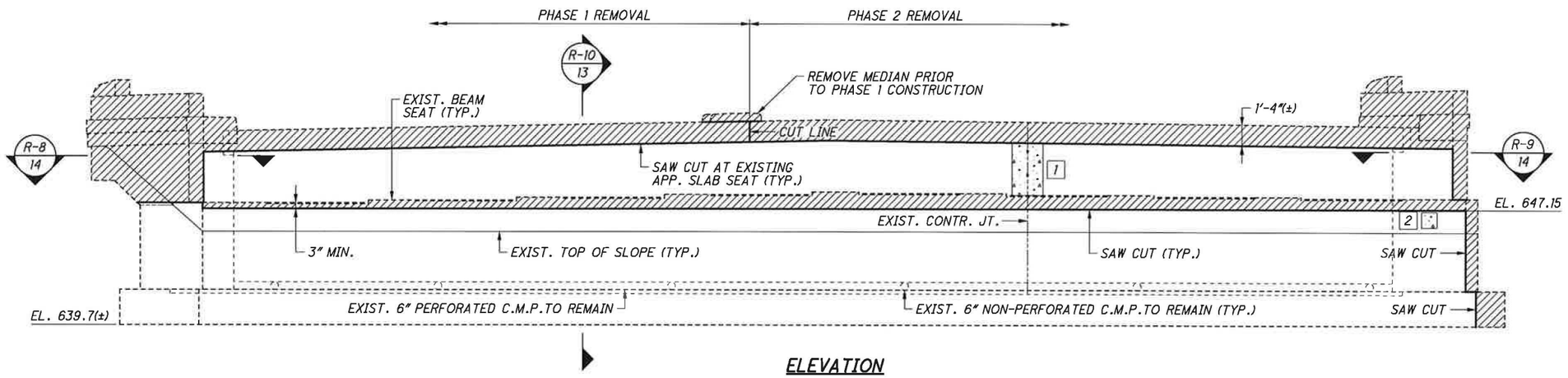


PLAN



ELEVATION

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	2'-0" x 3'-6"	7.00
2	1'-0" x 1'-0"	1.00
TOTAL AREA MEASURED		8.00
TOTAL AREA ESTIMATED		10.80*

* SEE NOTE 3

LEGEND

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

AREA OF DELAMINATION TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE

NOTES

1. TEMPORARY SHEETING TO BE PLACED 1'-0" BEHIND BACKWALL AS MEASURED ALONG SKEW SHOWN TO AVOID HITTING THE EXISTING FOOTING AND EXISTING C.M.P.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN NOVEMBER 2011. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

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FORWARD ABUTMENT REMOVAL PLAN & ELEVATION

BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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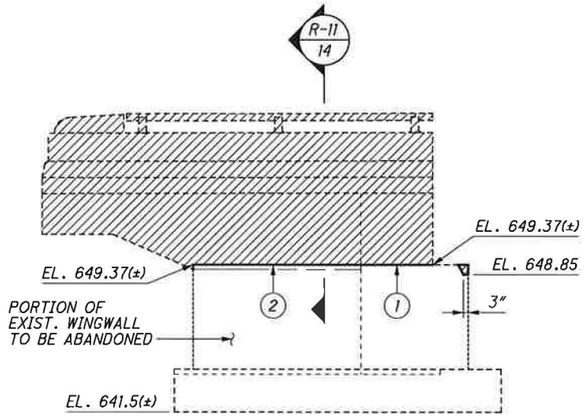
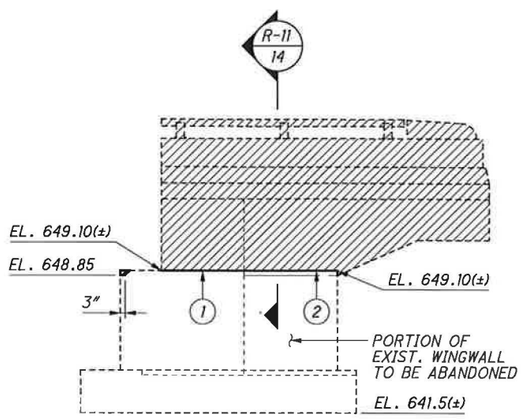
121



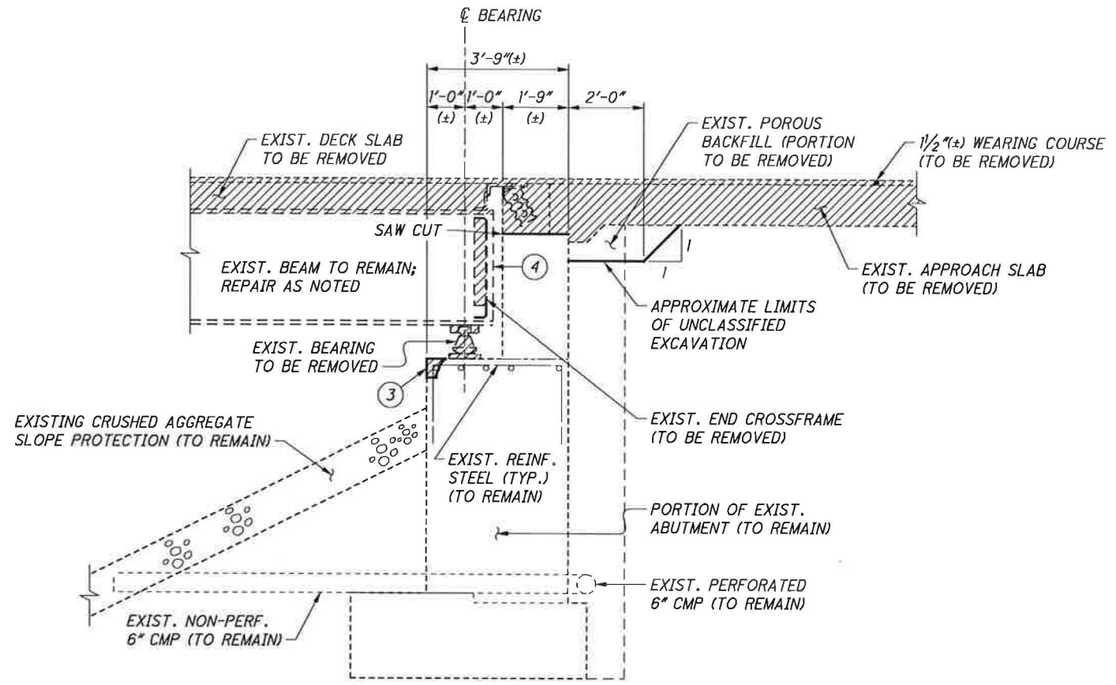
ELEVATION R-1 / 11

REAR ABUTMENT, RIGHT WINGWALL
EXISTING REINFORCING STEEL NOT SHOWN



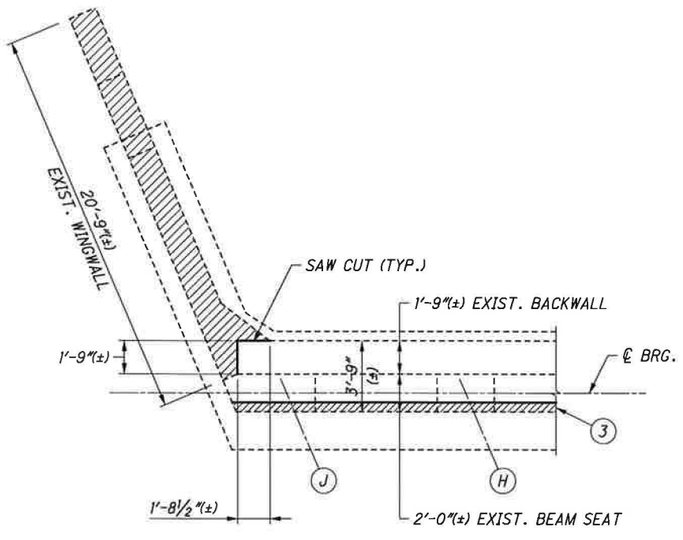
ELEVATION R-2 / 11

REAR ABUTMENT, LEFT WINGWALL
EXISTING REINFORCING STEEL NOT SHOWN

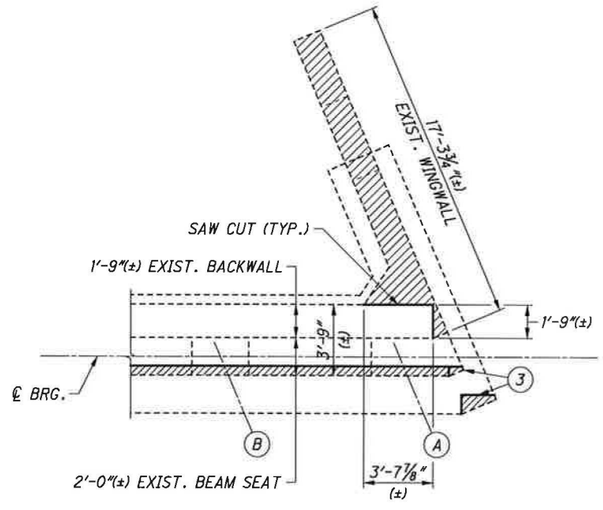


SECTION R-5 / 11 R-10 / 12

TYPICAL REMOVAL AT EXISTING ABUTMENTS



SECTION R-3 / 11



SECTION R-4 / 11

LEGEND

1. FULL DEPTH SAW CUT AT CONSTRUCTION JOINT, REMOVE EXISTING FILLET TO BEAM SEAT
2. FULL DEPTH SAW CUT THROUGH WINGWALL
3. REMOVE EXISTING CONCRETE AND PRESERVE EXISTING REINFORCING BARS
4. TRIM BEAM ENDS TO PROVIDE 3" CL. @ 60°F FROM BEAM END TO BACKWALL

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

NOTES

1. FOR DETAILS AND LOCATIONS OF BEAM END REPAIRS, SEE SHEET 32/45.

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ABUTMENT REMOVAL DETAILS - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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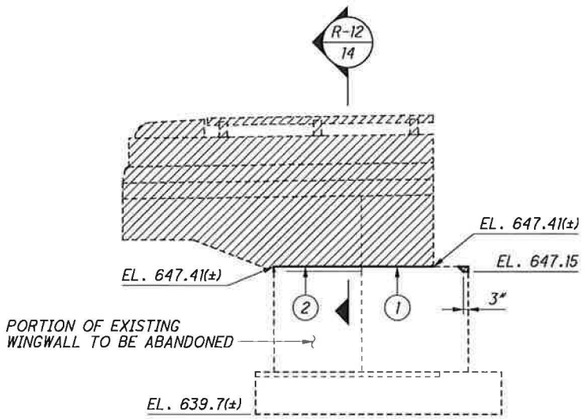
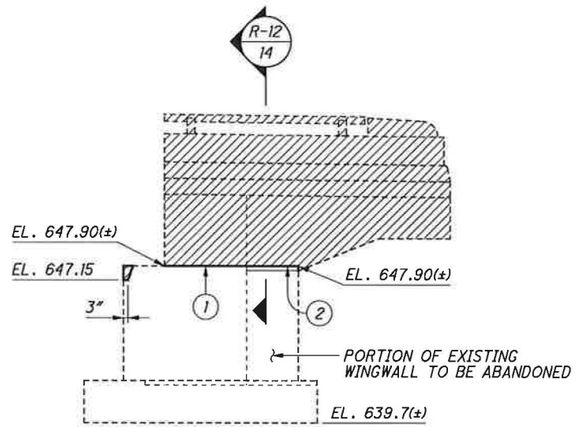


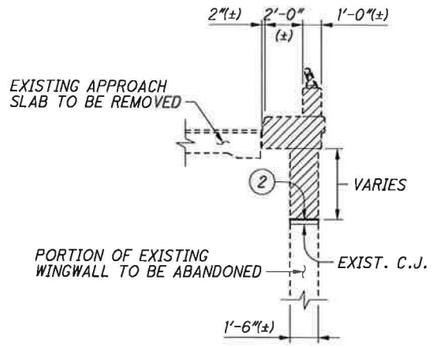
ELEVATION R-6 / 12

FORWARD ABUTMENT, LEFT WINGWALL
EXISTING REINFORCING STEEL NOT SHOWN



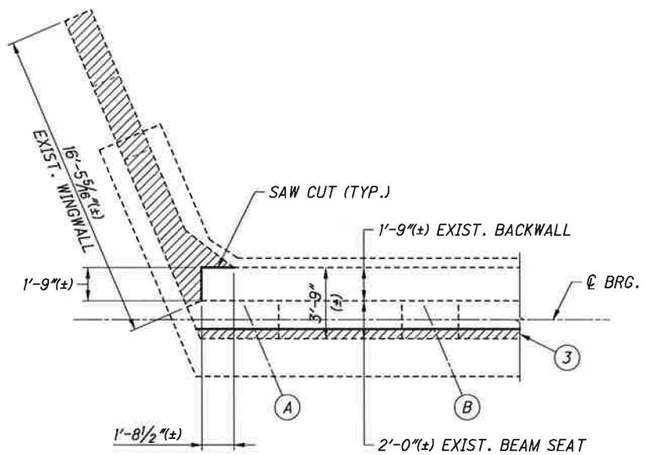
ELEVATION R-7 / 12

FORWARD ABUTMENT, RIGHT WINGWALL
EXISTING REINFORCING STEEL NOT SHOWN

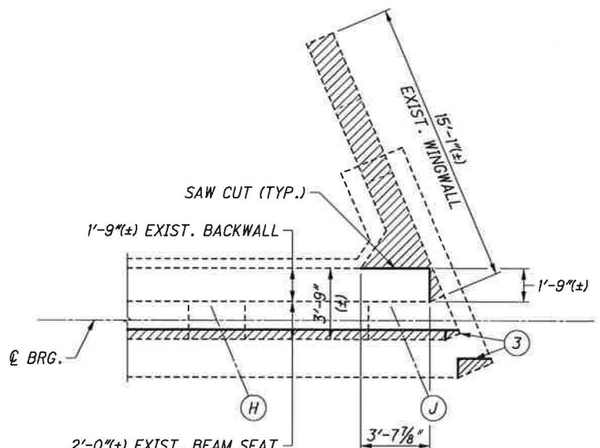


SECTION R-11 / 13 — R-12 / 14

TYPICAL REMOVAL OF WINGALL,
SAFETY CURBS, & PARAPET



SECTION R-8 / 12



SECTION R-9 / 12

LEGEND

1. FULL DEPTH SAW CUT AT CONSTRUCTION JOINT, REMOVE EXISTING FILLET TO BEAM SEAT
2. FULL DEPTH SAW CUT THROUGH WINGWALL
3. REMOVE EXISTING CONCRETE AND PRESERVE EXISTING REINFORCING BARS

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

DLZ
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ABUTMENT REMOVAL DETAILS - 2
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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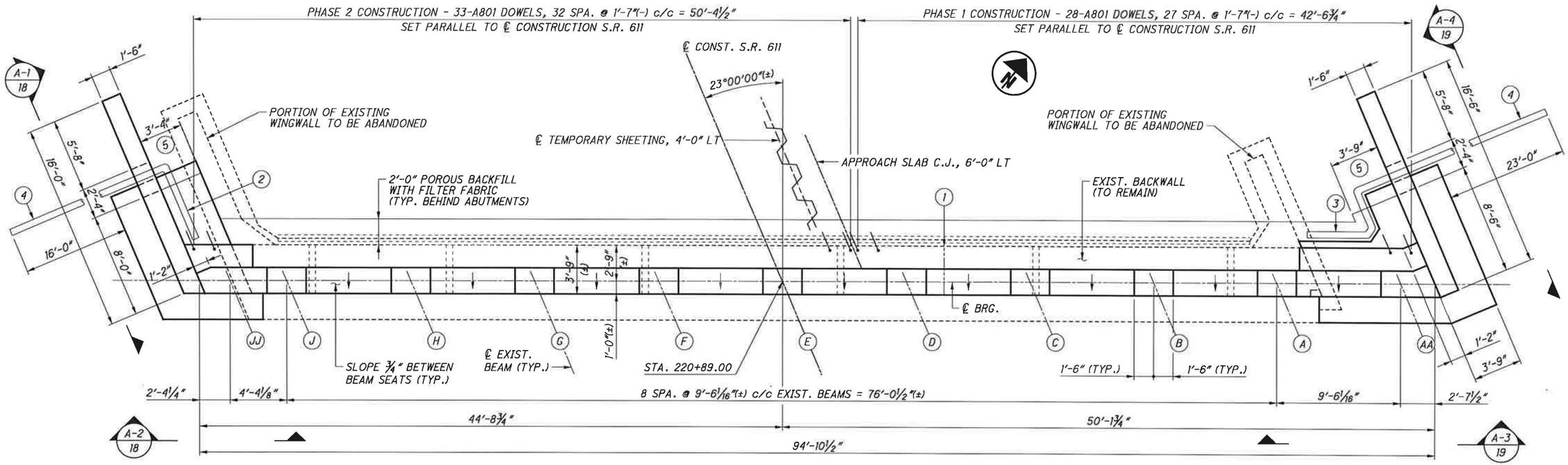
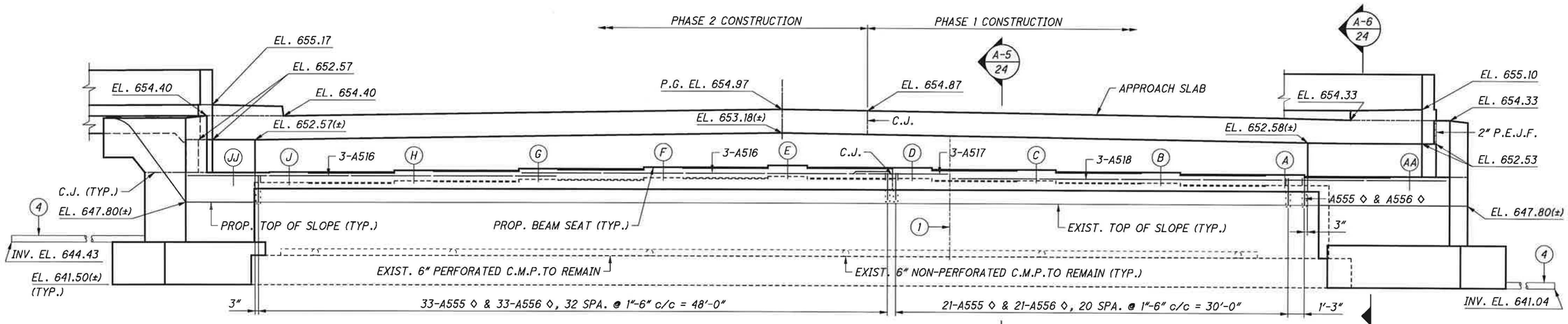


PLAN

PROPOSED PILES NOT SHOWN



ELEVATION

PROPOSED PILES NOT SHOWN

LEGEND

1. EXISTING CONTRACTION JOINT
2. 6" P.C.P.P. WITH CAP AT END, SLOPED AT MINIMUM OF 2.0%
3. 6" P.C.P.P. WITH CAP AT END AND TWO 120° BENDS, SLOPED AT MINIMUM OF 2.0%
4. 6" N.P.C.P.P. WITH 90° BEND CONNECTING TO 6" P.C.P.P., SLOPED AT MINIMUM OF 2.0%
5. POROUS BACKFILL WITH FILTER FABRIC BEHIND WINGWALL

◊ - DOWEL BAR TO BE DRILLED AND GROUTED A MIN. 9" INTO EXISTING ABUTMENT.

PROPOSED BEAM SEAT ELEVATIONS											
BEAM	AA	A	B	C	D	E	F	G	H	J	JJ
ELEVATION	650.00	650.12	650.26	650.40	650.54	650.68	650.53	650.39	650.25	650.11	650.07

NOTES

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND LATERALLY TO THE LIMITS SHOWN.
2. 6" N.P.C.P.P. SHALL EXTEND TO THE SURFACE OF THE EMBANKMENT AND SHALL DRAIN INTO 4'-0" DIAMETER CRUSHED AGGREGATE SLOPE PROTECTION PER STD. DWG. A-1-69.
3. FOR REMOVAL DETAILS, SEE SHEET 11/45.
4. FOR FOOTING DETAILS AND REINFORCING, SEE SHEET 17/45.
5. FOR REAR ABUTMENT DETAILS AND REINFORCING, SEE SHEETS 18, 19 AND 20/45.
6. FOR APPROACH SLAB DETAILS, SEE SHEET 41/45.

DLZ
84 W. SUPERIOR AVE., SUITE 1000 ● CLEVELAND, OHIO 44113

DESIGNED BPS | DRAWN BPS | REVIEWED DOR | DATE 06/27/2012
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REAR ABUTMENT PLAN & ELEVATION

BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

15 / 45

91 / 121

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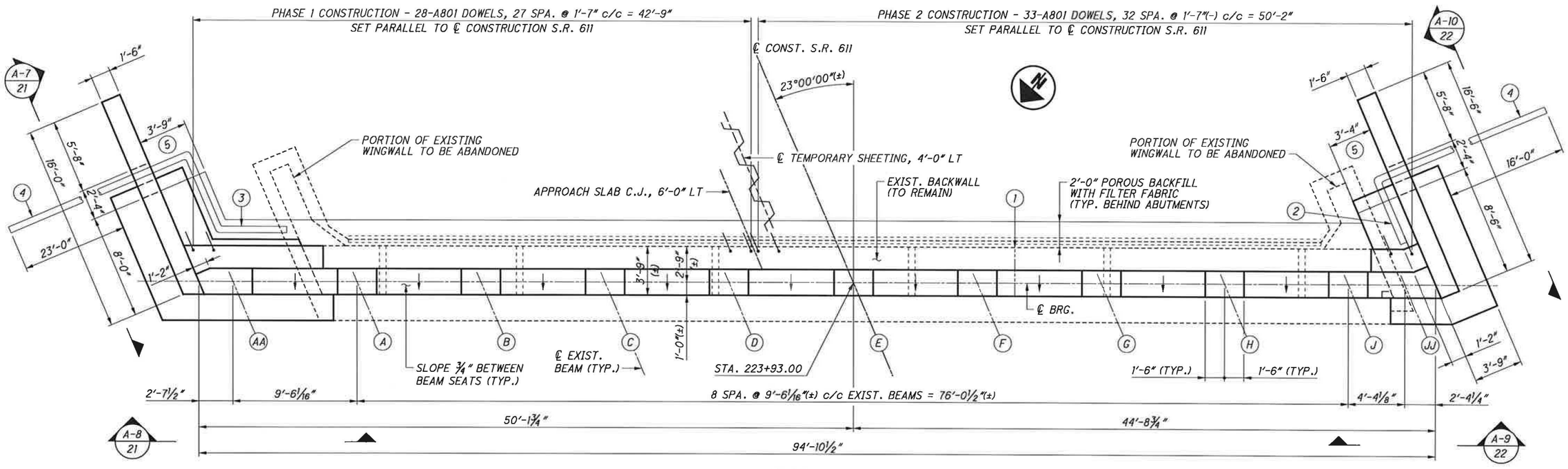
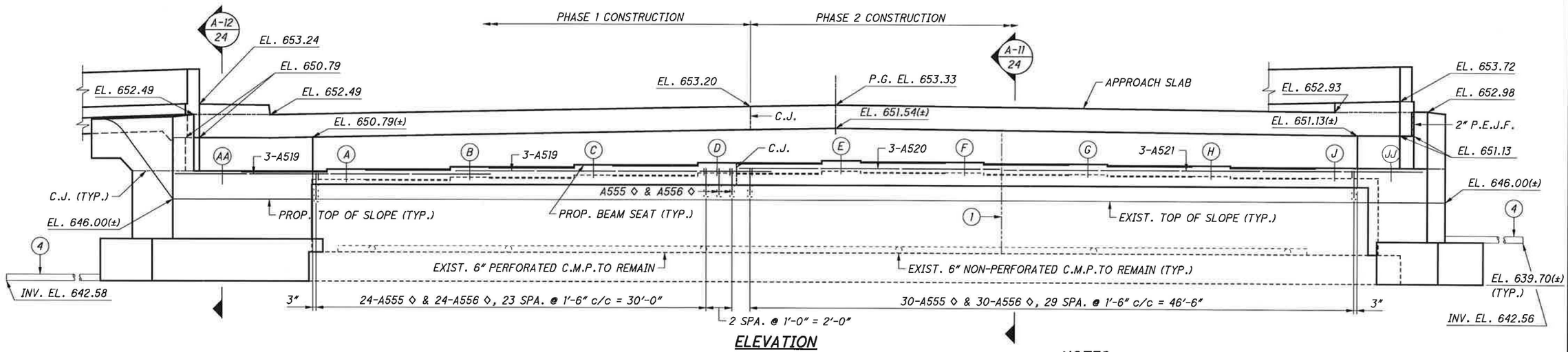


PLAN

PROPOSED PILES NOT SHOWN



ELEVATION

PROPOSED PILES NOT SHOWN

LEGEND

1. EXISTING CONTRACTION JOINT
2. 6" P.C.P.P. WITH CAP AT END, SLOPED AT MINIMUM OF 2.0%
3. 6" P.C.P.P. WITH CAP AT END AND TWO 120° BENDS, SLOPED AT MINIMUM OF 2.0%
4. 6" N.P.C.P.P. WITH 90° BEND CONNECTING TO 6" P.C.P.P., SLOPED AT MINIMUM OF 2.0%
5. POROUS BACKFILL WITH FILTER FABRIC BEHIND WINGWALL

◊ - DOWEL BAR TO BE DRILLED AND GROUTED A MIN. 9" INTO EXISTING ABUTMENT.

PROPOSED BEAM SEAT ELEVATIONS

BEAM	AA	A	B	C	D	E	F	G	H	J	JJ
ELEVATION	648.16	648.32	648.50	648.68	648.86	649.05	648.95	648.85	648.75	648.65	648.63

NOTES

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND LATERALLY TO THE LIMITS SHOWN.
2. 6" N.P.C.P.P. SHALL EXTEND TO THE SURFACE OF THE EMBANKMENT AND SHALL DRAIN INTO 4'-0" DIAMETER CRUSHED AGGREGATE SLOPE PROTECTION PER STD. DWG. A-1-69.
3. FOR REMOVAL DETAILS, SEE SHEET 12/45.
4. FOR FOOTING DETAILS AND REINFORCING, SEE SHEET 17/45.
5. FOR FORWARD ABUTMENT DETAILS AND REINFORCING, SEE SHEET 21, 22 AND 23/45.
6. FOR APPROACH SLAB DETAILS, SEE SHEET 41/45.

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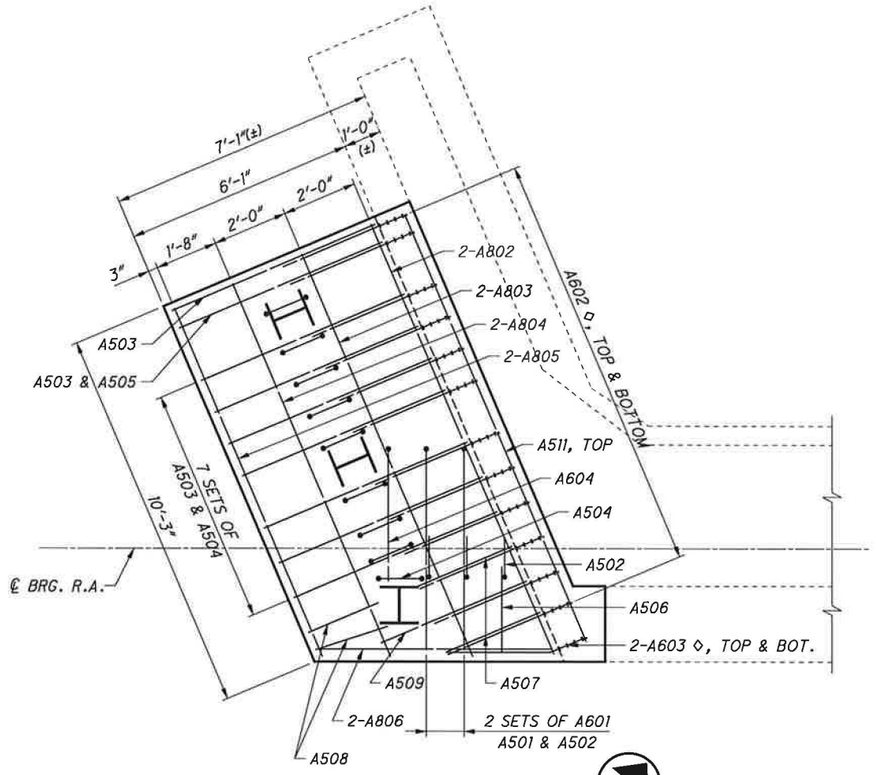
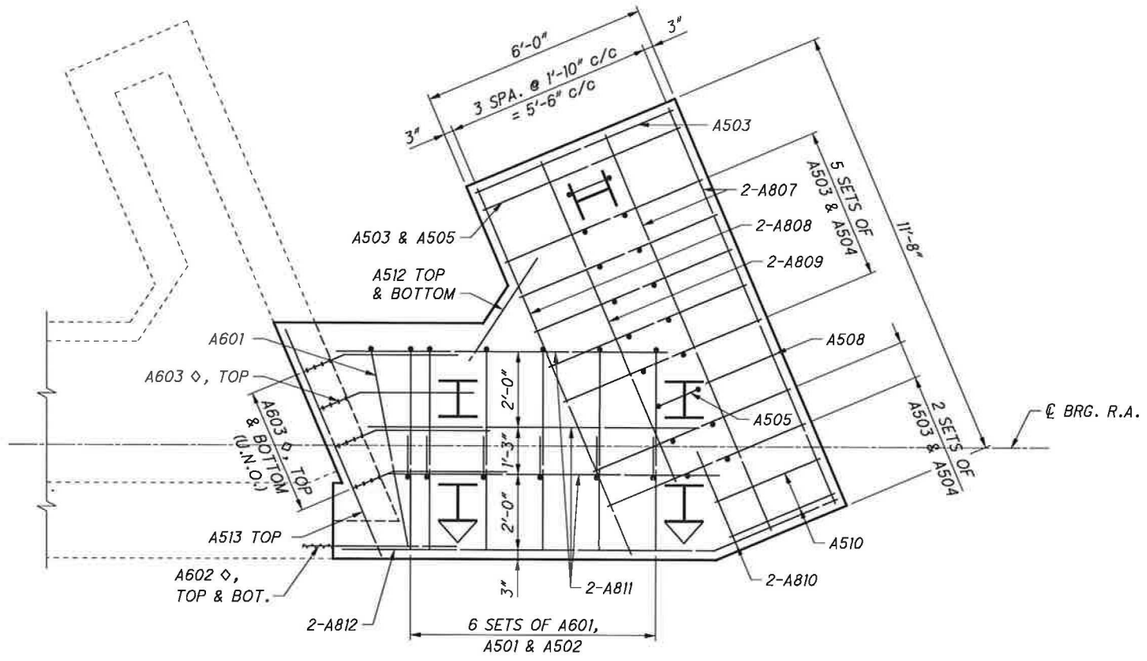
FORWARD ABUTMENT PLAN & ELEVATION
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

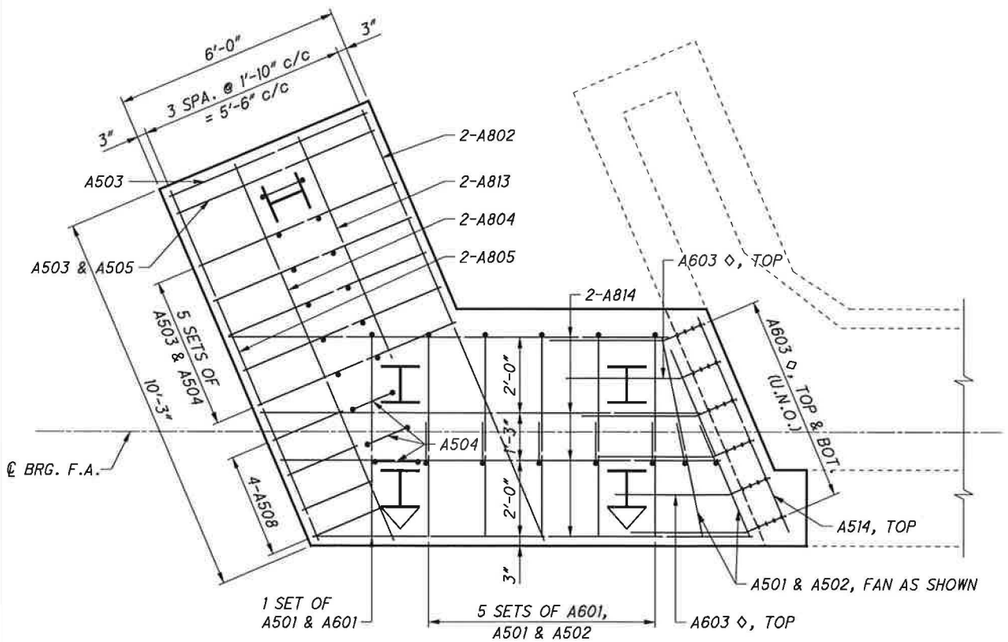
16 / 45

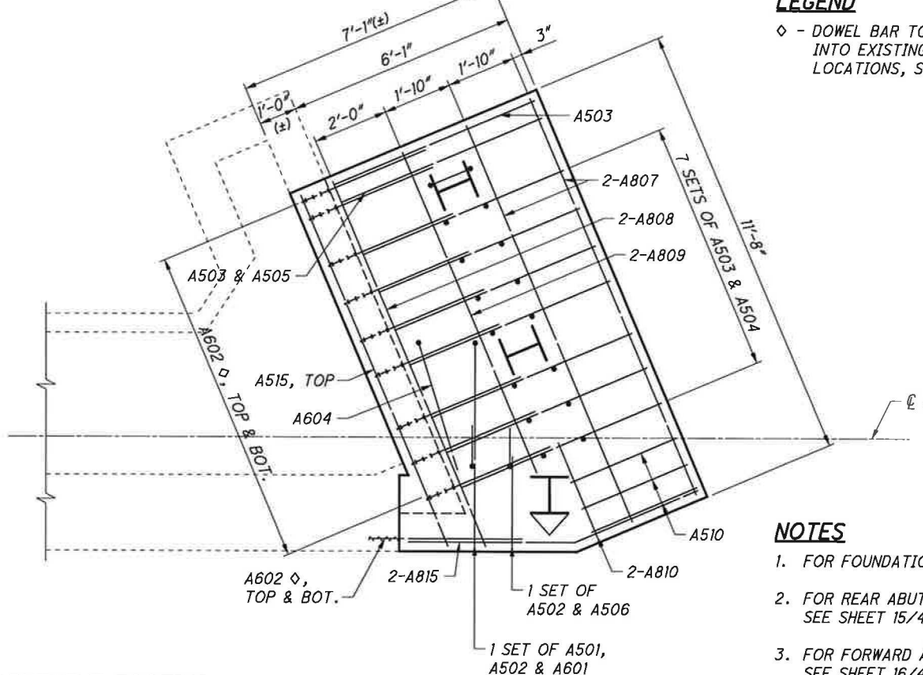
92 / 121





PART PLAN - REAR ABUTMENT FOOTING





PART PLAN - FORWARD ABUTMENT FOOTING

LEGEND

◊ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING FOOTING. FOR DOWEL HOLE LOCATIONS, SEE SHEETS 18, 19, 21 AND 22/45.

NOTES

1. FOR FOUNDATION PLAN, SEE SHEET 10/45.
2. FOR REAR ABUTMENT PLAN AND ELEVATION, SEE SHEET 15/45.
3. FOR FORWARD ABUTMENT PLAN AND ELEAVTION, SEE SHEET 16/45.

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ABUTMENT FOOTING PLANS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

17 / 45

93 / 121

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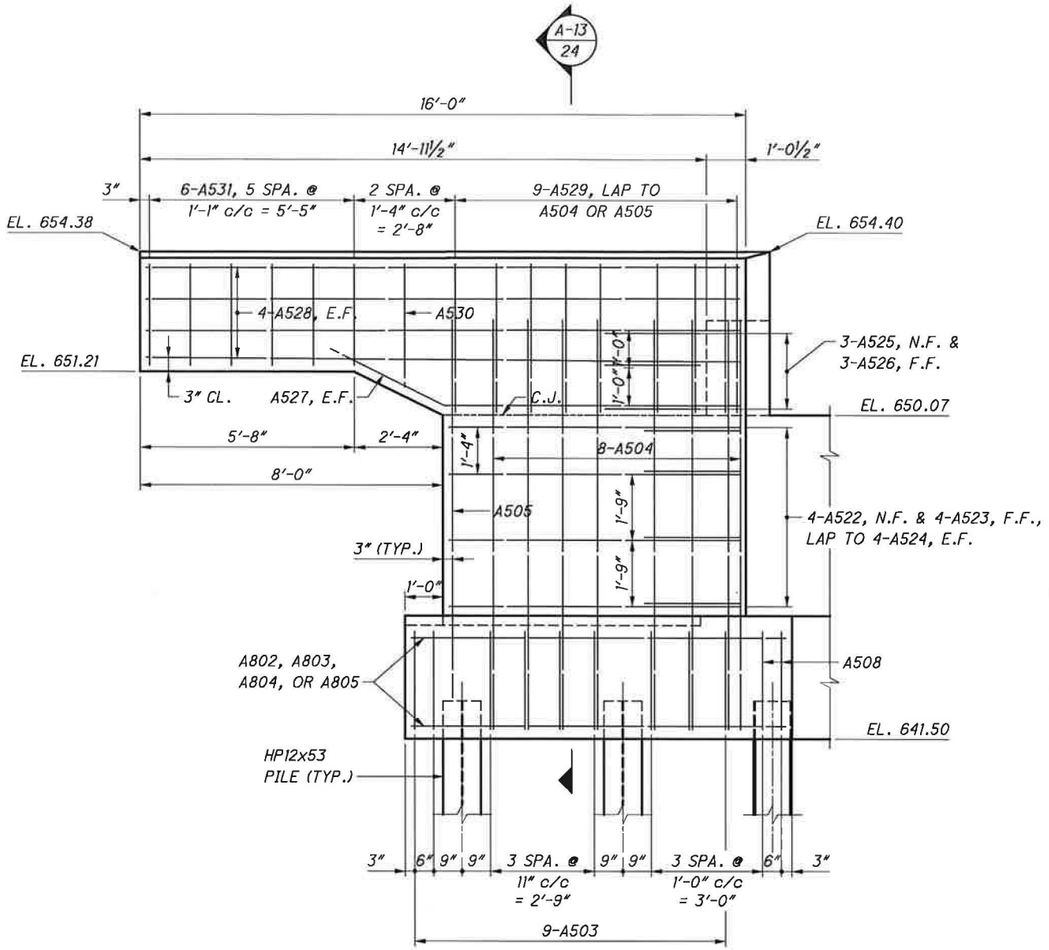
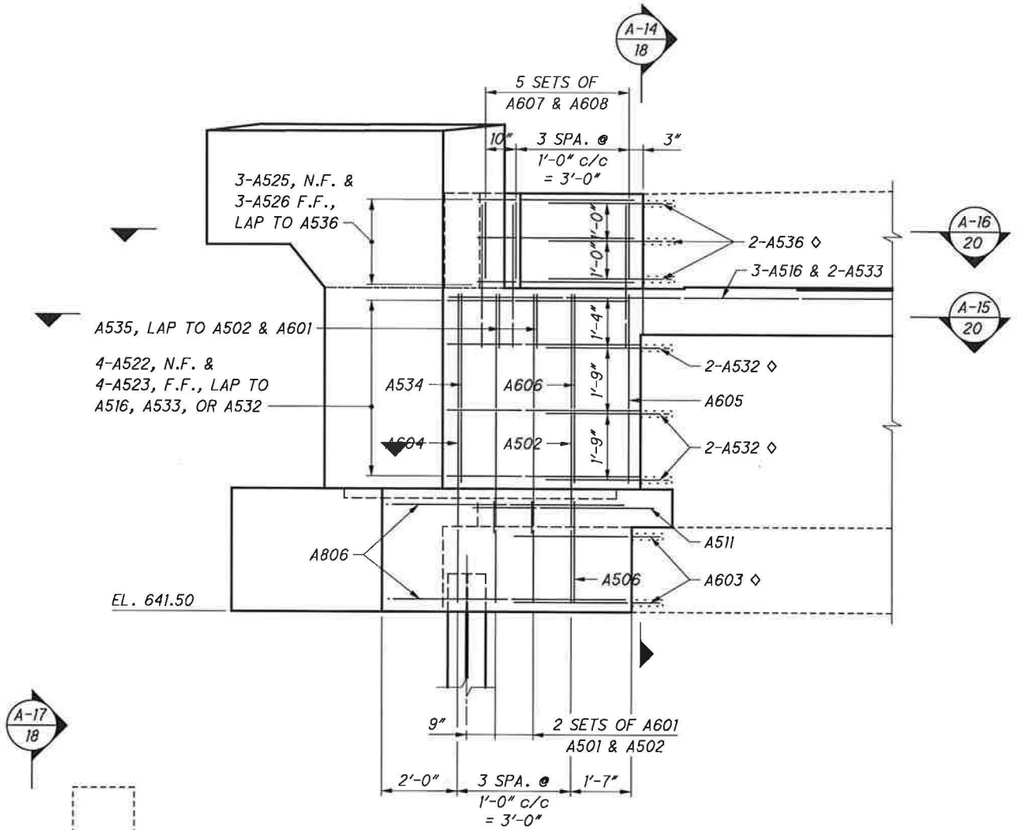


ELEVATION A-1 / 15

GROUND LINE NOT SHOWN

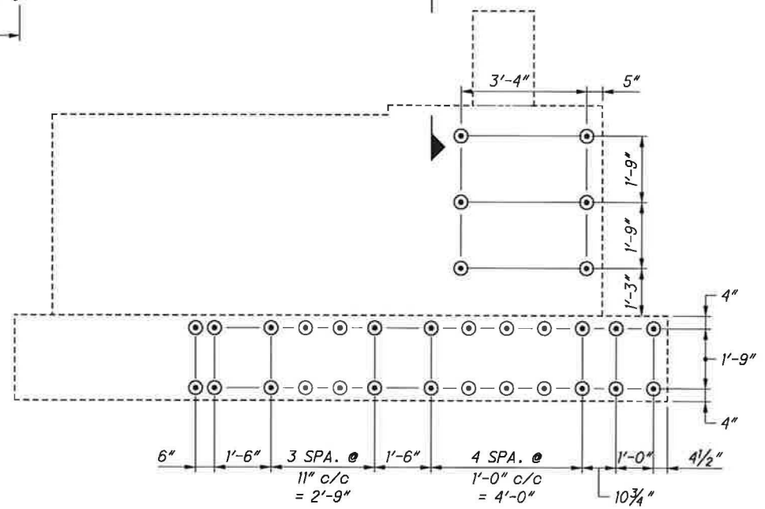
SECTION A-17 / 18

DOWEL HOLE LOCATIONS
TYPICAL ALL BACKWALLS



ELEVATION A-2 / 15

GROUND LINE NOT SHOWN



SECTION A-14 / 18

DOWEL HOLE LOCATIONS
REAR ABUTMENT, PHASE 2 CONSTRUCTION

LEGEND

◇ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT.

NOTES

1. THE MINIMUM LAP LENGTHS FOR REINFORCING STEEL ARE 2'-5" FOR #5 BARS AND 2'-11" FOR #6 BARS.
2. FOR PLAN VIEW OF FOOTING REINFORCING STEEL, SEE SHEET 17/45.

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REAR ABUTMENT DETAILS - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

18 / 45

94 / 121

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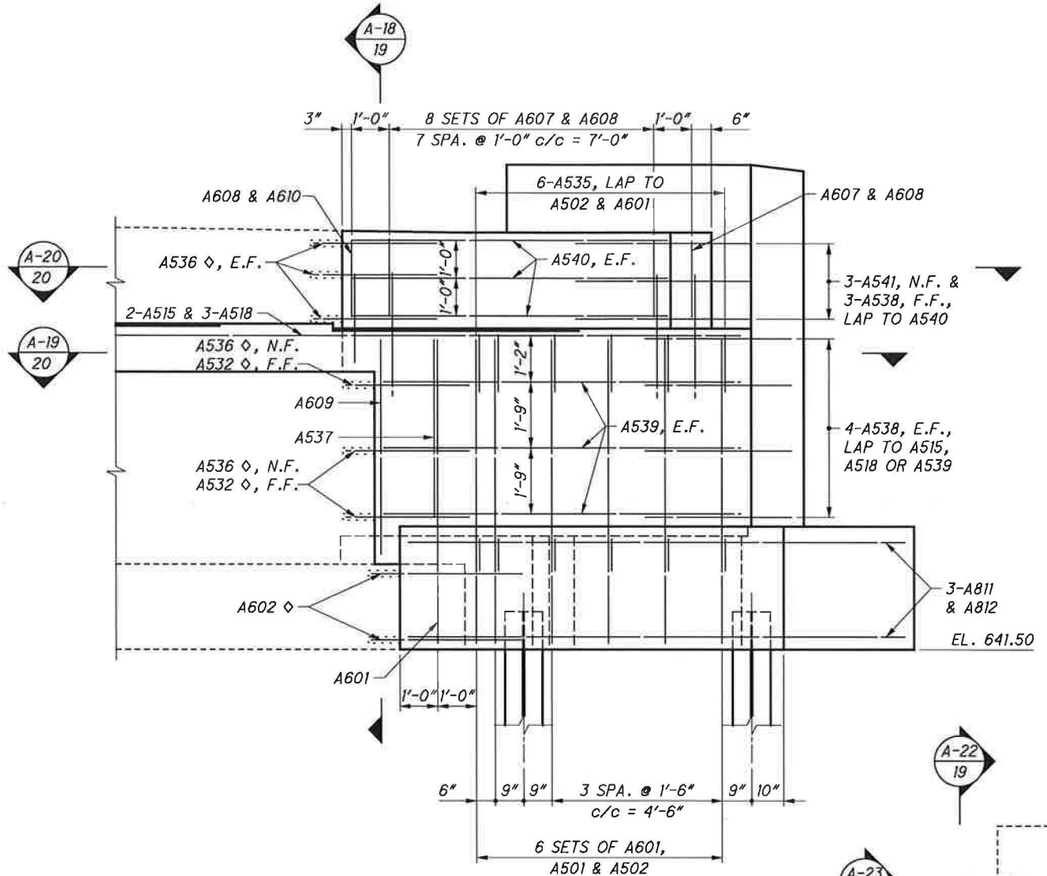
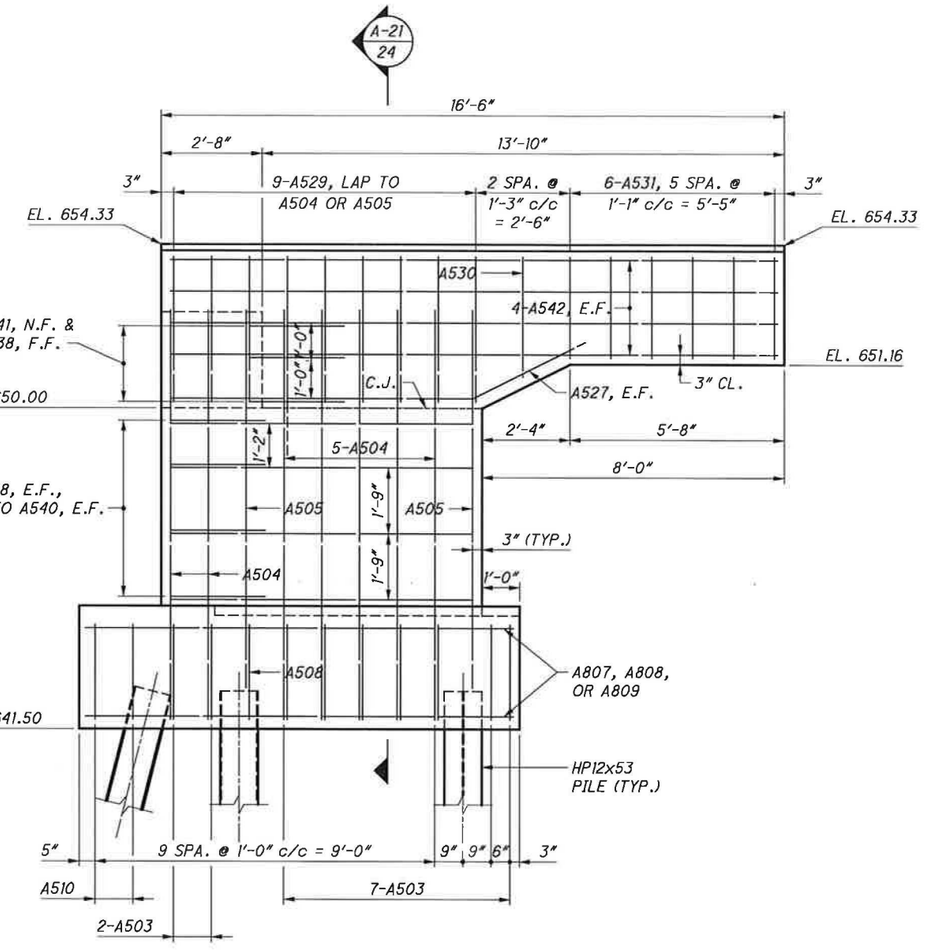


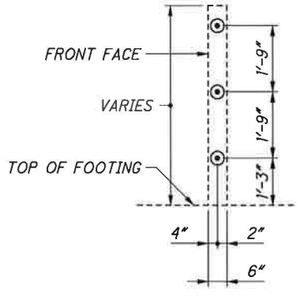
ELEVATION A-3 / 15

GROUND LINE NOT SHOWN



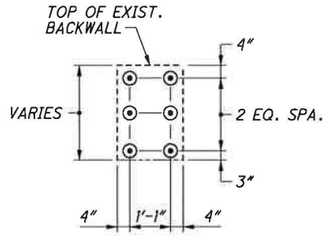
ELEVATION A-4 / 15

GROUND LINE NOT SHOWN



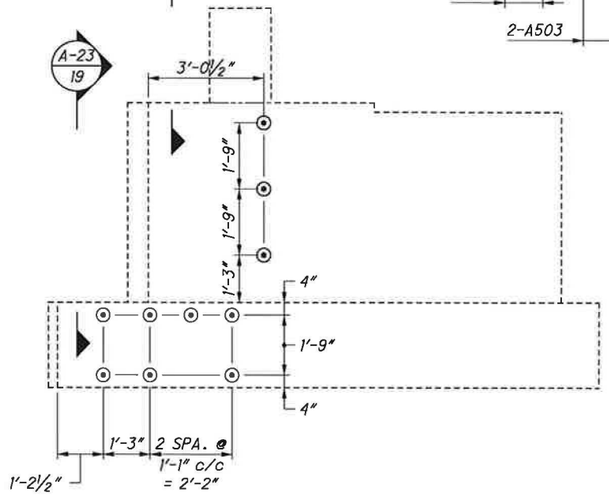
SECTION A-23 / 19

DOWEL HOLE LOCATIONS
ALSO SEE SHEET 20/45.



SECTION A-22 / 19

DOWEL HOLE LOCATIONS
TYPICAL ALL BACKWALLS



SECTION A-18 / 19

DOWEL HOLE LOCATIONS
REAR ABUTMENT, PHASE 1 CONSTRUCTION

LEGEND

◇ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT.

NOTES

1. THE MINIMUM LAP LENGTHS FOR REINFORCING STEEL ARE 2'-5" FOR #5 BARS AND 2'-11" FOR #6 BARS.
2. FOR PLAN VIEW OF FOOTING REINFORCING STEEL, SEE SHEET 17/45.

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REAR ABUTMENT DETAILS - 2
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

19 / 45

95
121

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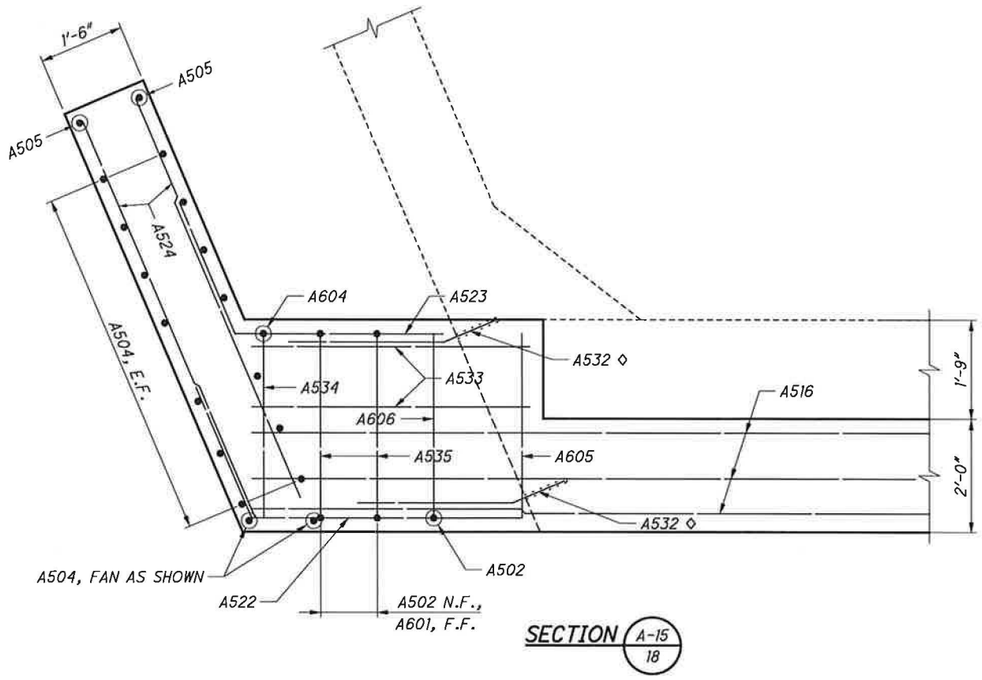
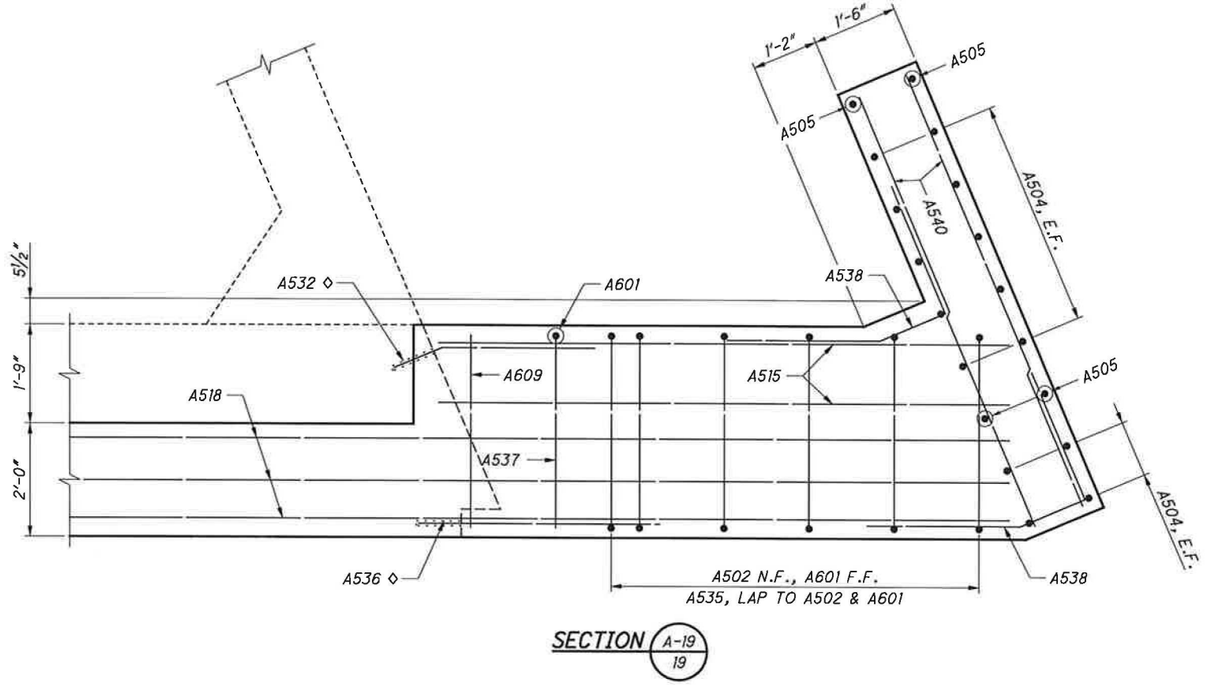
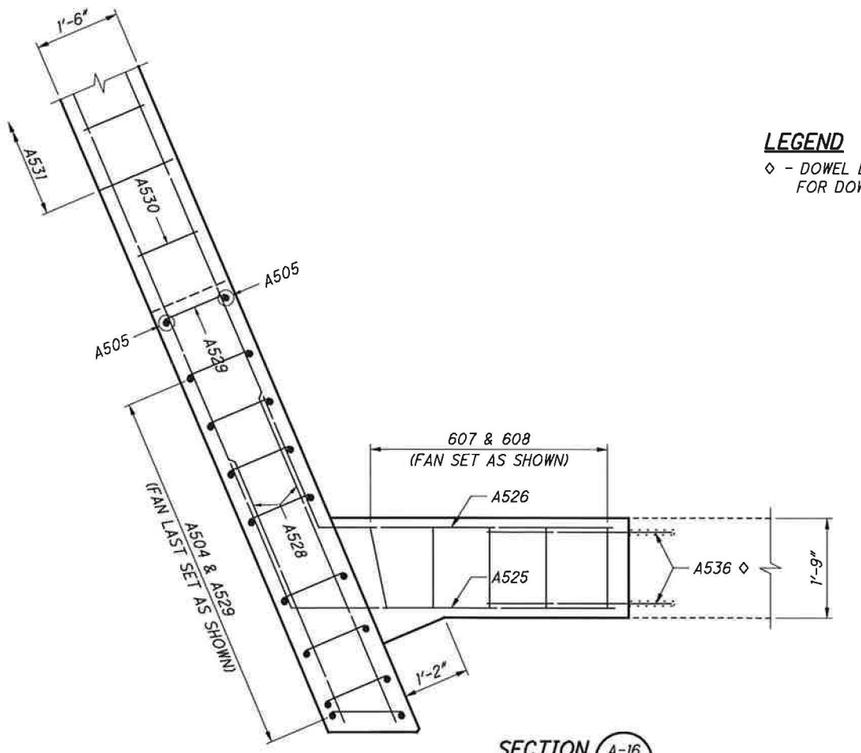


SECTION A-15 / 18



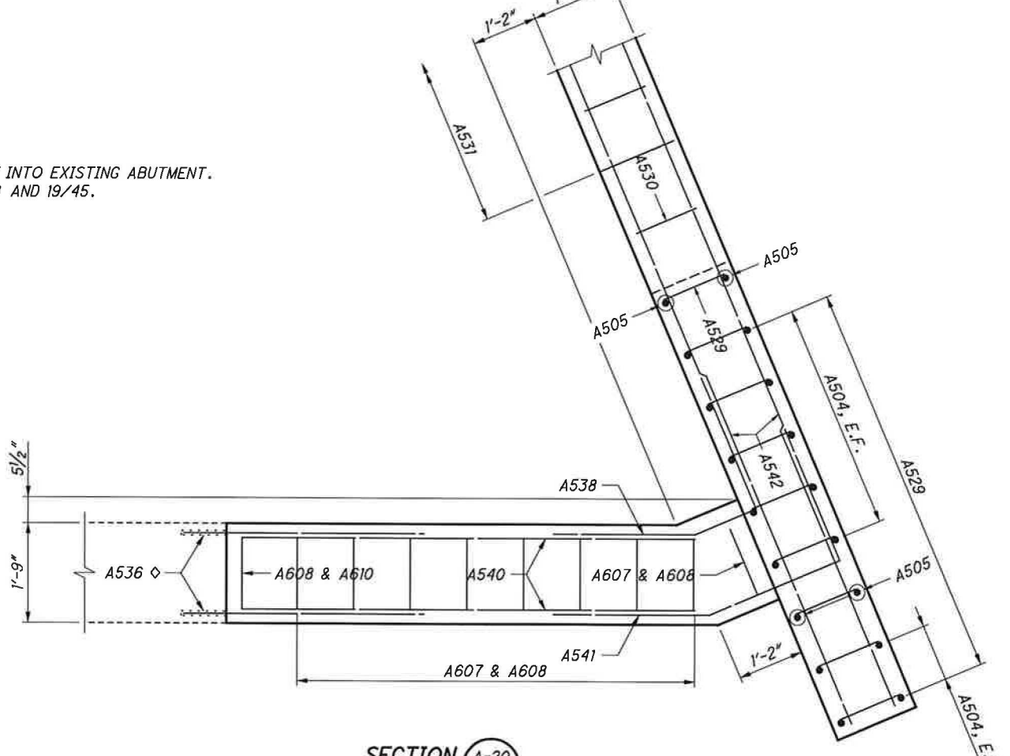
SECTION A-19 / 19



SECTION A-16 / 18

LEGEND

◊ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT.
FOR DOWEL HOLE LOCATIONS, SEE SHEETS 18 AND 19/45.



SECTION A-20 / 19

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DESIGNED	DRAWN	REVIEWED	DATE
BPS	BPS	DOR	06/27/2012
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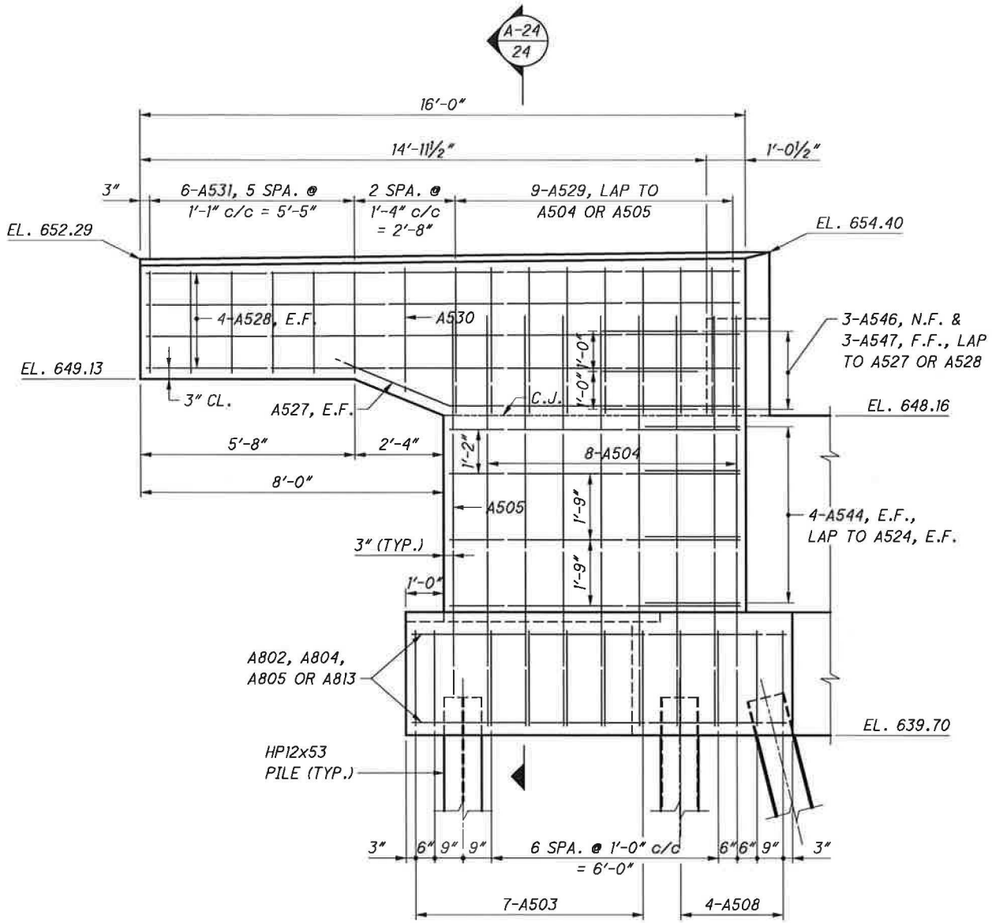
PAT		4707478	

REAR ABUTMENT DETAILS - 3
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

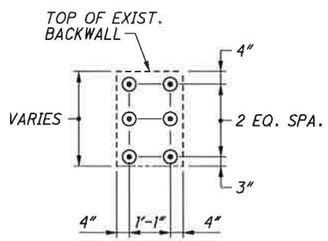
20 / 45

96 / 121



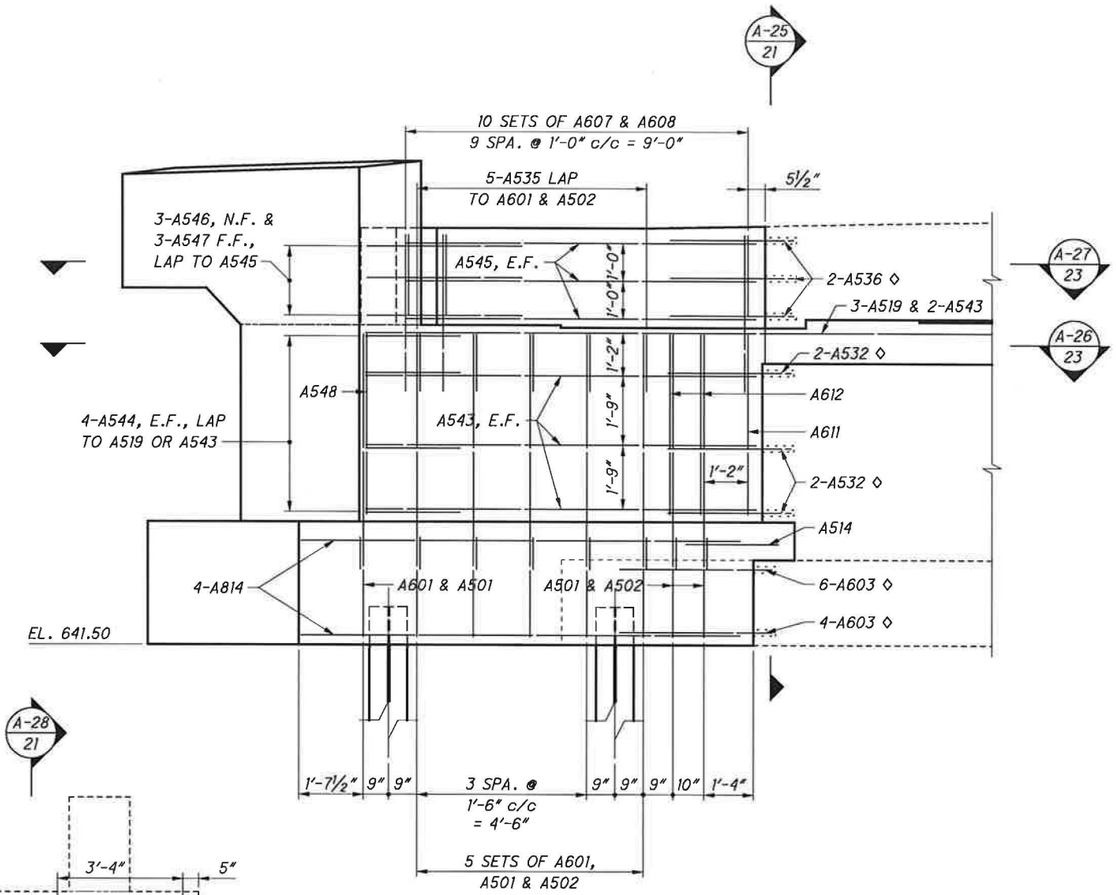
ELEVATION A-7 / 16

GROUND LINE NOT SHOWN



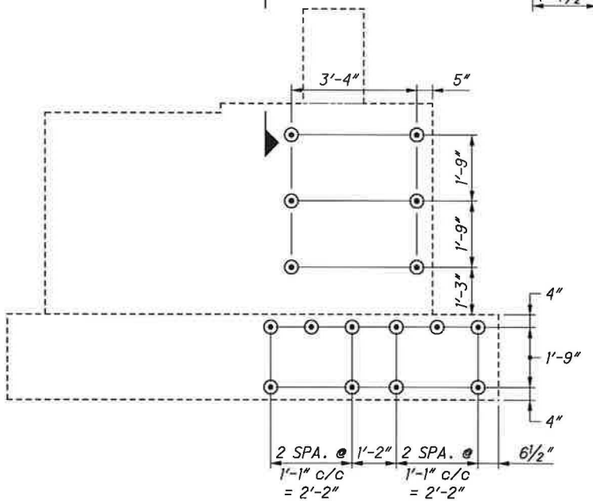
SECTION A-28 / 21

DOWEL HOLE LOCATIONS
TYPICAL ALL BACKWALLS



ELEVATION A-8 / 16

GROUND LINE NOT SHOWN



SECTION A-25 / 21

DOWEL HOLE LOCATIONS
FORWARD ABUTMENT, PHASE 1 CONSTRUCTION

LEGEND

◇ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT.

NOTES

1. THE MINIMUM LAP LENGTHS FOR REINFORCING STEEL ARE 2'-5" FOR #5 BARS AND 2'-11" FOR #6 BARS.
2. FOR PLAN VIEW OF FOOTING REINFORCING STEEL, SEE SHEET 17/45.

DLZ
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BPS	BPS	DOR	06/27/2012
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PAT		4707478	

FORWARD ABUTMENT DETAILS - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

21 / 45

97 / 121

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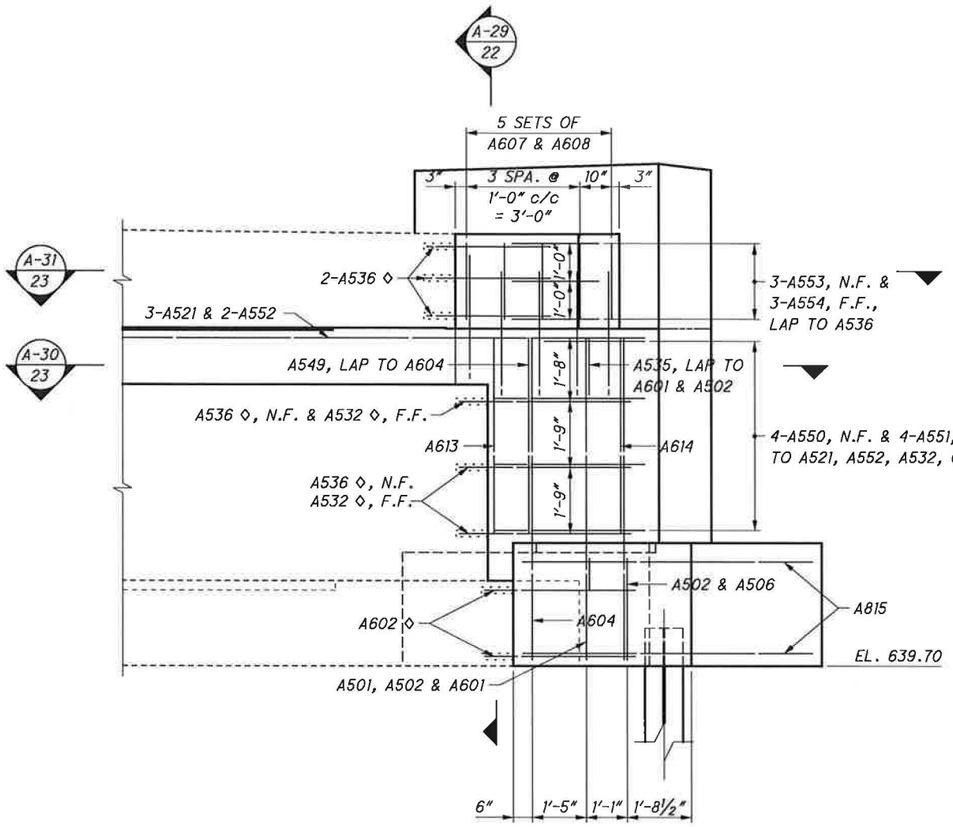
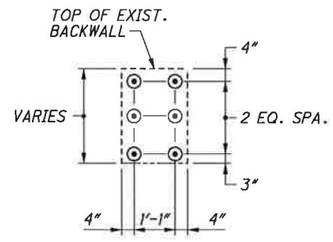


ELEVATION A-9 / 16

GROUND LINE NOT SHOWN

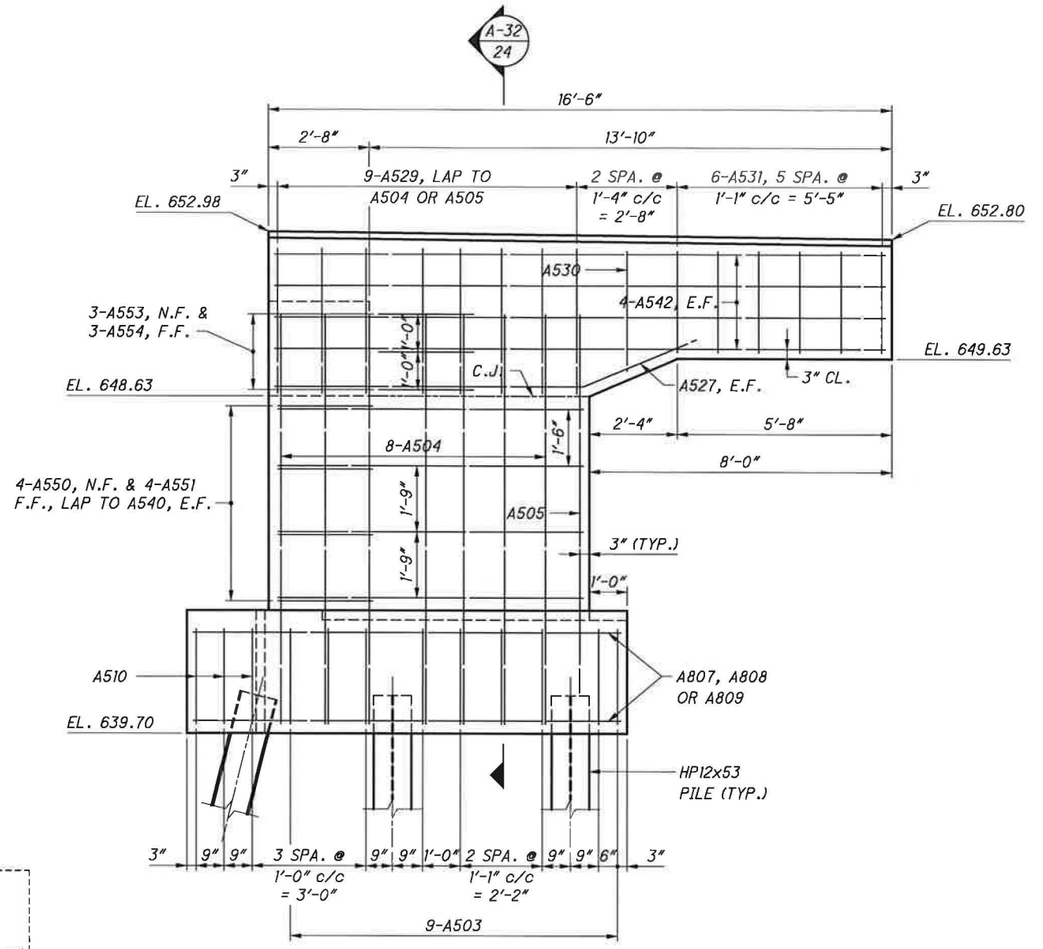
SECTION A-34 / 22

DOWEL HOLE LOCATIONS
ALSO SEE SHEET 23/45.



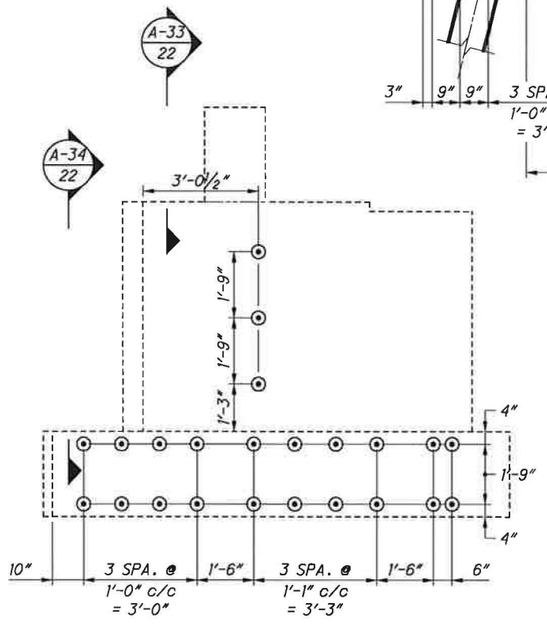
SECTION A-33 / 22

DOWEL HOLE LOCATIONS
TYPICAL ALL BACKWALLS



ELEVATION A-10 / 16

GROUND LINE NOT SHOWN



SECTION A-29 / 22

DOWEL HOLE LOCATIONS
FORWARD ABUTMENT, PHASE 2 CONSTRUCTION

LEGEND

◊ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT.

NOTES

1. THE MINIMUM LAP LENGTHS FOR REINFORCING STEEL ARE 2'-5" FOR #5 BARS AND 2'-11" FOR #6 BARS.
2. FOR PLAN VIEW OF FOOTING REINFORCING STEEL, SEE SHEET 17/45.

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FORWARD ABUTMENT DETAILS - 2
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

22 / 45

98
121

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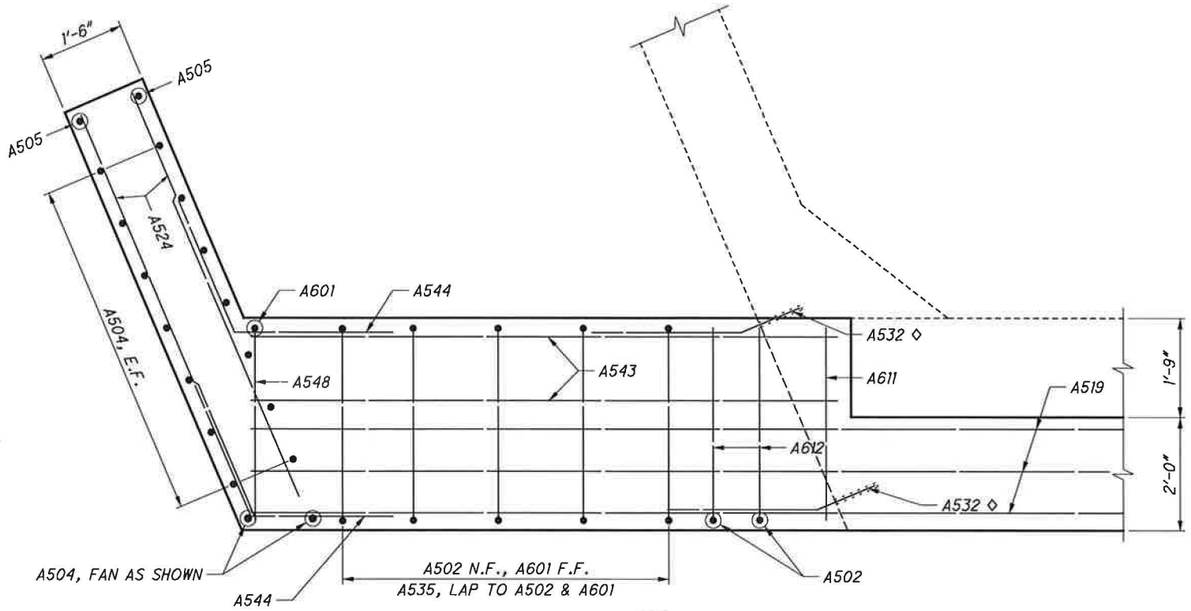
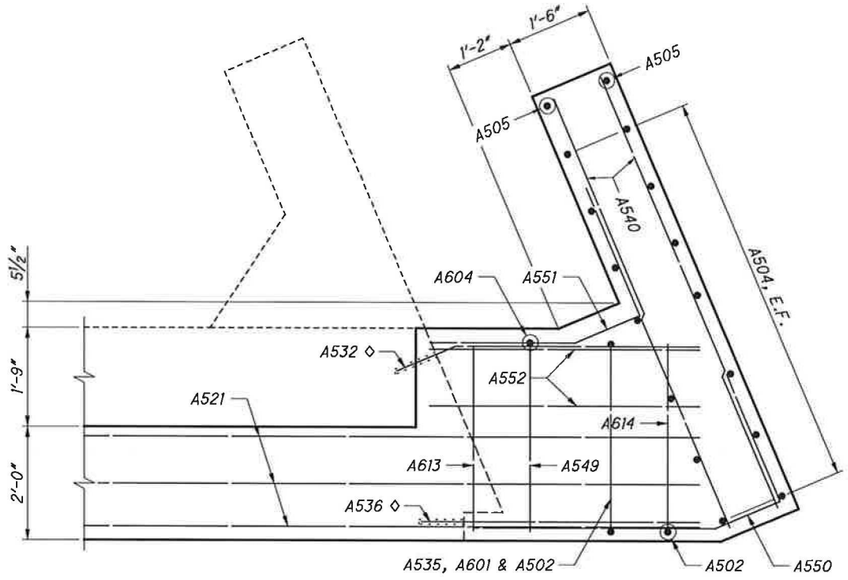


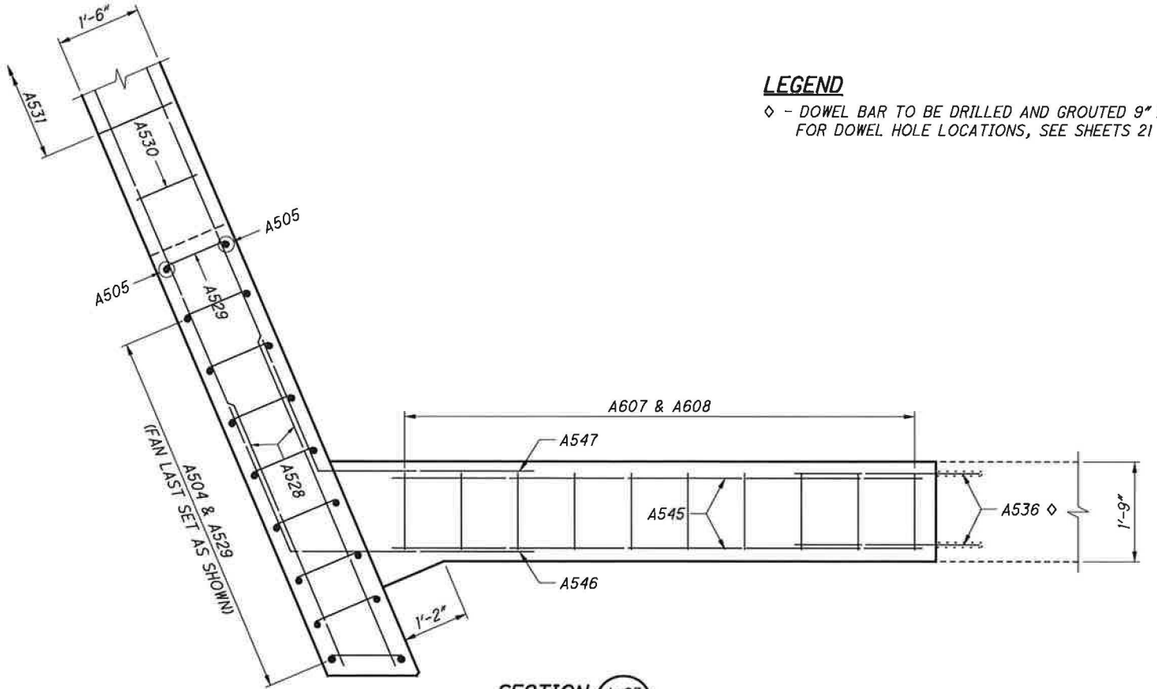
SECTION A-26 / 21



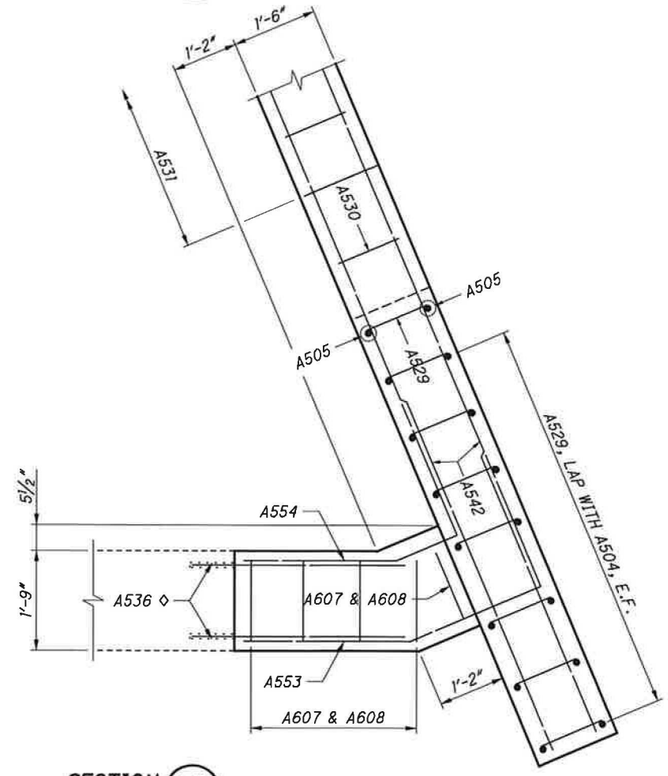
SECTION A-30 / 22

LEGEND

◊ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT. FOR DOWEL HOLE LOCATIONS, SEE SHEETS 21 AND 22/45.



SECTION A-27 / 21



SECTION A-31 / 22

DLZ
614 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BPS	BPS	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
PAT		4707478	

FORWARD ABUTMENT DETAILS - 3
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

23 / 45

99 / 121

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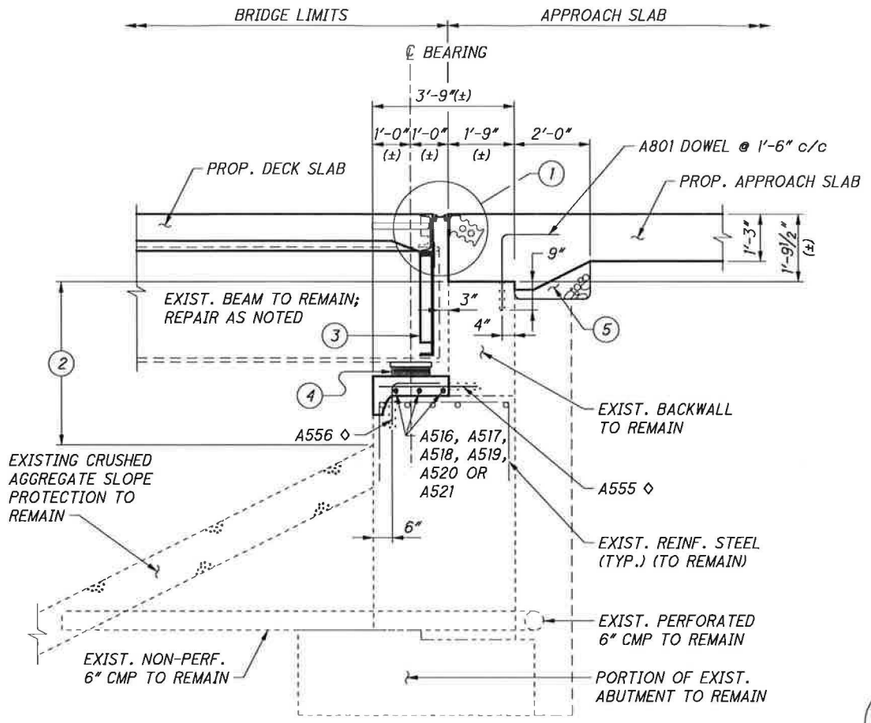
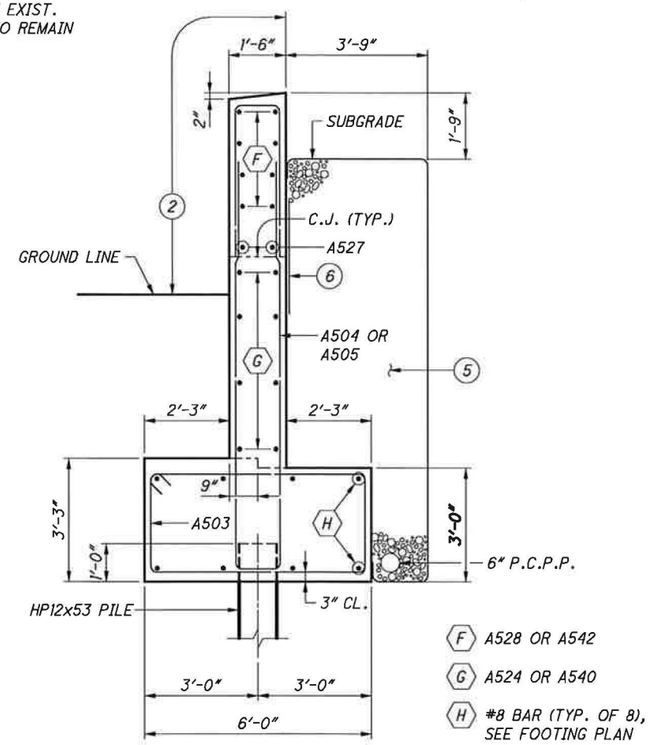


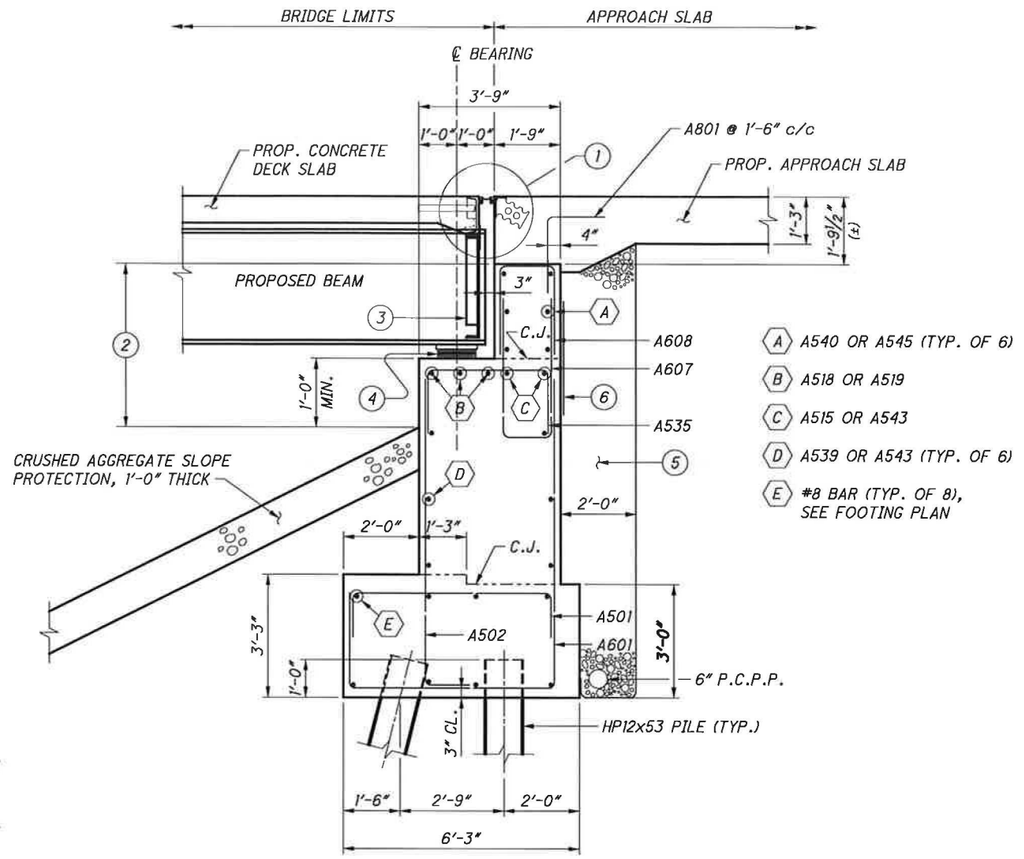
SECTION A-5/11 A-11/12

TYPICAL PROPOSED WORK AT EXISTING ABUTMENTS



SECTION A-13/18 A-21/19 A-24/21 A-32/22

LEFT SIDE SHOWN, RIGHT SIDE SIMILAR
APPROACH SLAB NOT SHOWN



SECTION A-6/11 A-12/12

TYPICAL PROPOSED WORK FOR ABUTMENT WIDENING

LEGEND

1. STRIP SEAL EXPANSION JOINT AS PER STANDARD DRAWING EXJ-4-87
2. LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
3. PROPOSED END CROSSFRAME, FOR DETAILS SEE STANDARD DRAWING GSD-1-96
4. PROPOSED ELASTOMERIC BEARING, FOR DETAILS SEE SHEET 29/45.
5. POROUS BACKFILL WITH FILTER FABRIC
6. TYPE 2 WATERPROOFING, 3'-0" WIDE, CENTERED ON PROPOPOSED HORIZONTAL C.J. AS SHOWN AND ON VERTICAL C.J. AT EXIST. ABUTMENT ENDS

◊ DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING ABUTMENT. FOR DOWEL HOLE LOCATIONS, SEE SHEET 20/45.

NOTES

1. FOR DETAILS AND LOCATIONS OF BEAM END REPAIRS, SEE SHEET 32/45.

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ABUTMENT SECTIONS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

24 / 45

100 / 121

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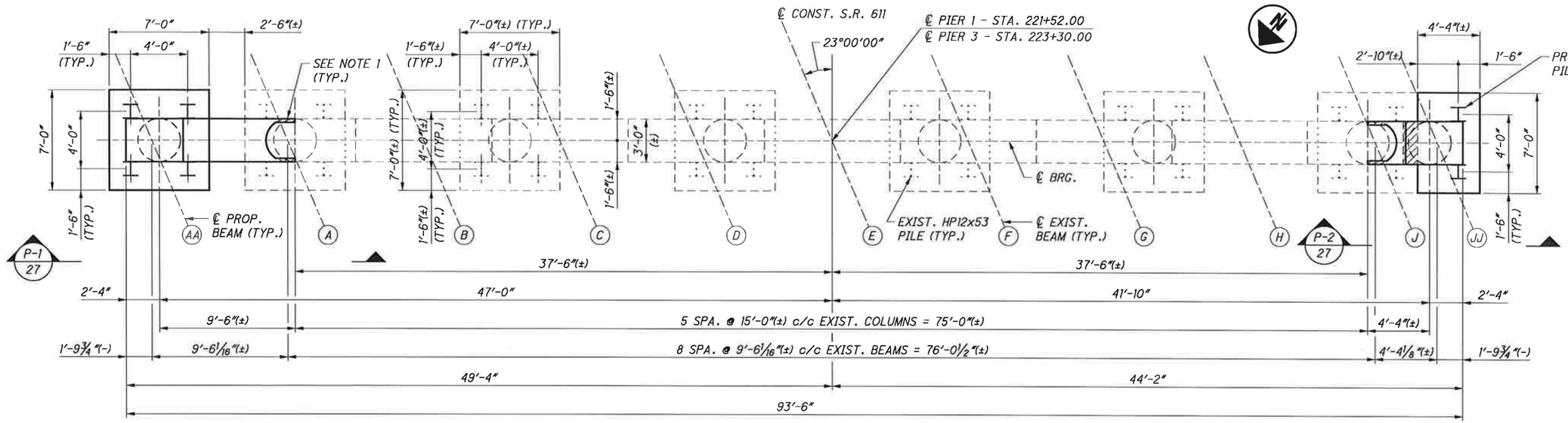
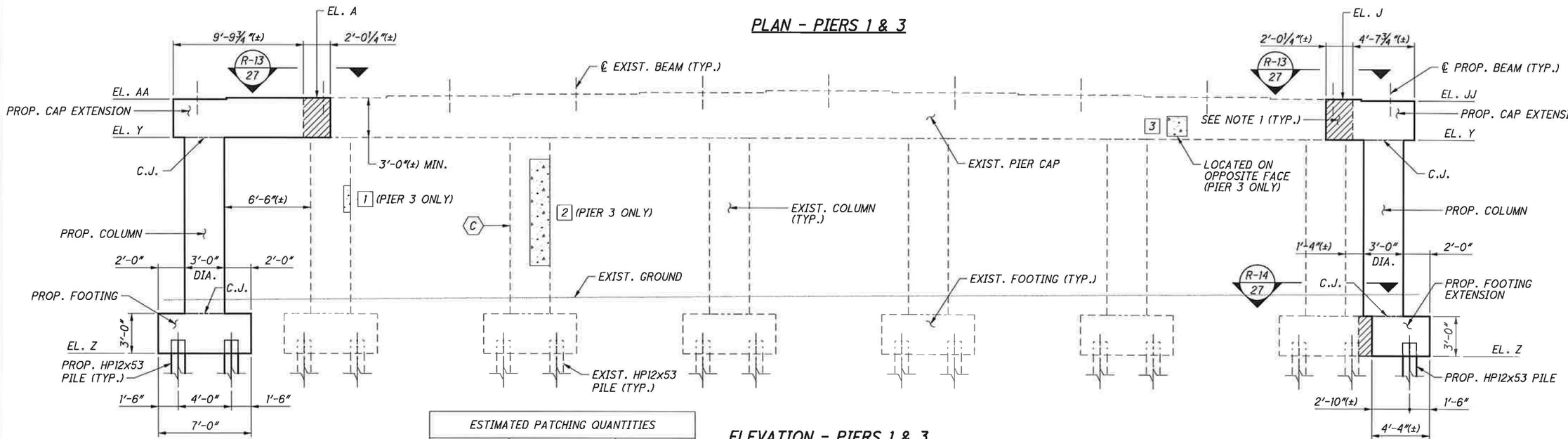


PLAN - PIERS 1 & 3



ELEVATION - PIERS 1 & 3

LEGEND

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

AREA OF DELAMINATION TO BE REPAIRED PER ITEM 519 - PATCHING CONCRETE STRUCTURE

(C) EXISTING PIER 3 COLUMN TO BE COMPOSITE FIBER WRAPPED

ESTIMATED PATCHING QUANTITIES		
LOCATION	WIDTH X HEIGHT	AREA (SF)
1	2'-0" x 2'-0"	4.00
2	3'-0" x 8'-0"	24.00
3	1'-6" x 1'-6"	2.25
TOTAL AREA MEASURED		30.25
TOTAL AREA ESTIMATED		40.84*

* SEE NOTE 3

PIER SEAT ELEVATIONS											
BEAM	AA	A	B	C	D	E	F	G	H	J	JJ
PIER 1	648.77	648.84(±)	648.98(±)	649.13(±)	649.27(±)	649.42(±)	649.29(±)	649.16(±)	649.03(±)	648.90(±)	648.92
PIER 3	647.69	647.80(±)	647.97(±)	648.14(±)	648.31(±)	648.48(±)	648.37(±)	648.27(±)	648.16(±)	648.05(±)	648.08

PIER ELEVATIONS		
LOCATION	Y	Z
PIER 1	645.84(±)	630.60(±)
PIER 3	644.80(±)	626.40(±)

NOTES

1. SAW CUT 1" DEEP AND REMOVE OUTER 3" OF EXISTING PIER CAP CONCRETE WITHIN THE LIMITS SHOWN. EXERCISE CARE IN REMOVING CONCRETE TO NOT DAMAGE THE EXISTING REINFORCING STEEL.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN NOVEMBER 2011. THE EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD FOR FINAL PAY QUANTITY.
3. ESTIMATED PATCHING QUANTITIES HAVE BEEN INCREASED BY 35% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION.

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PIER 1 & 3 PLAN & ELEVATION
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

25 / 45

101 / 121

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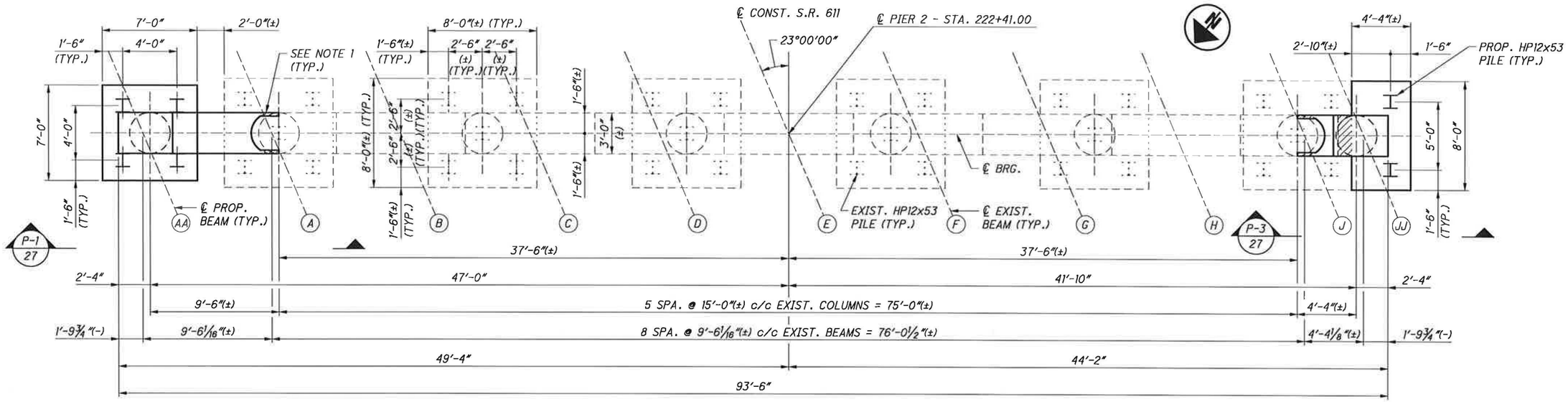
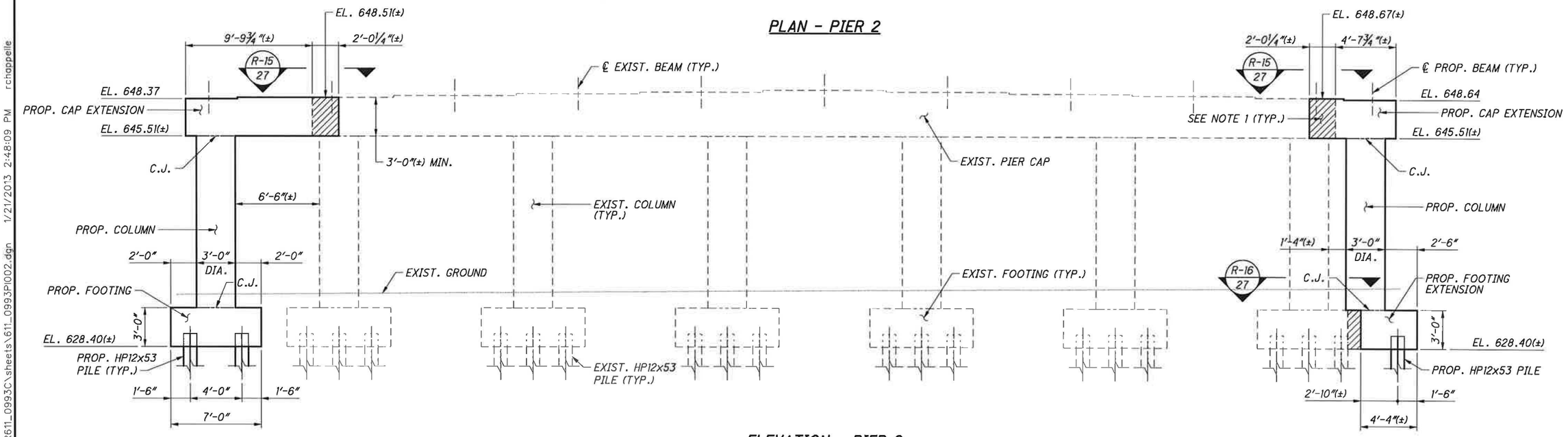


PLAN - PIER 2



ELEVATION - PIER 2

PIER SEAT ELEVATIONS											
BEAM	AA	A	B	C	D	E	F	G	H	J	JJ
PIER 2	648.37	648.51(±)	648.67(±)	648.83(±)	648.98(±)	649.14(±)	649.02(±)	648.91(±)	648.79(±)	648.67(±)	648.64

LEGEND

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

NOTES

1. SAW CUT 1" DEEP AND REMOVE OUTER 3" OF EXISTING PIER CAP AT LIMITS SHOWN. EXERCISE CARE IN REMOVING CONCRETE TO NOT DAMAGE THE EXISTING REINFORCING STEEL.
2. PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN NOVEMBER 2011. NO DETERIORATION WAS NOTED ON PIER 2.

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PIER 2 PLAN & ELEVATION
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LOR-611-09.96
PID No. 83447

26 / 45

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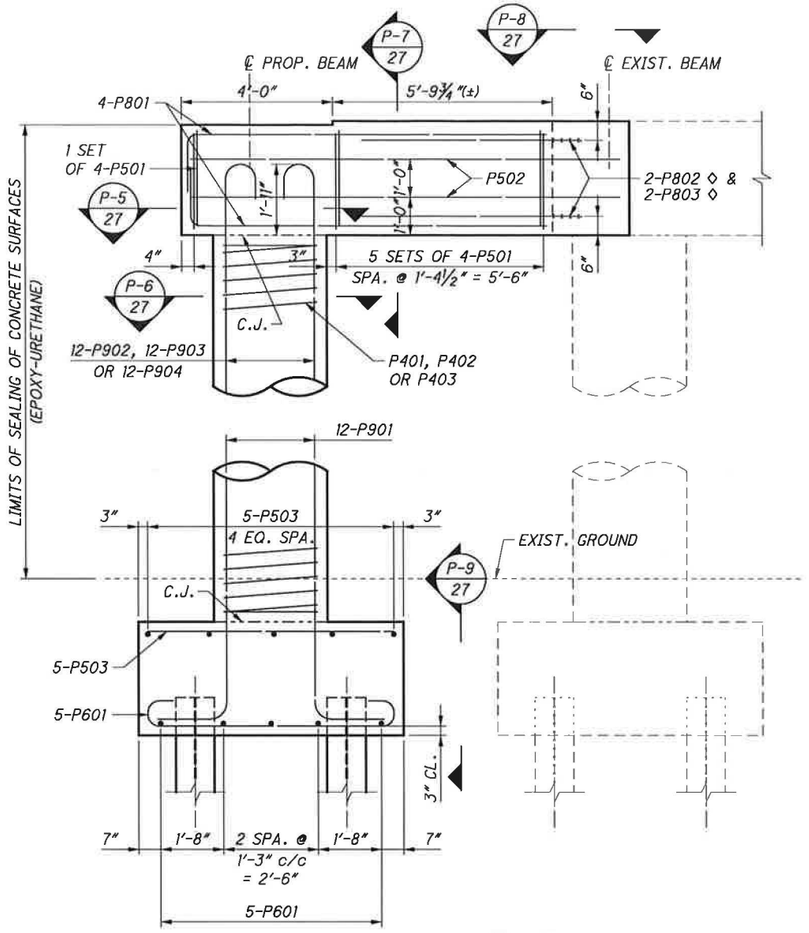
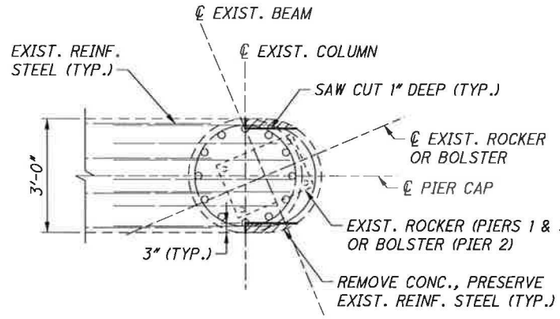


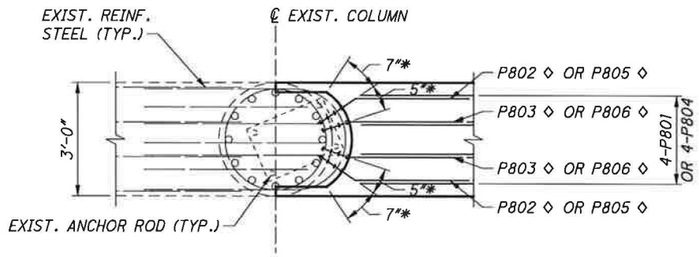
ELEVATION P-1 25 / P-3 26

TYPICAL ELEVATION OF LEFT SIDE PIER EXTENSION



SECTION R-13 25 / R-15 26

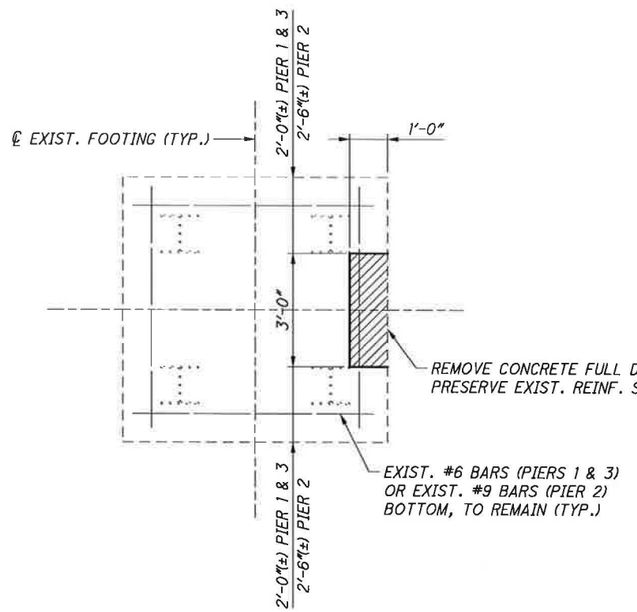
TYPICAL REMOVAL AT EXIST. PIER CAP ENDS



* MEASURED ALONG FACE OF EXIST. CAP

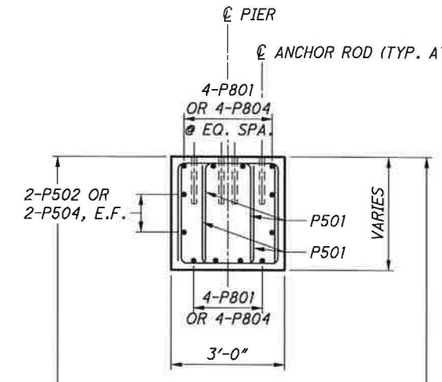
SECTION P-8 27 / P-12 28

DOWEL LOCATIONS
TYPICAL AT EXIST. PIER END CAPS



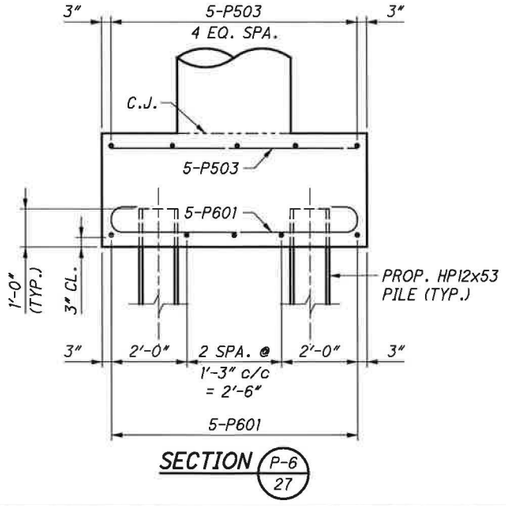
SECTION R-14 25 / R-16 26

TYPICAL REMOVAL AT EXIST. FOOTING

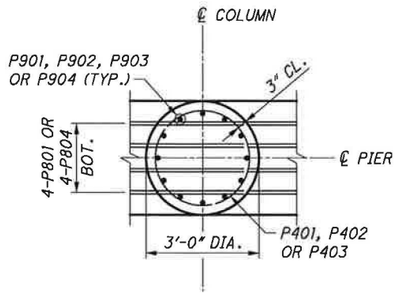


SECTION P-7 27 / P-13 28

TYPICAL PIER CAP REINFORCING

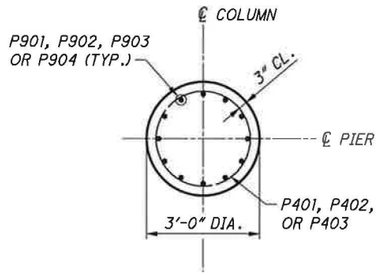


SECTION P-6 27



SECTION P-5 27 / P-10 28

SHOWING BOTTOM CAP REINFORCING PLACEMENT



SECTION P-6 27 / P-11 28

TYPICAL COLUMN REINFORCING

LEGEND

◇ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING PIER CAP.

PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.

NOTES

1. FOR THE PIER REINFORCEMENT, THE MINIMUM LAP LENGTHS ARE AS FOLLOWS: #5 BARS = 2'-5"; #6 BARS = 2'-11"; #8 BARS = 4'-11"; #9 BARS = 6'-2"
2. FOR PIER STATIONS AND ELEVATIONS, SEE SHEETS 25 AND 26/45.
3. CONCRETE SEALING LIMITS SHOWN ALSO APPLY TO ALL EXISTING PIER CAP AND COLUMN SURFACES.

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PIER DETAILS - 1
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LOR-611-09.96
PID No. 83447

27 / 45

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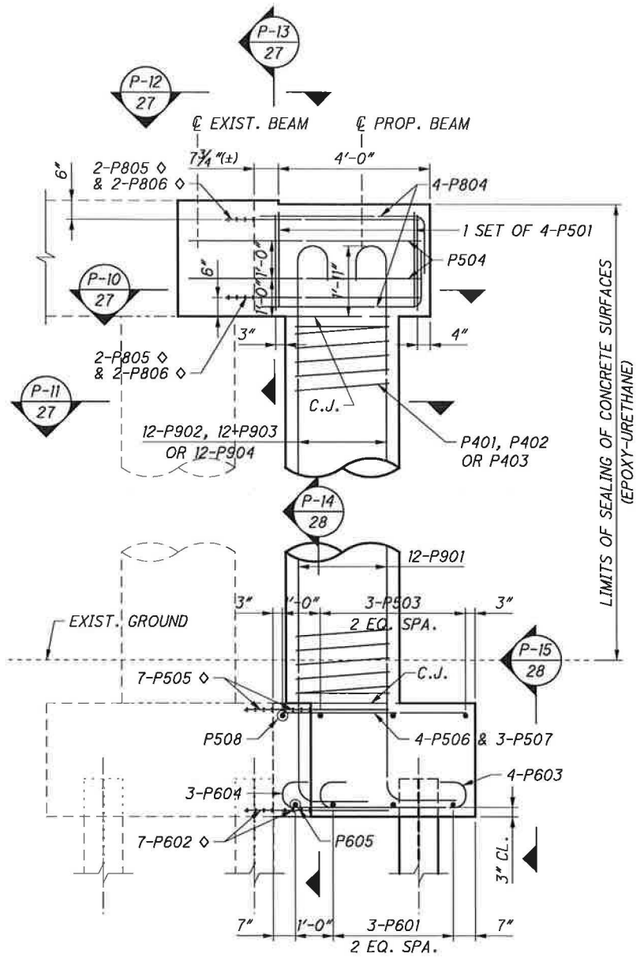
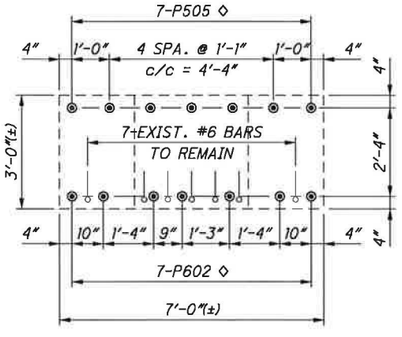


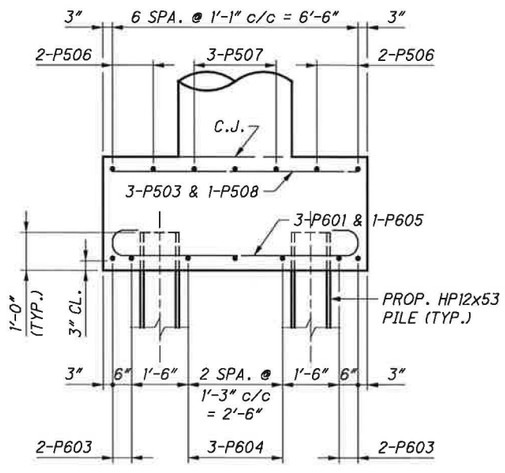
ELEVATION (P-2 / 25)

RIGHT SIDE PIER EXTENSION, PIERS 1 & 3

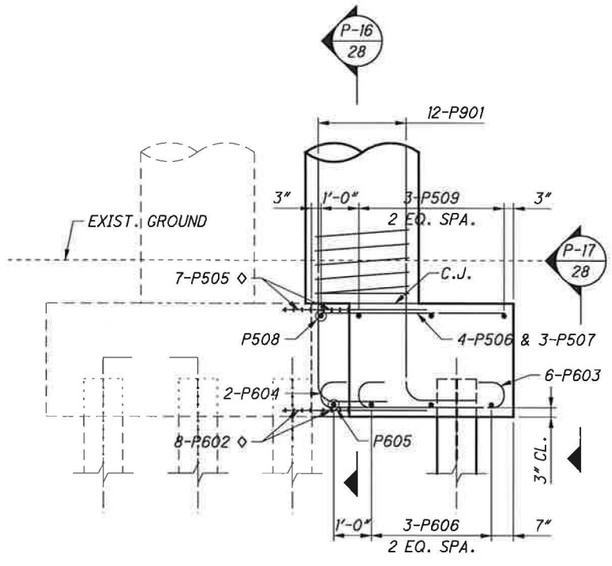


SECTION (P-14 / 28)

DOWEL LOCATIONS

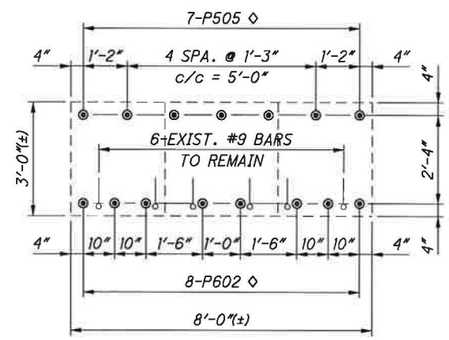


SECTION (P-15 / 28)



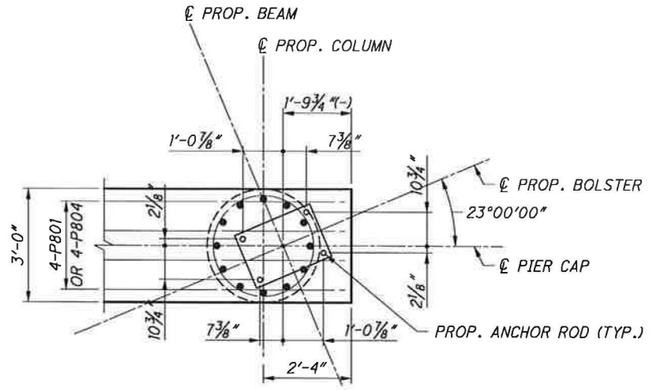
ELEVATION (P-3 / 25)

RIGHT SIDE PIER EXTENSION, PIER 2
CAP AND COLUMN TO MATCH PIERS 1 & 3



SECTION (P-16 / 28)

DOWEL LOCATIONS



BEARING ANCHOR LOCATION PLAN AT PIER 2

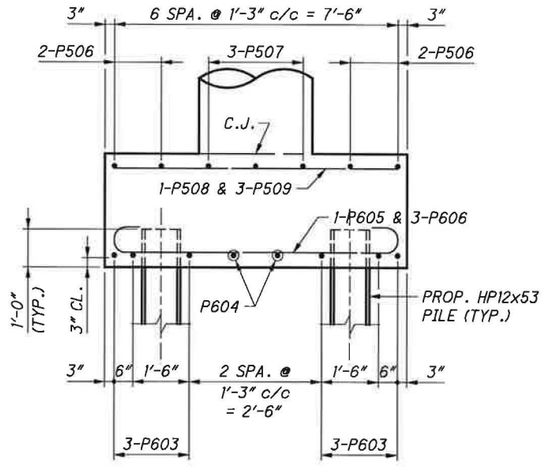
RIGHT SIDE SHOWN, LEFT SIDE SIMILAR

LEGEND

◊ - DOWEL BAR TO BE DRILLED AND GROUTED 9" INTO EXISTING PIER

NOTES

1. FOR THE PIER REINFORCEMENT, THE MINIMUM LAP LENGTHS ARE AS FOLLOWS: #5 BARS = 2'-5"; #6 BARS = 2'-11"; #8 BARS = 4'-11"; #9 BARS = 6'-2"
2. FOR PIER STATIONS AND ELEVATIONS, SEE SHEETS 25 AND 26/45.
3. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
4. CONCRETE SEALING LIMITS SHOWN ALSO APPLY TO ALL EXISTING PIER CAP AND COLUMN SURFACES.



SECTION (P-17 / 28)

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PIER DETAILS - 2

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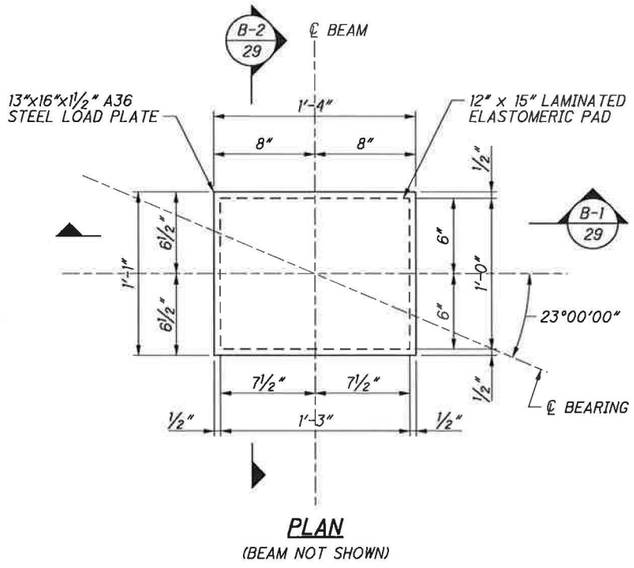


PLAN
(BEAM NOT SHOWN)

NOTES

1. BEARING DESIGN LOADS: EXPANSION BEARING (ABUTMENTS)

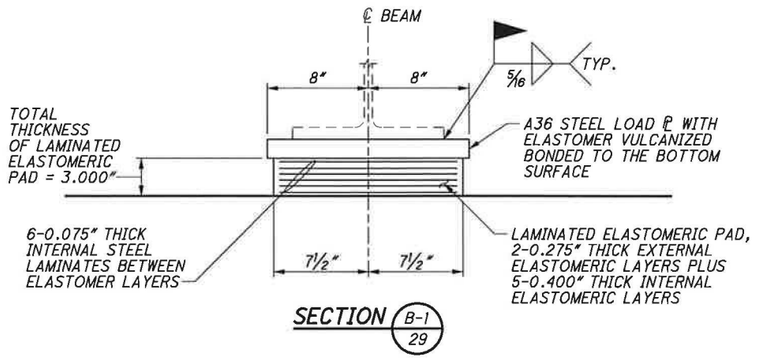
DEAD LOADS	39.5 K
LIVE LOADS	52.3 K
TOTAL DESIGN LOAD	91.8 K

2. A36 STEEL LOAD PLATES SHALL BE USED FOR ALL BEARINGS. THE LOAD PLATE SHALL BE VULCANIZED BONDED TO THE LAMINATED ELASTOMERIC PAD DURING THE MOLDING PROCESS.

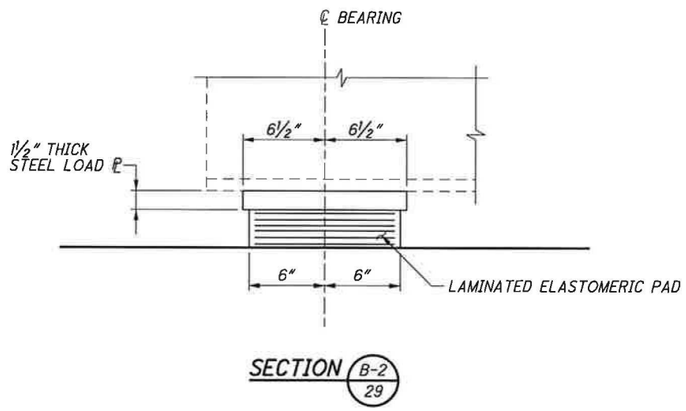
3. ELASTOMERIC BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER. BEARINGS WERE DESIGNED UNDER SECTION 14.6.6 OF SECTION 14, BEARINGS, DIVISION I, DESIGN.

4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND VISIBILE AFTER THE BEARING IS INSTALLED.

5. BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS AND STEEL LOAD PLATES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.



SECTION B-1 / 29



SECTION B-2 / 29

EXPANSION BEARING
(ABUTMENTS, 22 REQUIRED)

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BEARING DETAILS
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LOR-611-09.96
PID No. 83447

29 / 45

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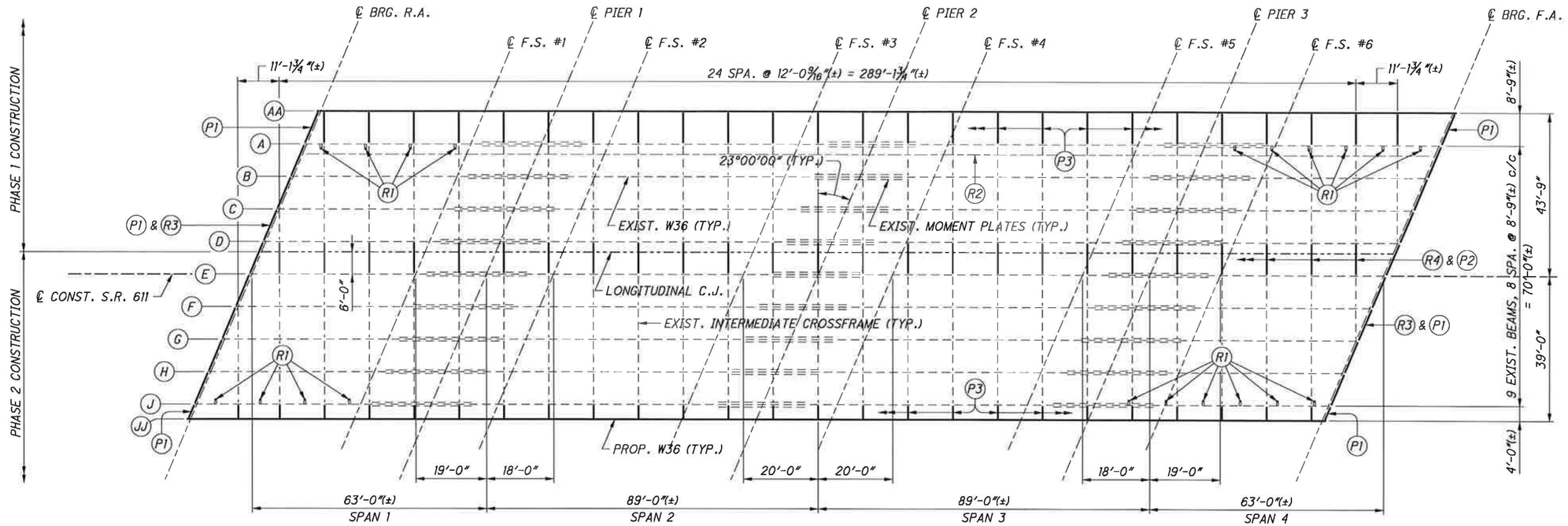

FRAMING PLAN

LEGEND

- (X) EXIST. BEAM LINE DESIGNATION
- (XX) PROP. BEAM LINE DESIGNATION
- (R1) EXIST. SCUPPER TO BE REMOVED (20 LOCATIONS)
- (R2) EXIST. 3" DIA. TRAFFIC CONDUIT SUPPORTED ON LOWER ANGLE OF EXIST. INTERMEDIATE CROSSFRAMES TO BE REMOVED
- (R3) EXIST. EXPANSION JOINT ARMOR AND END CROSSFRAME TO BE REMOVED (TYP. AT BOTH ABUTMENTS)
- (R4) EXIST. INTERMEDIATE CROSSFRAME TO BE REMOVED AFTER SAW CUTTING EXIST. DECK FOR PHASE 1 REMOVAL (TYP. BETWEEN EXIST. BEAMS D AND E)
- (P1) PROP. END CROSSFRAME PER STANDARD DRAWING GSD-1-96 AND EXPANSION JOINT ARMOR PER STANDARD DRAWING EXJ-4-87 (TYP. AT BOTH ABUTMENTS)
- (P2) PROP. TYPE 1 INTERMEDIATE CROSSFRAME PER STANDARD DRAWING GSD-1-96 TO BE INSTALLED AFTER ALL JACKING IS COMPLETE AND PRIOR TO PHASE 2 DECK PLACEMENT (TYP. BETWEEN EXIST. BEAMS D AND E)
- (P3) PROP. TYPE 1 INTERMEDIATE CROSSFRAME PER STANDARD DRAWING GSD-1-96 TO BE INSTALLED WITH ADJACENT PROPOSED BEAM, SEE NOTE 3.

NOTES

1. ALL EXISTING FRAMING IS TO REMAIN UNLESS OTHERWISE NOTED.
2. FIELD SPICE LOCATIONS SHOWN ARE FOR THE PROPOSED BEAMS. FOR LOCATION OF EXISTING BEAM FIELD SPLICES, SEE TYPICAL BEAM ELEVATIONS, SHEET 31/45.
3. LOCATE PROPOSED CROSSFRAMES TO MATCH SPACING OF EXISTING CROSSFRAMES WHEREVER POSSIBLE. WHERE A PROPOSED CROSSFRAME WOULD CONFLICT WITH A FIELD SPLICE, THE FABRICATOR MAY ADJUST THE CROSSFRAME LOCATION, BUT IN NO CASE SHALL SPACING BETWEEN ADJACENT CROSSFRAMES EXCEED 15'-0".
4. FOR DETAILS OF PROPOSED TYPE 1 INTERMEDIATE CROSSFRAMES AND END CROSSFRAMES, SEE STANDARD DRAWING GSD-1-96.
5. FOR TRANSVERSE SECTIONS, SEE SHEET 34/45.
6. FOR DECK SLAB PLAN, SEE SHEETS 36 AND 37/45.
7. FOR TYPICAL BEAM ELEVATIONS, SEE SHEET 31/45.

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FRAMING PLAN
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

30/45

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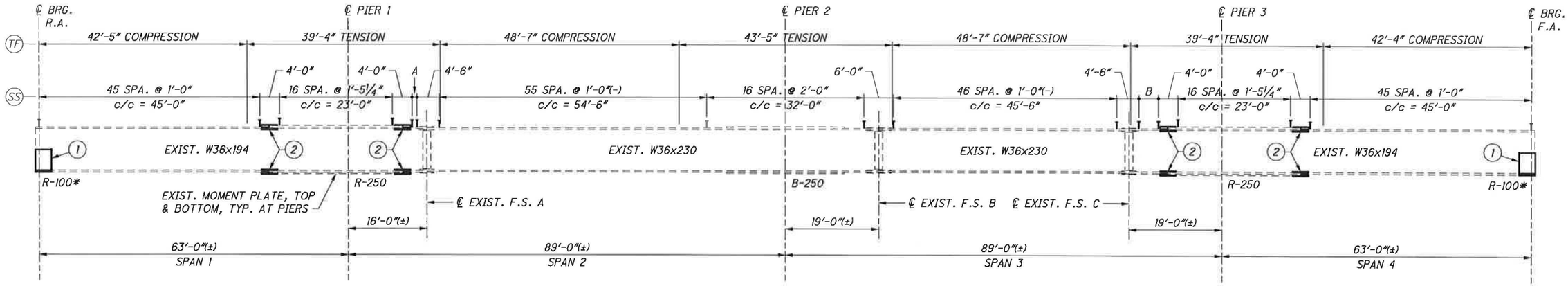
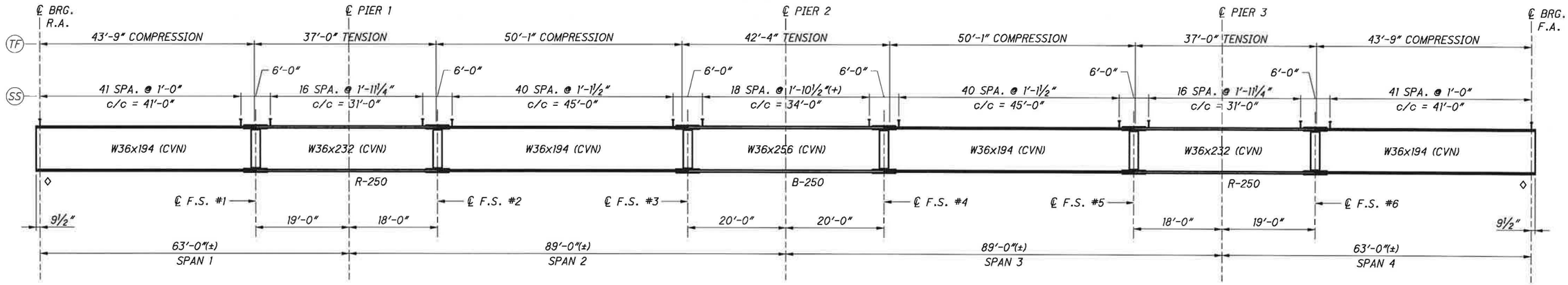


NOTE: A = 1 SPA. @ 1'-0" c/c = 1'-0"
B = 4 SPA. @ 1'-0" c/c = 4'-0"

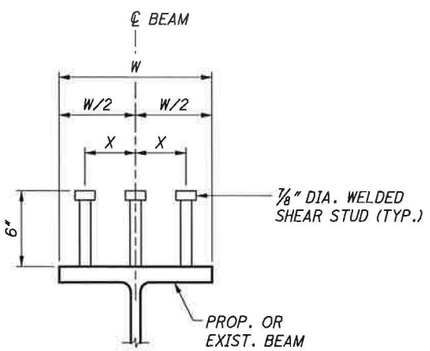
TYPICAL EXISTING BEAM ELEVATION

BEAMS A THROUGH J



TYPICAL PROPOSED BEAM ELEVATION

BEAMS AA & JJ



WELDED SHEAR STUD DETAIL

X = 4" FOR W36x194, W36x232 & W36x256
X = 6" FOR W36x230

LEGEND

(TF) TOP FLANGE STRESSES

(SS) WELDED SHEAR STUD SPACING

(1) PROP. REPAIR OF EXIST. BEAM END, FOR DETAILS AND REQUIRED LOCATIONS SEE SHEET 32/45.

(2) PROP. END WELDED MOMENT PLATE RETROFIT, BEAMS A THROUGH H ONLY, FOR DETAILS SEE SHEET 32/45.

* EXIST. ROCKER TO BE REMOVED AND REPLACED WITH PROP. ELASTOMERIC BEARING

◊ PROP. ELASTOMERIC BEARING

NOTES

1. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM THE EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
3. CLEAN AND PAINT ALL BEAMS, INTERMEDIATE CROSSFRAMES, END CROSSFRAMES, AND BEARING DEVICES.
4. BEARING ANCHOR RODS FOR NEW B-250 BEARINGS AT PIER 2 ARE TO BE INCLUDED FOR PAYMENT WITH ITEM 516 - BEARING DEVICE, BOLSTER.
5. FOR BOLTED FIELD SPLICE, END WELDED MOMENT PLATE RETROFIT, AND EXISTING BEAM END REPAIR DETAILS, SEE SHEET 32/45.
6. FOR DETAILS OF ROCKERS AND BOLSTERS, SEE STANDARD DRAWING RB-1-55.
7. FOR DETAILS OF ELASTOMERIC BEARINGS, SEE SHEET 29/45.
8. FOR FRAMING PLAN, SEE SHEET 30/45.

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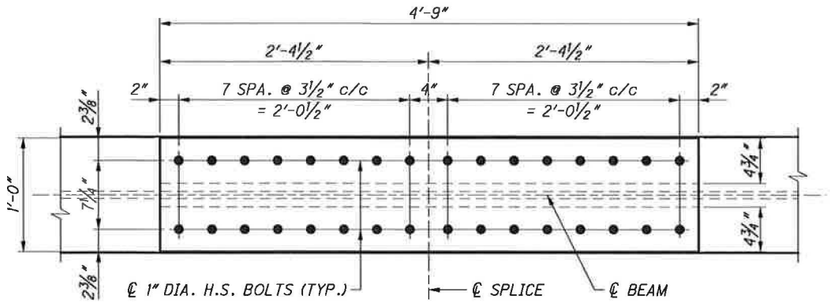
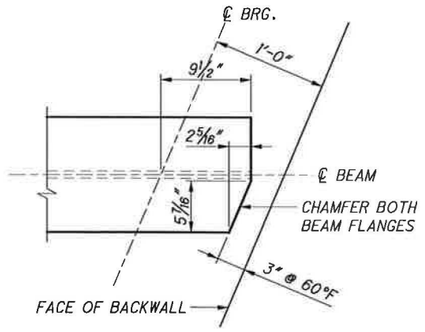
BEAM ELEVATIONS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

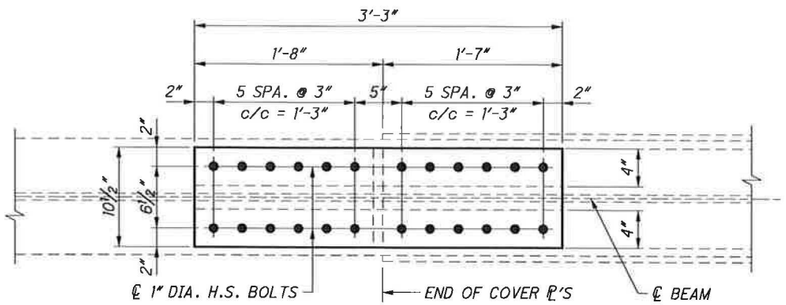


PLAN VIEW

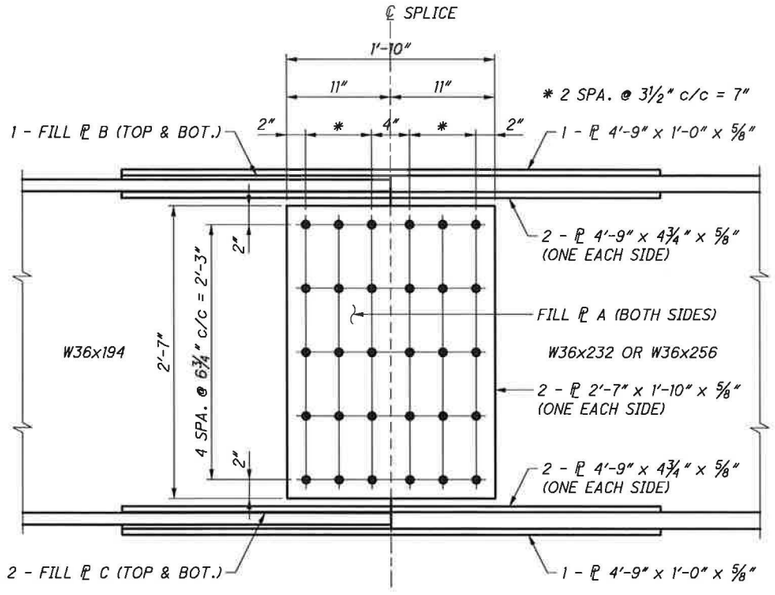


BEAM END DETAIL

APPLIES TO PROP. BEAMS AA & JJ AND TO BEAM END REPAIR SECTIONS



PLAN VIEW



ELEVATION

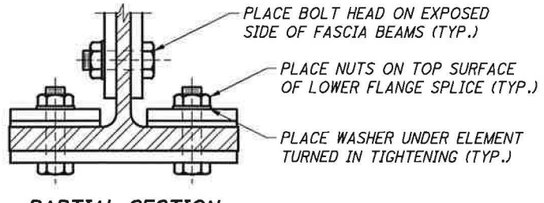
BOLTED FIELD SPLICE DETAIL

FIELD SPLICE #1, #2, #5 & #6, SPLICING W36x194 TO W36x232:

FILL PL A = NOT REQUIRED
FILL PL B = 2'-4½" x 1'-0" x 5/16"
FILL PL C = NOT REQUIRED

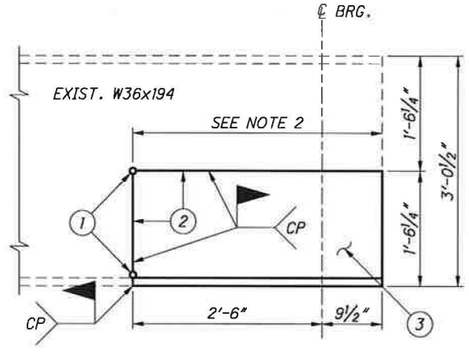
FIELD SPLICE #3 & #4, SPLICING W36x194 TO W36x256:

FILL PL A = 2'-7" x 11" x ⅛"
FILL PL B = 2'-4½" x 1'-0" x 7/16"
FILL PL C = 2'-4½" x 4½" x 1/16"



PARTIAL SECTION

(NOT TO SCALE)



EXISTING BEAM END REPAIR DETAIL

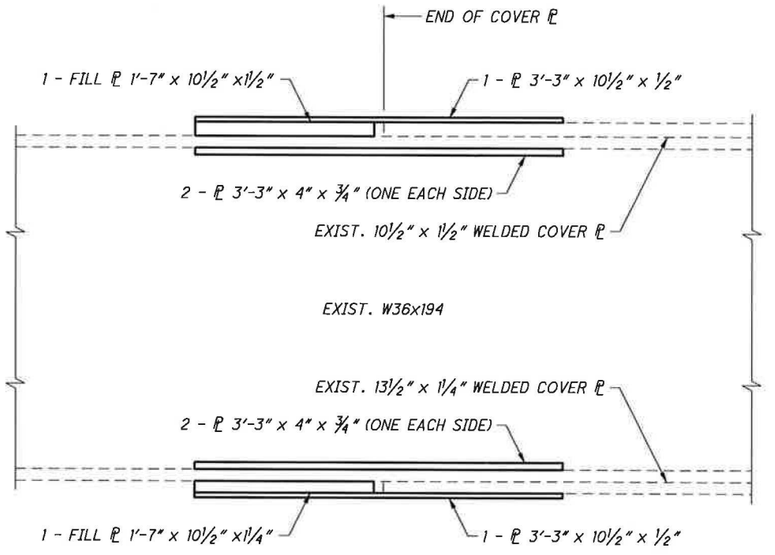
REAR ABUTMENT: BEAMS A, D, E, F, H & J
FORWARD ABUTMENT: BEAMS A, B & J

LEGEND

(1) DRILL 1" DIA. HOLES THROUGH EXIST. BEAM WEB PRIOR TO CUTTING AND FABRICATE THE REPAIR SECTION WITH MATCHING HALF-ROUND AND QUARTER-ROUND HOLES TO PROVIDE FOR TERMINATION OF WELDS WITHOUT INTERSECTING WELDS.

(2) CUT EXIST. BEAM WEB AND FLANGE AS SHOWN AND PREPARE EDGES FOR FULL PENETRATION WELD. INCLUDE THIS WORK FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

(3) PORTION OF EXIST. BEAM TO BE REMOVED AND REPLACED WITH A WT18x97 OR A NEW SECTION OF BEAM CUT FROM W36x194. INCLUDE COST OF ALL MATERIAL, LABOR, AND INCIDENTALS FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL, MISC.: BEAM END REPAIR, LEVEL UF.



ELEVATION

END WELDED MOMENT PLATE RETROFIT DETAIL

NOTES

1. EXISTING BEAM END REPAIR: PERFORM THIS WORK AFTER REMOVAL OF EXISTING DECK SLAB AND BEFORE INSTALLATION OF NEW ABUTMENT BEARINGS. INCLUDE TEMPORARY SUPPORT OF EXISTING BEAM AS REQUIRED TO PERFORM THE WORK FOR PAYMENT WITH ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.
2. VERIFY REQUIRED LENGTH OF REPAIR SECTION PRIOR TO ORDERING MATERIAL. IF REQUIRED, TRIM REMAINING PORTION OF THE BEAM END TO PROVIDE 3" MIN. CLEARANCE TO EXISTING BACKWALL AT 60° F.
3. END WELDED MOMENT PLATE RETROFIT: PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MOMENT PLATE FATIGUE RETROFIT, LEVEL UF. EACH LOCATION TO BE PAID INCLUDES THE TOP AND BOTTOM FLANGE RETROFITS AND THE FIELD DRILLING OF BOLT HOLES IN THE EXISTING STEEL.
4. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 UNLESS OTHERWISE NOTED.
5. FOR FRAMING PLAN, SEE SHEET 30/45.
6. FOR BEAM ELEVATIONS, SEE SHEET 31/45.

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SUPERSTRUCTURE DETAILS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

32 / 45

108
121

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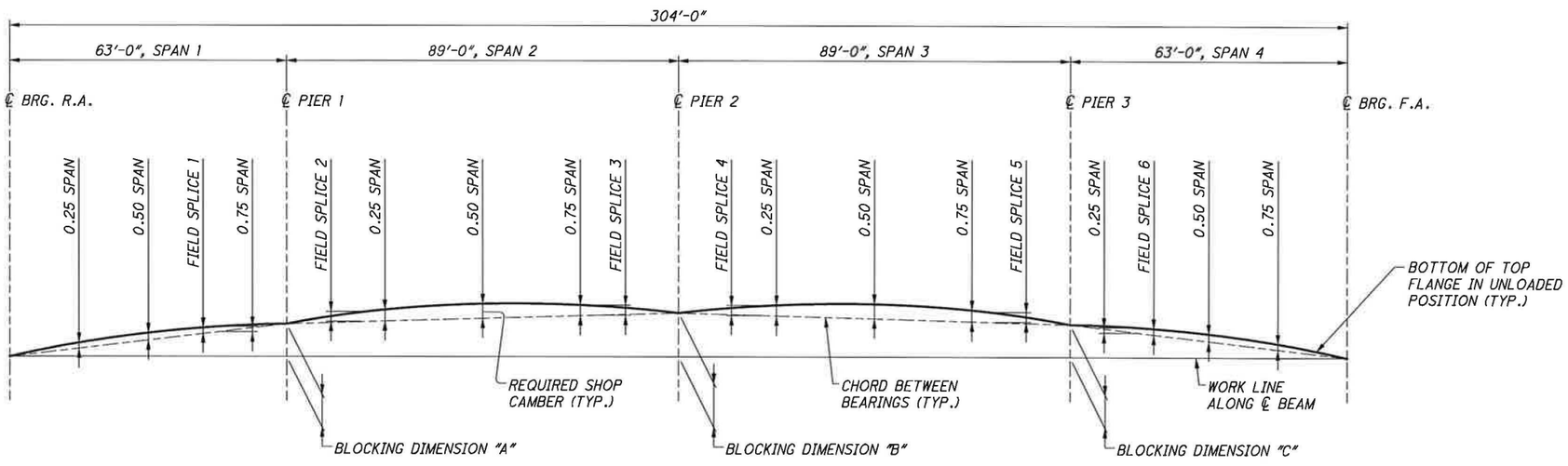
DEFLECTION AND CAMBER (IN INCHES)

		SPAN 1					SPAN 2						SPAN 3						SPAN 4					
BEAM LINE	CAMBER DESCRIPTION	℄ BRG. R.A.	0.25	0.50	F.S. 1	0.75	℄ PIER 1	F.S. 2	0.25	0.50	0.75	F.S. 3	℄ PIER 2	F.S. 4	0.25	0.50	0.75	F.S. 5	℄ PIER 3	0.25	F.S. 6	0.50	0.75	℄ BRG. F.A.
(AA)	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/16	1/16	0	0	0	1/16	1/8	3/16	1/16	1/16	0	1/16	1/16	3/16	1/8	1/16	0	0	0	1/16	1/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	1/4	1/4	1/8	1/16	0	3/8	7/16	3/4	3/8	5/16	0	5/16	3/8	3/4	7/16	3/8	0	1/16	1/8	1/4	1/4	0
	ADJUSTMENT FOR VERTICAL CURVATURE	0	3/16	1/4	3/16	3/16	0	5/16	5/16	7/16	5/16	5/16	0	5/16	5/16	7/16	5/16	5/16	0	3/16	3/16	1/4	3/16	0
	REQUIRED SHOP CAMBER	0	1/2	9/16	5/16	1/4	0	3/4	7/8	1 3/8	3/4	11/16	0	11/16	3/4	1 3/8	7/8	3/4	0	1/4	5/16	9/16	1/2	0
(JJ)	DEFLECTION DUE TO WEIGHT OF STEEL	0	1/16	1/16	0	0	0	1/16	1/8	3/16	1/16	1/16	0	1/16	1/16	3/16	1/8	1/16	0	0	0	1/16	1/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	3/16	3/16	1/8	1/16	0	1/4	5/16	1/2	1/4	1/4	0	1/4	1/4	1/2	5/16	1/4	0	1/16	1/8	3/16	3/16	0
	ADJUSTMENT FOR VERTICAL CURVATURE	0	3/16	1/4	3/16	3/16	0	5/16	5/16	7/16	5/16	5/16	0	5/16	5/16	7/16	5/16	5/16	0	3/16	3/16	1/4	3/16	0
	REQUIRED SHOP CAMBER	0	7/16	1/2	5/16	1/4	0	5/8	3/4	1 1/8	5/8	5/8	0	5/8	5/8	1 1/8	3/4	5/8	0	1/4	5/16	1/2	7/16	0

NOTE: POSITIVE DIMENSIONS INDICATE DOWNWARD DEFLECTION AND UPWARD CAMBER



CAMBER AND BLOCKING DIAGRAM

BLOCKING DIMENSIONS			
BEAM LINE	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"
(AA)	3 1/8"	4 3/4"	3 1/8"
(JJ)	3 1/8"	4 3/4"	3 1/8"

NOTE: POSITIVE DIMENSIONS ARE ABOVE THE WORK LINE

NOTES

1. FOR DECK SCREED ELEVATION TABLES, SEE SHEETS 39 AND 40/45.
2. FOR BEARING DETAILS, SEE SHEET 29/45.

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CAMBER AND DEFLECTIONS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

33 / 45

109
121

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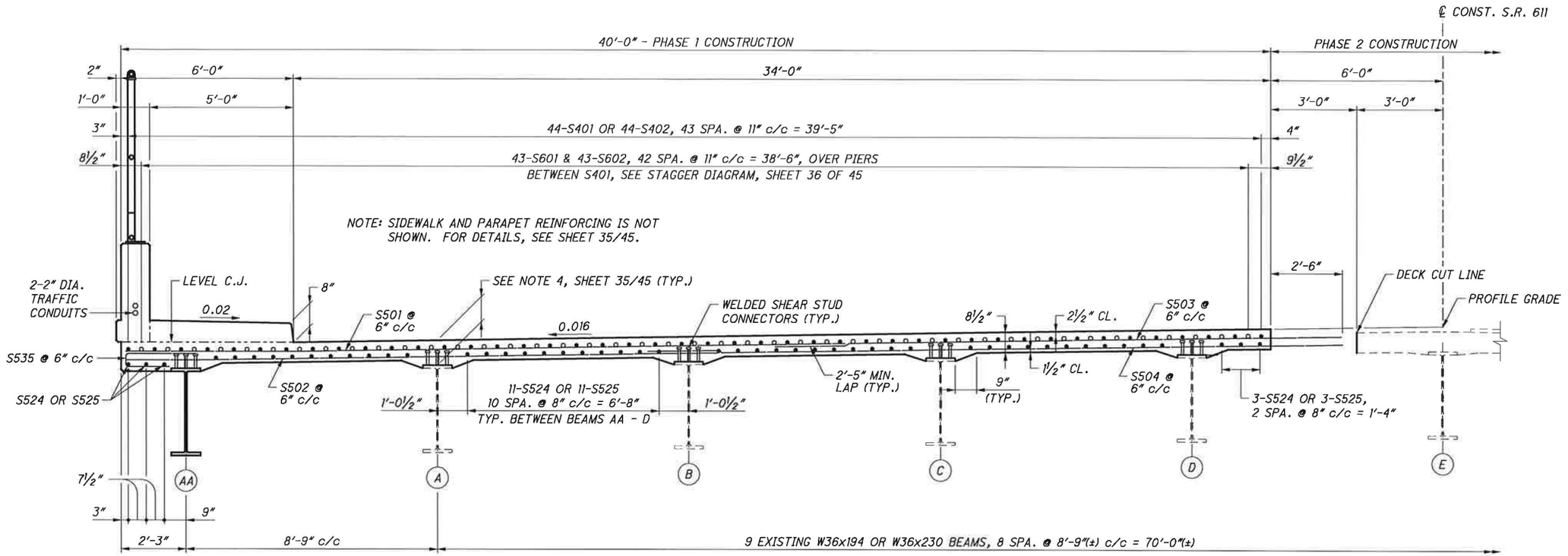
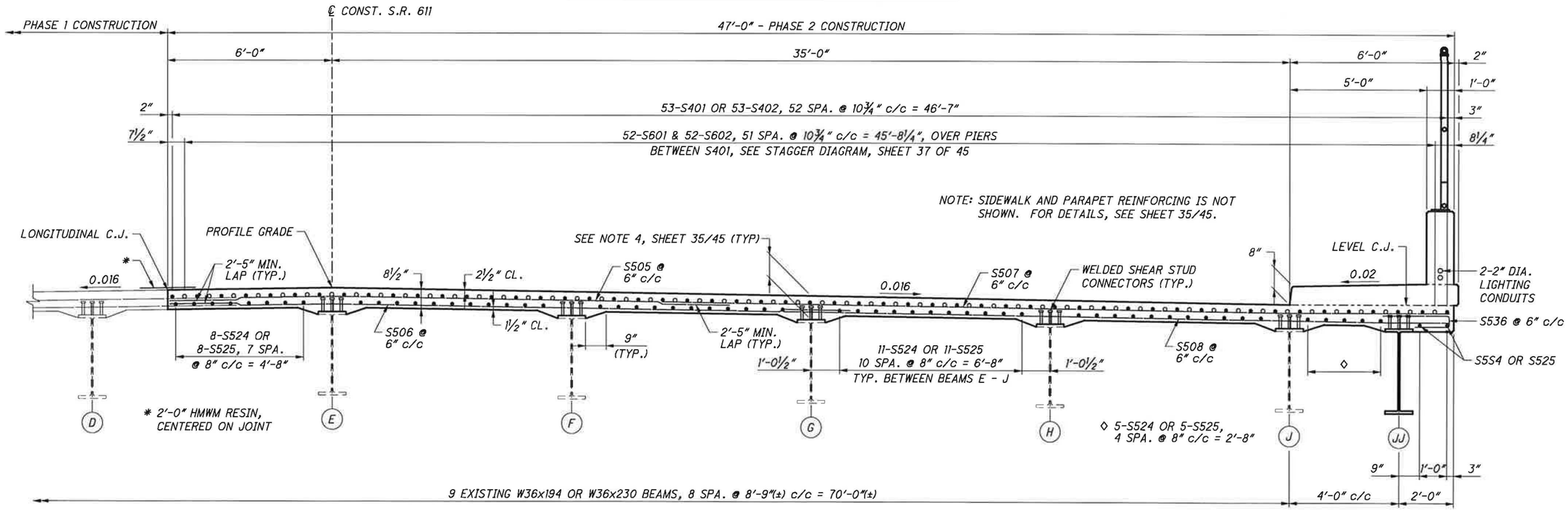


TRANSVERSE SECTION - PHASE 1 CONSTRUCTION



TRANSVERSE SECTION - PHASE 2 CONSTRUCTION

NOTES

1. FOR NOTES, SEE SHEET 35/45.

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TRANSVERSE SECTION
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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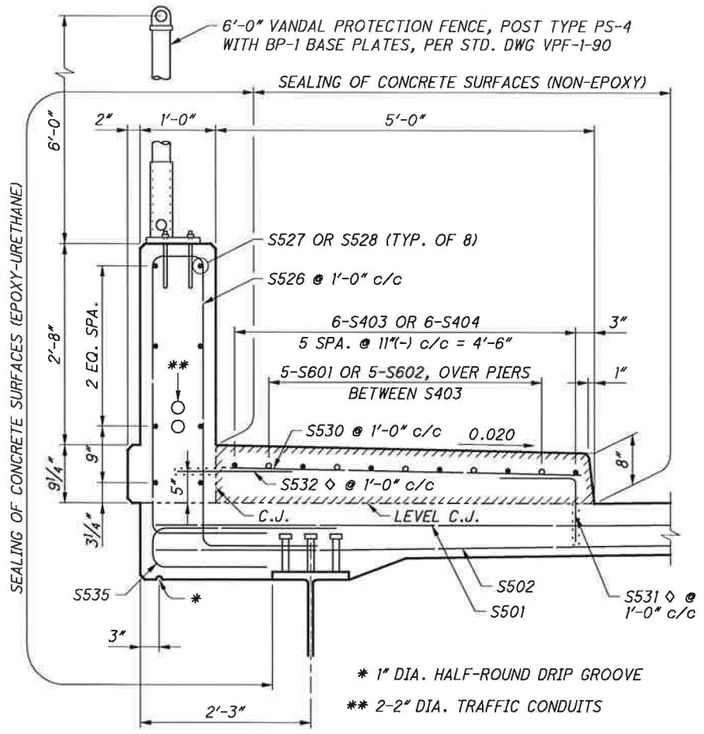
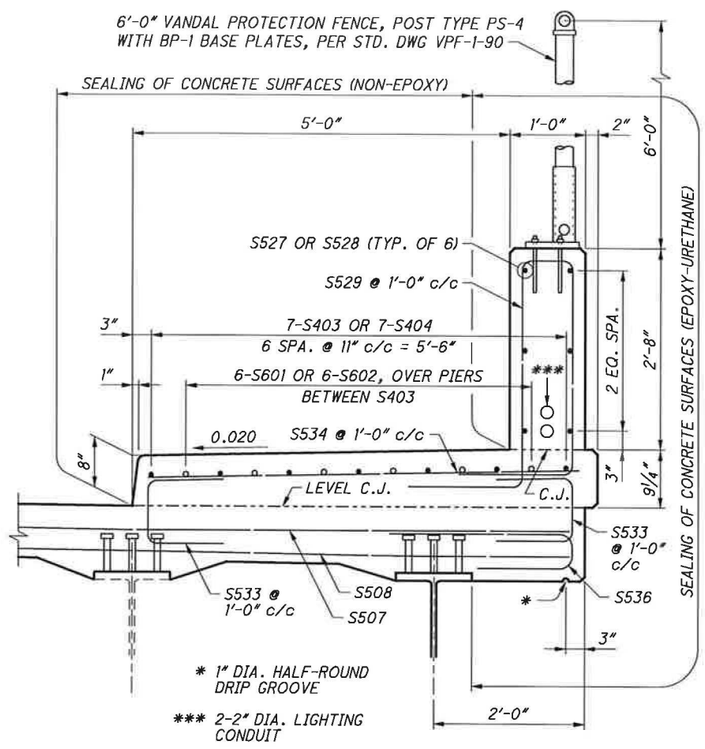


LEFT SIDEWALK AND PARAPET DETAIL

LONGITUDINAL SLAB REINFORCING NOT SHOWN, SEE TRANSVERSE SECTION



RIGHT SIDEWALK AND PARAPET DETAIL

LONGITUDINAL SLAB REINFORCING NOT SHOWN, SEE TRANSVERSE SECTION

LEGEND

SIDEWALK TO BE CONSTRUCTED UPON COMPLETION OF PHASE 2 CONSTRUCTION, SEE NOTE 2.

◊ - DOWEL BAR TO BE DRILLED & GROUTED 6" INTO PROPOSED CONCRETE, INSTALL AFTER COMPLETION OF PHASE 2 CONSTRUCTION, SEE NOTE 3.

NOTES

1. THE LONGITUDINAL CONSTRUCTION JOINT SHALL BE SEALED WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM). THE WIDTH OF THE SEALING SHALL BE TWO FEET (2'), CENTERED OVER THE JOINT, IN ACCORDANCE WITH CMS 511.22.

2. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 2¼" INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS PLUS OR MINUS 3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

3. LEFT PARAPET TO BE CONSTRUCTED DURING PHASE 1 CONSTRUCTION. LEFT SIDEWALK TO BE CONSTRUCTED UPON COMPLETION OF PHASE 2 CONSTRUCTION AFTER OPENING ALL LANES TO TRAFFIC, USING TEMPORARY CLOSURE OF NORTHBOUND BIKE LANE.

4. DECK THICKNESSES OVER PROPOSED BEAMS ARE 10½"(±) FOR W36x256, 10⅝"(±) FOR W36x232, AND 10¹⁵⁄₁₆"(±) FOR W36x194. DECK THICKNESSES OVER EXISTING BEAMS ARE 10½"(±) FOR W36x194 AND 10¹³⁄₁₆"(±) FOR W36x230.

5. FOR FRAMING PLAN, SEE SHEET 30/45.

6. FOR DECK SLAB PLAN - PHASE 1, SEE SHEET 36/45.
   FOR DECK SLAB PLAN - PHASE 2, SEE SHEET 37/45.

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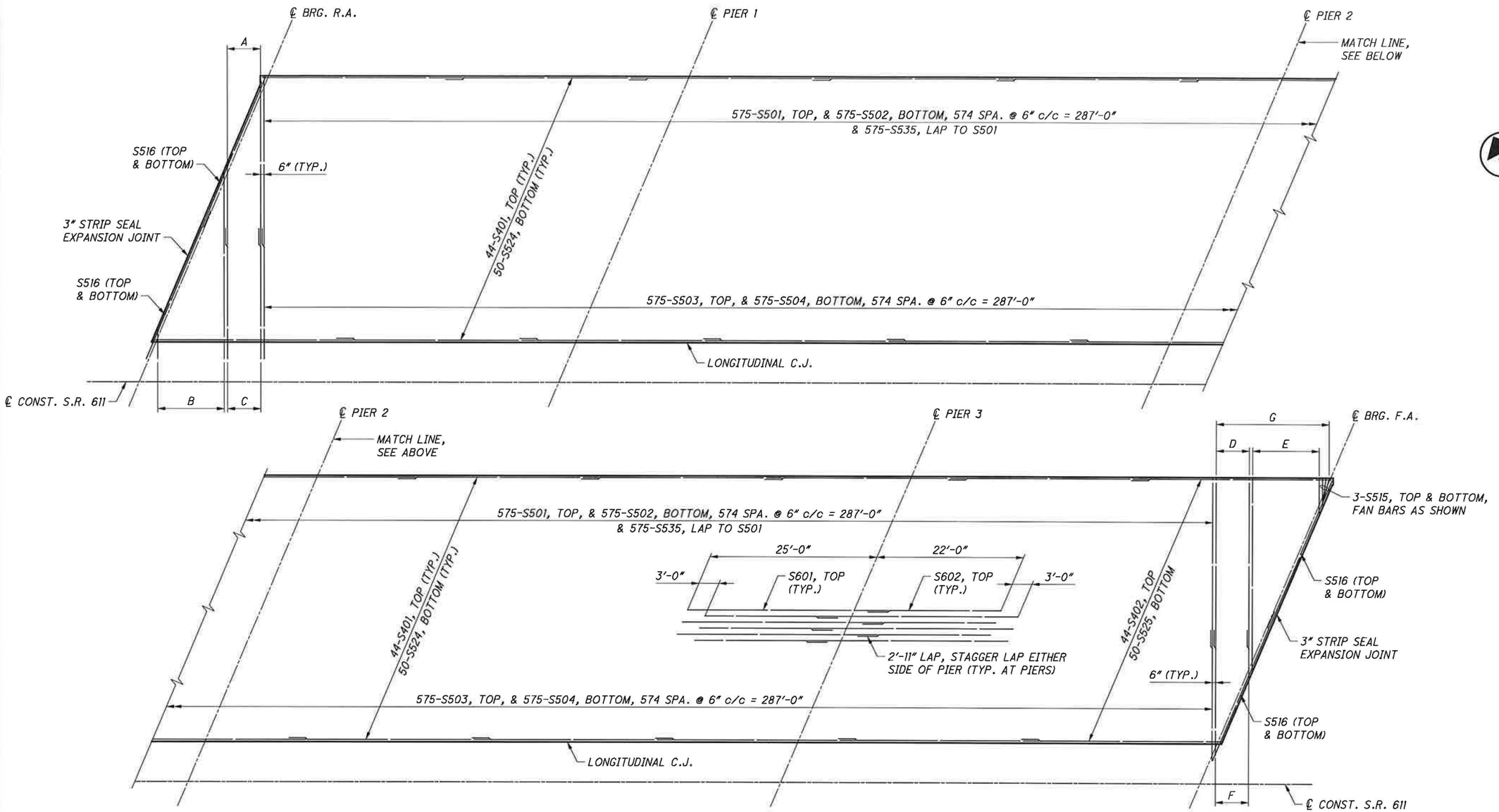
SIDEWALK & PARAPET DETAILS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447



PART DECK SLAB PLAN - PHASE 1 CONSTRUCTION

ABUTMENT EXPANSION JOINT OPENINGS	
TEMPERATURE	DIM. A
30°F	1 5/16"
40°F	1 3/16"
50°F	1 1/16"
60°F	1 3/16"
70°F	1 1/2"
80°F	1 3/8"
90°F	1 1/4"

SEE STD. DWG. EXJ-4-87
FOR LOCATION OF DIM. A

LEGEND

A = S509 SERIES, TOP, & S510 SERIES, BOTTOM, 10 SPA. @ 6" c/c = 5'-0"
B = S511 SERIES, TOP & BOTTOM, 20 SPA. @ 6" c/c = 10'-0"
C = 11-S503, TOP, & 11-S504, BOTTOM, 10 SPA. @ 6" c/c = 5'-0"
D = 11-S501, TOP, & 11-S502, BOTTOM, 10 SPA. @ 6" c/c = 5'-0"
E = S512 SERIES, TOP & BOTTOM, 20 SPA. @ 6" c/c = 10'-0"
F = S513 SERIES, TOP, & S514 SERIES, BOTTOM, 10 SPA. @ 6" c/c = 5'-0"
G = 35-S536, 34 SPA. @ 6" c/c = 17'-0", LAP TO S01, S512 OR S515

NOTES

1. THE MINIMUM LAP LENGTHS FOR DECK SLAB REINFORCING STEEL ARE 1'-11" FOR THE #4 LONGINTUDINAL BARS AND 2'-5" FOR THE #5 LONGITUDINAL AND TRANSVERSE BARS.
2. FOR SPACING OF LONGITUDINAL BARS AND TRANSVERSE SECTION, SEE SHEET 34/45.
3. FOR DECK SCREED ELEVATIONS, SEE SHEET 39/45.
4. SIDEWALK AND PARAPET NOT SHOWN. FOR REINFORCING DETAILS, SEE SHEET 35 AND 38/45.

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DECK SLAB PLAN - PHASE 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

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PID No. 83447

36 / 45
112 / 121

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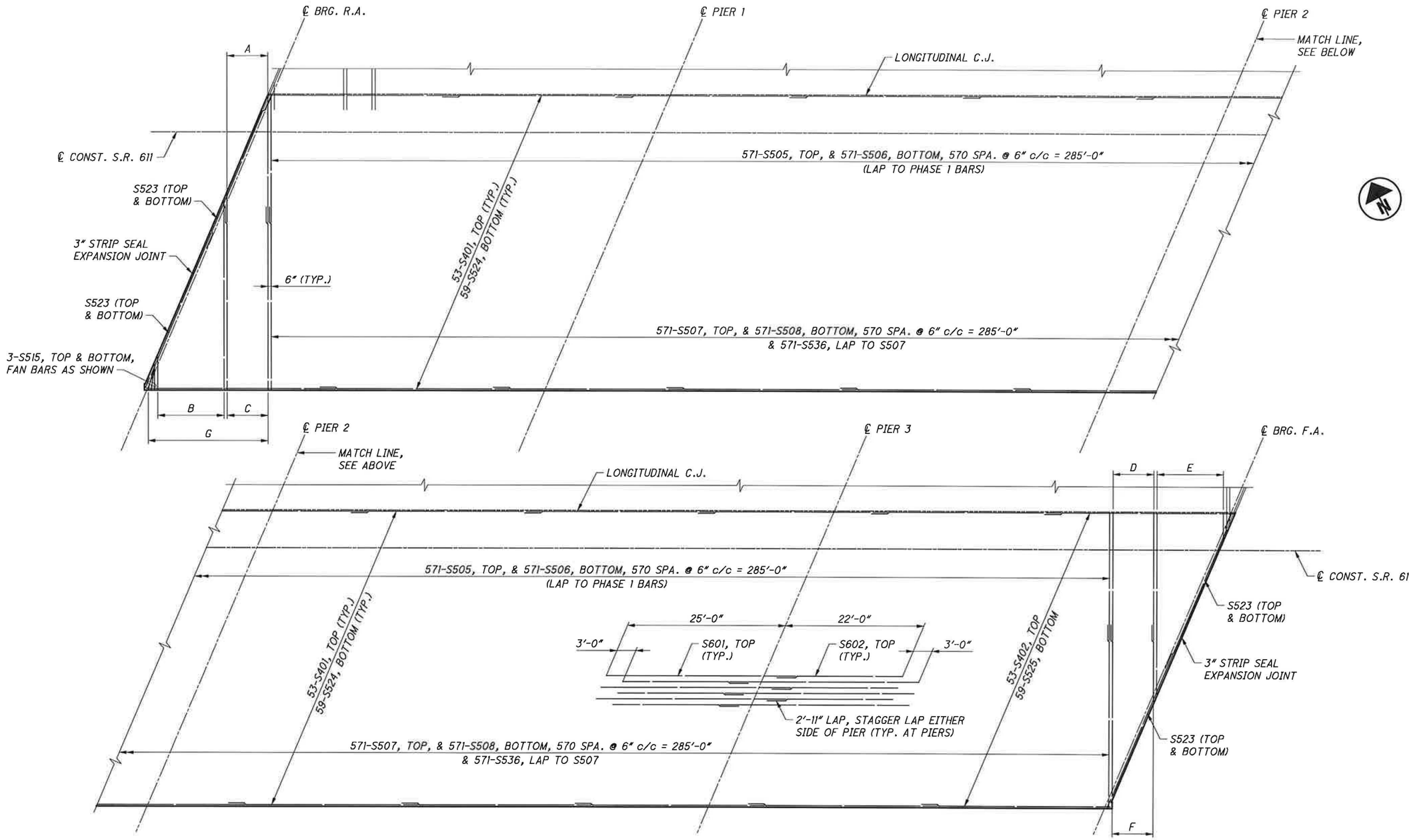

PART DECK SLAB PLAN - PHASE 2 CONSTRUCTION

LEGEND

A = S517 SERIES, TOP, & S518 SERIES, BOTTOM, 13 SPA. @ 6" c/c = 6'-6"
B = S519 SERIES, TOP & BOTTOM, 21 SPA. @ 6" c/c = 10'-6"
C = 14-S507, TOP, & 14-S508, BOTTOM, 13 SPA. @ 6" c/c = 6'-6"
D = 14-S505, TOP, & 14-S506, BOTTOM, 13 SPA. @ 6" c/c = 6'-6"
E = S520 SERIES, TOP & BOTTOM, 21 SPA. @ 6" c/c = 10'-6"
F = S521 SERIES, TOP, & S522 SERIES, BOTTOM, 13 SPA. @ 6" c/c = 6'-6"
G = 39-S536, 38 SPA. @ 6" c/c = 19'-0", LAP TO S507, S519 OR S515

NOTES

1. FOR SPACING OF LONGITUDINAL BARS AND TRANSVERSE SECTION, SEE SHEET 34/45.
2. FOR DECK SCREED ELEVATIONS, SEE SHEET 40/45.
3. FOR REQUIRED LAP LENGTHS, TABLE OF EXPANSION JOINT OPENINGS, AND ADDITIONAL NOTES, SEE SHEET 36/45.
4. SIDEWALK AND PARAPET NOT SHOWN. FOR REINFORCING DETAILS, SEE SHEET 35 AND 38/45.

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DECK SLAB PLAN - PHASE 2
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S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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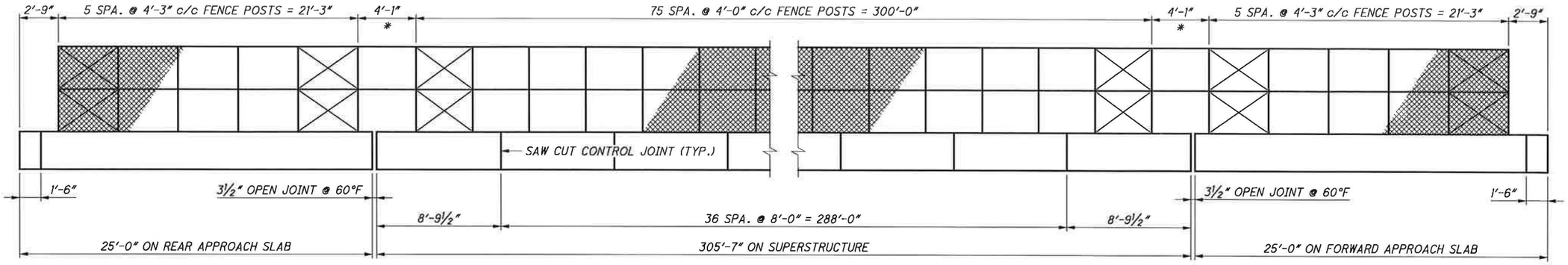
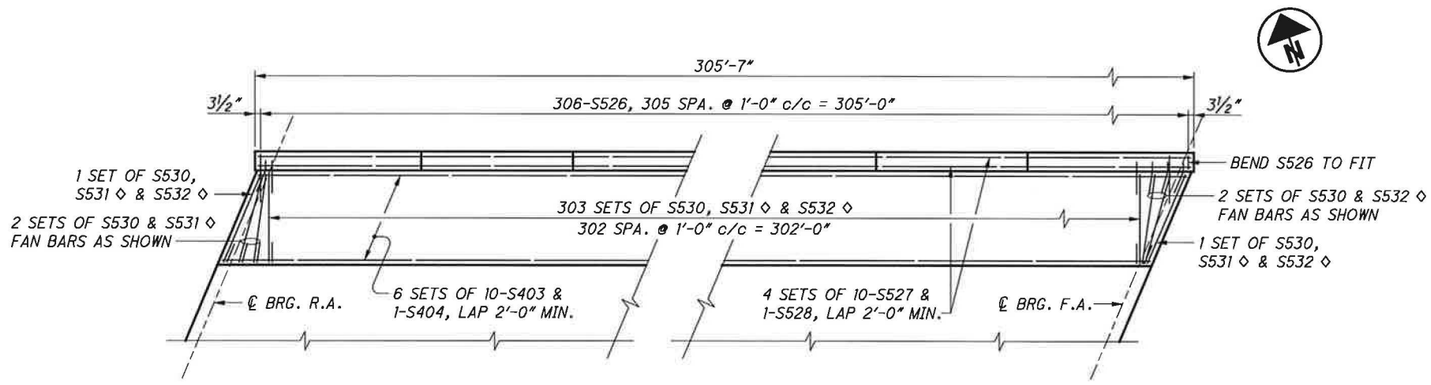
113 / 121



TYPICAL SIDEWALK PARAPET ELEVATION

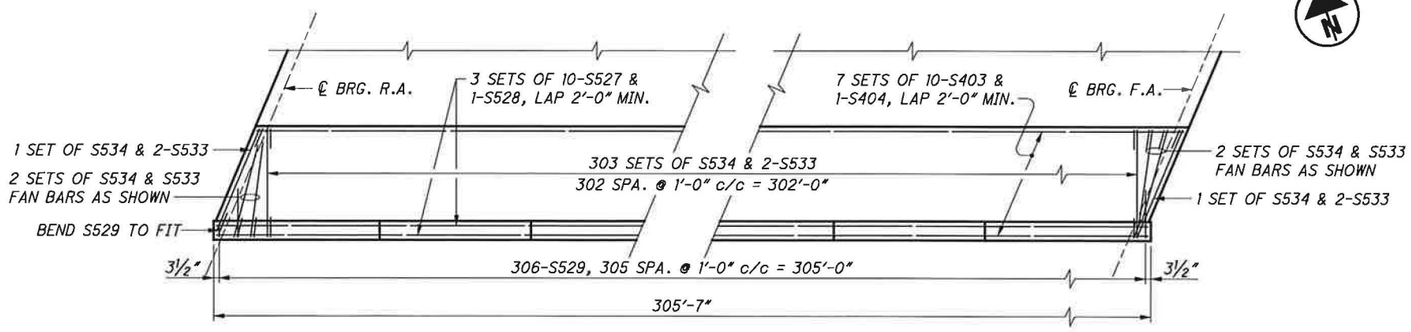
LEFT SIDE SHOWN, RIGHT SIDE SIMILAR

* PROVIDE EXPANSION SLEEVES IN LINE RAILS AS PER STD. DWG. VPF-1-90



PART PLAN - LEFT SIDEWALK

FOR PARAPET SAW CUT CONTROL JOINT SPACING, SEE TYPICAL SIDEWALK PARAPET ELEVATION



PART PLAN - RIGHT SIDEWALK

FOR PARAPET SAW CUT CONTROL JOINT SPACING, SEE TYPICAL SIDEWALK PARAPET ELEVATION

LEGEND

◊ - DOWEL BAR TO BE DRILLED & GROUTED 6" INTO PROPOSED CONCRETE, INSTALL AFTER COMPLETION OF PHASE 2 CONSTRUCTION, SEE NOTE 2.

NOTES

1. FENCE ON SIDEWALK PARAPETS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING VPF-1-90, 6'-0" TALL, POST TYPE PS-4 WITH BP-1 BASE PLATES AND COATED FABRIC, COLOR BLACK.
2. THE LEFT PARAPET IS TO BE CONSTRUCTED DURING PHASE 1 CONSTRUCTION. THE LEFT SIDEWALK IS TO BE CONSTRUCTED UPON COMPLETION OF PHASE 2 CONSTRUCTION AFTER OPENING ALL LANES TO TRAFFIC, USING TEMPORARY CLOSURE OF NORTHBOUND BIKE LANE.
3. FOR SPACING OF LONGITUDINAL REINFORCING STEEL, SEE TYPICAL SIDEWALK AND PARAPET DETAILS, SHEET 35/45.
4. FOR PHASE 1 DECK SLAB PLAN, SEE SHEET 36/45. FOR PHASE 2 DECK SLAB PLAN, SEE SHEET 37/45.
5. FOR EXPANSION JOINT DETAILS, SEE SHEET 43/45.
6. FOR APPROACH SLAB DETAILS, SEE SHEETS 41 AND 42/45.

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PAT	PAT	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPS		4707478	

SIDEWALK PLAN & PARAPET ELEVATIONS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

DECK SCREED ELEVATION TABLE - PHASE 1 CONSTRUCTION

ELEVATION LOCATION		SPAN 1					SPAN 2						SPAN 3						SPAN 4				
		℄ BRG. R.A.	0.25	0.50	F.S. 1	0.75	℄ PIER 1	F.S. 2	0.25	0.50	0.75	F.S. 3	℄ PIER 2	F.S. 4	0.25	0.50	0.75	F.S. 5	℄ PIER 3	0.25	F.S. 6	0.50	0.75	℄ BRG. F.A.
LEFT EDGE OF DECK	STATION	221+08.53	221+24.28	221+40.03	221+52.53	221+55.78	221+71.53	221+89.53	221+93.78	222+16.03	222+38.28	222+40.53	222+60.53	222+80.53	222+82.78	223+05.03	223+27.28	223+31.53	223+49.53	223+65.28	223+68.53	223+81.03	223+96.78	224+12.53
	OFFSET	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00	-46.00
	FINAL TOP OF DECK ELEV.	654.32	654.31	654.29	654.27	654.26	654.22	654.16	654.15	654.06	653.95	653.94	653.82	653.69	653.68	653.51	653.33	653.29	653.13	652.98	652.94	652.81	652.64	652.46
	DECK SCREED ELEV. ****	654.32	654.33	654.31	654.28	654.27	654.22	654.19	654.19	654.12	653.98	653.97	653.82	653.72	653.71	653.58	653.37	653.32	653.13	652.98	652.96	652.84	652.66	652.46
BEAM AA	STATION	221+07.57	221+23.32	221+39.07	221+51.57	221+54.82	221+70.57	221+88.57	221+92.82	222+15.07	222+37.32	222+39.57	222+59.57	222+79.57	222+81.82	223+04.07	223+26.32	223+30.57	223+48.57	223+64.32	223+67.57	223+80.07	223+95.82	224+11.57
	OFFSET	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75	-43.75
	FINAL TOP OF DECK ELEV.	654.32	654.31	654.29	654.27	654.26	654.22	654.17	654.15	654.06	653.96	653.94	653.83	653.70	653.69	653.52	653.34	653.30	653.14	652.99	652.95	652.82	652.65	652.47
	TOP OF HAUNCH ELEV.	653.61	653.62	653.60	653.57	653.56	653.51	653.49	653.48	653.42	653.28	653.26	653.12	653.02	653.01	652.87	652.67	652.62	652.43	652.29	652.26	652.14	651.97	651.76
	DECK SCREED ELEV.	654.32	654.33	654.31	654.28	654.27	654.22	654.20	654.19	654.12	653.99	653.97	653.83	653.73	653.72	653.58	653.38	653.33	653.14	652.99	652.97	652.85	652.67	652.47
LEFT CURB LINE	STATION	221+05.98	221+21.73	221+37.48	221+49.98	221+53.23	221+68.98	221+86.98	221+91.23	222+13.48	222+35.73	222+37.98	222+57.98	222+77.98	222+80.23	223+02.48	223+24.73	223+28.98	223+46.98	223+62.73	223+65.98	223+78.48	223+94.23	224+09.98
	OFFSET	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00	-40.00
	FINAL TOP OF DECK ELEV.	654.32	654.31	654.29	654.27	654.26	654.23	654.17	654.16	654.07	653.96	653.95	653.84	653.71	653.70	653.53	653.35	653.32	653.15	653.00	652.97	652.84	652.67	652.49
	DECK SCREED ELEV. ****	654.32					654.23						653.84						653.15					652.49
BEAM A	STATION	221+03.86	221+19.61	221+35.36	221+47.86	221+51.11	221+66.86	221+84.86	221+89.11	222+11.36	222+33.61	222+35.86	222+55.86	222+75.86	222+78.11	223+00.36	223+22.61	223+26.86	223+44.86	223+60.61	223+63.86	223+76.36	223+92.11	224+07.86
	OFFSET	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00	-35.00
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.40	654.39	654.38	654.35	654.35	654.31	654.26	654.24	654.16	654.05	654.04	653.93	653.81	653.79	653.63	653.45	653.42	653.25	653.10	653.07	652.94	652.77	652.60
	DECK SCREED ELEV. ****	654.40					654.31						653.93						653.25					652.60
BEAM B	STATION	221+00.14	221+15.89	221+31.64	221+44.14	221+47.39	221+63.14	221+81.14	221+85.39	222+07.64	222+29.89	222+32.14	222+52.14	222+72.14	222+74.39	222+96.64	223+18.89	223+23.14	223+41.14	223+56.89	223+60.14	223+72.64	223+88.39	224+04.14
	OFFSET	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25	-26.25
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.54	654.54	654.52	654.50	654.50	654.46	654.41	654.40	654.31	654.21	654.20	654.09	653.97	653.96	653.80	653.62	653.59	653.43	653.28	653.25	653.12	652.95	652.78
	DECK SCREED ELEV. ****	654.54					654.46						654.09						653.43					652.78
BEAM C	STATION	220+96.43	221+12.18	221+27.93	221+40.43	221+43.68	221+59.43	221+77.43	221+81.68	222+03.93	222+26.18	222+28.43	222+48.43	222+68.43	222+70.68	222+92.93	223+15.18	223+19.43	223+37.43	223+53.18	223+56.43	223+68.93	223+84.68	224+00.43
	OFFSET	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50	-17.50
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.68	654.68	654.66	654.65	654.64	654.61	654.56	654.55	654.47	654.37	654.36	654.26	654.13	654.12	653.97	653.79	653.76	653.60	653.46	653.42	653.30	653.14	652.96
	DECK SCREED ELEV. ****	654.68					654.61						654.26						653.60					652.96
BEAM D	STATION	220+92.71	221+08.46	221+24.21	221+36.71	221+39.96	221+55.71	221+73.71	221+77.96	222+00.21	222+22.46	222+24.71	222+44.71	222+64.71	222+66.96	222+89.21	223+11.46	223+15.71	223+33.71	223+49.46	223+52.71	223+65.21	223+80.96	223+96.71
	OFFSET	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75	-8.75
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.82	654.82	654.81	654.79	654.79	654.76	654.71	654.70	654.62	654.53	654.52	654.42	654.30	654.28	654.13	653.96	653.93	653.78	653.63	653.60	653.48	653.31	653.14
	DECK SCREED ELEV. ****	654.82					654.76						654.42						653.78					653.14
LONG. C.J.	STATION	220+91.55	221+07.30	221+23.05	221+35.55	221+38.80	221+54.55	221+72.55	221+76.80	221+99.05	222+21.30	222+23.55	222+43.55	222+63.55	222+65.80	222+88.05	223+10.30	223+14.55	223+32.55	223+48.30	223+51.55	223+64.05	223+79.80	223+95.55
	OFFSET	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00
	FINAL TOP OF DECK ELEV.	654.87	654.86	654.85	654.84	654.83	654.81	654.76	654.75	654.67	654.58	654.57	654.47	654.35	654.34	654.19	654.02	653.98	653.83	653.69	653.66	653.53	653.37	653.20
	DECK SCREED ELEV. ****	654.87					654.81						654.47						653.83					653.20

SCREED ELEVATIONS

FIELD PROCEDURES DURING PHASE CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS:

1. SURVEY BOTTOM OF EXISTING BEAMS IN PHASE 1 AT THE LOCATIONS SHOWN IN THE TABLE PRIOR TO PHASE 1 DECK REMOVAL AND AFTER PHASE 1 DECK REMOVAL.
2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS BEFORE REMOVAL FROM THE ELEVATIONS AFTER REMOVAL.
3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD TO EXISTING DEAD LOAD. SEE THE RATIO VALUE SHOWN ON THIS SHEET.
4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE REBOUND OF THE CLOSEST BEAM TO DETERMINE DECK SCREED ELEVATIONS FOR CURB LINES AND THE LONGITUDINAL C.J.
5. AFTER PHASE 1 DECK PLACEMENT, REPEAT STEPS 1 THRU 4 FOR REMAINING BEAMS PRIOR TO AND AFTER PHASE 2 DECK REMOVAL.

NOTES

1. NEGATIVE OFFSETS ARE TO THE LEFT OF CENTERLINE, POSITIVE OFFSETS ARE TO THE RIGHT.
2. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 898, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), FOR PAYMENT.
3. FOR PHASE COSTRUCTION DETAILS, SEE SHEETS 8 AND 9/45.
4. FOR TRANSVERSE SECTIONS AND ADDITIONAL NOTES, SEE SHEET 34/45.

LEGEND

BRG. - BEARING
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT
C.J. - CONSTRUCTION JOINT
F.S. - FIELD SPLICE

PROPOSED DEAD LOAD / EXISTING DEAD LOAD = RATIO

BEAM(S)	RATIO
A	1.15
B - H	1.04
J	0.91

* - BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION

** - SURVEYED REBOUND = BEAM ELEVATION AFTER DECK REMOVAL MINUS BEAM ELEVATION BEFORE DECK REMOVAL

*** - ADJUSTED REBOUND, RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (SHOWN ABOVE) MULTIPLIED BY THE SURVEYED REBOUND

**** - DECK SCREED ELEVATION = ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION

DLZ
634 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DESIGNED BPS | DRAWN BPS | CHECKED PAT | REVIEWED DOR | DATE 06/27/2012 | REVISED | STRUCTURE FILE NUMBER 4707478

DECK SCREED ELEVATIONS - PHASE 1 CONSTRUCTION
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

39 / 45

115 / 121

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DECK SCREED ELEVATION TABLE - PHASE 2 CONSTRUCTION

ELEVATION LOCATION		SPAN 1					SPAN 2						SPAN 3						SPAN 4					
		℄ BRG. R.A.	0.25	0.50	F.S. 1	0.75	℄ PIER 1	F.S. 2	0.25	0.50	0.75	F.S. 3	℄ PIER 2	F.S. 4	0.25	0.50	0.75	F.S. 5	℄ PIER 3	0.25	F.S. 6	0.50	0.75	℄ BRG. F.A.
LONG. C.J.	STATION	220+91.55	221+07.30	221+23.05	221+35.55	221+38.80	221+54.55	221+72.55	221+76.80	221+99.05	222+21.30	222+23.55	222+43.55	222+63.55	222+65.80	222+88.05	223+10.30	223+14.55	223+32.55	223+48.30	223+51.55	223+64.05	223+79.80	223+95.55
	OFFSET	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00	-6.00
	FINAL TOP OF DECK ELEV.	654.87	654.86	654.85	654.84	654.83	654.81	654.76	654.75	654.67	654.58	654.57	654.47	654.35	654.34	654.19	654.02	653.98	653.83	653.69	653.66	653.53	653.37	653.20
	DECK SCREED ELEV. ****	654.87					654.81						654.47						653.83					653.20
℄ CONST. S.R. 611 & BEAM E	STATION	220+89.00	221+04.75	221+20.50	221+33.00	221+36.25	221+52.00	221+70.00	221+74.25	221+96.50	222+18.75	222+21.00	222+41.00	222+61.00	222+63.25	222+85.50	223+07.75	223+12.00	223+30.00	223+45.75	223+49.00	223+61.50	223+77.25	223+93.00
	OFFSET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.96	654.96	654.95	654.94	654.93	654.91	654.86	654.85	654.78	654.69	654.68	654.58	654.46	654.45	654.30	654.13	654.10	653.95	653.81	653.78	653.65	653.49	653.32
	DECK SCREED ELEV. ****	654.96					654.91						654.58						653.95					653.32
BEAM F	STATION	220+85.29	221+01.04	221+16.79	221+29.29	221+32.54	221+48.29	221+66.29	221+70.54	221+92.79	222+15.04	222+17.29	222+37.29	222+57.29	222+59.54	222+81.79	223+04.04	223+08.29	223+26.29	223+42.04	223+45.29	223+57.79	223+73.54	223+89.29
	OFFSET	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.82	654.82	654.82	654.80	654.80	654.77	654.73	654.72	654.65	654.56	654.55	654.46	654.34	654.33	654.19	654.02	653.99	653.84	653.70	653.67	653.55	653.39	653.23
	DECK SCREED ELEV. ****	654.82					654.77						654.46						653.84					653.23
BEAM G	STATION	220+81.57	220+97.32	221+13.07	221+25.57	221+28.82	221+44.57	221+62.57	221+66.82	221+89.07	222+11.32	222+13.57	222+33.57	222+53.57	222+55.82	222+78.07	223+00.32	223+04.57	223+22.57	223+38.32	223+41.57	223+54.07	223+69.82	223+85.57
	OFFSET	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.68	654.68	654.68	654.67	654.66	654.64	654.60	654.59	654.53	654.44	654.43	654.34	654.23	654.21	654.07	653.91	653.88	653.73	653.59	653.56	653.45	653.29	653.13
	DECK SCREED ELEV. ****	654.68					654.64						654.34						653.73					653.13
BEAM H	STATION	220+77.86	220+93.61	221+09.36	221+21.86	221+25.11	221+40.86	221+58.86	221+63.11	221+85.36	222+07.61	222+09.86	222+29.86	222+49.86	222+52.11	222+74.36	222+96.61	223+00.86	223+18.86	223+34.61	223+37.86	223+50.36	223+66.11	223+81.86
	OFFSET	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.54	654.54	654.54	654.53	654.53	654.51	654.47	654.46	654.40	654.31	654.31	654.21	654.11	654.09	653.96	653.80	653.77	653.62	653.49	653.46	653.34	653.19	653.03
	DECK SCREED ELEV. ****	654.54					654.51						654.21						653.62					653.03
RIGHT CURB LINE & BEAM J	STATION	220+74.14	220+89.89	221+05.64	221+18.14	221+21.39	221+37.14	221+55.14	221+59.39	221+81.64	222+03.89	222+06.14	222+26.14	222+46.14	222+48.39	222+70.64	222+92.89	222+97.14	223+15.14	223+30.89	223+34.14	223+46.64	223+62.39	223+78.14
	OFFSET	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
	ELEV. AFTER DECK REMOVAL *																							
	ELEV. BEFORE DECK REMOVAL*																							
	SURVEYED REBOUND **																							
	ADJUSTED REBOUND***																							
	FINAL TOP OF DECK ELEV.	654.39	654.40	654.40	654.39	654.39	654.37	654.34	654.33	654.27	654.19	654.18	654.09	653.99	653.98	653.84	653.69	653.65	653.51	653.38	653.35	653.24	653.09	652.92
	DECK SCREED ELEV. ****	654.39					654.37						654.09						653.51					652.92
BEAM JJ	STATION	220+72.45	220+88.20	221+03.95	221+16.45	221+19.70	221+35.45	221+53.45	221+57.70	221+79.95	222+02.20	222+04.45	222+24.45	222+44.45	222+46.70	222+68.95	222+91.20	222+95.45	223+13.45	223+29.20	223+32.45	223+44.95	223+60.70	223+76.45
	OFFSET	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00	39.00
	FINAL TOP OF DECK ELEV.	654.39	654.40	654.40	654.40	654.39	654.38	654.34	654.33	654.27	654.20	654.19	654.10	654.00	653.98	653.85	653.70	653.67	653.53	653.40	653.37	653.25	653.10	652.94
	TOP OF HAUNCH ELEV.	653.68	653.71	653.71	653.70	653.69	653.67	653.66	653.65	653.61	653.51	653.50	653.39	653.31	653.30	653.19	653.02	652.98	652.82	652.69	652.67	652.56	652.41	652.23
	DECK SCREED ELEV.	654.39	654.42	654.42	654.40	654.40	654.38	654.36	654.36	654.32	654.22	654.21	654.10	654.02	654.01	653.89	653.73	653.69	653.53	653.40	653.37	653.27	653.12	652.94
RIGHT EDGE OF DECK	STATION	220+71.60	220+87.35	221+03.10	221+15.60	221+18.85	221+34.60	221+52.60	221+56.85	221+79.10	222+01.35	222+03.60	222+23.60	222+43.60	222+45.85	222+68.10	222+90.35	222+94.60	223+12.60	223+28.35	223+31.60	223+44.10	223+59.85	223+75.60
	OFFSET	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00
	FINAL TOP OF DECK ELEV.	654.39	654.40	654.40	654.40	654.39	654.38	654.35	654.34	654.28	654.20	654.19	654.10	654.00	653.99	653.86	653.70	653.67	653.53	653.40	653.37	653.26	653.11	652.95
	DECK SCREED ELEV. ****	654.39	654.42	654.42	654.40	654.40	654.38	654.37	654.36	654.32	654.22	654.21	654.10	654.02	654.01	653.90	653.73	653.69	653.53	653.41	653.38	653.28	653.13	652.95

NOTE: NEGATIVE OFFSETS ARE TO THE LEFT OF THE CENTERLINE, POSITIVE OFFSETS ARE TO THE RIGHT. FOR NOTES AND LEGEND SEE SHEET 39/45.

DLZ
84 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DESIGNED BPS | DRAWN BPS | CHECKED PAT | REVIEWED DOR | DATE 06/27/2012 | REVISED | STRUCTURE FILE NUMBER 4707478

DECK SCREED ELEVATIONS - PHASE 2 CONSTRUCTION
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

40 / 45

116
121

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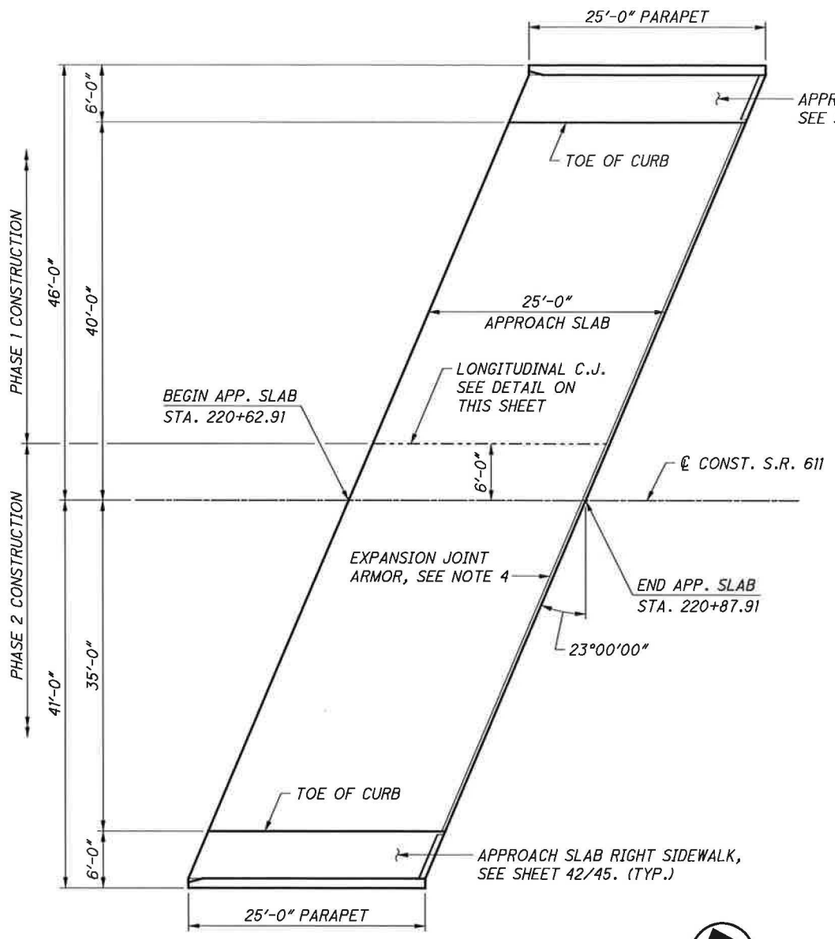
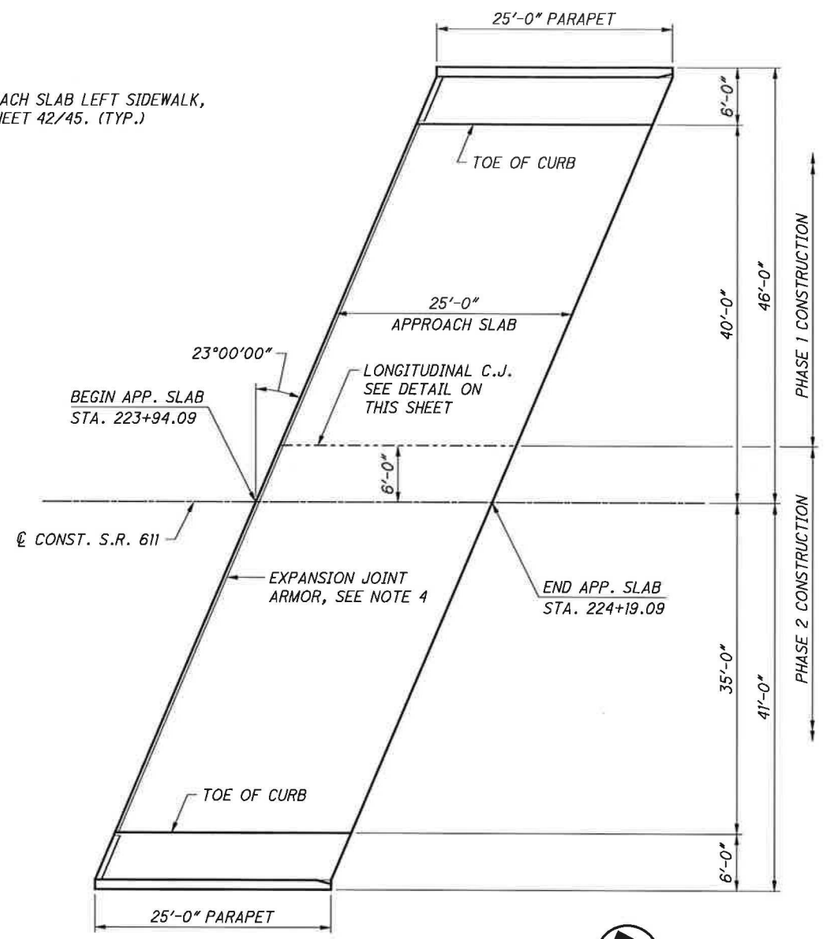
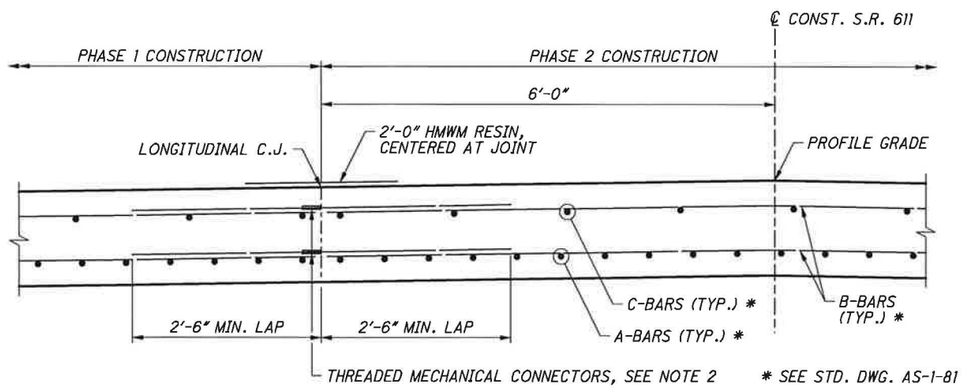


PLAN - REAR APPROACH SLAB



PLAN - FORWARD APPROACH SLAB



APPROACH SLAB CONSTRUCTION JOINT DETAIL

REAR AND FORWARD APPROACH SLABS

NOTES

1. THIS DRAWING PROVIDES DETAILS TO SUPPLEMENT THE STANDARD DRAWING. FOR APPROACH SLAB REINFORCING STEEL AND DETAILS NOT SHOWN, REFER TO STANDARD DRAWING AS-1-81.
2. THREADED MECHANICAL CONNECTORS SHALL BE RICHMOND SCREW ANCHOR THREADED DOWEL BAR ASSEMBLY, LENTON REBAR SPLICING MECHANISM, OR APPROVED EQUAL. COST SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.
3. SEAL THE LONGITUDINAL CONSTRUCTION JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM). THE WIDTH OF THE SEALING SHALL BE TWO FEET (2'), CENTERED OVER THE JOINT. PAYMENT SHALL BE MADE UNDER ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.
4. FOR EXPANSION JOINT DETAILS, SEE SHEET 43/45.

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DESIGNED PAT | DRAWN PAT | REVIEWED DOR 06/27/2012 | DATE
CHECKED BPS | REVISED | STRUCTURE FILE NUMBER 4707478

APPROACH SLAB DETAILS - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

41 / 45

117 / 121

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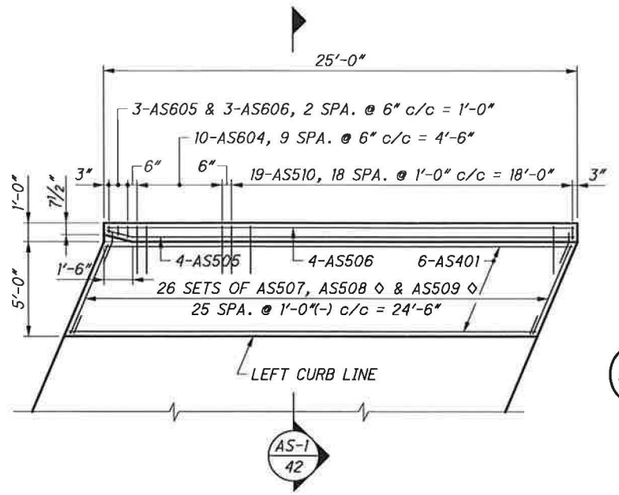
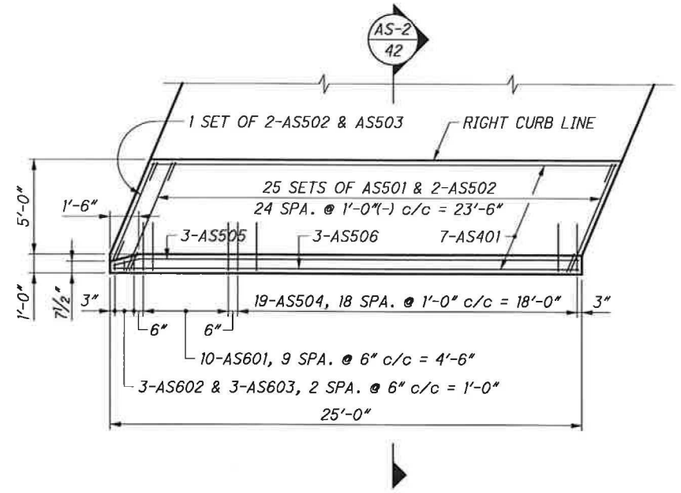


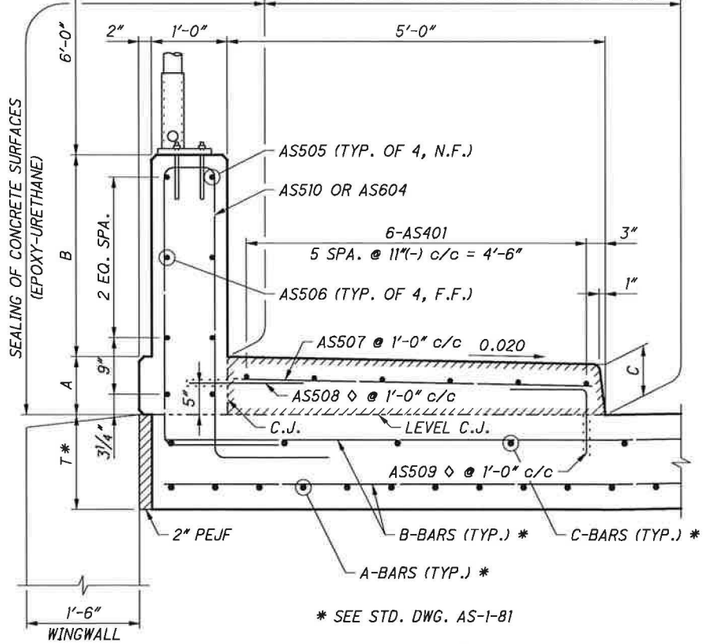
PART PLAN - APPROACH SLAB LEFT SIDEWALK

REAR SHOWN, FORWARD SIMILAR



PART PLAN - APPROACH SLAB RIGHT SIDEWALK

REAR SHOWN, FORWARD SIMILAR



* SEE STD. DWG. AS-1-81

SECTION AS-1 / 42

TYPICAL APPROACH SLAB LEFT SIDEWALK AND PARAPET

LEGEND

SIDEWALK TO BE CONSTRUCTED UPON COMPLETION OF PHASE 2 CONSTRUCTION, SEE NOTE 2.

◊ - DOWEL BAR TO BE DRILLED & GROUTED 6" INTO PROPOSED CONCRETE, INSTALL AFTER COMPLETION OF PHASE 2 CONSTRUCTION, SEE NOTE 2.

A = VARIES FROM 9¼" AT BRIDGE TO 8" AT END OF APPROACH SLAB

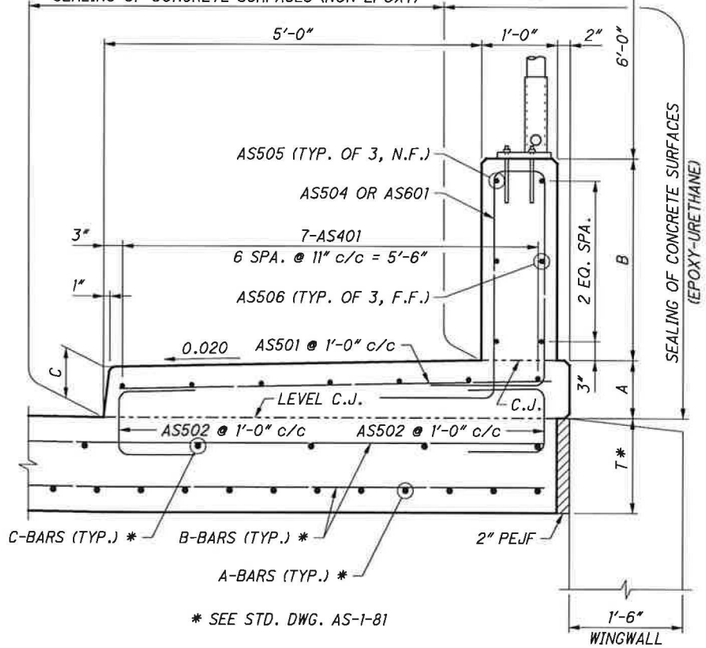
B = VARIES FROM 2'-8" AT BRIDGE TO 2'-9¼" AT END OF PARAPET

C = VARIES FROM 8" AT BRIDGE TO 6" AT END OF APPROACH SLAB

T = 1'-3"

NOTES

1. THIS DRAWING PROVIDES DETAILS TO SUPPLEMENT THE STANDARD DRAWING. FOR APPROACH SLAB REINFORCING STEEL AND DETAILS NOT SHOWN, REFER TO STANDARD DRAWING AS-1-81. FOR DETAILS OF A801 DOWEL BARS AT THE EXISTING ABUTMENTS THAT REPLACE THE D801 BARS SHOWN ON THE APPROACH SLAB STANDARD DRAWING, SEE SHEETS 15 AND 16/45.
2. THE LEFT PARAPET IS TO BE CONSTRUCTED DURING PHASE 1 CONSTRUCTION. THE LEFT SIDEWALK IS TO BE CONSTRUCTED UPON COMPLETION OF PHASE 2 CONSTRUCTION AFTER OPENING ALL LANES TO TRAFFIC, USING TEMPORARY CLOSURE OF NORTHBOUND BIKE LANE.
3. FOR APPROACH SLAB PLAN, SEE SHEET 41/45.



* SEE STD. DWG. AS-1-81

SECTION AS-2 / 42

TYPICAL APPROACH SLAB RIGHT SIDEWALK AND PARAPET

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DESIGNED	DRAWN	REVIEWED	DATE
PAT	PAT	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPS		4707478	

APPROACH SLAB DETAILS - 2
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

42 / 45

118
121

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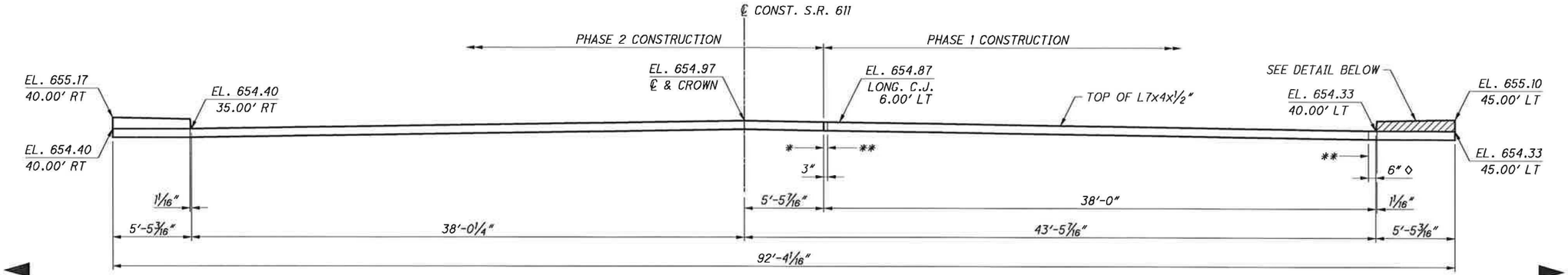
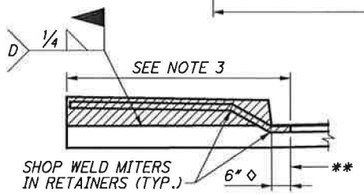


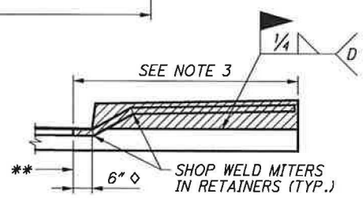
REAR EXPANSION JOINT ARMOR PROFILE

LOOKING AT FACE OF REAR ABUTMENT (DOWN-STATION)



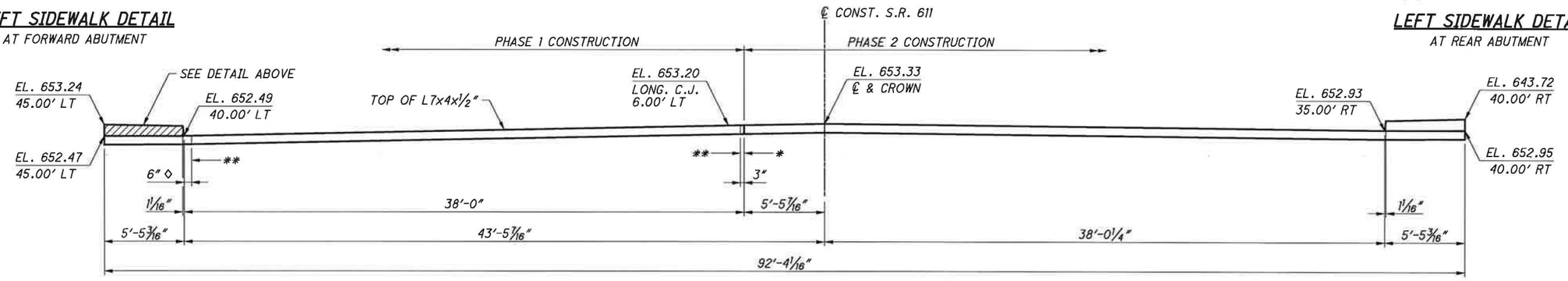
LEFT SIDEWALK DETAIL

AT FORWARD ABUTMENT



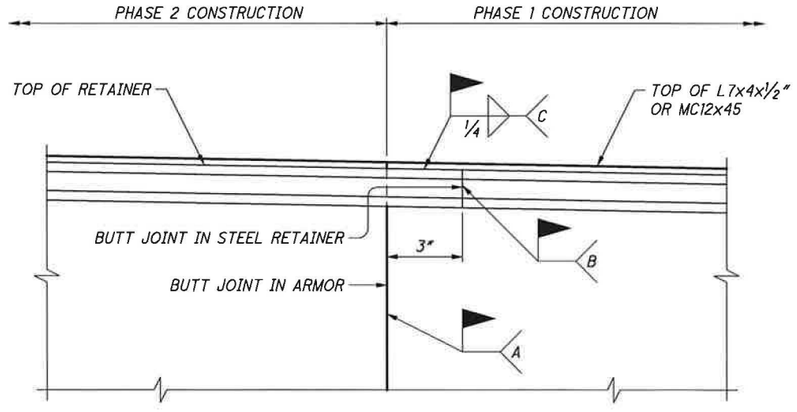
LEFT SIDEWALK DETAIL

AT REAR ABUTMENT



FORWARD EXPANSION JOINT ARMOR PROFILE

LOOKING AT FACE OF FORWARD ABUTMENT (UP-STATION)



TYPICAL ELEVATION AT PHASE CONSTRUCTION JOINT

SHOWING BUTT JOINT IN EXPANSION JOINT ARMOR

LEGEND

SIDEWALK EXPANSION JOINT ARMOR TO BE INSTALLED UPON COMPLETION OF PHASE 2 CONSTRUCTION, SEE NOTES 2 & 3.

* - BUTT JOINT IN L4x7x½" (ABUTMENT) OR MC12x45 (SUPERSTRUCTURE)

** - BUTT JOINT IN STEEL RETAINERS

◊ - DIMENSION FROM BREAKPOINT IN STEEL RETAINERS AT THE CURB TO BUTT JOINT IN STEEL RETAINERS, SEE NOTE 3

WELD NOTES

A. TRANSVERSE JOINTS IN END DAM ARMOR SHALL HAVE COMPLETE PENETRATION BUTT WELDS.

B. JOINTS IN RETAINERS SHALL HAVE WATERTIGHT PARTIAL PENETRATION BUTT WELDS COMPLETELY AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS THAT WILL BE IN CONTACT WITH THE SEAL GLAND SHALL BE GROUND SMOOTH.

C. TOP OF RETAINER ONLY.

D. FIELD WELD BACK SIDE TO ATTACH ½" PLATE OF SIDEWALK EXPANSION JOINT ARMOR TO TOP OF L7x4x½" OR MC12x45, REQUIRED FOR LEFT SIDEWALK ONLY, SEE NOTES 2 & 3.

NOTES

1. STRIP SEAL GLAND SIZE SHALL BE 3" FOR BOTH JOINTS. INSTALL STRIP SEAL GLAND AT EACH BRIDGE JOINT SHALL IN ONE CONTINUOUS PIECE AFTER COMPLETION OF ALL DECK AND SIDEWALK CONSTRUCTION.

2. THE LEFT PARAPET IS TO BE CONSTRUCTED DURING PHASE 1 CONSTRUCTION. THE LEFT SIDEWALK IS TO BE CONSTRUCTED UPON COMPLETION OF PHASE 2 CONSTRUCTION AFTER OPENING ALL LANES TO TRAFFIC, USING TEMPORARY CLOSURE OF NORTHBOUND BIKE LANE.

3. IN LIEU OF THE CP WELD SHOWN ON THE STANDARD DRAWING, FIELD WELD AS SHOWN TO ATTACH LEFT SIDEWALK EXPANSION JOINT ARMOR, TYPICAL FOR ABUTMENT AND SUPERSTRUCTURE SIDES. SPLICE RETAINERS AT THE LOCATION SHOWN IN FRONT OF THE CURB. FIELD WELD THE BUTT JOINT IN THE STEEL RETAINERS AND FIELD WELD ALONG THE TOP OF THE STEEL RETAINERS AS PER THE "TYPICAL ELEVATION AT PHASE CONSTRUCTION JOINT" DETAIL SHOWN ON THIS SHEET.

4. FOR EXPANSION JOINT DETAILS NOT SHOWN, REFER TO ODOT STANDARD DRAWING EXJ-4-87.

5. FOR TABLE OF EXPANSION JOINT OPENINGS, SEE SHEET 36/45.

6. ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO FABRICATE AND INSTALL THE NEW STRIP SEAL JOINTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

DLZ
64 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 4410

DESIGNED	DRAWN	REVIEWED	DATE
PAT	PAT	DOR	06/27/2012
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPS		4707478	

EXPANSION JOINT DETAILS
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

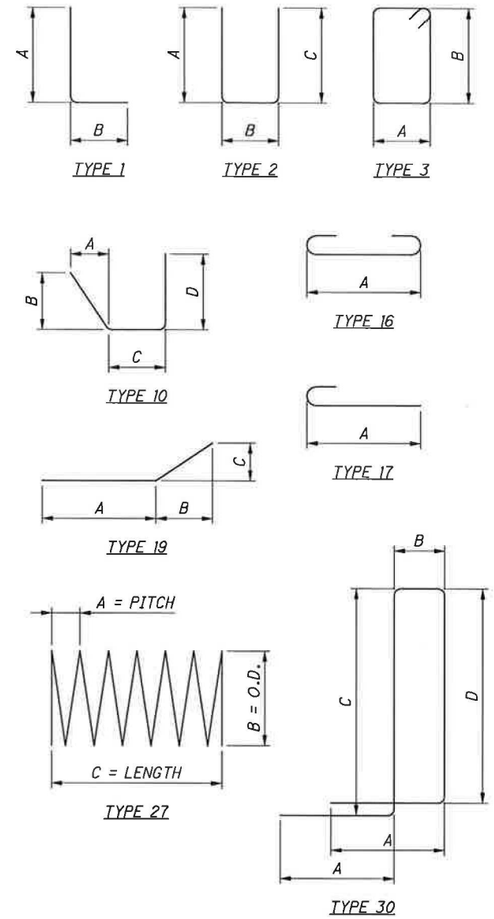
REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	SERIES INC.
REAR ABUTMENT										
A501	8	7'-2"	60	2	1'-0"	5'-5"	1'-0"			
A502	9	7'-6"	70	1	1'-0"	6'-8"				
A503	18	17'-0"	319	3	5'-8"	2'-7"				
A504	15	22'-7"	353	2	10'-10"	1'-2"	10'-10"			
A505	3	21'-1"	66	2	10'-1"	1'-2"	10'-1"			
A506	1	6'-10"	7	2	2'-3"	2'-7"	2'-3"			
A507	2	7'-8"	16	2	2'-8"	2'-7"	2'-8"			
A508	3	6'-4"	20	2	2'-0"	2'-7"	2'-0"			
A509	1	10'-8"	11	2	4'-2"	2'-7"	4'-2"			
A510	2	8'-4"	17	2	3'-0"	2'-7"	3'-0"			
A511	1	12'-3"	13	STR						
A512	2	3'-3"	7	STR						
A513	1	6'-6"	7	STR						
A516	6	28'-1"	176	STR						
A517	3	7'-0"	22	STR						
A518	3	37'-9"	118	STR						
A522	4	7'-3"	30	19	4'-9"	0'-11"	2'-4"			
A523	4	6'-2"	26	19	3'-8"	0'-11"	2'-4"			
A524	8	7'-8"	64	STR						
A525	3	8'-5"	26	19	5'-8"	1'-0"	2'-7"			
A526	3	7'-11"	25	19	5'-2"	1'-0"	2'-7"			
A527	4	11'-1"	46	19	7'-9"	3'-0"	1'-6"			
A528	8	15'-8"	131	STR						
A529	18	8'-9"	164	2	3'-11"	1'-2"	3'-11"			
A530	2	7'-5"	15	2	3'-3"	1'-2"	3'-3"			
A531	12	6'-3"	78	2	2'-8"	1'-2"	2'-8"			
A532	9	3'-9"	35	19	2'-9"	0'-11"	0'-5"			
A533	2	4'-11"	10	STR						
A534	1	9'-8"	10	2	5'-0"	3'-5"	1'-6"			
A535	8	6'-2"	51	2	1'-6"	3'-5"	1'-6"			
A536	15	3'-3"	51	STR						
A537	1	9'-4"	10	2	4'-8"	3'-5"	1'-6"			
A538	11	6'-3"	72	10	2'-6"	1'-1"	1'-3"	2'-6"		
A539	6	9'-5"	59	STR						
A540	14	8'-2"	119	STR						
A541	3	8'-1"	25	10	2'-6"	2'-2"	2'-6"	2'-6"		
A542	8	16'-2"	135	STR						
A555	55	2'-7"	148	STR						
A556	55	2'-0"	115	1	1'-1"	1'-1"				
A601	9	15'-10"	214	2	2'-7"	5'-5"	8'-2"			
A602	26	3'-6"	137	STR						
A603	9	3'-9"	51	19	2'-9"	0'-11"	0'-5"			
A604	1	11'-6"	17	1	3'-6"	8'-2"				
A605	1	13'-1"	20	2	5'-0"	3'-5"	5'-0"			
A606	1	9'-7"	14	2	1'-6"	3'-5"	5'-0"			
A607	14	7'-7"	159	2	3'-3"	1'-5"	3'-3"			
A608	15	5'-1"	115	2	2'-0"	1'-5"	2'-0"			
A609	1	14'-5"	22	2	5'-8"	3'-5"	5'-8"			
A610	1	5'-9"	9	2	2'-4"	1'-5"	2'-4"			
A801	61	3'-3"	529	1	2'-0"	1'-6"				
A802	2	12'-4"	66	STR						
A803	2	11'-6"	61	STR						
A804	2	10'-8"	57	STR						
A805	2	10'-0"	53	STR						
A806	2	6'-3"	33	STR						
A807	4	11'-4"	121	STR						
A808	2	10'-6"	56	STR						
A809	2	9'-2"	49	STR						
A810	2	2'-8"	14	STR						
A811	6	8'-9"	140	STR						
A812	2	13'-4"	71	19	9'-10"	3'-3"	1'-5"			
		TOTAL	4735	LBS						

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	SERIES INC.
FORWARD ABUTMENT										
A501	9	7'-2"	67	2	1'-0"	5'-5"	1'-0"			
A502	9	7'-6"	70	1	1'-0"	6'-8"				
A503	16	17'-0"	284	3	5'-8"	2'-7"				
A504	15	22'-7"	353	2	10'-10"	1'-2"	10'-10"			
A505	2	21'-1"	44	2	10'-1"	1'-2"	10'-1"			
A506	1	6'-10"	7	2	2'-3"	2'-7"	2'-3"			
A508	4	6'-4"	26	2	2'-0"	2'-7"	2'-0"			
A510	3	8'-4"	26	2	3'-0"	2'-7"	3'-0"			
A514	1	6'-3"	7	STR						
A515	1	10'-0"	10	STR						
A519	6	24'-3"	152	STR						
A520	3	20'-0"	63	STR						
A521	3	32'-2"	101	STR						
A524	8	7'-8"	64	STR						
A527	4	11'-1"	46	19	7'-9"	3'-0"	1'-6"			
A528	8	15'-8"	131	STR						
A529	18	8'-9"	164	2	3'-11"	1'-2"	3'-11"			
A530	2	7'-5"	15	2	3'-3"	1'-2"	3'-3"			
A531	12	6'-3"	78	2	2'-8"	1'-2"	2'-8"			
A532	9	3'-9"	35	19	2'-9"	0'-11"	0'-5"			
A535	6	6'-2"	39	2	1'-6"	3'-5"	1'-6"			
A536	15	3'-3"	51	STR						
A540	8	8'-2"	68	STR						
A542	8	16'-2"	135	STR						
A543	6	10'-4"	65	STR						
A544	8	5'-3"	44	19	2'-9"	0'-11"	2'-4"			
A545	6	9'-4"	58	STR						
A546	3	6'-10"	21	19	4'-4"	0'-11"	2'-4"			
A547	3	6'-4"	20	19	3'-10"	0'-11"	2'-4"			
A548	1	9'-5"	10	2	1'-6"	3'-5"	4'-9"			
A549	1	9'-10"	10	2	1'-6"	3'-5"	5'-2"			
A550	4	7'-10"	33	10	3'-11"	1'-8"	1'-3"	2'-6"		
A551	4	5'-10"	24	10	2'-1"	0'-11"	1'-3"	2'-6"		
A552	2	4'-9"	10	STR						
A553	3	7'-9"	24	10	2'-8"	1'-2"	2'-6"	2'-6"		
A554	3	6'-1"	19	10	2'-5"	1'-0"	1'-2"	2'-6"		
A555	56	2'-7"	151	STR						
A556	56	2'-0"	117	1	1'-1"	1'-1"				
A601	7	15'-10"	166	2	2'-7"	5'-5"	8'-2"			
A602	20	3'-6"	105	STR						
A603	10	3'-9"	56	19	2'-9"	0'-11"	0'-5"			
A604	1	11'-6"	17	1	3'-6"	8'-2"				
A607	15	7'-7"	171	2	3'-3"	1'-5"	3'-3"			
A608	15	5'-1"	115	2	2'-0"	1'-5"	2'-0"			
A611	1	12'-7"	19	2	4'-9"	3'-5"	4'-9"			
A612	2	9'-4"	28	2	1'-6"	3'-5"	4'-9"			
A613	1	13'-5"	20	2	5'-2"	3'-5"	5'-2"			
A614	1	9'-9"	15	2	1'-6"	3'-5"	5'-2"			
A801	61	3'-3"	529	1	2'-0"	1'-6"				
A802	2	12'-4"	66	STR						
A804	2	10'-8"	57	STR						
A805	2	10'-0"	53	STR						
A807	4	11'-4"	121	STR						
A808	2	10'-6"	56	STR						
A809	2	9'-2"	49	STR						
A810	2	2'-8"	14	STR						
A813	2	6'-4"	34	STR						
A814	8	11'-7"	247	STR						
A815	2	7'-11"	42	19	4'-5"	3'-3"	1'-5"			
		TOTAL	4622	LBS						

BENDING DIAGRAMS



REINFORCING STEEL NOTES

1. SERIES BARS - EACH BAR VARIES BY TABULATED AMOUNT.
2. ALL DIMENSIONS ARE OUT TO OUT.
3. TYPE 'STR' INDICATES A STRAIGHT BAR.
4. THE BAR SIZE NUMBER IS INDICATED IN THE 'MARK' COLUMN. THE FIRST ONE OR TWO DIGITS OF EACH MARK INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A #5 BAR SIZE AND P1101 IS A #11 BAR SIZE.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

DLZ
614 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

DESIGNED BPS | DRAWN BPS | CHECKED PAT | REVIEWED DOR | DATE 06/27/2012 | REVISED | STRUCTURE FILE NUMBER 4701478

REINFORCING STEEL LIST - 1
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

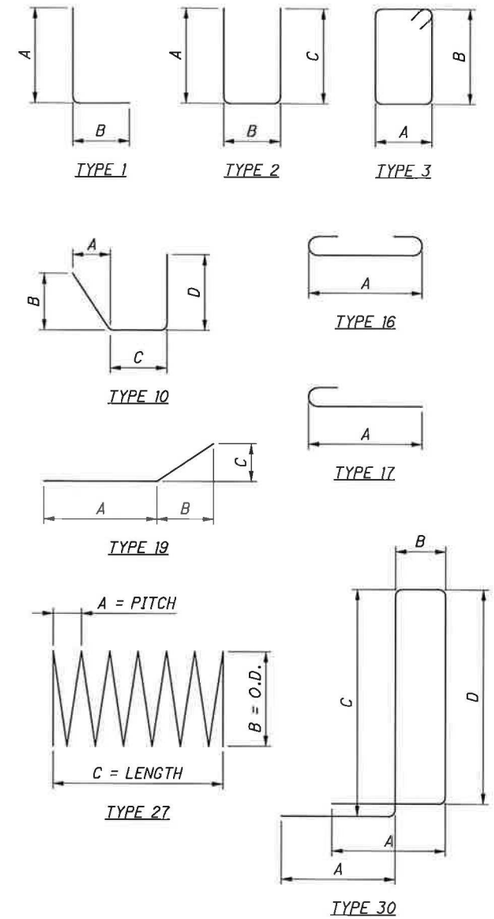
REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	SERIES INC.
PIERS										
P401	2	285'-8"	382	27	0'-4.5"	2'-6"	12'-9"			
P402	2	325'-2"	434	27	0'-4.5"	2'-6"	14'-8"			
P403	2	350'-11"	469	27	0'-4.5"	2'-6"	15'-11"			
P501	96	6'-11"	693	2	2'-7"	2'-0"	2'-7"			
P502	12	11'-4"	142	STR						
P503	36	6'-8"	250	STR						
P504	12	6'-4"	79	STR						
P505	21	2'-9"	60	STR						
P506	12	4'-1"	51	STR						
P507	9	5'-1"	48	STR						
P508	3	2'-10"	9	STR						
P509	3	7'-8"	24	STR						
P601	36	8'-0"	433	17	6'-8"					
P602	22	2'-9"	91	STR						
P603	14	5'-5"	114	17	4'-1"					
P604	8	6'-5"	77	17	5'-1"					
P605	3	4'-2"	19	17	2'-10"					
P606	3	9'-0"	41	17	7'-8"					
P801	24	10'-10"	694	1	9'-7"	1'-6"				
P802	12	6'-2"	198	19	5'-0"	1'-0"	0'-8"			
P803	12	6'-0"	192	19	5'-3"	0'-9"	0'-3"			
P804	24	5'-8"	363	1	4'-5"	1'-6"				
P805	12	5'-5"	174	19	4'-3"	1'-0"	0'-8"			
P806	12	5'-3"	168	19	4'-6"	0'-9"	0'-3"			
P901	72	10'-5"	2550	1	1'-9"	9'-0"				
P902	24	15'-5"	1258	16	14'-2"					
P903	24	17'-4"	1414	16	16'-1"					
P904	24	18'-7"	1516	16	17'-4"					
		TOTAL	11,943	LBS						
SUPERSTRUCTURE										
S401	970	30'-0"	19439	STR						
S402	97	24'-2"	1566	STR						
S403	130	30'-0"	2605	STR						
S404	13	25'-0"	217	STR						
S501	586	25'-2"	15382	STR						
S502	586	20'-9"	12682	STR						
S503	586	19'-7"	11969	STR						
S504	586	24'-0"	14669	STR						
S505	585	20'-3"	12356	STR						
S506	585	24'-8"	15050	STR						
S507	585	28'-11"	17644	STR						
S508	585	24'-6"	14949	STR						
S509	1	11'-10"	203	STR						14 1/8"
	SER OF	TO								
	11	23'-7"								
S510	1	7'-5"	152	STR						14 1/8"
	SER OF	TO								
	11	19'-2"								
S511	2	4'-3"	703	STR						14 1/8"
	SER OF	TO								
	21	27'-10"								
S512	2	5'-0"	736	STR						14 1/8"
	SER OF	TO								
	21	28'-7"								
S513	1	7'-0"	148	STR						14 1/8"
	SER OF	TO								
	11	18'-9"								

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	SERIES INC.
SUPERSTRUCTURE										
S514	1	11'-5"	198	STR						
	SER OF	TO								
	11	23'-2"								
S515	12	3'-9"	47	STR						14 1/8"
S516	8	24'-3"	202	STR						
S517	1	4'-5"	176	STR						14 1/8"
	SER OF	TO								
	14	19'-9"								
S518	1	8'-10"	241	STR						14 1/8"
	SER OF	TO								
	14	24'-2"								
S519	2	5'-0"	797	STR						14 1/8"
	SER OF	TO								
	22	29'-9"								
S520	2	3'-11"	748	STR						14 1/8"
	SER OF	TO								
	22	28'-8"								
S521	1	12'-0"	287	STR						14 1/8"
	SER OF	TO								
	14	27'-4"								
S522	1	7'-7"	223	STR						
	SER OF	TO								
	14	22'-11"								
S523	8	26'-7"	222	STR						
S524	1090	30'-0"	34106	STR						
S525	109	29'-2"	3316	STR						
S526	306	10'-8"	3404	30	1'-6"	0'-8"	3'-10"	3'-8"		
S527	140	30'-0"	4381	STR						
S528	14	25'-3"	369	STR						
S529	306	9'-0"	2872	30	1'-6"	0'-8"	3'-0"	2'-10"		
S530	309	4'-9"	1531	STR						
S531	307	1'-10"	587	1	1'-0"	1'-0"				
S532	307	1'-6"	480	STR						
S533	614	2'-9"	1761	2	1'-0"	1'-0"	1'-0"			
S534	309	5'-9"	1853	STR						
S535	610	4'-3"	2704	2	2'-5"	0'-7"	1'-6"			
S536	610	4'-0"	2545	2	2'-5"	0'-7"	1'-3"			
S601	318	30'-0"	14329	STR						
S602	318	19'-11"	9513	STR						
		TOTAL	227,362	LBS						
APPROACH SLABS										
AS401	26	24'-8"	428	STR						
AS501	50	6'-2"	322	STR						
AS502	104	2'-9"	298	2	1'-0"	1'-0"	1'-0"			
AS503	2	5'-6"	11	STR						
AS504	38	9'-0"	357	30	1'-6"	0'-8"	3'-0"	2'-10"		
AS505	14	24'-8"	360	19	23'-4"	1'-4"	0'-4"			
AS506	14	24'-8"	360	STR						
AS507	52	5'-1"	276	STR						
AS508	52	1'-6"	81	STR						
AS509	52	1'-9"	95	2	1'-0"	1'-0"				
AS510	38	10'-8"	423	30	1'-6"	0'-8"	3'-10"	3'-8"		
AS601	20	9'-6"	285	30	1'-10"	0'-8"	3'-0"	2'-10"		
AS602	6	4'-8"	42	1	1'-10"	3'-0"				
AS603	6	4'-6"	41	1	1'-10"	2'-10"				
AS604	20	11'-2"	335	30	1'-10"	0'-8"	3'-10"	3'-8"		
AS605	6	5'-6"	50	1	1'-10"	3'-10"				
AS606	6	5'-4"	48	1	1'-10"	3'-8"				
		TOTAL	3812	LBS						

BENDING DIAGRAMS



REINFORCING STEEL NOTES

1. SERIES BARS - EACH BAR VARIES BY TABULATED AMOUNT.
2. ALL DIMENSIONS ARE OUT TO OUT.
3. TYPE 'STR' INDICATES A STRAIGHT BAR.
4. THE BAR SIZE NUMBER IS INDICATED IN THE 'MARK' COLUMN. THE FIRST ONE OR TWO DIGITS OF EACH MARK INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A #5 BAR SIZE AND P1101 IS A #11 BAR SIZE.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
6. APPROACH SLAB REINFORCING STEEL LIST IS PROVIDED FOR INFORMATION ONLY. ALL REINFORCING STEEL REQUIRED FOR APPROACH SLABS IS INCLUDED FOR PAYMENT UNDER ITEM 898, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), (T=15"), AS PER PLAN.

DLZ
614 W. SUPERIOR AVE., SUITE 1300 • CLEVELAND, OHIO 44113

DESIGNED BPS | DRAWN BPS | CHECKED PAT | REVIEWED DOR | DATE 06/27/2012 | REVISED | STRUCTURE FILE NUMBER 4707478

REINFORCING STEEL LIST - 2
BRIDGE NO. LOR-611-0993
S.R. 611 (COLORADO AVE.) OVER I-90

LOR-611-09.96
PID No. 83447

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